



Official Catalogue

OF THE
U.S. INTERNATIONAL
EXHIBITION
1876.



REVISED EDITION

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IP	U.S. Cent			Author: Phil				
Title:		International						
Place, Publisher, Date:		Phil						
Series:								
Date:		1900-1917						
Fund:		1917						
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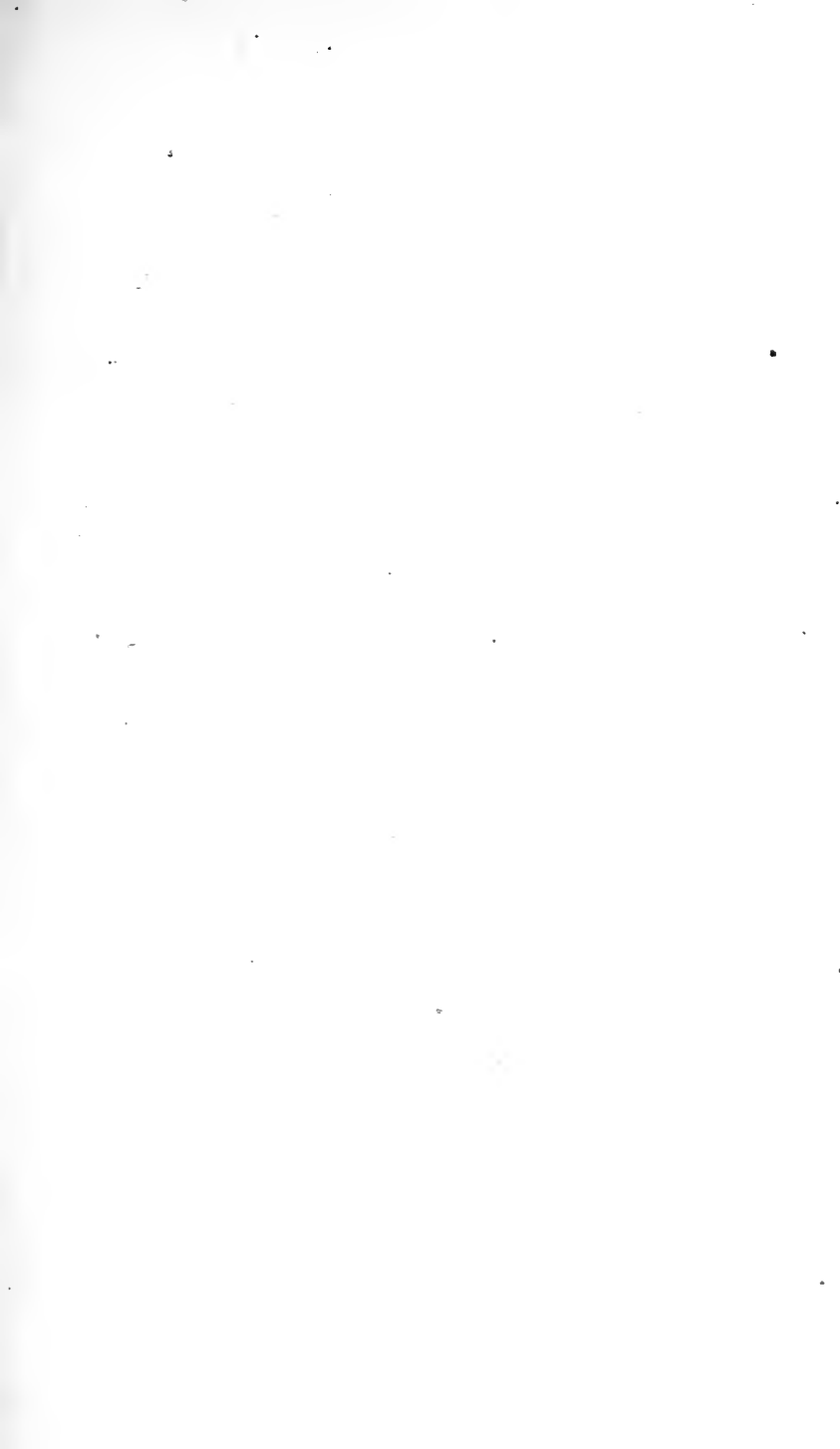
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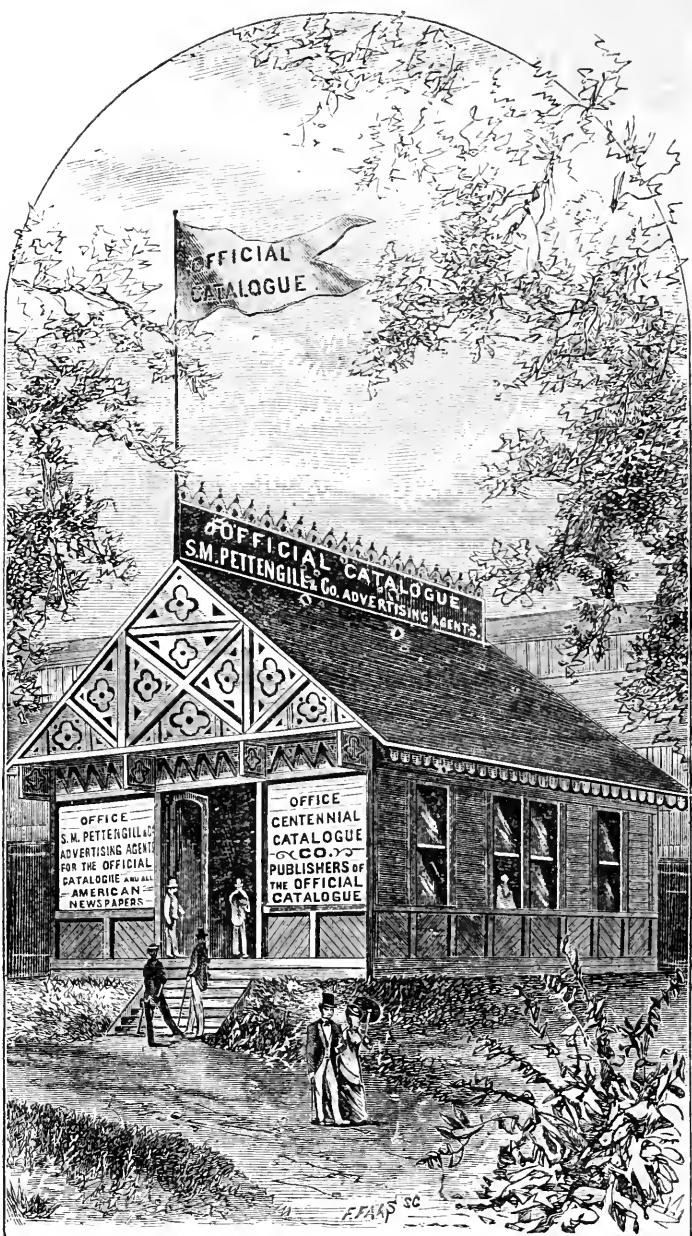
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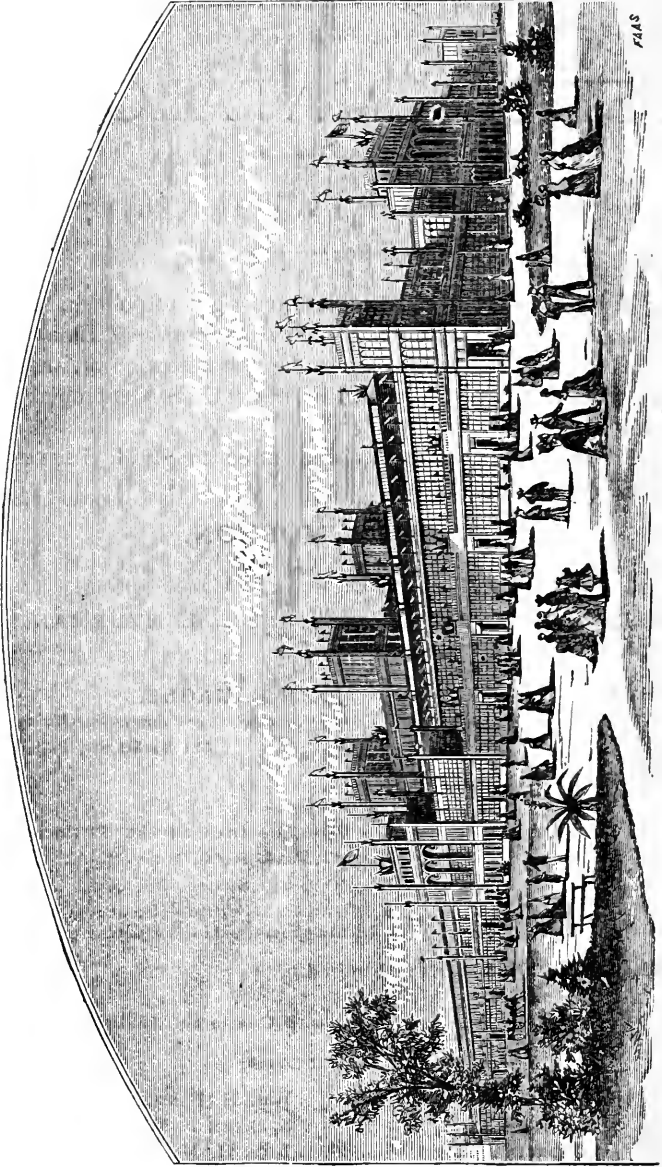
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1876

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- III. DEPARTMENT OF MACHINERY.
- IV. DEPARTMENTS OF AGRICULTURE AND HORTICULTURE.

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1876
Official Catalogue.

PART I.
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DEPARTMENT I.—MINING AND METALLURGY.

DEPARTMENT II.—MANUFACTURES.

DEPARTMENT III.—EDUCATION AND SCIENCE.

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CONTENTS.

Subject Index, National Exhibits	4
The International Exhibition of 1876	7
Synopsis of the Classification	8
United States Centennial Commission	9
Officers of the United States Centennial Commission	10
Centennial Board of Finance	10
State Boards of Centennial Managers.	11
System of Awards	14
Judges of Awards	15
List of Buildings and Special Exhibits	20
The Main Exhibition Building	23
Key to the Notation	25
Ground Plan of the Main Exhibition Building	26
Classification	27
Catalogue of Department I., Mining and Metallurgy	47
Catalogue of Department II., Manufactures	101
Catalogue of Department III., Education and Science	321
Annex to Main Building.	374



THE INTERNATIONAL EXHIBITION OF 1876.

THE Congress of the United States, by an act approved March 3d, 1871, provided that the centennial anniversary of the promulgation of the Declaration of American Independence in Philadelphia should be celebrated in that city "by holding an International Exhibition of Arts, Manufactures, and Products of the Soil and Mine." The preparation of the Exhibition was, by the act, confided to the United States Centennial Commission, composed of a commissioner and alternate commissioner nominated by the governor of each State and Territory, and confirmed by the President of the United States. A subsequent act, approved June 1st, 1872, created the Centennial Board of Finance, charged with the financial conduct of the Exhibition.

A proclamation by the President of the United States, dated July 3d, 1873, announced the International Exhibition, and commended it to all nations. An act of Congress, approved June 5th, 1874, requested the President, in the name of the United States, to invite the governments of foreign nations to participate in the Exhibition. The invitation thus extended was accepted by the governments of

Argentine Republic,	Queensland,	Seychelles Archipelago,	Norway,
Austria-Hungary,	New Zealand,	Tasmania,	Orange Free State,
Belgium,	New South Wales,	Trinidad,	Peru,
Brazil,	Victoria,	India,	Philippine Islands,
Canada,	South Australia,	Bermuda, and	Portugal,
Chili,	India,	Jamaica,	Russia,
China,	Cape of Good Hope,	Hawaii,	Spain,
Denmark,	Bahamas,	Italy,	Sweden,
Egypt,	British Guiana,	Japan,	Switzerland,
France, with Algeria,	Ceylon,	Liberia,	Tunis,
Germany,	Straits Settlements,	Luxembourg,	Turkey,
Great Britain, with col- onies, viz.	Gold Coast, Mauritius,	Mexico, Netherlands,	Venezuela.

The Centennial Commission provided for the classification of the objects to be exhibited in seven departments, which were referred to five exhibition buildings in this manner:

DEPARTMENT.	BUILDINGS.	ACRES COVERED.
I. Mining and Metallurgy,	Main Building,	21.47
II. Manufactures,		
III. Education and Science,		
IV. Art,	Art Gallery	1.5
V. Machinery,	Machinery Building,	14.
VI. Agriculture,	Agricultural Building,	10.
VII. Horticulture,	Horticultural Building,	1.5
Total,		48.47

The applications for exhibiting space, however, both at home and from abroad, so exceeded the calculations that had been made as to necessitate the erection of annexes supplementing the capacity of each of these buildings. Enumerations of these additional structures will be found on subsequent pages. The classes of objects grouped in the several departments are indicated in the following synopsis of the classification of the Exhibition.

SYNOPSIS OF THE CLASSIFICATION.

LOCATION.	DEPARTMENTS.	CLASSES.	GROUPS.
MAIN BUILDING.	I. MINING AND METALLURGY.	100—109 110—119 120—129	Minerals, Ores, Stone, Mining Products. Metallurgical Products. Mining Engineering.
	II. MANUFACTURES.	200—205 206—216 217—227 228—234 235—241 242—249 250—257 258—264 265—271 272—279 280—284 285—291 292—296	Chemical Manufactures. Ceramics, Pottery, Porcelain, Glass, etc. Furniture, etc. Yarns and Woven Goods of Vegetable or Mineral Materials. Woven and Felted Goods of Wool, etc. Silk and Silk Fabrics. Clothing, Jewelry, etc. Paper, Blank Books, Stationery. Weapons, etc. Medicine, Surgery, Prothesis. Hardware, Edge Tools, Cutlery, and Metallic Products. Fabrics of Vegetable, Animal, or Mineral Materials. Carriages, Vehicles, and Accessories.
	III. EDUCATION AND SCIENCE	300—309 310—319 320—329 330—339 340—349	Educational Systems, Methods, and Libraries. Institutions and Organizations. Scientific and Philosophical Instruments and Methods. Engineering, Architecture, Maps, etc. Physical, Social, and Moral Condition of Man.
ART GALLERY.	IV. ART.	400—409 410—419 420—429 430—439 440—449 450—459	Sculpture. Painting. Engraving and Lithography. Photography. Industrial and Architectural Designs, etc. Ceramic Decorations, Mosaics, etc.
MACHINERY BUILDING.	V. MACHINERY.	500—509 510—519 520—529 530—539 540—549 550—559 560—569 570—579 580—589 590—599	Machines, Tools, etc., of Mining, Chemistry, etc. Machines and Tools for working Metal, Wood, and Stone. Machines and Implements of Spinning, Weaving, etc. Machines, etc., used in Sewing, Making Clothing, etc. Machines for Printing, Making Books, Paper Working, etc. Motors, Power Generators, etc. Hydraulic and Pneumatic Apparatus. Railway Plant, Rolling Stock, etc. Machinery used in Preparing Agricultural Products. Aerial, Pneumatic, and Water Transportation. Machinery, and Apparatus, especially adapted to the requirements of the Exhibition.
AGRICULTURAL BUILDING.	VI. AGRICULTURE	600—609 610—619 620—629 630—639 640—649 650—662 665—669 670—679 680—689 690—699	Arboriculture and Forest Products. Pomology. Agricultural Products. Land Animals. Marine Animals, Fish Culture, and Apparatus. Animal and Vegetable Products. Textile Substances of Vegetable or Animal origin. Machines, Implements, and Processes of Manufacture. Agricultural Engineering and Administration. Tillage and General Management.
HORTICULTURAL BUILDING.	VII. HORTICULTURE.	700—709 710—719 720—729 730—739	Ornamental Trees, Shrubs, and Flowers. Hot Houses, Conservatories, Graperies. Garden Tools, Accessories of Gardening. Garden Designing, Construction, and Management.

The full text of the classification of the several Departments will be found at the commencement of the enumeration of objects shown in each. The distribution of the departments and buildings through the four volumes of the catalogue, is as follows:

VOLUME I.—DEPARTMENT I. *Mining and Metallurgy*; II. *Manufactures*; III. *Education and Science*. Main Building and Annexes.

VOLUME II.—DEPARTMENT IV. *Art*. Memorial Hall and Annexes.

VOLUME III.—DEPARTMENT V. *Machinery*. Machinery Building and Annexes. Buildings of United States government and foreign governments, of State governments, and of individual exhibitors.

VOLUME IV.—DEPARTMENT VI. *Agriculture*; VII. *Horticulture*. Agricultural and Horticultural Buildings and Annexes, Alphabetical Index of Exhibitors, Commissioners, Judges, etc.

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J. L. Power, *Secretary*, Jackson.
J. B. Yellowley, Madison Station.
W. G. Paxton, Vicksburg.

MISSOURI.

Thomas Allen, *President*, St. Louis.
J. F. Cook, LL.D., Lagrange.
J. W. Harris, Rocheport.

J. W. Strong, *Vice-President*, St. Joseph.
P. Murphy, Goplin.
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MONTANA.

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Wm. Peck, Bannack, Beaverhead.
Armstrong, Glendale, Beaverhead.
Mrs. S. B. Bowen, Bozeman, Gallatin.

W. A. Clark, Deer Lodge, Deer Lodge.
D. J. Welch, Missoula, Missoula.
J. A. Harding, Radersburg, Jefferson.
T. E. Collins, Diamond, Meagher.

NEBRASKA.

Daniel H. Wheeler, Plattsmouth.
J. S. Morton, Nebraska City.
W. D. Scott, Rulo.

Gay C. Barton, North Platte.
Charles F. Manderson, Omaha.

NEVADA.

C. C. Stevenson, *President*, Gold Hill.
Thomas G. Taylor, Gold Hill.
R. Robinson, White Pine.
J. D. Sullivan, Eureka.
H. H. Day, Lincoln.
F. R. Hall, Nye.
A. A. Curtis, Lander.
John C. Fall, Humboldt.

H. M. Yerington, Ormsby.
H. T. Rice, Ormsby.
B. F. Leete, Washoe.
J. R. Johnson, Douglass.
Levi Wilsey, Elk.
Jeremiah Miller, Esmeralda.
B. P. Hazeltine.

NEW HAMPSHIRE.

James A. Weston, *Chairman*, Manchester.
Lewis W. Clark, Manchester.
Mason W. Tippan, Bradford.

Edward D. Baker, Claremont.
James F. Briggs, *Secretary*, Manchester.
George W. Riddle, Manchester.

NEW JERSEY.

Samuel C. Brown, *President*, Trenton.
Edward Bettle, Camden.
Henry L. Janeway, New Brunswick.
John T. Bird, Flemington.

Thomas H. Dale, Paterson.
Sanford B. Hunt, Newark.
Nathan W. Condict, Jersey City.
Patrick T. Quinn, *Secretary*, Newark.

NEW MEXICO.

Stephen B. Elkins, Washington, D. C.
W. F. M. Army, *Secretary*, Fort Defiance.
Richard Hudson, Silver City.

W. G. Ritch, *President*, Santa Fé.
Thomas S. Tucker, *Treasurer*, Santa Fé.
José D. Sena, Santa Fé.

NEW YORK.

Alonzo B. Cornell, Ithaca, Tompkins Co.
John Murdock, Elmira, Chemung Co.
Jackson S. Schultz, No. 63 Cliff St., New York City.
Frank Leslie, No. 537 Pearl St., New York City.

Felix Campbell, No. 1315 Pacific St., Brooklyn.
H. Havermyer, New York.
Frederick A. Conkling.

OHIO.

R. P. Ranny, *President*, Cleveland.
Rutherford B. Hayes, Fremont.
E. F. Noyes, Cincinnati.
G. W. McCook, Steubenville.

Barnabas Burns, Mansfield.
F. F. Green, *Secretary and Superintendent*, Cleveland.

OREGON.

M. Wilkins, Willamette Forks.
C. P. Burkhardt, Albany.
E. R. Geary, Albany.
W. J. Halsey, Portland.

M. P. Deady, Portland.
Thomas Condon, Forest Grove.
S. G. Reed, Portland.

PENNSYLVANIA.

Morton McMichael, Philadelphia.	George Scott, Catawissa.
Andrew G. Curtin, Bellefonte.	Foster W. Mitchell, Franklin.
John H. Shoenburger, Pittsburg.	

RHODE ISLAND.

John Gorham, Providence.	William Goddard, Providence.
Hon. Henry Lippitt, Providence.	Rowland Hazard, Providence.
James Y. Smith, Providence.	John R. Bartlett, Providence.

TENNESSEE.

J. M. Safford, Davidson Co.	Joseph Barbiere, Shelby.
C. C. Giers, Davidson Co.	George E. Purvis, Nashville.
J. T. Wilder, Hamilton Co.	S. B. Lowe, Chattanooga.

TEXAS.

J. E. Preston, Marlin.	S. J. Adams, Dallas.
E. L. Gregg, Rush.	

UTAH.

Wm. Jennings, <i>President</i> , Salt Lake City.	John T. Caine, Salt Lake City.
Henry C. Goodspeed, <i>Secretary</i> , Salt Lake City.	Joseph R. Walker, Salt Lake City.
	George S. Prescott, Salt Lake City.

VERMONT.

Joseph S. Patterson.
P. P. Pitkin.

VIRGINIA.

John D. Imboden, <i>President</i> , Richmond.	G. J. Wharton, Pulaski Co.
Marshall Parks, Norfolk.	Edward M. Pace, Danville.
Samuel J. Moffitt, Harrisonburg.	

WASHINGTON TERRITORY.

James S. Lawson, Olympia.	Henri M. Chase, Walla Walla.
Charles E. P. Wood, Port Discovery.	Phillip Ritz, Walla Walla.
Edward S. Kearney, Walla Walla.	

WEST VIRGINIA.

O. C. Dewey, Wheeling.	Thomas Maslin, Moorsfield.
G. W. Franzheim, Wheeling.	I. P. Hale, Charleston.
C. N. Beall, Bethany.	

WISCONSIN.

J. B. Parkinson, <i>President</i> , Madison.	T. C. Pound, Chippewa Falls.
Eli Stilson, Oshkosh.	F. Kuehn, <i>Treasurer</i> , Manitowoc.
Adolph Meinecke, Milwaukee.	W. W. Field, <i>Secretary</i> , Madison.
J. I. Case, Racine.	

WYOMING.

J. R. Whitehead, Cheyenne.	John Fosher, South Pass City.
Stephen W. Downey, Laramie City.	J. H. Pyachou, Laramie City.
James France, Rawlins.	J. A. Van Carter, Fort Bridger.

 SYSTEM OF AWARDS.

THE Centennial Commission have substituted for the international juries employed at previous International Exhibitions, a system of awards which provided :

That awards shall be based upon written reports attested by the signatures of their authors.

That the judges should be selected for their known qualifications and character, and should be experts in the departments to which they are respectively assigned; the foreign members of this body being appointed by the Commission of each country and in conformity with the distribution and allotment to each; the judges from the United States by the Centennial Commission.

That judges should be reimbursed for their personal expenses.

That reports and awards should be based upon inherent and comparative merit; the elements of merit being held to include considerations relating to originality, invention, discovery, utility, quality, skill, workmanship, fitness for the purposes intended, adaptation to public wants, economy, and cost.

That each report should be delivered to the Centennial Commission as soon as completed, for final award and publication.

That awards should be finally decreed by the United States Centennial Commission, in compliance with the Act of Congress, and should consist of a diploma with a uniform Bronze Medal, and a special report of the judges on the subject of the Award.

That each exhibitor shall have the right to produce and publish the report awarded to him, but the United States Centennial Commission reserves the right to publish and dispose of all reports in the manner it thinks best for public information, and also to embody and distribute the reports as records of the Exhibition.

JUDGES OF AWARDS.

GROUP I.

Minerals, Mining, and Metallurgy, including the Machinery.—(Classes 100 to 108 of the classification. See page 27.)

Metals, Metallurgical Products and Processes.—(Classes 110 to 115.)

Machines, Tools, and Apparatus of Mining and Metallurgy.—(Classes 500 to 507, and 512.)

Mine Engineering—Models, Maps, and Sections.—(Classes 120, 121.)

AMERICAN.

Alexander L. Holley, 56 Broadway, N.Y.
 Prof. T. Sterry Hunt, LL.D., F.R.S.,
 St. James Hotel, Boston, Mass.
 Prof. J. M. Safford, Nashville, Tennessee.
 S. B. Axtell, Santa Fé, New Mexico.
 John Fritz, Bethlehem, Pa.
 Austin Savage, Boise City, Idaho.
 W. S. Keyes, M. E., Eureka, Nevada.
 Prof. Frederick Prime, jr., Easton, Pa.
 Matthew Addy, Cincinnati, Ohio.
 Prof. G. C. Broadhead, Pleasant Hill,
 Missouri.

FOREIGN.

Mr. Isaac Lowthian Bell, M.P., F.R.S.,
 Great Britain.
 Mr. Ernst F. Althans, Breslau, Germany.
 Mr. Louis Simonin, Paris, France.
 Mr. F. Valton, France.
 Mr. R. Akerman, Stockholm, Sweden.
 Mr. Achille Jottrand, Belgium.
 M. L. Nicholsky, Russia.
 Mr. Nicholas Jossa, Russia.
 Dr. Th. Kjerulf, Christiania, Norway.
 Don Daniel de Cortazar, Spain.

GROUP II.

Pottery, Glass, Artificial Stone, etc.—(Classes 206 to 216, and 219, 103, 517, 518.)

AMERICAN.

Gen. Q. A. Gillmore, U. S. A., care D.
 Van Nostrand, New York.
 Arthur Beckwith, 134 Fifth Avenue, New
 York.
 Prof. E. T. Cox, Indianapolis, Indiana.
 Gen. Hector Tyndale, Philadelphia, Pa.
 Henry Wurtz, Hoboken, N. J.

FOREIGN.

R. H. Soden Smith, M.A., Great Bri-
 tain.
 Dr. G. Seelhorst, Nuremberg, Germany.
 M. Ch. de Bussy, Paris, France.
 Adolf E. Nordenskiold, Sweden.
 Mr. K. Notomi, Japan.

GROUP III.

Chemistry and Pharmacy, including the Apparatus.—(Classes 200 to 203, and 274, 508, 509, and 659.)

AMERICAN.

Prof. C. A. Joy, Columbia College, New
 York.
 Prof. F. A. Genth, University of Pennsyl-
 vania, Philadelphia, Pa.
 Prof. J. Lawrence Smith, Louisville, Ky.
 Prof. C. F. Chandler, Columbia College,
 New York.
 Prof. J. W. Mallet, University of Vir-
 ginia, Charlottesville, Virginia.

FOREIGN.

Dr. William Odling, F.R.S., Great Bri-
 tain.
 Dr. Rudolf von Wagner, Würzburg,
 Germany.
 M. J. F. Kuhlmann Lille, France.
 Mr. Prosper De Wilde, Belgium.
 Mr. Emanuel Paterno, Italy.

GROUP IV.

Animal and Vegetable Products, and the Machinery for their Preparation.—(Classes 650 to 661.)

AMERICAN.

Prof. W. C. Kerr, Raleigh, N. C.
L. B. Arnold, Rochester, N. Y.
Col. J. F. Tobias, 1705 Locust Street,
Philadelphia, Pa.
Col. John Bradford, Tallahassee, Fla.
Guido Marx, Toledo, Ohio.
Ryland T. Brown, Indianapolis, Ind.
W. S. Green, Millford, Wis.

FOREIGN.

Mr. Edouard Martell, France.
Don Edward Loring, Malaga, Spain.
Dr. Nicolau J. Moreira, Brazil.
M. Jayme Batalha Reis, Portugal.
Mr. Ekedo Kenzo, Japan.
E. Oldendorff, Argentine Confederation.
Dr. E. H. Von Baumhauer, Netherlands.
H. G. Joly, M.P., Canada.
Julius Wegeler, Coblenz, Germany.
G. F. Secchi de Casali, Italy.
Prof. Thomas R. Segelche, Denmark.
Rustem Effendi, Turkey.

GROUP V.

Fish and Fish Products—Apparatus of Fishing, etc.—(Classes 640 to 648.)

AMERICAN.

Prof. S. F. Baird, Smithsonian Institution,
Washington.
T. B. Ferguson, Baltimore, Md.

FOREIGN.

Joachim Anderssen, Norway.

GROUP VI.

Timber, Worked Lumber, Parts of Buildings, Forestry.—(Classes 600 to 607.)

AMERICAN.

Prof. Wm. H. Brewer, New Haven, Conn.
J. M. Bennett, Weston, Lewis Co., W. Va.
Prof. J. S. Newberry, Cleveland, Ohio, or
Columbia College, N. Y.

FOREIGN.

John R. West, Chili.
M. Rodrigues de Vasconcellos, Portugal.
Hon. W. Skead, Canada.
Dr. José de Saldanha, Brazil.

GROUP VII.

Furniture, Upholstery, Wooden Ware, Baskets, etc.—(Classes 217, 220, 221, 225, 226, 286, 289, 290.)

AMERICAN.

Addison Boyden, Boston, Mass.
Chauncey Wiltse, Omaha, Neb.
Robert Mitchell, Cincinnati, O.

FOREIGN.

Le Marquis de Rochambeau, France.
Mr. Theo. Snyers, Belgium.
Francis Thonet, Austria.

GROUP VIII.

Cotton, Linen, and other Fabrics, including the Materials and the Machinery.—(Classes 228, 229 to 234, 521, 523, 524, 665, 666.)

AMERICAN.

Edward Atkinson, Boston, Mass.
Hugh Waddell, jr., Savannah, Ga.
Col. Ed. Richardson, Jackson, Miss.
A. D. Lockwood, Providence, R. I.
Chas. H. Wolff, Cincinnati, Ohio.
Samuel Webber, C. E., Manchester, N. H.
George O. Baker, Selma, Ala.

FOREIGN.

Mr. Isaac Watts, Great Britain.
Mr. W. W. Hulse, C. E., Great Britain.
Consul Gustav Gebhard, Germany.
Albert Daninos, Turkey.
Don Alvaro de la Gandara, Spain.
Major A. Goldy, Switzerland.
Prof. Gustave Herrmann, Germany.
Prof. Giuseppe Dassi, Italy.

GROUP IX.

Wool and Silk Fabrics, including the Materials and the Machinery. Woven and Felted Goods of Wool, and Mixtures of Wool.—(Classes 235 to 241, 522, and 667.)

Silk and Silk Fabrics, and Mixtures in which Silk is the Predominating Material.—(Classes 242 to 249 and 520.)

AMERICAN.

John L. Hayes, Cambridge, Mass.
Hon. Elliot C. Cowdin, New York.
Chas. Le Boutillier, Philadelphia, Pa.
Chas. J. Ellis, 714 Market St., Philadelphia, Pa.
J. D. Lang, Vassalboro', Me.

FOREIGN.

Mr. Henry Mitchell, Great Britain.
Dr. Max Weigert, Germany.
Mr. Chatel, France.
Carl Arnberg, Sweden.
Mr. Hayami Kenzo, Japan.
Mr. John G. Neeser, Switzerland.
August Behmer, Egypt.
Theodore Bochner, Austria.

GROUP X.

Clothing, Furs, India Rubber Goods, Ornaments, and Fancy Articles. (Exclusive of Leather Boots and Shoes.)—(Classes 250 to 257 and 288.)

Caoutchouc and Gutta Percha Industry.—(Class 285.)

AMERICAN.

Prof. W. H. Chandler, Ph.D., F.C.S.,
Lehigh University, Bethlehem, Pa.
Wm. O. Lathicum, New York City.
Benj. F. Britton, New York City.
Dr. George Hewston, San Francisco, Cal.
Prof. E. N. Horsford, Cambridge, Mass.

FOREIGN.

Mr. Dietz-Monnin, France.
Mr. Modest Kittary, Russia.
Mr. Edward Kanitz, Austria.
Mr. M. P. Empey, Canada.

GROUP XI.

Jewelry, Watches, Silverware, Bronzes, etc.—(Class 253.)

AMERICAN.

Martin P. Kennard, Boston, Mass.
Peter Gottesleben, Denver, Col.

FOREIGN.

G. H. Heap, Tunis.
M. Roulleaux du Gage, France.

GROUP XII.

Leather and Manufactures of Leather, including Boots, Shoes, Trunks, etc.—(Classes 532 and 533.)

AMERICAN.

Gov. F. H. Pierpont, Fairmount, Marion Co.,
W. Va.
John Cummings, Boston, Mass.
Thomas Miles, Philadelphia, Pa.
J. P. Postles, Wilmington, Del.

FOREIGN.**GROUP XIII.**

Paper Industry, Stationery, Printing, and Book Making.—(Classes 258 to 264.)
Machines and Apparatus for Type Setting, Printing, Stamping, Embossing, and for making Books and Paper Working.—(Classes 525 and 540 to 547.)

AMERICAN.

James M. Wilcox, Ph.D., Glen Mills, Pa.,
1722 Spruce St., Phila.
C. O. Chapin, Springfield, Mass.
Wm. Faxon, Hartford, Conn.
Edward Conly, Cincinnati, Ohio.
H. T. Brian, Government Printing Office,
Washington.

FOREIGN.

Sir Sidney H. Waterlow, Bart., M.P., Great
Britain.
G. W. Seitz, Germany.

GROUP XIV.

Apparatus of Heating, Lighting, Ventilation, Water Supply, and Drainage.—(Classes 222 to 224.)

AMERICAN.

C. C. Cox, M.D., LL.D., Washington, D. C.
Azal Ames, jr., M.D., Wakefield, Mass.

FOREIGN.**GROUP XV.**

Builders' Hardware, Edge Tools, Cutlery, etc.—(Classes 280 to 284.)

AMERICAN.

Charles Staples, Portland, Me.
Daniel Steinmetz, Philadelphia.
George L. Reed, Clearfield, Pa.
Gen John D. Imboden, Richmond, Va.

FOREIGN.

Hon. J. Bain, Lord Provost of Glasgow, Great
Britain.
Mr. D. McHardy, Great Britain.
Mr. Diefenbach, Germany.

GROUP XVI.

Military and Sporting Arms, Weapons, Apparatus of Hunting, Explosives, etc.—(Classes 204, 205, and 265 to 270.)

AMERICAN.

Col. S. C. Lyford, U.S.A. (Chairman Govern-
ment Board, etc).
Gen. H. L. Abbott, U.S.A., Willetts' Point,
N. Y.
George A. Hamilton, St. Paul, Minn.

FOREIGN.

Major Wm. H. Noble, R.A., Great Britain.
Capt. Comm't of Artillerie Lesne, Belgium.
Capt. L. F. Saldanha da Gama, Brazil.

GROUP XVII.**Carriages, Vehicles, and Accessories.**—(Classes 292 to 296.)

AMERICAN.

Thos. Goddard, Boston, Mass., 134 State St.
B. F. Morse, Augusta, Me.

FOREIGN.

Mr. Guiet, France.
Mr. Duffus, Canada.**GROUP XVIII.****Railway Plant, Rolling Stock, and Apparatus, Road Engines.**—(Classes 570 to 577.)

AMERICAN.

Robert E. Ricker, Elizabeth, N. J.
Gen. T. A. Morris, Indianapolis, Ind.
Felician Slataper, Pittsburg, Pa.

FOREIGN.

Capt. Douglas Galton, R.E., C.B., F.R.S.,
Great Britain.
Mr. Ernest Pontzen, Austria.
Mr. E. E. A. Schaar, Belgium.**GROUP XIX.****Vessels and Articles of Transportation**—(not included in other groups).—(Classes 287 to 544, and 590 to 597.)

AMERICAN.

Isaac Newton, New York.
J. W. Griffith, Portsmouth, N. H.
H. C. Goodspeed, Salt Lake City, Utah.

FOREIGN.

Col. F. H. Rich, R.E., Great Britain.

GROUP XX.**Motors, Hydraulic and Pncumatic Apparatus, etc.**—(Classes 550 to 555, and 560 to 568.)

AMERICAN.

C. T. Porter, Newark, N. J.
Joseph Belknap, New York.
James Moore, Philadelphia.
Horatio Allen, South Orange—"Homewood,"
N. J.
Chas. E. Emery, 7 Warren Street, New York.

FOREIGN.

Mr. W. H. Barlow, C.E., Great Britain.
Prof. Reuleaux, Germany.
Nicholas Petroff, Russia.
Emil Brugsch, Egypt.**GROUP XXI.****Machine Tools—Wood, Metal, and Stone.**—(Classes 510, 511, and 514 to 516.)

AMERICAN.

Irving M. Scott, Union Iron Works, San Francisco, Cal.
George H. Blelock, Springfield, Mass.
W. F. Durfee, Wisconsin (at 56 Broadway, New York).
Prof. John A. Anderson, President Kansas State Agricultural College, Manhattan, Kan.

FOREIGN.

Mr. John Anderson, LL.D., C.E., Great Britain.
M. Le Commandant F. Perier, France.
Mr. C. A. Angstrom, Sweden.
Mr. Auguste Gobert (fils), Belgium.
Mr. Felix Reifer, Austria.**GROUP XXII.****Machines, Apparatus, and Implements used in Sewing and Making Clothing, Lace, Ornamental Objects, Pins, etc.**—(Classes 530, 531, and 534 to 537.)

AMERICAN.

George W. Gregory, Boston, Mass.
Edward H. Knight, Patent Office, Washington, D. C.
L. D. F. Poore, Springfield, Dakota.

FOREIGN.

Mr. Fred. A. Paget, C.E., Great Britain.

GROUP XXIII.**Agricultural Machines, Implements of Agriculture, Horticulture, and Gardening.**—(Classes 670 to 675, and 680 to 683.)**Tillage and General Management.**—(Classes 690 to 692, and 715, 716.)**Garden Tools, Accessories of Gardening.**—(Classes 720 to 722.)**Garden Designing, Construction, and Management.**—(Classes 710, and 731 to 733.)

AMERICAN.

Hon. John P. Reynolds, Chicago, Ill.
James S. Grinnell, Washington, D. C.
Geo. E. Waring, jr., Newport, R. I.
James Bruce, Corvallas, Oregon.

FOREIGN.

Mr. John Coleman, Great Britain.
Dr. Jose de Saldanha, Brazil.
Don Fermin Rosillo, Spain.**GROUP XXIV.****Instruments and Apparatus of Hygiene, Medicine, Surgery, Prothesis, etc.**—(Classes 272, 273, and 275 to 278.)

AMERICAN.

C. B. White, M.D., New Orleans, La.
J. H. Thompson, A.M., M.D., Washington, D. C.

FOREIGN.

Dr. William Roth, Germany.
Dr. Ernst Fleischel, Austria.

GROUP XXV.

Instruments of Precision, Research, Experiment, and Illustration, including Telegraphy and Music.—(Classes 320 to 327.)

AMERICAN.

Prof. Joseph Henry, LL.D., Secretary of Smithsonian Institution, Washington, D. C.
 Prof. F. A. P. Barnard, S.T.D., LL.D., Columbia College, N. Y.
 Prof. J. E. Hilgard, Washington, D. C.
 Prof. J. C. Watson, Ann Arbor, Mich.
 General Henry K. Oliver, Salem, Mass.
 Geo. F. Bristow, New York.

FOREIGN.

Sir William Thomson, LL.D., D.C.L., F.R.S., Great Britain.
 Jul. Schiedmayer, Germany.
 Mr. E. Levasseur, France.
 P. F. Kupka, Austria.
 Edw. Favre Perret, Switzerland.

GROUP XXVI.

Architecture and Engineering. (For Agricultural Engineering, see Class 680.)
 (For Mine Engineering, see Group I.) **Architecture.**—(Classes 341, 342.)

Engineering.—(Classes 330 to 333, and 335.)

AMERICAN.

James B. Eads, C.E., South Pass Jetty Works, 122 Common Street, New Orleans, La.
 General Wm. B. Franklin, Hartford, Conn.
 Richard M. Hunt, 49 West Thirty-fifth Street, New York.

FOREIGN.

Sir John Hawkshaw, C.E., F.R.S., Great Britain.
 Mr. Lavoinnie, France.
 J. M. da Silva Continho, Brazil.
 J. G. W. Fynje, Netherlands.
 Lourenço Maheiro, M.E., Portugal.

GROUP XXVII.

Plastic and Graphic Art Sculpture.—(Classes 400 to 405.)

Painting.—(Classes 410 to 413.)

Engraving and Lithography.—(Classes 420 to 424.)

Photography.—(Classes 430 to 432.)

Industrial and Architectural Designs, Models, and Decorations.—(Classes 440 to 443.)
 (Classes 450 to 454.)

Decoration with Ceramic and Vitreous Materials; Mosaic and Inlaid Work.

AMERICAN.

Frank Hill Smith, Boston, Mass.
 James L. Claghorn, Philadelphia, Pa.
 Prof. S. F. Weir, New Haven, Conn.
 Donald G. Mitchell, New Haven, Conn.
 Geo. Ward Nichols, Cincinnati, Ohio.
 Prof. Henry Draper, Medical College, New York City.

FOREIGN.

Mr. Charles West Cope, R.A., Great Britain.
 Mr. Peter Graham, Great Britain.
 Carl Schlesinger, Germany.
 Dr. H. Vogel, Germany.
 Mr. Emile T. Saintain, France.
 Fritz L. Dardel, Sweden.
 P. N. Arbo, Norway.
 Count of Donadis, Spain.
 Mr. Tantardini, Italy.
 Guglielmo de Sanctis, Italy.
 Mr. Carl Costenoble, Austria.
 Prof. V. Dahlerup, Denmark.
 J. E. van Heemskerck van Beest, Netherlands.

GROUP XXVIII.

Educational Systems, Methods, and Libraries.—(Classes 300 to 306.)

Institutions and Organizations.—(Classes 310 to 313.)

AMERICAN.

Hon. Andrew D. White, LL.D., President of Cornell University, Ithaca, N. Y.
 D. C. Gilman, LL.D., President of St. John's Hopkins University, Baltimore, Md.
 Hon. J. M. Gregory, LL.D., Pres. Illinois Industrial Union, Champaign, Ill.
 Hon. J. W. Hoyt, M.D., LL.D., Madison, Wis.

FOREIGN.

Sir Charles Reed, Great Britain.
 Mr. Réne Fouret, France.
 Col. John Marin, Spain.
 Prof. Dr. Otto Martin Torell, Sweden.

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—The buildings bear the numbers prefixed to them in this table, being the numbers adopted by the Centennial Guide Book Co. (Limited).]

Buildings South of the Avenue of the Republic.

No.	Part	Page
1.	I.	23
2.	III.	9
3.	III.	117
4.	III.	117
5.	III.	117
6.	III.	117
7.	III.	105
8.	III.	117
9.	III.	117
10.	III.	117
11.	III.	118
12.	III.	146
13.	III.	146
14.	III.	118
15.	III.	118
16.	III.	118
17.	III.	118
18.	III.	118
19.	III.	119
20.	III.	119
21.	III.	119
22.	III.	119
23.	III.	119
24.	III.	119
25.	III.	119
26.	III.	119
27.	III.	119
28.	III.	119
29.	III.	120
30.	III.	120
31.	III.	120
32.	III.	120
33.	III.	120
34.	III.	120
35.	III.	120
36.	III.	120
37.	III.	121
38.	III.	121
39.	III.	121
40.	III.	121
41.	III.	121
42.	III.	121
43.	III.	121
44.	III.	122
45.	III.	122
46.	III.	122
47.	III.	122
48.	III.	122
49.	III.	122

Buildings North of the Avenue of the Republic, and West of Belmont Av.

No.	Part	Page
51.	III.	73
51½.	III.	122
52.	III.	73
52½.	III.	122
53.	III.	73
53½.	III.	122
54.	III.	73
54½.	III.	123
55.	III.	123
55½.	III.	123
56.	III.	123
56½.	III.	124
57.	III.	124
57½.	III.	124
58.	III.	124
58½.	III.	124
59.	III.	124
59½.	III.	124
60.	III.	124
61.	III.	125
62.	III.	125
63.	III.	125
64.	III.	125
65.	III.	125
66.	III.	125
67.	III.	125
68.	III.	125
69.	IV.	134
70.	III.	130
71.	III.	130
72.	III.	130
73.	III.	130
74.	III.	130
75.	III.	130
76.	III.	131
77.	III.	131
78.	III.	131
79.	III.	131
80.	III.	131
81.	III.	131
82.	III.	131
83.	III.	131
84.	III.	131
85.	III.	132
86.	III.	132
87.	III.	141
88.	III.	141
89.	III.	142
90.	III.	142
91.	III.	142

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—Descriptions of the Buildings will be found at the indicated part and page of the Official Catalogue.]

Buildings North of the Avenue of the Republic, and West of Belmont Av.

No.	Part	Page
92. Office of the Boston "Advertiser" and Boston "Herald,"	III.	142
93. Rowell's Newspaper Exhibition Building,	III.	142
94. California State Building,	III.	142
95. Centennial Fire Patrol, No. 1,	III.	142
96. Turkish Café,	III.	143
97. Office Frank Leslie's Publications,	III.	143
98. Iowa State Building,	III.	143
99. Rhode Island State Building,	III.	143
100. Vermont State Building,	III.	143

Buildings East of Belmont Avenue, and South of Fountain Avenue.

101. Art Gallery,	II	9
102. Art Gallery Annex,	II.	10
103. B'nai B'rith Monument of Religious Liberty,	III.	143
104. Photographic Art Building,	II.	137
105. Vienna Bakery and Coffee House,	III.	143
106. Principal Annex to Main Exhibition Building,	I.	374
107. Swedish Government Building,	III.	144
108. Japanese Bazaar,	III.	144
109. The Judges' Hall,	III.	144
110. Centennial Photographic Co.,	III.	144
111. Sheet-metal Pavilion,	III.	144
112. German Government Building,	III.	144
113. Railroad Ticket Office,	III.	144
114. Office United States Centennial Commission,	III.	145
115. Brazilian Government Build'g,	III.	145
116. The Dairy,	III.	145
117. Restaurant "La Fayette,"	III.	145
118. House of Public Comfort,	III.	145
119. Empire Transportation Co.,	III.	145
120. French Government Building,	III.	145
121. Centennial Fire Patrol, No. 2,	III.	145
122. Penn'a Educational Building,	III.	146
123. Telegraph Office,	III.	147
124. American Fusee Company,	III.	147
125. Klautscheck, Thomas, & Stewart's Glass Magazine,	III.	147
126. Moorish Villa,	III.	147
127. American Bible Society,	III.	147
128. Hunter's Camp,	III.	147
129. Office Water Department,	III.	148
130. Soda Water Stands,	III.	148

No.	Part	Page
131. Cigar Stands,	III.	148
132. Singer's Sewing Machines,	III.	148
133. Centennial Medical Departm't,	III.	148
134. Portugal Government Building,	III.	148
135. Bankers' Building,	III.	148
136. French Glass Exhibit,	III.	149
137. Kindergarten,	III.	149
138. Centennial Police Station,	III.	149
139. Philadelphia City Building,	III.	149
140. Music Pavilion,	III.	149
141. Burial Caskets,	III.	149
142. Perforated Metal Building,	III.	149
143. Rubber Roofing,	III.	149
144. Cuban Acclimation Office,	III.	149
145. Naval Group,	III.	149
146. The Dying Lioness,	III.	149

Buildings East of Belmont Avenue, and North of Fountain Avenue.

151. Horticultural Hall,	IV.	147
152. Agricultural Hall,	IV.	9
153. The Women's Pavilion,	III.	85
154. The Women's School House,	III.	150
155. New Jersey State Building,	III.	150
156. Restaurant of the South,	III.	150
157. Kansas and Colorado State Building,	III.	150
158. New England Farmer's Home 100 years ago, and Modern Kitchen,	III.	150
159. Great American Restaurant,	III.	150
160. German Restaurant,	III.	151
161. Tea and Coffee Press,	III.	151
162. Butter and Cheese Factory,	III.	151
163. Soda Water Stand,	III.	151
164. Cigar Stand,	III.	151
165. Farm Wagon Building,	IV.	135
166. Pomological Building,	IV.	135
167. Brewers' Building,	IV.	136
168. Model House Apiary,	IV.	140
169. Guano Company,	III.	151
170. Special Flower Exhibit Building,	III.	170
171. Wind Mills,	IV.	140
172. Office "Ohio Farmer,"	IV.	140
173. Hay Press,	III.	152
174. Police Station,	III.	152
175. Elevated Railroad,	III.	152
176. Boiler House,	III.	152
177. Virginia State Building,	III.	152
178. Protective Fire Apparatus,	III.	152
179. Pop-corn Stands,	III.	152
180. J. L. Mott Co. Fountain,	III.	152

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS

The following is a list of the buildings and special exhibits located within the exhibition grounds, arranged in alphabetical order of the name of the building or exhibit.

No.	Name of Building or Exhibit	Location
1	Administration Building	North of the A. B. C. Building
2	Art Building	West of the A. B. C. Building
3	Automobile Building	East of the A. B. C. Building
4	Banking Building	North of the A. B. C. Building
5	Chemical Building	West of the A. B. C. Building
6	Cinema Building	East of the A. B. C. Building
7	Electric Building	North of the A. B. C. Building
8	Food Building	West of the A. B. C. Building
9	Gas Building	East of the A. B. C. Building
10	Ice Building	North of the A. B. C. Building
11	Iron Building	West of the A. B. C. Building
12	Leather Building	East of the A. B. C. Building
13	Lumber Building	North of the A. B. C. Building
14	Meat Building	West of the A. B. C. Building
15	Milk Building	East of the A. B. C. Building
16	Oil Building	North of the A. B. C. Building
17	Paper Building	West of the A. B. C. Building
18	Refrigeration Building	East of the A. B. C. Building
19	Rubber Building	North of the A. B. C. Building
20	Silk Building	West of the A. B. C. Building
21	Starch Building	East of the A. B. C. Building
22	Textile Building	North of the A. B. C. Building
23	Wool Building	West of the A. B. C. Building
24	Wood Building	East of the A. B. C. Building
25	Yarn Building	North of the A. B. C. Building

No. I. THE MAIN EXHIBITION BUILDING.

Size, 1880 by 464 feet.

Engineers and Architects, HENRY PETTIT & JOS. M. WILSON.

Contractor, R. J. DOBBINS.

Wrought and Cast Iron Manufactured by WM. SELLERS & CO., *Moor Iron Works.*

Wrought Iron Furnished by A. & P. ROBERTS, *Pencoyd Rolling Mills.*

Cast Iron Furnished by MORRIS, TASKER, & CO., *Pascal Iron Works.*

Erector of Iron Work, WATSON MANUFACTURING CO.

THE Main Exhibition Building, containing Departments I, II, III of the Exhibition, is in the form of a parallelogram, extending east and west 1880 feet in length, and north and south 464 feet in width.

The larger portion of the structure is one story in height, and shows the main cornice upon the outside at 45 feet above the ground; the interior height being 70 feet. At the centre of the longer sides are projections 416 feet in length, and in the centre of the shorter sides or ends of the building are projections 216 feet in length. In these projections, in the centre of the four sides, are located the main entrances, which are provided with arcades upon the ground floor, and central facades extending to the height of 90 feet.

The East Entrance forms the principal approach for carriages, visitors being allowed to alight at the doors of the building under cover of the arcade. The South Entrance is the principal approach from street cars, the ticket offices being located upon the line of Elm Avenue, with covered ways provided for entrance into the building itself. The Main Portal on the north side communicates with the Art Gallery, and the Main Portal on the west side gives the main passage way to the Machinery and Agricultural Halls.

Upon the corners of the building there are four towers, 75 feet in height, and between the towers and the central projections or entrances there is a lower roof introduced, showing a cornice at 24 feet above the ground. In order to obtain a central feature for the building as a whole, the roof over the central part, for 184 feet square, has been raised above the surrounding portion, and four towers, 48 feet square, rising to 120 feet in height, have been introduced at the corners of the elevated roof.

The areas covered are as follows :

	SQUARE FEET.	ACRES.
Ground floor,	872,320	20.02
Upper floors in projections,	37,344	.85
“ “ in towers,	26,344	.60
	<hr/>	<hr/>
	936,008	21.47

The general arrangement of the ground plan shows a central avenue or nave 120 feet in width, and extending 1832 feet in length. This is the longest avenue of that width ever introduced into an exhibition building. On either side of this nave there is an avenue 100 feet by 1832 feet in length. Between the nave and side avenues are aisles 48 feet wide, and on the outer sides of the building smaller aisles 24 feet in width. In order to break the great length of the roof lines, three cross avenues or transepts have been introduced of the same widths and in the same relative positions to each other as the nave and avenues running lengthwise, viz.: a central transept 120 feet in width by 416 feet in length, with one on either side of 100 feet by 416 feet, and aisles between of 48 feet. The intersections of these avenues and transepts in the central portion of the building result in dividing the ground floor into nine open spaces, free from supporting columns, and covering in the aggregate an area of 416 feet square. Four of these spaces are 100 feet square, four 100 feet by 120 feet, and the central space or pavilion 120 feet square. The intersections of the 48 feet aisles produce four interior courts 48 feet square, one at each corner of the central space. The main promenades through the nave and central transept are each 30 feet in width, and those through the centre of the side avenues and transepts 15 feet each. All other walks are 10 feet wide, and lead at either end to exit doors.

The following table gives the principal dimensions of the different parts of the building :

DIMENSIONS.

Measurements taken from centre to centre of supporting columns.

Length of building,	1880 feet
Width of building,	464 "

CENTRAL AVENUE OR NAVE.

Length,	1832 feet.
Width,	120 "
Height to top of supporting columns,	45 "
Height to ridge of roof,	70 "

CENTRAL TRANSEPT.

Length,	416 "
Width,	120 "
Height to top of columns,	45 "
Height to ridge of roof,	70 "

SIDE AVENUES.

Length,	1832 "
Width,	100 "
Height to top of columns,	45 "
Height to ridge of roof,	65 "

SIDE TRANSEPTS.

Length,	416 "
Width,	100 "
Height to top of columns,	45 "
Height to ridge of roof,	65 "

CENTRAL AISLES.

Length at east end,	744 feet.
" at west end,	672 "
Width,	48 "
Height to roof,	30 "

SIDE AISLES.

Length at east end,	744 "
" at west end,	672 "
Width,	24 "
Height to roof,	24 "

CENTRE SPACE OR PAVILION.

Ground plan,	120 ft. sq.
Height to top of supporting columns,	72 "
Height to ridge of roof,	96 "

TOWERS OVER COURTS.

Ground plan,	48 "
Height to roof,	120 "

CORNER TOWERS.

Ground plan,	24 "
Height to roof,	75 "

The foundations consist of piers of masonry. The superstructure is composed of wrought iron columns, which support wrought iron roof trusses. These columns are composed of rolled channel bars, with plates riveted to the flanges. Lengthwise of the building the columns are spaced at the uniform distance apart of 24 feet. In the entire structure there are 672 columns, the shortest being 23 feet and the longest 125 feet in length. Their aggregate weight is 2,200,000 pounds. The roof trusses

are similar in form to those in general use for depots and warehouses, and consist of straight rafters with struts and tie-bars. The aggregate weight of iron in the roof trusses and girders is 5,000,000 pounds. This building being a temporary construction, the columns and trusses are so designed that they may be easily taken down and erected again at another site.

The sides of the building, for the height of seven feet from the ground, are finished with brickwork in panels between the columns; above the seven feet, with glazed sash. Portions of the sash are movable for ventilation. The roof covering is of tin upon sheathing boards. The ground flooring is of plank upon sills resting upon the ground, with no open space underneath.

The building stands nearly due east and west, and is lighted almost entirely by side light from the north and south sides. Louvre ventilators are introduced over the central nave and each of the avenues. Skylights are introduced over the central aisles.

Small balconies, or galleries of observation, have been provided in the four central towers of the building at the heights of the different stories.

A complete system of water supply, with ample provision of fire cocks, etc., is provided for protection against fire, and for sanitary purposes.

Offices for foreign commissions are placed along the sides of the building, in the side aisles, in proximity to the products exhibited.

The ground was graded and foundation laid for this building in the autumn of 1874. The erection of iron work at the site commenced on May 8th, 1875; the erection of the iron work was finished December 2d, 1875; and the building was accepted from the contractor February 14th, 1876. The cost of the building was \$1,580,000.

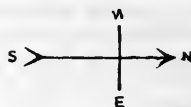
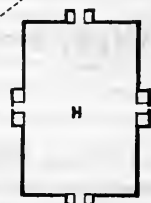
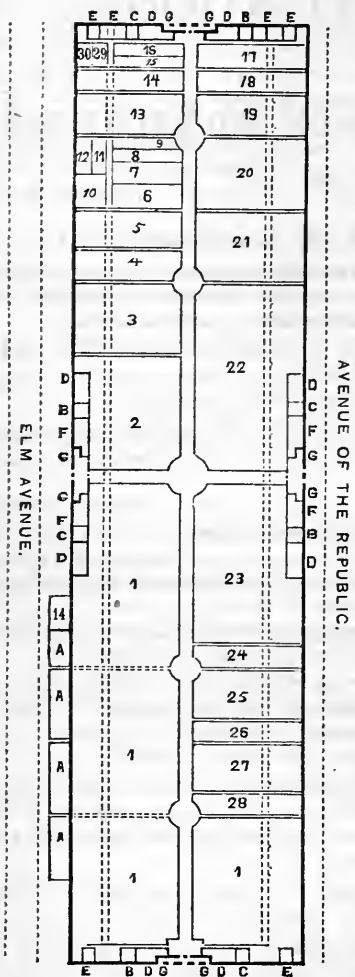
KEY TO THE NOTATION.

THE location of objects in the Main Building is shown by a letter and figure, indicating the nearest column of the building. The letters—A, B, C, to U—designate the successive ranges of columns, proceeding southward from the northern wall across the width of the building; the figures, the number of the column in each range, counting eastwardly from the western wall, the entire length of the building, from 1 to 79. Thus C 5 is the column in the third range from the north, and the fifth from the western end of the building. The southeasternmost column is U 79.

The class of the classification to which each exhibit belongs is indicated by the small figures at the end of the line.

MAIN EXHIBITION BUILDING.

Scale, 360 ft. to 1 in.



1. United States.
2. Germany.
3. Austria and Hungary.
4. Russia.
5. Spain and Philippine Islands.
6. Turkey.
7. Egypt.
8. Denmark.
9. Sweden.
10. Portugal.
11. Tunis.
12. Hawaii.
13. Japan.
14. China.
15. Chili.
16. Argentine Republic.
17. Italy.
18. Norway.
19. Sweden.
20. Australasia and other British Colonies.
21. Canada.
22. Great Britain and India.
23. France and Colonies.
24. Switzerland.
25. Belgium.
26. Brazil.
27. Netherlands.
28. Mexico.
29. Peru.
30. Orange Free State.

CARRIAGE CONCOURSE.

- A Mineral Annex.
- B Ladies' Room.
- C Gentlemen's Room.
- D Water-closets.
- E Offices.
- F Restaurants.
- G Stairway to Galleries.
- H Carriage Annex.

Total Length, 1380 ft. Width, 464 ft. Height, 70 ft.

CLASSIFICATION.

DEPARTMENT I.—MINING AND METALLURGY.

MINERALS, ORES, STONE, MINING PRODUCTS.

- CLASS 100.—Minerals, ores, etc. Metallic and non-metallic minerals, exclusive of coal and oil. Collections of minerals systematically arranged; collections of ores and associated minerals; geological collections.
- CLASS 101.—Mineral combustibles. Coal, anthracite, semi-bituminous, and bituminous, coal-waste and pressed coal; albertite, asphalt, and asphaltic limestone; bitumen, mineral tar, crude petroleum.
- CLASS 102.—Building stones, marbles, slates, etc. Rough, hewn, sawn, or polished, for buildings, bridges, walls, or other constructions, or for interior decoration, or for furniture.
Marble—white, black, or colored—used in building, decoration, statuary, monuments, or furniture, in blocks or slabs not manufactured.
- CLASS 103.—Lime, cement, and hydraulic cement, raw and burned, accompanied by specimens of the crude rock or material used, also artificial stone, concrete, beton.
Specimens of lime mortar and mixtures, with illustrations of the processes of mixing, etc. Hydraulic and other cement.
Beton mixtures and results, with illustrations of the processes.
Artificial stone for building purposes, building blocks, cornices, etc.
Artificial stone mixtures, for pavements, walls, or ceilings.
Plasters, mastics, etc.
- CLASS 104.—Clays, kaolin, silex, and other materials for the manufacture of porcelain faience, and of glass, bricks, terra cotta and tiles, and fire brick. Refractory stones for lining furnaces, sandstone, steatite, etc., and refractory furnace materials.
- CLASS 105.—Graphite, crude and refined; for polishing purposes; for lubricating, electrotyping, photography, pencils, etc.
- CLASS 106.—Lithographic stones, hones, whetstones, grindstones, grinding and polishing materials, sand quartz, garnet, crude topaz, diamond, corundum, emery in the rock and pulverized, and in assorted sizes and grades.
- CLASS 107.—Mineral waters, artesian well water, natural brines, saline and alkaline efflorescences and solutions. Mineral fertilizing substances, gypsum, phosphate of lime, marls, shells, coprolites, etc., not manufactured.

METALLURGICAL PRODUCTS.

- CLASS 110.—Precious metals.
- CLASS 111.—Iron and steel in the pig, ingot, and bar, plates and sheets, with specimens of slags, fluxes, residues, and products of working.

- CLASS 112.**—Copper in ingots, bars, and rolled, with specimens illustrating its various stages of production.
- CLASS 113.**—Lead, zinc, antimony, and other metals, the result of extractive processes.
- CLASS 114.**—Alloys used as materials, brass, nickel, silver, solder, etc.

MINING ENGINEERING—MODELS, MAPS, AND SECTIONS.

- CLASS 120.**—Surface and underground surveying and plotting. Projection of underground work, location of shafts, tunnels, etc. Surveys for aqueducts and for drainage.

Boring and drilling rocks, shafts, and tunnels, etc. Surveys for aqueducts, and for ascertaining the nature and extent of mineral deposits.

Construction. Sinking and lining shafts by various methods, driving and timbering tunnels, and the general operations of opening, stoping, and breaking down ore, timbering, lagging, and masonry.

Hoisting and delivering at the surface, rock, ore, or miners.

Pumping and draining by engines, buckets, or by adits.

Ventilation and lighting.

Subaqueous mining, blasting, etc.

Hydraulic mining, and the various processes and methods of sluicing and washing auriferous gravel and other superficial deposits.

Quarrying.

- CLASS 121.**—Models of mines, of veins, etc.

CLASSIFICATION.

DEPARTMENT II.—MANUFACTURES.

CHEMICALS.

CLASS 200.—Chemicals, pharmaceutical preparations.

Mineral acids, and the methods of manufacture. Sulphuric, nitric, and hydrochloric acids.

The common commercial alkalies, potash, soda, and ammonia, with their carbonates.

Salt and its production. Salt from deposits—native salt. Salt by solar evaporation from sea water. Salt by evaporation from water of saline springs or wells. Rock salt. Ground and table salt.

Bleaching powders and chloride of lime.

Yeast powders, baking powders.

CLASS 201.—Oils, soaps, candles, illuminating and other gases.

Oils from mineral, animal, and vegetable sources. Refined petroleum, benzine, naphtha, and other products of the manufacture. Oils from various seeds, refined, and of various degrees of purity. Olive oil, cottonseed oil, palm oil. Animal oils, of various kinds, in their refined state. Oils prepared for special purposes besides lighting and for food. Lubricating oils.

Soaps and detergent preparations.

Candles, stearine, glycerine, paraffine, etc., spermaceti.

Illuminating gas and its manufacture.

Oxygen gas, and its application for heating, lighting, metallurgy, and as a remedial agent.

Chlorine and carbonic acid.

CLASS 202.—Paints, pigments, dyes, colors, turpentine, varnishes, printing inks, writing inks, blacking.

CLASS 203.—Flavoring extracts, essences, perfumery, pomades, cosmetics.

CLASS 204.—Explosive and fulminating compounds; in small quantities only, and under special regulations, shown in the building only by empty cases and cartridges. Black powder of various grades and sizes. Nitro-glycerine and the methods of using and exploding. Giant powder, dynamite, dualin, tri-nitroglycerine.

CLASS 205.—Pyrotechnics, for display, signaling, missiles.

CERAMICS—POTTERY, PORCELAIN, ETC.

CLASS 206.—Bricks, drain-tiles, terra cotta, and architectural pottery.

CLASS 207.—Fire clay goods, crucibles, pots, furnaces. Chemical stoneware.

CLASS 208.—Tiles, plain, enameled, encaustic; geometric tiles and mosaics. Tiles for pavements and for roofing, etc.

CLASS 209.—Porcelain for purposes of construction. Hardware trimmings, etc.

- CLASS 210.—Stone china, for chemists, druggists, etc., earthenware, stoneware, faience, etc.
- CLASS 211.—Majolica and Palissy ware.
- CLASS 212.—Biscuit-ware, parian, etc.
- CLASS 213.—Porcelain for table and toilet use, and for decoration.

GLASS AND GLASSWARE.

- CLASS 214.—Glass used in construction and for mirrors. Window glass of various grades of quality and of size. Plate glass, rough, and ground or polished. Toughened glass.
- CLASS 215.—Chemical and pharmaceutical glassware, vials, bottles.
- CLASS 216.—Decorative glassware.

FURNITURE AND OBJECTS OF GENERAL USE IN CONSTRUCTION AND IN DWELLINGS.

- CLASS 217.—Heavy furniture.—Chairs, tables, parlor and chamber suits, office and library furniture, vestibule furniture. Church furniture and decoration.
- CLASS 218.—Table furniture.—Glass, china, silver, silver-plate, tea and coffee sets, urns, samovars, epergnes.
- CLASS 219.—Mirrors, stained and enameled glass, cut and engraved window-glass, and other decorative objects.
- CLASS 220.—Gilt cornices, brackets, picture frames, etc.
- CLASS 221.—The nursery and its accessories; children's chairs, walking chairs.
- CLASS 222.—Apparatus and fixtures for heating and cooking,—stoves, ranges, heaters, etc.
- CLASS 223.—Apparatus for lighting,—gas fixtures, lamps, etc.
- CLASS 224.—Kitchen and pantry,—utensils, tinware, and apparatus used in cooking (exclusive of cutlery).
- CLASS 225.—Laundry appliances, washing machines, mangles, clothes-wringers, clothes-bars, ironing-tables.
- CLASS 226.—Bath-room and water closet, shower bath, earth closet.
- CLASS 227.—Manufactured parts of buildings,—sash, blinds, mantels, metal work, etc.

YARNS AND WOVEN GOODS OF VEGETABLE OR MINERAL MATERIALS.

- CLASS 228.—Woven fabrics of mineral origin.—Wire cloths, sieve cloth, wire screens, bolting cloth.
Asbestos fibre, spun and woven, with the clothing manufactured from it.
Glass thread, floss, and fabrics.
- CLASS 229.—Coarse fibres, of grass, rattan, cocoanut, and bark.
Matting, Chinese, Japanese, palm-leaf, grass, and rushes.
Floor cloths of rattan and cocoanut fibres, aloe fibre, etc.
- CLASS 230.—Cotton yarns and fabrics, bleached and unbleached.
Cotton sheeting and shirting, plain and twilled.
Cotton canvas and duck. Awnings, tents.
- CLASS 231.—Dyed cotton fabrics, exclusive of prints and calicoes.
- CLASS 232.—Cotton prints and calicoes, including handkerchiefs, scarfs, etc.
- CLASS 233.—Linen and other vegetable fabrics, uncolored or dyed.
- CLASS 234.—Floor oil cloths, and other painted and enameled tissues, and imitation of leather, with a woven base.

WOVEN AND FELTED GOODS OF WOOL AND MIXTURES OF WOOL.

- CLASS 235.—Card wool fabrics.—Yarns, broadcloth, doeskins, fancy cassimeres, Felted goods.
- CLASS 236.—Flannels.—Plain flannels, domets, opera and fancy.

CLASS 237.—Blankets, robes, and shawls.

CLASS 238.—Combined wool fabrics.—Worsteds, yarns, dress goods for women's wear, delaines, serges, poplins, merinoes.

CLASS 239.—Carpets, rugs, etc.—Brussels, melton, tapestry, tapestry Brussels, Axminster, Venetian, ingrain, felted carpetings, druggets, rugs, etc.

CLASS 240.—Hair, alpaca, goat's hair, camel's hair, and other fabrics, mixed or un-mixed with wool.

CLASS 241.—Printed and embossed woolen cloths, table covers, patent velvets.

SILK AND SILK FABRICS, AND MIXTURES IN WHICH SILK IS THE
PREDOMINATING MATERIAL.

CLASS 242.—Cocoons and raw silk as reeled from the cocoon, thrown or twisted silks in the gum.

CLASS 243.—Thrown or twisted silks, boiled off or dyed, in hanks, skeins, or on spools.

CLASS 244.—Spun silk yarns and fabrics, and the materials from which they are made.

CLASS 245.—Plain woven silks, lustrings, sarsnets, satins, serges, foulards, tissues for hat and millinery purposes, etc.

CLASS 246.—Figured silk piece goods, woven or printed. Upholstery silks, etc.

CLASS 247.—Crapes, velvets, gauzes, cravats, handkerchiefs, hosiery, knit goods, laces, scarfs, ties, veils, all descriptions of cut and made up silks.

CLASS 248.—Ribbons, plain, fancy, and velvet.

CLASS 249.—Bindings, braids, cords, galloons, ladies' dress trimmings, upholsterers', tailors', military, and miscellaneous trimmings.

CLOTHING, JEWELRY, AND ORNAMENTS, TRAVELING EQUIPMENTS.

CLASS 250.—Ready-made clothing, knit goods and hosiery, military clothing, church vestments, costumes, waterproof clothing, and clothing for special objects.

CLASS 251.—Hats, caps, boots and shoes, gloves, mittens, etc., straw and palm leaf hats, bonnets, and millinery.

CLASS 252.—Laces, embroideries, and trimmings for clothing, furniture, and carriages.

CLASS 253.—Jewelry and ornaments worn upon the person.

CLASS 254.—Artificial flowers, coiffures, buttons, trimmings, pins, hooks and eyes, fans, umbrellas, sunshades, walking-canes, pipes, and small objects of dress or adornment, exclusive of jewelry. Toys and fancy articles.

CLASS 255.—Fancy leather work, pocketbooks, toilet cases, traveling equipments, valises, and trunks.

CLASS 256.—Furs.

CLASS 257.—Historical collections of costumes, national costumes.

PAPER, BLANK BOOKS, AND STATIONERY.

CLASS 258.—Stationery for the desk, stationers' articles, pens, pencils, inkstands, and other apparatus of writing and drawing.

CLASS 259.—Writing paper and envelopes, blank-book paper, bond paper, tracing paper, tracing linen, tissue paper, etc., etc.

CLASS 260.—Printing paper for books, newspapers, etc.

Wrapping paper of all grades, cartridge and manilla paper, paper bags.

CLASS 261.—Blank books; sets of account books, specimens of ruling and binding, including blanks, bill heads, etc., book binding.

CLASS 262.—Cards; playing cards, cardboard, binders' board, pasteboard, paper or cardboard boxes.

CLASS 263.—Building paper, pasteboard for walls, cane fibre felt for car-wheels, ornaments, etc.

CLASS 264.—Wall papers, enamelled and colored papers, imitations of leather, wood, etc.

MILITARY AND NAVAL ARMAMENTS, ORDNANCE, FIREARMS, AND
HUNTING APPARATUS.

- CLASS 265.—Military small-arms, muskets, pistols, and magazine guns, with their ammunition.
- CLASS 266.—Light artillery, compound guns, machine guns, mitrailleuses, etc.
- CLASS 267.—Heavy ordnance and its accessories.
- CLASS 268.—Knives, swords, spears, and dirks.
- CLASS 269.—Firearms used for sporting and hunting, also other implements for the same purpose.
- CLASS 270.—Traps for game, birds, vermin, etc.

MEDICINE, SURGERY, PROTHESIS.

- CLASS 272.—Medicines; officinal (in any authoritative pharmacopœia), articles of the materia medica, preparations, unofficinal.
- CLASS 273.—Dietetic preparations, as beef extract and other articles intended especially for the sick.
- CLASS 274.—Pharmaceutical apparatus.
- CLASS 275.—Instruments for physical diagnosis, clinical thermometers, stethoscopes, ophthalmoscopes, etc. (except clinical microscopes, etc., for which see Class 324).
- CLASS 276.—Surgical instruments and appliances, with dressings, apparatus for deformities, prothesis, obstetrical instruments.
- CLASS 277.—Dental instruments and appliances.
- CLASS 278.—Vehicles and appliances for the transportation of the sick and wounded, during peace and war, on shore or at sea.

HARDWARE, EDGE TOOLS, CUTLERY, AND METALLIC PRODUCTS.

- CLASS 280.—Hand tools and instruments used by carpenters, joiners, and for wood and stone in general. Miscellaneous hand tools used in industries, such as jewellers', engravers'.
- CLASS 281.—Cutlery, knives, penknives, scissors, razors, razor straps, skates, and implements sold by cutlers.
- CLASS 282.—Emery and sand paper, polishing powders, polishing and burnishing stones.
- CLASS 283.—Metal hollow ware, ornamental castings.
- CLASS 284.—Hardware used in construction, exclusive of tools and implements. Spikes, nails, screws, tacks, bolts, locks, latches, hinges, pulleys. Plumbers' and gas fitters' hardware, furniture fittings, ships' hardware, saddlers' hardware, and harness fittings and trimmings.

FABRICS OF VEGETABLE, ANIMAL, OR MINERAL MATERIALS.

- CLASS 285.—India rubber goods and manufactures.
- CLASS 286.—Brushes.
- CLASS 287.—Ropes, cordage.
- CLASS 288.—Flags, insignia, emblems.
- CLASS 289.—Wooden and basket ware, papier mache.
- CLASS 290.—Undertakers' furnishing goods, etc.
- CLASS 291.—Galvanized iron work.

CARRIAGES, VEHICLES, AND ACCESSORIES.

(For farm vehicles and railway carriages, see Departments of Agriculture and Machinery.)

- CLASS 292.—Pleasure carriages.
- CLASS 293.—Traveling carriages, coaches, stages, omnibuses, hearses, Bath chairs, velocipedes, baby coaches.
- CLASS 294.—Vehicles for movement of goods and heavy objects, carts, wagons, trucks.
- CLASS 295.—Sleighs, sledges, sleds, etc.
- CLASS 296.—Carriage and horse furniture, harness and saddlery, whips, spurs, horse blankets, carriage robes, rugs, etc.

CLASSIFICATION.

DEPARTMENT III.—EDUCATION AND SCIENCE.

EDUCATIONAL SYSTEMS, METHODS, AND LIBRARIES.

- CLASS 300.**—Elementary instruction. Infant schools and kindergartens, arrangements, furniture, appliances, and modes of training.
Public schools, graded schools, buildings and grounds, equipments, courses of study, methods of instruction, text-books, apparatus, including maps, charts, globes, etc.; pupils' work, including drawing and penmanship; provisions for physical training.
- CLASS 301.**—Higher education. Academies and high schools.
Colleges and universities. Buildings and grounds; libraries, museums of zoology, botany, mineralogy, art, and archeology; apparatus for illustration and research, mathematical, physical, chemical, and astronomical courses of study; text-books, catalogues, libraries, and gymnasiums.
- CLASS 302.**—Professional schools, theology, law, medicine, and surgery, dentistry, pharmacy, mining, engineering, agriculture, and mechanical arts, art and design, military schools, naval schools, normal schools, commercial schools, music.
Buildings, text-books, libraries, apparatus, methods, and other accessories for professional schools.
- CLASS 303.**—Institutions for instruction of the blind, deaf, and dumb, and the feeble-minded.
- CLASS 304.**—Education reports and statistics.
National bureau of education.
State, city, and town systems.
College, university, and professional systems.
- CLASS 305.**—Libraries, history, reports, statistics, and catalogues.
- CLASS 306.**—School and text-books, dictionaries, encyclopedias, gazetteers, directories, index volumes, bibliographies, catalogues, almanacs, special treatises, general and miscellaneous literature, newspapers, technical and special newspapers and journals, illustrated papers, periodical literature.

INSTITUTIONS AND ORGANIZATIONS.

- CLASS 310.**—Institutions founded for the increase and diffusion of knowledge. Such as the Smithsonian Institution, the Royal Institution, the Institute of France, British Association for the Advancement of Science, and the American Association, etc., their organization, history, and results.
- CLASS 311.**—Learned and scientific associations. Geological and mineralogical societies, etc. Engineering, technical, and professional associations. Artistic, biological, zoological, medical schools, astronomical observatories.

CLASS 312.—Museums, collections, art galleries, exhibitions of works of art and industry. Agricultural fairs, state and county exhibitions, national exhibitions. International exhibitions.

Scientific museums and art museums.

Ethnological and archeological collections.

CLASS 313.—Music and the drama.

SCIENTIFIC AND PHILOSOPHICAL INSTRUMENTS AND METHODS.

CLASS 320.—Instruments of precision, and apparatus of physical research, experiment, and illustration.

Astronomical instruments and accessories, used in observatories.

Transits, mural circles, equatorials, collimators.

Geodetic and surveying instruments. Transits, theodolites, needle compasses. Instruments for surveying underground in mines, tunnels, and excavations.

Nautical astronomical instruments. Sextants, quadrants, repeating circles, dip-sectors.

Leveling instruments and apparatus. Carpenters' and builders' levels, hand levels, water levels, engineers' levels.

Instruments for deep-sea sounding and hydrographic surveying.

Meteorological instruments and apparatus.

Thermometers, pyrometers.

Barometers.

Hygrometers and rain gauges.

Maps, bulletins.

Blanks for reports, methods of recording, reducing, and reporting observations.

CLASS 321.—Indicating and registering apparatus, other than meteorological; mechanical calculation.

Viameters, pedometers, perambulators.

Gas meters.

Water meters, current meters, ships' logs, electrical logs.

Tide registers.

Apparatus for printing consecutive numbers.

Counting machines, calculating engines, arithmometers.

CLASS 322.—Weights, measures, weighing and meteorological apparatus.

Measures of length; graduated scales on wood, metal, ivory, tape, or ribbon; steel tapes, chains, rods, verniers, rods, and graduated scales for measuring lumber, goods in packages, casks, etc., gaugers' tools and methods.

Measures of capacity for solids and liquids.

Weights. Scales and graduated beams for weighing; assay balances, chemical balances. Ordinary scales for heavy weights; weighing locomotives and trains of cars. Postal balances. Hydrometers, alchometers, lactometers, etc.; gravimeters. (*See Class 571.*)

CLASS 323.—Chronometric apparatus.

Chronometers. Astronomical clocks. Church and metropolitan clocks. Ordinary commercial clocks. Pendulum and spring clocks. Marine clocks. Watches. Ciepsydras, hour glasses, sun dials. Chronographs, electrical clocks. Metronomes.

CLASS 324.—Optical and thermotic instruments and apparatus.

Mirrors, plane and spherical.

Lenses and prisms.

Spectacles and eyeglasses, field and opera glasses, graphoscopes and stereoscopes.

Cameras and photographic apparatus.

Microscopes.

Telescopes.

Apparatus for artificial illumination, including electric, oxyhydrogen, and magnesium light.

Stereopticons.

Photometric apparatus.

Spectroscopes and accessories for spectrum analysis.

Polariscopes, etc.

Thermotic apparatus.

CLASS 325.—Electrical apparatus.

Friction machines.

Condensers and miscellaneous apparatus to illustrate the discharge.

Galvanic batteries and accessories to illustrate dynamical electricity.

Electro-magnetic apparatus.

Induction machines, Rumkorff coils, etc.

Magnets and magneto-electrical apparatus.

CLASS 326.—Telegraphic instruments and methods.

Batteries and forms of apparatus used in generating the electrical currents for telegraphic purposes.

Conductors and insulators, and methods of support, marine telegraph cables.

Apparatus of transmission; keys, office accessories, and apparatus.

Receiving instruments, relay magnets, local circuits.

Semaphoric and recording instruments.

Codes, signs, or signals.

Printing telegraphs for special uses.

Electrographs.

Dial or cadran systems.

Apparatus for automatic transmission.

CLASS 327.—Musical instruments and acoustic apparatus.

Percussion instruments, drums, tamborines, cymbals, triangles.

Pianos.

Stringed instruments other than pianos.

Automatic musical instruments, music boxes.

Wind instruments of metal and of wood.

Harmoniums.

Church organs and similar instruments.

Speaking machines.

Vocal music.

ENGINEERING, ARCHITECTURE, CHARTS, MAPS, AND GRAPHIC REPRESENTATIONS.

(For Agricultural Engineering, see Class 68o.)

(For Mining Engineering, see Class 12o.)

CLASS 330.—Civil engineering. Land surveying, public lands, etc.

River, harbor, and coast surveying. Construction and maintenance of roads, streets, pavements, etc. Surveys and location of towns and cities, with systems of water supply and drainage. Arched bridges of metal, stone, brick, or beton. Trussed girder bridges. Suspension bridges. Canals, aqueducts, reservoirs, construction of dams. Hydraulic engineering and means of arresting and controlling the flow of water.

Submarine constructions, foundations, piers, docks, etc.

CLASS 331.—Dynamic and industrial engineering. Construction and working of machines; examples of planning and construction of manufacturing and metallurgical establishments.

CLASS 332.—Railway engineering. Location of railways, and the construction and management of railways.

CLASS 333.—Military engineering.

CLASS 334.—Naval engineering.

CLASS 335.—Topographical map. Marine and coast charts.

Geological maps and sections.

Botanical, agronomical, and other maps, showing the extent and distribution of men, animals, and terrestrial products. Physical maps.

Meteorological maps and bulletins. Telegraphic routes and stations. Railway and route maps. Terrestrial and celestial globes. Relief maps and models of portions of the earth's surface. Profiles of ocean beds and routes of submarine cables.

PHYSICAL, SOCIAL, AND MORAL CONDITION OF MAN.

CLASS 340.—Physical development and condition.

The nursery and its accessories.

Gymnasiums, games, and manly sports. Skating, walking, climbing, ball-playing, acrobatic exercises; rowing, hunting, etc.

CLASS 341.—Alimentation. Markets; preparation and distribution of food.

CLASS 342.—The dwelling. Sanitary conditions and regulations. Domestic architecture.

Dwellings characterized by cheapness, combined with the conditions essential to health and comfort.

Fire-proof structures.

Hotels, club-houses, etc.

Public baths.

CLASS 343.—Commercial systems and appliances.

Mercantile forms and methods, counting-houses and offices.

Banks and banking.

Saving and trust institutions.

Insurance; fire, marine, life, etc.

Commercial organizations, boards of trade, merchants', produce, and stock exchanges.

Corporations for commercial and manufacturing purposes.

Railway and other transportation companies.

Building and loan associations.

CLASS 344.—Money. Mints and coining.

Collections of current coins.

Historical collections.

Tokens, etc.

Bank notes and other paper circulating mediums.

Commercial paper, bills of exchange, etc.

Securities for payment of money, stocks, bonds, mortgages, ground rents, quit rents.

Precautions against counterfeiting and misappropriation of money.

CLASS 345.—Government and law. Various systems of government.

Departments of government. Revenue and taxation, military organization, executive powers, legislative forms and authority, judicial functions and systems, police regulations, government charities.

International relations; international law; diplomatic and consular service, etc., allegiance and citizenship; naturalization.

Codes.

Municipal government.

Protection of property in inventions.

Postal system and appliances.

Punishment of crime.

Prisons and prison management and discipline; police stations; houses of correction; reform schools; naval or marine discipline; punishment at sea.

CLASS 346.—Benevolence. General hospitals.

Special hospitals for the eye and ear, for women, etc.

Hospitals for contagious and infectious diseases.

Hospitals for the insane—under State control, and private asylums.

Quarantine systems and organizations.

Sanitary regulations of cities.

Dispensaries.

Inebriate asylums.

Lying-in asylums.

Magdalen asylums.

Asylums for infants and children. Foundling and orphan asylums, children's aid societies.

Homes for the aged and infirm; homes for aged men and women; soldiers' homes; homes for the maimed and deformed; sailors' homes.

Treatment of paupers. Almshouses, feeding the poor, lodging houses.

Emigrant aid societies.

Treatment of aborigines.

Prevention of cruelty to animals.

CLASS 347.—Co-operative associations.

Political societies and organizations.

Military organizations and orders.

Trade unions and associations.

Industrial organizations.

Secret orders and fraternities.

CLASS 348.—Religious organizations and systems. Origin, nature, growth, and extent of various religious systems and faiths. Statistical, historical, and other facts.

Religious orders and societies, and their objects.

Societies and organizations for the propagation of systems of religion by missionary effort.

Spreading the knowledge of religious systems by publications.

Bible societies, tract societies, colportage.

Systems and methods of religious instruction and training for the young.

Sunday-schools, furniture and apparatus.

Associations for religious or moral improvement.

Dispensing charities, church guilds.

CLASS 349.—Art and industrial exhibitions. Agricultural fairs, state and county exhibitions, national exhibitions, international exhibitions, international congresses, etc.

CLASSIFICATION.

DEPARTMENT IV.—ART.

SCULPTURE.

- CLASS 400.—Figures and groups in stone, metal, clay, or plaster.
CLASS 401.—Bas-reliefs, in stone or metal; electrotype copies.
CLASS 402.—Medals, pressed and engraved; electrotypes of medals.
CLASS 403.—Hammered and wrought work—*repoussé* and *rehaussé* work, embossed and engraved relief work.
CLASS 404.—Cameos, intaglios, engraved stones, dies, seals, etc.
CLASS 405.—Carvings in wood, ivory, and metal.

PAINTING.

- CLASS 410.—Paintings in oil on canvas, panels, etc.
CLASS 411.—Water color pictures; aquarelles, miniatures, etc.
CLASS 412.—Frescoes, cartoons for frescoes, etc.
CLASS 413.—Painting with vitrifiable colors. Pictures on porcelain, enamel, and metal.

ENGRAVING AND LITHOGRAPHY.

- CLASS 420.—Drawings with pen, pencil, or crayons.
CLASS 421.—Line engravings from steel, copper, or stone.
CLASS 422.—Wood engravings.
CLASS 423.—Lithographs, zincographs, etc.
CLASS 424.—Chromo-lithographs.

PHOTOGRAPHY.

- CLASS 430.—Photographs on paper, metal, glass, wood, fabrics, or enamel surfaces.
CLASS 431.—Prints from photo-relief plates, carbon prints, etc.
CLASS 432.—Photo-lithographs, etc.
CLASS 433.—Photographic apparatus and supplies.

INDUSTRIAL AND ARCHITECTURAL DESIGNS, MODELS, AND DECORATIONS.

- CLASS 440.—Industrial designs.
CLASS 441.—Architectural designs; studies and fragments, representations and projects of edifices; restorations from ruins and from documents.
CLASS 442.—Decoration of interiors of buildings.
CLASS 443.—Artistic hardware and trimmings, artistic castings, forged metal work for decoration, etc.

DECORATION WITH CERAMIC AND VITREOUS MATERIALS, MOSAIC AND INLAID WORK.

- CLASS 450.—Mosaic and inlaid work in stone.
CLASS 451.—Mosaic and inlaid work in tiles, tessaræ, glass, etc.
CLASS 452.—Inlaid work in wood and metal, parquetry, tables, etc.
CLASS 453.—Stained glass.
CLASS 454.—Miscellaneous objects of art.

CLASSIFICATION.

DEPARTMENT V.—MACHINERY.

MACHINES, TOOLS, AND APPARATUS OF MINING, METALLURGY, CHEMISTRY, AND THE EXTRACTIVE ARTS.

- CLASS 500.—Rock drilling.
- CLASS 501.—Well and shaft boring.
- CLASS 502.—Machines, apparatus, and implements for coal cutting.
- CLASS 503.—Hoisting machinery and accessories.
- CLASS 504.—Pumping, draining, and ventilating.
- CLASS 505.—Crushing, grinding, sorting, and dressing. Breakers, stamps, mills, pans, screens, sieves, jigs, concentrators.
- CLASS 506.—Furnaces, smelting apparatus, and accessories.
- CLASS 507.—Machinery used in Bessemer process.
- CLASS 508.—Chemical manufacturing machinery. Electroplating. Paint and powder mills. Blacking and soap-making machinery.
- CLASS 509.—Gas machinery and apparatus.

MACHINES AND TOOLS FOR WORKING METAL, WOOD, AND STONE.

- CLASS 510.—Planing, sawing, veneering, grooving, mortising, tonguing, cutting, moulding, stamping, carving, and cask-making machines, etc., cork-cutting machines.
- CLASS 511.—Direct acting steam sawing machines, with gang saws. Bark mills.
- CLASS 512.—Rolling mills, bloom squeezers, blowing fans. Rivet, nail, bolt, and tack making machinery.
- CLASS 513.—Furnaces and apparatus for casting metals, with specimens of work.
- CLASS 514.—Steam, trip, and other hammers, with specimens of work, anvils, forges, bellows.
- CLASS 515.—Planing, drilling, slotting, turning, shaping, punching, stamping, cutting, and coining machines. Wheel cutting and dividing machines, emery wheels, drills, taps, gauges, dies, etc. Grindstones.
- CLASS 516.—Stone-sawing and planing machines, dressing, shaping, and polishing, sand blasts, Tilghman's machines, glass-grinding machines, etc.
- CLASS 517.—Brick, pottery, and tile machines. Machines for making artificial stone.
- CLASS 518.—Furnaces, moulds, blowpipes, etc., for making glass and glassware.
- CLASS 519.—Tools, implements, etc., for working metal, wood, and stone.

MACHINES AND IMPLEMENTS OF SPINNING, WEAVING, FELTING, AND PAPER MAKING.

- CLASS 520.—Machines for the manufacture of silk goods.
- CLASS 521.—Machines for the manufacture of cotton goods.
- CLASS 522.—Machines for the manufacture of woollen goods, carpets, and tapestry.
- CLASS 523.—Machines for the manufacture of linen goods.

CLASS 524.—Machines for the manufacture of rope and twine, and miscellaneous fibrous materials.

CLASS 525.—Machines for the manufacture of paper and felting.

CLASS 526.—Machines for the manufacture of india-rubber goods.

CLASS 527.—Machines for the manufacture of mixed fabrics.

CLASS 528.—Machines for the manufacture of wire cloth.

MACHINES, APPARATUS, AND IMPLEMENTS USED IN SEWING AND MAKING CLOTHING AND ORNAMENTAL OBJECTS.

CLASS 530.—Machines used in the manufacture of lace, floor-cloths, fancy embroidery, hair, ribbons, etc.

CLASS 531.—Sewing and knitting machines, clothes, corset, hat, and bonnet making machines.

CLASS 532.—Machines for preparing and working leather.

CLASS 533.—Machines for making boots and shoes.

CLASS 534.—Machines for ironing, drying, scouring, and cleaning.

CLASS 535.—Machines for making clocks and watches.

CLASS 536.—Machines for making jewelry.

CLASS 537.—Machines for making buttons, pins, needles, etc.

CLASS 538.—Pipes for smoking.

MACHINES AND APPARATUS FOR TYPESETTING, PRINTING, STAMPING, EMBOS-
ING, AND FOR MAKING BOOKS, AND PAPER WORKING.

CLASS 540.—Printing, stamping, embossing, and lithographing presses.

CLASS 541.—Typecasting machines, apparatus of stereotyping.

CLASS 542.—Types and typesetting machines. Type-writing machines.

CLASS 543.—Printers' furniture.

CLASS 544.—Bookbinding machines.

CLASS 545.—Paper-folding machines.

CLASS 546.—Paper and card cutting machines, paper box machines.

CLASS 547.—Envelope machines.

MOTORS AND APPARATUS FOR THE GENERATION AND TRANSMISSION OF POWER.

CLASS 550.—Boilers and all steam or gas generating apparatus for motive purposes.

CLASS 551.—Water-wheels, water engines, hydraulic rams, windmills.

CLASS 552.—Steam, air, or gas engines, electro-magnetic engines.

CLASS 553.—Apparatus for the transmission of power, shafting, belting, cables, transmission of power by compressed air, etc., gearing, cables.

CLASS 554.—Screw propellers, wheels for the propulsion of vessels, and other motors.

CLASS 555.—Implements and apparatus used in connection with motors. steam gauges, manometers, etc. Anti-friction metals.

HYDRAULIC AND PNEUMATIC APPARATUS, PUMPING, HOISTING, AND LIFTING.

CLASS 560.—Pumps and apparatus for lifting and moving liquids.

CLASS 561.—Pumps and apparatus for moving and compressing air or gas.

CLASS 562.—Pumps and blowing engines, blowers and ventilating apparatus.

CLASS 563.—Hydraulic jacks, presses, elevators, lifts, meters, cranes.

CLASS 564.—Fire engines, hand, steam, or chemical, and fire extinguishing apparatus, hose, ladders, and fire-escapes, etc.

CLASS 565.—Beer engines, soda-water machines, bottling apparatus, corking machines.

CLASS 566.—Stop valves, cocks, pipes, etc.

CLASS 567.—Diving apparatus and machinery.

CLASS 568.—Ice machines.

RAILWAY PLANT, ROLLING STOCK, AND APPARATUS.

CLASS 570.—Locomotives, models, drawings, plans, etc.

CLASS 571.—Carriages, wagons, trucks, cars, etc

- CLASS 572.—Brakes, buffers, couplings, and snow-plows.
 CLASS 573.—Wheels, tires, axles, bearings, springs, etc.
 CLASS 574.—Permanent ways, ties, chairs, switches, etc.
 CLASS 575.—Station arrangements, signals, water-cranes, turn-tables.
 CLASS 576.—Miscellaneous locomotive attachments.
 CLASS 577.—Street railways and cars.

MACHINES USED IN PREPARING AGRICULTURAL PRODUCTS.

- CLASS 580.—Flour mills.
 CLASS 581.—Sugar refining machines.
 CLASS 582.—Confectioners' machinery.
 CLASS 583.—Oil-making machinery.
 CLASS 584.—Tobacco manufacturing machines.
 CLASS 585.—Mills for spices, coffee, etc.
 CLASS 586.—Machines for preparing fancy goods.
 CLASS 587.—Machines for preparing malt and spirituous liquors.

AERIAL, PNEUMATIC, AND WATER TRANSPORTATION.

- CLASS 590.—Suspended cable railways.
 CLASS 591.—Transporting cables.
 CLASS 592.—Balloons, flying machines, etc.
 CLASS 593.—Pneumatic railways, pneumatic dispatch.
 CLASS 594.—Boats and sailing vessels. Sailing vessels used in commerce. Sailing vessels used in war. Yachts and pleasure boats. Rowing boats of all kinds. Life boats and salvage apparatus, with life rafts, belts, etc. Submarine armor, diving bells, etc. Ice boats. Models and drawings.
 CLASS 595.—Steamships, steamboats, and all vessels propelled by steam.
 CLASS 596.—Vessels for carrying telegraph cables and railway trains, also coal barges, water boats, and dredging machines, screw and floating docks, and for other special purposes.
 CLASS 597.—Steam capstans, windlass, deck-winches, and steering apparatus, fans.

MACHINERY AND APPARATUS ESPECIALLY ADAPTED TO THE REQUIREMENTS OF THE EXHIBITION.

Boilers, engines, cranes, pumps, etc.

CLASSIFICATION.

DEPARTMENT VI.—AGRICULTURE.

ARBORICULTURE AND FOREST PRODUCTS.

- CLASS 600.**—Timber and trunks of trees, entire or in transverse or truncated sections, with specimens of barks, leaves, flowers, seed vessels, and seed.
Masts, spars, knees, longitudinal sections of trees, railway ties, ship timber, lumber roughly sawn; as planks, shingles, lath, and staves.
Timber and lumber prepared in various ways to resist decay and combustion; as by injection of salts of copper and zinc.
- CLASS 601.**—Ornamental woods used in decorating and for furniture; as veneers of mahogany, rosewood, ebony, walnut, maple, and madrona.
- CLASS 602.**—Dyewoods, barks, and galls for coloring and tanning.
- CLASS 603.**—Gums, resins, caoutchouc, gutta percha, vegetable wax.
- CLASS 604.**—Lichens, mosses, fungi, pulu, ferns.
- CLASS 605.**—Seeds, nuts, etc., for food and ornamental purposes.
- CLASS 606.**—Forestry.—Illustrations of the art of planting, managing, and protecting forests. Statistics.
- CLASS 607.**—Fruit trees and shrubs.

POMOLOGY.

- CLASS 610.**—Fruits of temperate and semi-tropical regions; as apples, pears, quinces, peaches, nectarines, apricots, plums, grapes, cherries, strawberries, and melons.
- CLASS 611.**—Tropical fruits and nuts, oranges, bananas, plantains, lemons, pine-apples, pomegranates, figs, cocoanuts.

AGRICULTURAL PRODUCTS.

- CLASS 620.**—Cereals, grasses, and forage plants.
- CLASS 621.**—Leguminous plants and esculent vegetables.
- CLASS 622.**—Roots and tubers.
- CLASS 623.**—Tobacco, hops, tea, coffee, spices, condiments, herbs.
- CLASS 624.**—Seeds and seed vessels.

LAND ANIMALS.

- CLASS 630.**—Horses, asses, mules.
- CLASS 631.**—Horned cattle.
- CLASS 632.**—Sheep.
- CLASS 633.**—Goats, alpaca, llama, camel.
- CLASS 634.**—Swine.
- CLASS 635.**—Poultry and birds.
- CLASS 636.**—Dogs and cats.
- CLASS 637.**—Wild animals.
- CLASS 638.**—Insects, useful and injurious. Honey bees, cochineal, silk-worms.

MARINE ANIMALS, FISH CULTURE, AND APPARATUS.

- CLASS 640.—Marine mammals.—Seals, cetaceans, etc., specimens living in aquaria, or stuffed, salted, preserved in alcohol, or otherwise.
- CLASS 641.—Fishes, living or preserved.
- CLASS 642.—Pickled fish, and parts of fish used for food.
- CLASS 643.—Crustaceans, echinoderms, beche de mer.
- CLASS 644.—Mollusks, oysters, clams, etc., used for food.
- CLASS 645.—Shells, corals, and pearls.
- CLASS 646.—Whalebone, shagreen, fish-glue, isinglass, sounds, fish-oil.
- CLASS 647.—Instruments and apparatus of fishing.—Nets, baskets, hooks, and other apparatus used in catching fish.
- CLASS 648.—Fish culture.—Aquaria, hatching pools, vessels for transporting roe and spawn, and other apparatus used in fish breeding, culture, or preservation.

ANIMAL AND VEGETABLE PRODUCTS.

(Used as food or as materials.)

- CLASS 650.—Sponges, seaweed, and other growths used for food or in the arts.
- CLASS 651.—The dairy.—Milk, cream, butter, cheese.
- CLASS 652.—Hides, furs, and leather, tallow, oil, and lard, ivory, bone, horn, glue.
- CLASS 653.—Eggs, feathers, down.
- CLASS 654.—Honey and wax.
- CLASS 655.—Animal perfumes; as musk, civet, ambergris.
- CLASS 656.—Preserved meats, vegetables, and fruits. Dried, or in cans or jars.
Meat and vegetable extracts.
- CLASS 657.—Flour; crushed and ground cereals, decorticated grains.
- CLASS 658.—Starch and similar products.
- CLASS 659.—Sugar and syrups.
- CLASS 660.—Wines, alcohol, and malt liquors.
- CLASS 661.—Bread, biscuits, crackers, cakes, confectionery, cocoa, chocolate, etc.
- CLASS 662.—Vegetable oils, oil cake.

TEXTILE SUBSTANCES OF VEGETABLE OR ANIMAL ORIGIN.

- CLASS 665.—Cotton on the stem, in the boll, ginned, and baled.
- CLASS 666.—Hemp, flax, jute, ramie, etc., in primitive forms and in all stages of preparation for spinning.
- CLASS 667.—Wool in the fleece, carded, and in bales.
- CLASS 668.—Silk in the cocoon and reeled.
- CLASS 669.—Hair, bristles.

MACHINES, IMPLEMENTS, AND PROCESSES OF MANUFACTURE.

- CLASS 670.—Tillage.—Manual implements, spades, hoes, rakes. Animal power machinery, plows, cultivators, horse-hoes, clod-crushers, rollers, harrows. Steam power machinery, plows, breakers, harrows, cultivators.
- CLASS 671.—Planting.—Manual implements, corn-planters and hand-drills. Animal power machinery, grain and manure drills, corn and cotton planters. Steam power machinery, grain and manure drills.
- CLASS 672.—Harvesting.—Manual implements; grain-cradles, sickles, reaping-hooks. Animal power machinery, reapers and headers. Mowers, tedders, rakes, hay elevators, and hay loaders.
Potato diggers.
- CLASS 673.—Preparatory to marketing.—Thrashers, clover-hullers, corn-shellers, winnowers, hay, cotton, flax, jute, ramie, wine, oil, and sugar making apparatus. Cleaners and smutters. Horse powers.

CLASS 674.—Applicable to farm economy.—Portable and stationary engines, chaffers, hay and feed cutters, slicers, pulpers, corn mills, farm boilers and steamers, incubators, edged tools, mills, meat choppers.

CLASS 675.—Dairy fittings and appliances.—Churns for hand and power, butter-workers, cans and pails, cheese-presses, vats, and apparatus, ice-cream freezers, cedar-ware.

AGRICULTURAL ENGINEERING AND ADMINISTRATION.

CLASS 680.—Laying out and improving farms.—Clearing (stump extractors), construction of roads, draining, irrigating, models of fences, gates, drains, out-falls, dams, embankments, irrigating machinery, stack building and thatching.

CLASS 681.—Commercial fertilizers, phosphatic, ammoniacal, calcareous, etc.

CLASS 682.—Transportation.—Wagons, carts, sleds, harness, yokes, traction engines, and apparatus for road making and excavating.

CLASS 683.—Farm buildings.—Models and drawings of farm houses and tenements, barns, stables, hop-houses, fruit-driers, ice-houses, windmills, granaries, barracks, apiaries, cocooneries, aviaries, abattoirs, and dairies.

TILLAGE AND GENERAL MANAGEMENT.

CLASS 690.—Systems of planting and cultivation.

CLASS 691.—Systems of draining and application of manures.

CLASS 692.—Systems of breeding and stock feeding, training.

CLASS 693.—Veterinary surgery and appliances.

CLASSIFICATION.

DEPARTMENT VII.—HORTICULTURE.

ORNAMENTAL TREES, SHRUBS, AND FLOWERS.

- CLASS 700.—Ornamental trees and shrubs, evergreens.
CLASS 701.—Herbaceous perennial plants.
CLASS 702.—Bulbous and tuberous rooted plants.
CLASS 703.—Decorative and ornamental foliage plants.
CLASS 704.—Annuals and other soft-wooded plants, to be exhibited in successive periods during the season.
CLASS 705.—Roses.
CLASS 706.—Cactacea.
CLASS 707.—Ferns, their management in the open air and in ferneries, wardian cases, etc.
CLASS 708.—New plants, with statement of their origin.
CLASS 709.—Floral designs, etc.—Cut flowers, bouquets, preserved flowers, leaves, seaweeds. Illustrations of plants and flowers.—Materials for floral designs. Bouquet materials, bouquet holders, bouquet papers, models of fruits, vegetables, and flowers.

HOTHOUSES, CONSERVATORIES, GRAPERIES, AND THEIR MANAGEMENT.

- CLASS 710.—Hothouse and conservatory plants.
CLASS 711.—Fruit trees under glass.
CLASS 712.—Orchids and parasitic plants.
CLASS 713.—Forcing and propagation of plants.
CLASS 714.—Aquatic plants under glass, or in aquaria, etc.
CLASS 715.—Horticultural buildings, propagating houses, hotbeds, etc., and modes of heating them. Structures for propagating and forcing small fruits.
CLASS 716.—Portable or movable orchard houses and graperies, without artificial heat. Frames, beds.

GARDEN TOOLS, ACCESSORIES OF GARDENING.

- CLASS 720.—Tools and implements.—Machines for the transplanting of trees, shrubs, etc. Portable forcing pumps, for watering plants in greenhouses and methods of watering the garden and lawn.
CLASS 721.—Receptacles for plants.—Flower pots, plant-boxes, tubs, fern cases, jardinieres, etc. Window gardening. Plant and flower stands, ornate designs in iron, wood, and wire.
CLASS 722.—Ornamental wirework, viz.: fences, gates, trellis bordering of flower beds, porches. Park seats, chairs, garden statuary, vases, fountains, etc. Designations, labels, numbers.

GARDEN DESIGNING, CONSTRUCTION, AND MANAGEMENT.

- CLASS 730.—Laying out gardens.—Designs for the laying out of gardens, and the improvement of private residences. Designs for commercial gardens, nurseries, graperies. Designs for the parterre. Books on gardening.
CLASS 731.—Treatment of water for ornamental purposes, cascades, fountains, reservoirs, lakes.
CLASS 732.—Formation and after-treatment of lawns.
CLASS 733.—Garden construction, buildings, etc.—Rockwork, grottoes. Rustic constructions and adornments for private gardens and public grounds.
CLASS 734.—Planting, fertilizing, and cultivating.

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INDEX TO ADVERTISEMENTS.

	PAGE
Anderson, D., & Son.....	147
American Newspaper Union.....	60
"Aroma" Cigar.....	47
Barlow & Jones.....	144
Burke, Edward & John.....	145
Bartlett, W., & Sons.....	145
Biss' Chipping Norton Tweeds.....	146
Blood, Wolfe & Co.....	147
Brook, Jonas, & Brother.....	148
Bai ey & Co.....	51
Baeder, Adamson & Co.....	101
Clark's "O. N. T." Spool Cotton.....	Facing second page of cover.
Cantrell & Cochrane.....	146
Clark, John, Jr., & Co.....	152
Conover, David F., & Co.....	124
Dewhurst, John, & Sons.....	153
Drown, W. A., & Co.....	112
Dobbins' Electric Soap.....	125
Ewart, William, & Son.....	151
French, E. D. & W. A.....	132
French Restaurant.....	112
Furnald & Champio.....	112
Greener, W. W.....	144
Great Combination Store.....	Third page of cover.
Gloucester Iron Works.....	100
Grubb, Jos. C., & Co.....	101
Goodale's Household Specialties.....	147
Henry, Alex.....	144
Hambiet, Jos.....	145
Hooper, Cleeve, Jr.....	145
Huddell & Seitzinger.....	125
Herrings' Safes.....	142
Horstman Brothers & Co.....	124
Haseltine Galleries.....	47
Johnson, J., & Co.....	151
Kittle, S. P.....	132
Lewis, John T., & Bros.....	100
McAlister, W. T., & Co.....	47
Mintons' Ties.....	125
Morgan & Headley.....	125
McCallum, Crease, & Sloan.....	113
McGee, John G., & Co.....	145
Pim Brothers & Co.....	150
Presbyterian Banner.....	124
Pratt, E. C., Bro. & Co.....	143
Provident Life and Trust Co.....	124
Penn Mutual Life Insurance Co.....	47
Pennsylvania Railroad.....	55
Pittsburgh Daily Evening Chronicle.....	112
Pittsburgh Commercial.....	125
Radway's, Dr., Medicines.....	61
"Star" Alpaca Braids.....	Facing second page of cover.
Sun Newspaper.....	321
Scott, W. C., & Son.....	144
Smith, David, & Co.....	144
Tomlinson, A. S.....	320
Thornton, John, & Co.....	133
United Presbyterian.....	133
Watson, Thos., & Sons.....	133
West Philadelphia Passenger Railway Company.....	Second page of cover.
York Street Flax Spinning Co.....	149

THE FINEST CIGAR

(At six for 25 cents)

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THE "AROMA,"

FROM

THE UNITED STATES CIGAR MANUFACTORY,

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TWENTY-EIGHTH ANNUAL REPORT OF THE PENN MUTUAL LIFE INSURANCE CO.

OFFICE, 921 CHESTNUT STREET, PHILADELPHIA.

ASSETS, JAN. 1st, 1876.

United States bonds, Philadelphia and other stocks and loans,	\$1,770,477 50
Mortgages and ground rents upon property appraised at \$5,334,200, all first liens,	1,971,308 84
Real estate owned by Co.,	349,166 53
Premium notes and loans secured by collateral,	853,610 13
Cash on hand and in trust companies,	191,916 62
Scrip dividends held by Co.,	113,030 00
Balance in hand of agents,	17,953 48
All other securities,	236,846 14
	\$5,504,329 24

LIABILITIES.

Losses reported, but not yet due,	\$90,920 00
Reserve at 4 per cent interest, required to insure outstanding risks,	4,553,118 00
Scrip yet outstanding,	113,030 00
	4,756,438 00
Surplus to policy holders, 4 per cent. basis,	747,891 24
Surplus to policy holders, 4½ per cent. basis,	1,083,091 24
Total number of policies issued in 1875,	2,093
Policies in force Jan. 1, 1876,	9,545
Amount at risk,	\$28,389,363 00

SAMUEL C. HUEY, President,
 H. S. STEPHENS, Second Vice-President.
 HENRY AUSTIE, Secretary.

SAMUEL E. STOKES, Vice-President.
 JAMES WEIR MASON, Actuary.



HASELTINE GALLERIES,
 1125 and 1127 Chestnut St., Philadelphia.

DEPT. I.—MINING AND METALLURGY.

UNITED STATES.

Minerals, Ores.

Minerals, Ores, Stone, Mining Products.

- 1 Cambria Iron & Steel Co., Johnstown, Pa. W 66.
- a Carbamate, fossil, and hematite ores from Johnstown, Frankstown, Marklesburg, Yellow Creek, Henrietta, and Springfield mines; specular, magnetic, red hematite, Lake Superior, and Lake Champlain ores; manganiferous Iron Mountain ores. 100
- b B, C, D, and E coal from Johnstown and Bennington mines; Belgian oven and pit coke. 101
- c Lime and ganister from near Hollidaysburg, Henrietta, and Ganister mines. 103
- 2 Wharton, Joseph, Camden, N. J.—Nickel ores. T 63. 100
- 3 Sharswood, Wm., Philadelphia, Pa.—T 70. 100
- a Magnetic iron ore from the Moratic Furnace mines, Danbury, N. C.; ores and minerals from North Carolina. 100
- b Coal from North Carolina. 101
- c Marble from North Carolina. 102
- d Steatite, agalmatolite, etc. from North Carolina. 104
- 4 Hatch, John. San Francisco, Cal.—Minerals of the Pacific states and territories, Mexico, Central and South America, China, Japan, etc. T 67. 100
- 5 Barton, Chas., Philadelphia, Pa.—Ores from "Blazing Star" silver mine, Colorado. T 71. 100
- 6 Adams, J. Howe, Philadelphia, Pa.—Ore from "Blue Jacket" silver mine, Montana district, Colorado. T 71. 100
- 7 Benton, Caroline C., Philadelphia, Pa.—Iron ores from St. Lawrence and Lewis counties, N. Y. T 67. 100
- 8 Foote, A. E., M.D., 3725 Lancaster avenue, Philadelphia, Pa.—Collection of minerals; elementary collection of minerals for students illustrating principal species; all grand divisions in Dana; every chemical element; every system of crystallization; trimorphism, 100 specimens, averaging four square inches, mostly crystallized, printed label of species, composition, locality attached—\$10.00; crystallized amazon stone, feldspar, quartz, Brookite, rutile rosettes, perovskite, hodrotetanite (new mineral, Koenig), schorlomite, samarskite, tellurides, copper, hexagonal graphite, embolite, aegerite, ozarkite, chlorastrolite, wavellite, peganite, etc. T 71. 100
- 9 Cleveland Rolling Mill Co., Cleveland, Ohio.—Ores. T 60. 100
- 11 Wyoming Historical & Geological Society, Wilkesbarre, Pa.—Fossils from the anthracite coal measures of Wyoming Valley, Pa. T 70. 100
- 12 Cook, Isaac, St. Louis, Mo.—Lead ores from Washington county, Mo. T 68. 100
- 13 Port Henry Iron Ore Co., J. B. Brinsmade, Treasurer, 56 Broadway, New York, N. Y.—Magnetic iron ores, "Twenty-one," puddling, and furnace ore; "Fisher" Bessemer ore. T 71. 100
- 14 Witherbees, Sherman, & Co., Port Henry, Essex County, N. Y.—Old bed puddling and furnace ore, and new bed Bessemer ore. T 71. 100
- 15 Black Band Iron Co., Marietta, O.—Black band, red hematite, and other iron ores. V 63. 100
- 16 Brown & Co., Wayne Iron & Steel Works, Pittsburg, Pa.—Ores. T 62. 100
- 17 Lucy Furnace Co., Pittsburg, Pa.—Iron ores. T 66. 100
- 18 Providence Franklin Society, Providence, R. I.—Minerals and geological specimens from Rhode Island. T 70. 100
- 19 Lombard, Thos. C., New York, N. Y.—Galena from Tudor mine, Hastings county, Ont. T 71. 100
- 20 Hussey & Howe Mining Co., Plattsburg, N. Y.—Blue magnetic iron ore (martite); black magnetic iron ore. T 69. 100
- 21 Alexander, John S., Philadelphia, Pa.—Collection of minerals. P 68. 100
- 22 Passaic Zinc Co., Passaic, N. J.—Zinc ores. T 63. 100
- 23 Magnetite Iron Co., Philadelphia, Pa.—Bessemer ores; minerals from Carter county, Tenn. T 69. 100
- 24 Crab Orchard Iron Co., Philadelphia, Pa.—Magnetic Bessemer iron ores from Crab Orchard, Tenn. T 69. 100
- 25 Herr, Jos. C., Philadelphia, Pa.—Hematite iron ores, manganese, and baryta from French Broad River, Cocke county, Tenn. T 69. 100
- 26 Davis, O. W., jr., Bangor, Maine.—Katahdin ores (limonite). T 69. 100
- 26a Fleming, F. N. & J. S., Goochland C. H., Va.—T 68. 100
- a Minerals, especially gold ores. 100
- b Mineral waters. 107
- 27 Thomas Iron Co., Hokendauqua, Pa.—Iron ore. T 64. 100
- 28 Lehigh Zinc Co., Bethlehem, Pa.—Zinc ores and minerals from zinc mines. T 64. 100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores.

- 29 Virginia Mineral Bureau, Alexandria, Va.—Collection of minerals of Virginia and West Virginia. N 62. 100
- 30 Stockbridge Iron Co., New Bedford, Mass.—Iron ore from West Stockbridge and Richmond, Mass. T 70. 100
- 31 Dexter & Co., New York, N. Y.—Mica from North Carolina. T 72. 100
- 32 Minong Mining Co., Detroit, Mich.—Native copper, etc. V 67. 100
- 33 Shalter, R. M., Carrick Furnace, Franklin county, Pa.—Iron ore. T 63. 100
- 34 Shelby Iron Co., Shelby Iron Works, Ala.—Iron ores. T 71. 100
- 35 Rockhill Iron & Coal Co., Philadelphia, Pa.—T 72 and V 56.
a Iron ores. 100
b Semi-anthracite coal; coke. 101
- 36 Tecumseh Iron Co., Tecumseh, Ala. Willard Warner, President and Manager; A. E. Buck, Treasurer, Atlanta, Ga.—Pig iron, iron ore, charcoal, limestone. T 70. 100
- 36a Smith, J. C., Chicago, Ill.—Minerals of Jo Daviess county. V 72. 100
- 37 New River Railroad, Mining, & Manufacturing Co. of Virginia, Philadelphia, Pa.—Iron ores and other minerals. T 50. 100
- 37a Cosgriff, A., Tilly Foster Iron Mines, N. Y.—Magnetic iron ore. V 62. 100
- 37b South & North Alabama Railroad, Montgomery, Ala.—V 60 and T, 57.
a Iron ore and minerals. 100
b Coal and coke. 101
- 38 Lackawanna Iron & Coal Co., Scranton, Pa.—Iron ores. T 64. 100
- 39 Carpenter, Charles, Kelley's Island, Ohio.—Geological rocks. V 63. 100
- 40 Lake Superior Iron Co., Marquette county, Mich.—Iron ore. T 70. 100
- 41 Kentucky Geological Survey.—Collection illustrating the geology and mineral resources of Kentucky. N 65. 100
- 42 Allen, Oliver, Mumford, N. Y.—Petrified wood, leaves, ferns, etc., found on his premises. T 72. 100
- 43 Vesuvius Furnace, Etna Iron Works, Ironton, Ohio.—Iron ore. T 68. 100
- 44 Etna Furnace, Etna Iron Co., Hanging Rock, Ohio.—Iron ore. T 68. 100
- 45 Blanche Furnace, Etna Iron Works, Ironton, Ohio.—Iron ores. T 68. 100
- 46 Hecla Iron & Mining Co., John Campbell, President, Ironton, O.—Iron ores. T 68. 100
- 47 Monitor Furnace Co., Ironton, O.—Iron ores. T 68. 100
- 48 Grant Furnace, W. D. Kelley & Sons, Ironton, O.—Iron ores. T 68. 100
- 49 Center Furnace, W. D. Kelley & Sons, Ironton, O.—Iron ores. T 68. 100
- 49a Pennsylvania Geological Survey (by John B. Pease).—Scientific collection of rocks, minerals, models, and maps illustrating the geology of Pennsylvania. V 70. 100
- 50 Howard Furnace, Charcoal Iron Co., Ironton, O.—Iron ores. T 68. 100
- 50a Benton, Lewis F., Antwerp, N. Y.—Lead ore. T 70. 100
- 51 Buckhora Furnace, Charcoal Iron Co., Ironton, O.—Iron ores. T 68. 100
- 52 Olive Furnace, Campbell, McGugin, & Co., Ironton, O.—Iron ores. T 68. 100
- 53 Lawrence Furnace Co., Ironton, O.—Iron ores. T 68. 100
- 53a Ward, L. B., Niles, O.—V 61 to 63.
a Iron ore. 100
b Coal. 101
- 54 Pine Grove Furnace, Means, Kyle, & Co., Hanging Rock, O.—Iron ores. T 68. 100
- 55 Ohio Furnace, Means, Kyle, & Co., Hanging Rock, O.—Iron ores. T 68. 100
- 56 Washington Furnace, Union Iron Co., Portsmouth, O.—Iron ores. T 68. 100
- 56a Chaffin, Staples, & Co., Richmond, Va.—Ores. T 56. 100
- 57 Scioto Furnace, L. C. Robinson & Co., Portsmouth, O.—Iron ores. T 68. 100
- 58 Bloom Furnace, John Paul & Co., Portsmouth, O.—Iron ores. T 68. 100
- 59 Clinton Furnace, W. I. Bell, Wheelersburg, O.—Iron ores. T 68. 100
- 59a Selma & Alabama Railroad, Montgomery, Ala.—V 60.
a Iron ore. 100
b Section of coal-beds. 101
- 60 Buckeye Furnace Co., Jackson, O.—Iron ores. T 68. 100
- 61 Cambria Furnace, D. Lewis & Co., Samsonville, O.—Iron ores. T 68. 100
- 62 Jackson Furnace, L. P. N. Smith's Heirs, Sciotoville, O.—Iron ores. T 68. 100
- 62a Wallis, Jno. G., Fulton, Ark.—Sulphate of antimony and argenticrous galena. N 55. 100
- 63 Jefferson Furnace Co., Oak Hill, O.—Iron ores. T 68. 100
- 64 Orange Furnace, Orange Iron Co., Jackson, O.—Iron ores. T 68. 100
- 65 Star Furnace Co., Jackson, O.—Iron ores. T 68. 100
- 66 Huron Furnace, Huron Iron Co., Jackson, O.—Iron ores. T 68. 100
- 67 Tropic Furnace Co., Jackson, O.—Iron ores. T 68. 100
- 68 Globe Furnace, Globe Iron Co., Jackson, O.—Iron ores. T 68. 100
- 69 Fulton Furnace, Globe Iron Co., Jackson, O.—Iron ores. T 68. 100
- 69a Liking Iron Co., Newark, O.—V 53.
a Iron ore. 100
b Coal. 101
c Flux and slag. 103
- 70 Wellston Twin Furnaces, Wellston Coal & Iron Co., Wellston, O.—Iron ores. T 68. 100
- 70a Hannibal & St. Joseph Railroad, Hannibal, Mo.—Minerals, etc. from the line of the road. V 65. 100
- 70b St. Louis & Iron Mountain Railroad, St. Louis, Mo.—Minerals, etc. from the line of the road. T 60. 100
- 71 Lincoln Furnace, I. M. McGhee's Estate, Rud's Mills, O.—Iron ores. T 68. 100
- 72 Richland Furnace Co., Richland P. O., O.—Iron ores. T 68. 100

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Minerals, Ores, Stone.

- 73 Eagle Furnace, L. C. Damarin & Co.,
Rud's Mills, O.—Iron ores. T 63. 100
- 74 Hope Furnace, L. C. Damarin & Co.,
Portsmouth, O.—Iron ores. T 63. 100
- 75 Hamden Furnace, L. C. Damarin &
Co., Portsmouth, O.—Iron ores. T 63. 100
- 75^a Marietta, Pittsburg, & Cleveland
Railway, Marietta, O.—Minerals and
ores. V 63. 100
- 76 Vinton Furnace, Bancroft, Rader, &
Co., Vinton Station, O.—Iron ores. 100
- 77 Keystone Furnace Co., Portsmouth,
O.—Iron ores. T 63. 100
- 78 Monroe Furnace, Union Iron Co.,
Portsmouth, O.—Iron ores. T 63. 100
- 79 Latrobe Furnace, Bundy & Cobb,
Berlin Cross Roads, O.—Iron ores. T
63. 100
- 79^a Barnes, Lewis, Philadelphia, Pa.—
Manganiferous iron ore, from Warren
county, N. J. T 50. 100
- 80 Logan Furnace Co., Logan county,
O.—Iron ores. T 63. 100
- 81 Union Furnace, Brooks & Hueston,
Haydensville, O.—Iron ores. T 63. 100
- 82 Mount Savage Furnace, Lexington
& Carter county Mining & Manufactur-
ing Co., Lexington, Ky.—Iron ores. T 63.
100
- 83 Buffalo Furnace, Culbertson, Ear-
hart, & Co., Greensburg, Ky.—Iron
ores. T 63. 100
- 84 Hunnewell Furnace, Eastern Ken-
tucky Railway Co., Riverton, Ky.—Iron
ores. T 63. 100
- 85 Pennsylvania Furnace, Eastern Ken-
tucky Railway Co., Riverton, Ky.—Iron
ores. T 63. 100
- 86 Charlotte Furnace Co., Riverton,
Ky.—Iron ores. T 63. 100
- 87 Laurel Furnace, Robt. Scott & Co.,
Riverton, Ky.—Iron ores. T 63. 100
- 88 Gallia Furnace, Norton, Campbell, &
Co., Portsmouth, O.—Iron ores. T 63. 100
- 88^a Iowa, State of.—Minerals, ores, etc.
of Iowa. V 59. 100
- 89 Raccoon Furnace, Raccoon Mining
& Manufacturing Co., Riverton, Ky.—
Iron ores. T 63. 100
- 90 Tygett's Valley Mining Co., River-
ton, Ky.—Section of iron ore. T 63. 100
- 90^a Chester Iron Co., Chester, N. J.—
Iron ore. T 64. 100
- 91 Bellefonte Furnace, Means, Russell,
& Means, Ashland, Ky.—Iron ores. T
63. 100
- 92 Buena Vista Furnace, Means & Co.,
Ashland, Ky.—Iron ores. T 63. 100
- 93 Trigg Furnace, D. Hillman & Sons,
Empire Iron Works, Ky.—Iron ores. T
63. 100
- 93^a Lowe, S. B., Chattanooga, Tenn.—
Ores. X 63. 100
- 94 Center Furnace, D. Hillman & Sons,
Empire Iron Works, Ky.—Iron ores. T
63. 100
- 96 Hanging Rock Iron Region, Iron-
ton, O.—Iron ores. T 63. 100
- 97 Traber & Aubery, Cincinnati, O.—
Iron ores from twenty-five states and ter-
ritories. T 63. 100
- 98 Borden, William W., New Provi-
dence, Ind.—Fossils of Clark county,
Ind., and stone. X 60. 100
- 99 Cooper, Hewitt, & Co., New York,
N. Y. T 66.
a Iron ores. 100
b Fuels. 101
- 100 Ohio Coal Co., Marietta, O.—V 63.
a Coal. 100
b Coke. 101
- 101 Rhodes & Co., Cleveland, O.—V 61
to 63.
a Lake Superior iron ores. 100
b Massillon, Ohio, coals. 101
- 102 Poplar Creek Mineral Railroad Co.,
Philadelphia, Pa.—T 69.
a Iron ores, etc., from Anderson county,
Tenn. 100
b Coal from Anderson county, Tenn. 101
- 103 Durham Iron Co., Riegelsville, Pa.
—T 64.
a Ores. 100
b Fuel. 101
- 104 Glendon Iron Co., Easton, Pa.—T
64.
a Iron ores. 100
b Fuel. 101
- 105 Mahoning Valley Centennial Ass-
ociation, Youngstown, O.—V 63.
a Ores. 100
b Coal. 101
c Limestone. 103
- 106 Bye, E. Mortimer, Wilmington,
Del.
a Iron ore. (Titaniferous magnetic.) *Chrome*
ore. (Rock and sand.) 100
b Maryland "verde antique" marble (ser-
pentine), various shades of green, hand-
somerly blended; takes a brilliant polish,
does not fade or weather, and is adapted
for all kinds of ornamental work. T 70.
102
- 107 Northampton Furnace, worked by
the Bethlehem Iron Co., Bethlehem, Pa.
—T 64.
a Iron ores. 100
b Fuel. 101
- 108 Lehigh Iron Co., Allentown, Pa.
—T 64.
a Iron ore. 100
b Coal. 101
- 109 Emaus Iron Co., Allentown, Pa.
—T 64.
a Iron ore. 100
b Fuel. 101
- 111 Allentown Rolling Mill Co., Allen-
town, Pa.—T 64.
a Ores. 100
b Fuel. 101
- 112 Carbon Iron Co., Parryville, Pa.
—T 64.
a Iron ore. 100
b Fuel. 101
- 113 Philadelphia and Reading Coal and
Iron Co., Philadelphia, Pa.—T 72 and Y
56.
a Iron ores. 100
b Coals for smelting and steam purposes. 101
- 114 Grand Tower Mining, Manufac-
turing, and Transportation Co., Grand
Tower, Ill.—T 63.
a Ores. 100
b Fuel. 101

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores, Stone.

115 Ironton Furnace Iron & Steel Co., Ironton, O.—T 68.		129 Crane Iron Co., Catasauqua, Pa. —T 64.	
a Iron ores.	100	a Hematite and magnetic iron ores.	100
b Bituminous coal.	101	b Fuel.	101
116 Belfont Furnace, Belfont Iron Works, Ironton, O.—T 68.		c Limestone.	103
a Iron ores.	100	130 ^a Chattanooga Mineral District, Chattanooga, Tenn.—X 63.	
b Bituminous coals.	101	a Iron and copper ores; gold quartz.	100
117 Ophir Furnace Co., Jackson, O.—T 68.		b Coal.	101
a Iron ores.	100	c Marble.	102
b Jackson county stone coal.	101	131 Lehigh Valley Iron Co., Copley, Pa. —T 64.	
118 Norton Iron Works, Ashland, Ky. —T 68.		a Hematite and magnetic ore.	100
a Iron ores.	100	b Fuel.	101
b Coals and coke.	101	c Limestone.	103
119 Ashland Furnace, Lexington & Big Sandy Railroad Co., Ashland, Ky. —T 68.		132 Ohlton Coal Co., Youngstown, O. —V 63.	
a Iron ores.	100	a Black band ore mixed with coal.	100
b Coals.	101	b Mineral ridge coal.	101
120 Powel, Robert Hare, & Co., 424 Walnut street, Philadelphia, Pa.—X 54.		132 ^a Glasgow & Port Washington Iron & Coal Co., Port Washington, O.—V 61 and W 64.	
a Iron ores.	100	a Ores.	100
b Semi-bituminous and gas coals, from the Powelton estate, Pennsylvania.	101	b Coal.	101
121 Union Iron Co. of Buffalo, Buffalo, N. Y.—T 64 and U 65 outside.		133 Alice Furnace, Etna Iron Works, Hanging Rock, Ohio.—T 68.	
a Iron ores.	100	a Iron ores.	100
b Limestone.	103	b Bituminous coal and coke.	101
122 Woodstock Iron Co., Anniston, Ala.—T 63.		c Limestone.	103
a Iron and manganese ores.	100	133 ^a Coleraine Iron Co., Northampton county, Pa.—T 64.	
b Limestone.	103	a Iron ore.	100
123 Saucon Iron Co., Hellertown, Pa. —T 64.		b Coal.	101
a Hematite and magnetic ore.	100	134 Hanging Rock Iron Region Fur- naces, Charles Campbell, Commissioner, Ironton, O.—T 69.	
b Limestone.	103	a Iron ores.	100
123 ^a Selma, Rome, & Dalton Rail- road (by S. W. Baird), Cincinnati, O.—X 64.		b Cinders, bituminous coals.	101
a Copper and iron ores.	100	c Limestone.	103
b Coal.	101	d Fire clay.	104
c Slate, marble, and limestone.	102	135 Tuscarawas Coal & Iron Co., Cleve- land, O.—T 71.	
d Fire clay.	104	a Iron ores.	100
124 Andrews, Hitchcock, & Co., Cleve- land, O.—V 61 to 64.		b Coal.	101
a Lake Superior iron ores.	100	c Limestone.	103
b Brier Hill coal.	101	d Sand, fire clay.	104
c Limestone.	103	136 Mount Vernon Furnace, Hiram Campbell & Sons, Ironton, O.—T 68.	
125 Duncan, John W., Philadelphia, Pa.—T 72.		a Iron ores.	100
a Iron ores.	100	b Bituminous coals.	101
b Clays.	104	c Limestone.	103
126 Peru Steel & Iron Co., Clinton- ville, N. Y.—T 63.		d Fire clay.	104
a Iron ore.	100	137 Milton Furnace & Coal Co., Wells- ton, O.—T 68.	
b Graphite ore.	105	a Iron ores.	100
127 Thomas, W. H. B., Mount Holly, N. J.—T 68.		b Coals.	101
a Minerals.	100	c Limestone.	103
b Marls for fertilizing purposes; mineral waters from New Jersey.	107	d Fire clay.	104
127 ^a Brooke, E. & G., Birdsboro', Pa. —T 67.		138 Huntingdon & Broad Top Rail- road Co., Philadelphia, Pa.—V 56.	
a Magnetic and hematite iron ores.	100	a Iron ores.	100
b Anthracite coal.	101	b Coal.	101
128 Myers, A. J., Shenandoah Alum Springs, Va.—T 67.		c Limestones.	103
a Minerals, ores.	100	d Fire clays.	104
b Mineral spring waters, chalybeate, iron, and sulphur waters.	107	139 State of Wisconsin.—V 60.	
128 ^a Andover Iron Co., Phillipsburg, N. J.—T 64.		a Minerals, soils, etc.	100
a Iron ores.	100	b Building stone.	102
b Coal.	101	c Sands, gravel.	104
c Limestone and slags.	103	140 State of Ohio (by F. W. Green).—V 61 to 63.	
		a Minerals, ores.	100
		b Stone.	102
		c Clay, etc.	104

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Minerals, Ores, Coal.

- 141 State of New Jersey** (by Geo. H. Cook, State Geologist, New Brunswick, N. J.).—T 70.
- a* Iron, zinc, and copper ores; minerals, geological suite. 100
 - b* Building stones. 102
 - c* Clays and sands. 104
 - d* Fertilizers. 107
- 142 State of Indiana** (by E. T. Cox, State Geologist).—V 58.
- a* Hydrated brown oxide iron ores. 100
 - b* Bituminous and cannel coal from various mines. 101
 - c* Marble of various colors, oölitic building stone, limestone, sandstone, limestone flags, hydraulic stone. 102
 - d* Hydraulic cement, caustic lime. 103
 - e* Fire, white porcelain, and potters' clay; sand. 104
- 143 State of Michigan** (Jay A. Hubbell, Houghton, Mich., Superintendent of Mineral Department).—V 67.
- a* Minerals, ores, geological collections, etc. 100
 - b* Bituminous and cannel coal. 101
 - c* Hewn, sawed, and polished building stone, marbles, and slates. 102
 - d* Lime and cement. 103
 - e* Clays and silix for glass manufacturers; sandstone, etc. 104
 - f* Mineral waters, natural brines, gypsum, marls, etc. 107
- 144 State of Delaware** (by J. P. Comegys, Dover, Del.).—V 55.
- a* Iron ore. 100
 - b* Building stone. 102
 - c* Clays. 104
 - d* Natural woods. 600
 - e* Fruits. 610
 - f* Cereals. 620
 - g* Peas, beans, potatoes, turnips. 621
- 145 State of Missouri** (collective exhibit, by Thos. Allen, President State Board Centennial Managers, St. Louis, Mo.).—V 65 and T 60.
- a* Iron, lead, zinc, copper, and nickel ores, barytes, feldspar, and soils. 100
 - b* Coal. 101
 - c* Stone. 102
 - d* Clays, sand, ochres, and kaolin. 104
 - e* Tripoli. 106
 - f* Peanuts. 605
 - g* Wheat, rye, oats, barley, and corn. 620
 - h* White beans and black-eyed peas. 621
 - i* Millet. 624
 - j* Cotton. 665
 - k* Flax and hemp. 666
 - l* Wool. 667
 - m* Silk. 668
- 146 Cochran, John M., & Co., Bradford, Pa.**—Connellsville bituminous coal and coke. T 56. 101
- 147 Foster Coal Co., Youngstown, O.**—Coal. V 63. 101
- 148 Kittaning Coal Co., 125 South Fourth street, Philadelphia, Pa.**—Clearfield bituminous coal, for steam and manufacturing purposes. Y 56 and T 72. 101
- 149 Westmoreland Coal Co., 230 South Third street, Philadelphia, Pa.**—Bituminous coal from the Pittsburg seam, for manufacture of gas and iron, and for locomotive fuel. Y 58. 101
- 149a Warwick, John G., Massillon, O.**—Coal from Warmington mines. V 63. 101
- 150 Penn Gas Coal Co., Westmoreland county, Pa.**—Section of bituminous coal-vein. T 72 and Y 56. 101
- 150a Sparks, Westwater, & Co., Columbus, O.**—Coal from Muskingum county. V 63. 101
- 151 Van Wickle, Stout, & Co., New York, N. Y.**—Anthracite coal from Ebervale, Pa. Y 53. 101
- 152 Kyle Coal Co., Youngstown, O.**—Coal. V 63. 101
- 153 Linderman, G. B., Bethlehem, Pa.**—Anthracite coal. T 64. 101
- 154 Newton, Jotham, New York, N. Y.**—Composition fuel made of coal-dust. T 57. 101
- 155 Union Mining Co., of Alleghany county, Md.**—Coal. X 58. 101
- 155a Stoner, Hitchman, & Co., Mt. Pleasant, Pa.**—Coal and coke. X 57. 100
- 156 Anthracite Fuel Co., Rondout, N. Y.**—Pressed anthracite coal. Y 54. 101
- 156a Hutchinson, A. A., & Bro., Pittsburg, Pa.**—Coke. X 56. 101
- 157 Hickory Coal Co., Pottsville, Pa.**—Samples of coal. W 55. 101
- 158 Harleigh Coal Co., Philadelphia, Pa.**—Samples of coal. W 55. 101
- 158a Lawton, Burnett, & Co., East Palestine, Ohio.**—Bituminous coal, from Columbia county, O. V 61 to 63. 101
- 158b Draper, John W., Pottsville, Pa.**—Anthracite coal. W 56. 101
- 159 Excelsior Coal Mining Co., Philadelphia, Pa.**—Samples of coal. W 55. 101
- 160 Garretson, Theodore, Philadelphia, Pa.**—Coal from the Girard colliery. W 55. 101
- 161 Wadsworth Coal Co., Akron, O.**—Coal from Medina county, O. V 63. 101
- 162 Blauvelt, Jas. C., Marietta, O.**—Bituminous coal from Marietta Run, Ohio. V 61 to 64. 101
- 162a Hurd Coal & Iron Co., Columbus, O.**—Bituminous coal from Perry county, O. V 63. 101
- 163 Lexington & Carter county Mining & Manufacturing Co., Lexington, Ky.**—Section of bituminous coal. T 68. 101
- 163a Church Hill Coal Co., Youngstown, O.**—Coal from Briar Hill. V 63. 101
- 163b Burton, J. P., Massillon, O.**—Coal. V 63. 101
- 163c Andrews & Hitchcock, Youngstown, O.**—Briar Hill block coal. V 61 to 63. 101
- 163d Huddell & Seitzinger, Philadelphia, Pa.**—Anthracite coal from Draper's colliery. W 58. 101
- 164 Keys, John, Brockwayville, Pa.**—Lump of bituminous coal. Y 56. 101
- 164a Suydam, M. A. & Co., Columbus, O.**—Coal from Straitsville Mining Company. V 63. 101
- 165 Eastern Kentucky Railway, River-ton, Ky.**—Sections of cannel and bituminous coals. T 68. 101
- 165a Hayden, P., Columbus, O.**—Coal from Hocking county. V 63. 101
- 165b Steubenville Coal Company, Steubenville, O.**—Bituminous coal. V 63. 101

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Coal, Stone.

- 165^c Pomeroy Coal Company, Pomeroy, O.—Coal. V 63. 101
- 165^d Brooks, W. B., & Son, Hocking county, O.—Coal. V 63. 101
- 165^e Newark Coal Company, Newark, O.—Cannel coal. V 63. 101
- 166 Dysart & Co., Philadelphia, Pa.—Luminous white ash coal from Cambria county, Pa. Y 57. 101
- 166^a Franklin Coal Company, Akron, O.—Coal from Summit county. V 63. 101
- 166^b Fitch, E. A., Columbus, O.—Coal from Athens county. V 63. 101
- 166^c Howells, Anthony, Massillon, O.—Coal from Pigeon Run. V 63. 101
- 167 Kimes, J. B., & Co., Philadelphia, Pa.—Slate mantels, house decorations, building material. T 50. 102
- 168 Williams Marble & Slate Mantel Co., Philadelphia, Pa.—Marble and marbleized slate mantels, etc. T 48. 102
- 169 Wilson & Miller, Philadelphia, Pa.—Marbleized slate mantels, etc.; plain slate work. T 51. 102
- 171 Hayes, Coulter, & Co., Philadelphia, Pa.—Slate mantels with grates. T 59. 102
- 172 Dougherty, E. D., Philadelphia, Pa.—Blocks of Dougherty marble of Tennessee, rough and polished; pedestals, slabs, etc. The Dougherty marble is used in the U. S. Capitol, Treasury, South Carolina State House, and over one hundred and fifty other buildings, public and private, in all parts of the country. Operated since 1853. Quarry in Doughertyville, Hawkins county, Tenn. T 49. 102
- 172^a Peninsula Stone Co., Peninsula, O.—Building stone. V 63. 102
- 173 Columbian Marble Co., Rutland, Vt.—Marble wainscoting, pedestal, tiling, etc. T 54. 102
- 174 Van Gunden, Young, & Drumm, Philadelphia, Pa.—Vermont marble tablets and rustic monument; Italian marble. T 47. 102
- 175 Innis, G. S., Warden of Ohio Penitentiary, Columbus, O.—Limestone from State quarries at Columbus, O. V 61 to 64. 102
- 175^a Field, F. K., Philadelphia, Pa.—North River, Pennsylvania, and Virginia blue stone. T 53. 102
- 176 Gurney, H. D., St. Paul, Minn.—Minnesota granite—red, white, and blue. T 50. 102
- 177 Forest City Stone Co., Cleveland, O.—Sawed stone flagging. T 54. 102
- 178 Chase, M. K., Bluehill, Maine.—Cut granite pedestal. (Nave.) 102
- 179 Martin, H. F., Allentown, Pa.—Slate mantels and blackboards, school slates, etc. T 51. 102
- 180 Chandler, C. H., Brownville, Maine.—Roofing slate. T 51. 102
- 181 Allen, James T., & Co., Philadelphia, Pa.—Scagliola and Marezzo marble for interior decoration. T 54. 102
- 182 Fauchere, A. L., & Co., New York, N. Y.—Marble mantels, etc. T 50. 102
- 183 Williams, Chas., St. Louis, Mo.—Tennessee, Italian, and Missouri marble work; jewel box. T 53. 102
- 183^a Barker, H., & Bro., Philadelphia, Pa.—Pedestal of Massachusetts granite. (Nave) 102
- 184 Denton, Drake W., Office, 17 North Front street, Philadelphia, Pa.—Excelsior fire and water-proof slate roofing, and flax waste-composition batting. All orders promptly attended to. T 56. 102
- 185 Tillson, Davis, Rockland, Maine.—Plain, polished, and ornamental granite work. T 51. 102
- 185^b Finnigan, M., Cincinnati, O.—Buena Vista stone. V 61 to 63. 102
- 185^c Fish, W., & Co., Columbus, O.—Stone from Portsmouth and Black Lick, Ohio. W 63. 102
- 185^d Finch, Pruyn, & Co., Glens Falls, N. Y.—Block of marble. T 51. 102
- 186 Maine Slate Co., Skowhegan, Maine.—Roofing slate, dark, rich, lustrous, unfading color, unequaled elasticity, toughness, and strength, wonderful rift and smoothness of surface. T. H. Dismore, *Business Manager*. T 53. 102
- 187 Chapman Slate Co., Bethlehem, Pa.—Roofing slate, flagging, stairways, blackboards, posts, door and window sills, mantels. T 64. 102
- 188 Lehigh Slate Co., Slatington, Pa.—Roofing and school slate, mantels, blackboards, bath tubs; bureau, table, and washstand tops. T 64. 102
- 188^a Hinsdale, Doyle, & Co., New York, Granite monuments. T 72. 102
- 188^b Fisher & Bird, New York, N. Y.—Marble mantels. T 50. 102
- 188^c Howell, C. M., Lancaster, Pa.—Marble monuments. V 63. 102
- 189 Allentown Slate Mantel Co., Allentown, Pa.—Slate mantels. T 51. 102
- 189^a Hinton, David, Xenia, O.—Building limestone. V 61 to 64. 102
- 189^b Caguire, Frank, Chicago, Ill.—Antique vase of limestone. T 53. 102
- 190 Carpenter & Raymond, Cambridge City, Ind.—Monumental work. T 71. 102
- 191 McDonald, Alexander, Cambridge, Mass.—The Centennial Cascade, a rustic rockwork surmounted by a cross (granite from Glen quarries, Mason, N. H., carved at Cambridge, Mass.), exhibiting fine quality of this granite and its capabilities for carved and polished work. N 56 and T 67. 102
- 191^a Bosler, Marcus, Dayton, O.—Limestone. V 61 to 63. 102
- 191^b Ballard & Galloway, Finley, O.—V 61 to 63. 102
a Building limestone. 102
b Lime, and water lime rock. 103
- 192 Bodwell Granite Co., Rockland, Maine.—Granite samples. T 72. 102
- 193 Brinton, Joseph H., Thornbury P. O., Pa.—Serpentine stone from quarries in Chester county, Pa. T 55. 102
- 194 Scorgie, Wight, & Co., Cambridge, Mass.—Polished granite fountain. U 48. 102

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Stone.

- 195 Struthers, W., & Sons, Philadelphia, Pa.—Mantels, font, group of birds in Caen stone; alto-relief in statuary, marble, sandstone, font, specimens of foreign marbles and native plaster; models for public buildings; specimens of native granites, marbles, and sandstones. T 25. 102
- 196 Pennsylvania Marble Co., Philadelphia, Pa.—Black marble mantel, book, and tiles. T 51. 102
- 197 Brown, E. F., Commandant Soldiers' Home, Dayton, O.—Stone from quarries on grounds of National Soldiers' Home. V 61 to 63. 102
- 197^a Barker, Henry, & Sons, Quincy, Mass.—Quincy granite pedestal. (Nave.) 102
- 198 Rutland Marble Co., West Rutland, Vt.—Wrought and unwrought marble. T 59. 102
- 199 Maine Red Granite Co., Red Beach, Maine (G. G. McGlashan, superintendent).—Specimen block of red granite from top sheet of quarry. T 55. 102
- 199^a Graves Brothers, Birmingham, O.—V 63. 102
^a Building stone. 102
^b Grindstones. 106
- 200 Columbia Slate Co., Slatington, Pa.—Manufactured Washington vein roofing slate. T 54. 102
- 201 Martin, F. O., St. George, Maine.—Block of dressed granite. T 64. 102
- 202 Wells, Chas. B., Marietta, O.—Sandstone for building purposes. T 64. 102
- 203 St. Johnsbury Granite Co., St. Johnsbury, Vt.—Granite monument and tablet.—T 56. 102
- 204 Merrill, Adams H., Williamsburgh, Maine.—Roofing slate. T 59. 102
- 207 Clemons, C. H., Sandusky, O.—Limestone. V 61 to 63. 102
- 208 Concord Granite Co., Quincy, Mass.—Granite pedestal. N 48. 102
- 209 Sheldons & Slason, West Rutland, Vt.—Pedestal of statuary and blue mottled marble. V 54. 102
- 210 Davis, I. J., Newark, O.—White and red sandstone. V 61 to 63. 102
- 211 McNally, William G., Cleveland, O.—Coat-of-arms of Ohio, carved from Berea stone. (Ohio State Building.) 102
- 211^a Portland Brown Stone Quarries, Portland, Conn.—Stoops and doorways of Connecticut brown stone. (Outside.) 102
- 211^b King, T. H., Trumansburg, N. Y.—Flag stones. (Outside.) 102
- 211^c Stotler, D. C., Piqua, O.—Building limestone. V 61 to 64. 102
- 211^d Strom & De Planque, New York, N. Y.—Marble table top and mantelpiece. T 51. 102
- 211^e Fase, Lewis, Covington, O.—V 61 to 64. 102
^a Building limestone. 102
^b Lime. 103
- 211^f North Pittsford Marble Company, Pittsford, Vt.—Marble monuments, pedestal, and design case. T 56. 102
- 211^g Paul, John, & Co., Massillon, O.—Stone for building and glass manufacturing. V 61 to 63. 102
- 211^h Myers, Uhl, & Co., Cleveland, O.—Marble mantel and grate. (Ohio State Building.) 102
- 212 Thompson, Wm. S., Springfield, Ohio.—V 63. 102
^a Stone. 102
^b Lime. 103
- 212^a Traber, Jacob, Cincinnati, O.—Limestone. V 61 to 64. 102
- 212^b Mueller, John M., Cincinnati, O.—Buena Vista stone. V 61 to 63. 102
- 212^c Richey, Morris S., Waverly, O.—Building stone. V 61 to 64. 102
- 212^d Singer & Talcott Stone Company, Chicago, Ill.—Illinois limestone dressed by machinery. (At Spring S. E. of Horticultural Hall.) 102
- 212^e St. Johnsbury Granite Company, St. Johnsbury, Vt.—Granite monument and tablet. T 57. 102
- 212^f Richmond Marble Company, of Vermont, Philadelphia, Pa.—White marble pedestal. T 57. 102
- 213 Amherst Stone Co., Cleveland, O.—V 63. 102
^a Blocks of sandstone. 102
^b Grindstones. 106
- 214 Warthorst & Co., Massillon, O.—V 63 and T 61. 102
^a Blocks of sandstone. 102
^b Grindstones. 106
- 214^a Berea Stone Company, Berea, O.—V 63. 102
^a Building stone and flagging. 102
^b Grindstones, and scythe stones. 106
- 215 Philadelphia & Reading Railroad Co., Philadelphia, Pa.—T 72 and V 56. 102
^a Building stone. 102
^b Limestone. 103
- 216 Worthington & Sons, North Amherst, Ohio.—T 56 and V 63. 102
^a Amherst building stone. 102
^b Grindstones, etc., from quarries at Amherst and Lake Huron, Mich. 106
- 216^a Burlington Manufacturing Co., Burlington, Vt.—Marble tiling.—T 56. 102
- 217 Williams, R. L., Middle Granville, N. V.—T 51. 102
^a Vermont and New York roofing slate. 102
^b Car coupler. 576

COLLECTIVE EXHIBIT OF BUILDING STONES USED IN THE OHIO STATE BUILDING. 102

- 218 Hoffman, A. O., Thompson, Wm., and others, Springfield, O.
- 219 Berea Stone Co., Berea, O.
- 220 Hurst, I. R., Cleveland, O.
- 221 Ford, O. D., Cleveland, O.
- 222 Halderman, L., & Son, Cleveland, O.
- 223 Wagner, John, Cleveland, O.
- 224 Amherst Stone Co., Cleveland, O.
- 225 Black River Stone Co., Cleveland, O.
- 226 Paul, John, & Co., Massillon, O.
- 227 Wilson & Hughes Stone Co., Cleveland, O.
- 228 Clough Stone Co., Amherst, O.
- 229 Worthington & Sons, Amherst, O.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

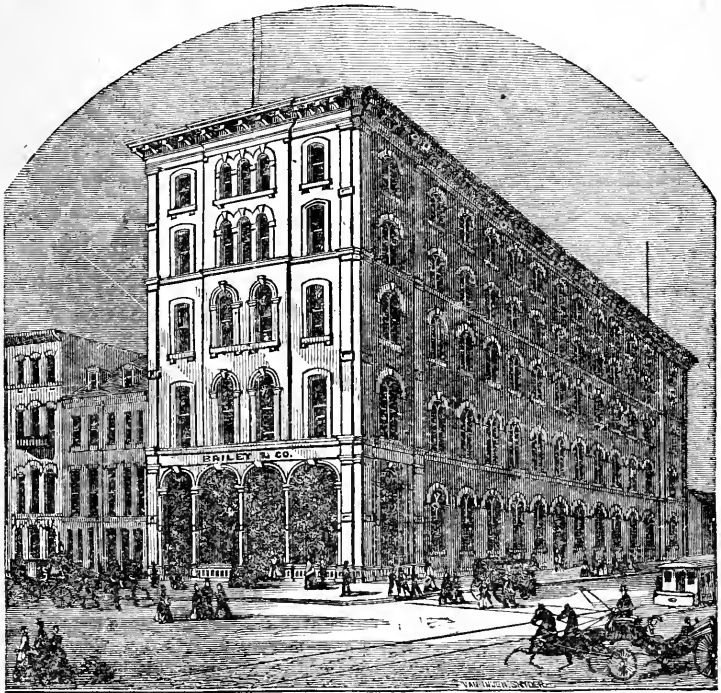
Minerals, Stone.

- 230 Ohio Stone Co., Cleveland, O.
 231 McDermott, J., & Co., Cleveland, O.
 232 Coshocton Stone Co., Coshocton, O.
 233 Stitt, Price, & Co., Columbus, O.
 234 Finnegan, M., Cincinnati, O.
 235 Finnegan, J. H., Cincinnati, O.
 236 Montgomery, R. M., Youngstown, O.
 237 Caldwell & Tod, Youngstown, O.
 238 Byers & McIlhainy, Youngstown, O.
 239 Mauser & Haid, Youngstown, O.
 240 Hamilton, Homer, Youngstown, O.
 241 Warthorst & Co., Massillon, O.
 242 Stocking, Z. S., Mansfield, O.
 243 Bosler, Marcus, Dayton, O.
 244 Huffman, William, Dayton, O.
- 245 Tremain, Chas., Manlius, N. Y.—Cement and land plaster. V 72. 103
 246 Ervin, D. S., Cedarville, Oh o.—Limestone. V 61 to 64. 103
 246^b Howes Cave Association, Howes Cave, N. Y.—Hydraulic cement and lime, ground plaster, and rock strata. Y 55. 103
 247 Fireproof Building Co., New York, N. Y.—Teil concrete hollow blocks, hollow bricks, and beton blocks. T 55. 103
 247^a Michael, F. M., and others, Eaton, Ohio.—Limestone and lime. V 61 to 63. 103
 247^b Sintz, George, Springfield, O.—Limestone and lime. V 61 to 64. 103
 248 Mitchell, Wilson, Philadelphia, Pa.—Portsilica artificial stone building blocks, partitions, floors, colored paving tiles, etc. T 53. 103
 248^a Richardson, Geo., Milwaukee, Wis.—Artificial stone, with moulds and apparatus for hardening. X 57. 103
 250 Wampum Cement & Lime Co., limited, New Castle, Pa.—Portland cement, and samples in artificial stone of various designs. T 57. 103
 251 Coplay Cement Co., Allentown, Pa.—Cements, building blocks, pipe, ornaments, etc. T 56. 103
 252 Allen Cement Co., Siegfried's Bridge, Pa.—Crude and manufactured cement. T 57. 103
 253 Cedar Hollow Lime Co., Philadelphia, Pa.—Lime, lime rock, model of furnace, and model of receptacle for storing and preserving lime. T 58. 103
 255 Abbott Pavement Co., Brooklyn, N. Y.—Pavement. The Abbott Pavement is a bituminous concrete that has been used for six years past on many miles of roadways in Brooklyn, and for four or five years in Washington. It costs less than the asphalt pavement of Paris; in this country only about one-half. It costs less than one-half for repairs, and it is not nearly so slippery, while in all the other qualities, of smoothness, quietness, cleanliness, comfort to those driving on it, economy of horse-flesh and vehicles, it is admirable. Under patents held by the Abbott Pavement Company, old stone, macadam, and wood pavements can be utilized as a foundation, and millions of dollars' worth of wood pavements, now going rapidly to decay, can be saved, as demonstrated on many miles that have been covered in the city of Brooklyn T 70. 103
- 256 Union Stone Co., Boston, Mass.—T 50.
 a Articles in artificial stone, soapstone register borders, millstone cement, etc. 103
 b Emery wheels. 106
- 256^a Shields, King & Co., Newark Star Glass Works, Newark, Ohio.—Sands, etc., for making glass. V 61 to 63. 104
 257 Hampton, Cutter, & Sons, Woodbridge, N. J.—Clays, kaolin, sand. T 55. 104
 258 Such, George, South Amboy, N. J.—Samples of clay. T 58. 104
 259 Sarchet, J. W. & J. T., Glen Loch Post Office, Pa.—T 57.
 a Moulding sand and kaolin. 104
 b Flint. 106
- 260 Kier Brothers, Pittsburg, Pa.—Fire clay. Y 56. 104
 261 Bradford, H., Philadelphia, Pa.—Maryland quartz. T 54. 104
 261^a Tucker, George, New York, N. Y.—Tripoli and polishing rouge. N 68. 106
 262 Schreiber, W. A. H., Phoenixville, Pa.—Clay, kaolin, flint, spar, and sand; potters' and decorators' materials. T 69. 104
 263 Toll, Charles, Monroe, Mich.—Washed and crude silex. V 67. 104
 264 Zihlmann, Joseph, Bellaire, O.—Wooden mould for shaping blown glass. T 64. 104
 265 Dover Fire Brick Co., Canal Dover, Ohio.—Fire clay. T 63. 104
 266 Kreisler, B., & Son, Philadelphia, Pa.—Fire clay, etc. X 56. 104
 267 American Kaolin Co.; Works, New Garden, Chester county, Pa.; office, 233 South Third street, Philadelphia, Pa.—Kaolin, china, fire clay, and fire sand. X 58. 104
 268 Dixon Crucible Co., Jersey City, N. J.—Crude and refined graphite. P 72. 105
 269 Strow, Wile, & Co., Philadelphia, Pa.—Black lead crucibles, retorts, covers, etc.; plumbago, crude and prepared; lumber pencils, stove polish. T 59. 105
 270 Taylor, Robert, & Co., Philadelphia, Pa.—Black lead crucibles. T 58. 105
 271 Morse Bros., Canton, Mass.—Stove polish, lumber pencils, plumbago. The "Rising Sun Stove Polish," noted for beauty of polish, saving of labor, durability, freedom from dust and odor, when heated. This preparation is an excellent article. The Rising Sun Lumber Pencils, and samples of plumbago, from which they are manufactured. T 56. 105
 273 Jersey City Crucible Manufacturing Co., Jersey City, N. J.—Crucibles and stove polish. T 58. 105
 274 Phoenix Manufacturing Co., Taunton, Mass.—Crucibles and stove polish. T 58. 105
 275 Webb, Robert, Boston, Mass.—Stove polish; crude and prepared plumbago. T 60. 105

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

ESTABLISHED 1830.

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Minerals, Mineral Water, Metallurgical Products.

- 276 Nibbinger, Edward, Philadelphia, Pa.—Quartz paste for sharpening razors and knives. T 52. 106
- 277 Hand, James C., & Co., Philadelphia, Pa.—Corundum manufactured by the Pennsylvania Corundum Co. T 57. 106
- 278 Washington Mills Emery Manufacturing Co., Ashland, Mass.—Emery. T 57. 106
- 279 Boyd & Chase, New York, N. Y.—Arkansas and Washita oilstone. N 68. 106
- 284 U. S. Soapstone Manufacturing Co., Cincinnati, O.—Stearite. P 77. 106
- 285 Patten, F. H., Bath, Maine.—Feldspar and quartz, for potteries and sand paper factories. T 70. 106
- 286 Lehigh Whetstone Co., Allentown, Pa.—Whetstones from Lenigh mountain, near Allentown, Pa. T 57. 106
- 288 Coffin, Redington, & Co., New York, N. Y.—Electro-electric, a polishing powder for all fine metals, and infusorial silica from Nevada, from which the above is made.
- | | |
|-----------|-------|
| Analysis: | |
| Silica, | 83.5 |
| Alumina, | 2.7 |
| Water, | 13.5 |
| Loss, | .3 |
| | —100. |
- T 72. 106
- 289 Louis, Julius, & Bro., Jeffersville, Ind.—Hot Springs, Arkansas, and other oilstones. N 68. 106
- 290 Sibley, Freeman K., Waltham, Mass.—The prize medal emery and crocus cloth. (Only medals ever awarded in the world.) T 53. 106
- 291 Schultz, Carl H., New York, N. Y.—Carbonic acid and mineral spring waters, siphons, glass fountains, etc. T 58. 107
- 291^a Jarves & Hooper, Detroit, Mich.—T 53. 107
- a* Fertilizers and animal charcoal. 107
- b* Glue and neat's-foot oil. 652
- 292 Knight & Widden, Portland Plaster Mills, Portland, Maine.—Calcined and ground land plaster. T 39. 107
- 293 Champion Spouting Spring, Saratoga Springs, N. Y.—Saratoga water. T 58. 107
- 294 Marsh & Co., Sandusky, O.—Gypsum. V 61 to 63. 107
- 295 Gettysburg Katalysine Co., Gettysburg, Pa.—Katalysine spring water. T 57. 107
- 296 Navassa Phosphate Co., Baltimore, Md.—Crude and ground phosphates, from Navassa Island, West Indies; and other fertilizing materials. T 57. 107
- 297 Charleston, S. C., Mining & Manufacturing Co., Philadelphia, Pa.—Goodrich phosphatic nodules, mined from Agassiz's Ashley fish basin, Lamb's landing, S. C. T 58. 107
- 298 Bolen & Byrne, New York, N. Y.—Artificial mineral waters, granular effervescing salts, siphons, etc. T 60. 107
- 299 Lippincott, Chas., & Co., Philadelphia, Pa.—Apparatus for dispensing aerated waters. B 38. (*Nave and Transcripts.*) 107

- 300 Lawrence, A. R., & Co., Excelsior Park, Saratoga Springs, N. Y.—Excelsior and Union Spring Saratoga waters, and apparatus for having them on draught in their natural condition. T 70. 107
- 300^a Tufts, Jas. W., Boston, Mass.—Soda water fountains. (*Nave and Transcripts.*) 107

Metallurgical Products.

- 301 Hastings & Co., Philadelphia, Pa.—Gold leaf, foil, and bronze: silver leaf, bronze powder, etc. P 47. 110
- 302 Wallis, Jno. G., Fulton, Ark.—Base bullion. N 55. 110
- 303 Cambria Iron & Steel Co., Johnstown, Pa.—Iron—pig, bloom, and muck bar, rail piles and rails; steel—bessemer pig, and spiegeleisen, ingots, blooms, and rails. T 65. 111
- 303^a Huntingdon & Broad Top Railroad Co., Philadelphia, Pa.—Pig iron. V 56. 111
- 304 Wood, W. D., & Co., McKeesport Iron Works, Pittsburg, Pa.—Patent planished sheet iron. T 61. 111
- 305 Park Bro. & Co., Black Diamond Steel Works, Pittsburg, Pa.—Cast steel; samples of homogeneous crucible cast steel, boiler plate, and flangings. T 62. 111
- 305^a Mahoning Valley Centennial Association, Youngstown, Ohio.—Pig and manufactured iron. V 63. 111
- 306 Rowland, James, & Co., Kensington Iron and Steel Works, Philadelphia, Pa.—Anvil brand, refined bar, head, skelp, hoop, and nut iron; plow, cultivator, and shovel steel. T 64. 111
- 307 Wood, Alan, & Co., 519 Arch street, Philadelphia, Pa.—Manufacturers of patent planished, galvanized, and common, and charcoal bloom, sheet, and plate iron. T 61. 111
- 307^a Andover Iron Co., Phillipsburg, N. J.—Pig and spiegeleisen iron. T 64. 111
- 308 Straus, J. E., & Co., Philadelphia, Pa.—Hoop iron. P 71. 111
- 309 Miller, Metcalf, & Parkins, Crescent Steel Works, Pittsburg, Pa.—Crucible steel and articles manufactured therefrom. T 60. 112
- 309^a Glasgow & Port Washington Iron and Steel Co., Port Washington, O.—Pig iron. W 63. 111
- 310 Hussey, Wells, & Co., Pittsburg, Pa.—Crucible cast steel bars, sheets, homogeneous boiler plates, railway axles, forgings, edge tools, rake teeth. T 68. 111
- 311 Phillips, Nimick, & Co., Sligo Iron Mills, Pittsburg, Pa.—Iron. The only manufacturers of "sligo" fire box, boiler plate, sheet and bar iron, and "Tyrone" plate, tank, sheet, and bar iron. Slates rolled one hundred inches wide. T 67. 111
- 312 Union Iron Co. of Buffalo, Buffalo, N. Y.—Solid wrought iron rolled beams. T 64 and U 60. 111
- 321^a State of Indiana (by E. T. Cox, State Geologist).—Pig, bar, and railroad iron, cut nails. V 57. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Metallurgical Products.

- 313** Otis Iron & Steel Co., Cleveland, O.—Ingots, bars, plates, and forgings of Siemen's Martin steel. T 65. 111
- 314** Cleveland Rolling Mill Co., Cleveland, O.—Pig metals, rails, bars, etc., of iron and Bessemer or Siemen's Martin steel. T 60. 111
- 315** South & North Alabama Railroad, Montgomery, Ala.—Iron. Y 60 and T 57. 111
- 316** State of New Jersey (by Geo. H. Cook, State Geologist, New Brunswick, N. J.).—T 70.
a Iron, steel, spiegeleisen. 111
b Spelter, sheet zinc, zinc white. 113
- 317** Peru Steel & Iron Co., Clintonville, N. Y.—Loops, blooms, billets, bars, and steel. T 63. 111
- 317^a** Silicon Steel Co., New York, N. Y.—Silicon steel, rails, etc.; steelified iron. T 63. 111
- 318** Washburn & Moen Manufacturing Co., Worcester, Mass.—Iron wire rods; iron and steel wire. T 63. 111
- 318^a** Valentines & Co., Bellefonte Iron Works, New York, N. Y.—Cold blast charcoal iron. T 61. 111
- 318^b** Youngstown Rolling Mill Co., Youngstown, Ohio.—Horse shoe, bar, hoop, and band iron, steel mixed with iron. V 61 to 64. 111
- 318^c** Wick, Ridgway, & Co., Youngstown, Ohio.—Railroad iron, of all sizes. V 61 to 64. 111
- 318^d** Brown, Bonnett, & Co., Youngstown, Ohio.—Pig, bar, and sheet iron. V 61 to 64. 111
- 318^e** Eyhon & Lloyd, Philadelphia, Pa.—Roughing rolls, hand rounds, and squares. T 65. 111
- 319** American Sheet & Boiler-plate Co., Cleveland, Ohio.—Plate, sheet, corrugated, galvanized, metallic tile, universal plate and agricultural iron, Bessemer or Siemen's Martin steel. T 59. 111
- 320** Cooper, Hewitt, & Co., New York, N. Y.—Iron fluxes, blooms, pigs, rods, bars, rails, beams; chain, wire, horseshoe, and Martin steel. T 66. 111
- 321** Hanging Rock Iron Region Furnaces (Chas. Campbell, Commissioner), Ironton, Ohio.—Pig iron, with articles manufactured therefrom. T 69. 111
- 322** Beale, Horace A., Parkesburg, Pa.—Charcoal and puddled iron for boiler tubes and plates, muck bar of superior quality, and hollow bottom plates for puddling furnace. T 66. 111
- 323** Clark, Wm., & Co., Pittsburg, Pa.—Hoop, band, and scroll iron. T 66. 111
- 324** Reese, Graff, & Woods, Pittsburg, Pa.—Wrought iron of all descriptions; cast and special steel; tool steel, spring steel, plow steel, machinery and agricultural steel, fire steel, steel hoop, steel cotton ties, horse and mule shoes, steel toe calks, steel boiler-plate. T 66. 111
- 325** Andrews Brothers, Youngstown, O.—Bessemer, foundry, and mill pig iron. V 61 to 64. 111
- 326** McCullough Iron Co., Philadelphia, Pa.—Bloom and refined cleaned sheet iron; charcoal blooms. Manufacturers of "Galvanized," "Best Bloom," "Best Refined," "Harvey's cleaned Sheet Iron," cleaned iron for stamping purposes, leaded roofing plates, corrugated iron, black and galvanized. P 70. 111
- 327** Moorhead & Co., Soho Iron Mills, Pittsburg, Pa.—Galvanized and black sheet iron; roofing and ceiling irons. T 66. 111
- 328** Henderson, James, Hamburg, Pa.—Wrought iron made by the Henderson process. T 59. 111
- 329** Brown & Co., Wayne Iron & Steel Works, Pittsburg, Pa.—Cold-blast charcoal metal, blooms, boiler plate, bars; agricultural irons. T 62. 111
- 331** Edgar Thomson Steel Co. (limited), Pittsburg, Pa.—Bessemer steel rails, billets, blooms, and ingots. T 66. 111
- 333** Lucy Furnace Co., Pittsburg, Pa.—Pig metal, etc. T 66. 111
- 334** Carnegie Bros. & Co., Pittsburg, Pa.—Wrought iron beams, channels, bridge iron, etc. T 66. 111
- 335** Wilson, Walker, & Co., Pittsburg, Pa.—Railroad car forgings. T 66. 111
- 336** Keystone Bridge Co., Pittsburg, Pa.—Raritan Bay pivot bridge, weldless chord bars, wrought iron, tubular sectional columns. T 66. 111
- 337** United States Corrugated Elbow Co., Cincinnati, Ohio.—Stovepipe elbow machine; stovepipe elbows. T 61. 111
- 338** Gregory & Co., Jersey City, N. J.—American cast steel. T 59. 111
- 339** Duncan, John W., Philadelphia, Pa.—Pig metal. T 72. 111
- 340** Tuscarawas Coal & Iron Co., Cleveland, Ohio.—Pig iron. T 71 and V 63. 111
- 341** Rhodes & Co., Cleveland, Ohio.—Bessemer car-wheel and malleable charcoal irons. T 71 and V 63. 111
- 342** Woodstock Iron Co., Anniston, Ala.—Hot-blast, cold-blast, and spiegeleisen iron, charcoal. T 63. 111
- 343** Middleton, C. W. & H. W., Philadelphia, Pa.—Collective exhibit of Fort Pitt Iron & Steel Works, Soho Iron Mills, Solar Hoop Iron Mills, Philadelphia Iron & Steel Co., Parkesburg Iron Works, Corydon Winch, Van Alen & Co., Cumberland Tube Works, Danville Iron Co. and Star Chain and Nail Works—iron and steel. T 65 to 66. 111
- 344** Crane Iron Co., Catsasauqua, Pa.—Foundry and forge pig iron; cinder. T 64. 111
- 345** Alexander, John S., Philadelphia, Pa.—Bayonet spade. P 63. 111
- 346** Singer, Nimick, & Co., Pittsburg, Pa.—Saw, tool, plow, machinery, safe, and boiler steel; steel railway axles and springs. T 69. 111
- 346^a** Selma & Alabama Railroad, Montgomery, Ala.—Iron. Y 60. 111
- 347** Magnetite Iron Co., Philadelphia, Pa.—Bessemer ore products. T 69. 111
- 348** Crab Orchard Iron Co., Philadelphia, Pa.—Samples of iron and steel. T 69. 111

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Metallurgical Products.

- 348^a Chester Iron Co., Chester, N. J.—Iron ore. T 64. 111
- 349 Danville Iron Co., Danville, Pa.—Railroad iron. T 66. 111
- 350 Winch, Corydon, Philadelphia, Pa.—Wrought iron spikes. T 66. 111
- 351 Philadelphia Iron & Steel Co., Philadelphia, Pa.—Special shapes and manufactures of iron. T 66. 111
- 351^a Ward, L. B., Niles, O.—Common boiled iron. V 61 to 63. 111
- 352 Cumberland Nail & Iron Co., Bridgeton, N. J.—Wrought iron pipe. T 66. 111
- 353 Davis, O. W., jr., Bangor, Me.—Charcoal pig iron, fluxes, cinders; articles made in part from Katahdin iron. T 69. 111
- 354 Durham Iron Co., Riegelsville, Pa.—Flux, pig iron, and cinders. T 64. 111
- 355 Glendon Iron Co., Easton, Pa.—Flux, slag, and pig iron. T 64. 111
- 356 Selma, Rome, & Dalton Railroad, by S. W. Baird, Cincinnati, O.—Charcoal pig iron, slag and charcoal, spiegel, car wheels. X 64. 111
- 359 Northampton Furnace, worked by the Bethlehem Iron Co., Bethlehem, Pa.—Pig iron, flux, slags. T 64. 111
- 360 Lehigh Iron Co., Allentown, Pa.—Flux, slag, and pig iron. T 64. 111
- 361 Bethlehem Iron Co., Bethlehem, Pa.—Charges and products of iron, Bessemer, and spiegeleisen furnaces; products from Bessemer steel mill. T 64. 111
- 362 Emaus Iron Co., Allentown, Pa.—Flux, slag, and iron. T 64. 111
- 363 Coleraine Iron Co., Northampton county, Pa.—Pig iron. T 64. 111
- 364 Thomas Iron Co., Hokendauqua, Pa.—Iron and flux. T 64. 111
- 365 Allentown Rolling Mill Co., Allentown, Pa.—Flux, iron, and slag, fist-plate bolts, nuts, spikes, rivets, etc. T 64. 111
- 366 Allentown Iron Co., Allentown, Pa.—Pig iron. T 64. 111
- 367 Lehigh Valley Iron Co., Copley, Pa.—Pig iron, cinders. T 64. 111
- 368 Carbon Iron Co., Parryville, Pa.—Flux, slag, and pig iron. T 64. 111
- 369 Saucon Iron Co., Hellertown, Pa.—Pig iron. T 64. 111
- 370 Catasauqua Iron Co., Catasauqua, Pa.—Rolled iron and steel, iron and steel bars bent hot and cold and fractured. T 64. 111
- 371 Lehigh Zinc Co., Bethlehem, Pa.—Metallic and sheet zinc, zinc oxide. T 64. 111
- 372 Stewart & Co., South Easton, Pa.—Round, square, and triangular iron wire. T 64. 111
- 373 Gough, Edward, Allentown, Pa.—Turned rolls. T 65. 111
- 374 Bay State Iron Co., Boston, Mass.—Homogeneous iron boiler plates and iron. T 64. 111
- 375 Co-operative Iron & Steel Works, Danville, Pa.—T and street passenger railroad iron. T 63. 111
- 376 Shalter, R. M., Carrick Furnace, Franklin county, Pa.—Cold-blast pig iron. T 63. 111
- 377 Philadelphia & Reading Railroad Co., Philadelphia, Pa.—Rails. T 72. 111
- 378 Mintzer, S. J. W., Philadelphia, Pa.—Silicon steel. T 63. 111
- 379 Shelby Iron Co., Shelby Iron Works, Ala.—Charcoal pig iron, chilled castings, wire rods, cotton ties. T 71. 111
- 380 Chrome Steel Co., Brooklyn, N. Y.—Chrome steel, with samples showing torsional, tensile, and compressive strength; welded chrome steel and iron; ingredients of manufacture. T 64. 111
- 381 Cartwright, McCurdy, & Co., Youngstown, O.—Hoop, band, and horse-shoe iron and steel. V 63 and T 64. 111
- 382 Burton, J. P., Massillon, O.—Iron from Massillon Furnace. V 63. 111
- 383 Rockhill Iron & Coal Co., Philadelphia, Pa.—Pig iron. T 72. 111
- 384 Tecumseh Iron Co., Tecumseh, Ala.—Charcoal pig iron, limestone, charcoal. T 70. 111
- 385 Albany & Rensselaer Iron & Steel Co., Troy, N. Y.—Bessemer steel and iron rails, plates, merchant bars, axles, horseshoes, etc. T 68. 111
- 386 Nes, Charles M., York, Pa.—Silicon steel; steel and steel capped rails. T 63. 111
- 388 Grand Tower Mining, Manufacturing, & Transportation Co., Grand Tower, Ill.—Iron ore products; cokes. T 68. 111
- 389 Globe Rolling Mill Co., Cincinnati, O.—Specialties, Globe Norway iron and Globe refined iron. Iron, T 63. 111
- 390 Lackawanna Iron & Coal Co., Scranton, Pa.—Steel and iron railroad bars. T 63. 111
- 391 Passaic Rolling Mill Co., Paterson, N. J.—Rolled iron, rivets, nuts. T 64. 111
- 392 Cox, Justice, jr., & Co., Philadelphia, Pa.—Pig, bar, sheet, tank, pipe, and angle iron; spikes, railway car axles. T 70. 111
- 394 Rogers, J. & J., Iron Co., Ausable Forks, N. Y.—Round and square iron and charcoal billets for steel, from Palmer ore. T 62. 111
- 395 Vesuvius Furnace, Etna Iron Works, Ironton, Ohio.—Pig iron, cold blast charcoal car-wheel iron. T 68. 111
- 396 Etna Furnace, Etna Iron Co., Hanging Rock, O.—Pig iron, cold-blast charcoal car-wheel iron. T 68. 111
- 397 Alice Furnace, Etna Iron Works, Hanging Rock, O.—Pig iron, "Whitwell ovens," and Ferry process. T 68. 111
- 397^a Briar Hill Iron & Coal Company, Youngstown, O.—Pig iron of various grades. V 61 to 64. 111
- 398 Blanche Furnace, Etna Iron Works, Ironton, Ohio.—Pig iron, Whitwell hot blast and Ferry process. T 68. 111
- 399 Hecla Iron & Mining Co. (John Campbell, President), Ironton, O.—Pig iron, cold blast charcoal car-wheel irons. T 68. 111
- 399^a Struthers Iron Co., Youngstown, O.—Bessemer, foundry, and gray forge pig iron. V 61 to 63. 111

Metallurgical Products.

- 400 Monitor Furnace Co., Ironton, O.—Pig iron, cold blast charcoal car-wheel iron. T 68. 111
- 401 Mount Vernon Furnace, Hiram Campbell & Sons, Ironton, O.—Pig iron, hot blast charcoal foundry iron. T 68. 111
- 401^a Brooke, E. & G., Birdsboro', Pa.—Keystone pig iron. T 67. 111
- 402 Grant Furnace, W. D. Kelly & Sons, Ironton, O.—Pig iron, hot blast charcoal irons. T 68. 111
- 403 Center Furnace, W. D. Kelly & Sons, Ironton, O.—Pig iron, hot blast charcoal irons. T 68. 111
- 404 Howard Furnace Charcoal Iron Co., Ironton, O.—Pig iron, hot blast charcoal irons. T 68. 111
- 405 Buckhora Furnace, Charcoal Iron Co., Ironton, O.—Pig iron, hot blast charcoal irons. T 68. 111
- 406 Clive Furnace, Campbell, McGuigin, & Co., Ironton, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 407 Lawrence Furnace Co., Ironton, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 408 Pine Grove Furnace, Means, Kyle, & Co., Hanging Rock, O.—Pig iron, hot blast charcoal irons. T 68. 111
- 409 Ohio Furnace, Means, Kyle, & Co., Hanging Rock, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 410 Ironton Furnace Iron and Steel Co., Ironton, O.—Pig iron, Player hot blast. T 68. 111
- 411 Belfont Iron Works, Ironton, O.—Pig iron, Player hot blast. T 68. 111
- 412 Washington Furnace, Union Iron Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 413 Scioto Furnace, L. C. Robinson & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 414 Bloom Furnace, John Paul & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 415 Clinton Furnace, W. I. Bell, Wheelersburg, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 416 Buckeye Furnace Co., Jackson, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 417 Cambria Furnace, D. Lewis & Co., Sausonville, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 418 Jackson Furnace, L. P. N. Smith's heirs, Sciotoville, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 419 Jefferson Furnace Co., Oak Hill, O.—Pig iron; cold blast charcoal car-wheel and machinery iron. T 68. 111
- 420 Orange Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 421 Star Furnace Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 422 Huron Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 423 Tropic Furnace Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 424 Globe Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 425 Fulton Furnace, Globe Iron Co., Jackson, O.—Pig iron, hot blast Jackson county stone coal iron. T 68. 111
- 426 Ophir Furnace Co., Jackson, O.—Hot blast pig iron. T 68. 111
- 427 Milton Furnace & Coal Co., Wellston, O.—Pig iron, Jackson county softener iron. T 68. 111
- 428 Wellston Coal & Iron Co., Wellston, O.—Pig iron, Jackson county stone coal iron. T 68. 111
- 429 Lincoln Furnace, I. M. McGhee's estate, Rud's Mills, O.—Pig iron, cold blast charcoal iron. T 68. 111
- 430 Eagle Furnace, L. C. Damarin & Co., Rud's Mills, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 431 Richland Furnace Co., Richland P. O., O.—Pig iron, hot blast charcoal iron. T 68. 111
- 432 Hope Furnace, L. C. Damarin & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 433 Hamden Furnace, L. C. Damarin & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 434 Vinton Furnace, Bancroft, Rader, & Co., Vinton Station, O.—Pig iron, hot blast bituminous coal and coke irons. T 68. 111
- 435 Keystone Furnace Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 436 Monroe Furnace, Union Iron Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 437 Latrobe Furnace, Bundy & Cobb, Berlin Cross-roads, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 438 Logan Furnace Co., Logan county, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 439 Union Furnace, Brooks & Hueston, Haydensville, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 440 Pascal Iron Works, Philadelphia, Pa.—Cast iron work for Main Exhibition Building. 111
- 441 Lewis, Oliver, & Phillips, Pittsburg, Pa.—Iron in merchant bars and odd shapes. T 64. 111
- 442 Roberts, Henry, Newark, N. J.—Iron, Bessemer steel, and cast steel wire. N 69. 111
- 443 Andrews, Hitchcock, & Co., Cleveland, O.—Merchant bar and sheet iron. V 61 to 64. 111
- 444 Mount Savage Furnace, Lexington & Carter county Mining & Manufacturing Co., Lexington, Ky.—Pig iron, hot blast charcoal iron. T 68. 111
- 444^a Himrod Furnace Co., Youngstown, O.—Bessemer, foundry, and forge pig iron. V 61 to 64. 111

Metallurgical Products.

- 445 Buffalo Furnace, Culbertson, Earhart, & Co., Greensburg, Ky.—Pig iron, hot and cold blast charcoal iron. T 68. 111
- 445^{1/2} Andrews & Hitchcock, Youngstown, O.—Scotch, foundry, large, and mill iron. V 61 to 64. 111
- 446 Hunnewell Furnace, Eastern Kentucky Railway Co., Riverton, Ky.—Pig iron, hot blast charcoal foundry iron. T 68. 111
- 446^{1/2} Liking Iron Co., Newark, O.—Pig iron. V 61 to 64. 111
- 447 Pennsylvania Furnace, Eastern Kentucky Railway Co., Riverton, Ky.—Pig iron, hot blast charcoal foundry iron. T 68. 111
- 448 Charlotte Furnace Co., Riverton, Ky.—Pig iron, hot blast charcoal foundry iron. T 68. 111
- 449 Laurel Furnace, Robert Scott & Co., Riverton, Ky.—Pig iron, cold blast charcoal car-wheel iron. T 68. 111
- 450 Gallia Furnace, Norton, Campbell, & Co., Portsmouth, O.—Pig iron, hot blast charcoal iron. T 68. 111
- 451 Raccoon Mining and Manufacturing Co., Riverton, Ky.—Pig iron, hot and cold blast charcoal iron. T 68. 111
- 452 Ashland Furnace, Lexington & Big Sandy Railroad Co., Ashland, Ky.—Pig iron, bituminous coal, and Player hot blast. T 68. 111
- 453 Bellefonte Furnace, Means, Russell, & Means, Ashland, Ky.—Pig iron, hot blast charcoal foundry iron. T 68. 111
- 454 Norton Iron Works, Ashland, Ky.—Pig iron, nail plate, nails. T 68. 111
- 455 Buena Vista Furnace, Means & Co., Ashland, Ky.—Pig iron, hot blast charcoal iron. T 68. 111
- 456 Trigg Furnace, D. Hillman & Sons, Empire Iron Works, Ky.—Pig iron, cinders, etc.; hot blast charcoal iron. T 68. 111
- 457 Center Furnace, D. Hillman & Sons, Empire Iron Works, Ky.—Pig iron, hot blast charcoal iron. T 68. 111
- 458 Empire Iron Works, Trigg county, Ky.—Samples of boiler plate and refined charcoal iron. T 68. 111
- 459 Cleveland Malleable Iron Co., Cleveland, O.—Malleable iron castings and tackle blocks; fifth wheels. T 55. 111
- 460 Traber & Aubery, Cincinnati, O.—Broken car-wheels, chill tests, and castings from Hanging Rock pig iron; pig iron. T 68. 111
- 461 Hanging Rock Iron Region, Ironton, O.—Pig iron. T 68. 111
- 462 Sellers, William, & Co., Edgemoor Iron Co., Wilmington, Del.—Wrought and cast iron work for Main Exhibition Building. 111
- 463 Roberts, A. & P., Pencoyd Rolling Mills, Philadelphia, Pa.—Wrought iron work for Main Exhibition Building. 111
- 464 Morris, Tasker, & Co., Philadelphia, Pa.—Cast iron work for Main Exhibition Building. 111
- 465 Watson Manufacturing Co., Paterson, N. J.—Iron framework of the Mair Exhibition Building. 111
- 466 Pusey, Jones, & Co., Wilmington Del.—Iron work for Machinery Hall. 111
- 467 State of Michigan (Jay A. Hubbell, Houghton, Mich., Superintendent of Mineral Department.)—V 67.
- a Pig, ingot, and manufactured iron and steel. 111
- b Ingot, bar, and rolled copper in its various stages. 112
- c Maps, models, stamp-mill model, etc. 120
- 468 Manhattan Brass Co., New York, N. Y.—Sheet brass; brass, copper, and zinc tubing; brass goods, nickel-plated oilers, etc. T 65. 112
- 469 Pope, Cole, & Co., Baltimore Copper Co., Baltimore, Md.—Specimens of copper mattes and slags, and refined copper; metallurgical products. T 64. 112
- 470 Revere Copper Co., Boston, Mass.—Copper and yellow metal sheets and bars; tinned metal for stove reservoirs; bronze cannon cast by a patented process. T 64. 112
- 471 Pennsylvania Lead Co., Pittsburg, Pa.—Refined pig lead from ores of Colorado and Utah. T 63. 113
- 472 Benedict & Burnham Manufacturing Co., Waterbury, Conn.—Sheet brass, German silver, brass tubing, rods, and wire, lamp burners, etc. T 61. 113
- 473 Passaic Zinc Co., Passaic, N. J.—Zinc ingots, foil, castings, and oxide; sheet zinc. T 63. 113
- 473^{1/2} Crocker Bros. & Co., Taunton, Mass.—T 61.
- a Copper and yellow metal. 112
- b Zinc. 113
- 474 Holmes, Booth, & Haydens, Waterbury, Conn.—Brass and German silver wire, tubing, rivets, lamp trimmings, burners. T 61. 113
- 476 Matthiessen & Hegeler Zinc Co., La Salle, Ill.—Refined spelter; sheet tin to show the thickness of the common numbers. Various sizes of casks for shipment. Rolled zinc plates for galvanic batteries, lithographing, etc. T 70. 113
- 477 Wharton, Joseph, Camden, N. J.—Nickel goods. T 63. 114
- 478 Taylor, N. & G., Co., Philadelphia, Pa.—Tin plate patterns. T 62. 114
- 480 Scovill Manufacturing Co., Waterbury, Conn.—Sheet brass; German silver, gold and silver plated metal; lamps and trimmings; hinges, buttons, thimbles, castors, metal tubes, etc. P 67. 114
- 481 Ansonia Brass & Copper Co., Ansonia, Conn.—Brass and copper goods, sheet metal and wire, planished brass and copper. T 54. 114
- 482 Waterbury Brass Co., Waterbury, Conn., and 52 Beekman street, New York, N. Y.—Brass and German silver in sheets, rolls, wire, and tubes; brass kettles, copper and brass rivets and bolts; percussion caps, all qualities; powder flasks, shot belts and pouches; game bags, metallic eyelets, and tape measures. T 62. 114
- 483 Lancroft, C. E. & H. B., Fair Haven, Conn.—Sulphates of nickel, ammonia, cobalt, and aluminum. P 68. 114

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Mining Engineering.

Mining Engineering.

- 484 Holley, Alexander L., New York, N. Y.—Exhibit relating to metallurgical engineering. (*West gallery*) 120
- 485 State of New Jersey (by Geo. H. Cook, State Geologist, New Brunswick, N. J.).—Geological maps, mine maps, mine and vein models. T 70. 121
- 485² Lowe, S. B., Chattanooga, Tenn.—Map of Chattanooga iron district. X 63. 120

- 486 Prince, Franklin, & Bullock, E. L., Audenried, Pa.—Model of the Wharton anthracite coal vein at Beaver Brook collieries, Audenried, Pa. T 60. 121
- 487 Hanford, Theodore, Jersey City, N. J.—Specimens of the strata of the Gravelpit Gold Mines of Ballarat, Victoria Australia. T 64. 121
- 488 Charleston, S. C., Mining & Manufacturing Co., Philadelphia, Pa.—Model of their works. Y 60. 121

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

THE

American Newspaper Union.

A. J. AIKENS, President.

New York Newspaper Union, 148 and 150 Worth St., New York.	}	315 Newspapers, \$3.00 per line, per week.			
Chicago Newspaper Union, 114 Monroe St., Chicago.		350	"	\$3.50	" "
Milwaukee Newspaper Union, 365 East Water St., Milwaukee.	}	120	"	\$1.25	" "
Aikens Newspaper Union, 143 Race St., Cincinnati.		200	"	\$2.00	" "
Southern Newspaper Union, 227 Second St., Memphis, Tenn.	}	145	"	\$1.50	" "
St. Paul Newspaper Union, 17 Wabashaw St., St. Paul, Minn.		73	"	\$.75	" "

THE ORIGIN OF CO-OPERATIVE NEWSPAPER ADVERTISING.

Co-operative newspaper printing, as now practised, originated in Wisconsin twelve years ago. It is termed *co-operative* for the reason that one side of each of the newspapers is printed at a central office, and the paper sent in its half-printed state to the home office, where it is completed with editorials, local news, and other matter prepared by the editor or publisher. In December, 1846, the idea of co-operation, *with advertisements*, occurred to Mr. Aikens, while yet serving his time as an apprentice, in printing the message of President Polk on one side of a country newspaper of New England at Boston, and the other half being printed at the local office.

Mr. A. J. Aikens, a practical printer and business man, conceived the idea of reducing the cost of ready-printed paper, as it is now termed, to country publishers, by making an agreement with them to use a certain space in each of their papers for advertisements that he might procure. This plan of co-operation he put into practice twelve years ago, at the office of Cramer, Aikens & Cramer, Milwaukee. It at once became successful, leading to the establishment of co-operative newspaper printing-offices in Chicago, New York, St. Louis, Cincinnati, Memphis, St. Paul, and other places. There are now over two thousand newspapers printed upon the co-operative plan in the United States and Canada, and the number is constantly increasing, it having more than doubled in the last five years. The enterprise is no longer an experiment, but an established success, and the system is one yielding manifold advantages to advertisers as well as to local publishers.

The American Newspaper Union

Is essentially national. The papers represented in it are located in all the States of the Union and in nearly five hundred county seats. They circulate over the whole area of the country from Maine to Colorado, distributing at least *one hundred copies every year to each square mile of the settled portions of the United States.*

Although, as a whole, the Union List is national, covering all sections, it is so made up of different members as to be susceptible of easy division into sections—East, Middle, West, South. The distribution of the papers is as follows:

New England	78	Illinois	117	Nebraska	15
New York	101	Michigan	86	Missouri	17
New Jersey	27	Wisconsin	98	Georgia	10
Pennsylvania	65	Tennessee	29	Alabama	32
Virginia	24	Kentucky	29	Louisiana	11
No. and So. Carolina	24	Minnesota	79	Mississippi	29
Ohio	122	Iowa	85	Other States	46
Indiana	81				

AGGREGATE CIRCULATION.

The circulation of these papers is large and constantly increasing. It is larger than the circulation of any other lists or combinations of country papers in the United States—the last aggregate weekly circulation being *seven hundred thousand seven hundred and thirty copies (700,730).*

SEND TO EITHER OFFICE FOR A CIRCULAR.

HEALTH! BEAUTY!!

Strong, Pure, and Rich Blood, Increase of Flesh and Weight, Clear Skin, and Beautiful Complexion secured to all through

DR. RADWAY'S SARSAPARILLIAN RESOLVENT

Every drop of the Sarsaparillian Resolvent communicates through the Blood, Sweat, Urine, and other fluids and juices of the system the vigor of life, for it repairs the wastes of the body with new and sound material. Scrofula, Consumption, Glandular Disease, Ulcers in the Throat, Mouth, Tumors, Nodes in the Glands and other parts of the system, Sore Eyes, Strumous Discharges from the Ears, and the worst forms of Skin Diseases, Eruptions, Fever Sores, Scald Head, Ring Worm, Salt Rheum, Erysipelas, Acne, Black Spots, Worms in the Flesh, Tumors, and all Weakening and Painful Discharges and Night Sweats are within the curative range of this wonder of Modern Chemistry, and a few days' use will prove to any person using it for either of these forms of disease, its potent power to cure them. If the patient, daily becoming reduced by the wastes and decomposition that are continually progressing, succeeds in arresting these wastes, and repairs the same with new material, made from healthy blood, and this the Sarsaparillian will and does secure, a cure is certain; for, when once this remedy commences its work of purification and succeeds in diminishing the loss of wastes, its repairs will be rapid, and every day the patient will feel himself growing better and stronger, the food digesting better, appetite improving, and flesh and weight increasing. Not only does the SARSAPARILLIAN RESOLVENT excel all known remedial agents in the cure of Chronic, Scrofulous, Constitutional, and Skin Diseases, but it is the only positive cure for Kidney, Bladder, and Urinary Diseases, Gravel, Diabetes, Dropsy, Stoppage of Water, Incontinence of Urine, Bright's Disease, Albuminaria, and in all cases where there are brickdust deposits, or the water is thick, cloudy, mixed with substance like the white of an egg, or threads like white silk, or there is a morbid, dark, bilious appearance, and white bonedust deposits, and when there is a pricking, burning sensation when passing water, and pain in the Small of the Back along the Loins.

Tumor of 12 years' growth cured by Radway's Resolvent.

BEVERLY, MASS., July 18th, 1869.

DR. RADWAY: I have had Ovarian Tumor in the ovaries and bowels. All the doctors said "there was no help for it." I tried everything that was recommended, but nothing helped me. I saw your Resolvent, and thought I would try it, but had no faith in it, because I had suffered for TWELVE YEARS. I took six bottles of the Resolvent, one box of Radway's Pills, and used two bottles of your READY RELIEF, and there is not a sign of a tumor to be seen or felt, and I feel BETTER, SMARTER, and happier than I have for twelve years. The worst tumor was in the left side of the bowels, over the groin. I write this to you for the benefit of others. You can publish it you choose. * * * *

HANNAH P. KNAPP.

R. R. R.

RADWAY'S READY RELIEF

Cures the worst pains in from one to twenty minutes. Not one hour after reading this advertisement need any one suffer with pain. Radway's Ready Relief is a cure for every pain. It was the first and is THE ONLY PAIN REMEDY that instantly stops the most excruciating pains, allays Inflammations, and cures Congestions, whether of the Lungs, Stomach, Bowels, or other glands or organs, by one application, in from one to twenty minutes. No matter how violent or excruciating the pain the Rheumatic, Bedridden, Infirm, Crippled, Nervous, Neuralgic, or prostrated with disease may suffer,

RADWAY'S READY RELIEF

Will afford instant ease. Inflammation of the Kidneys, Inflammation of the Bladder, Inflammation of the Bowels, Congestion of the Lungs, Sore Throat, Difficult Breathing, Palpitation of the Heart, Hysterics, Croup, Diphtheria, Catarrh, Influenza, Headache, Toothache, Neuralgia, Rheumatism, Cold Chills, Ague Chills. The application of the READY RELIEF to the part or parts where the pain or difficulty exists will afford ease and comfort. Twenty drops in a half tumbler of water will, in a few moments, cure Cramps, Spasms, Sour Stomach, Heartburn, Sick Headache, Diarrhoea, Dysentery, Colic, Wind in the Bowels, and all Internal Pains. Travelers should always carry a bottle of RADWAY'S RELIEF with them. A few drops in water will prevent sickness or pains from change of water. It is better than French Brandy or Bitters as a stimulant.

FEVER AND AGUE.

FEVER AND AGUE cured for FIFTY CENTS. There is not a remedial agent in this world that will cure Fever and Ague and all other Malarious, Bilious, Scarlet, Typhoid, Yellow, and other Fevers (aided by RADWAY'S PILLS) as quick as RADWAY'S READY RELIEF. Fifty cents per bottle.

DR. RADWAY'S PILLS,

Perfectly tasteless, elegantly coated, for the cure of all Disorders of the Stomach, Liver, Bowels, Kidneys, Bladder, Nervous Diseases, Headache, Constipation, Costiveness, Indigestion, Dyspepsia, Biliousness, Bilious Fever, Inflammation of the Bowels, Piles, and all Derangements of the Internal Viscera. Warranted to effect a Positive Cure. RADWAY'S PILLS will free the system from all the above-named disorders. Price, 25 cents per box.

Read FALSE AND TRUE. Send one letter stamp to RADWAY & Co., No. 32 Warren Street, New York. Information worth thousands will be sent you.

GREAT BRITAIN.

(North of Nave, Columns 23 to 38.)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 West Cumberland Iron & Steel Co. (limited), Workington, Cumberland.
 - a Iron ores. 100
 - b Coal and coke. 101
 - c Limestone. 103
- 1a Whitwell, Thomas, Stockton-on-Tees.—Cumberland ores. 100
- 2 Wigan Coal & Iron Co. (limited), Wigan, Lancashire, England.—Cannel and gas coal. 101
- 3 Penrose & Richards, Swansea, South Wales.—Coke fuel. 101
- 4 Dixon, Frederick, London.—Patent flux. 101
- 5 Dudgeon, Arthur, Westminster, London.—Peat fuel, manufactured by the Irish Peat Fuel Co. 101
- 6 Lindley, Robert Charles, Mansfield, Nottinghamshire.—Stones from the Mansfield quarries. 102
- 7 Cwmorthin Slate Co. (limited), Portunadoc, North Wales.—Roofing slates. 102
- 8 Hunter, James, Aberdeen, Scotland.—Red polished granite monument. 102
- 9 Macdonald, Field, & Co., Aberdeen Granite Works, Aberdeen, Scotland.—Polished red granite monument. 102
- 10 Pen-yr-orsedd Slate Quarry Co. (limited), Carnarvon, North Wales.—Roofing slates, slate slabs, cisterns, ridges for roofs, billiard slabs, slate partly manufactured. 102
- 11 Shearer, Smith, & Co., Dalbeattie Granite Quarries, Scotland.—Scotch polished granite, and street paving blocks. 102
- 12 Bessbrook Granite Works, Bessbrook, Ireland.—Blue and gray Irish granites in headstones, monuments, and building work. 102
- 13 Great North of Scotland Granite Co. (limited), Peterhead, Scotland.—Monumental pedestal and vase in polished red granite. 102
- 13a Campbell, Hugh, & Son, Newry.—Polished granite. 102
- 14 Hollick & Co., Greenwich, London.—Portland cement. 103
- 15 Patent Selenitic Cement Co. (limited), London.—Method of preparing lime for mortar, for plastering and brickwork, and also for concrete. 103

- 16 Wouldham Cement Co., Wouldham-on-the-Medway, Kent, England.—Portland cement and its ingredients in different stages of manufacture. Concrete blocks and other objects made therefrom. 103
- 17 Lavers, Alfred Hamilton, London.—Portland cement, test blocks, cements, plaster of Paris, whitening. 103
- 17a Busse, G., & Co., London.—Cement. 103
- 18 Francis & Co., Cliffe Creek, Rochester.—Cements, cement concrete, parian scagliola, and decorated parian. 103
- 19 Grays Chalk Quarries Co. (limited) Grays, Essex.
 - a Chalk, whitening, kilndried chalk, gilders' whitening. 103
 - b Flint. 106
- 20 Eastwood & Co. (limited), London.—Portland cement. 103
- 21 Pike, William Joseph, Wareham, Dorsetshire.—Clays. 104
- 22 Harrison, George King, Lye & Brettell Lane Fire Clay Mines & Brick Works, Stourbridge, England.—Stourbridge fire clays. 104
- 23 Dunn, Robert, & Co., St. Austell, Cornwall.—China clay, in its raw material; samples for potting, bleaching, paper manufacturing, etc. 104
- 24 Oakey, John, & Sons, Wellington Mills, London.—Crude emery stone; grain emery; flour emery. 106
- 24a Star Plate & Universal Polishing Powder Co., London.—Plate and polishing powder. 106

Metallurgical Products

- 25 Johnson, Matthey, & Co., London.—Articles in platinum; rare and precious metals. 110
- 26 Wigan Coal & Iron Co. (limited), Wigan, Lancashire.—Hematite, foundry, and forge pig iron. 111
- 27 Great Western Iron Co., Soudley Newnham.—Pig iron 111
- 28 West Cumberland Iron & Steel Co. (limited), Workington, Cumberland.—Pig iron, spiegeleisen, granulated blast furnace slag, Bessemer steel in the ingot; steel forgings, rails and rail sections, boiler and bridge plates, railway chairs, etc.; samples illustrating the testing of steel, and its metallurgy. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Metallurgical Products.

- 29 Smith, Frederick, & Co., Caledonia Works, Halifax, Yorkshire.—Rope, rigging, telegraph, card, reed, and bonnet wire; iron in its various stages of manufacture into wire. 111
- 30 Houghton, William Dickson, Warrington.—Wire for special and general purposes. 111
- 30^a Tayler, D. F., & Co., New Hall Works, Birmingham.—Iron, steel, brass, and copper wire. 111
- 31 Edge & Sons, Coalport Works, Shropshire.—Wire ropes and chains for mining and engineering purposes. 111
- 31^a Hawksworth, Ellison, & Co., Carlisle Works, Sheffield.—Steel, and articles made therefrom. 111
- 32 Ash & Lacy, Globe Works, Staffordshire.—Galvanized, tinned, plain, and corrugated iron sheets; perforated zinc, metals, etc. 111
- 32^a Ward & Payne, Sheffield.—Steel. 111
- 32^b Whitwell, Thomas, Stockton-on-Tees.—Pig iron. 111
- 33 Cammell, Charles, & Co. (limited), Cyclops Steel & Iron Works, Sheffield.—Rolled iron armor plates. 111
- 34 Siemens, Charles William, London.—Specimens of iron and steel. 111
- 34^a Jessop, William, & Sons (limited), Sheffield.—Steel in bars, sheets, and large and small plates. 111
- 34^b Hatton, Sons, & Co., Bilston, Staffordshire.
^a Charcoal sheet iron. 111
^b Charcoal tin plates. 113
- 35 Baldwin, E. P. & W., Wilden Works, near Stourport.
^a Button and sheet iron black plates. 111
^b Tin and terne plates; tinned sheets. 113
- 35^a Warrington Wire Rope Works, Liverpool.—Wire ropes, cord, etc. 111
- 36 Brown, John, & Co. (limited), Atlas Steel & Iron Works, Sheffield.—Armor plates; naval engineering. (*In Machinery Hall.*) 111
- 37 Swansea Tin Plate Co., The Tin & Terne Plate Manufacturers, Swansea Tin Plate Works, Swansea.—Tin and terne plates. 113
- 38 Nash, Henry, & Co., Liverpool.—Tin and terne plates, black plate, and patent continuous roofing terne plate. 113
- 39 Governor & Company of Copper Miners in England, London.—Tin and terne plates. 113
- 40 Morewood, E., & Co., Llanelly.
^a Tin and terne plates. 113
^b Machines for manufacturing tin and terne plate, and galvanized sheet iron. 512
- 41 Phosphor Bronze Co. (limited), London.—Phosphor bronze tools, locks, keys, tubes, wire, sheet, steam fittings, parts of machinery. 114

(*N. B. English Exhibits in this department are also installed in Agricultural Hall, and catalogued in that volume.*)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NEW ZEALAND.

(North of Nave, Columns 10 to 17.)

Stone, Mining Products, Metallurgical Products.

- | | | |
|---|--|--|
| Minerals, Ores, Stone, Mining Products. | | 8 Kennedy Brothers, Nelson. |
| 1 Parapara Iron & Coal Co., Nelson. | | <i>a</i> Coal from the Brunner Mine, and coke manufactured from it. 101 |
| <i>a</i> Brown hematite ore. 100 | | <i>b</i> Raw and ground fire clay. 104 |
| <i>b</i> Coal from the Aorere river. 101 | | 9 Albion Coal Co., Nelson.—Coal from Ngakauau. 101 |
| <i>c</i> Limestone used as a flux for hematite ore. 103 | | 10 Reid, Alexander W., Canterbury.—Coal from Kowai Pass. 101 |
| 2 Johnstone Bros., Nelson.—Hematite iron ore. 100 | | 11 Oakden, J. J., Canterbury.—Anthracite coal from Lake Coleridge. 101 |
| 3 Nelson Committee, Nelson. | | 12 Rowley, Wilson, & Co., Otago.—Coal from Shag Point, Palmerston. 101 |
| <i>a</i> Iron, plumbago, galena, zinc blende, copper, antimony, and argentiferous lead ores. 100 | | 13 Ross, A., Poverty Bay, Auckland.—Petroleum. 101 |
| <i>b</i> Coal from Coalbrookdale, Mount Rochfort, and Reefton. 101 | | 14 Wilson, W., Christchurch.—Hewn white and yellow limestone. 102 |
| <i>c</i> Marble from Ruatanuka, Golden Bay. 102 | | |
| <i>d</i> Porcelain clays from Pakawau and Ruatanuka; steatite from Golden Gully, Collingwood. 104 | | |
| 4 Louisson, T. B., Nelson.—Iron ore, calcined iron ore. 100 | | |
| 5 Washbourn, W. E., Nelson.—Argentiferous lead ore. 100 | | |
| 6 Taranaki Committee. | | |
| <i>a</i> Titanic iron sand, older tertiary marl, trachyte pebble, trachyte with crystals of hornblende, trachyte cast, hornblende, obsidian, nephrite, taranakite, carnelian. 100 | | |
| <i>b</i> Lignite from Urenui. 101 | | |
| <i>c</i> Potters' clay from Urenui. 104 | | |
| 7 Colonial Museum, Wellington.—James Hector, Director. | | |
| <i>a</i> Collection of minerals, containing magnetic iron, hematite, chrome, copper, lead, zinc, and manganese ores. 100 | | |
| <i>b</i> Specimens illustrating the classification of New Zealand coals; petroleums from Sugar Loaf Point, Waipatu, Waipawa. 101 | | |
| <i>c</i> Marble from Collingwood, Nelson. 102 | | |
| <i>d</i> Steatite from Parapara Valley, Nelson. 104 | | |
| | | Metallurgical Products. |
| | | 15 New Zealand Commissioners.—Specimens of alluvial gold and gold-bearing quartz from Auckland, Westland, and Otago, collected by the Bank of New Zealand. 110 |
| | | 16 Government of New Zealand.—Specimens of alluvial gold from Nelson and Westland, and of auriferous quartz from the west coast; specimens of alluvial gold from Otago; bars of melted and refined gold; bars of chloride of silver, and silver; model representing gold exported from New Zealand 1862-75. 110 |
| | | 17 Nelson Committee.—Specimens of auriferous quartz from Reefton. 110 |
| | | 18 Reefton Committee.—Specimens of auriferous quartz from the Inangahua and Lyell districts, Nelson. 110 |
| | | 19 Tolhurst, George E., Bank of New Zealand, Wellington.—Models of gold ingots. 110 |

For classes of exhibits, indicated by numbers at en' of entries, see Classification, pp. 27-45.

NEW SOUTH WALES.

(North of Nave, Columns 13 to 15.)

Minerals, Metallurgical Products, Mining Engineering.

Minerals, Ores, Stone, Mining Products.

- 1 McCallum, Argyle, Yaas.—Copper and lead ores from Woolgarloo Mine; iron ore from Bogolong. 100
- 2 Stuart, Seymour C.—Auriferous quartz from Adelong; lode and stream tin ore. 100
- 3 King, P. G., Goonoo.—Sulphuret of antimony, from Nundle. 100
- 4 Howard, John, Sofala.—Antimony, from Crudine creek. 100
- 4^a Dewhurst, Arthur, Tamworth.—Collection of minerals. 100
- 5 Coulter, Edward, Sydney.—Magnetic iron ore containing gold and copper, from Mount Lambie. 100
- 5^a Cleghorn, Wm., Uralla.—Collection of minerals. 100
- 6 Department of Mines, Sydney.
- ^a Mineralogical and geological collection; specimens of gold from the Southern, Western, and Northern districts; models of gold nuggets found in New South Wales; gold trophy, showing production of New South Wales. 100
- ^b Coal trophy. 100
- 7 Towns & Co., Sydney.—Kerosene shale from Murrumbidgee. 100
- 8 Fountain, John, Gosford, Brisbane Water.—Iron ore from Brisbane Water. 100
- 9 King, P. G., Goonoo Goonoo.—Lepidodendron fossils from Goonoo Goonoo. 100
- 10 Wilson, W., Monaltrie, Richmond river.—Fossils. 100
- 11 Butchart, J. Hawkins, Sydney.—Lode and stream tin ore. 100

- 12 Caddell, Alfred, Sydney.—Tin ore and wash dirt from Vegetable Creek Tin Mines. 100
- 13 New South Wales Shale & Oil Company, Sydney.—Kerosene shale. 100
- 14 Towns, R., & Co., Sydney.—Kerosene shale from Murrurundi. 100
- 15 Browne, Thomas, Bishop's Bridge.—Sandstone from West Maitland. 100
- 16 Douglass, W., Sydney.—Slate from a quarry near Goulburn. 100
- 17 Young, John, Sydney.—Granite from Moruya; marble. 100
- 18 Mackintosh & Oakes, Bathurst.—Kaolin. 104
- 19 Warden, David, Ulladulla.—Kaolin. 104

Metallurgical Products.

- 19^a Lithgow Valley Iron & Coal Co.—Iron. 111
- 20 New South Wales Commissioners.—Copper ingots. 112
- 21 Moore & Co., Sydney.—Tin ingots. 113
- 22 Vegetable Creek Company, Sydney.—Tin ingots. 113
- 23 New South Wales Commissioners.—Tin ingots, bars, and grain tin. 113

Mining Engineering.

- 24 Caddell, Alfred, Sydney.—Model of shaft of Vegetable Creek Tin Mine, and report, plan, and photographs. 121
- 25 Government Printing Office, Sydney, New South Wales.—Mines and mineral statistics. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

VICTORIA.

(North of Nave, Columns 11 to 13.)

Minerals, Ores, Stone, Mining Products.

Minerals, Ores, Stone, Mining Products.

- 1** Collection of Rocks, Minerals, and Fossils, illustrative of the geology, mineralogy, and mining resources of Victoria, exhibited for, and on behalf of the Government, by R. Brough Smyth, F.G.S., F.L.S., Assoc. Inst. C.E., Secretary for Mines, and Chief Inspector of Mines for the colony. 100
- a* Older igneous or plutonic rocks.
b Newer igneous or volcanic rocks.
c Aqueous rocks.
d Upper silurian.
e Upper palæozoic.
f Mesozoic-carbonaceous.
g Tertiary.
h Collection of mineral specimens.
i Economic collection: auriferous quartz.
k Fac-similes of gold nuggets found in Victoria.
l Economic minerals.
m Fossil fruit.
- 2** Acadia Catherine Gold Mining Company, Sandhurst.—Golden stone. 100
- 3** Bleasdale, J. I., Melbourne.—Collection of gems and precious stones, consisting of diamonds, blue sapphires, oriental emeralds, rubies, aqua-marines, topazes, spinels, beryls, opals, garnets, tourmalines, etc. 100
- 4** Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—
- a* Fac-similes of nuggets found in Victoria, and mineralogical and geological specimens. 100
b Coal. 101
c Sawn slate, block of granite, polished marble. 102
d Limestones from Major Plains. 103
e Black clay, clay and sand; kaolin clay. 104
f Sharpening stones from Wangunyah. 106
- 5** Costerfield Gold & Antimony Mining Co., Melbourne.—Antimony ore. 100

- 6** Hanckar, J. H. H., Melbourne.—Nickel ore from the Boa Kaine Mine New Caledonia. 100
- 7** McGie, James, & Co., Melbourne.—Nickel ore. 100
- 8** Shenaudoah Gold Mining Co., Sandhurst.—Gold-bearing quartz. 100
- 9** Mining Department of Victoria, Melbourne.—Coal. 101
- 10** Mansfield Shire Council, Mansfield.—Polished marble, hewn sandstone. 102
- 11** Arthur & Dogherty, New Zealand.—Lithographic stone. 106
- 12** Lewis & Whitty, Fitzroy.—Knife polish. 106
- 13** Hattersley, J., Yackandandah.—Aerated waters. 107
- 14** Lyon, George, Spring Creek, Beechworth.—Lemonade, soda water, and ginger ale. 107
- 15** Rowlands & Lewis, Ballarat.—Tonic potass, soda, lithia, and seltzer waters, and ginger ale. 107

Metallurgical Products.

- 16** Bright Bros. & Co., Melbourne.—Star antimony in ingots. 113
- 17** Costerfield Gold & Antimony Mining Co., Melbourne.—Antimony. 113
- 18** Hodgson, Richard, Collingwood.—Star antimony, pig lead, block tin. 113
- 19** Croaker, Scott, & Co., Melbourne.—Star antimony. 113

Mining Engineering.

- 20** Smyth, R. Brough, Department of Mines, Melbourne.—Geological maps, reports, etc. 121

For classes of exhib'ls, indicated by numbers at end of entries, see Classification, pp. 27-45.

BAHAMAS.

(South of Nave, Columns 15 to 17.)

Minerals, Ores, Stone, Mining Products.

Minerals, Ores, Stone, Mining Products

- 1 Dupuch, Joseph.—Building stone.
- 2 George, Jno. S.—Building stone.

109
102

BERMUDAS.

(North of Nave, Columns 15 to 17.)

Minerals, Ores, Stone, Mining Products.

Minerals, Ores, Stone, Mining Products.

- 1 Bermuda, Government of.—Top of a pillar of stalagmite, and a small stalactite from a submerged cave.
- 2 Ness, Ph.—Building stones.

100
102

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

QUEENSLAND.

(North of North Avenue, Columns 10 to 15.)

Mineral and Metallurgical Products, Mining Engineering.

Minerals, Ores, Stone, Mining Products.

- 1 Aplin, D.—Trophy of tin ores. 100
- 2 Brisbane Tin Mining Co.—Tin ores, wash dirt, etc. 100
- 3 Cloncurry Mine, Proprietors of.—Manganese. 100
- 4 Daintree, Richard.—Collection of rocks, soils, and fossils illustrative of the colony. 100
- 5 Foote, Alfred.—Iron ores from West Moreton. 100
- 6 Gregory, A. C.—Antimony ores. 100
- 7 Henry, Captain.—Nugget of native copper. 100
- 8 Hume, W. C.—Collection of tin ores. 100
- 9 Mount Marley Tin Mining Co.—Collection of tin ores. 100
- 10 Perry, Matthew.—Copper pyrites. 100
- 11 Staiger, C.—Antimony ores. 100
- 12 Tyrrell, J. de F.—Tin ores. 100
- 13 Wilkinson Mine, Proprietors of.—Cinnabar. 100
- 14 Government of Queensland.
 - a Copper ores, fossils, etc., from Ipswich; quartz and gold bearing stone from Gympie, Rockhampton, Ravenswood, Cawarrol, Palmer, Cloncurry, etc. 100
 - b Coal from Ipswich. 101
 - c Building stone. 102
 - d Plumbago. 105
- 5 Aberdare Mine, Proprietors of.—Coal. 101
- 16 Alexander, W. R.—Coal. 101
- 17 Allora Mine, Proprietors of.—Coal. 101
- 18 Bingera Mine, Proprietors of.—Coal. 101

- 19 Blackfellows' Creek Mine, Proprietors of.—Coal. 101
- 20 Bland & Wright, Perseverance Mine.—Coal. 101
- 21 Flagstone Creek, Proprietors of.—Coal. 101
- 22 Gulland & Co., Ipswich.—Coal and coke. 101
- 23 Rosewood Mine, Proprietors of.—Coal. 101
- 24 Tivoli Mine, Proprietors of.—Coal and coke. 101
- 25 Peak Downs Copper Mining Co.—Slab of polished malachite. 102

Metallurgical Products.

- 26 Government of Queensland.
 - a Gold, in nuggets, from Gympie, Rockhampton, Ravenswood, Cawarrol, Palmer, Cloncurry, etc. 110
 - b Tin in ingots. 113
- 27 Government of Queensland.—Refined copper. 112
- 28 Mount Perry Copper Mining Co.—Ingots of copper. 112
- 29 Peak Downs Copper Mining Co.—Trophy of copper ingots. 112
- 30 Bulimba Tin Smelting Co.—Refined tin, in ingots.
- 31 Mount Marley Tin Co.—Refined tin, in ingots. 113
- 32 Queensland Smelting & Assaying Co.—Trophy of tin ingots. 113

Mining Engineering.

- 33 Clifton Mine, Proprietors of.—Fossils, kaolin, etc., showing strata of mine. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TASMANIA.

(South of North Avenue, Columns 13 to 15.)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products

- | | | |
|----|---|-----|
| 1 | British & Tasmanian Charcoal Iron Co.—Iron ores. | 100 |
| 2 | Hammond, W., Hobart Town.—Bismuth, from Mount Ramsey. | 100 |
| 3 | Harrap, A., Launceston.—Petritied wood. | 100 |
| 4 | Hull, Henry J., Hobart Town.—Tin ore, from George's Bay. | 100 |
| 5 | Innes, J. H., Hobart Town.—Tin ore, from Rongarooma. | 100 |
| 6 | Just, T. C., Launceston.—Iron ores and asbestos. | 100 |
| 6a | Royal Society of Tasmania.—Topazes and beryls from Bass's Straits Island. | 100 |
| 7 | Smart, Dr., Hobart Town.—Gold, in quartz. | 100 |
| 8 | Smith, James, Launceston.—Bismuth, from Mount Ramsey. | 100 |
| 9 | Stanhope Company.—Tin ore. | 100 |
| 10 | Harcourt, James, Hobart Town. | |
| | a Iron ores. | 100 |
| | b Coal from Seymour. | 101 |

- | | | |
|----|--|-----|
| 11 | Hematite Iron Works, West Tamar. | |
| | a Iron ores. | 100 |
| | b Blue and white marble limestone. | 103 |
| 12 | Lyell & Gowan, Melbourne. | |
| | a Tin ore from Mount Bischoff. | 100 |
| | b Coal from river Don. | 101 |
| | c Slate from Piper's river. | 102 |
| | d Marble limestone from river Don. | 103 |
| 13 | Groom, F., Harefield.—Coal. | 101 |
| 14 | Hurst, J., Hobart Town.—Coal from Tasman's Peninsular. | 101 |
| 15 | Kermode, W. A., Mona Vale.—Gray and brown freestone. | 102 |
| 16 | Rayoor, E., Bridgewater.—Limestone, with fossils. | 102 |
| 17 | Coverdale, John, Port Arthur.—Pipe clay. | 104 |

Metallurgical Products.

- | | | |
|----|--|-----|
| 18 | Harcourt, James, Hobart Town.—Pig iron and castings. | 111 |
| 19 | Hematite Iron Works, West Tamar.—Pig iron and castings. | 111 |
| 20 | Mount Bischoff Tin Mining Co., Mount Bischoff.—Tin, in ingots. | 113 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

INDIA.

(North of Nave, Columns 22 to 25.)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Collections selected from the India MUSEUM BY J. FORBES WATSON, M.A., M.D., LL.D., DIRECTOR OF THE INDIA MUSEUM, ETC.

Minerals, Ores, Stone, Mining Products.

- a* Iron ores and magnetic iron sand from the Madras Presidency; iron ores from the Bombay Presidency; iron ores and magnetic iron sand from the Bengal Presidency; chrome iron ores from Salem and South Arcot; manganese ores from the Madras Presidency; copper ores from Nellore, Singbhum, and Deoghur; copper pyrites from the hills of Beloochistan; malachite from Central India; lead ore from Deoghur; galena from the Malanna and Parbutti mines, and from Catloor, Karnul, Chota Nagpur, Duttiah, Hazaribagh, and Beloochistan; (stibnite antimony ore) from Shigri, Busoh, Borneo, and Sarawak; tin stone from Junk Ceylon, Malacca, Kuhun, Mergui, Tenasserim, Larut, and Johore; gold sand from Purulia, Toradanally, Dandput, Rangoon, and Ramagherry; arsenical ores from Pegu, Burmah, Tenasserim, Bengal, and Madras; sulphur from Rangoon and Shoruns. 100
- b* Coal from Nerbudda Coal and Iron Co., Gurrwarra, Oormoo, Chigo, and Malacca; lignite from Darjiling; petroleum and naphtha from Burmah. 101
- c* Limestone from South Arcot, Nellore, Tripattur, Masulipatam, and Beronda; calcite from Ranigunj; calc spar from

- Kabul; selenite from Ava; white mica from Salem; black mica from Behar; agalmatolite from Chota Nagpur; zeolites from Deccan; lime from Bownee, Salem, Bellary, and Soonporah. 103
- d* Clays, for pottery, from South Arcot, Madura, North Arcot, Sadigeri, Bangalore, and Vizianagram; powdered mica from Lahore; quartz, yellow and red ochre, fire and china clays from Madras; ball clay from Mangalore and Raepore; raw, fine white, and prepared clay, powdered marble, red lead and red ochre from Pattan; litharge from Calcutta; white lead from Punjab; white earth from Beronda; geroo from Raepore; pink and yellow earth from Paldeo; white earth from Punnah; yellow earth from Alipore; pipe clay from Singapore; red clay from Duttiah; white earth from Kotee; fullers' earth from Sind. 104
- e* Graphite from Caviatten Coodul, Trevandrum, Almorah, and Ceylon. 105
- f* Corundum from Madras, Salem, and Mysore; agates and carnelians from Cambay; gem sand from Ceylon; ruby sand from Travancore; rough garnets from Mysore and Vizianagram; calderite from Nepal; tourmaline from Nellore; epidote granite from Madras. 107
- g* Fibrous gypsum from Karnul; reh from Buttiana. 107

Metallurgical Products.

- h* Crude iron from Assam; Wootz steel; native iron; native iron with slag. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

CANADA.

(North of Nave, Columns 16 to 23.)

Minerals, Ores, Stone, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products.	
1 Gatling Gold Mining Co., Marmora, Ont.—Gold-bearing arsenical pyrites.	100
2 Russell, W. W., Ottawa, Ont.—Gold in quartz.	100
3 Lindsay, J. A., Toronto, Ont.—Gold, silver, and magnetic ores.	100
4 Jackfish Lake Gold Mining Co., Toronto, Ont.—Gold and silver, in quartz.	100
5 McKellar Bros., Prince Arthur's Landing, Ont.—Gold, in quartz.	100
6 McKellar, D., Prince Arthur's Landing, Ont.—Gold, in quartz.	100
7 Toronto Gold Mining Co., Toronto, Ont.—Gold-bearing arsenical pyrites.	100
8 Lockwood, W. P., St. Francois, Q.—Model of gold nugget.	100
9 Geological Survey, Canada, Q.	
<i>a</i> Quartz, magnetic sand, and alluvial gold, models of gold nuggets, platinum, copper pyrites, native copper, magnetite, magnetic iron sand, hematite, iron ores, iron pyrites, native iron, antimony ore, galena, blende, barytes, mica, magnesite, kermesite, celestine, albite, orthoclase, asbestos, amethyst, agates, and Canadian rocks.	100
<i>b</i> Coal from Saskatchewan river, bituminous shale, crude and inspissated petroleum.	101
<i>c</i> Sandstones, marbles, marble column, dolomite, limestone, syenite, granite, gneiss, labradorite, jasper conglomerate, ornamental and polished slate, cut and polished stones.	102
<i>d</i> Hydraulic cement, gypsum.	103
<i>e</i> Clay, fire clay, clay for moulding, river and moulding sand, soapstone.	104
<i>f</i> Graphite.	105
<i>g</i> Lithographic stones, grindstones, whetstones, burr stones, granite for millstones.	106
<i>h</i> Brine, mineral water, phosphato of lime, shell marl.	107
10 Oppenheimer Bros., Victoria, Br. Col.—Gold nugget.	100
11 Robertson, Robt., Halifax, N. S.—Representation of the gold fields of Nova Scotia.	100
11 <i>a</i> Morton, George, Frontenac Lead Mine.—Pig lead.	100
12 Donaldson, T. B., Oldham, N. S.—Gold in quartz.	100
13 Sibley, A. H., Silver Islet, Ont.—Silver ores and native silver.	100
13 <i>a</i> Moody & Nelson, Victoria, B. R.—Native copper.	100
14 McKellar Bros., Fort William, Ont.—Silver ores, native silver, copper pyrites, and barytes.	100
15 Marks, T., & McKellar Bros., Fort William, Ont.—Silver ores.	100
16 Dawson, S. J., Ottawa, Ont.—Silver ores.	100
16 <i>a</i> Simpson, John, Upham, N. B.—Manganese.	100
17 Cyrette, Ambrose, Fort William, Ont.—Silver ores.	100
18 Van Norman, Judge, Prince Arthur's Landing, Ont.—Native silver and silver ores.	100
19 Plumber, McIntyre, & Russ, Fort William, Ont.—Silver ores.	100
19 <i>a</i> Jones, T. R., & Co., St. John, N. B.—Copper ore.	100
20 Eames, Prof., Pie Island, Ont.—Silver veinstone.	100
21 Stephen, George, Montreal, Q.—Silver ores.	100
22 Eureka Mining Co., Victoria, Br. Col.—Silver ores.	100
23 Mechanics' Institute, North Westminster, Br. Col.	
<i>a</i> Platinum.	100
<i>b</i> Anthracite.	101
24 West Canada Mining Co., Wellington, Ont.—Copper pyrites, copper ore.	100
25 Hime, H. L., Toronto, Ont.—Copper pyrites.	100
26 Plumber, B., Bruce Mine, Ont.—Copper pyrites.	100
27 Oliver, Geo., Perth, Ont.—Copper pyrites, bog iron ore.	100
28 Ontario Advisory Board, Toronto, Ont.	
<i>a</i> Copper pyrites, magnetic hematite, galena.	100
<i>b</i> Serpentine, syenite.	102
<i>c</i> Graphite.	105
<i>d</i> Emery.	106
<i>e</i> Phosphate of lime, shell marl.	107
29 Shaw, P., Harvey Hill, Q.—Copper pyrites.	100
30 Stewart, W. W., Montreal Q.—Native copper.	100
31 Douglas, Dr., Quebec, Q.—Copper ore.	100
32 Davidson, Wm., Alma, N. B.—Copper glance.	100
33 Russell, Grand Manan, N. B.—Copper glance.	100
34 Cole, Rufus, Dorchester, N. B.—Copper glance.	100
35 Sweet, R. J., Halifax, N. S.—Copper glance.	104
36 Lloyd, H. C., Madoc, Ont.—Magnetite, hematite.	100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Mining and Metallurgy.

- 37 Ledyard, T. D., Toronto, Ont.—Magnetite. 100
- 38 Haycock, Will., Templeton, Q.—Magnetite. 100
- 39 Cobourg & Petersboro' Iron Co., Belmont, Ont.—Magnetite. 100
- 40 Bishop, A., Bell's Corners, Ont.—Magnetite. 100
- 41 Foley, James, Bathurst, Ont.—Magnetite with apatite. 100
- 42 Baldwin, A. H., Hull, Q.—Magnetite. 100
- 43 Chipman, David, Berwick, N. S.—Magnetite. 100
- 44 Lewis, Queen Charlotte's Island, Br. Col.—Magnetite. 100
- 45 Cowan, A., Brockville, Ont.
 α Hematite, burnt iron pyrites. 100
 β Phosphate and superphosphate of lime. 107
- 46 Crawford, J. D., & Co., Montreal, Q.—Hematite, spathic iron ore. 100
- 47 Ganthier, O., St. Urbain, Q.—Titanic iron ore. 100
- 48 Matheson & Gilice, Sydney, N. S.—Hematite. 100
- 52 Ottawa Iron & Steel Co., Ottawa, Ont.—Iron ore. 100
- 53 Stobie, James, Sault St. Marie, Ont.—Iron ore. 100
- 54 Duval, H. H., Quebec, Q.—Titanic iron ore. 100
- 55 McDougall, John, Three Rivers, Q.—Bog iron ore. 100
- 56 Steel Co. of Canada, Londonderry, N. S.—Iron ores. 100
- 57 MacKinnon, J. C., Whycomagh, N. S.—Iron ores. 100
- 58 Duhamel, Dr., Quebec, Q.—Iron pyrites. 100
- 59 Russell, Willis, Lotbiniere, Q.—Antimony ore. 100
- 60 Hibbard, F., Prince William, N. B.—Antimony ore. 100
- 61 Hime, L. H., Toronto, Ont.—Galena and copper pyrites, with silver and gold. 100
- 62 Sibley, Col., & McIntyre, J., Silver Islet, Ont.—Galena. 100
- 63 Johnson, C. J., Wallaceburg, Ont.—Galena, blende. 100
- 64 Devine, Thos., Toronto, Ont.—Galena. 100
- 65 Wearne, Capt., Toronto, Ont.—Galena, blende. 100
- 66 Markham, A., Hammond, N. B.—Pyrolusite. 100
- 67 Brown, J., N. S.—Pyrolusite. 100
- 68 Galway Lead Mining Co., Galway, Ont.—Barytes, calcspar. 100
- 69 Dolphin Manufacturing Co., Five Islands, N. S.—Barytes. 100
- 70 Starr, John, Halifax, N. S.—Barytes. 100
- 71 Baker Mine, North Burgess, Ont.—Mica in plates. 100
- 72 Ackerly, James, Five Islands, N. S.—Dogtooth spar. 100
- 73 Dopp, Geo., Berlin, Ont.—Amethyst, fluorspar, and pyrites. 100
- 74 McVicar, Geo., Toronto, Ont.—Amethyst. 100
- 75 Blackwood, R., Toronto, Ont.—Amethyst, fluorspar, and pyrites. 100
- 76 Morrison, W. A., Toronto, Ont.—Collection of Canadian precious stones. 100
- 77 Poole, H. S., Halifax, N. S.—Ores and associated rocks. 100
- 78 Honeyman, Dr., Halifax, N. S.—Collection of Nova Scotia rocks. 100
- 80 Bailey, G., Grand Lake, N. B.—Coal. 101
- 81 Hall, William, Springhill, N. S.—Coal. 101
- 82 Mitchell, Henry L., Glace Bay Mines, N. S.—Coal. 101
- 83 McQueen, Wm., Blockhouse Mines, N. S.—Coal. 101
- 84 Brown, R. H., Sydney Mines, N. S.—Coal. 101
- 85 McDonald, R. A., International Mines, N. S.—Coal. 101
- 86 McKeen, David, Caledonia Mines, N. S.—Coal. 101
- 87 Archibald, T. D., Gowrie Mines, N. S.—Coal. 101
- 88 Sutherland, James, Big Glace Bay, N. S.—Coal. 101
- 89 Fraser, J. W., Victoria Mines, N. S.—Coal. 101
- 90 Routledge, William, Gardiner Mines, N. S.—Coal. 101
- 91 Campbell, C. J., North Campbellton, N. S.—Coal. 101
- 92 Hoyt, Jesse, Acadia Mines, N. S.—Coal. 101
- 93 Hudson, James, Albion Mines, N. S.—Coal. 101
- 94 Simpson, Robert, Intercolonial Mines, N. S.—Coal. 101
- 95 Greener, John, Vale Colliery, N. S.—Coal. 101
- 96 Bennett, Wm., Scotia Mines, N. S.—Coal. 101
- 97 Sterling, E., Cape Breton, Big Glace Bay, Sydney, and L. Mines, N. S.—Coal. 101
- 98 Union Mining Co., Union Mines, Comox, Br. Col.—Coal. 101
- 99 Baynes Sound Mining Co., Baynes Sound Mines, Br. Col.—Coal. 101
- 100 Vancouver Mining Co., Vancouver Mines, Br. Col.—Coal. 101
- 101 Wellington Mining Co., Wellington Mines, Br. Col.—Coal. 101
- 102 Ketchum, E. K., Albert Mines, N. B.—Albertite and bituminous shale. 101
- 103 Byers, J., Albert Mines, N. B.—Albertite. 101
- 104 Smith, Wm., Toronto, Ont.—Peat. 101
- 106 Griffin, R. A., Huntingdon, Q.—Peat. 101
- 107 Belliveau Albertite & Oil Co., Westmoreland, N. B.—Albertite mineral oil. 101
- 108 Waterman Bros., London, Ont.—Petroleum and products. 101
- 109 Gibson, Robert L., Grimsby, Ont.—Building sandstones. 102

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Mineral Water, Metallurgical Products.

- 110 Farquhar & Booth, Esquesing, Ont.—Building sandstones and flagging. 102
- 111 Skead, Gloucester, Ont.—Building sandstones. 102
- 112 Londley, Beckwith, Ont.—Building sandstones. 102
- 113 Rankin, John, Pembroke, Ont.—Building sandstones. 102
- 114 Bishop, Henry, Nepean, Ont.—Building sandstones. 102
- 115 Decew, William, Oneida, Ont.—Building sandstones. 102
- 116 McGregor, Lachute, Q.—Building sandstones and limestones. 102
- 117 Goodfellow, Joseph, North Esk, N. B.
a Building sandstones. 102
b Grindstones. 106
- 118 Dor. U. Free Stone Co., Budreau, Vil., N. B.—Building sandstones. 102
- 119 Caledonia Free Stone Co., Rockland, N. B.—Building sandstones. 102
- 120 Roberts & Co., Mary's Point, N. B.—Building sandstones. 102
- 121 Bayview Quarry Co., Albert City, N. B.—Building sandstones. 102
- 122 Hopewell Quarry Co., Shepody Mt., N. B.—Building sandstones. 102
- 123 McQuarrie, John, George River, N. S.—Building sandstones. 102
- 124 Gilpin, Edwin, Springville, N. S.
a Building sandstones. 102
b Limestone. 103
c Fire brick and fire clay. 104
- 125 Heustis, R. B., Wallace, N. S.—Building sandstones. 102
- 126 McDonald, George J., Cornwallis, N. S.—Building sandstones. 102
- 127 Peters, Henry S., Halifax, N. S.—Building sandstones. 102
- 128 Vancouver Coal Co., Vancouver Island, Br. Col.—Building sandstones, marble, limestone. 102
- 129 Howley, James, Montreal, Q.
a Building and flagging sandstones. 102
b Sandstone for glass-making. 104
- 130 Pitton & Co., Quebec, Q.—Sandstone, flagging, curbstones. 102
- 131 Worthington & Co., Montreal, Q.
a Polished marble. 102
b Limestone. 103
- 132 Somerville, P. T., Arnprior, Ont.—Marble monument. 102
- 133 Halon, Alphonse, Quebec, Q.—Marble. 102
- 134 Benjamin, H., & Co., Montreal, Q.
a Marble. 102
b Lime. 103
- 135 Brunet, Joseph, Montreal, Q.—Marble monument. 102
- 136 Langevin, A. B., Quebec, Q.—Marble. 102
- 137 Silver, John, Halifax, N. S.—Marble. 102
- 138 McQuarrie, John, George River, N. S.—Marble and syenite. 102
- 139 Ingram, Wm., St. George, N. B.—Red granite clock case. 102
- 140 Baxter, B., Cayuga, Ont.
a Dolomite. 102
b Lime and limestone, hydraulic cement. 103
- 141 Barclay & Morrison, Stony Mount
Manitoba.
a Dolomite. 102
b Clay. 104
- 142 Hayslip, John, Goderich, Ont.—Limestone. 102
- 143 Young, Y. & G., Gloucester, Ont.—Limestone. 102
- 144 Levallée, N., Carleton Place, Ont.—Limestone. 102
- 145 Kirkpatrick Quarry, Parrsboro', Q.—Limestone. 102
- 146 Forsyth, Robert, Montreal, Q.—Red granite monument. 102
- 147 Bay of Fundy Red Granite Co., St. George, N. B.—Red polished granite. 102
- 148 Danville School Slate Co., Danville, Q.—Ornamental slate panel, slates in blocks. 102
- 149 Danville Slate Co., Danville, Q.—School slates. 102
- 150 Rockland Slate Quarry, Melbourne, Q.—Slates. 102
- 151 DeCew, William, Cayuga, Ont.
a Lime and limestone. 103
b Sandstone for glass-making and furnace lining. 104
- 152 Whitson & Slater, St. Marys, Ont.—Lime and limestone. 103
- 153 Dunbar, George, Rockwood, Ont.—Lime and limestone. 103
- 154 Lewis, Levi, Kincardine, Ont.—Lime and limestone. 103
- 155 Buxton, George, Goderich, Ont.—Lime and limestone. 103
- 156 Emsley, R., Guelph, Ont.—Lime and limestone. 103
- 157 Ballantyne, Mrs., Galt, Ont.—Lime and limestone. 103
- 158 Farquhar, E. & C., Dundas, Ont.—Lime and limestone. 103
- 159 Goudie, Thomas, Limehouse, Ont.—Lime and limestone. 103
- 160 Lavallée, N., Carleton Place, Ont.—Lime and limestone. 103
- 161 Baker, W., Arnprior, Ont.—Lime and limestone. 103
- 162 Quebec Advisory Board, Quebec, Q.
a Lime and limestone. 103
b Porcelain clay. 104
c Phosphate of lime, chalk. 107
- 163 Garvies, C. A., Montreal, Q.—Lime and limestone. 103
- 164 Robitaille, Dr., Quebec, Q.
a Limestone. 103
b Marl. 107
- 165 Quesnal, Sheriff, Arthabaska, Q.—Lime and hydraulic cement. 103
- 166 Douglas, David, Pugwash, N. S.—Lime. 103
- 167 Goudie, Thomas, Limehouse, Ont.—Hydraulic cement. 103
- 168 McKay, Wm., Ottawa, Ont.—Hydraulic cement and artificial stone. 103
- 169 Buchanan Mineral Co., Hamilton, Ont.—Cement and mastics. 103
- 170 Gauvreau, P., & Co., Quebec, Q.—Cements and plasters, artificial stone. 103
- 171 Hill, Albert J., Sydney, N. S.—Selenite. 103

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Stone.

- 172 Gregory, V. R., & Co., Toronto, Ont.—Artificial stone monument. 103
- 173 Wandly, Henry, Clover Hill, Toronto, Ont.—Artificial stone. 103
- 174 Milner & Herd, Strathroy, Ont.—Artificial stone window cap. 103
- 175 Joslyn, J. H. L., Box 153, Tilsonburg, Ont.—Marble roofing, a seamless sheet of artificial stone, not excessively heavy, but wonderfully efficient; not resting on the roof boards, but accommodated to them by an intervening plastic waterproof composition. 103
- 176 Riggins, George, Kincardine, Ont.—Clay for bricks. 104
- 177 Russell, Samuel, London, Ont.—Clay for bricks. 104
- 178 Munn & Cochner, Dundas, Ont.—Clay for bricks. 104
- 179 Leslie, Robert, Glenwilliam, Ont.—Clay for bricks. 104
- 180 Townshend, Mrs. Mary, Rockville, Ont.—Clay for bricks. 104
- 181 Anderson, Thos., Nepean Ont.—Clay for bricks. 104
- 182 Cashmore, Thos., Pembroke, Ont.—Clay for bricks. 104
- 183 McGregor, Daniel, Pembroke, Ont.—Clay for bricks. 104
- 184 Baker, William, Arnprior, Ont.—Clay for bricks. 104
- 185 Foshick, Eneas, Ramsay, Ont.—Clay for bricks. 104
- 186 Moore, Gilbert, Ramsay, Ont.—Clay. 104
- 187 Coulter, James, Ramsay, Ont.—Clay. 104
- 188 Metcalfe, James, Ramsay, Ont.—Clay. 104
- 189 Foster, W. A., Belleville, Ont.—Clay. 104
- 190 Workman, Hugh, Brantford, Ont.—Clay. 104
- 191 Peel, Thos. W., Montreal, Q.—Clay. 104
- 192 Mochan, Albert, St. Johns, Q.—Clay. 104
- 193 Jackson, Charles, Woodstock, N. B.—Clay. 104
- 194 Wells, William, Beamsville, Ont.—Pottery clay. 104
- 195 Ahren, J. H., Paris, Ont.—Pottery clay. 104
- 196 Pratt, Charles, London, Ont.—Pottery clay. 104
- 197 Farrar, G. H. & L. E., St. Johns, Q.—Pottery clay. 104
- 198 Bell, David, St. Johns, Q.—Clay drain tile. 104
- 199 Copeland & McLaren, Montreal, Q.—Fire clay, sandstone facing for furnaces. 104
- 200 McMann, G. N., Grand Lake, N. B.—Fire clay. 104
- 201 Bannerman, Robert, Montreal, Q.—Pipe clay. 104
- 202 St. Johns Stone Chinaware Co., St. Johns, Q.—Fire brick. 104
- 203 Bishop, H., Nepean, Ont.—Sandstone for glass-making. 104
- 204 McDougall, John, & Sons, Three Rivers, Q.—Sandstone for furnace lining. 104
- 205 Oil Cloth Factory, Yorkville, Ont.—Sand. 104
- 206 Jackson, Charles, Woodstock, N. B.—Brick sand. 104
- 207 Sweet, S. H., Wentworth, N. S. a Kaolin. 104
b Gypsum. 107
- 208 McDonald, George J., Cornwallis, N. S.—Refractory stone. 104
- 209 Law, John, London, Ont.—Black lead crucible. 105
- 210 Dominion of Canada Plumbago Co., office, Ottawa, Ont.; mines and works, Buckingham, Province of Quebec.—Manufacturers of electrotyping, lubricating, pencil, crucible, stove polish, and other stock of every grade. Assays and tests prove quality. Prices are ordinary current market rates. 105
- 211 Millet, John G., Grenville, Q.—Graphite. 105
- 212 Montreal Plumbago Mining Co., Montreal, Q.—Stove polish. 105
- 213 Martin, Charles, Montreal, Q.—Stove polish. 105
- 214 Kelly, John, Belleville, Ont.—Lithographic stones. 106
- 215 Ontario Lithographic Stone Co., Marmora, Ont.—Lithographic stone. 106
- 216 Read, Stevenson, & Co., Dorchester, N. B.—Grindstone polishing and cutters' stone. 106
- 217 Seaman & Co., Lower Cove, N. S.—Grindstones. 106
- 218 Douglass, David, Port Philip, N. S.—Grindstones. 106
- 219 Leroux, G., Quebec, Q.—Millstones. 106
- 220 Casgrain, Stoneham, Q.—Tri-poli. 106
- 221 Fisher, W., Victoria, Br. Col.—Tri-poli. 106
- 222 Coleman, William, Paris, Ont.—Raw and prepared gypsum. 107
- 223 Ontario Plaster Co., Mt. Healy, Ont.—Raw and prepared gypsum. 107
- 224 Converse, John A., Montreal, Q.—Raw and prepared gypsum. 107
- 225 Brown, A., Petitediac, N. B.—Gypsum and selenite. 107
- 226 Tobique Gypsum Co., Tobique, N. B.—Gypsum. 107
- 227 Albert Manufacturing Co., Hillsboro, N. B.—Calcined and anhydrous gypsum; alabaster. 107
- 228 McDonald, R. N., International Museum, N. S.—Gypsum. 107
- 229 Nova Scotia Advisory Board, Halifax, N. S.—Gypsum. 107
- 230 Davidson, H. A., Black River, N. S.—Gypsum. 107
- 231 Cove, Jas. A., Claremont Hill, N. S.—Gypsum. 107
- 232 Fulton, C. A., Wallace, N. S.—Gypsum. 107

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Metallurgical Products.

232 ^a Meighen Bros., Perth, Ont.— Phosphate of lime. 107	Metallurgical Products.
233 McLennan, Jos., Montague, N. S. —Gypsum. 107	245 Silver Islet Co., Silver Islet, Ont.— Ingot of silver. 110
234 Merchants' Salt Co., Seaforth, Ont. —Brine. 107	246 Ottawa Iron & Steel Manufactur ing Co., Ottawa, Ont.—Iron billets. 111
235 International Works, Goderich, Ont.—Brine. 107	247 Field & Aydon Patent Smelting Co., Marmora, Ont.—Pig iron, smelted with pure petroleum. 111
236 Ransford, H., Clinton, Ont.— Brine. 107	248 Gauthier, O., St. Urbain, Q.—Ti- tanic pig iron. 111
237 Tecumseh Works, Goderich, Ont. —Brine. 107	249 McDougall, John, & Sons, Three Rivers, Q.—Charcoal iron; iron bars, bent and twisted cold; axes, tomahawk, slag. 111
238 Gray, Young, & Spalding, Seaforth, Ont.—Brine. 107	250 Canadian Titanic Co., Baie St. Paul, Q.—Slags, titanic iron. 111
239 Jourvie, J. A., & Co., Caledonia Springs, Ont.—Saline, gas, and sulphur waters. 107	251 Chinc Eugene, Quebec, Q.—Viger steel. 111
240 Winning, Hill, & Ware, Montreal, Q.—Carratraca water. 107	252 Moisis Iron Works, Montreal, Q.— Iron, iron bloom. 111
241 Gee, J. N., St. Francis Spring, Q.— Mineral water. 107	253 McDougall, John, Montreal, Q.— Iron bloom, car-wheels. 111
242 Hickman, James S., Amherst, N. S.—Saline water. 107	254 Steel Co. of Canada, Londonderry, N. S.—Iron and steel. 111
243 Murray, Edmund W., Bucking- ham, Q.—Phosphate of lime. 107	255 West Canada Mining Co., Bruce Mines, Ont.—Ingot copper. 112
244 Buckingham Mining Co., Bucking- ham, Q.—Crystal phosphate of lime. 107	256 Lake George Antimony Co., Prince William, N. B.—Rabbit metals, regulus, slags, oxidized ore. 113

FRANCE.

(*The French Exhibits in Mining and Metallurgy are installed in the Agricultural Building, and Catalogued in Part IV.*)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GERMANY.

(South of Nave, Columns 28 to 38.)

Minerals, Ores, Mining and Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Krupp, Fr., Essen.—Ores and raw products. 100
 2 Burbach Works, Burbach.
 a Iron. 100
 b Coal. 101
 c Stone. 102
 3 Heinrichshütte, Au-on-the-Sieg.—Spathic iron ore. 100
 4 Mine Owners of the Siegerland.—Ores, etc. 100

(The above exhibits are installed in Machinery Hall.)

COLLECTIVE EXHIBIT OF PRODUCTIONS OF LEAD MINES AND FURNACES, ACCOMPANIED BY DRAWINGS.

- 5 Royal Prussian Smelting Works of the Upper Harz, Clausthal.—Lead, copper, and zinc ores. 100
 6 Royal Prussian & Ducal Brunswick Smelting Works of the Lower Harz, Gaslar.—Argentiferous copper and lead ores. 100
 6a Royal Prussian Smelting Works, Friedrichshütte.—Ores and litharge. 100
 7 Joint Stock Association for Mining, & Lead & Zinc Manufactures, Stolberg, near Aix-la-Chapelle.—Lead and zinc ores. 100
 8 Rhenish-Nassau Co., Stolberg, near Aix-la-Chapelle.—Lead ores. 100

- 9 Solenhofen Joint Stock Co., Solenhofen.
 a Tiles for malt-house floors. 102
 b Lithographic stones. 106
 10 Zimmermann, Otto, Greussen, Tophus.—Files. 102
 11 Stern Portland Cement Factory, Stettin.—Portland cement. 103
 12 Hiller, Otto, Berlin.—Mastic roofing and model roof. 103
 13 Häeusler, Carl Sam., Hirschberg, Silesia.—Wood cement and model roof. 103
 14 Scharlach, Louis, jr., Hamburg.—Roofing. 103
 15 Vowohl Asphalt Works, Eschershausen.—Asphalt mastic blocks. 103
 16 Schindel, John Adam, Solenhofen.—Lithographic stones. 106
 17 Apollinaré's Co., Ahnweiler.—Mineral waters. 107
 17a Bisresborn Mineral Spring Co., Bisresborn.—Mineral waters. 107
 18 Jungfer, A., Berlin.—Amber. 107
 19 Stantien & Becker, Berlin.—Raw amber. 107

- 20 Managers of Friedrichshall Springs, C. Oppel & Co., Friedrichshall, near Hilburghausen.—Friedrichshall natural bitter water. 107
 (For mill and grindstones, see Machinery Hall.)

Metallurgical Products.

- 21 Borsig, A., Berlin.—Iron, cast steel, boiler plates, plates for fire boxes, etc. 111
 22 Burbach Works, Burbach.—Rolled double T iron. 111
 23 Krupp, Fr., Essen.—Wheels, pistons, flanges, rollers, springs, etc. 111

COLLECTIVE EXHIBIT, SIEGERLAND.—SPIEGELEISEN AND ORES.

- 24 Heinrichshütte, Au-on-Sieg.—Spiegel iron. 111
 25 Cologne Müsen Mining Co., Creuzthal.—Spiegel iron. 111
 26 Joint Stock Co., Charlottenhütte, Niederschelden.—Spiegel iron. 111
 27 Wissen Mining & Smelting Co., Wissen.—Spiegel iron. 111
 28 Lohmann & Söding, Witten.—Steel for tools and arms. 111
 29 Westphalian Union Joint Stock Co. for Mining & for Iron & Wirework, Hamm.—Wire. 111

(The above exhibits of Metallurgical Products are installed in Machinery Hall.)

- 30 Royal Prussian Smelting Works of the Upper Harz, Clausthal.—Lead, copper, silver, zinc fumes, slags, drawings, etc. 111
 31 Royal Prussian & Ducal Brunswick Smelting Works of the Lower Harz, Gaslar.—Gold, silver, lead, and copper composition. 111
 32 Royal Prussian Smelting Works, Friedrichshütte.—Lead bars, slag, and drawings. 111
 33 Hirsch, Aron, & Son, Brass Works at Neustadt-Eberswalde.—Seamless brass tubes, etc. 112
 34 Joint Stock Association for Mining, & Lead & Zinc Manufactures, Stolberg, near Aix-la-Chapelle.—Lead and zinc plates, etc. 111
 35 Ruffer & Co., Breslau.—Sheet zinc. 113
 35a Rhenish-Nassau Co., Stolberg, near Aix-la-Chapelle.—Lead. 111

Mining Engineering.

- 36 Nörr, Eugene, Berlin.—Drawings and description of a self-acting safety lamp. 120
 37 Gödecke, Carl, Gelsenkirchen.—Plans of the Gelsenkirchen furnaces. 127

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

AUSTRIA.

(South of Nave, Columns 23 to 28.)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

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| <p>1 Imperial & Royal Metallurgy Direction, Idria.—Cinnabar. 100</p> <p>2 Jugoviz, A., Klagenfurt.—Ore and mining products of Karnten. 100</p> <p>3 Chief Mountain & Mining Administration, Pozoritta, Bukowina.—Pyrolusite for aniline pigments for soda factories, German silver ware, and manganese products. 100</p> <p>4 Metallurgy & Mining Administration, Joachimsthal.—Meteoric specimens. 100</p> <p>5 Goldschmidt, Louis A., Dubnik, Hungary.—Unpolished opals. 100</p> <p>6 Nedwied & Son, Schlan, Bohemia.—Red chalk, red-lead pencils. 107</p> | <p>7 Saxlehner, Andreas, Budapest.—Hunyadi János mineral water. 107</p> <p>8 Mineral Water Direction, Pullna, near Brüx, Bohemia.—Mineral water. 107</p> <p>9 Loser Bros., Budapest.—Genuine mineral water from the Ofen-Rakoczy spring. 107</p> |
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Metallurgical Products.

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| <p>10 Industry Association in Krain, Laibach.—Iron and steel mountain and mining works. Ferro-manganese and spiegel iron. 112</p> <p>11 Imperial & Royal Metallurgy Direction, Idria.—Quicksilver. 113</p> |
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SWITZERLAND.

(North of Nave, Columns 52 to 55.)

Minerals, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

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| <p>1 Neuchatel Asphalte Co. (limited), Travers, Ct. Neuchâtel.—Natural and mastic asphalt. 101</p> <p><i>(The minerals illustrating the geological formations traversed by the St. Gothard tunnel are classified in this catalogue, together with the other exhibits of the St. Gothard Railroad Co., under Dept. III., Class 332.)</i></p> | <p>Metallurgical Products.</p> <p>3 Bürgin Bros., Schaffhausen.—Phosphate of bronze, different compositions, with strength and fracture tests. 114</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

BELGIUM.

(North of Nave, Columns 54 to 59.)

Minerals, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1** Bleyberg es Montzen Joint Stock Co., Montzen, Province of Liège.—Zinc and lead ores. 100
- 2** Vincent Son, Basècles (Hainaut).—Samples of Basècles black marble pavements. 102
- 2a** Sacquelen, F., Basècles near Tournai (Hainaut).—Specimens of Basècles blue and gray stone. 102
- 3** Ville de Spa (Communal Administration).—Trophy furniture, showing views of the city and environs, plans of mineral water-works, samples of these waters, articles of export, etc. The painting of this furniture was executed by Messrs. Boland, Chas., Bronfort, H., Crahey, senior, G. J., Debrus, Alexandre, Debrus, Alexis, Krins, E., Marcette, Henri, and Reigler, L. 107

Metallurgical Products.

- 4** Bonehill Bros., L'Esperance High Furnace Forge Foundry, Marchienne-au-Pont, near Charleroi.—Architectural iron. 111
- 5** Constant, Emile, Monceau-sur-Sambre, near Charleroi.—Patterns of building iron spring and web iron. 111
- 6** Mabile, Valère, Mariemont (Hainaut).—Manufactured iron, Kind Chaudron shaft-sinking apparatus. 111
- 7** Paris, Isaac Joseph, Marchiennes, near Charleroi.—Iron riveted beams for ship-building. 111
- 8** Charleroi Iron Manufacturing Joint Stock Co., Marchienne-au-Pont, near Charleroi.—Iron for building, etc. 111
- 9** Providence Forge Joint Stock Co., Marchienne-au-Pont, near Charleroi.—Iron for building, iron wheels without welding. 111
- 10** Forge and Rolling Mill Joint Stock Co., Régissa, near Huy.—Polished and unpolished sheet iron by wood and coke. 111
- 11** Angleur Steel Manufacturing Co., F. de Rossius, Pastor & Co., Renory, near Liège.—Bessemer cast steel products, rails, tires, axles, forge pieces, and rolled bars. 111
- 12** Jemmapes Forge Foundry & Rolling Mill Co., V. Demerbe & Co., Jemmapes (Hainaut).—Broken bar-banded iron, tramway rails, system of tramway rails on cast iron sleepers. 111
- 13** Bivort, Raymond, Henri, Arbre, Province of Namur.—Kettles and copper wire. 112
- 14** Bleyberg es Montzen Joint Stock Co., Montzen, near Verviers.—Prepared zinc and lead ore, potters' ore (pure galena) for glazing, pig lead for rolling mill, white lead and crystals, silver ore, block zinc for rolling, galvanizing, etc. 113

NETHERLANDS.

(North of Nave, Columns 60 to 65.)

Stone.

Minerals, Ores, Stone, Mining Products.

- 1** Onderwater, H. F., Dordrecht.—Stones for pavement. 102
- 2** Van Verschuur & Van der Voort, Amsterdam.—Unpolished stones. 102

- 3** Borst & Roggenkamp, Delfzyl.—Portland cement stones, lithographic stones, oilstones, whetstones, grindstones, polishing material, and sand quartz; garnets, raw topazes, diamonds, tripoli, and corundum. 106

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SWEDEN.

(North of Nave, Columns 6 to 11.)

Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.		24 Osterby & Strömbacka Iron Works, Osterby.—Iron ores. 100
1 Adelsvärd, Baron Th., Atvidaberg.—Copper ore. 100		25 Uddeholm Company, Rada.—Iron ores. 100
2 Bofors Stock Co., Gullspang, Bofors.—Iron ores. 100		26 Larsson, P. M., Löa, Rausa.—Iron ores. 100
3 Berg, Axel, Warby, Stockholm.—Iron ores. 100		27 Sanóvikens Stock Co., Gefle.—Iron ores. 100
4 Berg, Gottfried, Warby, Stockholm.—Zinc, galena, and nickel ores, pyrites. 100		28 Schough, Robert, Lulea.—Iron and copper ores. 100
5 Fagersta Iron & Steel Works, Westansfors. 100		29 Geological Survey of Sweden, Stockholm.—Geological collections. 100
<i>a</i> Iron ores. 100		30 Höganäs Coal Mining Co., Höganäs.
<i>b</i> Limestone. 103		<i>a</i> Mineral coal. 101
6 <i>a</i> Swedish Iron Masters' Association, Stockholm. 100		<i>b</i> Fire clay, fire brick. 104
<i>a</i> Collection of minerals. 100		31 Samuelson, S. H., Föskfors, Rada.—Peat. 101
<i>b</i> Maps and drawings. 335		32 Westerlund, A. F., Nybro, Kalmar.—Peat. 101
6 Avesta Garpenbergs Stock Co., Avesta.—Iron ores. 100		33 Berg, Gottfried, Wärby, Stockholm.—Porphyry, serpentine, and marble. 102
7 Björneborgs Iron & Steel Works, Björneberg.—Iron ores. 100		34 Klintherg, J. W., Wisby.—Marble table slabs, jewelry, etc. 102
8 Degerfors Stock Co., Degerfors.—Iron ores. 100		35 Kullgrens', C. A., Widow, Uddevalla.—Articles of polished granite. 102
9 Ekman, Carl, Finspong.—Iron ores. 100		36 New Marble Works, Norrköping.—Manufactured marble. 102
10 Hermansson, C. F., Count von, Ferna.—Iron ores. 100		37 Scanian Cement Co., Malmö.—Portland cement, raw materials and products. 103
11 Hofors & Hammarby Iron Works, Gefle.—Iron ores. 100		38 Rörstrand Stock Co., Stockholm.—Feldspar. 104
12 Larsbo Norn Stock Co., Kafalla.—Iron ores. 100		39 Gottland Grindstone Co., Burgsvik.—Grindstones. 104
14 Lesjöfors Iron & Steel Co., Langbanshyttan.		39 <i>a</i> Karlson, Gust & Martin, Lugnas.—Grindstone. 106
<i>a</i> Iron ores. 100		40 Berg, Gottfried, Warby, Stockholm.
<i>b</i> Hausmannite and limestone. 103		<i>a</i> Graphite. 105
15 Lindberg, Lars, Kohlsva.—Iron ores. 100		<i>b</i> Grindstones. 106
16 Löfvenskiöld, Salomon, Nissafors, Jönköping.—Iron ores. 100		<i>c</i> Vivianite. 107
17 Ramnäs Iron Works Co., Ramnäs.—Iron ores. 100		41 Berg, Chr. Lud., Eriksberg, Stockholm.—Mineral waters. 107
18 Rettig, C. A., Kilafors, Gefle.—Iron ores. 100		42 Mineral Water Stock Co., Stockholm.—Mineral waters. 107
19 Schisshytte-Molnebo Iron Works, Morgongäva.—Iron ores, krebelite, linc-ores, and galena. 100		
20 Stockenström, Axel von, Aker, Mariefred.—Iron ores. 100		
21 Stora Kopparbergs Bergslag, Stockholm.—Iron ores. 100		
22 Sundström, J. O., Charlottenberg.—Iron ores. 100		
23 New Gellivara Company (limited), Lulea.—Iron ores. 100		
		Metallurgical Products.
		43 Bofors Stock Co., Gullspang, Bofors.—Pig iron, blooms, bar iron, wire rods, and iron plate. 111
		43 <i>a</i> Ramnäs Stock Co., Ramnäs.—Pig and bar iron; slag. 111
		44 Fagersta Stock Co., Westansfors.—Pig iron, Bessemer steel ingots, bars, plates, etc.; steel samples, showing the strength of the steel. 111

Metallurgical Products.

- 45 Schisshyttan-Molnebo Manufacturing Co., Morgongäfvä.—Spiegeleisen. 111
- 46 Göteborgs Mechanical Works Stock Co., Göteborg.—Crown of a fine. 111
- 47 Laxa Iron Works, Laxa.—Pig iron, blooms, and bar iron. 111
- COLLECTIVE EXHIBIT OF IRON MANUFACTURERS, STOCKHOLM.
- 48 Ankarstrum Works, Ankarstrum.—Pig iron, blooms, iron bars, wire rods, and railway crossings. 111
- 49 Avesta Garpenberg Stock Co., Avesta.—Pig iron, blooms, and bar iron. 111
- 50 Björneborgs Iron & Steel Works, Björneborg.—Pig iron, Bessemer steel, ingots, and manufactured Bessemer steel. 111
- 51 Degerfors Stock Co., Degerfors, Wernmland.—Pig iron, blooms, wire rods, and plate. 111
- 52 Ekman, Carl, Finspong.—Pig iron for guns, malleable blooms, and bar iron. 111
- 53 Gysinge Iron Works, Gysinge.—Iron in the pig and bars, with specimens of slag. 111
- 54 Hermansson, C. F., Count von, Ferna, Bernshammar.—Pig iron, spiegeleisen, and bar iron. 111
- 55 Hofors & Hammarby, Hammarby, Storvik, Gefle.—Pig iron, blooms, and bars, with specimens of slag. 111
- 56 Larsbo, Norns, Stock Co., Kafalla.—Pig, bar, and angle iron; blooms. 111
- 57 Lesjöfors Iron & Steel Co., Filipstad.—Pig iron, ingots of Bessemer and Martin steel, bars, wires, and wire rope of the same material. 111
- 58 Lindberg Lars, Köhlsva.—Pig iron, bar iron, and wire rods. 111
- 59 Löffvenskiöld, Salomon, Nissafors, Jönköping.—Iron in the pig and bars. 111
- 60 Rettig, C. A., Kilsfors, Söderhamn.—Pig and bar iron. 111
- 61 Stockenström, Axel von, Mariefrid.—Pig iron for malleable iron. 111
- 62 Bergslag Iron Works, Stockholm.—Pig iron, Bessemer ingots, blooms, bar iron, and samples of iron showing the quality. 111
- 63 Sundström, J. O., Charlottenberg.—Pig and bar iron; spices. 111
- 64 New Gällivara Company Limited, Luleå.—Pig and bar iron, nails. 111
- 65 Östaby & Strömbacka, Dannemora.—Pig iron, Bessemer steel ingots and bars, blister steel, crucible cast steel, and bar iron. 111
- 66 Surahammars Iron Co., Surahammar.—Iron plate, puddled iron, and steel bars, railway wagon wheels and axles. 111
- 67 Uddeholms Stock Co. Limited, Rada.—Pig iron, ingots of Bessemer and Martin steel, and iron in bars, springs, etc. 111
- 68 Larsson, P. M., Lda, Rällisa.—Samples of pig iron. 111
- 69 Metala Mechanical Co., Metala.—Iron and steel, in bars, plates, and sheets, with products of working. 111
- 70 Sandvikens Iron Works Limited, Sandviken.—Pig iron, Bessemer steel ingots, forgings for engines, steamers, etc. 111
- 71 Adelswärd Baron, Th., Atvidaberg.—Copper in ingots, with specimens illustrating its various stages of production. 111
- 72 Skultuna Stock Co., Westeras.
 a Copper, with products of working. 111
 b Brass in different stages of production. 111
(For rails, railway and wagon wheels, tires, axles, etc., see Class 573, Machinery Hall.)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NORWAY.

(North of Nave, Columns 4 to 7.)

Ores, Stone, Metallurgical Products.

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| <p>Minerals, Ores, Stone, Mining Products.</p> <p>1 Geological Survey of Southern Norway, Director Th. Kierulf, Christiania.</p> <p><i>a</i> Stones, eruptive rocks, leading strata, constituents of coarse granite dykes. 100</p> <p><i>b</i> Manuscript maps, natural sections, generalized representations, printed maps. 335</p> <p>2 Fasmer, I. H., & Son, Bergen.—Feldspar. 100</p> <p>3 Hinderager Mining Co., Bergen.—Copper ore, pyrites. 100</p> <p>4 Hoyem, Andr., Bergen.—Titanium iron ore. 100</p> <p>5 Kongsberg Silver Mines, Kongsberg.—Ores, crystals. 100</p> <p>5<i>a</i> Dahll, J., Krageró.—Apatite ore. 100</p> <p>6 Bamble Nickel Mines, Johan Dahll, Kragerá.—Samples of nickel ores, with specimens illustrative of the melting process. 100</p> <p>7 Glorud Nickel Co., F. H. Frolich & Son, Christiania.—Nickel ores. 100</p> <p>7<i>a</i> Geological Survey of Southern Norway, Assistant Geologists W. Brøgger and H. Reusch, Christiania.</p> <p><i>a</i> Newly-discovered crystals. 100</p> <p><i>b</i> Contents of giant-kettles, spiral marked interior grinding-stones. 106</p> | <p>7<i>b</i> Ringerige's Nickel Works.—Nickel ores, with rocks and specimens of the smelting process. 100</p> <p>7<i>c</i> Rom Nickel Works.—Nickel ores, with rocks and specimens of the smelting process. 100</p> <p>8 Lutensee, Georg, Christiania.—Quarry stone for street pavement and curbstones. 102</p> <p>9 Moestue & Co., Thv., Christiania.—Slates for tables, roofs, and floors, from Slidre quarries. 102</p> <p>10 Pettersen, Karl, Tromsø.—Granite, labbro and other massives, raw and polished. 102</p> <p>11 Frolich & Son, F. H., Christiania.—Collection of Norwegian apatite ores. 103</p> <p>12 Birch, F., Selboe.—Millstones. 106</p> <p>14 Christiania Millstones Manufacturing Co., Christiania.—Millstones. 106</p> <p>15 Lönseth, Fred., Christiania.—Millstones from Sælbo, flint millstones. 106</p> <p style="text-align: center;">Metallurgical Products.</p> <p>16 Kongsberg Silver Mines, Kongsberg.—Silver in bars and granulated silver. 110</p> <p>17 Cathrineholms Iron Works & Foundry, Fredrikshald.</p> <p><i>a</i> Stoves and other wrought iron. 222</p> <p><i>b</i> Anchors, chains. 284</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ITALY.

(North of Nave, Columns 1 to 5.)

Minerals, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Tagliavia, Francesco, & Co., Messina.—Collection of minerals. 100
- 2 Fontana Brothers, Luserna, Turin.—Flagstones. 102
- 3 Tassi, Peter, Leghorn.—Yellow marble and alabaster. 102
- 4 Chamber of Commerce & Arts, Sienna.—Marble and alabaster stone. 102
- 5 Stock Company for Manufacturing Bricks, Poggio, Emilia.—Cement, limestone. 103
- 6 Crispo, Moncada Carlo, Catania.—Limestone. 103
- 7 Maccagnani, Ulisse, Bologna.—Aromatic earth of Cattu. 104
- 8 Bolari & Yellow Earth Co., Sienna.—Bolari and yellow earth, earth for coloring. 104
- 9 Furse Bros., & Co., Rome.—Bolari earth of Sienna. 104
- 10 Molfino, Luigi, Genoa.—Lithographic stone. 106
- 11 Scammano, Cav. Michele, Catania.—Cedrats. 107

- 12 Birindelli, Carlo, Florence.—Colalli water. 107
- 13 Spedalieri, Ba Felice, Catania.—Sulphur. 107
- 14 Aristide, Count, Castrocaro.—Mineral waters. 107
- 15 Romano, Gaetano, Palermo.—Sulphur. 107
- 16 Scavo Vita Brothers, Catania.—Sulphur. 107
- 17 Dily, Edoardo, Catania.—Sulphur. 107
- 18 Ardizzone, Francesco, Catania.—Sulphur. 107
- 19 Pennini, Baron of Floristallo, Catania.—Sulphur. 107
- 20 Cesena Sulphur Co. (limited), Cesena.—Raw and refined sulphur. 107
- 21 Bartolini dott Cesare, Sienna.—Fossil flour. 107

Metallurgical Products.

- 22 Fornara, Gio., & Co., Turin.—Wire. 111
- 23 Ponsard & Gigli, Florence.—Iron, manganese. 111

BRAZIL.

(North of Nave, Columns 58 to 61.)

Minerals, Stone.

Minerals, Ores, Stone, Mining Products.

- 1 Province of Paraná.
 - a Iron ores. 100
 - b Clay, argil, and schist. 104
 - c Alkaline waters. 107
- 2 Province of San Paulo.—Iron ores. 100
- 3 Ypanema Iron Works.—Iron ores. 100
- 4 Cunha Bettencourt, M. J. da.—Minerals. 100
- 5 Gorceix, H.—Rocks and minerals. 100

6 Commission General for the National Exhibition.

- a Ores. 100
- b Coal. 101
- c Marbles. 102
- d Clay, argil, and schist. 105
- e Minerals, showing gold and diamond formations. 106

7 National Museum.

- a Minerals. 100
- b Coal. 101
- c Marbles. 102
- d Gems. 106

For classes of exhibits, indicated by number at end of entries, see Classification, pp 27-45.

Oils, Blacking, Boots and Shoes.

8 Goes, J. T. Pereira de.—Minerals.	100	47 Travanca, A.—Argil.	104
9 Lemos, J. A. de.—Minerals.	100	48 Schimmelpfing, A.—Kaolin.	104
10 Correia, J. Severo.—Calcareous rocks, galena, and pyrites.	100	49 Ribas, M. de Sa.—Alum.	106
11 Athayde, M. E. de S.—Mica.	100	50 Ferreira, Domingos F.—Rough and cut diamonds.	106
12 Moraes, Rozeira, M. G. de.—Martial pyrites.	100	51 Silva, L. Machado da.—Quartz prisms.	106
13 Mendes, J. O.		52 Heyd, Theodoro.—Grindstones.	106
a Sulphur.	100	53 Siqueira, P. Lustosa de.—Agates.	106
b Calcareous stalactites.	102	54 Colony of Mucury.—Precious stones.	106
14 Costa Netto, J. da.—Fossils.	100	55 Cortez, P. de Siqueira.—Amethysts.	106
15 Province of San Pedro do Sul.—Coal.	101	56 Asevedo, D. J. Santos.—Diamonds.	106
16 Villa Franca, Baron of.—Peat.	101	57 Maciel, D. Ferreira.—Sulphurous water.	106
17 Andrade, A. R. L.—Bituminous coal.	101		
18 Barbacena, Viscount of.—Coal.	101	Metallurgical Products.	
19 Province of Sancta Catherina.		58 Commission General for the National Exhibition.	
a Coal.	101	a Gold.	110
b Marble.	102	b Iron.	111
20 Lopez, F. J. A., & Co.—Bituminous schist.	101	c Mercury.	113
21 Carvalho, A. P. S.—Bituminous schist.	101	59 Province of Paraná.—Specimens of gold veins.	110
22 Muricy, J. C. da Silva.		60 Tourinho, F. A. M.—Magnetic gold.	110
a Anthracite and bituminous coal.	101	61 Camara, J. Ewbank da.—Auriferous stones.	110
b Quartz, agates, and grindstones.	106	62 Leone, F. M., & Lemos, P. L.—Auriferous minerals.	110
23 Steraux, E.—Marbles.	102	63 Camara, F. T. Vieyra da.—Gold-dust.	110
24 Leao, A. D.		64 Pórtugol, F. P. de A.—Gold-dust.	110
a Calcareous slates and stalactites.	102	65 Province of Pernambuco.—Native iron.	110
b Rock crystal and agates.	106	66 National Museum.	
25 Coritiba Museum.		a Iron.	111
a Slates.	102	b Copper.	112
b Violaceous quartz.	106	67 Province of Sancta Catherina.	
26 Osternack, Charles.—Virgin lime.	103	a Iron.	111
27 Juparana, Baron of, & Nogueira da Gama.—Calcareous specimens.	103	b Nickel.	114
28 Freitas, T. Teixeira de.—Lime.	103	68 Cruz, B. A. da.—Magnetic iron.	111
29 Cardoso, A. Nunes.—Lime from oyster-shells.	103	69 Lellian, Ernesto.—Magnetic iron.	111
30 Portugal, F. P. de Asvedo.—Calcareous rocks.	103	70 Ypanema Iron Works.—Bar iron.	111
31 Commission of S. Joao d' El Rei.—Plaster of Paris in powder.	103	71 Silva, M. A. Machado da.—Oligistic iron.	111
32 Nhorinho, J. S. da Silva.—Lime.	103	72 Oliveira, A. C. de.—Oligistic iron.	111
33 Bento, Dr.—Lime.	103	73 Barboda, Nemes.—Oligistic iron.	111
34 Lendenberg, L. B.—Lime.	103	74 Aranje, J. A. Vieyra de.—Oligistic iron.	111
35 Rezende, C. Xavier.—Stalactites.	103	75 Ledo, Agostino E. de.—Oligistic iron.	111
36 Colony of Assungin.—Saponaceous clay.	104	76 Suppicy, J. Francisco.—Pyrites and sulphuret of iron.	111
37 Gonzaga, E. J.—Clays.	104	77 Gasse, F.—Lead foils from Rio de Janeiro.	113
38 Gonsalves, J.—Calcined kaolin.	104		
39 Correa, G. Lourenço.—Clay.	104	Mine Engineering, Models, Maps, and Sections.	
40 Wirmond, E. E.—Yellow argil.	104	78 Geological Commission.—Geological photographs.	120
41 Mota, C. S. da.—Tagua (rose-colored argil).	104	79 Gorceix, H.—Geological map of the Chapadão.	120
42 Gomes, T. G. C.—Argil.	104		
43 Figueredo, D. J.—Argil and plastics.	104		
44 Magalhaes, F. T. S.—Argil and colored clay.	104		
45 Andrade, J. F. de.—Colored clay.	104		
46 District of Formiga.—Argil.	104		

ARGENTINE REPUBLIC.

(Nave to South Avenue, Columns 2 to 5.)

Minerals, Ores, Stone.

Minerals, Ores, Stone, Mining Products.	
1 Raymond, Hipolito, Province of Mendoza.—Collection of minerals.	100
2 Provincial Commission, Province of Mendoza.—Collection of minerals.	100
3 Lemos, Abraham, Province of Mendoza.—Minerals for paints.	100
4 Treloar, William A., Province of La Rioja.—Collection of minerals.	100
5 Almonacid & Parchappe, Province of La Rioja.—Collection of minerals.	100
6 Illanes, Manuel I., Province of La Rioja.—Minerals of Cerro de Vinchina.	100
7 Bascuñan, Francisco, Province of La Rioja.—Minerals.	100
8 Provincial Commission, Province of La Rioja.	
<i>a</i> Minerals.	100
<i>b</i> Lime and common gypsum.	103
<i>c</i> White chalk and specimens of colored clay used in the manufacture of pottery and paints; colored chalk.	104
9 Gelos, Martin, Province of La Rioja.	
<i>a</i> Minerals of Olta.	100
<i>b</i> Calcined lime; gypsum.	103
<i>c</i> Chalk.	104
<i>d</i> Whetstones of "La Torre," in their native state; flint.	106
10 Vega, Daniel de la, Province of La Rioja.—A petrification.	100
11 Schröder, Theodore, Province of La Rioja.—Copper ore.	100
12 Gifford, Senor, Province of La Rioja.—Silver ore.	100
12 <i>a</i> Bevan, Eduardo A., Province of La Rioja.—Ores.	100
13 Aguilar, Francisco D., Province of San Juan.	
<i>a</i> Minerals.	100
<i>b</i> Mineral waters.	107
14 Government of the Province of San Juan.—Collection of minerals.	100
15 Provincial Commission, Province of San Luis.	
<i>a</i> Collection of minerals.	100
<i>b</i> Stone pestle used by the Indians to grind corn and other grains; stone pan made by Indians, etc.	102
16 Metzler, A., Province of Catamarca.—Minerals.	100
17 Romay, Gabriel, Province of Catamarca.—Iron and antimony ores.	100
17 <i>a</i> Zorilla, Benjamin, Province of Salta.—Silver ore.	100
18 Provincial Sub-commission of Tinogasta, Province of Catamarca.—Ores of iron, lead, copper, silver, etc.	100
19 Galindez, Clásico, Province of Catamarca.—Silver and copper ore.	100
20 Villafaña, Tristan, Province of Catamarca.—Silver-bearing galena.	100
20 <i>a</i> Bedoya, Segundo, Province of Salta.—Silver ore.	100
21 Resoagli, Luis, Province of Corrientes.—Quartz, flint, agate, etc.	100
22 Mansilla, Manuel, Province of Corrientes.—Quartz, agate, copper ore, and mica.	100
23 Galarraga, E. G. de, Province of Corrientes.—Crystal rock.	100
23 <i>a</i> Tula, Nabor, Province of Catamarca.—Copper ore from the Cerro Negro.	100
24 Sicard, Juana G. de, Province of Corrientes.—Horn-shaped stone.	100
25 Porta, Felix, Province of Corrientes.—Agglomeration of small stones.	100
26 Acosta de Quirolo, Josefa, Province of Corrientes.—Crystal rock.	100
27 Cuña, Americo, Province of Corrientes.—Agate.	100
27 <i>a</i> Molina & Carranza, Province of Catamarca.—Ore from the Rosario mine.	100
28 Cabral y Melo, José Maria, Province of Corrientes.—Crystal rock and flint.	100
28 <i>a</i> Salcedo, Uladislav M., Province of Catamarca.—Copper and silver ore.	100
29 Pujol, Nicanor, Province of Corrientes.—Iron ore.	100
30 Córdoba University, Province of Córdoba.—Collection of minerals.	100
30 <i>a</i> Muro, Froilan, Province of Catamarca.—Iron and copper ore, coppers, and alum.	100
31 Fragneiro, José M., Province of Córdoba.—Lead containing silver.	100
32 Provincial Commission, Province of Córdoba.	
<i>a</i> Lead containing silver, gypsum, various minerals.	100
<i>b</i> Marble.	102
<i>c</i> Whetstones.	106
33 Vasquez, Lucrecio, Province of Córdoba.—Emeralds; round-shaped stone made by Indians.	100
34 MacDowell, N., Province of Córdoba.—Minerals.	100
35 Olmos, José V., Province of Córdoba.—Minerals.	100
36 Provincial Commission, Province of Salta.	
<i>a</i> Galena, silver, and iron ores.	100
<i>b</i> Wrought stone for table top.	102
<i>c</i> Sulphate of lime.	103
<i>d</i> Kaolin.	104

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores, Stone.

- 37 Echevarria, Cecillo, Province of Santa Fé.—Minerals; quartz and agates of Alto Uruguay. 100
- 38 Rap, Eugenio, Province of Tucuman.—Collection of minerals. 100
- 39 Government of the Province of Jujui.—Silver ore from Tilcara. 100
- 40 Sub-commission of the Department of Diamante, Province of Entre Rios.—
a Stones found on the shores of the Plata y Uruguay. 100
b Hydraulic cement stones and cement, lime, artificial stone, petrified wood, etc. 103
- 40a Provincial Commission, Province of Catamarca.
a Quartz, garnets, manganese, etc. 100
b Coal. 101
c Soapstone from Ancasti. 102
d Water-lime, gypsum. 103
e Colored clay, soapstone in powder, kaolin, etc. 104
f Mineral waters. 107
- 40b Elordi, Louis, Province of Buenos Ayres.—Copper ore from Patagones. 100
- 41 Arguello, David, Province of Córdoba.
a Silver ore. 100
b Anthracite coal. 101
- 42 Galvan, Federico, Province of La Rioja.—Coal from Tumbillos. 101
- 43 Roman, Gabriel, Province of Catamarca.—Coal. 101
- 44 Valdes, Emiliano, & Cipriano, Province of Buenos Ayres.
a Colored and other stones from Tandil. 102
b Black and white vegetable clay from Balcarce. 104
c Sand and whetstones. 106
- 45 Olmos, José V., Province of Córdoba.—White marble. 102
- 46 Salas, Manuel M., Province of Corrientes.—Marble and crystallized stones. 102
- 47 Santos, Francisco A., de los, Province of Corrientes.—Hollow unpolished stone. 102
- 48 Hurley, Tomás, Province of Catamarca.—Granites; copper and black bronzes; antique pieces of stone discovered in the abandoned mine of Ortiz. 102
- 49 Provincial Commission, Province of Santiago del Estero.
a Dressed stones from the Sierra de Guayanacan. 102
b Crystallized and common gypsum. 103
c Colored clay and saltpetre. 104
d Mineral and sarsaparilla waters. 107
- 50 Provincial Commission, Province of San Juan.—Building stone. 102
- 51 Avellaneda, Nicolas, Province of Córdoba.—Marble 102
- 52 Segura, Rufino, Province of Catamarca.—Soapstone, flagstone. 102
- 53 Sub-commission of Andalgalá, Province of Catamarca.—Soapstone from Belen. 102
- 54 Riso, Isidoro, Province of Catamarca.
a Soapstone. 102
b Water lime. 103
- 55 Herrera, Nicolas, Province of Catamarca.—Slate. 102
- 56 Cornejo, Melchora, T., Province of Salta.
a Carbonate of lime. 103
b Mineral waters. 107
- 57 Saravia, Pablo, Province of Salta.—Sulphate of lime. 103
- 58 Fornasari, R., & Facino, H., Province of Entre Rios.—Hydraulic cement, artificial stones. 103
- 59 Commission of Paraná, Province of Entre Rios.
a Paving-stones, limestones, lime, sulphate of lime, petrified oyster-shells, etc. 103
b Clay, fine sand, calcareous clay, containing gold and silver. 104
c Tripoli. 106
- 60 Garlve, N., Province of Entre Rios.—Artificial stone. 103
- 61 Peretti, Santiago, Province of Salta.—Dressed stone and carbonate of lime. 103
- 63 Solá, Ramon, Province of Entre Rios.—Gypsum. 103
- 64 Justice of the Peace of Ensenada, Province of Buenos Ayres.—Lime made from shells. 103
- 65 Pedruncini, Juan, Province of Buenos Ayres.—Shell-lime. 103
- 66 Valdes, Nicasio, Province of Buenos Ayres.
a Lime from Balcarce. 103
b Red clay. 104
- 67 Iñiguez, Manuel A., Province of Buenos Ayres.—Limestone from Tandil. 103
- 68 Commission of Water Works, Province of Buenos Ayres.
a Lime-shells, calcareous stones, raw and burnt cement, cement in shape of bricks. 103
b Clay. 104
- 69 Welsh, Miguel, Province of Buenos Ayres.—Limestone, quicklime, slaked lime. 103
- 70 Caetani, Vicente, Province of Buenos Ayres.—Artificial marble. 103
- 71 Sandrot, José, Province of Buenos Ayres.—Artificial stones. 103
- 72 Justice of the Peace of Patagones, Province of Buenos Ayres.—Gypsum, etc. 103
- 73 Ibañez, P., Province of Catamarca.—Stalagmitical lime. 103
- 74 Provincial Commission, Province of Tucuman.
a Black, yellow, and white limestone, common gypsum. 103
b White clay. 104
- 75 Paroni, Andrés, Province of Santa Fé.—Hydraulic cement. 103
- 76 Provincial Commission, Province of Corrientes.—Calcareous stones from Itati. 103
- 77 Aguilar, Francisco D., Province of San Juan.—Hydraulic lime. 103
- 78 Gache, Manuel, Province of Buenos Ayres.—Gypsum from Rio Salado. 103
- 78a Carenzo, Nicholas, Province of Salta.—Kaolin, white clay, and chalk. 104
- 79 Santa Cruz, Simon de, Province of Entre Rios.—Sand from Ibicui. 104
- 79a Tamayo, Sidney, Province of Salta.—White clays. 104
- 80 Arias, Hilarion, Province of Salta.—Sulphate of lime. 104
- 81 Lopez, Feliciano, Province of Corrientes.—Clay for the manufacture of crockery, tiles, and bricks, yellow stone for coloring and paint. 104

Minerals, Stone, Metallurgical Products.

- 82 Sub-commission of Bella Vista, Province of Corrientes.—Stone containing red and yellow coloring substances; clays. 104
- 84 Calderon, Pedro, Province of Entre Rios.—Vegetable clay. 104
- 85 Fontes, V. M., & Negra, S., Province of Entre Rios.—Clay for whitewashing. 104
- 86 Bazan, Abel, Province of La Rioja.—Refractory bricks. 104
- 87 Barros, José, Province of La Rioja.—Refractory bricks. 104
- 89 Justice of the Peace of Zarate, Province of Buenos Ayres.—Black and ferruginous clays. 104
- 90 Lobo, Tristan, Province of Catamarca.—Chalk clay, tiles, and bricks. 104
- 91 Lafone Quevedo, Samuel A., Province of Catamarca.
a White clay for bricks; refractory bricks. 104
b Hard fossil-ground quartz. 106
- 92 Caballero, Eugenio, Province of Salta.—Graphite. 105
- 93 Medina, Luis R., Province of Catamarca.—Whetstones from Concepcion. 106
- 94 Perez, Luisa, Province of La Rioja.—Mineral water. 107
- 96 Patron Bros., Province of Salta.—Mineral waters. 107
- 97 Schmidt, Antonio, Province of San Luis.—Mineral waters. 107
- 98 Escobar, Juan de D., Province of San Luis.—White-stone water. 107
- 99 Sub-commission of the Colony of San Carlos, Province of Santa Fé.—Vegetable clay. 107
- 100 Otamendi, Carlos, Province of Buenos Ayres.—Shells from the coast of Balcarce. 107

Metallurgical Products.

- 101 Gainza, Martin de, Province of Buenos Ayres.—Gold from Patagones. 110
- 102 Nell, Federico, Province of San Luis.—Gold and washed gold. 110
- 103 Bertram & Co., Province of San Luis.—Gold from the Descubridora mine. 110
- 104 Provincial Commission, Province of San Luis.—Gold from La Carolina mine. 110
- 105 Lafone Quevedo, Samuel A., Province of Catamarca.—Copper ingots. 111

CHILI.

(North of Nave, Columns 3 to 5.)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Government of Chili.—Silver and copper ores, and other minerals. 100
- 2 Sere, Edouard, Santiago.—Minerals. 100
- 3 Escobar, E., Copiapo.—Gold, silver, and copper ores, and other valuable minerals. 100
- 4 Urmenta & Errazuriez, Santiago.—Copper ores from Tamagua. 100
- 5 Escudero, R., Santiago.—Stone. 102

- 6 Sanchez, Francisco, Talca.—Carved stone from Talca. 102
- 7 Cadiz, Jose, Gabriel, Santiago.—
a Artificial marble balustrade, mantel, pilasters, and columns. 103
b Natural and powdered gypsum. 107

Metallurgical Products.

- 8 Government of Chili.—Copper in ingots. 112

Mining Engineering.

- 9 Errazuriz, Maximiano, Santiago.—Strata of coal mine in Lebu. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

MEXICO.

(North of Nave, Columns 64 to 67.)

Minerals, Ores, Stone, Metallurgical Products.

Minerals, Ores, Stone, Mining Products.

- 1 Ochva, Gaspen, Sanchez, City of Mexico.—Sulphur from the Volcano Popocatepetl. 100
- 2 Mexican Mining Society, City of Mexico.—Minerals and rocks. 100
- 3 School of Engineers, City of Mexico.—Minerals. 100
- 4 National Museum, City of Mexico.—Minerals and rocks. 100
- 5 Barcena, Mariano, City of Mexico.—Livingstonite. 100
- 6 Folsa, M. José, Pregones, State of Guerrero.—Quicksilver ores. 100
- 7 Natural History Society, City of Mexico.—Minerals. 100
- 8 Government of the State of Durango, Durango City.—Iron ores. 100
- 8^a Muller, N., Chihuahua City.—Meteoric iron. 100
- 9 Soto, Mayor C., State of Michoacan.—Minerals from the mineral district of Anganguco. 100
- 10 Rull, Miguel, City of Mexico.—Minerals. 100
- 10^a Corcuera, Manuel, State of Jalisco.—Iron ores. 100
- 11 Real Del Monte Company.—Minerals. 100
- 12 State Government of Oaxaca.—Minerals. 100
- 13 San Rafael Company.—Minerals from Zacatecas City. 100

- 14 Quebradella Company, Zacatecas City.—Minerals. 100
- 15 Mala Noche Company, Zacatecas City.—Minerals. 100
- 16 Ponce, Juan, Zacatecas City.—Minerals. 100
- 17 Romirez, S. & C. J., City of Mexico.—Rocks. 100
- 18 Barcena, Manimo, City of Mexico.—Fossils, rocks, and geological maps. 100
- 19 Farrugia, Federico, State of Hidalgo.—Minerals and metallurgical products. 100
- 20 Zenteno, Estevan, Fempoal, Vera Cruz.—Coal. 101
- 21 Gutierrez, Julian, & Co., City of Mexico.—Marble from the State of Puebla. 102
- 22 Bocanegra, S., State of San Luis Potosi.—Marbles. 102
- 23 State Government of Hidalgo.—Argils. 104

Metallurgical Products.

- 24 Bermegillo, Pio, State of Michoacan.—Cake of silver from Arganguco. 110
- 25 Encarnacion Company.—Wrought and cast iron. 111
- 26 Guadalupe Company.—Wrought and cast iron. 111
- 27 Esperon, José, Oaxaca City.—Wrought and cast iron. 111

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SPAIN.

(South of Nave, Columns 16 to 18.)

Minerals, Ores, Stone.

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| <p>1 Arrivillaga, Agustin, Fondon, Province of Almería.—Galena. 100</p> <p>2 Fernandez, Diego, Cuevas, Province of Almería.—Argentiferous galena and barrytes. 100</p> <p>3 Campos, Francisco, Fondon, Province of Almería.—Laminated galena. 100</p> <p>4 Montoro, Francisco, Vera, Province of Almería.—Laminated galena. 100</p> <p>5 Bachiller, Guillermo, Cuevas, Province of Almería.—Argentiferous galena with iron pyrites. 100</p> <p>6 Cerezuelo, Gonzalo, Berja, Province of Almería.—Laminated galena. 100</p> <p>7 Gonzalez, Gabriel, Laujar, Province of Almería.—Laminated galena. 100</p> <p>8 Terriza, José, Berja, Province of Almería.—Laminated galena. 100</p> <p>9 Rapalo, José, Almería, Province of Almería.—Galena. 100</p> <p>10 Olmo, José del, Berja, Province of Almería.—Galena, stained with minimum. 100</p> <p>11 Cavanillas, Juan, Cuevas, Province of Almería.—Argentiferous galena. 100</p> <p>12 Corrello, Rafael, Almozita, Province of Almería.—Galena. 100</p> <p>13 Abad, Jerónimo, Nijar, Province of Almería.—Pyrolusite. 100</p> <p>14 Ayala, Antonio, Lucar, Province of Almería.—Steatite. 100</p> <p>15 Padilla, Francisco, Nijar, Province of Almería.—Calamine and carbonate of lead. 100</p> <p>16 Blanco, Prudencio, Alcolea, Province of Almería.—Gray calamine. 100</p> <p>17 Duran, Estéban, Almería.—Oxide of copper and calamine. 100</p> <p>18 Ramirez, Luis, Lucar, Province of Almería.—Black oxide of cobalt. 100</p> <p>19 Rio, Eustaquio, Huerca-Overa, Province of Almería.—Arseniate of cobalt. 100</p> <p>20 Real, José, Almería.—Carbonate of lead. 100</p> <p>21 Gomez, Crisanto de, Nijar, Province of Almería.—Carbonate of lead. 100</p> <p>22 Trelle, Miguel del, Berja, Province of Almería.—Carbonate of calamine. 100</p> <p>23 Daza y Ruiz, Francisco, Purchena, Province of Almería.—Iron ore. 100</p> <p>23^a Daza y Ruiz, Seron, Province of Almería.—Iron ore. 100</p> <p>23^b Daza y Ruiz, Lucar, Province of Almería.—Cinnabar and cobalt. 100</p> <p>24 Vivas Asqueros, Antonio, Pechina, Province of Almería.—Iron ore. 100</p> | <p>25 Linares, Clemente, Albánchez, Province of Almería.—Iron ore. 100</p> <p>26 Villalobos Brothers, Berja, Province of Almería.—Sulphate of lead. 100</p> <p>27 Hernández, Secundino, Feria, Province of Badajoz.—Iron ores. 100</p> <p>28 Successful Society, Alconchel Chellos, Province of Badajoz.—Chakopirita. 100</p> <p>29 Laffite & Co., Castuera, Province of Badajoz.—Galena and argentiferous lead. 100</p> <p>30 Mateos y Morato, Santiago, Azuaga, Province of Badajoz.—Sulphate of lead. 100</p> <p>31 Grappin, G. de, Llerena, Province of Badajoz.—Galena. 100</p> <p>31^a Grappin, G. de, Malpartida, Province of Cáceres.—Phosphate of lime. 100</p> <p>31^b Grappin, G. de, Aldeacentenera, Province of Cáceres.—Copper. 100</p> <p>31^c Grappin, G. de, various towns of the province of Cáceres.—Collection of ores. 100</p> <p>32 Martinez de Santa Maria, Juan, Burguillos, Province of Badajoz.—Magnetic iron ore. 100</p> <p>33 Lligé & de Planell, Juan, Gabá y del Figaró, Province of Barcelona.—Iron ore with manganese. 100</p> <p>34 O'Daly, Olimpia Vallcareara, Province of Barcelona.—Magnetic iron. 100</p> <p>35 Anglada & Co., Pontons, Province of Barcelona.—Carbonate of zinc. 100</p> <p>36 Provincial Commission, Atapuerca, Province of Burgos.—Stalactites. 100</p> <p>37 Richard & Granducontangne, Rio-cavado, Province of Burgos.—Hematites. 100</p> <p>37^a Richard & Granducontangne, Huerto-abajo, Province of Burgos.—Hematites. 100</p> <p>37^b Richard & Granducontangne, Monterrubio de la Sierra, Province of Burgos.—Hematites. 100</p> <p>38 Gutierrez, Julian, Olmos de Atapuerca, Province of Burgos.—Yellow and red ochre. 100</p> <p>39 Oria, Eugenio, Pancorbo, Province of Burgos.—Oxide of iron. 100</p> <p>40 Corporation of Pineda.—Micaceous iron. 100</p> <p>41 Muñoz Bello, Francisco, Cáceres.—Phosphate of lime. 100</p> <p>42 Gonzalez, Diego Bibiano, Cáceres.—Calcareous phosphates. 100</p> <p>43 Rocandio, Jorge, & Sbarby, Manuel, Zarza y Ciclavin, Province of Cáceres.—Calcareous phosphate. 100</p> |
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For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores.

- 44 Sande Olivares, Gerónimo de, Garro-
billas de Alconetar, Province of Cáceres,
—Copper ore. 100
- 45 Miro Cerdá, various towns of the
Province of Castellon.—Ores. 100
- 46 Provincial Board of Agriculture,
Province of Castellon.—Galena and cala-
mine. 100
- 47 Caminero, José, Ciudad-Real.—
Ores. 100
- 48 Piquet, Alfonso Emilio, Horcajo,
Province of Ciudad-Real.—Ores. 100
- 49 Mines of Almaden, Almaden, Ciu-
dad-Real.—Cinnabar ores and rocks. 100
- 50 Ducloux, Francisco Javier, Province
of Barcelona.—Ores. 100
- 51 Gomez Ruiz, widow & sons of
Gabriel, San Julian del Llot, Province of
Gerona.—Lead ore. 100
- 52 Hisern, Joaquin, Carataunas, Pro-
vince of Granada.—Hematite iron. 100
- 53 Vasquez, Diego, Pitres, Province of
Granada.—Quicksilver ore. 100
- 54 Corps of Mining Engineers, Hien-
delaencina, Province of Guadalajara.—
Brittle silver, blue copper, and mala-
chites. 100
- 55 Gracian, Andrés, Huelva.—Sulphur
of argentiferous antimony. 100
- 56 Ibarra, José Maria de, Huelva.—Col-
lection of cuprous-iron pyrites and pro-
ducts. 100
- 57 Vasquez y Lopez, M., Zalamea la
Real, Province of Huelva.—Peroxide of
manganese. 100
- 58 Rieken y Gerdes, George, Mina Bron-
teriza, Huelva.—Sulphur. 100
- 59 Solo, Emilio de, Alosno, Province of
Huelva.—Peroxide of manganese. 100
- 60 Diaz y Gomez de Cadiz, Eduardo,
Valverde del Camino, Province of Huel-
va.—Manganese ore. 100
- 61 Bull & West, Diego, Valverde del
Camino, province of Huelva.—Cuprous
pyrites. 100
- 62 Tharsis Sulphur & Copper Co.
(limited), Alosno, Province of Huelva.—
Ores and slags. 100
- 63 Rio Tinto Co. (limited), Province of
Huelva.—Ores. 100
- 64 La Buena Fe, Society, Linares, Pro-
vince of Jaen.—Laminated galena, etc. 100
- 65 La Familia Society, Linares, Pro-
vince of Jaen.—Laminated galena and ga-
lena in dross. 100
- 66 La Inocencia Mining Society, Guar-
roman, Province of Jaen.—Laminated
galena and galena in dross. 100
- 67 Stolberg & Westfalia, Anonymous
Society, Linares, Province of Jaen.—
Laminated galena and galena in dross. 100
- 68 English, Heirs of Juan Carlos, Li-
nares, Province of Jaen.—Laminated and
ground galena and galena in dross. 100
- 69 Accino y Vazquez de Araujo, En-
rique, Linares, Province of Jaen.—Lami-
nated galena. 100
- 70 Sopwith, Tomás, Linares, Pro-
vince of Jaen.—Laminated galena. 100
- 71 Bonaplata, Eduardo, Bailén, Pro-
vince of Jaen.—Galena. 100
- 72 Figueroa, Ignacio, Linares, Province
of Jaen.—Galena. 100
- 73 Amado Salazar, Enrique, Bailén,
Province of Jaen.—Galena. 100
- 74 Lohnstein, Emilio, Linares, Pro-
vince of Jaen.—Galena. 100
- 75 Arboledas, Martin, Linares, Pro-
vince of Jaen.—Sulphate of lead. 100
- 76 Villanova, José Genaro, Linares,
Province of Jaen.—Earth from a lead
mine, and potter's antimony. 100
- 77 Polo Leoncio, Villafeliz, Province of
Leon.—Iron ore. 100
- 78 Alonso, Casimiro, Leon.—Oxidized
iron ore. 100
- 79 Bertrand, Casimiro, Alins, Lérida.—
Oaelleresa, native iron. 100
- 80 Reynante y Cancio, Manuel, Riva-
deo, Lugo.—Ores. 100
- 81 Corps of Mining Engineers, Madrid.
—Ores. 100
- 82 Naranjo y Garza, Felipe, from vari-
ous towns of the Province of Madrid.—
Ores. 100
- 83 Mining Engineers, Málaga.—Mala-
chite copper ore. 100
- 83^a Mining Engineers, Marbella, Pro-
vince of Málaga.—Magnetic iron. 100
- 83^b Mining Engineers, Estepona, Pro-
vince of Málaga.—Magnetic iron. 100
- 83^c Mining Engineers, Mijas, Province
of Málaga.—Hydrated iron, galena, and
magnetic iron. 100
- 83^d Mining Engineers, Istan, Province
of Málaga.—Magnetic iron. 100
- 83^e Mining Engineers, Carratraca,
Province of Málaga.—Hematites. 100
- 83^f Mining Engineers, Antequera,
Province of Málaga.—Oligistic iron. 100
- 83^g Mining Engineers, Coin, Province
of Málaga.—Hematites. 100
- 83^h Mining Engineers, Benaháns,
Province of Málaga.—Sulpho-arsenic
nickel and sulphurous nickel. 100
- 83ⁱ Mining Engineers, Benalmadena,
Province of Málaga.—Hydrated iron. 100
- 83^j Mining Engineers, Alora, Province
of Málaga.—Nickel. 100
- 83^m Mining Engineers, Almogía, Pro-
vince of Málaga.—Malachites and pyrites
of copper. 100
- 83ⁿ Mining Engineers, Alhaurin el
Grande, Province of Málaga.—Galena and
carbonate of lead. 100
- 83^o Mining Engineers, Colmenar, Pro-
vince of Málaga.—Galena and pyrites of
copper. 100
- 83^p Mining Engineers, Nerja, Province
of Málaga.—Galena. 100
- 83^q Mining Engineers, Archidona,
Province of Málaga.—Oligistic iron. 100
- 84 Blandin y Carrese, Manuel, Vera,
Province of Navarra.—Iron ores. 100
- 85 Macla & Co., Demétrio, Penonta,
Province of Orense.—Tin ore. 100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores, Stone.

- 86 Vila, Francisco, Pentes, Province of Orense.—Tin ore. 100
- 87 Mining District of Oviedo, various towns of the Province of Oviedo.—Ores. 100
- 88 Acebal y Menendez, Benito, Carreño, Province of Oviedo.—Iron ore. 100
- 89 Uria Pinilla, Navia de Luarca, Province of Oviedo.—Iron ores. 100
- 90 National Factory of Trubia, Trubia, Province of Oviedo.—Iron ores. 100
- 91 Diestroy Lastra, Antonio del, Mier, Province of Oviedo.—Ores. 100
- 92 Somoza Piñeiro, Ramon, Merza, Province of Pontevedra.—Magnetic iron. 100
- 93 Mining Society, Salamanca.—Tin ore. 100
- 94 Neeschourrer Bellesfrod & Co., from various towns and provinces.—Ores. 100
- 95 Mining & Foundry Co. of Santander.—Ores. 100
- 96 Buen Deseo Mining Society, Peñalcázar, Province of Soria.—Argentiferous lead ore. 100
- 97 Perez, Bernardo, Peñalcázar, Province of Soria.—Argentiferous lead ore. 100
- 98 Director of the Company of Mines & the Manufactory del Pedroso, Cazalla de la Sierra, Province of Seville.—Iron ores. 100
- 99 Gomez, José María, Vimbodí, Province of Tarragona.—Pyrites and barytes in powder. 100
- 100 Monner, Francisco, Las Borjas, Province of Tarragona.—Oligistic iron. 100
- 101 Britó & Sierra, Camañas, Province of Teruel.—Crystallized manganese ore, pyrolusite. 100
- 102 Maorad, Benito, Camañas, Province of Teruel.—Manganese. 100
- 103 Valdemoro, Juan Francisco, Teruel.—Oxide of iron. 100
- 104 Belles, James, Albarracin, Province of Teruel.—Oxide of iron. 100
- 105 Perez, Francisco, Linares, Province of Teruel.—Calamine. 100
- 106 Diego, Vicente de, Bilbao, Province of Vizcaya.—Iron ores. 100
- 107 Bourson, Miguel, Somorrostro, Province of Vizcaya.—Iron ore. 100
- 108 Bilbao Iron Ore Company (limited), Galdamés, Province of Vizcaya.—Iron ore. 100
- 109 Zabalo, Andrés, Illueca, Zaragoza.—Oligistic iron. 100
- 109^a Mouner, Francisco, Reus, Province of Tarragona.—Ores. 100
- 110 Rueda, Manuel, Mesones, Province of Zaragoza.—Oligistic iron. 100
- 111 Boiven y Senty, Adolfo, Maestu, Province of Alava.—Natural rock asphaltum, refined bitumen, pure and dry asphaltum. 101
- 112 Asphaltum Company of Maestu, Vitoria.—Asphaltum. 101
- 113 Mining Union, Calaf, Province of Barcelona.—Lignite. 101
- 114 La Perla Bergadana Mining Society, Pont de Raventi, Province of Barcelona.—Mineral coal. 101
- 115 Gispert y Pujals, Manuel, Barcelona.—Mineral coal. 101
- 116 Oria, Eugenio, Brieua de Juarros, Province of Burgos.—Dry pit-coal. 101
- 117 Juarreña Society, San Adrian de Juarros, Province of Burgos.—Dry pit-coal. 101
- 118 Miró y Cerdá, C., from various towns of the Province of Castellón.—Coal. 101
- 119 Metallurgical Coal-pit Company of Belmez, Peñarroya, Province of Córdoba.—Pit-coal, and coke. 101
- 120 El Veterano Mineral Society, Surroca, Province of Gerona.—Pit-coal and coke; rocks, illustrating the geological composition of the coal districts of Surroca and Ogassa. 101
- 121 Board of Agriculture, Industry, & Commerce, Oviedo.—Coke and mineral coal. 101
- 121^a Board of Agriculture, Industry, & Commerce, Mieres, Province of Oviedo.—Coal block, weighing 30 cwt. 101
- 122 Coal-pit Society of Muñon, Muñon, Pola de Lena, Province of Oviedo.—Mineral coal. 101
- 123 National Factory of Trubia, Trubia, Province of Oviedo.—Mineral coal and coke. 101
- 124 Garcia de los Rios, Eduardo, Mieres, Province of Oviedo.—Pit-coal. 101
- 125 Vigon, Braulio, Carrándi, Province of Oviedo.—Anthracite coal. 101
- 126 Mines of Castilla, Barruelo, Province of Palencia.—Pit-coal and coke. 101
- 127 Fernandez Castañeda, Telesforo, Reinoso, Province of Santander.—Lignite. 101
- 128 Pereire, Isaac, Villanueva del Rio, Province of Seville.—Coal. 101
- 129 Corps of Mining Engineers, Soria.—Impregnated asphaltum. 101
- 130 Peguero, Andrés, Utrillas, Province of Teruel.—Coal. 101
- 131 Sierra, Francisco, Utrillas, Province of Teruel.—Coal. 101
- 132 Estéban, Cristóbal, Libros, Province of Teruel.—Brimstone. 101
- 133 Fernandez, Francisco, Havana, Island of Cuba.—Asphaltum. 101
- 134 Blanquer Ronda, Mariano, Callosa de Ensarriá, Province of Alicante.—Black marble. 102
- 135 Serrano, Cardona & Co., Monóvar, Province of Alicante.—Tubing and pillar, with enclosure. 102
- 136 Jover, Francisco, Almería, Province of Almería.—Construction stones. 102
- 136^a Abelló y Boada, Pablo, Sarreal, Province of Tarragona.—Alabaster. 102
- 137 Daza, Francisco, Macael, Province of Almería.—Marble. 102
- 138 Tréll, Miguel del, Berja, Province of Almería.—Marble for construction. 102
- 139 Chief Engineer of Highways, Valdemolinós, Province of Avila.—Granite. 102

Minerals, Stone.

- 140 Estevez, Manuel Benito, Badajoz.—Slates. 10
- 143 Provincial Commission of Villagaliño, Province of Burgos.—Alabaster, marble, calcareous stone, slate, and wheat stones. 102
- 144 Baldirez, Santiago, Villorobe, Province of Burgos.—Slates. 102
- 145 Richard & Granducontagne, Barbado de Herreros, Province of Burgos.—Gravel. 102
- 146 Corporation of Villamartin, Province of Cádiz.—Jasper. 102
- 147 Corporation of Chiclana, Province of Cádiz.—Jasper. 102
- 148 Corporation of Grazelema, Province of Cádiz.—Colored marble. 102
- 149 Nuñez, José Maria, Cádiz.—Collection of marbles and jaspers. 102
- 150 Feo y Hermos, Miguel Alfonso, San Miguel de Abona, Canary Islands.—Flagstone. 102
- 151 Gamez, Angel, Santa Cruz de Tenerife, Canary Islands.—Rock, lava, and volcanic products. 102
- 152 Society of Friends, Las Palmas, Canary Islands.—Jasper. 102
- 153 Provincial Board of Agriculture, Calig, Province of Castellon.—Marble and calcareous stone. 102
- 154 Corporation of Cabra, Province of Córdoba.—Marbles. 102
- 155 Lopez Seoane, Victor, Ferrol, Province of La Coruña.—Stones and marbles. 102
- 156 Corporation of Portilla de la Sierra, Province of Cuenca.—Marbles. 102
- 157 Corporation of La Cierva, Province of Cuenca.—Marble. 102
- 158 Yañiz, Ambrosio, Las Majadas, Province of Cuenca.—Marbles. 102
- 159 Madero, Cirilo, Arcos de la Cantera, Province of Cuenca.—Calcareous stone. 102
- 160 Rubio Perez, Juan, Guejar, Province of Granada.—Serpentine. 102
- 161 Corporation of Fuente Heridos, Province of Huelva.—Marble. 102
- 162 Corporation of Galaroza, Province of Huelva.—Marbles. 102
- 163 Gonzalez Molada, Justo, Alcaudete, Province of Jaen.—Construction materials. 102
- 164 Corporation of Castillo de Locubin, Province of Jaen.—Jasper. 102
- 165 Provincial Institute, Leon.—Marbles and alabasters. 102
- 166 Uleeschouwer, Bellefroid, & Co., Unzanilla, Province of Leon.—Marble formed by calcareous fossils. 102
- 167 Institute of Secondary Instruction of Mondoñedo, Province of Lugo.—Marbles and slates. 102
- 168 Corps of Mining Engineers, Province of Málaga.—Marbles. 102
- 169 Corporation of Mijas, Province of Málaga.—Marbles. 102
- 170 Corps of Mining Engineers, Province of Murcia.—Marble, grit, construction stone, and alabaster. 102
- 171 Corporation of Pilofia, Province of Oviedo.—Marbles. 102
- 172 Corporation of Salas, Province of Oviedo.—Marble. 102
- 173 Corporation of Colunga, Province of Oviedo.—Marble. 102
- 174 Odrizola, Joaquin de, Province of Segovia.—Construction stones. 102
- 175 Corporation of Linares, Province of Segovia.—Calcareous construction stones. 102
- 176 Corporation of Balisa, Province of Segovia.—Granite and siliceous stone. 102
- 177 Corporation of Aragonese, Province of Segovia.—Stone. 102
- 178 Corporation of Moron, Province of Sevilla.—Jasper. 102
- 179 Corporation of Cantaluca, Province of Soria.—Marbles. 102
- 180 Corporation of Espeja, Province of Soria.—Marbles. 102
- 181 Garcia, Cayetano, Espejon, Province of Soria.—Marbles. 102
- 182 Gomez, José Maria, Sareal, Province of Tarragona.—Alabaster and marble, in powder. 102
- 183 Board of Public Works, Campaspero, Province of Valladolid.—Calcareous stone. 102
- 184 Generés, José, Sarreal, Province of Tarragona.—Alabaster. 102
- 185 Board of Public Works, Villarmondo, Province of Valladolid.—Crystallized gypsum. 102
- 186 Corporation of Riela, Province of Zaragoza.—Marbles. 102
- 187 Corporation of Calatorao, Province of Zaragoza.—Black marble. 102
- 188 Corporation of Fuentes de Ebro, Province of Zaragoza.—Alabaster. 102
- 189 Boada, Jerónimo, Mataró, Province of Barcelona.—Artificial stone. 103
- 190 Navarro, Antonio, Las Palmas, Canary Islands.—Calcareous stone and powdered lime. 103
- 191 Lledó y Gomez, Cipriano, Cuenca.—White gypsum. 103
- 192 Fernandez, Gervasio, Torrubia de Campo, Province of Cuenca.—Alabastrian gypsum. 103
- 193 Lopez, Simon, Torrubia del Campo, Province of Cuenca.—Powdered alabastrian gypsum. 103
- 194 Corporation of Ayamonte, Province of Huelva.—Lime. 103
- 195 District of Mining Engineers, Province of Málaga.—Gypsum. 103
- 196 Corps of Mining Engineers, Province of Murcia.—White and black calcareous stone. 103
- 197 Corporation of Moron, Province of Seville.—Gypsum and lime. 103
- 198 Tomás, Antonio, Reus, Province of Tarragona.—Sulphate of barytes and lime. 103
- 199 Cervera, Luis, Montblanch, Province of Tarragona.—Sulphate of hydrated lime. 103
- 200 Barran, Leoncio, Alcalá de Guadaíra, Province of Seville.—Slack, quicklime, limestone, etc. 103
- 201 Climent, Hernandez, Francisco, Carcagente, Province of Valencia.—Artificial stone. 103

Minerals, Stone.

- 202 Giralt, Nicolás, Regla, Cuba.—
Lime. 103
- 203 Benavides, Mariano, La Roda,
Province of Albacete.—Magnesian
earth. 104
- 204 Saavedra Ramirez, Alejo, Somotin,
Province of Almeria.—Silicate of mag-
nesia. 104
- 205 Daza y Ruiz, Francisco, Somotin,
Province of Almeria.—Silicate of mag-
nesia. 104
- 206 Masoliver, Bartolomé, Barcelona.
—Chalk and volcanic clay. 104
- 207 Granducontangne, Richard, Barba-
dillo de Herreros, Province of Búrgos.—
Argil. 104
- 208 Oria, Eugenio, Pancorbo, Province
of Búrgos.—Bricks. 104
- 209 Provincial Commissions of various
towns, Province of Búrgos.—Argil and
clay. 104
- 210 Foundry & Delft Factory of
Sargadelos, Cervo, Province of Lugo.—
Crude materials for the manufacture of
delft. 104
- 211 Banante, Juan, Chantada, Province
of Lugo.—Argil. 104
- 212 District of Mining Engineers, Mar-
bella, Province of Málaga.—Steatite. 104
- 213 Provincial Board of Agriculture,
Industry, & Commerce, Collera, Pro-
vince of Oviedo.—Spar. 104
- 214 Uria & Pinilla, Navia de Laurca,
Province of Oviedo.—Refractory stone. 104
- 215 Factory of Trubia, Trubia, Pro-
vince of Oviedo.—Argil, silicate, and
lime. 104
- 216 Villar Cagide, Joaquin, Santa Ma-
ria de Abades, Province of Pontevedra.—
Steatites. 104
- 217 Matheu, Antonio, Montblanch,
Province of Tarragona.—Spanish white.
104
- 218 Corporation of Pinell, Province of
Tarragona.—Refractory earth. 104
- 219 Corps of Mining Engineers, Zara-
goza.—Argil. 104
- 220 District Mining Engineers, Igua-
leja, Province of Málaga.—Graphite. 105
- 221 Villalonga y Perez, Antonio, Capde-
pera, Baleares.—Tripoli. 105
- 222 Corporation of Cabra del Santo
Cristo, Province of Jaen.—Whetstones. 106
- 223 Acebal y Menendez, Benito, Ovie-
do.—Grindstones. 106
- 224 Peguero, Andrés, Utrilla, Province
of Teruel.—Jet. 106
- 225 Pedro, Carmen de, La Rambla,
Province of Teruel.—Jet. 106
- 226 Sierra, Francisco, Utrilla, Province
of Teruel.—Jet. 106
- 227 Villalba, Gregorio, Utrilla, Province
of Teruel.—Jet. 106
- 228 Sanz, Mariano, Patatrubio, Pro-
vince of Teruel.—Jet. 106
- 229 Clarós, Pablo, Utrilla, Province of
Teruel.—Jet. 106
- 230 Banquells & Rascon, Francisco,
Novelda, Province of Alicante.—Sulphur-
ous mineral water from Salinetas. 107
- 231 Trell, Miguel del, Berja, Province
of Almeria.—Gypsum. 107
- 232 Mejias Moreno, José, Pechina,
Province of Almeria.—Lamellated gyp-
sum. 107
- 233 Alonzo Cortés, Manuel, Pozas,
Province of Búrgos.—Crude and refined
salt. 107
- 234 Puig, Felipe, Miranda, Province of
Búrgos.—Crude and refined salt. 107
- 235 Cerezanian Society, Cerezo, Pro-
vince of Búrgos.—Sulphate of soda. 107
- 236 Constancia Society, Cerezo, Pro-
vince of Búrgos.—Sulphate of soda. 107
- 237 Riscal de Alegre, Marquis of, Alia,
Province of Cáceres.—Clay marl. 107
- 238 Corporation of Santa-Ella, Pro-
vince of Córdoba.—Medicinal mineral
waters. 107
- 239 Corporation of Montoro, Province
of Córdoba.—Sulphurous water. 107
- 240 Lopez, José Maria, Lucena, Pro-
vince of Córdoba.—Mineral water. 107
- 241 Marin Manuel, Villaharta, Pro-
vince of Córdoba.—Mineral water. 107
- 242 Perafita Gavigola, Francisca, Ge-
rona.—Carbonic water. 107
- 243 Medinaceli, Duke of, Gerona.—Fer-
ruginous and sulphurous water. 107
- 244 Garcia, Gabriel, Gerona.—Ferra-
ginous carbonic water. 107
- 245 Vilaret, José, Gerona.—Carbonic
water. 107
- 246 Darnius, Count of, Gerona.—Fer-
ruginous and sulphurous water. 107
- 247 Corporation of Marmolejo, Pro-
vince of Jaen.—Acidulous and carbonic
waters with iron. 107
- 248 Gutierrez Rodriguez, Cayetano,
Mogrovejo, Province of Leon.—Mineral
waters. 107
- 249 Borregan del Blanco, Dominga,
Mogrovejo, Province of Leon.—Mineral
waters. 107
- 250 Bathing Establishment, Ponferra-
da, Province of Leon.—Mineral waters.
107
- 251 Damian Garcia, José, San Adrian
de Vegaquemada, Province of Leon.—
Mineral and medicinal waters. 107
- 252 Corporation of Navajun, Province
of Logroño.—Mineral waters. 107
- 253 Diez Brothers, Grávalos, Province
of Logroño.—Sulphurous waters. 117
- 254 Lopez Losada, Antonio, Incio,
Province of Lugo.—Ferruginous waters.
107
- 255 Niera Gayoso, Dositeo, Lugo.—
Sulphurous waters. 107
- 256 Pardo Montero, Ramon, Trasparga,
Province of Lugo.—Sulphurous
waters. 107
- 257 Benevolent Societies, of various
towns and provinces.—Mineral waters. 107
- 258 Corporation of Mollina, Province
of Málaga.—Mineral waters. 107
- 259 Corporation of Carratraca, Pro-
vince of Málaga.—Mineral waters. 107
- 260 Corporation of Periana, Province
of Málaga.—Mineral waters. 107

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Metallurgical Products, Mining Engineering.

- 261 Corporation of Tolox, Province of Málaga.—Waters from Fuente Acuar-gosa. 107
- 262 Provincial Commission, Murcia.—Waters from Archena. 107
- 263 Corporation of Verin, Province of Orense.—Mineral waters. 107
- 264 Corporation of Carballino, Province of Orense.—Thermal medicinal waters. 107
- 265 Gonzalez Alegre, José Las Caldas, Province of Oviedo.—Thermal waters. 107
- 266 Casariego, Cayetano, Prelo, Province of Oviedo.—Alkaline sulphurous waters. 107
- 266^a Casariego, Cayetano, Buyer de Nava, Province of Oviedo.—Ferruginous water. 107
- 267 Cortines, Augustin de, Puente-nausa, Province of Santander.—Sulphurous waters. 107
- 268 Calderon Revuelta, Francisco, Alceda, Province of Santander.—Mineral sulphurous water. 107
- 269 Gutierrez de Ceballos, José, Ca'das de Besaya, Province of Santander.—Mineral waters. 107
- 270 Ana Micó, Widow of Ferrandis, Já-tiva, Province of Valencia.—Sulphurous and ferruginous waters. 107
- 271 Durege, Julio, San Diego de los Baños, Island of Cuba.—View of sulphurous baths and springs. 107
- Metallurgical Products.**
- 272 Richard & Granducontagne, Bar-badillo de Herreros, Province of Búr-gos.—Soft iron and pig iron. 111
- 273 Corporation of Cobeta, Province of Guadalajara.—Iron and iron ore. 111
- 274 Arroyo, Juan, Cervantes, Province of Lugo.—Iron. 111
- 275 Ojea Porras, José, Cervantes, Pro-vince of Lugo.—Iron. 111
- 276 Somoza, Juan Manuel, Caurel, Province of Lugo.—Iron. 111
- 277 Lopez, José Maria, Puertomarin, Province of Lugo.—Iron. 111
- 278 Foundry & Delft Factory of Sar-gadelos, Servo, Province of Lugo.—Cast ingot. 111
- 279 Monriz, Gabriel, Lugo.—Horse bit. 111
- 280 Corral, Francisco, Triacastela, Province of Lugo.—Horse shoes. 111
- 281 Heredia, Sons of M. A., Málaga.—Iron, plates, boiler-plates, etc. 111
- 282 District Mining Engineers, Má-laga.—Iron slag. 111
- 283 National Factory of Trubia, Ovie-do.—Iron, steel, etc. 111
- 284 Uria & Pinilla, Navia of Luarea, Province of Oviedo.—Iron ingot. 111
- 286 Director of the Mining & Manu-facturing Company del Pedroso, Cazalla de la Sierra, Province of Seville.—Iron castings and iron plates. 111
- 287 Belles, James, Albarracin, Prov-ince of Teruel.—Forged iron. 111
- 288 Valdemoro, Juan Francisco, Teruel.—Forged iron. 111
- 289 Ibarra & Co., Baracaldo, Province of Vizcaya.—Iron. 111
- 290 Corps of Mining Engineers, Hu-elva.—Copper cement and copper. 112
- 291 Villalobos Bros., Berja, Province of Almería.—Lead. 113
- 292 Mines of Almadén, Province of Ciudad-Real.—Quicksilver ore. 113
- 293 Figueroa, Ignacio, Guarroman, Province of Jaen.—Lead in pigs. 113
- 294 Velasco, Bros, Linares, Province of Jaen.—Lead bars. 113
- 295 Macia & Co., Demetrio, Penouta, Province of Orense.—Tin bar. 113
- 296 Vila Yanez, Francisco, Pentes, Province of Orense.—Tin. 113
- 297 El Porvenir Mining Society, Mi-cres, Province of Oviedo.—Tin. 113
- 298 Alen, Pedro & Manuel, Santa Maria de Acibeiro, Province of Pontevedra.—Tin. 113
- 299 Vazquez Gulias, Francisco, Bear-iz, Province of Orense.—Oxide of tin. 113
- 300 Rui & Tolon, Barcelona.—White metal. 114
- Mining Engineering.**
- 301 Piquet, Alfonso Emilio, Horcajo de los Montes, Province de Ciudad-Real.—Plan of the mines of Horcajo. 120
- 302 Mines of Almadén, Province of Ciudad-Real.—Plans of subterranean works, machines, etc. 120
- 303 Grappin, G., Salorino, Province of Cáceres.—Model of the mine Constancia. 121
- 304 Sabate Brunet, Salvador, Barcelo-na.—Instruments for the exploration of hard rocks. 120

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

PHILIPPINE ISLANDS.

(South of Nave, Columns 16 to 18.)

Minerals, Ores, Stone, Metallurgical Products.

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| <p>Minerals, Ores, Stones, Mining Products.</p> <p>1 Inspection of Mines, Province of Cebu.—Fossil charcoal and auriferous galena. 100</p> <p>2 Con-ui, Isaac, Province of Cebu.—Sand with fossils, and fossil charcoal. 100</p> <p>3 Manzano, Juan., Province of Albay.—Fossil charcoal. 100</p> <p>4 Perez, Norverto, R.P.Fr., Province of Pangasinan.—Rock argil and volcanic tophus. 100</p> <p>5 Provincial Commission of Camarines Norte.—Oxydized magnetite, chromate of lead, auriferous minerals. 100</p> <p>6 Llanos, R.P.Fr. Antonio, Province of Lepanto.—Minerals and products of furnaces. 100</p> <p>7 Veloso, Pascal, Province of Cebu.—Fossil charcoal and auriferous galena. 100</p> <p>8 Anchuelo, Quterio, Province of Bulacan.—Oligistic iron. 100</p> <p>9 Inspection of Mines, Province of Camarines Norte.—Cupreous sand with native copper. 100</p> | <p>10 Inspection of Mines, Province of Bulacan.—Oxydized magnetite. 100</p> <p>11 Commission of the District of Benguet, Province of Benguet.—Auriferous sand. 100</p> <p>12 Inspection of Mines, Province of Camarines Sur.—Fossil charcoal. 100</p> <p>13 Inspection of Mines, Province of Albay.—Fossil charcoal, argil, quartzose vein, jet, and sulphur. 100</p> <p>14 Alonzò, Teodoro, Province of Manila.—Amorphous phosphorus. 100</p> <p>15 Inspection of Mines, Province of Lyte.
 <i>a</i> Sulphur. 100
 <i>b</i> Marble. 102</p> <p>16 Municipal Athenæum, Province of Manila.—Marble and jasper. 102</p> |
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Metallurgical Products.

- 17 Provincial Commission of Masbate.—Gold-dust and grains. 110
- 18 Commission of the District of Lepanto, Province of Lepanto.—Gold-dust and gold. 110

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

PORTUGAL.

(South of South Avenue, Columns 13 to 17.)

Minerals, Ores, Stone.

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| <p>Minerals, Ores, Stones, Mining Products.</p> <p>1 Antonio, Martins, Henriques, & Co., Mont Alto.—Antimony ore from Mont Alto. 100</p> <p>2 Cortes Pereira Antimony Mine Exploring Co.—Antimony ore. 100</p> <p>3 Antimony Mining Co. of Corte Pereira.—Antimony ore. 100</p> <p>4 Blanck, Carlos Frederico, Lisbon.—Antimony ore from Herdade da Prata. 100</p> <p>5 Barriga, Antonio F., Portalegre.—Quartz of Valle de Peso. 100</p> <p>8 Caveira Mining Co., Grandola.—Copper ore from the Caveira mine. 100</p> <p>9 Deligny, Ernest, Lisbon.—Copper ore. 100</p> <p>10 Elliott, George, & Ferreira Castello, José H., Lisbon.—Iron ores from Ares Zambujal and San Bartholomeu mines. 100</p> <p>11 Elliott, George, Alvito.—Iron ores from San Bartholomeu and Zambujal mines. 100</p> <p>12 Feurheerd, F. Detlof, & Cruickshank, William, Braçal.—Lead and zinc ores from Braçal and Malhada mines; copper ore from Chança. 100</p> <p>13 Giron, D. José, Lagoas do Paço.—Manganese ore. 100</p> <p>14 Gomes, Alonso, Mertola.—Manganese ore from the Paraiso, Ferragudo, and Calvo mines. 100</p> <p>15 Malhada Mining Co., Malhada.—Copper ore from Malhada mine. 100</p> <p>16 Monges Iron Co. (limited), Lisbon.—Iron ore from Serra des Monges. 100</p> <p>17 Moraes, José Gonçalves, Arronches.—Iron, manganese, and argentiferous lead ore. 100</p> <p>18 Mason & Barry, Mertola.—Copper ores from San Domingó. 100</p> <p>19 Oliveira, Joao Correia, Senhora de Castello.—Tin ore. 100</p> <p>20 Oliveira, Bento Rodrigues de, San Pedro du Cova.—Anthracite, sulphuret of antimony, and galena. 100</p> <p>21 Portuguese Copper Mining Co., Evora.—Specimens of ores from Basalho mine. 100</p> <p>22 Portuguese Mining Co., Covellos.—Tin ore. 100</p> <p>23 Perseverança Co., Oporto.—Antimony ore from Valle d'Ache, and tin ore from Logar d'Aborin. 100</p> | <p>24 Sequeira, Thomas, & Carneiro d'Andrade, Eduardo, Beja.—Copper ore from Juliana mine. 100</p> <p>25 Schreck, Maximiliano, & Kemp, Mauricio, Oporto.—Antimony ore from Campo Redondo; manganese from Pinhal da Cunha. 100</p> <p>26 Serrinha Tin Co. (limited), Oporto.—Tin ore from Serrinho da Casca. 100</p> <p>27 Telhadella Mining Co., Telhadella.—Copper ores. 100</p> <p>28 Tras-os-Montes Mining Co., Bragança.—Tin ore. 100</p> <p>29 Transtaganá Mining Co., Lisbon.—Copper ores. 100</p> <p>30 Velho, Agostino Francisco, & others, Villa Real.—Lead ore. 100</p> <p>31 Freixo, Viscount de, Oporto.—Argentiferous lead ore. 100</p> <p>32 Zarzechi, Ladislau, Oporto.—Lead ore from the Pego mine. 100</p> <p>33 Department of Mines, Lisbon.
 <i>a</i> Manganese, tin, and antimony ores; iron pyrites. 100
 <i>b</i> Marbles. 102</p> <p>34 Oliveira, Bento Rodrigues d', S. Pedro de Cova.
 <i>a</i> Lead and antimony ore. 100
 <i>b</i> Mineral coal. 101</p> <p>35 Industrial Union Co., Povoá de Pedroride.—Coal. 101</p> <p>35^a Cabral, Frederico A. de V. P., Oporto.—Coal from Monte das Cavadinhas. 101</p> <p>36 Direction of the Public Works of Braga.—Building stones, etc. 102</p> <p>37 Barreto, Antonio Tavares, Santarem.—Limestone from the Granja quarry. 102</p> <p>38 Carvalho, Venceslau M. de, Condeixa a Velha.—Samples of marbles from Condeixa quarries. 102</p> <p>39 Brites, Augusto Pereira, Torres Novas.—Building stone. 102</p> <p>40 Direction of the Public Works of Vianna do Castello.—Building materials. 102</p> <p>41 Vallongo Slate & Marble Quarries Co., Oporto.—Slabs and roofing slate. 102</p> <p>43 Governor of the Civil District of Ponte Delgada.—Building materials. 102</p> <p>44 Rato, Antonio Moreira, Lisbon.—Marbles. 102</p> <p>45 Santos, Joaquin Antunes dos, Lisbon.—Samples of marble. 102</p> <p>46 Salles, Joaquim José de, Lisbon.—Marbles. 102</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-43.

Stone, Minerals, Metallurgical Products, Engineering.

- 47 Salles, Germano José de, Lisbon.—Marbles. 102
- 48 Bessoni, Viscount de, Cintra.—Marbles. 102
- 49 Ponta Delgada, Committee of.—Building materials. 102
- 50 Direction of the Public Works of Vizeu, Vizeu.—Building materials. 102
- 51 Direction of the Public Works of Oporto, Oporto.—Building materials. 102
- 52 Direction of the Public Works of Aveiro, Aveiro.—Building materials. 102
- 53 Direction of the Public Works of the Mondego river & Figueira bar, Coimbra.—Building materials. 102
- 54 Direction of the Public Works of Coimbra, Coimbra.—Building materials of the district. 102
- 55 Direction of the Public Works of Leiria, Leiria.—Building materials of the district. 102
- 56 Extremoz Marble Quarrying Co., Extremoz.—Marbles. 102
- 57 Rasca Cement Exploring Company, Lisbon.—Hydraulic cement. 103
- 58 Parochial Board of Sabacheira, Sabacheira.—Limestone. 103
- 59 Governor of the Civil District of Portalegre.—Phosphate of lime from Marvão. 103
- 60 Lisbon Dyeing & Cotton Printing Company, Lisbon.—Lime. 103
- 61 Ponta Delgada, Committee of.
a Pozzolana and pumice. 103
b Mineral waters of San Miguel, and analysis. 107
- 62 Neuville, Louis, Lisbon.—Kaolin. 104
- 63 Coelho, Francisco, Torres Novas.—Clay. 104
- 64 Manilha, Francisco dos Santos Lopes, Valongo.—Whetstones. 106

- 65 Vidago Mineral Waters Company, Lisbon.—Mineral waters. 107
- 66 Pedras Salgadas Mineral Waters Company, Oporto.—Mineral waters. 107
- 67 Janson, J. H., & Co., Lisbon.—Soda water. 107
- 69 Freitas, Albino, José, Ega.—Mineral waters. 107
- 70 Fialho & Bro., Lisbon.—Mineral waters. 107
- 71 Committee of Administration, Sulphur baths of Castello de Vide.—Sulphurous mineral waters. 107

Metallurgical Products.

- 73 Mason & Barry, Saó Domingos.—Gold bar and silver bar. 110
- 74 Ferreira & Souza, Oporto.—Gold leaf. 110
- 75 Cardozo, José Pereira, jr., Oporto.
a Gold and silver leaf. 110
b Aluminium, platina, and tin leaf. 113
- 76 Beirollas, Manuel Antonio, Gollega.—Horse shoes. 111
- 77 Department of Mines, Lisbon.—Iron from Moncorvo. 111
- 78 Perseverança Company, Oporto.—Tin ingot. 113
- 79 Tras-os-Montes Mining Company, Braganza.—Tin ingot. 113

Mining Engineering.

- 80 Department of Mines, Lisbon.—Plans of mines. 121
- 81 Mason & Barry, Mertola.—Plans of mines; model of a Roman wheel. 121
- 82 Silva, S. A. P. da, & F. A. Marques de Moura, Aveiro.—Plan of a salt pit, with description of same. 121

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TURKEY.

(South of Nave, Columns 14 to 17.)

Minerals, Ores, Stone.

Minerals, Ores, Stone, Mining Products.	
1 Wilkinson, Rizzo, & Co., Koumarlar, Dardanelles.—Sulphur ore, sulphurous copper.	100
2 Tapa, Daniel, Cian, Dardanelles.—Lead ore.	100
3 Sarral, Mouradite, Trebizond.—Argentiferous galena.	100
4 Sarral, Lokhia, Trebizond.—Iron pyrites.	100
5 Schirin Agha, Tirepola, Trebizond.—Copper pyrites.	100
6 Soleiman, Gueugine, Trebizond.—Galena.	100
7 Omer, Oglou Osman, Lokhia, Trebizond.—Galena.	100
8 Omer, Effendi, Ordou, Trebizond.—Argentiferous galena.	100
9 Nimetoulah, Trebelau, Trebizond.—Copper ore.	100
10 Nimetoulah, Kurelli, Trebizond.—Copper pyrites.	100
11 Pappazaki, Nicola, Sfakia, Crête.—Lignite.	100
12 Nimetoulah, Mouradite, Trebizond.—Argentiferous galena.	100
13 Moustapha, Effendi, Cherkech, Castamouni.—Chalk.	100
14 Gonssan, Government of, Adana.—Iron pyrites.	100
15 Multesim Oulah, Tireboli, Trebizond.—Ferruginous sediment.	100
16 Multesim, Abdoulah, Tirebole, Trebizond.—Argentiferous galena, copper pyrites.	100
17 Mandenè, Diarbekir.—Silver ore.	100
18 Multesim, Tireboli, Trebizond.—Cupreous pyrites.	100
19 Ligory, Effendi, Stankeny, Dardanelles. a Manganese, iron ore, and sulphur ore.	100
b Emery.	106
20 Kara-Hissar, Government of, Sivas.—Argentiferous galena, aluminous earth.	100
21 Ali, Hadji Diarbekir.—Brimstone of the desert.	100
22 Moustapha, Hadji, Nich, Danube.—Iron stone.	100
23 Adrianople, Government of. a Powdered mica.	100
b Coal.	101
c Sand for mouldings.	104
34 Debrè, Government of, Monastir.—Sulphate of chalk.	100
25 Aydin, Government of.—Argentiferous galena, lignite, iron ore.	100
26 Adana, Government of.—Sulphate of chalk and galena.	100
27 Gumuch Hanè, Government of, Trebizond.—Argentiferous and cupreous galena.	100
28 Ichkodra, Government of, Monastir.—Sulphur ore.	100
29 Ichkloura, Government of, Monastir.—Brimstone, arsenical ore, and sulphate of copper.	100
30 Havret, Government of, Salonica.—Argentiferous galena.	100
31 Topouz, Oglou, Imbros, Dardanelles. a Lead ore.	100
b Coal.	101
32 Koniah, Government of.—Brimstone.	100
33 Micherè, Government of, Yanina.—Lignite.	100
34 Medina, Government of, Hidjaz.—Rock crystals.	100
35 Maghlè, Government of, Aydin.—Argentiferous galena, iron and chrome ores.	100
36 Militinous, Government of, Samos. a Talc.	100
b Yellow earth, argil.	104
37 Lapsaki, Government of, Dardanelles.—Brimstone.	100
38 Karssendi, Government of, Adana. a Copper and silver ore, lignite and galena.	100
b Grit sandstone.	102
39 Tdomane, Government of, Yanina.—Galena.	100
40 Trebizond, Government of.—Galena.	100
41 Uskup, Government of, Monastir.—Aluminous earth.	100
42 Samos, Government of. a Galena.	100
b White and colored marble.	102
c Argil.	104
d Emery.	106
43 Suleimaneeyah, Government of, Bagdad. a Melted brimstone, cut rock crystal.	100
b Argil.	104
44 Smyrna, Government of, Aydin.—a Lignite, argentiferous galena, iron ore, manganese.	100
b Emery, grindstones.	106
45 Syros, Government of, Salonica.—Lignite.	100

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Minerals, Ores, Stone, Metallurgical Products.

- | | | | |
|---|-----|---|-----|
| 46 Souké, Government of, Aydin. | | 74 Baktiar Bez., Panaloko, Bosnia.— | |
| <i>a</i> Iron ore. | 100 | Pipe-clay. | 104 |
| <i>b</i> Red sandstone. | 102 | 75 Ali Effendi, Angora.—Argil. | 104 |
| <i>c</i> Tripoli. | 104 | 76 Myteline, Government of, Dardanelles.—Graphite. | 105 |
| <i>d</i> Emery. | 106 | 77 Osman Bin Mohamed, Bridore, Bosnia.—Emery. | 106 |
| 47 Saroukhan, Government of, Aydin. | | 78 Ali, Hadji, Teké, Koniah.—Emery. | 106 |
| <i>a</i> Chrome ore. | 100 | 79 Yildiz-Ki, Government of, Sivas. | |
| <i>b</i> Mineral water. | 107 | <i>a</i> Emery. | 106 |
| 48 Samakon Factory, Sophia, Danube.—Iron ore. | 100 | <i>b</i> Mineral water. | 107 |
| 49 Ergain, Diarbekir.—Copper ore. | 100 | 80 Bendissa, Government of, Aleppo.—Hot mineral water. | 107 |
| 50 Donel Aghop, Esiné, Dardanelles.—Manganese. | 100 | 81 Gesrichvouz, Government of, Aleppo.—Hot mineral water. | 107 |
| 51 Dardalah, Mouradile, Trebizond.—Copper pyrites. | 100 | 82 Ersindjan, Government of, Erzeroum.—Mineral water. | 107 |
| 52 Pappazaki, Dimitri, Sfakia, Crète.—Argillous talc. | 100 | 83 Marach, Government of, Aleppo.—Mineral waters. | 107 |
| 53 Abdi Bey, Myteline, Dardanelles.—Chrome. | 100 | 84 Rikanié, Government of, Aleppo.—Mineral water. | 107 |
| 54 Abdoullah Pey, Myteline, Dardanelles. | | 86 Zeitoun, Government of, Aleppo.—Hot mineral water. | 107 |
| <i>a</i> Antimony. | 100 | 87 Volonia, Government of, Yanina.—Mineral water. | 107 |
| <i>b</i> Emery. | 106 | 88 Central Drug Store, della Sudda's, Inigueul, Ichitli.—Mineral water. | 107 |
| 55 Azit Anelé, Olevék, Trebizond.—Manganese. | 100 | 89 Bin C a c h i Mehemed, Aleppo.—Mineral water. | 107 |
| 56 Ulmusrati, Ahmed, Tripoli, Tripoli.—Crude brimstone. | 100 | | |
| 57 Administration of the Mines, Constantinople.—Collection of ores. | 100 | Metallurgical Products. | |
| 58 Mehemed Agha, Aleppo.—Coal. | 101 | 90 Giovan, Siros, Salonica.—Gold-dust. | 110 |
| 59 Bridore, Government of, Bosnia.—Lignite. | 101 | 91 Me h e m e d a, Marach, Aleppo.—Horse shoes and nails. | 111 |
| 60 Djeziré, Diarbekir.—Coal. | 101 | 92 Moustapha, Hadji, Aleppo.—Iron. | 111 |
| 61 Kratova, Government of, Monastir.—Coal. | 101 | 93 Ak-Hissar, Government of, Bosnia.—Iron. | 111 |
| 62 Mosul, Government of, Bagdad.—Coal. | 101 | 94 Kerschove, Government of, Bosnia.—Iron. | 111 |
| 63 Nich, Government of, Danube.—Coal. | 101 | 95 Varach, Government of, Bosnia.—Iron. | 111 |
| 64 Panaloko, Government of, Bosnia.—Coal. | 101 | 96 Karssendi, Government of, Adana.—Crude iron. | 111 |
| 65 Ychtip Government of, Monastir.—Coal. | 101 | 97 Kara-Hissar, Government of, Sivas. | |
| 66 Ereiff, Castamouni, Castamouni.—Lignite. | 101 | <i>a</i> Iron. | 111 |
| 67 Serkiz, Aleppo.—Red marble. | 102 | <i>b</i> Lead slag. | 113 |
| 68 Razoula, Aleppo.—Yellow marble, calcareous stone. | 102 | 98 Samakon Factory, Sophia, Danube.—Iron. | 111 |
| 69 Koyondja, Government of, Bosnia.—Marble. | 102 | 99 Abass Agha, Kuspuk, Monastir.—Horse shoes. | 111 |
| 70 Nenedés, Government of, Samos.—White marble. | 102 | 100 Ligory Effendi, Stankeney, Dardanelles.—Copper. | 113 |
| 71 Nicolaki, Jovan Oglou, Dardanelles, Dardanelles.—Cement. | 103 | 101 Samos, Government of.—Zinc. | 113 |
| 72 Sfakia, Government of, Crète.—Crude lime. | 103 | | |
| 73 Naoum Cassam, Aleppo.—Argil. | 104 | | |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

RUSSIA.

(South of Nave, Columns 19 to 23.)

Minerals, Ores, Stone, Metallurgical Products.

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| <p>Minerals, Ores, Stones, Mining Products.</p> <p>1 Yoogoff Iron Works, Government of Perm.—Copper ores. 100</p> <p>2 Pootiloff Iron Works Company, St. Petersburg.—Iron ores. 100</p> <p>3 Administration of the Goroblagodati Mining District, Government of Perm.—Magnetic and other iron ores. 100</p> <p>4 Administration of the Mining Districts in Western Poland.</p> <p> <i>a</i> Iron ore, calamine, and lead blende. 100</p> <p> <i>b</i> Coal. 101</p> <p> <i>c</i> Refractory clay. 104</p> <p>5 Administration of the Olonetz Mining District.—Lake iron ore. 100</p> <p>6 Rogosloosky Crown Copper Works, Government of Perm.—Copper ores. 100</p> <p>7 Demidoff, Paul, Prince of San Donato, Nigni Tagil, Ural Mountains, Government of Perm.—Iron and copper ores. 100</p> <p>8 Gessrick & Woerfel, St. Petersburg.—Siberian minerals and hard stones. 100</p> <p>9 Kniaze Michailoffi Crown Steel Works, Government of Orenburg.—Magnetic iron ore. 100</p> <p>10 Mining School, St. Petersburg.—Minerals and paleontological collection. 100</p> <p>11 Bashkoff, Basil, Bogoyavlensk, & Verkhotoorji, Government of Cofa.—Copper ores. 100</p> <p>12 Russian Rail Manufacturing Company, Government of Riazan, District of Transk.—Iron ore. 100</p> <p>13 Saltkinsky Crown Iron Works, Government of Orenburg.—Brown and sparry iron ores. 100</p> <p>14 Sidoroff, Michael, St. Petersburg.</p> <p> <i>a</i> Iron ore. (Northern limits of Russia.) 100</p> <p> <i>b</i> Siberian graphite from the district of Toorookhansk. 105</p> <p>15 Yakovleff, John, Alexandria, Government of Kherson.</p> <p> <i>a</i> Iron ore. 100</p> <p> <i>b</i> Graphite. 105</p> <p>16 Russian Navigation & Trade Company, Odessa.—Specimens of anthracite coal. 101</p> <p>18 Majervsky, T., & Stochelsky, M., Government of Pietrkoff, district of Bendzin.—Coal. 101</p> <p>19 Sidoroff, Michael, St. Petersburg.—Bituminous coal, from underground fire burning since 1700. 101</p> | <p>20 Zievers, B. Wesenberg, Government of Est-land.—Portland cement. 103</p> <p>21 Schmidt, C., Riga.—Cement. 103</p> <p>22 Sytenko, John, Moscow.—Limestone and plaster. 103</p> <p>23 Lanin, Nicolas, Moscow.—Mineral water. 107</p> <p style="text-align: center;">Metallurgical Products.</p> <p>27 Mining Department, St. Petersburg.—Native platinum, osmiridium (purified), and platinum. 110</p> <p>28 Miasky Government Gold Mines, Government of Orenburg.—Gold-bearing sands; illustration of gold washing machines. 110</p> <p>29 Votkinsk Crown Iron Works, Government of Perm.—Iron (in bars), and cast steel. 111</p> <p>30 Pootiloff Iron Works Company, St. Petersburg.—Cast and wrought iron, steel, twisted rail. 111</p> <p>31 Gun Foundry, Perm.—Cast and wrought iron; steel sections of cast steel guns. 111</p> <p>32 Kama Armor Plate Works, Government of Perm.—Armor plate 111</p> <p>33 Administration of the Goroblagodati Mining District, Government of Perm.—Cast iron projectile. 111</p> <p>34 Administration of the Olonetz Mining Districts.—Cast and wrought iron; section of cast iron guns. 111</p> <p>35 Demidoff, Paul, Prince of San Donato, Nigni Tagil, Ural Mountains, Government of Perm.</p> <p> <i>a</i> Iron; pig bars, ingots, rails, sheets, slags, and flakes. 111</p> <p> <i>b</i> Copper ingots, bars, sheets; illustrations of style of working. 112</p> <p>36 Russian Rail Manufacturing Company, Government of Riazan, District of Transk.—Cast iron and iron wire. 111</p> <p>37 Satkinisky Crown Iron Works, Government of Orenburg.—Cast iron. 111</p> <p>38 Admiralty Tyora Works, near St. Petersburg.—Boiler plates. 111</p> <p>39 Yoogoo Copper Works, Government of Perm.—Copper (in bars and ingots), and products of working. 112</p> <p>40 Pashroff, Basil, Bogoiavlensk & Vennihotoorji, Copper Works, Government of Oofa.—Copper ingots, bars, rolled wire, and spangles; illustrations of methods of working. 112</p> |
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For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27-45.

Metallurgical Products, Mining Engineering.

42 Ragoſlovsky, Crown Copper Works, Government of Perm.—Illustrations of productions of copper. 112

43 Raſtergaeff, Gregory, St. Petersburg.—Tinned iron sheets. 114

Mining Engineering.

44 Administration of Mines in Finland.—Helsingfors' editions and reports on local mine engineering and geology. 120

45 Scientific Committee of the Mining Department, St. Petersburg.—Special editions and periodicals on mine engineering. 120

46 Demidoff, Paul, Prince of San Donati, Nigni Tagil, District of Ural Mountains, Government of Perm.—Maps, plans, and views of this mining district; illustrations of gold washing process. 120

47 Babin, Victor, & Lepooshinsky, Moscow.—Illustrations of boring process, artesian well, and apparatus. 120

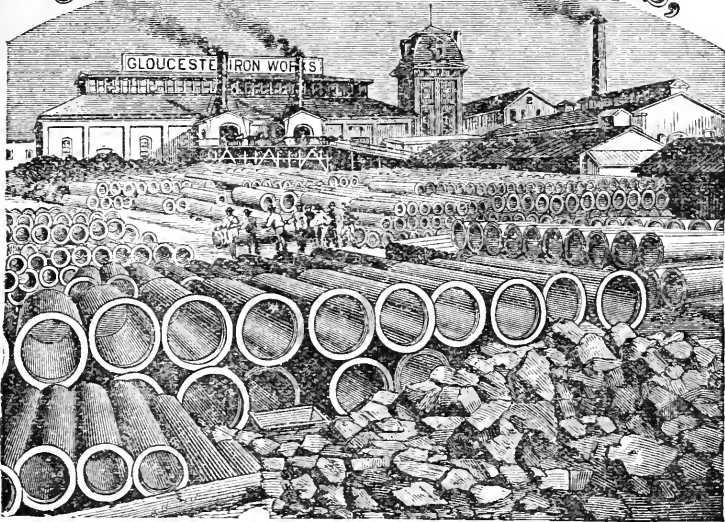
For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

David S. Brown, Pres't.
Benj. Chew, Treas.

Jas. P. Michellon, Sec'y.
Wm. Sexton, Sup't.

GLOUCESTER IRON WORKS,

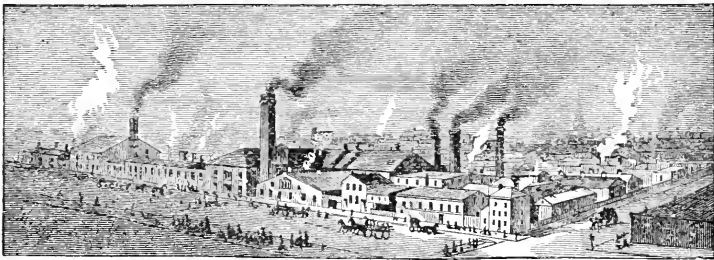
GLOUCESTER CITY, NEW JERSEY.



Cast Iron Gas & Water Pipes, Stop Valves, Fire Hydrants, Gas Holders, &c.
Office, Philadelphia, No. 6 North Seventh St.

PHILADELPHIA LEAD WORKS.

ESTABLISHED 1813.



JOHN T. LEWIS & BROS.,

MANUFACTURERS OF

WHITE LEAD, RED LEAD, LITHARGE,
ORANGE MINERAL, SUGAR OF LEAD, ACETIC ACID,
Linseed Oil, Painters' Colors.

BUSINESS OFFICE, 231 SOUTH FRONT STREET,
PHILADELPHIA.

FIRE ARMS, Etc.

PRICES quoted, description given, and some SAMPLES shown, of the following Manufacturers' Goods, now on exhibition in the Main Building of the Centennial Exposition.

JOS. C. GRUBB & CO.,

Manufacturers' Agents.

712 Market St., PHILADELPHIA.

J. RUPERTUS, Empire Revolvers.
 " C. SHARPS, Pat. 4 Shot Re-
 peaters.
 F. WESSON, Breech-Loading Rifles.
 " " Target Pistols.
 WINCHESTER, Reptg. Rifles and Cartridges.
 SHARPS, Target and Sporting Rifles.
 FOREHAND & WADSWORTH, Revolvers.
 COLT'S Patent Firearm Mfg. Co. "

SMITH & WESON, Revolvers.
 WHITNEY, Rifles and " and Breech-
 REMINGTON, " loading Double Guns.
 AMERICAN FLASK AND CAP Company.
 AMERICAN PERCUSSION CAP Association.
 WM. G. RAWBONE, Patent Creasers.
 PARKER BROS., American Breechloading
 Guns.

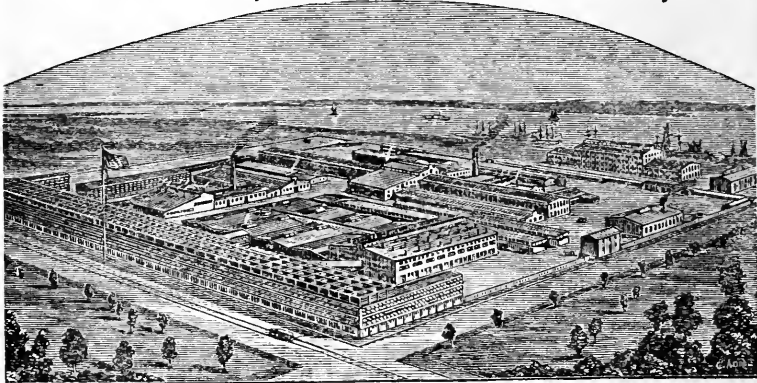
JAMES PURDEY, London, Breechload'g Guns.
 JOHN RIGBY & CO., " "
 E. M. REILLY & CO., " "
 J. LANG & SONS, " "
 ALBERT LANCASTER " "
 CHAS. LANCASTER, " "
 ALEX. HENRY, Edinburgh, " "
 Harpoon and Bomb Lance Guns.
 W. & C. SCOTT & SON, Bir-
 mingham, " "

P. WEBLEY & SON, Birmingham, Breech-
 loading Guns.
 W. W. GREENER, Birmingham, Breechloading
 Guns
 ELEY BROS., London, Shells, Wads, Caps,
 etc.
 PIGOU, WILKS & LAURENCE, London,
 Gunpowder.
 SELLIER & BELLOT, Percussion Caps.

BAEDER, ADAMSON & CO.,

MANUFACTURERS OF

GLUE, SAND PAPER,



GROUND FLINT AND EMERY,

EMERY PAPER AND EMERY CLOTH,

CURLED HAIR AND STUFFING HAIR,

MOSS, COW-HIDE WHIPS, FELT HAIR, AND FELTING.

FACTORIES :
 PHILADELPHIA, Pa.
 NEWARK, N. J.
 WOBURN, Mass.

STORES :
 Philadelphia, 730 Market Street.
 New York, 67 Beekman Street.
 Boston, 143 Milk Street.
 Chicago, 182 Lake Street.

DEPT. II.—MANUFACTURES.

UNITED STATES.

Chemicals, Pharmaceutical Preparations.

Chemical Manufactures.

- | | |
|---|---|
| <p>1 Gantz, Geo. F., & Co., New York, N. Y.—Baking powder. T 47. 200</p> <p>1a Feuchtwanger, L., & Co., New York, N. Y.—Polytechnic chemicals. T 47. 200</p> <p>2 Royal Baking Powder Co., New York, N. Y.—T 47.</p> <p><i>a</i> Baking powder. 200</p> <p><i>b</i> Flavoring extracts, celery salt 203</p> <p>2a Ohio River Salt Co., Pomeroy, O.—Salt. V 63. 200</p> <p>3 Hance Bros. & White, Philadelphia, Pa.—Solid and fluid extracts, sugar-coated pills. P 43. 200</p> <p>3a Procter, Wm., jr., & Co., Philadelphia, Pa.—Saccharated pepsin. P 48. 200</p> <p>4 Fries, Alex., & Bros., New York, N. Y.—P 48.</p> <p><i>a</i> Chemicals, coloring, etc. 200</p> <p><i>b</i> Artificial fruit and liquor essences, flavors for cigars. 203</p> <p>5 Gordon, W. J. M., Cincinnati, O.—Chemicals, glycerine, sugar-coated pills, podophyllin, hydrastine. P 47. 200</p> <p>6 Rosengarten & Sons, Philadelphia, Pa.—Sulphates of quinine and morphine, and other chemicals for use in medicine and the arts. P 41. 200</p> <p>7 Warner, Wm. R., & Co., Philadelphia, Pa.—Sugar-coated pills and pharmaceutical preparations. P 43. 200</p> <p>7a Hirsh, Joseph M., Chicago, Ill.—Chemicals, albumen, dried blood, alizarine, carbolic acid, coal tar products, etc. P 47. 200</p> <p>8 Campbell, Sam'l, Philadelphia, Pa.—P 47.</p> <p><i>a</i> Medicinal fluid extracts. 200</p> <p><i>b</i> Perfumery and toilet articles. 203</p> <p>8a Williamson, D. D., New York, N. Y.—Bisulphite of lime, finings, beer coloring, cleansing powders, tannate of soda, etc. P 49. 200</p> <p>9 Kreitzer, M. C., Philadelphia, Pa.—Medicines, perfumery, etc., in a marble show case. The marble is from a new quarry just opening in Lebanon Valley, Pa. T 43. 200</p> <p>9a Scheffer, E., Louisville, Ky.—Preparations of pepsin. P 43. 200</p> <p>10 Keasbey & Mattison, Philadelphia, Pa.—Granular effervescent preparations, gelatine-coated pills, pharmaceutical specialties. P 43. 200</p> | <p>10a Hance, R. A., Philadelphia, Pa.—Fluid extracts. T 43. 200</p> <p>11 Twining & Schiedt, Philadelphia, Pa.—Fluid and solid extracts, sugar-coated pills, elixirs, concentrated preparations, chemicals, syrups, tinctures, powdered drugs. T 41. 200</p> <p>11a Shoemaker, Robert, & Co., Philadelphia, Pa.—Fluid extracts; ground, crushed, and powdered drugs and spices. P 43. 200</p> <p>12 Powers & Weightman, Philadelphia, Pa.—Sulphate of quinia, salts of cinchona barks, sulphate of morphia; chemicals, medicinal, photographic, and for the arts. P 41. 200</p> <p>12a Morrison, Arthur B., Portland, Me.—Gold and silver solution for electrotyping without a battery; restorative for cleaning jewelry. T 57. 200</p> <p>13 Harrison Brothers & Co., Philadelphia, Pa.—P 41.</p> <p><i>a</i> Chemicals, alum, sugars of lead, acetates of lime; sulphuric, nitric, muriatic, acetic, and pyroligneous acids. 200</p> <p><i>b</i> White lead, dry and in oil; colors for painters, lithographers, and calico printing. 202</p> <p>13a Central Ohio Salt Co., Columbus, O.—Salt from Athens county. V 63. 200</p> <p>14 Doerr & Sloan, Philadelphia, Pa.—Lacto-phosphate of lime, iron, and cod-liver oil. T 40. 200</p> <p>15 Mellor & Rittenhouse, Philadelphia, Pa.—Licorice and pharmaceutical extracts; glycerine composition for printers' rollers. P 41. 200</p> <p>16 Stearns, Frederick, Detroit, Mich.—Pharmaceutical products peculiar to United States, representing his catalogue, number 75, 132 pages, 168 classes, and 10,000 items. P 41. 200</p> <p>17 Dunton, Jacob, & Co., Philadelphia, Pa.—Pills. Compressed lenticular non-excipient porous pills, made from dried powders, by pressure, without admixture; are as soluble after ten years as when first made, and much more readily dissolved than any freshly-made excipient pill. Process and machinery patented. T 40. 200</p> <p>18 Simes, Wm. F., & Son, Philadelphia, Pa.—Camphor, sublimed and compressed into convenient blocks of 1 ounce and 4 ounces; is very durable, strong in natural oil, and perfectly pure. Patented. P 41. 200</p> <p>19 Tacony Chemical Works, Philadelphia, Pa.—Acids, chemical salts, etc. T 42. 200</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Chemicals, Pharmaceutical Preparations.

- 20 Dreyfus, J. G., & Co., New York, N. Y.—Cream of tartar. T 43. 200
- 21 Mockridge, E., & Co., Philadelphia, Pa.—Azumeca. T 47. 200
- 22 Bullock & Crenshaw, Philadelphia, Pa.—Sugar-coated pills; United States Pharmacopœia and recipes of eminent physicians, accurately compounded, readily soluble, and strictly reliable in every particular. P 41. 200
- 23 Pennsylvania Salt Manufacturing Co., Philadelphia, Pa.—Kryolite, alum, lye, sodas, acids, chlo. calcium, and alumina. T 42. 200
- 24 Savage, Keyser, & Stovell, Philadelphia, Pa.—Acids and salts. T 44. 200
- 25 Philadelphia Quartz Co., 9 North Front street, Philadelphia, Pa.—Silicate of soda, in its various forms, specially adapted to the different uses. T 45. 200
- 26 Coyne, Geo. S., Philadelphia, Pa.—Manufacturer and importer of dyewood liquor extracts, acids, dyestuffs, and chemicals generally. (Stores, 104 and 127 Church street, Philadelphia, Pa.; Chester Chemical Works, Delaware county, Pa.) T 44. 200
 a Acids and chemicals. 200
 b Dyestuffs. 202
- 28 Condit, Hason, & Co., Newark, N. J.—Metallic salts, electro-plating materials; hatters', dyers', jewelers', and manufacturers' chemicals. P 49. 200
- 29 Baker, H. J., & Bro., New York, N. Y.—Refined saltpetre, borax and camphor; epsom salts, castor oil. T 49. 200
- 30 Lewis, John T., & Bros., Philadelphia, Pa.—T 42. 200
 a Acids. 200
 b White and red lead; litharge, orange mineral; paints, colors, and oils. 200
- 31 Silliman Chemical Works, Philadelphia, Pa.—Chemical products, from tar and fine chemicals, known as Fresenius's tests. P 43. 200
- 32 Wyeth, John, & Bro., Philadelphia, Pa.—Pharmaceutical preparations, drugs, and compressed pills. P 41. 200
- 33 Waterloo Yeast Co., New York, N. Y.—Dry hop yeast cakes. T 47. 200
- 34 McKesson & Robbins, 91 Fulton street, New York, N. Y.—Gelatine-coated pills, aromatic elixirs, medicinal syrups; fluid and solid extracts, perfume extracts, essential oils, indigenous crude drugs. P 43. 200
- 35 Benjamin, E. B., New York, N. Y.—Pure chemicals. N 57. 200
- 36 Kurlbaum & Co., Philadelphia, Pa.—Refined camphor and chemical preparations. P 49. 200
- 38 Libe, John C., Philadelphia, Pa.—Baking yeast powder. T 47. 200
- 39 McIlvaine Brothers, Philadelphia, Pa.—Ground and powdered drugs, paints, etc. P 43. 200
- 40 Smith, Hanway, & Co., Baltimore, Md.—Baking powder. T 47. 200
- 42 Chessman, W. H., Boston, Mass.—Pure lime from Missisquoi Lime Co., Highgate Springs, Vt. T 50. 200
- 43 Brown, Frederick, Philadelphia, Pa.—Essence of Jamaica ginger, and other pharmaceutical preparations. P 41. 200
- 44 Hagner Drug Milling Co., Philadelphia, Pa.—Powdering, grinding, flaking, crushing, and other mill work. T 51. 200
- 45 Bower, Henry, Philadelphia, Pa.—Glycerine, stearic and oleic acids; prussiate of potash, sulphate of ammonia. T 43. 200
- 46 Browning & Brothers, Philadelphia, Pa.—T 44. 200
 a Acetic acid, acetate of lime, lead, alumina and iron, sulph. copper. 200
 b Naphtha. 201
 c Dyewoods. 202
- 48 Leidy, Francis D., Philadelphia, Pa.—Soap powder, washing crystals. T 50. 200
- 50 Bean, Lewis U., Philadelphia, Pa.—P 49. 200
 a Pharmaceutical preparations, drugs, etc. 200
 b Paints—dry and in oil. 202
- 51 Pfizer, Chas., & Co., New York, N. Y.—Pharmaceutical and chemical products; cream tartar, tartaric acid, refined borax, and camphor. P 49. 200
- 52 Preston & Merrill, Boston, Mass.—P 43. 200
 a Yeast powder. 200
 b Sugar of lemons, flavoring extracts. 203
- 53 Meyer, Jas., jr., & Co., New York, N. Y.—Girondin disinfectant. Inodorous and colorless; does not injure any object or material it may be applied to; destroys and neutralizes almost instantly the most offensive odors, vapors, or gases; arrests putrefaction, prevents contagion, and is putrefaction as an agent for embalming. P 49. 200
- 55 Billings, Clapp, & Co., Boston, Mass.—Chemicals. Manufacturers of acids, alkalies, ethers, chloroforms, podophyllin, preparations of gold, silver, tin, zinc, lead, iron, bismuth, mercury, and trade chemicals. Price lists and special quotations sent on application. T 45. 200
- 56 Mackeown, Bower, Ellis, & Co., Philadelphia, Pa.—Drugs and chemicals. T 43. 200
- 58 Phillips & Jacobs, Philadelphia, Pa.—Illustration of the recovery of gold and silver from wastes in the industrial arts. T 46. 200
- 59 Dooley & Bro., New York, N. Y.—Baking powder. T 49. 200
- 60 White, Charles T., & Co., No. 54 Maiden Lane, New York.—Pharmaceutical chemicals, quinia, morphia, strychnia, and their salts; iodides, bromides, acids C. P., etc. Medals of merit for appearance and purity, Am. Institute, 1867-1870; Cincinnati, 1870; Cordova (Arg. Repub.), 1870; Vienna, 1873. P 43. 200
- 61 United States Salicylic Acid Works, New York, N. Y.—Salicylic acid and its preparations. P 47. 200
- 62 Gray, Daniel H., New York, N. Y.—Brimstone and flour of sulphur. T 42. 200
- 63 Follett, O. S., New York, N. Y.—White sugar of lead, chloroform, acetic acid, and vinegar. P 47. 200
- 64 King, Wm., Son, & Co., Philadelphia, Pa.—Crude and refined petroleum. T 41. 201

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Oils, Soap, Candles.

- 64^a Frazer Lubricator Co., Jersey City, N. J.—Axle grease. T 50. 201
- 65 Pease, F. S., Buffalo, N. Y.—Pease's "Premium Oils." Improved Oils for Railroads, Steamers, and all classes of Machinery and Burning. P 41. 201
- 66 Baker, John C., & Co., Philadelphia, Pa.—Medicinal cod-liver oil, pure, and in combination with other agents. P 43. 201
- 66^z Leonard & Ellis, New York, N. Y.—Cylinder oil. T 54. 201
- 67 Eavenson, Jones, & Sons, Philadelphia, Pa.—Laundry soaps. T 43. 201
- 68 Morgan's, Enoch, Sons, New York, N. Y.—Sapolio, for cleaning and polishing; hand sapolio, for toilet. T 48. 201
- 69 Cragin, I. L., & Co., Philadelphia, Pa.—Dobbins' electric soap and materials used in its manufacture. P 47. 201
- 70 Wrigley, Wm., & Co., Philadelphia, Pa.—Mineral scouring soap. T 44. 201
- 71 McKeone, Van Haagen, & Co., Philadelphia, Pa.—Soaps, oils, perfumery, soap stock, candles. T 39. 201
- 72 Conway, Wm., Philadelphia, Pa.—Laundry soaps. T 49. 201
- 73 Marx & Rawolle, New York, N. Y.—T 40. 201
- ^a Glycerine. 201
- ^b Lacquers and French varnishes, bleached and refined gum shellac, sealing wax. 202
- 74 Gest & Atkinson, Cincinnati, O.—Lard, tallow, grease; lubricating, burning, and paint oils; car candles. T 39. 201
- 75 Loper & Doughten, Philadelphia, Pa.—Naval stores. T 43. 201
- 76 Fallor, Geo. J., Philadelphia, Pa.—Sewing machine oils. T 44. 201
- 7 Dreydoppel, Wm., Philadelphia, Pa.—Borax soap. T 50. 201
- 78 Elkins, Wm. L., Philadelphia, Pa.—Petroleum, lubricating oils, gasoline, and deodorized naphtha. T 49. 201
- 79 Page, Kidder, & Fletcher, New York, N. Y.—Coal tar products and their uses. T 42. 201
- 80 Aladdin Oil Co., Pittsburg, Pa.—Illuminating and lubricating oils, paraffine, etc. T 43. 201
- 81 Robinson Bros. & Co., Boston, Mass.—Toilet soaps, silver soap. P 47. 201
- 82 Williams, J. B., & Co., Glastonbury, Conn.—Soaps. Manufacturers of Genuine Yankee, Barber's Bar, Clipper, Pumice, Bath, Pocket Shaving, Verbena Cream, and other popular shaving and toilet soaps. P 47. 201
- 83 Brown, Robt. B., & Co., St. Louis, Mo.—Castor oil. T 50. 201
- 85 Marvin Brothers & Bartlett, Portsmouth, N. H.—Cod liver oil. T 47. 201
- 86 Kelley, Ezra, New Bedford, Mass.—Watchmakers', mechanics', and sewing machine oils. T 45. 201
- 87 Hartmann, Laist, & Co., Cincinnati, O.—Glycerine. T 50. 201
- 88 Crew, Moore, & Levick, Philadelphia, Pa.—Illuminating and lubricating oils. T 46. 201
- 89 Pratt, Charles & Co., New York, N. Y.—Petroleum and its products, and packages for same. Model of refinery and astral oil works. T 43. 201
- 91 Smith, Chas. K., & Co., Philadelphia, Pa.—Burning and lubricating petroleum oils, miners' and railroad oils. T 40. 201
- 92 Nye, Wm. F., New Bedford, Mass.—Sewing machine, watch, and clock oils. These oils are obtained from the head of the sperm whale, the black fish, and porpoise, and most carefully refined for the purposes mentioned, only during the severest cold of winter. T 49. 201
- 93 Houghton, E. F., & Co., Philadelphia, Pa.—Cosmoline, for medical purposes; cylinder and machinery oils, hydrocarbonated bone black. T 40. 201
- 94 Boyé, M. H., & Lewis, Geo. T., Philadelphia, Pa.—Cottonseed oil, manufactured and refined. T 50. 201
- 95 Harkness, N. W., Philadelphia, Pa.—Refined petroleum, naphtha, residuum; natural lubricating oils, Harkness' wells, W. Va.; filtering apparatus. T 43. 201
- 96 Eastman & Brooke, Philadelphia, Pa.—P 47. 201
- ^a Soaps. 201
- ^b Washing blue, Russian dressing, and French blacking. 202
- 97 Devoe Manufacturing Co., New York, N. Y.—Cans with Devoe's faucet nozzle-top, and samples of oil. T 40. 201
- 98 Day & Frick, Philadelphia, Pa.—Laundry soap; polishes for cleaning paint, metal, etc. T 46. 201
- 99 Dodd, A. W., & Co., Gloucester, Mass.—Cod-liver oil. P 47. 201
- 100 Warden & Oxnard, Pittsburg, Pa.—Refined petroleum. T 49. 201
- 101 Oleophine Oil Co., refinery & works, Greenpoint, L. I.; offices, 320 and 322 Broadway, New York, N. Y., and 84 Beaver street, New York, N. Y.—Refined petroleum illuminating oils. Refiners of petroleum; proprietors of the celebrated Oleophine illuminating oils, and manufacturers of the Company's superior patented can. Oils delivered, in barrels and cans, for export and domestic use. T 44. 201
- 102 Munger, John W., Portland, Me.—Detergent compound. P 49. 201
- 103 Eavenson, J., & Sons, Philadelphia, Pa.—Soaps and candles. T 43. 201
- 104 Jewett, John, & Sons, New York, N. Y.—P 47. 201
- ^a Linseed oil. 201
- ^b White lead. 202
- 105 Rush & Co., Philadelphia, Pa.—Oils. T 41. 201
- 106 West, C., & Sons, Baltimore, Md.—Refined petroleum oil. T 41. 201
- 107 Miller, William P., & Co., New York, N. Y.—Bodeker's lubricants. T 49. 201
- 108 Galena Oil Works (limited), Franklin, Pa.—Lubricating oil. P 46. 201
- 109 Bassett, George A., Washington City, D. C.—Liquid laundry gloss. T 71. 201
- 110 Todd, A. M., Nottawa, Mich.—Natural oil of peppermint. P 47. 201

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Oils, Paints, Pigments.

- 111 Cook, Caleb, Provincetown, Mass.—Watch and clock oil. T 50. 201
- 112 Dixon Crucible Co., Jersey City, N. J.—Graphite paint. P 72. 202
- 112a Williston, A. L., Northampton, Mass.—Indelible ink and marking pens. T 46. 202
- 113 Hover, J. E., & Co., Philadelphia, Pa.—Chemical writing fluid; black ink, carmine, violet, and copying inks; mucilage. T 47. 202
- 113a Prunier, Pierre, Philadelphia, Pa.—Indigo extract, indigo carmine, tannins, gallo-tannic acid, archil, greens, etc. P 47. 202
- 114 Wetherill & Bro., Philadelphia, Pa.—White and red lead, litharge, orange mineral. T 44. 202
- 115 Lucas, John, & Co., Philadelphia, Pa.—White lead, white zinc, colors, paints, varnishes, Swiss and imperial French greens, etc. T 44. 202
- 117 Bihn & Co., Bridesburg, Philadelphia, Pa.—Lampblack. Established 1844. Manufacturers of all grades of lampblack for painters, curriers, printing ink, oil-cloth, rubber, and wall paper manufacturers. (Put up in handsome pasteboard boxes, neatly labeled.) T 40. 202
- 117a Reisinger Manufacturing Co., Harrisburg, Pa.—Chemical writing fluid. P 68. 202
- 119 Kokosing Oil Co., Gambier, O.—Lampblack. V 63. 202
- 120 Felton, Rau, & Sibley, Philadelphia, Pa.—Coach, furniture, and Japan varnishes. T 40. 202
- 120a Rue, Mrs. S., Philadelphia, Pa.—Furniture polish. W 53. 202
- 121 Reynolds, C. T., & Co., New York, N. Y. (Established 1770).—Paints, dry and in oil, fine colors, chemically pure; superfine quick-drying colors for coach and car painting; ready mixed paints for house and villa painting; laundry blueing, in bags, ready for use; artists' materials, embracing prepared canvas for oil painting, Tyrian water-color tablets, drawing papers and materials; crayons, gilders' tools, brushes for art, painters' and decorators' brushes, grainers' special tools, painters' cutlery, wax-flower materials, etc. The whole line of goods exhibited were taken from their regular stock, made for practical use, and not display. P 42. 202
- 121a Brandeis, L., & Co., New York, N. Y.—Bronze powders; gold, silver, and metal leaf. P 59. 202
- 122 Keystone Paint Co., Muncy, Pa.—Filler for coach, car, and safe painting; paint for school-house blackboards. T 40. 202
- 123 Carter, Dinsmore, & Co., Boston, Mass.—Writing fluid, inks, and mucilage; Lombard's inks and mucilage. T 47. 202
- 124 Fromherz, Jos., Cincinnati, O.—Inks. T 47. 202
- 125 Heller & Merz, New York, N. Y.—Ultramarine. T 41. 202
- 126 Rosenberg, D., & Sons, New York, N. Y.—Varnishes and baking japans. Manufacturers of coach, railway, cabinet, agricultural implements, and miscellaneous varnishes; baking japans for all uses; bronzing and colored varnishes, of all colors, a specialty. T 44. 202
- 127 Ware, M. J., Philadelphia, Pa.—Ostrich feathers, dyed and scoured. P 47. 202
- 128 Lockwood, Brooks, & Co., Boston, Mass.—Writing inks and mucilage. P 47. 202
- 129 Pecora Paint Company, Philadelphia, Pa.—Paints, stains, fillers, and dryers. T 41. 202
- 130 Davids, Thad., & Co., New York, N. Y.—Writing inks and fluid, mucilage, sealing wax, notarial seals, wafers, etc. T 47. 202
- 132 Raynald, John, 214 George street, Philadelphia, Pa.—Black and colored writing inks, copying inks, mucilage, hair dye, indelible ink. Inventor of the "Jet Black Writing Ink," invented 1860; instantaneously black, and remains so for ages. Raynald's instantaneous black Japan ink, for architecture. Raynald's instantaneous black copying ink, giving three or four copies distinct and perfect; Raynald's purple and greenish fluids at first, afterwards turning very black; Raynald's indelible ink for marking linen, silk, and cotton, with a clean pen or stencil, will not spread—no preparation; fifteen different aluminen colors for coloring maps and photographs, all first class. T 47. 202
- 133 Iron Clad Paint Co., Cleveland, O.—Paints manufactured from iron ore, as used in iron smelting furnaces. T 41. 202
- 134 Phillips, C. C., & Co., Philadelphia, Pa.—Varnish and japans. T 41. 202
- 135 Brooklyn White Lead Co., New York, N. Y.—White lead, red lead, litharge. T 41. 202
- 136 Martin, L., & Co., Philadelphia, Pa.—Lampblack. T 41. 202
- 137 Barker, Moore, & Mein, Philadelphia, Pa.—White lead. T 40. 202
- 138 Parsons, John, New York, N. Y.—Glove powder, Dixon's silver powder, carmine and violet inks, pocket mucilage. T 47. 202
- 139 Waggoner, Gifford, & Co., Chicago, Ill.—Mixed paints. T 59. 202
- 140 Thompson, Albert, Bridgewater, Conn.—American sienna paint. T 40. 202
- 141 Sharpless, John M., & Co., Philadelphia, Pa.—Solid and liquid extract logwood. T 46. 202
- 142 Polychroite Veneer Co., Philadelphia, Pa.—Wood fibre composition, for decorating wood and other surfaces. P 57. 202
- 143 Mathers', Geo., Sons, New York, N. Y.—Type and lithographic printing inks. T 47. 202
- 144 Meyers, Simon S., Philadelphia, Pa.—Stove polish, liquid blueing, in ejecting bottles. T 47. 202
- 145 Valentine & Co., New York, N. Y.—Varnishes, etc., for fine coach and car work. T 43. 202
- 146 Milliken, Eugene, Boston, Mass.—Electrocon liquid polish. T 56. 202
- 147 Masury, J. W., & Son, New York, N. Y.—Grained doors, showing graining colors; superfine colors for coach, carriage, and car painting. T 41. 202

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Pigments, Essences, Perfumery.

- 148 Moss, Geo. A., New York, N. Y.—Liquid blueing, powder blue, shoe blacking, ladies' shoe dressing, writing inks, etc. T 47. 202
- 149 Adams White Lead Co., Baltimore, Md.—White lead and products, a new process securing excellence of body, color, softness, uniformity, and durability. T 40. 202
- 150 Smith, Edward, & Co., New York, N. Y.—Coach and car varnishes, and japan dryers. T 41. 202
- 152 Moser, Chas., & Co., Cincinnati, O.—Colors, dry and pulp; paints in oil, coach colors, artists' colors. T 41. 202
- 152^a Jarboe, J. W., New York, N. Y.—Ship's model and iron slab coated with enamel paint composition. T 54. 202
- 153 Wright, J. K., & Co., Philadelphia, Pa.—Printers' and lithographers' inks and varnishes. T 47. 202
- 154 Continental Manufacturing Co., Philadelphia, Pa.—Inks, writing fluids, mucilage, artists' colors. T 47. 202
- 155 McCloskey, Bro., & Co., Philadelphia, Pa.—Paints and colors, ground in oil, dry, and in pulp. T 40. 202
- 155^a Robinson & Pratt, Philadelphia, Pa.—Printing and lithographic inks and varnishes. T 51. 202
- 156 Erwin, H., & Co., Bethlehem, Pa.—Mineral paint from Lehigh valley. T 40. 202
- 157 Prince's Metallic Paint Co., Parryville, Pa.—Metallic paint and foundry facings. T 50. 202
- 158 Johnson, Chas. Eneu, & Co., Philadelphia, Pa.—Typographic and lithographic black and colored printing inks, varnishes, etc. T 47. 202
- 159 State of Oregon (by A. J. Dufur).—Paints and oils. V 56. 202
- 160 Maynard & Noyes, Boston, Mass.—Writing ink. T 47. 202
- 161 Estes, E. B., & Son, New York, N. Y.—Sign painters' smalts. T 45. 202
- 162 Rowland, Joseph S. C., Philadelphia, Pa.—Indelible, canceling, and copying ink, and writing fluid. T 47. 202
- 163 American Bronze Powder Manufactory, Brooklyn, N. Y.—Bronze powders. N 50. 202
- 164 Francis & Loutrel, New York, N. Y.—P 74.
^a Copyable printing inks. (Patent, April, 1872.) Use any "copying press." 202
^b Composition for inking rollers. Does not harden, shrink, or crack; good for all time and climate. 543
- 165 Foering, Geo. W., Locust Valley, Lehigh county, Pa.—"Saucon sienna." Geologically, and otherwise, a peculiar formation, rich in alumina and peroxide of iron, exhibiting the durability of the best ochres. T 50. 202
- 166 Peirce, I. Newton, Philadelphia, Pa.—Stone surface enamel colors, and samples. T 70. 202
- 167 Smith, Marshall L., Kimberton, Pa.—Silex mineral paint. T 70. 202
- 168 Marble, Jerome, & Co., Worcester, Mass.—Patent indigo blue dye. A pure indigo color produced in any shade, perfectly fast, saving in time and expense, stands all indigo tests; process learned in half a day. T 70. 202
- 169 Zinsser, Wm., & Co., New York, N. Y.—Bleached and refined shellac, French alcohol copal varnishes, sealing wax. Shellacs are in quality same as unbleached; refined, give clear, transparent solutions; varnishes, quick drying, hard surface; lacquers of lasting colors. P 47. 202
- 170 Thomson, J. S., New York, N. Y.—Non-erasable and other inks. T 47. 202
- 171 Shaw, Thomas Ogg, Providence, R. I.—Paint made from mineral from Wyoming Territory. T 50. 202
- 172 Johnson, Henry M., New York, N. Y.—Kalsomine and fresco paints. P 47. 202
- 173 Stimson & Babcock, Boston, Mass.—P. 47.
^a Coach and car varnishes. 202
^b Gum copals. 203
- 174 Tetlow, Henry, & Bro., Philadelphia, Pa.—Perfumery, bouquet and toilet soaps, fine toilet preparations, blanc illusion, etc. P 48. 203
- 175 Hotchkiss, H. G., Lyons, N. Y.—American official essential oils. P 47. 203
- 176 Upham, Sam'l C., Philadelphia, Pa.—Extract, cologne, Florida water. Perfume fragrant and lasting. Two medals awarded. P 47. 203
- 177 Wenck & Co., New York, N. Y.—Perfumes and toilet preparations. P 47. 203
- 178 Wenck & Briesen, New York, N. Y.—Automatic parlor fountain. P 47. 203
- 179 Chawshaw French Toilet Powder Co.—Toilet powder and perfumed soap. T 48. 203
- 180 Sulzberger, David, Philadelphia, Pa.—Fluid extracts, by cold process; cooking extracts, fruit and liquor flavors, fruit ethers. P 48. 203
- 181 Savournln, W. H., Philadelphia, Pa.—Lily whites, rouges, toilet powders, etc. P 47. 203
- 182 Malcom & Stevenson, Philadelphia, Pa.—Fruit flavoring extracts. P 47. 203
- 184 Woodworth, C. B., & Son, Rochester, N. Y.—Perfumery, hair oils, pomades, cosmetics, flavoring extracts. T 47. 203
- 185 Young, Ladd, & Coffin, New York, N. Y.—Perfumes, oil of cologne, California water. T 48. 203
- 186 Chesebrough Manufacturing Co., New York, N. Y.—Vaseline, pomades, cerates, ointments, perfumes, cold cream, etc. P 43. 203
- 187 Lorenz Bros., Toledo, O.—Concentrated perfumes. P 47. 203
- 188 Da Costa, D. R., Philadelphia, Pa.—Tooth wash. P 48. 203
- 189 Tallmadge & Co., New York, N. Y.—Essential oils and fluid extracts. P 48. 203
- 190 Fritsch, Schimmel, & Co., New York, N. Y.—Essential oils and artificial fruit essences. P 47. 203

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Perfumery, Toilet Articles, Explosive Compounds, Pottery.

- 191 Bell, R. W., & Co., Buffalo, N. Y.—Staple and toilet soaps. T 48. 203
- 191^a Hotchkiss, L. B., Phelps, N. Y.—Peppermint, spearmint, wintergreen, and pansy essential oils. P 47. 203
- 192 Taylor, C. R., & Co., Philadelphia, Pa.—Toilet soaps and perfumery. P 47. 203
- 193 Blair's, H. C., Sons, Philadelphia, Pa.—Toilet articles. T 47. 203
- 194 Colgate & Co., New York, N. Y.—Fancy soaps and perfumery. P 47. 203
- 195 Watson, Richard H., Philadelphia, Pa.—Handkerchief extracts. De Vies's quadruple handkerchief extracts. These celebrated extracts are produced with great skill, from the finest articles known in perfumery, and for delicacy of perfumes, truthfulness to nature, and tenacity, they are particularly recommended; they are guaranteed to be of quadruple strength, and warranted not to turn rancid. Although not old extracts, they have taken favor immediately, and the best proof of their quality is their large and constantly increasing sales. A trial will convince you. P 47. 203
- 196 Hoyt, E. W., & Co., Lowell, Mass.—Cologne. P 47. 203
- 197 Read, Wm. H., Baltimore, Md.—Cologne, tooth wash, perfrumery. P 47. 203
- 198 Worsley, Thos., & Co., Philadelphia, Pa.—Toilet and fancy soaps, and toilet powders. P 47. 203
- 199 Wright, R. & G. A., Philadelphia, Pa.—Extracts, cologne, cosmetics, pomades, oils, dentifrices, toilet soaps, etc. P 47. 203
- 200 Wolf Brothers & Keech, Centreville, Mich.—Essential oils. P 47. 203
- 201 Aschenbach & Miller, Philadelphia, Pa.—Flavoring extracts and perfumery. P 47. 203
- 202 Fricke, Arthur, Philadelphia, Pa.—Perfumery. P 47. 203
- 203 Burnett, Jos., & Co., Boston, Mass.—Flavoring extracts, cologne water, and other toilet articles. P 48. 203
- 204 Colton, J. W., Westfield, Mass.—Colton's select flavoring extracts of choicest fruits and spices. They are strictly pure, rich flavors of the fruits, and are great saving in actual cost, to all. In a sale of thousands of gross, not one particle of coloring or adulteration has ever been used. P 43. 203
- 205 Hale & Parshall, Lyons, N. Y.—Essential oils. P 47. 203
- 206 Atwood, Hermon W., New York, N. Y.—Cologne. The proprietor takes pride in comparing this product of home manufacture with the best imported colognes. Delicacy of fragrance is combined with lasting and invigorating qualities. P 47. 203
- 207 Mitchell, Geo. E., Lowell, Mass.—Cologne. N 53. 203
- 207^a California Distilling Co., New York, N. Y.—Essential oils and fruit extracts. P 48. 203
- 208 Hambleton, J., & Son, Philadelphia, Pa.—Bay rum, pomades, cosmetics, colognes, extracts, hair tonics, etc. P 43. 203
- 209 Weaver, James B., Philadelphia, Pa.—Cologne, Florida water, bay rum. T 49. 203
- 209^a Oriental Powder Mills, Boston, Mass.—Imitation samples of military, sporting, and blasting powder. P 43. 204
- 210 Barber Match Co., Akron, O.—Drawing-room and sulphur matches. T 44. 204
- 211 Toy, Bickford, & Co., Simsbury, Conn.—Safety fuses. T 45. 204
- 211^a Du Pont de Nemours, E. I., Wilmington, Del.—Powder canisters and salt-petre. T 49. 204
- 212 Lafin & Rand Powder Co., New York, N. Y.—Gunpowder, empty packages, patent cartridges for mining, fuses, crude materials. N 62. 204
- 212^a Zennig, R. H., & Co., New York, N. Y.—Wax matches and tapers. P 43. 204
- 213 Hazard Powder Co., Hazardville, Conn.—Sporting and blasting gunpowder. H 71. 204
- 214 Willis, Aug. L., Philadelphia, Pa.—Pyrotechnic fog signals. H 71. 205
- 214^a Harris, H. G., New York, N. Y.—Balloon signals. H 68. 205

Ceramics — Pottery, Porcelain, Glass, etc.

- 215 Galloway & Graff, Philadelphia, Pa.—Terra-cotta statuary, vases, tazzas, pedestals, fountains, flower pots, garden edging, etc. B 72. 206
- 216 Neukumet, Philip, Philadelphia, Pa.—Fire bricks, clay retorts, gas-house tiles, and ornamental building brick. X 56. 206
- 216^a Burns, Russell & Co., Baltimore, Md.—Pressed brick masonry. Y 60. 260
- 217 Moorhead Clay Works, Philadelphia, Pa.—Terra-cotta sewer and water pipes, drain and roofing tiles, garden vases, chimney tops, and flues. (*Outside.*) 206
- 218 Harvey & Adamson, Philadelphia, Pa.—Drain and sewer pipe, garden vases, statuary, chimney tops, flues, etc. B 72. 206
- 218^a Davis & Chaddock, Boston, Mass.—Fire bricks. Y 61. 206
- 219 Remmey, Richard C., Philadelphia, Pa.—Chemical apparatus for manufacturing acids. B 68. 206
- 220 Gossin, F., Philadelphia, Pa.—Terra-cotta ware, statuary, vases, fountains, pedestals, etc. B 69. 206
- 221 Bowman, O. O., & Co., Trenton, N. J.—Terra-cotta drain and sewer pipe, chimney tops, and flues; garden vases and statuary. B 71. 206
- 221^a Alexander, J. Park, Akron, O.—V 63. 206
- ^a Fire brick. 206
- ^b Stone ware. 210
- 222 Fritz, John, Philadelphia, Pa.—Terra-cotta work, hanging baskets, rustic flower pots, vases, fern cases, etc.; imitation glass logs. B 69. 206
- 222^a Ogden, Isaac, Newark, N. J.—Drain pipe. Y 55. 206

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Pottery, Porcelain.

- 223 Scioto Fire Brick Co., Sciotoville, Ohio.—Fire bricks and fire clays. V 61 to 64. 206
- 223^a Dover Fire Brick Co., Canal Dover, O.—Fire brick. T 63. 206
- 223^b Boynton, C. W., & Co., Woodbridge, N. J.—Under-drainage tile, hollow building brick, and garden borders. Y 54. 206
- 224 Ambruster, John, Camden, N. J.—Pressed brick work. X 58. 206
- 225 Union Mining Co., of Allegheny county, Md.—Fire brick. X 58. 206
- 226 Wood Brothers, Hartford, Conn.—Drain tiles. W 53. 206
- 227 Hinvest, Robt., New York, N. Y.—Clamp and band for securing masonry, hollow brick for ventilation, chimney top. (*Outside.*) 206
- 227^a Scattergood, W. W., Rancocas, N. J.—Drain tile. X 56. 206
- 227^b Brick Enameling Co., Philadelphia, Pa.—Enameled bricks. U 48. 206
- 227^c Richardson, Geo., Milwaukee, Wis. Artif. Stone and Pipe. T 51 & X 57. 206
- 228 Hews, A. H., & Co., North Cambridge, Mass.—Flower pots, fancy earthenware, garden vases, ferneries, battery jars, etc. B 69. 206
- 229 Hall, A., & Son, Perth Amboy, N. J.—Brick used in chimney of New Jersey State Building. 206
- 230 Maurer, Henry, Perth Amboy, N. J., and 418 to 422 East Twenty-third street, New York, N. Y.—Roofing tiles used upon the New Jersey State Building. Cheap, light in weight, thoroughly fire-proof, perfectly water-tight. 206
- 231 American Kaolin Co. Works, New Garden, Chester Co., Pa.; office, 233 South Third street, Philadelphia, Pa.—Fire brick, tile, etc. X 58. 206
- 232 Wassel Fire Clay Co., Columbus, O.—V 63.
- a* Terra-cotta work. 206
- b* Fire brick. 207
- 233 Kreisler, B., & Son, Philadelphia, Pa.—X 56.
- a* Fire bricks, tiles, blocks, and slabs. 206
- b* Clay gas retorts, furnaces, and muffles. 207
- 233^a Newton & Co., Albany, N. Y.—X 56.
- a* Fire brick. 206
- b* Stove linings, heater fire-brick linings, portable clay furnaces. 207
- 233^b Friese, C., Philadelphia, Pa.—Statuary, vases, stumps, flower pots, hanging baskets, etc. T 76. 206
- 234 Hall, A., & Sons, Perth Amboy, N. J.—T 59.
- a* Diamantite front and fire bricks. 206
- b* Street paving blocks. 208
- c* Rockingham antique and yellow ware. 210
- 235 Hicks, George C., & Co., Baltimore, Md.—T 55.
- a* Terra-cotta pipe, vase, clays, etc. 206
- b* Fire bricks, gas retorts. 207
- c* Tiles. 208
- Standard fire-clay gas retort, made from the renowned Maryland fire clays, and remarkable for refractivity, tenacity, and freedom from gathering carbon. Fire clays, all from within the city limits of Baltimore.
- 236 Walker, N. U., Wellsville, O. (*Outside.*)
- a* Sewer pipe, terra-cotta ware, chimney top, and statuary. 206
- b* Fire tiles, stove linings. 207
- c* Roofing tile. 208
- 237 State of New Jersey, by Geo. H. Cook, State Geologist, New Brunswick, N. J.—T 70.
- a* Sewer and drain pipe; fine and common pottery. 206
- b* Fire bricks. 207
- c* Stoneware. 210
- d* Window glass. 214
- e* Apothecaries' and bottle glass. 215
- 237^a Hampton, Cutter, & Son, Woodbridge, N. J.—T 64.
- a* Fire brick. 207
- b* White ware. 210
- 238 Dixon Crucible Co., Jersey City, N. J.—Graphite crucibles, retorts, etc. P 72. 207
- 238^a Haws, A. J., Johnstown, Pa.—Fire brick bottoms for blast furnaces, rolling mills, etc. Y 60. 207
- 239 McIlvaine Bros., Philadelphia, Pa.—Foundry facings. P 43. 207
- 239^a Kier Bros, Pittsburg, Pa.—Y 56.
- a* Fire bricks. 207
- b* Tiles. 208
- 240 Goebel, J., & Co., New York, N. Y.—Clay and clay pots. T 57. 207
- 240^a Burlington Manufacturing Co., Burlington, Vt.—Samples of tile floor. T 56. 208
- 240^b Peck, Kennedy, & Co., New York, N. Y.—Clay roofing tile. (*Outside.*) 208
- 240^c Field, F. K., Philadelphia, Pa.—Flagging and floor tiles. T 53. 208
- 241 Young's, Wm., Sons, Trenton, N. J.—Crockery and porcelain hardware trimmings. T 74. 209
- 242 Empire China Works, James L. Jensen, Proprietor, Green Point, Brooklyn, E. D., N. Y.—Porcelain hardware and cabinet trimmings; also, patent lemon squeezers, wood frame, porcelain lined; porcelain blade knife sharpeners, etc. N 70. 209
- 243 Moore, Joseph H., Trenton, N. J.—Earthenware. T 76. 210
- 244 Carr, James, New York, N. Y.—White granite, majolica and parian ware. T 77. 210
- 244^a Laughlin Bros., East Liverpool, O.—Ironstone china ware. T 75. 210
- 245 Davis, Isaac, Trenton, N. J.—White granite and decorated crockery ware. T 75. 210
- 246 Jeffords, J. E., & Co., Philadelphia, Pa.—Yellow, Rockingham, white-lined, buff-stone, majolica, and lava wares. T 77. 210
- 246^a Coxon & Co., Trenton, N. J.—Earthenware. T 77. 210
- 247 Astbury & Maddock, Trenton, N. J.—Earthenware for sanitary purposes; china and earthenware for general use. T 73. 210
- 248 Ott & Brewer, Trenton, N. J.—White granite, porcelain, and parian wares; vases, figures, table and toilet goods. T 73. 210

Pottery, Porcelain, Glassware.

- 249 Thompson, C. C., & Co., East Liverpool, O.—Pottery ware. T 76. 210
- 250 Yates, Bennett, & Allen, Trenton, N. J.—Dinner, dessert, tea, and toilet sets; crockery ware. T 77. 210
- 252 Brunt, Bloor, Martin, & Co., East Liverpool, O.—American white granite dinner, dessert, tea, and toilet decorated ware. T 74. 210
- 252^a Speeler Pottery Co., Trenton, N. J.—T 75.
a Yellow and Rockingham fire-proof ware. 270
b Biscuit ware. 212
- 253 Baggott, S. & W., East Liverpool, O.—Rockingham and yellow ware. T 75. 210
- 253^a Glasgow Pottery Co., Trenton, N. J.—T 73.
a Stone china and decorated ware. 210
b Majolica ware. 211
- 254 American Crockery Co., Trenton, N. J.—Chamber sets and table ware of bisque, white granite, and stone china. T 73. 213
- 255 Greenwood Pottery Co., Trenton, N. J.—Ironstone china, decorated dinner and toilet sets. T 74. 213
- 256 Mercer Pottery Co., Trenton, N. J.—Plain and decorative earthenware and china. T 75. 213
- 256^a Union Porcelain Works, Greenpoint, N. Y.—Porcelain ware. T 75. 213
- 257 Onondaga Pottery Co., Geddes, N. Y.—White granite, and decorated table and toilet ware. T 77. 213
- 258 Hambleton, J., & Son, Philadelphia, Pa.—Decorated porcelain plates, pitchers, barber mugs. P 43. 213
- 258^a Bullock, Charles, Trenton, N. J.—China ware. T 77. 213
- 259 Lucas, John, & Co., Philadelphia, Pa.—Window glass. T 45. 214
- 260 Sallandrouze, S. P., Cincinnati, O.—Plate glass. P 43. 214
- 261 Cohansej Glass Manufacturing Co., Bridgeton, N. J.—N 49.
a Under window glass. 214
b Bottles, vials, and demijohns. 215
- 262 Gilbert, F. A., New Haven, Conn.—Combination table. P 51. 217
- 262^a Lambie & Sargent, New York, N. Y.—Adjustable table. P 51. 217
- 263 Klautsheck, Thomas, & Stewart, Philadelphia, Pa. (*Pavilion in park.*)
a Window glass. 214
b Glass shades. 216
- 264 Diamond Glass Co., Ravenna, O.—Double-thick glass from ground white sandstone, in windows of Ohio State Building. 214
- 265 Wenck & Co., New York, N. Y.—Atomizers. P 47. 215
- 265^a Whitall, Tatum, & Co., Philadelphia, Pa.—Druggists', perfumers', confectioners', etc., glassware; fruit jars. N 49. 215
- 266 Holzer, Wm., Philadelphia, Pa.—Druggists', chemists', philosophical, and fancy glassware. N 52. 215
- 267 Young, Ladd, & Coffin, New York, N. Y.—Perfume atomizers. T 48. 215
- 268 Pile, W. H., & Sons, Philadelphia, Pa.—Hydrometers, specific gravity bottles, graduated tubes, chemical thermometers, and analytical weights. N 50. 215
- 269 Caterson, Wm. M., Philadelphia, Pa.—Bottles for poisons. T 53. 215
- 270 Fox, H. C., & Sons, Philadelphia, Pa.—Druggists' and perfumers' glassware made from glass not containing lead. N 53. 215
- 271 Warner, Wm. R., & Co., Philadelphia, Pa.—Drug dispensing bottles. P 43. 215
- 272 Whitney Bros., Glassboro', N. J.—Green and other colored glassware, for druggists, chemists, etc. N 54. 216
- 272^a Smith Bros., New Bedford, Mass.—Engraving and decorating of glass. N 51. 216
- 273 Boston & Sandwich Glass Co., Boston, Mass.—Glassware. Manufacturers of cut crystal chandeliers; rich cut glassware of every description, including the "Daniel Webster Punch Bowl." N 51. 216
- 273^a Smith, H. J., & Co., Philadelphia, Pa.—Stained glass window of the "Crucifixion," the main figure after A. Durer's celebrated picture. (*North Gallery.*) 216
- 274 New England Glass Co., East Cambridge, Mass.—Glassware. N 50. 216
- 274^a Smith Bros., New Bedford, Mass.—Decorated vases, shades, globes, etc. N 51. 216
- 274^b Jones, Thomas, New York, N. Y.—Ornamental cut and ground glass. N 49. 216
- 274^c Hobbs, J. H., Brockunier, & Co., Wheeling, W. Va.—Soda-lime glassware. N 52. 216
- 275 Dobelmann, J. B., Greenpoint, N. Y.—Cut and engraved glassware. N 53. 216
- 276 Hartell & Letchworth, Philadelphia, Pa.—Gas globes, ornamental sheet glass, and Centennial devices. P 64. 216
- 277 Mount Washington Glass Works, New Bedford, Mass.
a Cut crystal floral fountain. T 45. 216
b Crystal toilet table, prismatic candelabra, chandelier, vases, glassware. N 51. 216
- 278 La Belle Glass Co., Bridgeport, Ohio.—Table, bar, and lamp goods, cut and engraved ware. N 52. 216
- 279 Keystone Flint Glass Co., Pittsburg, Pa.—Pure lead glass, lamp chimneys, silvered glassware. N 51. 216
- 280 Bakewell, Pears, & Co., Pittsburg, Pa.—Pressed and blown crystal and opal glassware. N 51. 216
- 281 Ripley & Co., Pittsburg, Pa.—Imitation cut glassware, lamps blown and cut; bar goods cut and engraved. N 49 to 51. 216
- 283 Richards & Hartley Flint Glass Co., Pittsburg, Pa.—Crystal glass table ware, lamps, etc. N 49 to 51. 216
- 284 Adams & Co., Pittsburg, Pa.—Flint and opal glassware. N 49 to 51. 216
- 285 Atterbury & Co., Pittsburg, Pa.—Lamps and glassware, gas and kerosene globes. N 49 to 51. 216

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Glassware, Furniture.

- 286 Excelsior Flint Glass Co., Pittsburg, Pa.—Glass lamp chimneys, silvered glass reflectors. N 49 to 51. 216
- 287 Rochester Tumbler Co., Pittsburg, Pa.—Glass tumblers. N 49 to 51. 216
- 288 Crystal Glass Co., Pittsburg, Pa.—Moulded or pressed crystal glass table ware, etc. N 49 to 51. 216
- 289 Central Glass Co., Wheeling, W. Va.—Pressed glassware. N 52. 216
- 290 Albertson, J. M., Norristown, Pa.—Window glass, glass shades; colored, obscured, and corrugated glass. N 51. 216

Furniture and Objects of General Use in Construction and in Dwellings.

- 291 Collender, H. W., New York, N. Y.—Billiard tables, cue stand and marker, pool boards and buffet. T 51. 217
- 291^a Doremus, P. C., New York, N. Y.—Sofa bed and lounge. V 51. 217
- 291^b Pottin Register Manufacturing Co., Philadelphia, Pa.—Parlor billiard table. P 57. 217
- 292 Mitchell & Rammelsburg Furniture Co., Cincinnati, O.—Rosewood bed and bureau, renaissance style; walnut dining furniture and hall stand, mediæval style. P 60. 217
- 292^a Collignon Bros., New York, N. Y.—Folding rocking chairs, settees, chairs. V 71. 217
- 293 Cole, Alexander, Manumuskin, N. J.—P 52. 217
^a Iron and wood spring-bottom bedsteads. 217
^b Sash fastener. 227
- 294 O'Hara, Chas. M., Philadelphia, Pa.—"Hygienic" chairs. P 58. 217
- 295^a Miller, L. H., Baltimore, Md.—Fire and burglar proof safes. H 68. 217
- 296 Gardner & Co., New York, N. Y.—Chairs, settees, car and depot seats, etc. T 58. 217
- 296^a New Haven Folding Chair Co., New Haven, Conn.—Portable folding chairs. T 59. 217
- 297 McKinley, John, Philadelphia, Pa.—Patent barbers' chairs. T 58. 217
- 297^a Pabst, Charles, Philadelphia, Pa.—Sofa bed. P 52. 217
- 298 Allen & Bro., Philadelphia, Pa.—Furniture and interior decorations. P 54. 217
- 298^a Reeves, S. H., & Co., New York, N. Y.—Spring bottom bed. P 52. 217
- 299 Adjustable Folding Chair Co., Pittsburg, Pa.—Adjustable folding chair. P 58. 217
- 299^a Brady, E. W., Davenport, Ia.—Wooden slate window shades. T 52. 217
- 300 Henkels, Geo. J., Philadelphia, Pa.—Chamber furniture of wood from Independence Square; sofa beds. P 57. 217
- 300^a Meriden Curtain Fixture Co., Meriden, Conn.—Curtain fixtures. P 53. 217
- 301 Smith & Campion, Philadelphia, Pa.—Parlor, dining-room, chamber, and library furniture. T 55. 217

- 301^a Sawyer & Buckley, Meriden, Conn.—Chess and backgammon tables. P 53. 217
- 302 Hart, Clarence A., Philadelphia, Pa.—Military equipments, gold fringes, etc. B 78. 217
- 302^a Krause, Frederick W., Chicago, Ill.—Gothic chairs. W 52. 217
- 303 Campbell, Wm., New York, N. Y.—Spring rollers for window curtains. T 52. 217
- 303^a Harmon, J. C., Philadelphia, Pa.—Inlaid checker board. (*East Gallery.*) 217
- 304 Delaware Chair Co., Delaware, O.—Double cane-seat chairs. T 58. 217
- 304^a Stevens, C. A., & Alrich, W. H., Philadelphia, Pa.—Folding bedstead. P 54. 217
- 305 Phelps, Doremus, & Corbett, 264 and 266 Canal street, near Broadway, New York, N. Y.—W. T. Doremus' patent chair base, patent rubber springs for oscillating chairs, patent oscillating rubber-spring chairs. Being combinations, affording manufacturers a wide range in the production of chairs for office, library, or parlor use. P 53. 217
- 305^a Smith, Wm. B., New York, N. Y.—Improvement in counter show case. N 41. 217
- 306 Moore, York, & Howell, Philadelphia, Pa.—Parlor furniture, folding tables. T 54. 217
- 306^a Shroeder, F. & H., Cincinnati, O.—Pulpit, with sounding board. P 47. 217
- 307 Loth, Henry, Philadelphia, Pa.—Folding table. P 51. 217
- 307^a Spofford, Jennie H., Philadelphia, Pa.—Mattress bracket holders, mosquito bar. P 50. 217
- 308 Ferrari, Guiseppa, New York, N. Y.—Cabinet, richly carved, in Italian style of fifteenth century. P 58. 217
- 308^a Brigg, M., & Son, Rochester, N. Y.—Fire and burglar proof safes. H 71. 217
- 309 Everitt, Elisha E., Philadelphia, Pa.—Portable and stationary washstand and writing desk combined; sofa bed. P 56. 217
- 309^a Claes & Co., St. Louis, Mo.—Silver-plated show case. T 60. 217
- 310 Schubeuter, J., St. Louis, Mo.—Silver-plated show case. T 60. 217
- 311 Spiral Elliptic Spring Works, Cincinnati, O.—Springs for upholstering. P 53. 217
- 311^a Brunswick Bros., Stephani, & Hart Co., St. Louis, Mo.—Billiard table and cue rack. T 54. 217
- 312 Woven Wire Web Bed Co., New Britain, Conn.—Woven wire bed bottom. P 53. 217
- 313 Knell, Geo., Philadelphia, Pa.—Sofa bed, invalid chair and bed, rocking reclining chair, chair and lounge, photographic chairs. T 59. 217
- 313^a Adams, Dan., Nashville, Tenn.—Hat-rack and chairs made of wood from "The Hermitage," the old home of Andrew Jackson. V 72. 217

Furniture and Decoration.

- 314 Carrington, De Zouche, & Co., Philadelphia, Pa.—Interior decorations, traverse curtain fixture. P 56. 217
- 315 Sheppard, Arrison, & Sheppard, Philadelphia, Pa.—Curtains, decorations, and upholstered furniture. P 53. 217
- 316 Marcotte, L., & Co., New York, N. Y.—Library (Henry II.) and dining-room (Louis XIII.) furniture. T 52. 217
- 317 Lever Spring Bed Co., Springfield, O.—Spring bed. P 52. 217
- 318 Lamb, J. & R., New York, N. Y.—Church furniture, metal work, embroideries, and decorations. P 43. 217
- 319 Heiligmann & Bro., Philadelphia, Pa.—Solid wood cabinet carvings. P 57. 217
- 320 Wakefield Rattan Co., Boston, Mass.—Rattan furniture and ornamental ware. T 57. 217
- 321 White, Otis C., Hopkinton, Mass.—Stationary and portable head-rests for chairs and car-seat backs. This is a new mechanical combination of simple construction, which affords a complete opposition movement of great range, to all positions, without removing the head from the upholstery, and fastened by a single clamp. The portable kinds fold up to take but little space, make their own fastening to almost any form where support to the head is desired; they are simple, elegant, and thoroughly practical. Correspondence and orders solicited. T 59. 217
- 322 Lambie & Sargent, New York, N. Y.—Adjustable table. P 51. 217
- 323 Herts & Co., New York, N. Y.—Chamber suite, carved amaranth, ebony, and maple woods; upholstery, Horsfall's dressing-case wardrobe. P 54. 217
- 324 Cutter, Ephraim, Cambridge, Mass.—Adjustable chair for supine postures. N 58. 217
- 324^a Russell, W. P., & Co., Charleston, S. C.—Show case in form of a ledger. P 74. 217
- 325 Kaiser & Herzog, 1005 Walnut street, Philadelphia, Pa.—Decorative painting for ceilings and side walls, in the modern renaissance style, executed after original designs by the firm. P 56. 217
- 326 Steele, John, Louisville, Ky.—Folding opera chairs; church, lawn, and school seats. T 53. 217
- 327 Kimbel & Cabus, New York, N. Y.—Parlor furniture and decorations. P 56. 217
- 328 Vaill, E. W., Worcester, Mass.—Patent folding chairs, in great variety. Business established 1861. I claim for my chairs durability, thoroughness of finish, simplicity in folding, and compactness when folded. Very extensive assortment of styles, adapted for parlor, drawing-room, library, veranda, and shipboard; also, a line suitable for tropical climates. On account of limited space allotted, am compelled to make a comparatively meagre exhibit. T 57. 217
- 329 Cutler, A., & Son, Buffalo, N. Y.—Business desks, reading tables, patent automatic folding parlor tables. P 53. 217
- 330 Turner, Henry A., & Co., Boston, Mass.—Sofas and chairs. B 68. 217
- 331 Koechling B. H., New York, N. Y.—Opera folding chairs. P 51. 217
- COLLECTIVE EXHIBIT OF THE SCHOOL OF DESIGN, UNIVERSITY OF CINCINNATI, OHIO. (*South Gallery.*) 217
- 331^a Whittemore, R. R.—Laocoon.
- 331^b Woodward, W. W.—Fugitive Slave.
- 331^c Humphreys, Ella.—Illumination and frescoed ceiling.
- 331^d De Camp, Essie.—Panel
- 331^e Rettig, John.—Centre for ceiling and border for wainscoting.
- 331^f Merrill, Susie.—Panel centre.
- 332 Seymour, H. J., Chair Co., Troy, N. Y.—Bent chairs, patent braided chairs and rockers, walnut dining and library chairs. T 58. 217
- 333 Cooper, Jas. W., & Bro., Philadelphia, Pa.—Fancy cabinet ware, wood carvings, etc. P 57. 217
- 334 Stiles, Mrs. E. W., Philadelphia, Pa.—Combination desk. P 50. 217
- 335 Karcher's, Daniel M., Sons, Philadelphia, Pa.—Sideboard. P 60. 217
- 336 Yandell, Chas. R., & Co., New York, N. Y.—Leather window lambrequins, embossed wall leather hangings, leather chairs and tables. P 52. 217
- 337 Schrenkeisen, M. & H., New York, N. Y.—Upholstered rocking chair on castors. P 53. 217
- 338 Kilian Brothers, New York, N. Y.—Easels, parlor table, music stand, table, card receiver. P 51. 217
- 339 Schastey, Geo. A., New York, N. Y.—Furniture and interior decorations. P 58. 217
- 340 Brown & Bliss, 169 Canal street, New York, N. Y.—Dining-room furniture, extension tables, sideboards, etc. Special manufacturers and exporters of dining-room furniture "*en suite*," including extension tables of every description, with patent slides and patent screw-leg corner block, also sideboards and side tables with leaves of extension table enclosed within. T 50. 217
- 341 Palmer, Theo. J., New York, N. Y.—Rocking or reclining chair on castors. P 53. 217
- 342 Kittle, S. P., No. 203 Canal street, New York, N. Y.—Spring mattresses for under-mattress, or with mattress and bolster combined, and made to fold compactly for transportation, when desired; also, spring mattresses with straight frame and elastic edges; others so constructed that both sides and all the edges are alike elastic and most comfortable. A moderate outlay in these goods will insure a most exquisite bed. P 52. 217
- 343 Schenck, Jas. V., New York, N. Y.—Crescent spring mattress. P 51. 217
- 344 Paton, Robt., & Son, New York, N. Y.—Church and school furniture, Sunday-school and lecture-room settees. P 54. 217
- 345 Postawka, L., & Co., Cambridgeport, Mass.—The "X" piano taboret. P 60. 217
- 346 Roach, J. Chandler, Philadelphia, Pa.—Spring bedstead. P 52. 217

Furniture.

- 347 Deetz, Edward, Philadelphia, Pa.—Adjustable sleeping apartment or retiring room. P 57. 217
- 348 Reeves & Eastburn, Philadelphia, Pa.—Folding bedstead, sofa or parlor bedstead, chamber furniture, bedstead fastening. P 56. 217
- 349 Ahrens, Geo., Crete, Ill.—Extension table. T 50. 217
- 350 Briggs, Joshua, Peterborough, N. H.—Piano stools. P 51. 217
- 351 Taylor, W. O., & Son, Bedford, O.—Double cane-seat rockers and chairs. T 59. 217
- 351^a National Wire Mattress Co., New Britain, Conn.—Wire mattresses. P 53. 217
- 352 United States Spring Bed Co., Springfield, Mass.—Spring beds. P 52. 217
- 353 Chormann, E. G., Philadelphia, Pa.—Parlor, sketching, and studio easels. P 50. 217
- 354 Griendling, John, 213 N. Second street, Philadelphia, Pa.—Barber's chair, foot-rest, and hair-dressing standard. This chair is easily regulated for shaving and hair-cutting combined. An examination will satisfy any one of its merits. P 51. 217
- 354^a Maires & Reed, New York, N. Y.—Adjustable iron chairs. P 50. 217
- 355 Matlack, Henry S., Philadelphia, Pa.—Paper hanging and fresco painting. P 50. 217
- 355^a Gale, D. A. T., Syracuse City, N. Y.—Metallic spring webbing mattress. P 50. 217
- 356 Berkey & Gay Furniture Co., Grand Rapids, Mich.—Chamber suite, lounges. P 59. 217
- 356^a Excelsior School Furniture Manufacturing Co., Cincinnati, O.—Church furniture. T 52. 217
- 357 Phoenix Furniture Co., Grand Rapids, Mich.—Bed-room suites, sideboard, hall stand. P 57. 217
- 358 Wooton Desk Co., Indianapolis, Ind.—Cabinet office secretary, rotary office desk. P 52. 217
- 359 Nelson, Matter, & Co., Grand Rapids, Mich.—Chambers suites. P 58. 217
- 359^a Peck, Henry, New York, N. Y.—Show cases for various exhibitors. 217
- 360 Junge, Albert, Pittsburg, Pa.—Spring mattress. P 53. 217
- 361 Pabst, Daniel, Philadelphia, Pa.—Walnut sideboard. P 58. 217
- 362 Richmond, Backus, & Co., Detroit, Mich.—Combined coupon and local railroad ticket case, with secretary and desk. P 58. 217
- 363 Fyler, E. W., Philadelphia, Pa.—Bedstead. P 53. 217
- 364 Halm, Bellows, & Butler, Columbus, O.—Furniture. P 50. 217
- 365 Buschor, Chas., Philadelphia, Pa.—Parlor furniture, decorations, window blinds with cornice, curtains, and outside shutters; show cases. P 56. 217
- 366 Vollmer, G., Philadelphia, Pa.—Furniture. T 54. 217
- 367 Thole, B., St. Louis, Mo.—Book case. P 59. 217
- 368 Swasey, I. N., M.D., Yonkers, N. Y.—Billiard tables; Trichorum table, a new principle in carpentry, securing a permanently level surface, and new built up work samples from the French Manufacturing Co. of New York City. T 51. 217
- 369 Hover, H. F., Philadelphia, Pa.—Folding wardrobe and lounge. P 50. 217
- 370 Most, John H., Old Saybrook, Conn.—Furniture made from wood of the "Charter Oak," Hartford, Conn. P 62. 217
- 371 Snyder, C. Ridgway, Minneapolis, Minn.—Work table, combining lap board and writing desk. P 50. 217
- 372 Caulier, F., Philadelphia, Pa.—Wardrobe bedstead. P 54. 217
- 373 Pottier & Stymus Manufacturing Co., New York, N. Y.—Bedstead, cabinet, bath, table, door, door trimming, window cornice, curtains, sofa, chairs. P 55. 217
- 374 Schafft, Fridolin, Detroit, Mich.—Sideboard. P 60. 217
- 375 Ransom, D. L., & Co., Buffalo, N. Y.—Adjustable desks and business cabinets, can be adjusted to any position, at any moment, without disarranging any books, papers, etc. Five different styles, for private and general offices. Send for circular. T 50. 217
- 376 Wagan, R. M., Mount Lebanon, N. Y.—The Shakers' web-seated chairs, also with web backs, or with plush cushions, and foot-benches to match. The only manufacturer of the "Genuine Shakers' Chairs." P 52. 217
- 376^a Killgore, J. L., Wilmington, Del.—Tourists' and miners' folding bedstead and spring bed. W 54. 217
- 377 Hutchings, E. W., & Son, New York, N. Y.—Sideboard and chair. P 59. 217
- 378 Demarest, Joyce, & Co., New York, N. Y.—Opera chairs. V 51. 217
- 379 Centennial Rolling Chair Co., Philadelphia, Pa.—Rolling chairs. (*Nave*.) 217
- 380 Cunningham, Peter B., Bethlehem, Pa.—Anthracite coal table, from Council Ridge coal fields, Luzerne county, Pa. T 53. 217
- 380^a Nichols, W., Boston, Mass.—Book rack. P 47. 217
- 381 Fifield, J. B. M., Philadelphia, Pa.—Magic bed sofa. T 58. 217
- 382 Beard & Bro., St. Louis, Mo.—Burglar proof safes. B 70. 217
- 383^a Hassenforder, C., Philadelphia, Pa.—Safes. H 71. 217
- 384 Lord, J. E., & Co., Quincy, Ill.—Spring bed bottom. P 52. 217
- 385 Goodwin, A. J., Brookline, Mass.—Sanitary bedstead. P 52. 217
- 386 Hill, Edwin P., Haverhill, Mass.—Folding table. P 50. 217
- 387 Ivins & Bro., Philadelphia, Pa.—Walnut bed. P 53. 217
- 388 Seidler & May, Hartford, Conn.—Sofa bed and adjustable extension chair. P 52. 217
- 389 Hopper, C. C., Philadelphia, Pa.—Chamber furniture. P 57. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture, Safes.

- 390 Andrews, A. H., & Co., Chicago, Ill.**—T 67.
a School, church, office, and bank furniture; desks, pews, pulpits, chairs. 217
b Marquetry flooring. 217
- 391 Coburn Manufacturing Co., Philadelphia, Pa.**—Canopy wardrobe and wardrobe arm. P 51. 217
- 392 Rhoner, Frank, & Co., New York, N. Y.**—Reclining chairs. P 53. 217
- 393 Close, Thos. J., Philadelphia, Pa.**—Reversible settees. N 63. 217
- 394 Allen, Jas. T., & Co., New York, N. Y.**—Rockers. W 54. 217
- 395 De Bock, Matthew, South Boston, Mass.**—Cabinet, work table, and frame. P 51. 217
- 396 Paine's Furniture Manufactory, Boston, Mass.**—Pulpit and church furniture, case of designs. T 60. 217
- 397 Brunswick, J. M., & Balke Co., Chicago, Ill.**—Billiard tables and materials; ivory and ten-pin balls. T 51. 217
- 398 Collins & Sturgeon, New York, N. Y.**—Reclining chair. T 53. 217
- 399 Ellin, Robt., & Co., New York, N. Y.**—Eagle lecturn carved in oak, side-board, font, hall chairs, and litany desk. P 52. 217
- 400 Morse, L., & Son, Athol, Mass.**—Folding settee. P 51. 217
- 401 Hartshorn, Stewart, New York, N. Y.**—Window-shade rollers. T 51. 217
- 402 Glenn, Frank, Philadelphia, Pa.**—American buffet. E 41 to 44. 217
- 403 Walter Heywood Chair Co., Fitchburg, Mass.**—Chairs. Adapted for export to every foreign port and the home trade. T 59. 217
- 404 Whitney Manufacturing Co., South Ashburnham, Mass.**—Chairs. W 50. 217
- 405 Sawin, L. H., Gardner, Mass.**—Cane-seat chairs. W 52. 217
- 406 French, Julia B., Boston, Mass.**—Cabinet and bedstead. N 60. 217
- 407 Decker, L., & Co., New York, N. Y.**—Billiard tables and appurtenances. P 54. 217
- 408 Heywood Brothers & Co., Gardner, Mass.**—Cane and wood seat and rattan chairs, rattan furniture, chair cane, reeds, etc. W 50. 217
- 410 Derby, Philander, Gardner, Mass.**—Cane-seat chairs. Manufacturer of, and dealer in, all varieties of cane and wood-seat chairs for home and export trade. W 51. 217
- 411 Rath, Paul, New York, N. Y.**—Bay-window curtain, screen, and pedestal. P 41. 217
- 411^a Wilson, George, Chicago, Ill.**—T 59.
a Folding bedstead and table combined, and recumbent reading chair. 217
b Mangle. 225
- 412 Watson, J., & Son, Philadelphia, Pa.**—Safes, ladies' jewelry stand. H 72. 217
- 413 Hall's Safe and Lock Co., Cincinnati, O.**—Fire, burglar, and fire and burglar proof safes, deposit vaults. H 67. 217
- 414 Herring & Co., New York, N. Y.**—Bank vaults and doors; fire and burglar proof safes. H 69. 217
- 415 Farrel & Co., Philadelphia, Pa.**—Fire and burglar proof safes. H 67. 217
- 416 Terwilliger & Co., New York, N. Y.**—Fire and burglar proof safes. H 72. 217
- 417 Corliss Safe Co., Providence, R. I.**—Burglar proof safes. H 67. 217
- 418 Valentine & Butler Safe & Lock Co., New York, N. Y.**—Burglar and fire proof safes. H 70. 217
- 419 Marvin's Safe Company, New York, N. Y.**—Safes. H 69. 217
- 420 Schermerhorn, Charles, New York, N. Y.**—T 50.
a Towel stand and rack. 217
b Mirror. 219
- 421 Thiery, Adolph, Philadelphia, Pa.**—P 51.
a Tables. 217
b Mirrors. 219
- 422 Dubernet, L., New York, N. Y.**—P 52.
a Bamboo and fancy fire-gilt furniture. 217
b Paper, velvet, metal, and gilt frames. 220
- 422^a Feust & Rice, New York, N. Y.**—P 51.
a Cabinet ware. 217
b Mirror frames and brackets. 220
- 423 Speth, K. L., New York, N. Y.**—P 53.
a Fancy cabinet ware. 217
b Carvings, easels, pedestals, brackets, mosaic veneer, etc. 220
- 424 Earle, James S., & Sons, Philadelphia, Pa.**—P 49.
a Gilt tables. 217
b Framed looking glasses, Venetian mirrors. 219
c Picture frames, brackets. 220
- 425 Lowe, A. C., Philadelphia, Pa.**—P 50.
a Gilt bouquet tables. 217
b Looking glasses. 219
c Picture frames. 220
- 426 Hale, Kilburn, & Co., Philadelphia, Pa.**—P 55.
a Folding bed and crib, flexible-seat chairs, spring beds. 217
b Looking glasses. 219
c Picture frames. 220
- 427 McClees, J. E., & Son, Philadelphia, Pa.**—T 49.
a Gilt chairs and tables. 217
b Mirrors. 219
c Fancy frames. 220
- 428 Salter, Jno. G., Philadelphia, Pa.**—P 50.
a Console tables. 217
b Mirrors. 219
c Cornices, portrait frames. 220
- 428^a Smith, Eldridge J., Philadelphia, Pa.**—H 69.
a Adjustable desk, school desk and seat. 217
b Cooking utensil. 224
c Stair rods. 227
- 429 Reukauff, Geo. C., Philadelphia, Pa.**—P 52.
a Bouquet tables. 217
b Mirrors. 219
c Cornices, picture frames. 220
d Mantelpiece. 227
- 430 Tiffany & Co., New York, N. Y.**—Silver and plated ware, incrustations of metals. N 41. 218

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

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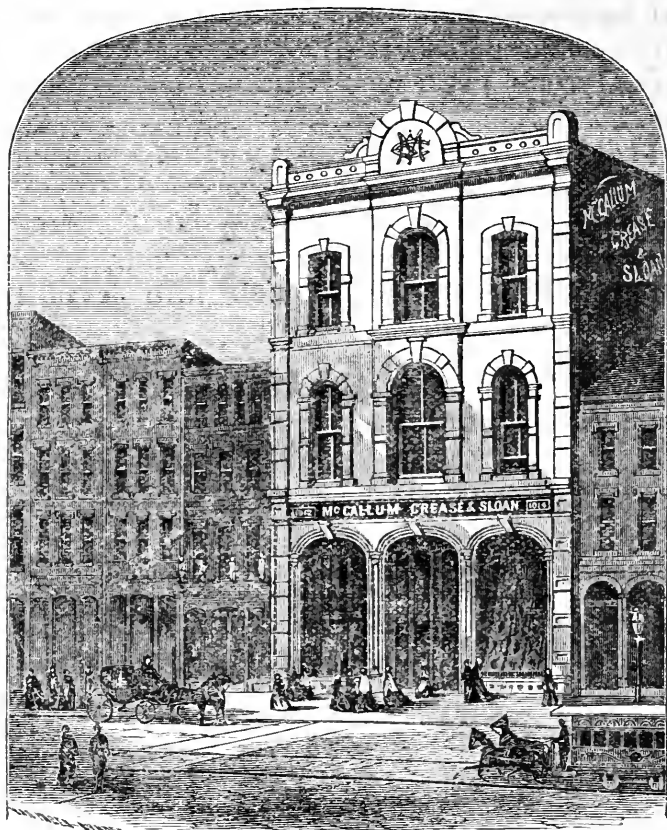
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Furniture, Table Furniture, Decoration.

- 430^a Mitcheson, Mrs. M. J., Philadelphia, Pa.—Moustache spoon. N 41. 218
- 431 Bailey & Co., Philadelphia, Pa.—Silver ware. N 43. 218
- 432 Caldwell, J. E., & Co., Philadelphia, Pa.—Silver ware. N 41. 218
- 433 Meriden Britannia Co., West Meriden, Conn.—Fine electro-plated table ware, articles of ornament and vertu. N 43. 218
- 434 Derby Silver Co., Derby, Conn.—Hard metal silver-plated table cutlery and morocco-cased plated goods. P 46. 218
- 435 Krider, Peter L., Philadelphia, Pa.—Sterling silver ware. P 43. 218
- 437 Reed and Barton, Taunton, Mass.—Electro-plated nickel, silver and white metal table and presentation ware. N 47. 218
- 438 Led.g, A., & Son, Philadelphia, Pa.—Silver and nickel-plated ware in hard metal. P 43. 218
- 439 Middletown Plate Co., Middletown, Conn.—Silver-plated ware. N 43. 218
- 440 Gorham Manufacturing Co., Providence, R. I.—Silver ware, fine plated ware, plate chests, silver and jewelry cases. N 41. 218
- 441 Manning, Bowman, & Co., West Meriden, Conn.—Nickel-plated ware. N 69. 218
- 442 Kann & Sons Manufacturing Co., Baltimore, Md.—Albata and britannia tea and table spoons. P 43. 218
- 443 Robbins, Clark, & Biddle, Philadelphia, Pa.—Silver ware. N 43. 218
- 444 Meriden Silver Plate Co., West Meriden, Conn.—Silver-plated and fine cut glass ware. N 43. 218
- 445 Holmes, Booth, & Haydens, Waterbury, Conn.—Silver-plated ware. T 61. 218
- 447 Mix, G. I., & Co., Yalesville, Conn.—Tea and table spoons; polished and britannia tea and coffee pots, water coolers, etc. N 71. 218
- 448 Hall, Elton, & Co., Wallingford, Conn.—Electro-plated tableware, spoons, forks, ladles, knives, etc. P 43. 218
- 449 Sigler, C. & J., Paterson, N. J.—Embossed glass signs and table tops, glass letters, carved wood signs. T 49. 219
- 449^a Sallandrouze, S. P., Cincinnati, O.—Venetian mirrors and hand glasses. P 43. 219
- 450 Walker Glass Importing, Silvering, Manufacturing Co., New York, N. Y.—Venetian or crystal cut, engraved, distorting, and toilet mirrors. N 54. 219
- 450^a Sharp, Henry E., Son, & Colgate, New York, N. Y.—Stained glass windows. (*North Gallery.*) 219
- 451 Florence Manufacturing Co., Florence, Mass.—Hand mirrors. B 70. 219
- 452 Newman, Geo. C., 806 Market street, Philadelphia, Pa.—P 51. 219
^a Looking glasses. 219
^b Lacquered mouldings (imitation of gold gilding) for picture frames and window cornices, and ornaments for same. This imitation of gilding is cheap and durable. 220
- 452^a Schier, H., New York, N. Y.—P 53. 219
^a Mirror. 219
^b Brackets and book rack. 220
- 453 Faser, Christian, Philadelphia, Pa.—P 49. 219
^a Looking glasses. 219
^b Picture frames. 220
- 454 Shaw, J. H., & Co., Philadelphia, Pa.—P 52. 219
^a Looking glasses. 219
^b Picture frames, mouldings. 220
- 455 Boland, Fred., Philadelphia, Pa.—P 50. 219
^a Looking glasses. 219
^b Pier cornices, picture frames. 220
^c Mantels. 227
- 456 Durand, Dominique, New York, N. Y.—Venetian looking glass. T 46. 219
- 457 Clark, C. W., Philadelphia, Pa.—Window shades, window shade cloth, and shade fixtures. T 52. 220
- 458 Johnston, Ed. S., Philadelphia, Pa.—Window shade rollers, window shades, lambrequins, cornices. T 53. 220
- 459 Gleason, W. B., & Co., West Camden street, opposite Chickering station, Boston, Mass.—Artificial wood ornaments for interior decoration, etc. Descriptive circulars will be found at the exhibit. O 78. 220
- 461 Reifschneider, Felix, New York, N. Y.—Velvet frames, morocco and velvet miniature cases. P 52. 220
- 462 Pape, Bros., & Kugemann, Cincinnati, O.—Mouldings for picture frames, portrait and photograph frames. P 51. 220
- 463 Carter, A. A., Philadelphia, Pa.—Window screens. T 50. 220
- 464 Whittier, Reuben S., Hyde Park, Mass.—Window screen and mosquito bar. T 51. 220
- 464^a Shorey, John, & Co., Lowell, Mass.—Shade fixtures. T 52. 220
- 465 Kilgore, Damon Y., Philadelphia, Pa.—Inside window blinds. These blinds, adjustable, artistic, lowering from the top, light, combining beauty with economy, overcome all defects of Venetian blinds. Patented. T 53. 220
- 466 McKay, Ferd. C. D., Paterson, N. J.—Self-regulating shade rollers. T 51. 220
- 467 Nonnenbacher, John, & Co., New York, N. Y.—Gilt and imitation mouldings for picture frames and cornices. P 68. 220
- 468 Salem Shade Roller Manufacturing Co., Salem, Mass.—Control wood rollers, flying pawls, automatic stops for balance rollers. T 50. 220
- 469 Colwell, F. E., & Co., Chicago, Ill.—Mouldings and picture frames, shade fixtures. P 51. 220
- 470 Louderback, Edwin, Philadelphia, Pa.—Rustic window shades of wood. T 49. 220
- 471 Dickinson, Alfred S., New York, N. Y.—Spring roller and drop window shades, safety brackets, and pulley blocks. T 53. 220
- 472 Lloyd Bros., Philadelphia, Pa.—Ventilating shade fixtures. T 50. 220

Furniture, Heating and Lighting Apparatus.

- 473 American Shade Roller Co., Boston, Mass.—Shade rollers, window shades, and fixtures. T 51. 220
- 474 Hewett, William, Philadelphia, Pa.—Self-operating swing carriage for parks and lawns. (*Outside.*) 221
- 474^a Fisher, H., St. Louis, Mo.—Automatic swing. (*Missouri Building.*) 221
- 475 Beaudet, Homer J., Greenpoint, Long Island, N. Y.—Swing-convertible cradle. P 50. 221
- 476 Batley, John, Philadelphia, Pa.—Child's cradle or crib. P 51. 221
- 477 Rusk, Thos. J., Philadelphia, Pa.—Swing. (*In Park.*) 221
- 478 Providence Gas Burner Co., Providence, R. I.—P 47.
- ^a "Novelty" gas cooking stoves; ovens and heaters, burning without smoke or smell. 222
- ^b Gas burners, drop-light sockets, shade and globe holders, etc., manufactured from wrought brass. 223
- 478^a Eldridge, G. Morgan, Philadelphia, Pa.—Automatic stove-damper. (*On stove pipe in Louisiana State Building.*) 222
- 479 Thackara, Buck, & Co., Philadelphia, Pa.—Gas fixtures, chandeliers, brackets, hall lights, reading lights, etc. N 60. 223
- 479^a Miller & Eastmead, New York, N. Y.—Ship and railroad lanterns. P 47. 223
- 480 Cornelius & Sons, Philadelphia, Pa.—Gas fixtures, bronzes, etc. N 47. 223
- 480^a New York Lamp Co., New York, N. Y.—Railroad and steamship lamps. P 47. 223
- 481 Bartlett, Jos. W., New York, N. Y.—Crystal and reflecting street lamps. N 50 and P 49. 223
- 481^a Pennsylvania Globe Gaslight Co., Philadelphia, Pa.—Lanterns and apparatus for lighting streets. P 43. 223
- 482 Archer & Panoast Manufacturing Co., New York, N. Y.—Gasoliers, centre slide chandeliers, ornamental bronzes, ecclesiastical metal work. N 47. 223
- 482^a Kelly, S. S., Philadelphia, Pa.—Gas brackets, pendants, brass fittings, etc. T 45. 223
- 483 American Reflector Co., Philadelphia, Pa.—Gas and daylight reflectors, lanterns and shades. P 47. 223
- 483^a Rollins, Geo. D., Philadelphia, Pa.—Automatic self-regulating gas burner. T 50. 223
- 484 Tucker, Hiram, & Co., Boston, Mass.—Iron gas chandeliers, brackets and statuettes. N 47. 223
- 484^a Heywood, C. L., & Bruce, J. M., Boston, Mass.—Elevating street lamp; Bruce's vesper street lamp for towns, villages, and private grounds; patented by J. M. Bruce, December 22, 1874. Office, 4 Haymarket square. X 59. 223
- 485 Willheim & Newmann, Philadelphia, Pa.—Cast iron posts and brackets, street lanterns, mica reflectors, and car trimmings. N 48. 223
- 485^a Henrichs, C. F. A., New York, N. Y.—Lamp with non-combustible wick and regulated burner; study lamps. N 47. 223
- 486 Quarré, V., Co., General Lithographers, 832 and 834 Arch street, Philadelphia, Pa.—Gas and lamp shades, and transparent window pictures. N 48. 223
- 486^a Beidler, Geo. A., Philadelphia, Pa.—Lamp burners for use without chimneys. P 48. 223
- 487 Baker, Arnold, & Co., Philadelphia, Pa.—Gas fixtures. N 48. 223
- 488 Miner, Jacob G., New York, N. Y.—Street lamps for gas or oil. P 47. 223
- 489 Wilhelm, August, Philadelphia, Pa.—Ceiling reflectors. P 47. 223
- 490 Bradley & Hubbard Manufacturing Co., West Meriden, Conn.—Kerosene and gas chandeliers, brackets and fixtures, lamps. N 47. 223
- 491 Kramer, J. H., New York, N. Y.—Ornamental lanterns. P 47. 223
- 492 Walton Bros., New York, N. Y.—Railroad and steamship brass lanterns and supplies. P 47. 223
- 493 Dyott, M. B., Philadelphia, Pa.—Street lamps, brackets, posts, pendants, and lamp goods. P 48. 223
- 494 Miller, Edward, & Co., Meriden, Conn.—N 48.
- ^a Bronze lamps and ornaments, lamp trimmings. 223
- ^b Bronzes. 443
- 495 Hitchcock Lamp Co., Watertown, N. Y.—Lamps for animal, fish, or vegetable oils exclusively; no chimneys; burn twelve hours; fifteen car-candle power; odorless; smokeless; portable; for cars, shipping, factories, residences, etc. P 47. 223
- 496 Dreer, Smith, & Dreer, Philadelphia, Pa.—Berford gas-sunlight apparatus. P 47. 223
- 496^a American Gas Screen Manufacturing Co., Haverhill, Mass.—Gas screens. (*West Gallery.*) 223
- 497 Atterbury & Co., Pittsburg, Pa.—Lamps. N 49 to 51. 223
- 498 Parkhurst, V. P., East Templeton, Mass.—Candle stand with flame regulator. P 47. 223
- 499 Williams, Page, & Co., Boston, Mass.—Railway and steamship lamps. P 47. 223
- 501 Mitchell, Vance, & Co., New York, N. Y.—Gas fixtures. N 49. 223
- 502 Ives Patent Lamp Co., New York, N. Y.—Kerosene lamps, brackets, chandeliers, and pendants, burners and attachments. P 47. 223
- 503 Stockwell Self-lighting Gas Burner Co., New York, N. Y.—Self-lighting gas burner. P 50. 223
- 504 Wiler, Wm., Philadelphia, Pa.—Taper holders, gas torches and keys, etc. N 71. 223

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Furniture, Construction of Buildings, Woven Goods.

- 505 Cleveland Non-explosive Lamp Co., Cleveland, O., and 42 Barclay street, New York.—Perkins & House's patent metallic kerosene or coal oil safety lamps and filling cans. Thousands of families now using this lamp testify to its superiority; because, 1st, it is perfectly safe from explosion, owing to its scientific structure; 2d, it will not break, being made of metal; 3d, it is rendered perfectly clean by its patent drip-cup; 4th, it uses a very small amount of oil, in proportion to the light it gives, without odor; 5th, it gives a brilliant light, in consequence of its peculiar construction. Our filling can is perfectly safe from explosion, owing to its scientific structure—a flame cannot be communicated to the oil in it, either by accident or design. N 64. 223
- 506 American Calcium Light Co., Philadelphia, Pa.—Calcium light apparatus. T 43. 223
- 507 The Mains Manufacturing Co., New York, N. Y.—Lamps. N 65. 223
- 508 Doty, H. H., Washington, D. C.—Concentric mineral oil burner. N 50. 223
- 509 Lovell, F. H., & Co., New York, N. Y.—Kerosene burners, chimneys, wicks, lamps, etc. P 50. 223
- 510 United States Soapstone Manufacturing Co., Cincinnati, Ohio.—P 77.
a Lava gas tips. 223
b Soapstone griddles. 224
- 512 Cohansey Glass Manufacturing Co., Bridgeton, N. J.—Fruit jars. N 49. 224
- 513 Lowentrant, P., Newark, N. J.—House furnishing goods. N 70. 224
- 514a Jones, J. Alonzo, New York, N. Y.—Water cooler and refrigerator. N 43. 224
- 515 Lowerre & Tucker, Newark, N. J.—Fluting machines. N 71. 225
- 517 Lloyd, Supplee, & Walton, Philadelphia, Pa.—Fluting machines. P 70. 225
- 517a Blackie & Charles, St. Louis, Mo.—Anti-freezing hydrant. (*Missouri State Building.*) 226
- 517b Wheeler, Wm. F., Boston, Mass.—Disinfecting devices. (*In use in Main Building.*) 226
- 518 Boughton, Jno. W., Philadelphia, Pa.—Wood carpet, parquet floors, and wainscots; adjustable window screens, and bars. T 56. 227
- 519 National Wood Manufacturing Co., 950 Broadway, New York, N. Y.—Wood carpeting, parquet and inlaid floors, ornamental hard-wood ceilings, fancy wainscoting, and stair coverings. Send 3 cent stamp for book of design. P 52. 227
- 519a Canopy Frame Co., Willimantic, Conn.—Portable folding canopy frames. P 56. 227
- 520 Johns, H. W., New York, N. Y.—Asbestos roofing, sheathing, and lining felts. P 47. 227
- 521 Ehret, M., jr., Office, 404 Walnut street, Philadelphia, Pa.—Pavilion situated south of Main Building, to exhibit patent fire and waterproof granulated slag (composition) roofing. State and county rights for sale. (*Outside.*) 227
- 521a Miller, J. Wesley, Philadelphia, Pa.—Plumbing of eight rooms in Main Building. 227

- 522 Marion Blind Co., Brady, Pa.—Improved window blinds. T 53. 227
- 522a Reisinger Manufacturing Co., Harrisburg, Pa.—Sash locks, line holders, clothes hooks, cellar hoists, broom and wisp holders. P 68. 227
- 523 Walker, M., & Sons, Philadelphia, Pa.—Heavy wrought iron gates at north, south, east, and west entrances of Main Exhibition Building. 227
- 523a Peck, Kennedy & Co., New York, N. Y. (*Outside.*)
a Flat floor, arch, and fire proof building material. 227
b Brick and tile machine. 517
c Radiator. 555
- 524 Fisher & Bird, New York, N. Y.—Marble mantels, tablet, marble wainscoting. The white marble mantel is of pure American statuary; the black one is of the finest quality of velvet black, both designed and executed in the highest style of art, at our works, by American artisans. T 50. 227
- 525 Geddes, J. W., Baltimore, Md.—Skylight over south aisle. 227
- 526 Evans, C. B., Mantel & Grate Co., Cincinnati, O.—Iron mantels. T 68. 227
- 527 Garry Iron Roofing Co., Cleveland, O.—Sections of corrugated iron roof. (*Ohio State Building.*) 227
- 528 American Sheet & Boiler-Plate Cleveland, O.—Corrugated roofing iron and iron roofing tile. (*Ohio State Building.*) 227
- 529 House & Davidson, Cleveland, O.—Pair front doors. (*Ohio State Building.*) 227
- 530 Dobbins, R. J., Philadelphia, Pa.—Construction of Main Exhibition Building. 227
- 531 Quigley, Philip, Wilmington, Del.—Construction of Machinery Hall. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 532 De Witt Wire Cloth Co., New York, N. Y.—Wire cord, rope, cloth, and work; dandy roll, cotton and wire fabrics. B 76. 228
- 533 Clinton Wire Cloth Co., Clinton, Mass.—Iron railing, wire cloth, netting, fencing, fire proof lath. T 68. 228
- 535 Woven Wire Mattress Co., Hartford, Conn.—Woven wire cloth used for a spring bed. P 53. 228
- 536 Wild, Jos., & Co., New York, N. Y.—Matting and mats of fibre of cocoanut husks. N 77. 229
- 537 Wakefield Rattan Co., Boston, Mass.—Mats and matting. T 57. 229
- 538 Irving Bros., Elwood, N. Y.—Japanese paper carpeting, waterproof building paper. N 75. 229
- 539 Garsed Bros., Frankford, Pa.—Awnings and tickings. N 73. 230
- 540 Farnum, John, & Co., Philadelphia, Pa.—Tickings from Conestoga steam mills, Lancaster, Pa. N 75. 230
- 540a Slater, Wm. S., Providence, R. I.—Bleached cotton goods. N 73. 230
- 541 Bailey, John T., & Co., Philadelphia, Pa.—Bags. B 68. 230

Woven Goods.

- 541^a Westport Manufacturing Co., Fall River, Mass.—Carpet warp and cotton batts. D 78. 230
- 542 Thornton, Samuel, & Sons, Philadelphia, Pa.—Cotton fabrics. N 76. 230
- 542^a Alabama & Georgia Manufacturing Co., West Point, Ga.—Sheeting. N 78. 230
- 543 Berkeley Co., Providence, R. I.—Nainsooks, Victoria lawns, and cambrics. These fabrics are noted for their quality and finish, and are manufactured from either Sea Island, Egyptian, or Peeler cotton. N 75. 230
- 543^a Slater Cotton Co., Providence, R. I.—Brown and bleached cotton goods. D 78. 230
- 544 Clark Thread Co., Newark, N. J.—Spool cotton. N 76. 230
- 544^a Sykes, Henry, Chicago, Ill.—Awnings and awning frames. Y 63. 230
- 545 Johnson, Emory, Neptune Twine Mills, Moodus, Conn.—Cotton seine twines, wetting cords, carpet warp, and knitting cotton, manufactured from superior stock and always of a uniform quality. Established in 1832. B 68. 230
- 546 Whitfield, F. E., Sen., Corinth, Miss.—Cotton yarns. N 75. 230
- 547 Semple, Samuel, & Sons, Mt. Holly, N. J.—Spool cotton. Manufacturers of Stuart's "Best six cord" and "Soft Enamelled" spool cotton. Stuart & Bro., sole agents, 13 Bank street, Philadelphia. N 74. 230
- 547^a Lawrence, Waterbury, & Co., New York, N. Y.—Bagging. D 78. 230
- 548 Walcott & Campbell, New York Mills, Oneida county, N. Y.—Shirtings, wile sheetings, cottonades, and knitting yarns. N 75. 230
- 548^a Lewiston Mills, Lewiston, Me.—Tickings, cottonades, cheviot shirtings, duckings, seamless cotton bags. R 78. 230
- 549 Westbrook Manufacturing Co., Portland, Me.—Ship's cotton duck. B 70. 230
- 549^a Lawrence Manufacturing Co., Lowell, Mass.—Bleached and unbleached cotton goods. N 73. 230
- 550 Powhatan Mills, Providence, R. I.—"Pocahontas" and "Wealth of the Country" bleached and brown muslins, well adapted for family and shirt maker's use. N 74. 230
- 550^a Merrick Thread Co., Holyoke, Mass.—Ready-wound bobbins for sewing machine shuttles. H 74. 230
- 551 Saratoga Victory Manufacturing Co., Boston, Mass.—Silesias, cambrics, and fancy cottons. F 73 and 74. 230
- 551^a Cutler Manufacturing Co., Warren, R. I.—Hosiery, cops, yarns, carpet warp, knitting cotton. D 78. 230
- 552 Chicopee Manufacturing Company, Chicopee Falls, Mass.—Cotton flannels, bleached and brown. F 73 and 74. 230
- 552^a Foustdale Manufacturing Co., Providence, R. I.—Bleached cotton goods. N 73. 230
- 553 Great Falls Manufacturing Company, Rockingham, N. C.—Rockingham sheeting. N 75. 230
- 554 Peckham Manufacturing Company, Providence, R. I.—Kentucky jeans. B 76. 230
- 555 Androscoggin Mills, Lewiston, Me.—Sheeting, shirting, jeans, bags, etc. R 78. 230
- 556 Hill Manufacturing Company, Lewiston, Me.—Bleached and unbleached sheetings and shirtings. R 78. 230
- 557 Continental Mills, Lewiston, Me.—Sheetings and shirtings. R 78. 230
- 558 Barker Mills, Auburn, Me.—Bleached and unbleached sheetings. R 78. 230
- 559 Smith, James Y., Manufacturing Co., Providence, R. I.—Bleached and brown cotton goods. N 74. 230
- 560 Evansville Cotton Manufacturing Co., Evansville, Md.—Brown sheetings and drills, assorted yarns. N 74. 230
- 561 King Philip Mills, Fall River, Mass.—Brown and bleached sheetings, cambric muslins, and rolled jaconets. Selling agents, Whorton, Atkinson & Co., Philadelphia; Converse, Staunton & Co., Boston and New York; Turnbull, Sweet & Co., Baltimore. N 76. 230
- 562 Hope Company, Providence, R. I.—Shirting. N 74. 230
- 563 Lonsdale Company, Providence, R. I.—Sheetings, cambric muslin, silesias, jaconets, Victoria lawns, satens. N 74. 230
- 564 Blackstone Manufacturing Company, Providence, R. I.—Print cloths shirtings, umbrella cloths. N 74. 230
- 565 Gambrill, Sons & Co., Baltimore, Md.—Cotton duck for sails, tents, and awnings. D 78. 230
- 566 Wamsutta Mills, New Bedford, Mass.—Shirting and sheeting. N 74. 230
- 567 Shaw, James G., New Castle, Del.—Single-carded cotton warps. N 74. 230
- 568 Riddle, Jas., Son & Co., Wilmington, Del.—Brandywine Mills tickings. N 74. 230
- 569 Wauregan Mills, Wauregan, Conn.—Cotton goods. N 74. 230
- 570 Ponemah Mills, Taftville, Conn.—Plain and fancy cotton goods. N 74. 230
- 571 Gabriel, Henry, & Sons, Allentown, Pa.—Counterpanes, oed coverlets, quilts, and bed spreads. F 68. 230
- 572 Stafford & Co., Providence, R. I.—Cotton yarns, hosiery cops, twilled goods. N 76. 230
- 573 Minot, Hooper, & Co., Boston, Mass.—Bleached cotton goods. F 69. 230
- 575 Farwell Mills, Lisbon, Me.—Bleached and brown cottons. R 78. 230
- 576 Morse, Kaley, & Co., Milford, N. H.—Knitting cotton. E 78. 230
- 577 Putnam Manufacturing Co., Providence, R. I.—Colored cotton goods. N 73. 230
- 577^a White, R. T., & Son, Philadelphia, Pa.—Rag carpet warps and cotton batts. D 78. 230
- 578 Clinton Manufacturing Co., Providence, R. I.—Bleached cotton goods. N 73. 230

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Woven Goods.

- 579 Bridge Mill Cotton Manufacturing Co., Providence, R. I.—Bleached cotton goods. N 73. 230
- 580 Manville Co., Providence, R. I.—Cotton goods, bleached and colored. N 73. 230
- 581 Ross, John L., Providence, R. I.—Bleached, unbleached, and colored cotton goods. N 73. 230
- 582 Social Manufacturing Co., Providence, R. I.—Brown, bleached, and colored cotton goods. N 73. 230
- 583 Warren Manufacturing Co., Warren, R. I.—Bleached and colored cotton goods. N 73. 230
- 584 Peabody Mills, Providence, R. I.—Colored cotton goods. N 73. 230
- 585 Dyer ville Manufacturing Co., Providence, R. I.—Brown and bleached cotton goods. N 73. 230
- 586 Ballou, Geo. C., & Son, Providence, R. I.—Brown, bleached, and colored cotton cloth. N 73. 230
- 587 Silver Spring Bleaching & Dyeing Co., Providence, R. I.—Bleaching, dyeing, and finishing the various grades and styles of cotton cloth. N 73. 230
- 588 Hooper, Wm. E., & Sons, Baltimore, Md.—Awning stripes, cotton duck. D 78. 230
- 589 Boston Manufacturing Co., Boston, Mass.—Cotton goods. B 76. 230
- 590 Cabot Manufacturing Co., Boston, Mass.—Cotton goods. B 70. 230
- 591 Gale & Co., Boston, Mass.—Lawn and other tents, canopies, and clothes dryer. (Outside.) 230
- 592 Greene & Daniels, Pawtucket, R. I.—Ivory finish and six-cord spool cotton; gray, bleached, and dyed cotton yarns. N 76. 230
- 593 Fall River Bleachery, Fall River, Mass.—Bleached cottons, shirtings, and sheetings. N 76. 230
- 594 Lowell Bleachery, Lowell, Mass.—Bleached and colored cotton fabrics. N 73. 230
- 595 Amoskeag Manufacturing Co., Manchester, N. H.—Tickings, denims, awning stripes, cotton flannels, gingham, fancy shirtings, jeans, shirtings, sheetings, drillings. N 74. 230
- 596 Naumkeag Steam Cotton Co., Salem, Mass.—Sateens, Pequot wide sheetings, bleached and unbleached, 5-4, 6-4, 7-4, 8-4, 9-4, 10-4; Naumkeag twilled sheetings, 8-4, 9-4, 10-4; Pequot, 36 inch and 40 inch; El Dorado, 36 and 40 inch sheetings. The product of these mills has a reputation for softness and durability, and for general excellence; the cotton used is especially selected with a view to securing these qualities, and the greatest care is used in their manufacture. N 74. 230
- 597 Massachusetts Cotton Mills, Lowell, Mass.—Sheetings, shirtings, drillings, etc. N 73. 230
- 598 Tremont & Suffolk Mills, Lowell, Mass.—Brown and bleached cotton flannels, twenty-six varieties, from the lightest to the heaviest grade, for summer, fall, and winter wear, from twenty-seven to thirty-six inches in width, superior in quality of material, grade, and finish;

- Suffolk drills, blued, brown and bleached. Sheetings, shirtings, and corset jeans. N 73. 230
- 599 Appleton Co., Lowell, Mass.—Unbleached sheetings and drillings. N 73. 230
- 600 Boott Cotton Mills, Lowell, Mass.—Brown and bleached cottons. N 73. 230
- 601 Shroder, F., & Co., New York, N. Y.—Brown cottons, drills, and nankeens. B 75. 230
- 602 Nashua Manufacturing Co., Nashua, N. H.—Brown and bleached cottons, cotton flannels, printings. N 77. 230
- 603 Jackson Co., Nashua, N. H.—Heavy brown cottons. N 77. 230
- 604 Ocean Mills, Nashua, N. H.—Brown and bleached cottons. N 77. 230
- 605 Shetucket Co., Norwich, Conn.—Fancy stripes, denims, ducks, chevots. N 77. 230
- 606 Falls Co., Norwich, Conn.—Cotton duck, fancy colored duck tickings. N 77. 230
- 607 The Utica Steam Cotton Mills, Utica, N. Y.—Very heavy and fine brown and bleached sheetings and shirtings, from one to three yards wide. N 74. 230
- 608 Mount Vernon Co., Baltimore, Md.—Duck and sail twine. Manufacturers of cotton sail duck, enameling duck, hose and belting duck, U. S. hammock, bag, and cot duck; machine apron, and a superior article of duck for paper-makers' felting; from seven to fifteen ounce army tent and awning duck, plain and in stripes; cotton canvas, from nine to one hundred and thirty inches wide; sail twine, all numbers. D 78. 230
- 609 Hadley Co., Boston, Mass.—Cotton yarns and warps, spool cottons, threads; harness and seine twines. N 75. 230
- 610 Union Wadding Co., Providence, R. I.—Cotton wadding, batting, and machinery waste. F 74. 230
- 611 Smith, H. E., & Co., Providence, R. I.—Cotton yarns for hosiery, shawl, and carpet manufacture. N 74. 230
- 612 Richardson, C. D., & Co., Philadelphia, Pa.—Tents. (Outside.) 230
- 613 Hale, B. S., & Co., Lawrence, Mass.—Fish lines. N 75. 230
- 614 Laconia Company, Biddeford, Me.—Sheetings, shirtings, drills, and jeans. R 78. 230
- 615 Pepperrill Manufacturing Co., Biddeford, Me.—Sheetings, shirtings, drills, and jeans. R 78. 230
- 616 Otis Company, Palmer, Mass.—Denims. N 75. 230
- 617 Palmer Mills, Palmer, Mass.—Dress goods. N 75. 230
- 617^a Trainer, D., & Sons, Linwood Station, Pa.—Cotton yarns and tickings. C 78. 230
- 618 Brinckerhoff, Turner, & Co., New York, N. Y.—Duck, canvas, ravens, awning stripes, bags, twines, bunting. D 73. 230
- 619 Washington Manufacturing Co., Gloucester, N. J.—Printing cloths, etc. N 75. 230
- 622 Monadnock Mills, Claremont, N. H.—Quilts, counterpanes, and wide sheetings. H 78 and N 74. 230

Woven Goods.

- 623 American Linen Co., Fall River, Mass.—Printing cloths. B 77. 230
- 624 Annawan Manufactory, Fall River, Mass.—Printing cloths. B 77. 230
- 625 Barnard Manufacturing Co., Fall River, Mass.—Printing cloths. B 77. 230
- 626 Border City Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 627 Grace Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 628 Flint Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 629 Granite Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 630 Mechanics Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 631 Merchants Manufacturing Co., Fall River, Mass.—Printing cloths. B 77. 230
- 632 Metacomet Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 633 Narragansett Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 634 Osborn Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 635 Richard Borden Manufacturing Co., Fall River, Mass.—Printing cloths. B 77. 230
- 636 Sagamore Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 637 Shove Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 638 Slade Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 639 Stafford Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 640 Tecumseh Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 641 Troy Cotton and Woolen Manufactory, Fall River, Mass.—Printing cloths. B 77. 230
- 642 Wampanoag Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 643 Weetamoe Mills, Fall River, Mass.—Printing cloths. B 77. 230
- 644 Dwight Manufacturing Co., Chicopee, Mass.—Brown and bleached sheetings and shirtings. F 69. 230
- 645 Lyman Mills, Holyoke, Mass.—Brown and bleached sheetings and shirtings, drills, lawns, cambrics, cotton flannels, etc. F 69. 230
- 646 Great Falls Manufacturing Co., Great Falls, N. H.—Bleached and brown sheetings and shirtings. F 69. 230
- 647 Schum. Philip, Lancaster, Pa.—Coverlets and counterpanes. Well known manufacturer of genuine Lancaster quilts, coverlets, counterpanes, carpets, cradle, bureau and tidy covers, stocking yarns, woolen carpet chains, etc. All kinds of dyeing done. These goods being all of my own manufacture, made of the very best of material, I guarantee them as represented and to give entire satisfaction in every respect. G 78. 230
- 647^a Wood, Wm., & Co., Philadelphia, Pa.—Cottonades. B 77. 230
- 648 Methuen Mill, New York, N. Y.—Jute bagging. F 76. 230
- 649 Webster Mills, New York, N. Y.—Jute bagging. F 76. 230
- 650 Nevins Mill, New York, N. Y.—Jute bagging. F 76. 230
- 651 Mississippi Mills, Wesson, Miss.—Yarns, cotton, cottonades. F 76. 230
- 652 Bullock, George & James M., Conshohocken, O.—Cotton warp. F 75. 230
- 653 Wortendyke Manufacturing Co., Wortendyke, N. J.—Lamp wicks and cotton yarns. N 75. 230
- 654 Moss Manufacturing Co., West-erly; R. I.—Shirtings. N 74. 230
- 655 Harris Manufacturing Co., Providence, R. I.—Bleached shirtings. The "Gem of the Spindle" exemplifies the limit of fineness consistent with durability. N 74. 230
- 656 Knight, B. B., & R., Providence, R. I.—Bleached cotton goods. N 75. 230
- 657 Glasgow Company, South Hadley Falls, Mass.—Ginghams, yarns. N 74. 230
- 658 Allendale Company, Providence, R. I.—Bleached shirtings and sheetings. N 74. 230
- 659 Groton Manufacturing Co., Philadelphia, Pa.—Bleached goods. N 74. 230
- 660 Franklin Manufacturing Co., Providence, R. I.—Bleached cottons. N 74. 230
- 662 Tucker, Carter, & Co., New York, N. Y.—Bagging. B 69. 230
- 663 Renfrew Manufacturing Co., South Adams, Mass.—B 75.
a Cotton warps, skirtings. 230
b Ginghams. 231
c Cotton dress goods. 232
- 664 Gloucester Gingham Mills, Gloucester City, N. J.—N 76.
a Cottonades, shirtings. 230
b Ginghams, dress goods. 231
- 665 Langdon Manufacturing Co., Manchester, N. H.—Brown and bleached shirtings; fine brown and bleached G. B. shirtings. N 74. 230
- 666 Whittenton Manufacturing Co., Taunton, Mass.—N 76.
a Cottonades, shirtings, tickings, denims, and awnings. 230
b Dress goods and fancy checks. 231
- 667 York Manufacturing Co., Saco, Me.—Geo. C. Richardson & Co., selling agents, Boston and New York. N 74.
a Cottonades light and heavy, ticking 28 inches by 32 inches wide, denims plain, striped, and plaid; shirtings and skirtings. 230
b Dress goods, in great variety; nankins, and seersuckers. 231
- 668 Everett Mills, Lawrence, Mass.—B 73.
a Fancy cottons, cottonades, ticking, denims, chevot. 230
b Stripes, ginghams, dress goods. 231
- 669 Davoll Mills, Fall River, Mass.—Selling agents, Wharton, Atkinson & Co., Philadelphia; E. C. Whitman, New York. N 76.
a Sheetings, pillow muslins, shirtings, sil-ias. 230
b Fancy cotton fabrics. 232

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Woven Goods, Felting, Yarn.

- 670 Hamilton Manufacturing Co.,** Lowell, Mass.—N 73.
a Tickings, drillings, and canton flannels. 230
b Printed and dyed calicoes, shirting and awning stripes. 232
- 671 Holt, R., Paterson, N. J.**—N 74.
a Cotton and Turkish towels, terry cloth, dusters, etc. 230
b Linen towels. 233
- 672 Stark Mills, Manchester, N. H.**—N 74.
a Seamless bags, sheetings, and drills, over-all and double ducks. 230
b Linen crash toweling. 233
- 673 Millville Manufacturing Co.,** R. D. Wood & Sons, Philadelphia and New York, sole agents.—F 75.
a Bleached shirtings, cambrics, silesias. 230
b Printed linings, umbrella cloths, vel-lums. 231
c Window holland, tillottings, etc. 233
- 674 Bates Manufacturing Co.,** Lew-iston, Me.—R 78.
a Shirtings, skirtings, quilts, jeans, towels, knitting cotton, etc. 230
b Gingham, damask, silesias. 232
c Linen checks. 233
- 675 Ripka & Elton Mills, Philadelphia,** Pa.—Cotton manufactures. N 74. 231
- 676 Lancaster Mills, Clinton, Mass.**—Fancy gingham. N 77. 231
- 677 Belfast Mills, Philadelphia, Pa.**—Gingham. N 76. 231
- 678 Albion Print Works, Consho-**hocken, Pa.—Solid colors suitings, plain blacks, grays, mourning prints, shirtings, and printed articles for men. N 73. 232
- 678^a Pacific Mills, Lawrence, Mass.**—B 73.
a Calicoes. 232
b Lawns, percales. 233
- 679 Hartel, Andreas, & Co., Penny-**pack Print Works, Philadelphia, Pa.—Madder and fancy prints and shirtings. N 75. 232
- 680 Brown, David S., & Co., Phila-**delphia, Pa.—Madder fancies, shirtings and mournings from Gloucester Manu-facturing Co., Gloucester, N. J.; aniline, alezarine, oil, and madder colors and shirtings from Ancona Printing Co., Glouces-ter, N. J. N 77. 232
- 681 Simpson, Wm., & Sons, 126** Chest-nut street, Philadelphia, Pa.—Calico prints in mourning, fancy, and shirting styles. Manufacturers and calico printers of the popular alpaca finish, solid blacks, Berlin solids of all colors, aniline blacks, mourn-ing prints, silver grays, Eddystone choco-lates, hair cloth chevrots, and fancy prints. These styles are all fast colors, and are printed exclusively on the best extra 64 square cloth. N 75. 232
- 682 Pretty, Grime, & Co., Philadel-**phia, Pa.—Calico prints. N 74. 232
- 683 Green, S. H., & Sons, Clyde** Bleachery and Print Works, River Point, R. I.—Printed calicoes. N 74. 232
- 684 Richmond Manufacturing Co.,** Providence, R. I.—Printed calicoes. N 75. 232
- 685 Manchester Mills, Manchester,** N. H.—Prints. N 73. 232

- 686 American Print Works, Fall** River, Mass.—Printed calicoes, percales, cambrics, shirtings, indigo blues, greens, robes, seersuckers, etc. Special styles and colorings printed for export. N 75. 232
- 687 Hamilton Woolen Co., South-**bridge, Mass.—Prints, shirting prints, printed cambrics. N 74. 232
- 688 Merrimac Mills, Lowell, Mass.**—Printed and dyed calicoes. N 73. 232
- 689 Stevens Linen Works, New York,** N. Y.—Plain and twilled linen crashes and diapers. B 75. 233
- 690 Barbour Flax Spinning Co., Pat-**erson, N. J.—Flax threads. N 76. 233
- 690^a American Linen Thread Co.,** Me-chanicville, Saratoga county, N. Y.—Flax, gilling, and machine threads, warp, filling, and twines. Manufacturers of pat-ent linen thread (on spools and in skeins) of all kinds, numbers, and colors; also, gilling thread, of all numbers; machine, shoe, carpet, fringe, whip, and McKay threads, in all varieties; linen floss, selv-age, and hose warp; hose filling, broom and brush twines; pink and variegated twines; loom cord; line and tow yarns. All manufactured from the best foreign stock. H 75. 233
- 691 McCrossan & Farr, New York,** N. Y.—Printed linen and cotton, and white cotton handkerchiefs. N 76. 233
- 692 American Linoleum Manufac-**turing Co., New York, N. Y.—Linoleum floor cloth. N 77. 234
- 694 Blabon, Geo. W., & Co., Philadel-**phia, Pa.—Floor, carriage, upholstery, and table oil cloths and window shades. N 77. 234
- 696 Virolet & Durlach, Elizabeth, N.** J.—Floor oil cloths. F 73. 234
- 698 Potter, Thos., Sons & Co., Phila-**delphia, Pa.—Oil cloths. N 77. 234
- 700 Brasher, Wm. M., & Co., Brook-**lyn, N. Y.—Floor oil cloths. F 71. 234
- 701 Reeve, R. H. & B. C., Camden,** N. J.—Oil cloths. F 71. 234
- 702 Powers, D., & Sons, New York,** N. Y.—Floor oil cloths. F 77 234

Woven and Felted Goods of Wool and Mixture of Wool.

- 703 Shaffner & Stringfellow, Phila-**delphia, Pa.—Knitting cotton and Ger-mantown wool. B 75. 235
- 703^a Knox Woolen Co., Camden, Me.**—Paper makers' feltings and machinery cloths. R 78. 235
- 704 Bacon, Chas. N., Winchester,** Mass.—Felts for polishing, printing, erasing, etc.; cotton and wool wadding. N 74. 235
- 705 New England Co., Rockville,** Conn.—Fine fancy cassimeres, finest wool, fine spinning, indigo colors. The first mill in America to make fancy cassimeres. B 76. 235
- 705^a Noske, Henry, Philadelphia, Pa.**—Woolen felts. F 72. 235
- 706 Philadelphia Worsted Spinners'** Association, Philadelphia, Pa.—Worsted yarns. F 75. 235

Woven and Felted Goods.

- 707** Midnight Yarn Co., Philadelphia, Pa.—Woolen knitting and Germantown yarns, representing process of manufacture. B 77. 235
- 708** Thornton, Samuel, & Sons, Philadelphia, Pa.—Woolen fabrics. N 76. 235
- 709** Philips, James, jr., Fitchburg, Mass.—Fine worsted coatings and suitings Hunt, Catlin, & Valentine, sole agents, 107-113 Franklin street, New York, N. Y. B 77. 235
- 709^a** Kirkman, James, Chester, Pa.—Doeskins. B 78. 235
- 710** Ledward, J., & Son, Chester, Delaware county, Pa.—Cassimeres and doeskins. B 76. 235
- 711** Horstmann, Wm. H., & Sons, Philadelphia, Pa.—Woolen knitting yarns. These goods are known generally as Germantown, balmoral, cashmere, saxonia, and stocking yarns. They are particularly noted for brilliancy of colors, variety of shades, evenness of thread, and the low prices at which they are sold. H 73. 235
- 712** Globe Woolen Co., New York, N. Y.—Fancy cassimeres. F 74. 235
- 713** Dryfoos, L., & Co., New York, N. Y.—Felt skirts, embroidered and braided; Italian cloth skirts, trimmed and quilted. B 77. 235
- 713^a** Kent Woolen Co., Centreville, R. I.—Cassimeres. B 74. 235
- 713^b** Stillwater Woolen Mills, Stillwater, R. I.—Cassimeres. B 74. 235
- 714** Worumbo Manufacturing Co., Lisbon Falls, Me.—Moscow beaver and other overcoatings. R 78. 235
- 715** Bel Air Manufacturing Co., Pittsfield, Mass.—Fancy all-wool cassimeres. F 73. 235
- 716** Burlington Woolen Co., Winoski Fall, Vt.—Woolens, castorines, moscows, kersseys, broadcloths, doeskins, elastic doeskins, elysians. F 73 and 74. 235
- 717** Broad Brook Co., Broad Brook, Conn.—Fancy cassimeres. F 75. 235
- 718** Weybosset Mills, Providence, R. I.—Fancy cassimeres. Samples of regular production made for the general market. Wendell Hutchinson & Co., New York, selling agents. F 74. 235
- 719** Howard, R., & Son, Apponang, R. I.—Woolen stocking yarns, fancy and plain colors. B 75. 235
- 719^a** State of Oregon (by A. J. Dufur).—Woolen fabrics. H 71. 235
- 720** Wanskuck Co., Providence, R. I.—Worsted coatings, overcoatings, kersseys. B 75. 235
- 721** Rodman, Robt., La Fayette, R. I.—Doeskins. N 75. 235
- 722** Sawyer Woolen Mills, Dover, N. H.—Silk and wool cassimeres, fancy cassimeres, double and twist cassimeres. F 75. 235
- 722^a** Clinton Mills Co., Norwich, Conn.—B 74. 235
^a Tweeds and repellents. 235
^b Blankets. 237
- 723** Hinsdale Bros., Hinsdale, Mass.—Kersseys, beavers, worsted suitings, etc. B 74. 235
- 724** Rockville Manufacturing Co., Rockville, Conn.—Fancy cassimeres and worsteds. B 74. 235
- 725** Hockanum Co., Rockville, Conn.—Fancy cassimeres and worsteds. B 74. 235
- 727** Eddy's, Jesse, Sons, Fall River, Mass.—Woolens for men's wear. F 74. 235
- 728** U. S. Bunting Co. Lowell, Mass.—Bunting, flags, worsted damasks and moreens, skirtings, and dress buntines. H 76. 235
- 729** Middlesex Co., Lowell, Mass.—Woolen goods. B 77. 235
- 729^a** Shuler & Benninghofen, Hamilton, O.—Felts for paper-makers. B 76. 235
- 729^b** Uxbridge Woolen Co., Uxbridge, Mass.—Cassimeres. B 74. 235
- 730** Germania Mills, Holyoke, Mass.—Eskimos, doeskins, and fur beavers, overcoatings. C 78. 235
- 731** Norway Plains Co., Rochester, N. H.—Blankets. B 73. 235
- 732** Norwich Woolen Co., Norwich, Conn.—Blankets and repellents. B 73. 235
- 733** Union Manufacturing Co., Wolcottville, Conn.—Black doeskins. B 73. 235
- 734** Meriden Woolen Co., West Meriden, Conn.—Fancy cotton warp cassimeres and coatings. B 73. 235
- 734^a** Baltic Woolen Mills, Philadelphia, Pa.—Woolen goods. F 72. 235
- 735** Niantic Woolen Mills, Norwich, Conn.—Suitings and repellents. B 73. 235
- 736** Mason, C. F., & Co., Providence, R. I.—Fancy cassimeres. B 76. 235
- 737** Wood, Morrell, & Co., Woodvale Woolen Mills, Johnstown, Pa.—Cassimeres made from half-blood wool. B 77. 235
- 738** Kirkman, James, Chester, Pa.—Doeskins. B 78. 235
- 740** Peirce, C. W. & J., Bristol, Pa.—G 78. 235
^a Polishing felts and crumb cloths. 235
^b Skirts. 238
- 741** Mississippi Mills, Wesson, Miss.—Wool fillings, jeans, cassimeres, tweeds, linseys. F 76. 235
- 742** Bullock, Geo. & Jas. M., Conshohocken Woolen Mills, Conshohocken, Pa.—Doeskins, moscows, beavers, cloth. F 75. 235
- 743** Fox, Henry, & Co., Urbana, O.—D 78. 235
^a Cassimeres, tweeds, satinets, and yarns. 235
^b Flannels. 236
- 744** Belfast Mills, Philadelphia, Pa.—N 76. 235
^a Cheviots. 235
^b Dress goods. 238
- 745** Roy, Jas., & Co., West Troy, N. Y.—F 77. 235
^a Suitings and yarns. 235
^b Woolen shawls. 237
- 746** Fay, C. J., Camden, N. J.—F 74. 235
^a Felt roofing and siding. 235
^b Ceiling and floor carpeting. 236

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Woven Goods.

- 747 McKee, Jos. D., Penn Knitting Mills, Philadelphia, Pa.—N 74.**
a Cloths, fancy woolen goods. 235
b Worsted shawls. 237
- 748 Bates Manufacturing Co., Lewiston, Me.—R 73.**
a Beavers and repellents. 235
b Dress goods. 238
- 749 Lippitt Woolen Co., Providence, R. I.—B 73.**
a Elysian beaver overcoatings, fancy cassimeres, and suitings. 235
b Flannels. 236
- 750 Peace Dale Manufacturing Co., Peace Dale, R. I.—F 77.**
a Cassimeres, coatings, lastings, etc. 235
b Woolen shawls. 237
- 751 Schofield, Seville, Philadelphia, Pa.—B 74.**
a Piece goods and coatings. 235
b Blankets. 237
- 752 Camden Woolen Mills, Philadelphia, Pa.—B 76.**
a Woolen goods, cassimeres, suitings, cloakings, repellents. 235
b Plaid opera flannels. 236
c Dress goods, etc. 238
- 753 Piqua Woolen Mills, F. Gray, O'Ferrall & Co., Piqua, O.—B 75.**
a Paper-makers' fourdrinier and cylinder wet and press felts and jackets, for all kinds of paper. All felts warranted. 235
b Flannels. 236
c Blankets. 237
- 754 Washington Mills, Lawrence, Mass.—F 73 and 74.**
a Worsted coatings, cloakings, and repellents. 235
b Flannels. 236
c Worsted goods, shawls, and dress goods. 238
- 755 Landenberger's, Martin, Sons, Philadelphia, Pa.—F 67.**
a Worsted coatings and yarns. 235
b Shawls. 237
c Dress goods. 238
- 756 Dobson, Jno. & Jas., Philadelphia, Pa.—H 77.**
a Cloths. 235
b Blankets. 237
c Carpets. 239
- 757 Steffan, F., & Co., Philadelphia, Pa.—H 76.**
a Coatings. 235
b Shawls. 237
c Worsted dress goods. 238
- 758 Pontoosuc Woolen Manufacturing Co., Pittsfield, Mass.—F 76.**
a All-wool cloths and repellents. 235
b Sleeping car blankets and summer dusters. 237
c Dress goods. 238
d Carriage rugs. 239
- 759 Belvidere Woolen Manufacturing Co.—Flannels. F 74.** 236
- 761 Ballard Vale Mills, New York, N. Y.—Fine white flannels. B 77.** 236
- 762 Waumbek Co., New York, N. Y.—Plain white flannels. B 77.** 236
- 763 Norway Plains Co., New York, N. Y.—Plain white flannels. B 77.** 236
- 764 Lucas, B., & Co., New York, N. Y.—Plain white domets and Shakers. B 77.** 236
- 765 Groveland Mills, New York, N. Y.—Scarlet, yellow, and blue plain flannels, scarlet and blue twilled flannels, scarlet Shaker opera flannels. B 77.** 236
- 766 Columbia Spring Co., New York, N. Y.—Fancy flannels. B 77.** 236
- 767 Stott, C. H. & F. H., New York, N. Y.—Mixed twilled flannel. B 77.** 236
- 768 Titus, E., & Sons, New York, N. Y.—White and Shaker flannels. B 77.** 236
- 770 Gilbert, Geo. H., Manufacturing Co., Ware, Mass.—F 72.**
a Flannels—white, opera, silk warp, plaid, moleskin, swansdown, gauze, medicated, etc. 236
b Blankets. 237
- 771 Bachman, S., New York, N. Y.—Shawls. B 75.** 237
- 771a Sandford Mills, Sandford, Me.—Carriage robes. R 78.** 237
- 772 Gibson & Tyler, New York, N. Y.—Fine white blankets. B 77.** 237
- 772a Bloodgood, Mrs. I. S., New York, N. Y.—Embroidered afghans. N 52.** 237
- 773 Waterloo Woolen Manufacturing Co., Waterloo, N. Y.—Woolen shawls. B 77.** 237
- 773a Bishop & Northrup, Wyandotte, Mich.—Woolen robes, mats, and dusters. F 71.** 237
- 774 Mission Woolen Mills, San Francisco, Cal.—B 75.**
a Blankets. 237
b Woolen fabrics. 238
- 775 Arlington Mills, Lawrence, Mass.—Black alpacas, in ten qualities; black mohair brilliantines, in five qualities; figured mohair brilliantines, in two qualities; and roubaix poplins, in assorted colors. The black alpacas and mohair brilliantines are "warp dyed," and are made from the choicest materials, in the most thorough manner. Especial attention is invited to the softness of finish, brilliancy of color and lustre, uniformity and perfection of manufacture. The roubaix poplin is a "yarn dyed" fabric,—not dyed in the piece,—consequently, the strength of the fibre is preserved, and the color made more permanent than if "piece-dyed." The peculiarity of the finish is such that the goods will not cockle. F 77.** 238
- 775a Pacific Mills, Lawrence, Mass.—Poplins, alpacas, serges, cashmeres, reps, jacquards, cretonnes, jaconets, and crêpe. B 73.** 238
- 776 Peckham Manufacturing Co., Providence, R. I.—Woolen and merino knitting yarns, tweeds, doekins. B 76.** 238
- 777 Manchester Mills, Manchester, N. H.—Worsted dress goods. N 73.** 238
- 778 Turner, John, Norwich, Conn.—Dyed and printed worsted, woolen, and cotton yarns, for weaving, knitting, etc. B 77.** 238
- 779 Tunxis Mills, Poquonnock, Conn.—White and colored worsted yarns; process of manufacture from raw wool. B 76.** 238
- 780 Farr Alpaca Co., New York, N. Y.—Alpacas, serges, cashmeres, fancy linings. B 74.** 238
- 781 Hamilton Woolen Co., Southbridge, Mass.—Delaines, reps. N 74.** 238

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods, Carpets, Silk.

- 782 Wood, Wm., & Co., Philadelphia, Pa.—Wool mixture suitings. B 77. 238
- 782^a Chapman & Bros., Belfast, Me.—Dry goods. N 76. 238
- 783 Walshaw, Wm., Saxonville, Mass.—Colored wool and yarns. F 69. 238
- 783^a White, Payson & Co., Boston, Mass.—Cotton and worsted textile fabrics. N 73. 238
- 784 Lowell Manufacturing Co., Boston, Mass.—F 77.
^a Serges and lastings. 238
^b Wilton and Brussels, two and three ply ingrain carpeting. 239
- 785 Blake, C. H. & F. D., New York, N. Y.—Alpacas, mohairs, cashmeres, and worsted serges. B 75. 238
- 786 Wood & Haslam, Camden, N. J.—B 77.
^a Turkey red yarn. 238
^b Quilts, table cloths. 241
- 787 Smith, Alex., & Sons Carpet Co., Yonkers, N. Y.—Power loom, Axminster, tapestry Brussels, and tapestry ingrain carpetings. F and H 73 to 76. 239
- 787^a McCallum, Crease, & Sloan, Philadelphia, Pa.—Ingrain carpets. H 75. 239
- 788 Wentworth, C. B., & Co., Boston, Mass.—Star-quilted carpet lining. F 75. 239
- 788^a Hutchison, J. & H., Brooklyn, N. Y.—Rugs and mats. O 78. 239
- 789 Gibb & Co., Philadelphia, Pa.—Rag carpet. F 77. 239
- 789^a Seffarlen & Fritz, Philadelphia, Pa.—Carpet warps. F 77. 239
- 790 Dornam, Bros. & Co., Philadelphia, Pa.—Ingrain carpets and damask. F 77. 239
- 790^a Mayall, Miles, Boston, Mass.—Carpet linings and stair pads. D 78. 239
- 791 Bromley, Jno., & Sons, Philadelphia, Pa.—Ingrain and damask Venetian carpets. H 77. 239
- 791^a Bailey, Edw. H., New York, N. Y.—Carpet lining and stair pads. E 78. 239
- 792 Leedom, Shaw, & Stewart, Philadelphia, Pa.—Carpetings. F 77. 239
- 792^a Lewis, Willard, Walpole, Mass.—Carpet lining. D 78. 239
- 793 Chipman, Geo. W., & Co., Boston, Mass.—Carpet lining and stair pads. F 75. 239
- 794 Taylor, Jas., & Muller, S. N., Newark, Del.—Rag and rug carpet. F 74. 239
- 795 Hartford Carpet Co., Hartford, Conn.—Brussels and three and two ply ingrain carpeting. F and H 73 to 76. 239
- 796 Wagan, R. M., Mount Lebanon, N. Y.—The Shakers' plush floor rugs. P 52. 239
- 797 Ivins, Dietz, & Magee, Philadelphia, Pa.—Three and two ply ingrain carpets. H 75. 239
- 798 Bigelow Carpet Co., Clinton, Mass.—Jacquard Brussels and Wilton carpets, rugs and mats. F and H 73 to 76. 239
- 799 Lowell Carpet Co., Boston, Mass.—Wilton and Brussels, two and three ply ingrain carpeting. F and H 73 to 76. 239
- 800 Roxbury Carpet Co., Boston, Mass.—Tapestry carpeting. F and H 73 to 76. 239
- 801 Read Carpet Co., Bridgeport, Conn.—Two ply ingrain carpets. H 77. 239
- 802 Farrington & Kinsey, Rahway, N. J.—Wool extracted from rags. B 76. 240
- 803 Pawtucket Hair Cloth Co., Pawtucket, R. I.—Automatically woven hair cloths for upholstery. B 74. 240
- Silk and Silk Fabrics, and Mixtures in which Silk is the predominating Material.**
- 804 Belding Bros. & Co., Rockville, Conn.—H 74.
^a Twisted silk in gum, raw silk, cocoons. 242
^b Machine twists; sewings, embroidery, and saddlers' silks; buttonhole twist. 243
- 805 Aub, Hackenburg, & Co., Philadelphia, Pa.—H 76.
^a Raw silk and cocoons. 242
^b Machine and buttonhole twist, sewing and spool silk. 243
- 806 Franke, Louis, New York, N. Y.—H 74.
^a Thrown silk. 242
^b Silk fringes, passementerie, braids, cords, tassels. 249
- 806^a Boissiere, E. V. de, Williamsburg, Kansas.—H 74.
^a Silk cocoons, raw silk, and silk-worm eggs, produced in Kansas. 242
^b Velvet ribbons. 248
- 807 Hamil & Booth, Paterson, N. J.—H 76.
^a Raw and thrown silks. 242
^b Dress goods, tie silks. 245
^c Ties. 247
^d Ribbons. 248
- 808 Seavey, Foster, & Bowman, Boston, Mass.—H 75.
^a Cocoons, raw silk. 242
^b Twisted silk. 243
- 808^a Newmann, Joseph, San Francisco, Cal.—H 75.
^a Cocoons, raw silk, silk-worm eggs. 242
^b Silk flags. 247
- 809 Werner, Itschner, & Co., Philadelphia, Pa.—Silk ribbon fabrics. H 74. 243
- 810 Brainerd, Armstrong, & Co., offices, 469 Broadway, New York; 301 Market street, Philadelphia; 13 German street, Baltimore.—Spool and skein silks, for families, merchant tailors clothing manufacturers, and shoe manufacturers. Hand-some cabinets furnished to retailers. Having no western or southern office, we will make liberal arrangements with dealers, or responsible parties wishing to act as agents for those sections. H 75. 243
- 811 Hovey, F. S., Philadelphia, Pa.—Sewing silks and machine twists. H 76. 243
- 812 Morel, Chas., & Sons, Philadelphia, Pa.—Skein silks, dyed. H 76. 243

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Silk, Clothing.

- 813 Cheney Brothers, Hartford and South Manchester, Conn.**—H 75.
- a* Twist. 243
 - b* Spun silks and spun silk fabrics. 244
 - c* Dress goods, serges, florentines, and foulards. 245
 - d* Organzine, tram, and handkerchiefs. 247
 - e* Ribbons. 248
- 814 Atwood & Richmond, Brooklyn, Conn.**—Ounce silk machine twist, black and colors. H 77. 243
- 815 Nonotuck Silk Co., Florence, Mass.**—Black and colored machine twist, buttonhole twist, embroidery and sewing silk. H 74. 243
- 816 Hayden, J. H., & Son, Windsor Locks, Conn.**—Black sewing silk. H 76. 243
- 817 Heminway, M., & Sons Silk Co., New York, N. Y.**—Spool, embroidery, and saddlers' silk; machine and buttonhole twist, etc. H 73. 243
- 818 Holland Manufacturing Co., Willimantic, Conn.**—Silk machine twist and sewing silk. H 74. 243
- 819 Baare, Fred., Paterson, N. J.**—Millinery, tie, and umbrella silks. H 77. 244
- 820 Strange, Wm., & Co., Paterson, N. J.**—H 73.
- a* Millinery and dress silks. 245
 - b* Ribbons. 248
- 821 Dexter, Lambert, & Co., New York, N. Y.**—H 73.
- a* Silk piece goods. 245
 - b* Ribbons. 248
 - c* Dress trimmings. 249
- 823 Wright, Wm. P., Philadelphia, Pa.**—Oiled silks and muslins. H 76. 245
- 825 Weidmann & Greppo, Paterson, N. J.**—Dyed silk, blacks and colors. H 76. 246
- 826 American Silk Label Manufacturing Co., 389 Broome street, New York, N. Y.**—Names of signers of Declaration of Independence, labels, and other designs, woven in silk; for clothiers, merchant tailors, and hatters. H 77. 246
- 827 Meyenberg, S. M., Paterson, N. J.** Office, 40 Lispenard street, New York. —N 74.
- a* Upholstery satins. 246
 - b* Ladies' silk scarfs, sewing silk veils; millinery silks and gauze fabrics. 247
- 828 Stearns, Jno. N., & Co., New York, N. Y.**—H 77.
- a* Brocade silks. 246
 - b* Silk handkerchiefs. 247
- 829 New York Woven Label Manufacturing Co., New York, N. Y.**—Woven labels and hangers. H 74. 247
- 831 Horstmann, W. H., & Sons, Philadelphia, Pa.**—Dress, carriage, upholstery, and undertakers' trimmings; narrow textile fabrics; passementerie. H 73. 249
- 832 Kohn, Tobias, Novelty Weaving and Braiding Works, Hartford, Conn.**—Star and embroidery braids. H 76. 249
- 833 Dale Manufacturing Co., Paterson, N. J.**—Silk, mohair, and fancy trimming braids; cords, bindings, hat bands, braided sewings, and watch guards. H 75. 249
- 835 Fleisher, S. B. & M., Philadelphia, Pa.**—Alpaca braids. F 71. 249

- 836 Sutro Bros., New York, N. Y.**—Embroidery braids, put up on patent cards, stating correctly the measurement of each skein. F 71. 249
- 837 Nottingham Lace Works, Brooklyn, N. Y.**—Guipure, thread, cashmere, and other laces and trimmings; hair nets. Manufacturers from original designs of guipure laces, thread, cashmere, Spanish and millinery laces, silk purlings, lace fringes, hair nets, etc.; also, a specialty of all desirable styles of silk lace ties and scarfs. Orders sent to A. G. Jennings, 428 Broome street, New York. H 75. 249
- 838 Turner, John, Norwich, Conn.**—Picture and furniture cords. B 77. 249
- 839 Goff, D., & Son, Pawtucket, R. I.**—Alpaca skirt braid. F 71. 249
- 840 Silver Lake Co., Boston, Mass.**—Solid braided cords. F 68. 249
- 841 Kelty, G. L., & Co., New York, N. Y.**—Furniture coverings, gimps, fringes, cords, tassels, and other upholstery goods. C 78. 249

Clothing, Jewelry, and Ornaments, Traveling Equipments.

- 842 Häpke, A. B., Harrisburg, Pa.**—Knit goods and embroideries. F 69. 250
- 842^a Lowery & Williams, Utica, N. Y.**—Merino and cotton underwear. F 73. 250
- 843 Moore, Leopold, Philadelphia, Pa.**—B 69.
- a* Wrappers, shirts. 250
 - b* Silk hats. 251
- 843^a Munson Manufacturing Co., Cohoes, N. Y.**—Merino and cotton underwear. F 73. 250
- 844 Sachse, F., & Son, S. E. corner Eighth and Vine streets, Philadelphia, Pa.**—Finest American dress shirts; also, cricket, club, fire, base-ball, yachting, and society shirts. F 69. 250
- 844^a Meyer, Jonasson, & Co., New York, N. Y.**—Felt skirts. F 78. 250
- 845 Butterick, E., & Co., New York, N. Y.**—Paper patterns for ladies' and children's garments. H 70. 250
- 846 Maize & Schwartz, Philadelphia, Pa.**—Military uniforms. C 78. 250
- 847 Chapman, Mrs. Dr. H. M., 219 South Eighth, and 336 South Fifth street, Philadelphia, Pa.**—Patent skirt supporting, shoulder brace, puff corset. Requires no padding; allows the form its natural shape without pressure. F 69. 250
- 847^a Wyoming Valley Knitting Co., Pittston, Pa.**—Hosiery and underwear. F 73. 250
- 848 Cooper, Henry Prouse, New York, N. Y.**—Clothing. F 72. 250
- 849 Schuyler, Hartley, & Graham, New York, N. Y.**—Military and naval equipments, society and theatrical goods. F 70. 250
- 849^a Moeller, C. H., St. Louis, Mo.**—Netted underwear. F 71. 250
- 850 Glazier, J. J., Bro. & Co., Philadelphia, Pa.**—Brown, bleached, and colored hose and half hose. F 72. 250
- 850^a Fall River Merino Co., Fall River, Mass.**—Ladies' and men's underwear. F 73. 250

Clothing, Ornaments.

- 851 Judson Bros., New York, N. Y.—Shirts, underwear, drawers. F 70. 250
- 851^a Weldon, Dana, & Co., San Francisco, Cal.—Stocking supporters, ladies' belts, etc. F 71. 250
- 852 Thalheimer & Hirsch, Philadelphia, Pa.—Gentlemen's white and fancy shirts, underwear, collars, and cuffs. F 61. 250
- 852^a Dudley Hosiery Co., Newton Lower Falls, Mass.—Knit underwear, hosiery. F 73. 250
- 853 Michaelis & Kaskel, 653 Broadway, New York, N. Y.—Shirts, underwear, and pajamas; anti-rheumatic flannels, and embroideries. Manufacturers of the finest dress shirts and underwear, to order only; embroiderers, and importers of gentlemen's furnishing goods; depot for Dent's London-made kid gloves, Cartwright and Warner's merino underwear, and Martin's umbrellas; sole agents in the United States for Lairitz's celebrated anti-rheumatic flannels and medicinal preparations. Office, during the exhibition, at the Transcontinental Hotel, opposite the Main Building. F 67. 250
- 853^a Leighton, Chas., New Orleans, La.—Shirt. F 71. 250
- 854 Harvey & Baird, Philadelphia, Pa.—Shirts. F 72. 250
- 854^a Eager, P. B., Tower, & Co., Boston, Mass.—C 78.
a Oiled clothing. 250
b Oiled hats. 251
- 855 Griswold, Catherine A., New York, N. Y.—Corsets. F 69. 250
- 856 Devlin & Co., Clothiers, Broadway, corner Grand street; Broadway, corner Warren street, New York, N. Y.—Military uniforms, for army, navy, and national guard; gentlemen's dress and business suits; duck vests, robes-de-chambre, breakfast jackets, and shirts; also, boys' and youths' clothing. F 67. 250
- 856^a Hemple, J. C., Baltimore, Md.—Rubber cloth diaper. F 72. 250
- 857 Prindle, G. H., Philadelphia, Pa.—Muffs and boas, caps, cloaks, afghans, capes, hoods, designs for bed spreads. F 73. 250
- 857^a Thudium, C. A., & Son, Philadelphia, Pa.—Woolen and worsted cardigan jackets. B 79. 250
- 858 Moore, George, New York, N. Y.—Bias and bias neck cutter. H 71. 250
- 858^a Bishop & Northrup, Wyandotte, Mich.—Wool dusters. F 71. 250
- 859 Thomas, A. W., Philadelphia, Pa.—Bustle, skirt elevator, bosom form. F 72. 250
- 859^a Jacobs, Strouse, & Co., New York, N. Y.—Corset clasps and busks. F 65. 250
- 860 Rosenbach & Co., Philadelphia, Pa.—Shirts, pantaloons, overalls, drawers. F 68. 250
- 860^a Schoenhof, J., & Co., New York, N. Y.—Skirts in embossed and trimmed effects. F 70. 250
- 861 Conrad Bros., Philadelphia, Pa.—Shirts, collars, cuffs, etc. F 67. 250
- 862 National Suspender Co., New York, N. Y.—Shoulder braces and suspenders. F 68. 250
- 862^a Oliver, Thomas, New York, N. Y.—Transfer for measuring and cutting coats. P 68. 250
- 863 Cohn, M., & Co., Novelty Corset Works, New York, N. Y.—Woven corsets. F 67. 250
- 864 Piqua Woolen Mills, Piqua, O.—Jackets and woolen socks. B 75. 250
- 865 Taylor, S. T., New York, N. Y.—System of dressmaking, bias cutter, fashion journals. F 71. 250
- 866 Hopkins, W. T., Philadelphia, Pa.—Ladies' and children's undergarments, infants' dresses, hoop skirts, corsets, panniers, bustles. F 67. 250
- 867 Horstmann, Wm. H., & Sons, Philadelphia, Pa.—Military and theatrical goods. Military, society, regalia, church, and theatrical goods; flags, banners, bunting, army, navy, national guard, and band equipments, in great variety; regalia, jewels, and properties for Masonic Blue lodges, chapters, commanderies, Scottish Rite, and other societies; Knights Templar uniforms a specialty. A full line of materials and trimmings suited to all the above lines. H 73. 250
- 868 Demorest, Mme., New York, N. Y.—Fashion patterns and bulletin, dress-cutting system, corsets, shoulder brace, skirt and stocking suspenders. F 68. 250
- 869 Nashawannuch Manufacturing Co., Easthampton, Mass.; factories, Easthampton, Mass.; salesrooms, 74 and 76 Worth street, New York.—Elastic rubber suspenders and webs. Manufacturers of elastic suspenders, frills, and webs, in silk, worsted, and cotton; new styles, plain and figured, in great variety, constantly produced. This company successfully introduced in this country "Goodyear's" patent vulcanized rubber, in woven elastic goods, and continues its use very extensively. F 67. 250
- 871 Thompson, E. O., merchant tailoring, 908 Walnut street, Philadelphia, Pa.—Clothing. Exemplification of mechanical and artistic tailoring is displayed in these garments, made to order for competition, designed, also, to illustrate characteristic national workmanship, in their embellishment, by trimmings made of the national colors and coins; also particular merit is claimed for the perfect fitting pantaloons, cut according to the process patented by the exhibitor. F 71. 250
- 872 Sternberger, L. & S., Philadelphia, Pa.—White shirts. Manufacturers of the "Eclipse" fine white shirts; shirt fronts, drawers, overalls, etc. F 68. 250
- 873 Norfolk & New Brunswick Hosiery Co., New Brunswick, N. J.—Ladies', gentlemen's, and children's knitted underwear; shirts, vests, pants, and drawers; ladies' and misses' union dresses, gentlemen's and boys' merino wool half hose; ladies' and misses' merino and wool hose and three-quarter socks, in various colors. We manufacture only full fashioned or regular made goods of fine qualities. H. J. Libby & Co., agents, No. 57 White street, New York. F 70. 250

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Clothing.

- 874 Warner Bros., New York, N. Y.—Corset and skirt supporter, corset waist. F 70. 250
- 875 Bowers, Jas., & Co., Newark, N. J.—Sewed corsets and rivetless corset clasps. F 69. 250
- 876 Alkinson, Henry, Philadelphia, Pa.—White shirts, buckskin shirts, and drawers. F 70. 250
- 877 Zäuner, Henry, Philadelphia, Pa.—Lace, silk, and meo caps, hand knit and crochet zephyr goods, for infants. F 70. 250
- 879 Borm, L., Philadelphia, Pa.—Dress suit. F 69. 250
- 880 Wilson, J. H., Philadelphia, Pa.—Military goods. F 70. 250
- 881 Foy & Harmon, New Haven, Conn.—Skirt-supporting corset. F 69. 250
- 882 America Hosiery Co., New Britain, Conn.—Wool, merino, and cotton underwear, hosiery. F 68. 250
- 883 Worcester Corset Co., Worcester, Mass.—Corsets, corset and skirt supporters. F 69. 250
- 884 Boston Comfort Corset Co., Boston, Mass.—Corset without bones. F 69. 250
- 885 Palmer & Williams, Boston, Mass.—Jacqueline corsets and misses' waists. F 69. 250
- 886 Denham, T. M., & Brother, New Bedford, Mass.—White laundered shirts and shirt bosoms. F 68. 250
- 887 Rockhill & Wilson, Philadelphia, Pa.—Clothing. F 69. 250
- 888 Lowell Hosiery Co., Lowell, Mass.—Women's plain cotton hose. F 69. 250
- 889 Wanamaker & Brown, Philadelphia, Pa.—Gentlemen's, youths', and children's ready-made clothing; gentlemen's furnishing goods. B 67. 250
- 890 Wanamaker, John, & Co., Philadelphia, Pa.—Ancient and modern clothing worn by American gentlemen during the past century. F 67. 250
- 892 Cummings, J. S., & Co., Philadelphia, Pa.—Scarfs, cravats, stocks, bows, and neck wear. F 68. 250
- 893 Hughes, Thos., & Co., Bristol, Pa.—Cotton, merino, and wool hosiery. F 70. 250
- 894 Strahan, Hodgson, & Co., New York, N. Y.—Linen collars and cuffs. F 72. 250
- 895 American Suspender Co., Waterbury, Conn.—Webbing frills and suspenders. F 68. 250
- 896 Brewster Bros & Co., Birmingham, Conn.—Corsets, combined corset and skirt supporters, corset clasps. F 69. 250
- 897 Gabriel, Henry, & Sons, Allentown, Pa.—Knitted woolen and cotton hosiery. F 68. 250
- 898 American Molded Collar Co., Boston, Mass.—Combined cloth and paper collars. These collars are well known for their complete shape to the neck. The collars and cuffs have a pure starch finish, and are suitable for any gentleman to wear, always being of the latest fashion. The "molding" process, by which each

- collar is made to fit the neck perfectly and easily, is controlled exclusively by this company. These goods have been awarded the first prize at several exhibitions. F 70. 250
- 899 Frost, Geo., & Co., Boston, Mass.—Corsets, waists, hose supporter, emancipation suit, and under-flannel. F 70. 250
- 900 Sweet, Orr, & Co., factory, Wappinger's Falls, N. Y.; office, 345 Broadway, New York City.—Orr's pantaloons, overalls, and engineer jackets. The peculiar cut of these overalls must be noticed, by which such seat-room is given that the wearer feels perfect ease, in all positions; no binding or straining in any part; their strength is such that they are "warranted never to rip." F 76. 250
- 901 Bickford, Dana, New York, N. Y.—Knitted articles made on Dana Bickford's knitting machines. F 68. 250
- 902 Beatty Hosiery Mills, Philadelphia, Pa.—Hosiery. F 73. 250
- 903 Landenberger's, Martin, Sons, Philadelphia, Pa.—Hosiery and knit goods. F 67. 250
- 904 United States Corset Co., New York, N. Y.—Corsets. B 71. 250
- 905 Sharpless & Sons, Philadelphia, Pa.—Ladies' costumes. B 68. 250
- 906 Rothschild Bros. & Gutman, New York, N. Y.—Shirts, drawers, and undershirts. F 69. 250
- 907 Cameron, Wm., & Son, Philadelphia, Pa.—Embroidering, braiding, and stamping designs; children's clothing, indelible ink marking. F 70. 250
- 908 Dress Reform Co., Boston, Mass.—Dress reform clothing. F 71. 250
- 909 Otis Co., Ware, Mass.—Hosiery and underwear. N 75. 250
- 910 Hayden, James, Philadelphia, Pa.—Shirts, drawers, and necktie shields. F 72. 250
- 911 Peck & Greene, Brooklyn, N. Y.—Worsted and silk goods for theatrical, boating, and general underwear. B 75. 250
- 912 Star Knitting Co., Cohoes, N. Y.—Cotton, woolen, and merino shirts, drawers, pantalets, and union suits. F 67. 250
- 913 Parsons, J. H., & Co., Cohoes, N. Y.—Woolen, merino, and cotton shirts; drawers, pantalets, and union suits. F 67. 250
- 914 Brookside Hosiery Mills, Troy, N. Y.—Cotton, woolen, and merino shirts; drawers, pantalets, and union suits. F 67. 250
- 915 McDonnell, Kline, & Co., Amsterdam, N. Y.—Cotton, woolen, and merino shirts; drawers, pantalets, and union suits. F 67. 250
- 916 Bennett, E., Brooklyn, N. Y.—Shirts. F 68. 250
- 917 Coon & Van Volkenburgh, Troy, N. Y.—Men's linen collars and cuffs. F 67. 250
- 918 Ellis Manufacturing Co., Waltham, Mass.—Stocking supporters. H 71. 250

Clothing, Ornaments, Jewelry.

- 819 Homer, Colladay & Co., Philadelphia, Pa.—F 71.
a Ladies' dresses, trousseaux, neck-ties, scarfs, and furnishing goods. 250
b Embroidery, lingerie. 252
 All articles contained in this exhibit are of H., C. & Co.'s own manufacture, and at their extensive establishment, Nos. 142 and 1414 Chestnut street, above Broad street, Philadelphia, will be found goods of a similar character, in great variety.
- 920 Pettingell & Sawyer, East Cambridge, Mass.—F 76.
a Waterproof oil clothes. 250
b Waterproof hats. 251
- 920*a* Brady, Edward, Philadelphia, Pa.—U 63.
a Collars for men's wear. 250
b Buttons. 254
- 921 Carney, Bernard L., Philadelphia, Pa.—Silk, beaver, and felt hats. B 70. 251
- 922 Jacoby, Theo., Philadelphia, Pa.—Hats, bonnets with domestic trimmings. F 70. 251
- 923 Hegle, Fortuné, New York, N. Y.—Material for kid glove manufacturing, and kid gloves. B 68. 251
- 924 Stetson, John B., & Co., Philadelphia, Pa.—Soft and stiff felt hats in various stages of manufacture. B 68. 251
- 925 Walton, Maison, New York, N. Y.—Bonnets and round hats. F 71. 251
- 926 Littleton Saranac Buck Glove Co., Boston, Mass.—Grain tanned gloves. B 69. 251
- 927 New York Catholic Protectors, New York, N. Y.—Shoes. V 53. 217
- 928 Brown, Emma, New York, N. Y.—Straw round hats and feathers. B 70. 251
- 929 Nonnenberger, Christian, Philadelphia, Pa.—Hatters' blocks and tools. B 69. 251
- 930 Fenton, J. H., & Bro., Philadelphia, Pa.—Gentlemen's dress, silk, soft and stiff felt, and other hats. B 70. 251
- 931 Pierson & Herman, Newark, N. J.—Hat blocks and flanges, hatters' tools. B 70. 251
- 932 Yates, Wharton, & Co., Newark, N. J.—Fur felt hats. B 70. 251
- 933 Field, J. C. & J. F., Philadelphia, Pa.—Gloves. B 69. 251
- 934 Hays, Daniel, Gloversville, N. Y.—Buckskin and peccary skin gloves, gauntlets, and mittens. B 71. 251
- 934*a* Blaylock & Co., Philadelphia, Pa.—B 71.
a Straw hats; hats. 251
b Furs, robes, fur caps, turbans, gloves, etc. 256
- 935 Jeannisson, Lewis, & Son, Johnstown, N. Y.—Gloves. B 71. 251
- 937 Haverhill Hat Co., Haverhill, Mass.—Wool hats. B 69. 251
- 938 Solmans, Alden, South Norwalk, Conn.—Felt hats. B 71. 251
- 939 Morris, E., & Co., Philadelphia, Pa.—Silk, soft, and stiff hats. B 67. 251
- 940 Amidon's Son, T. H., New York, N. Y.—Hats and caps. B 70. 251
- 941 Dunlap & Co., Hatters, 174 Fifth avenue and 589 Broadway, New York, N. Y.; manufactory and wholesale department, 166 Mercer street, New York, N. Y.—Gentlemen's silk, felt, straw and opera hats; ladies' riding hats. B 70. 251
- 942 Kennedy, Thos., & Bro., Philadelphia, Pa.—Wax figure in bridal costume; trimmed bonnets and hats. F 72. 251
- 943 Schiller, Jos., & Co., St. Louis, Mo.—Hats for gentlemen's wear. B 69. 251
- 945 Hutchinson, John C., Johnstown, N. Y.—Men's lined dogskin, calfskin, and lambskin gloves and gauntlets. B 71. 251
- 946 Northrup, W. S. & M. S., & Co., Johnstown, N. Y.—Fine lamb, real calf, and buckskin castor unlined gloves. Most glove dealers know the reliability of gloves made by this firm. B 71. 251
- 947 Colwell, F. E., & Co., Chicago, Ill.—Husking gloves. P 51. 251
- 948 Miller, Geo. F., Jacksonville, Fla.—B 74.
a Palmetto hats. 251
b Florida curiosities. 254
- 949 Bancroft, J. S., & Co., New York, N. Y.—Hats and caps, boys' and children's hats. B 72. 251
- 950 Kursheedt & Co., 190 to 194 South Fifth avenue, New York, N. Y.—Standard manufacturers—Embroideries, puffings, plaitings, and flutings, made on patented machines; ladies' collars and cuffs, ties, collarettes, lock-stitch all-over tuckings, and tucked frockings. F 69. 252
- 950*a* Beatty & Thorne, New York, N. Y.—Hat, badge, and ornamental printing in gold, silver, etc. P 78. 252
- 951 Bentley, Jeff. O., Philadelphia, Pa.—Embroidered, braided, and stamped goods; indelible marking, designs, stamps. F 72. 252
- 951*a* Roberts & Hevell, Newark, N. J.—T 65.
a Dress, hat, and shoe trimmings. 252
b Metal fancy goods, notions. 254
c Trunk and bag trimmings. 255
- 952 Barrett, Jos. W., Philadelphia, Pa.—Embroidery and braiding designs, hand worked and printed. F 72. 252
- 953 Thomas, Joel, Philadelphia, Pa.—Ruches, ladies' and infants' caps, rufflings, and collarettes. F 71. 252
- 954 Clickerman, L. M., Philadelphia, Pa.—Embroidery on linen cambric. F 68. 252
- 955 Palmer & Kendall, Middletown, Conn.—Mosquito net canopies with attachments, machine-tentered wide fabrics, mosquito nettings, cords, and window lines. F 77. 252
- 956 Bedchimer, Isaac, Philadelphia, Pa.—Masonic marks, society jewels, pins, and emblems in gold and silver. N 43. 253
- 956*a* Barrows, H. F., & Co., New York, N. Y.—Plated jewelry. P 43. 253
- 957 Muhr's, H., Sons, Philadelphia, Pa.—Gold finger rings. P 43. 253
- 957*a* Celluloid Novelty Co., New York, N. Y.—Celluloid jewelry. N 43. 253
- 958 Bailey & Co., Philadelphia, Pa.—Jewelry. N 43. 252

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Jewelry, Toys, Fancy Articles.

- 959 Simons, Opdyke, & Co., Philadelphia, Pa.—Gold chains, gold head canes, thimbles, gold and pearl jewelry. P 43. 253
- 960 Caldwell, J. E., & Co., Philadelphia, Pa.—Jewelry and artistic manufactures in the precious metals, for use and decoration. N 41. 253
- 961 Vulcanite Jewelry Co., New York, N. Y.—Vulcanite and jet, and combination vulcanite and jet jewelry. P 43. 253
- 962 Goggin, Jas., New York, N. Y.—Suites of jewelry, and jewel cases of shell, jet, and bog oak. P 50. 253
- 963 Neher, Chas., Philadelphia, Pa.—Hair jewelry. P 43. 253
- 964 Starr & Marcus, New York, N. Y.—Diamonds, pearls, precious stones, rich jewels, and stone cameos. N 41. 253
- 965 Morgan & Headly, Philadelphia, Pa.—Gold spectacles and chains, fine jewelry. N 42. 253
- 966 Cottier, C., & Son, N. Y.—Imitation of precious stones and fancy cut stones. P 44. 253
- 967 Tillinghast, Mason & Co., Providence, R. I.—Imitation diamond jewelry. N 43. 253
- 968 Richards, J. J. & J. M., New York, N. Y.—Sleeve and collar buttons, studs, crosses, pins, and eardrops. P 43. 253
- 969 Haas, Jas. A., & Co., Philadelphia, Pa.—Jewelry; masonic and other emblems. N 43. 253
- 970 Hamilton P. Hunt, Providence, R. I.—Plated chains and buckle bracelets. P 43. 253
- 971 Kipling's, R., Sons, New York, N. Y.—Precious and imitation stones for jewelry. N 43. 253
- 972 Tiffany & Co., New York, N. Y.—N 41. 253
a Jewelry, precious stones. 253
b Gilt goods. 254
- 973 Robbins, Clark & Biddle, Philadelphia, Pa.—N 43. 253
a Jewelry, diamonds. 253
b Bronzes, fancy goods. 254
- 973*a* Sand, M., New York, N. Y.—Wax flowers. F 71. 254
- 974 Miller, Thos., New York, N. Y.—Silk umbrellas. B 70. 254
- 975 Pope Manufacturing Co., Boston, Mass.—Rifle air pistol for target shooting. H 71. 254
- 975*a* Oakville Company, Waterbury, Conn.—Shawl, bankers', and mixed pins; toilet pin rolls. H 68. 254
- 975*b* Galena Oil Works (limited), Franklin, Pa.—Silver card baskets and cards. P 47. 254
- 976 Wallace & Keller, Philadelphia, Pa.—Walking canes, bell earrings, and fancy articles. B 72. 254
- 976*a* Pratt, D. G., Cambridgeport, Mass.—Wood and ivory turned goods. N 57. 254
- 977 Birgé & Berg, Philadelphia, Pa.—Artificial flowers; picture of lion, made of flowers. F 72. 254
- 978 Glendenning & Truitt, Philadelphia, Pa.—Whips. B 71. 254
- 978*a* New York Button Co., New York, N. Y.—Silk, velvet, metal, and other buttons. B 71. 254
- 979 Lacmann, J., & Sons, Philadelphia, Pa.—Doll bodies. F 72. 254
- 979*a* Weintroub, Paul, Philadelphia, Pa.—Fancy articles of olive wood from Jerusalem. T 54. 254
- 980 Pilling, George P., Philadelphia, Pa.—Gold, silver, and plated masonic, odd fellows, and society jewels, marks, emblems, and other small silver wares. N 52. 254
- 981 Baeder, Adamson, & Co., Philadelphia, Pa.—Cowhide whips. N 68. 254
- 981*a* Bene, Creighton, & Co., New York, N. Y.—Feathers. H 76. 254
- 982 Wilson, John, Philadelphia, Pa.—Carved walking canes. B 69. 254
- 983 Hirsh & Brother, Philadelphia, Pa.—Umbrellas, parasols, and materials. B 72. 254
- 983*a* Bacon, George W., Philadelphia, Pa.—Artistic transfers in spermaceti. N 55. 254
- 984 Galbraith, Alex., Philadelphia, Pa.—Wax flowers and materials. F 71. 25
- 984*a* Dudley, Dana, Philadelphia, Pa.—Toy gyroscopes. P 71. 254
- 985 Watson, Brock, Philadelphia, Pa.—Fancy articles carved from nuts and fruit stones; wood relics. H 69. 254
- 986 Potter, W. K., Providence, R. I.—Tortoise shell goods, combs, jewelry, etc. P 43. 254
- 986*a* Shoenhof, J., & Co., New York, N. Y.—Felt skirts. F 71. 254
- 987 Nickle, Robt., Rochester, N. Y.—Magical apparatus and toys. H 78. 254
- 987*a* Goodwin, W. C., New Haven, Conn.—Hot-air toys, guns, games, novelties, recording bank. N 71. 254
- 988 Bloodgood, Miss A. De Etta, New York, N. Y.—Sheet wax, wax flowers, leaves, shells, fruit, etc.; illuminated and rustic crosses. P 42. 254
- 988*a* Noyes, W. F., Newburyport, Mass.—Combs. F 71. 254
- 989 Chambers & Co., Philadelphia, Pa.—Umbrellas, parasols, and sun umbrellas. B 72. 254
- 989*a* Leighton, Charles, New Orleans, La.—Sleeve buttons mounted with Long Branch pebbles. F 71. 254
- 990 Johnson, E. S., New York, N. Y.—Tooth picks and ear spoons. N 43. 254
- 990*a* Jackson, Samuel C., New York, N. Y.—Silverware and jewelry trays and cases, fancy wood boxes. N 43. 254
- 992 Wahl, Emil, Philadelphia, Pa.—Fancy bone work, dominoes, chessmen, crochet needles, buttons, jewelry, etc. N 43. 254
- 993 India Rubber Comb Co., New York, N. Y.—Hardware rubber combs, syringes, drinking flasks; surgical, telegraphic, and photographic goods, etc. Manufacturers of hard rubber combs, syringes, drinking flasks, whip sockets, martingale rings, tumblers, rulers, funnels, scoops, dice cups, soap trays,

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Ornaments, Toys, Fancy Articles.

- castor rolls, napkin rings, whip handles, salad spoons and forks, gas faucets, mustard spoons; photographic, telegraphic, electrical, and surgical goods, and all kinds of special goods; sheet, rod, and tubing. B 67. 254
- 994 Leiner, Moritz, New York, N. Y.—Ear cleaners, filtering racks, sponge baskets, bath and bottle brushes, probangs. P 65. 254
- 995 Aiken, Lambert, & Co., New York, N. Y.—Toothpicks. N 43. 254
- 996 Koch, Sons, & Co., New York, N. Y.—Albums and backgammon boards. P 76. 254
- 997 Birch, John S., New York, N. Y.—Watch key that will wind any watch. P 43. 254
- 998 Ellis, Knapp, & Co., New York, N. Y.—Umbrellas and parasols. B 70. 254
- 998^a Feust & Rice, New York, N. Y.—Toys, jardiniers, and parlor ornaments. P 51. 254
- 999 Drown, W. A., & Co., Philadelphia, Pa.—Umbrellas and parasols. B 69. 254
- 999^a Buffalo Decorating Co., Buffalo, N. Y.—Artificial ivy and autumn leaves. P 62. 254
- 1000 Hopkins & Robinson Manufacturing Co., Akron, O.—Smoking pipes. T 44. 254
- 1000^a Smithers, Mrs. G. H., New York, N. Y.—Wax flowers and figures; sheet wax. F 70. 254
- 1001 Orange Judd Co., New York, N. Y.—Crandall's building blocks. T 73. 254
- 1003 Dickinson, Mrs. C. J., Chicago, Ill.—Wax flowers, leaves, fruit, ferns, etc. P 42. 254
- 1004 Tobin, Joseph F., No. 82 Duane street, New York, N. Y.—Whalebone goods. Manufacturer of dress, corset, whip, cane, probe, busks, brush, ribbon, round and half-round bone. F 72. 254
- 1005 Mabie, Todd, & Bard, New York, N. Y.—Tooth-picks. N 43. 254
- 1007 Riley & Lynch, Newark, N. J.—Bag and umbrella trimmings, military metal goods, masonic ornaments, etc. H 67. 254
- 1008 Celluloid Manufacturing Co., Newark, N. J.—Toilet brushes, etc., made from celluloid. N 43. 254
- 1009 American Mechanical Toy Co., N. Y.—Mechanical toys. F 70. 254
- 1010 Leonhard, Theo., Paterson, N. J.—Pure white beeswax bleached by sun, wax tapers or gaslighters, sheet wax and gilded brass moulds for wax flowers. N 56. 254
- 1011 Bradley & Hubbard Manufacturing Co., West Meriden, Conn.—Bronzes, call bells. N 47. 254
- 1013 Carlisle, Henry, & Son, Philadelphia, Pa.—Tortoise shell and horn combs, jewelry sets, and fancy articles. N 52. 254
- 1014 Althof, Bergmann, & Co., New York, N. Y.—Tin and mechanical toys. F 76. 254
- 1016 Bickel, August, & Son, Philadelphia, Pa.—Canes. B 71. 254
- 1017 Heister & Gans, New York, N. Y.—Automatic umbrellas and parasols. B 69. 254
- 1018 Kaldenberg, Fred. Julius, New York, N. Y.—Genuine meerscham pipes and cigar holders, amber goods. P 66. 254
- 1019 Holland, John, Cincinnati, O.—Toothpicks. N 43. 254
- 1020 Adams, J. S., & Co., Providence, R. I.—Tortoise shell jewelry and combs. N 42. 254
- 1021 Demuth, Wm., & Co., New York, N. Y.—Pipes and smokers' articles. P 69. 254
- 1022 Wagan, R. M., Mount Lebanon, N. Y.—Fancy articles made by the Shakers. P 52. 254
- 1023 Stehr, Carl, New York, N. Y.—Meerscham and amber goods. B 72. 254
- 1024 Harvey & Ford, Philadelphia, Pa.—Canes, umbrella and whip handles; pipes, billiard balls; pearl, horn, and ivory work. B 70. 254
- 1025 Waterbury Button Co., Waterbury, Conn.—Army, navy, railroad, police, state, livery, and cloth buttons; ladies' belt buckles, medals, and badges. B 76. 254
- 1027 Armstrong, F., Bridgeport, Conn.—Duplex ventilated garters and armlets. F 72. 254
- 1028 Field, A., & Sons, Taunton, Mass.—Buttons and eyelets. P 68. 254
- 1029 Lewy, F., New York, N. Y.—Kid glove safe. E 78. 254
- 1030 Matthias, Mrs. C. E., Philadelphia, Pa.—Umbrellas and parasols. F 70. 254
- 1031 Mitchell, Vance, & Co., New York, N. Y.—Bronzes. N 49. 254
- 1031^a Griffin, A. B., Ravenna, O.—Box and pyramid made of the woods of the world, containing 9865 pieces. P 49. 254
- 1032 Independent Comb Co., Wappinger's Falls, N. Y.—Ladies' horn and rubber combs, dressing combs, pipe stems, and bits. B 73. 254
- 1033 Barnhurst & Robinson, Philadelphia, Pa.—Umbrella and parasol stretchers. B 70. 254
- 1034 Grotenthaler, V., Philadelphia, Pa.—Block for wood engravers, wooden smoking pipes. B 70. 254
- 1035 Ives, Blakeslee, & Co., Bridgeport, Conn.—Mechanical toys and novelties. F 72. 254
- 1036 Mains Manufacturing Co., New York, N. Y.—Dice box. N 65. 254
- 1037 Nax, Kuhn, & Silberman, Philadelphia, Pa.—Tobacco pipes; umbrella, parasol handles, cigar tubes, etc. B 75. 254
- 1038 National Button Co., Easthampton, Mass.—Cloth-covered and vegetable ivory buttons, in great variety. Williston, Knight & Co., selling agents, Nos. 74 and 76 Worth street, New York, who sell by the case or package only. B 76. 254

Fancy Articles, Traveling Equipments, Stationery.

- 1039 Spaulding, D. S., Mansfield, Mass.—Tortoise shell jewelry, back combs, and fancy goods. N 43. 254
- 1040 Sevey, J. A., Boston, Mass.—Articles of whalebone, for whips, canes, corsets, dresses, etc. F 71. 254
- 1041 Eureka Manufacturing Co., Boston, Mass.—Air pistols. H 71. 254
- 1042 Joslin, Palmer, & William, New York, N. Y.—Horn and rubber goods, fancy back combs, and jewelry. N 43. 254
- 1043 Hildreth, Milo, & Co., Northboro', Mass.—Horn and tortoise shell combs and jewelry. N 43. 254
- 1044 Mahn, L. H., Jamaica Plains, Mass.—Base balls. F 71. 254
- 1047 Porter Brothers & Co., New York, N. Y.—Buttons and presses for attaching the same. H 71. 254
- 1047^a Holland, J. C., New York, N. Y.—Needles. F 71. 254
- 1048 Harris, S., & Sons Manufacturing Co., Clinton, Mass.—Dressing and fancy combs, imitation jet and shell chains. F 71. 254
- 1049 Wild, G. L., & Brother, Washington, D. C.—Musical dancing toy attachment for pianos. N 64. 254
- 1050 Moutoux, Emil W., New York, N. Y.—Hair pictures and devices for breastpins. P 52. 254
- 1051 Grote, F., & Co., New York, N. Y.—Carved and turned ivory; pearl and shell goods. B 71. 254
- 1051^a Conrad, Wm. C., Middletown, Pa.—Cane. T 61. 254
- 1052 Ansley, Fred. W., St. Augustine, Fla.—Jewelry made from native Florida material. H 68. 254
- 1053 Fowler Fly Fan Co., Philadelphia, Pa.—Fly fan moved by clockwork. N 54. 254
- 1054 Platt Bros. & Co., Waterbury, Conn.—Buttons. H 71. 254
- 1055 Cheshire Manufacturing Co., West Cheshire, Conn.—Buttons. H 71. 254
- 1056 Godfrey, C. J., & Son, Naugatuck, Conn.—Thimbles. H 71. 254
- 1057 Comstock Dickinson Ivory Co., Center Brook, Conn.—Ivory fine combs. H 71. 254
- 1058 Blake & Johnson, Waterbury, Conn.—Satin finish hair pins. H 71. 254
- 1059 Ives, Blakeslee, & Co., Bridgeport, Conn.—Silk covered ventilated metallic garters. H 71. 254
- 1059^a Ladd, S. J., Providence, R. I.—Gold thimbles. N 43. 254
- 1060 Peacock, H. H., Philadelphia, Pa.—Fancy cases in morocco, velvet, and marqueterie, for jewelry, etc.; physicians' cases. P 63. 255
- 1060^a Turner, Andrews & Co., Philadelphia, Pa.—Pocket and bill books, letter cases, and fancy leather articles. F 72. 255
- 1061 Rumpp, Chas., Philadelphia, Pa.—Fancy leather goods, dressing case, work boxes, pocketbooks, satchels, etc. H 69. 255
- 1061^a Langfeld, J., & Sons, Philadelphia, Pa.—Pocketbooks, satchels, and fancy leather articles. F 70. 255
- 1062 Kolb, G. F., & Son, Philadelphia, Pa.—Cases for jewelry and silverware. B 71. 255
- 1062^a Arms Manufacturing Co., Northampton, Mass.—Pocketbooks, photograph cases, chess boards, etc. B 78. 255
- 1063 Rumpy C. F., 116 & 118 North Fourth St., Philadelphia, Pa.—Fancy leather goods, pocketbooks, cigar and match cases, bankers' cases, dressing cases, writing desks, satchels, traveling bags, etc. Any article exhibited is kept in store, and any similar goods will be made to order at short notice. B 68. 255
- 1063^a Spitzer, George W., 33 Maiden Lane, New York, N. Y.—Fans, jewelry cases, and fancy leather goods. Manufacturer of leather fancy goods. Our specialties are jewelry cases and fans. These are the only fans of the kind made in this country. B 71. 255
- 1064 Parkhurst & Gridley, Newark, N. J.—Shawl and book strap. P 68. 255
- 1065 Likly, McDonald, & Rockett, Cleveland, Ohio.—Fancy leather work, gun case, etc. B 70. 255
- 1066 Stambach, John A., & Co., Philadelphia, Pa.—Ladies' and gentlemen's furs and robes. B 68. 256
- 1067 Mawson, Ed. S., & Sons, Philadelphia, Pa.—Seal sacsques, muffs, caps, gloves; seal, sable, and mink skins, etc. B 68. 256
- 1068 Fishblatt, Lewis, Philadelphia, Pa.—Ladies' furs and carriage robes. B 70. 256
- 1069 Mahler, M., New York, N. Y.—Furs. B 67. 256
- 1070 Reisky, N. C., Philadelphia, Pa.—Ladies' furs, gentlemen's driving goods, sleigh robes, Indian painted buffalo robes. B 69 and 71. 256
- 1071 Booss, F., & Bro., 449 Broadway, New York, N. Y.—Furs, sacsques, coats, muffs, boas, caps, robes, gloves, fur trimmings, and skins of all kinds. B 69. 256
- 1075 Kaehler, Otto, Philadelphia, Pa.—Stuffed animals, raw and dressed skins, fur robes, fancy furs, etc. B 68. 256
- 1076 Duryee & Hallett, Rahway, N. J.—Dressed and dyed furs. H 68. 256
- 1077 Burnett, W. H. & R., Newark, N. J.—Furs, fur cloaks, and fur-lined mantles. B 68. 256

Paper, Blank Books, and Stationery.

- 1078 Dixon Crucible Co., Jersey City, N. J.—Pencils of graphite. P 72. 256
- 1078^a Amberg, William A., New York, N. Y.—File and binder. P 77. 258
- 1079 McGill, Geo. W., New York, N. Y.—McGill's patent fasteners, for binding papers of all descriptions; sampling for woolen, dry, and fancy goods, and for all descriptions of light binding; McGill's patent suspending rings, and braces for hanging cards, calendars, etc.; one hundred different patterns of fasteners and rings; McGill's patent letter clips, punches, presses, copying press, water cups, etc. Factories at Waterbury, Conn.; warehouses, at 49 Chambers street, New York, and 18 Federal street, Boston. P 73. 258

Stationery.

- 1079^a Smith, Eldridge J., Philadelphia, Pa.—Bill holder, envelope, and book clamp. H 69. 258
- 1080 Hoskins, W. H., Philadelphia, Pa.—Paper, envelopes, designing, engraving, printing, and lithographing. P 76. 258
- 1080^a Chamberlin, Whitmore, & Co., New York, N. Y.—Stationery. P 74. 258
- 1081 Woodruff, E. W., Washington, D. C.—File holders, for filing business and official papers, compactly and conveniently for reference. Adopted by the United States Government. P 49. 258
- 1082 Tiffany & Co., New York, N. Y.—Stationery. N 41. 258
- 1082^a Pottin Register Manufacturing Co., Philadelphia, Pa.—Bank check. P 57. 258
- 1083 Goldsborough, John, Philadelphia, Pa.—Ribbon machine and hand stamps, perforating and canceling stamps. P 77. 258
- 1084 American Lead Pencil Co., New York, N. Y.—Lead pencils, materials, and process of manufacture. P 74. 258
- 1085 Fairchild, Leroy W., & Co., New York, N. Y.—Gold pens, pencil and pen cases, toothpicks and desk holders of gold and silver, etc. Awarded highest premium at Paris, 1867; Vienna, 1873; and gold and silver medals from other fairs wherever in competition. N 43. 258
- 1086 Faber, Eberhard, New York, N. Y.—Lead pencils, penholders, rubber goods, and stationers' articles. P 73. 258
- 1087 Cooke, G. K., & Co., New York, N. Y.—Revolving hand stamps, seal presses, rubber stereotypes, check protectors, combined pad and rack. P 77. 258
- 1088 Johnson, E. S., New York, N. Y.—Gold pens, pencils, and cases. N 43. 258
- 1089 Muller's, Nicholas, Sons, New York, N. Y.—Bronze stationery ware, inkstands. P 76. 258
- 1090 Janetzky & Co., Philadelphia, Pa.—Artists' materials, oil colors, water colors, paint boxes, artists' canvas, adjustable drawing table, artists' brush and color stand, sketching easels, and other articles appertaining to the fine arts, all of our own manufacture. P 77. 258
- 1091 Bergner, Theo., Philadelphia, Pa.—Drawing boards, parallel rulers, and section liners for draughtsmen's use. P 76. 258
- 1092 Hawkes, Geo. F., New York, N. Y.—Gold pens, gold, silver, pearl, and rubber pencils; fountain pen. N 43. 258
- 1093 Lipman, Hymen L., Philadelphia, Pa.—Eyelet machines, combining punch and riveter. P 74. 258
- 1094 Brower Bros., New York, N. Y.—Inkstands, paper weights, sponge cups, letter files, etc. P 74. 258
- 1095 Aiken, Lambert, & Co., 12 Maiden Lane, New York, N. Y.—Choice gold pens, penholders, cases. All goods sold guaranteed of same excellency as those on exhibition. N 43. 258
- 1096 Buck, T. S., & Co., Davenport, Ia.—Rubber type forms, rubber dating stamp. P 77. 258
- 1097 Stiles, Mrs. E. W., Philadelphia, Pa.—Book paper-file, revolving inkstand. P 30. 258
- 1098 Youngs, Wm. J., & Sons, Philadelphia, Pa.—Hand stamp. N 57. 258
- 1099 Stoddard, Richard T., Boston, Mass.—Book supporter. P 74. 258
- 1100 Young, W. A., Jacksonville, Fla.—Pencil sharpeners. H 68. 258
- 1101 Bender & Phillips, Hohokus N. J.—Sheet wax. N 36. 258
- 1102 Mabie, Todd, & Bard, New York, N. Y.—Gold pens, cases, pencils, holders. N 43. 258
- 1103 Hall, P. W., Austin, Texas.—Postage stamp and ticket holders. N 68. 258
- 1104 Dreka, Louis, Philadelphia, Pa.—Portfolio and stationery. Specimens of steel and copper plate engraving, die sinking, printing, illuminating and designing. All work exhibited executed in our establishment. P 74. 258
- 1105 Parkhurst & Gridley, Newark, N. J.—Stationers' goods. P 68. 258
- 1106 Foley, John, New York, N. Y.—Gold pens, pencils, and penholders. N 43. 258
- 1107 Chase, John S., Union Paste & Sizing Co., 200 Mulberry street, New York, N. Y.—Preserved flour paste, for bookbinders' and general use; Eureka perfumed paste, for office, library, and household. P 77. 258
- 1108 Mason & Co., Philadelphia, Pa.—Engraving, fine stationery, illuminating, stamping, and copper plate printing. P 73. 258
- 1109 Somers, D. M., Greenport, Brooklyn, N. Y.—Penholders. P 72. 258
- 1110 Holland, John, Cincinnati, O.—Gold pens, pencil cases, penholders. N 43. 258
- 1111 United States Soapstone Manufacturing Co., Cincinnati, O.—Soapstone slate pencils, crayons for blackboard or metals, tailors' markers, hair crimpers and curlers, boot powder, shoemakers' blocks, foundry facings; manufacturers of soapstone goods of any description. P 77. 258
- 1112 Hart, Bliven, & Mead Manufacturing Co., New York, N. Y.—Stationery for the desk, paper files, clips, etc. P 70. 258
- 1113 James, Samuel, Philadelphia, Pa.—Artists' rotary color and brush-stand. P 77. 258
- 1114 Chamberlin, Whitmore, & Co., New York, N. Y.—Stationery. P 74. 258
- 1117 Walker, Tucker, & Co., Philadelphia, Pa.—Rubber hand stamps. P 74. 258
- 1118 Esterbrook Steel Pen Co., Camden, N. J.—Pens and penholders. P 72. 258
- 1119 Eagle Pencil Co., New York, N. Y.—Lead and mechanical pencils, copying crayons, penholders, stationery, wood and brass articles. P 76. 258
- 1121 Rowland, Joseph S. C., Philadelphia, Pa.—Canceling ink-pad. T 47. 258

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

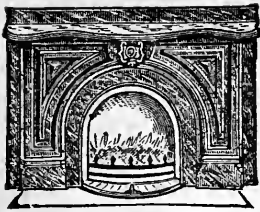
Stationery.

- 1122 Edsall, D. A., New York, N. Y.—Rubber hand stamps, stereotypes, folding rack pads. P 77. 258
- 1123 Morton, James, New York, N. Y.—Gold pens, gold, celluloid, and pearl pencils and penholders. N 43. 258
- 1124 Donovan, J. W., Detroit, Mich.—Record file covers, classified directory. P 58. 258
- 1125 Koch, Sons, & Co., New York, N. Y.—P 76.
a Bankers' cases, portfolios, patent binders, etc. 258
b Blank books. 261
- 1126 Moss & Co., Philadelphia, Pa.—P 77.
a Stationery. 256
b Blank books and printed books. 261
- 1127 Root, R. C., Anthony, & Co., New York, N. Y.—P 74.
a Office stationery. 258
b Account books, lithographic work. 261
- 1128 Cohen, Chas. J., 26 South Fifth street, Philadelphia, Pa.—P 74.
a Everpoint leads for pencil cases. 258
b Envelopes, all sizes and qualities. 259
c Saineite copying book. 261
d Paper boxes. 262
- 1129 Byron, Weston, Dalton, Mass.—Ledger and record paper. Linen, strong, double-sized paper for books, where great strength and long use are required. P 75. 259
- 1129^a Stratford, Hoe, & Co., Jersey City, N. J.—P 74.
a Tissue paper. 259
b Press boards. 262
- 1130 Owen Paper Co., Housatonic, Mass.—First-class linen ledger papers, bond and thin linen papers; tinted wedding royals and folios, plain and patent finished; bristol boards and staple writing papers of all kinds. P 73. 259
- 1130^a Brown, L. L., Paper Co., South Adams, Mass.—Ledger and flat papers. P 74. 259
- 1131 Southworth Co., Mittineaque, Mass.—Writing papers. P 75. 259
- 1132 Mount Holly Paper Co., Mount Holly Springs, Pa.—Writing papers. P 73. 259
- 1133 Whiting Paper Co., Holyoke, Mass.—Fine papers. P 77. 259
- 1134 Crescent Mills, Springfield, Mass.—Writing papers. P 74. 259
- 1135 Holyoke Paper Co., Holyoke, Mass.—Writing papers. P 74. 259
- 1136 Carson & Brown Co., Dalton, Mass.—Writing paper. P 74. 259
- 1137 Parsons Paper Co., Holyoke, Mass.—Writing paper. Manufacturers of white and tinted writing and envelope papers, of every description. P 74. 259
- 1138 Crane & Co., Dalton, Mass.—Bond, bank-note, parchment, letter, and note paper. P 74. 259
- 1139 Parker, Joseph, Son, & Co., New Haven, Conn.—Treasury and commercial blotting paper. Treasury blotting paper is well known for its durability and great absorbent quality, cleanliness in its use; grows soft and pliable by exposure, and never hardens on the desk. It will absorb more ink than the same thickness of papers

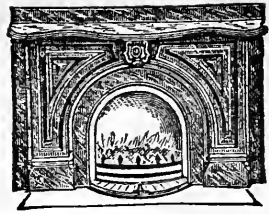
- of this class manufactured in the ordinary manner. J. G. Ditman & Co., Philadelphia, agents for Centennial. P 74. 259
- 1140 Campbell, Hall, & Co., New York, N. Y.—Safety paper, for protection from erasures. P 74. 259
- 1142 Tileston & Hollingsworth, Boston, Mass.—Steel plate, chromo, and woodcut paper. P 77. 259
- 1143 Crane Brothers, Westfield, Mass.—Bank ledger, record, and linen fabric papers. P 74. 259
- 1144 Hurlbut Paper Co., South Lee, Mass.—Writing and blank book papers. P 75. 259
- 1145 Seymour Paper Co., Windsor Locks, Conn.—P 75.
a Writing, envelope, blotting, plate, chromo, book, and printing papers. 259
b Colored papers. 264
- 1146 Megargee Bros., Philadelphia, Pa.—P 74.
a Book, plate, envelope, and writing papers. 259
b Colored papers. 264
- 1147 Francis & Loutrel, New York, N. Y.—P 74.
a Manifold writers, by which letters and copies are written at the same time. 259
b Bank ledger's spring book, patented April 20, 1870, opens freely and extra strong. Diaries published annually; safety checks. sure protection against raising, or fraud. 261
- 1147^a Crane, L., jr., Dayton, O.—P 77.
a Paper. 260
b Card board. 262
- 1148 Haldeman Paper Co., Lockland, Ohio.—P 77.
a Wrapping and carpet paper, etc. 260
b Building and roofing paper. 203
- 1149 Jessup & Moore, Philadelphia, Pa.—Copperplate, lithograph, and book papers, news paper. P 74. 260
- 1150 Ivanhoe Manufacturing Co., Paterson, N. J.—Book papers, flat writing, Butler's "French folios," also in four colors; American silk copying paper, cheap colored laid writing. Specialty—animal sized writing paper in rolls. Roll one-half mile long—one continuous sheet. P 74. 260
- 1153 Howlett, Onderdonk, & Co., Philadelphia, Pa.—Machine-made paper bags. P 73. 260
- 1155 Tangeman, Geo. P., Hamilton, Ohio.—P 77.
a Carpet paper. 260
b Roofing felt. 263
- 1156 McNeil, Irving, & Rich, Elwood, N. J.—P 74.
a Carpet, manila, flour sack, and wrapping paper. 260
b Waterproof building paper. 263
c Colored papers. 261
- 1157 Mann, Wm., Philadelphia, Pa.—Blank books for banks, parchment copy ink books. P 75. 261
- 1157^a Mets & Willse, Dubuque, Ia.—Specimens of bookbinding. P 77. 261
- 1158 Altemus & Co., Philadelphia, Pa.—Photograph albums, scrap books, etc. T 76. 261

Stationery.

- 1159 Murphy's, W. F., Sons, Philadelphia, Pa.—Blank books, made to order for actual use. P 77. 261
- 1159^a Lippincott, J. B., & Co., Philadelphia, Pa.—Blank books of their own manufacture. T 72. 261
- 1160 Thomas, Chas. F., Wilmington, Del.—Index for public records, and mercantile accounts. P 76. 261
- 1161 Kohler, Ignatius, Philadelphia, Pa.—Samples of bookbinding; samples of hand-finished ornamental, artistic, tool-worked bibles and large royal photograph albums, holding from 600 to 1000 pictures. (Hand-finished by Ig. Kohler himself.) T 74. 261
- 1161^a Holman, A. J., & Co., Philadelphia, Pa.—Bookbinding and photograph albums. T 74. 261
- 1162 Burlock, Saml. D., & Co., Philadelphia, Pa.—Bookbindings. T 73. 261
- 1163 Walker, Evans, & Cogswell, Charleston, S. C.—Blank books, law blank case. P 74. 261
- 1163^a Robinson, Savage & Co., Cleveland, O.—Russia bound register books. (*Ohio State Building.*) 261
- 1164 Appleton, D., & Co., Philadelphia, Pa.—Bookbinding. (*Gallery.*) T 73. 261
- 1164^a Hinsdill, Henry M., Grand Rapids, Mich.—Office scratch-books. T 77. 261
- 1165 Sandford & Co., Cleveland, O.—Full Russia bank books. P 77. 261
- 1165^a Beckett & Cervi, Cambridge, Mass.—Specimens of bookbinding. T 74. 261
- 1166 Siddall Bros., Philadelphia, Pa.—Vellum printing, conveyancers' envelopes, and job and book printing. P 74. 261
- 1167 Lange, Little, & Co., New York, N. Y.—Wood cut, railroad, and job printing. T 78. 261
- 1168 American Tract Society, New York, N. Y.—Bookbinding. T 76. 261
- 1169 Oldach & Mergenthaler, Philadelphia, Pa.—Bookbinders' work. T 75. 261
- 1170 Houghton, H. O., & Co., Riverside Press, Cambridge, Mass., Hurd & Houghton, New York.—Specimens of their publications, in fine library and law bindings, among them the "Massachusetts Reports," in law calf; the "Butterflies of North America," in crushed levant and vellum; "Smith's Unabridged Bible Dictionary," and "Knight's American Mechanical Dictionary," in grained levant; the special feature being a copy of "Webster's Unabridged Dictionary," manufactured at the Riverside Press, in illuminated vellum. T 76, on the *pavilion of the American Book Trade Association.* 261
- 1171 Reed, A., & Co., Philadelphia, Pa.—Ornamental bookbinding. T 74. 261
- 1171^a New York Catholic Protectors, New York, N. Y.—Printing. V 53. 261
- 1172 Lindsay & Blakiston, Philadelphia, Pa.—Specimens of binding. T 73. 261
- 1173 Boorum & Pease, New York, N. Y.—Blank books. P 75. 261
- 1174 Bradley & Gilbert, Louisville, Ky.—P 75. 261
^a Blank books, specimens of printing. 261
^b Bonnet boards, file paper boxes. 262
- 1175 Kerr, N. M., & Co., Philadelphia, Pa.—Paper boxes, jewelers' findings. P 75. 262
- 1175^a Richardson, J. N., Boston, Mass.—Playing cards. P 78. 262
- 1176 Dixon, Charles A., & Co., Philadelphia, Pa.—Engraved wedding and visiting cards, invitations, heraldic designs, and illuminations in monograms. P 75. 262
- 1177 American Paper Box Co., Philadelphia, Pa.—Fancy paper boxes. P 74. 262
- 1178 Porter & Bainbridge, New York, N. Y.—Cardboard, stationery, papeteries, etc. N 72. 262
- 1179 Dennison & Co., Boston, Mass.—Jewelers' paper boxes, cards, tags, labels, seals, tissue papers, sealing wax; jewelers' and surgical cotton. P 75. 262
- 1180 Osborn, Bennet, Newark, N. J.—Paper boxes. P 73. 262
- 1181 Dennison & Brown, Portland, Me.—Wood pulp and products, paper boxes, etc. P 77. 262
- 1182 Cornell & Shelton, Birmingham, Conn.—Folding paper boxes. P 74. 262
- 1183 Crompton, John, & Co., Philadelphia, Pa.—Jewelers', druggists', and perfumers' boxes. P 74. 262
- 1184 Rhode Island Cardboard Co., Pawtucket, R. I.—Cardboard, cards for printers and photographers, manilla tag stock. P 74. 262
- 1185 McClement Brothers, Philadelphia, Pa.—Embossed business cards, embossed labels, cut and gummed, and impressions from notarial and society seals. P 74. 262
- 1186 Nashua Card & Glazed Paper Co., Nashua, N. H.—Fancy paper boxes, colored paper and cardboard. P 74. 262
- 1186^a Zennig, R. H., & Co., New York, N. Y.—Fancy paper boxes. P 43. 262
- 1187 Dougherty, A., New York, N. Y.—Playing cards. P 77. 262
- 1188 Beck, Charles, Philadelphia, Pa.—P 76. 262
^a Cards, cardboard. 263
^b Fancy, colored, glazed, enameled, and embossed papers. 264
- 1188^a Scott, T. Seymour, & Bro., Philadelphia, Pa.—P 77. 262
^a Bonnet and carpet boards. 262
^b Paper carpet and building paper. 263
- 1189 Davey, W. O., & Sons, Jersey City, N. J.—P 77. 262
^a Binders' trunk and box boards. 262
^b Oakum. 666
- 1190 Stelwagon, Jos., & Sons, Philadelphia, Pa.—Raw roofing paper; prepared roofing and sheathing paper; carpet and sheathing paper. P 76. 263
- 1193 Grice, Jas., & Sons, Downingtown, Pa.—Wrappers for paper manufacturers. P 77. 263
- 1194 Gordon, A. Dunlop, Philadelphia, Pa.—Building and manila concrete felts. P 74. 263
- 1195 Case Brothers, South Manchester, Conn.—Paper boards. P 74. 263



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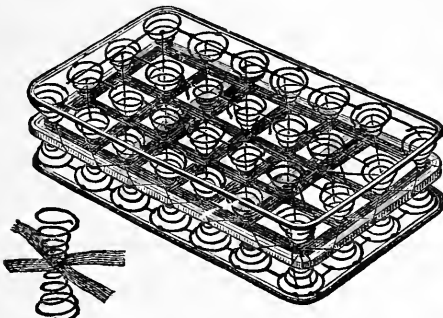
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Paper Manufactures, Firearms, Ammunition.

- 1196 Barrett, Arnold, & Kimball, Chicago, Ill.—P 76.
 a Aluminous and ornamental building paper. 263
 b Paper oil cloth. 264
- 1197 Van Skelline, Theo., Brooklyn, N. Y.—Motto papers and motto flowers. P 74. 264
- 1 97a Goth, Herman J., Bethlehem, Pa.—Oil-painted-washable wall paper. A. Goth & Co.'s patents improved. This paper is a most valuable invention, and as to beauty smoothness, durability, and cheapness, it is superior to oil-painted walls. P 39. 264
- 1198 Dejonge, Louis, & Co., New York, N. Y.—Fancy colored, glazed, plated, enameled, varnished, embossed, and printed papers. P 74. 264
- 1199 Beck, Fr., & Co., 206 & 208 West Twenty-ninth street, New York, N. Y.—Wall papers. The goods exhibited by this firm are of two classes; one made by hand-printing alone, the other by machinery alone. In the former a great variety of colors can be used, matching furniture coverings and draperies, if desired, and, indeed, the appearance of watered silks, or satins, or rich embroidered stuffs, can be so closely imitated that the printed paper can scarcely be distinguished from the genuine fabric. The goods made by machinery are commended for skill in workmanship, for graceful drawing in pattern, for a close resemblance to hand-printed papers, and for cheapness in price. P 76. 264
- 1200 Howell & Brothers, Philadelphia, Pa.—Paper hangings, borders, fireboard prints, and window papers. P 76. 264
- 1200a Spurr, Chas. W., Boston, Mass.—Wood hangings and marquetry. P 73. 264
- 1201 Howell & Bourke, Philadelphia, Pa.—Paper hangings and fresco decorations. P 59. 264
- 1202 Westerberg, Jefferson, & Co., New York, N. Y.—Decorations and embossed gold papers. P 76. 264
- 1203 Nagle, Cook, & Ewing, Philadelphia, Pa.—Decorative paper hanging. P 55. 264

Military and Nava Armaments, Ordnance, Firearms, and Hunting Apparatus.

- 1204 Union Metallic Cartridge Co., Bridgeport, Conn.—Metallic shells, bullets, wads, and percussion caps; cartridge machinery. H 70. 265
- 1205 Sparks, Thos. W., Philadelphia, Pa.—Drop-shot, mould, and conical balls. H 71. 265
- 1206 Billings & Spencer Co., Hartford, Conn.—Breechloading firearms. H 72. 265
- 1207 Remington, E., & Sons, Iilon, N. Y.—Firearms and ammunition. H 67. 265
- 1208 Smith & Wesson, Springfield, Mass.—Revolving firearms. H 69. 265
- 1209 Colt's Patent Firearms Manufacturing Co., Hartford, Conn.—Breechloading military and sporting small-arms, and military and pocket revolvers for metallic ammunition. H 72. 265

- 1210 Gardner, Wm., Hartford, Conn.—Breechloading cannon, machine guns, magazine shoulder arms. H 70. 265
- 1211 Forehand & Wadsworth, Worcester, Mass.—Revolving military and sporting firearm. H 71. 265
- 1212 Rawbone, Thos., Newark, N. J.—Cartridge-creaser. H 72. 265
- 1213 Whitney Arms Co., Whitneyville, Conn.—Breechloading military and sporting rifles, carbines, shotguns, revolvers, etc., with ammunition. H 63. 265
- 1214 Sharps Rifle Co., Bridgeport, Conn.—Rifles. H 72. 265
- 1215 Merchants' Shot Tower Co., Baltimore, Md.—Drop and mould shot. Capacity, one million bags per annum. Patent improved style soft barlead. H 71. 265
- 1216 Burgess, Andrew, Owego, N. Y.—Magazine rifles for military and sporting purposes. H 68. 265
- 1217 Goldmark, Joseph, New York, N. Y.—Percussion caps, primers, burglar alarm exploders, blasting detonators, metallic and paper cartridges, metal and paper boxes. H 71. 265
- 1218 Lovell, John P., & Sons, Boston, Mass.—Revolvers. H 72. 265
- 1219 Dana, Edw. A., Boston, Mass.—Expanding projectiles for rifled cannon. H 72. 265
- 1220 Schoverling & Daly, New York, N. Y.—Hunting and target rifles, revolvers, breechloading implements. H 70. 265
- 1221 Winchester Repeating Arms Co., New Haven, Conn.—Magazine or repeating military and sporting firearms, metallic cartridges for small arms. H 72. 265
- 1222 Wesson, Frank, Worcester, Mass.—Breechloading sporting and pocket target rifles. H 70. 265
- 1223 Rupertus, Jacob, Philadelphia, Pa.—Revolvers and repeating pistols. H 70. 265
- 1224 United States Cartridge Co., Lowell, Mass.—Metallic cartridges. Manufacturers of a perfect brass shell, central fire, solid head cartridge, capable of reloading many times; also, manufacturers of central and rim fire ammunition, of all kinds. H 72. 264
- 1225 American Arms Co., Boston, Mass.—Double-barreled, breechloading shotguns, and locks. H 72. 264
- 1226 Merwin, Hulbert, & Co., New York, N. Y.—Revolving firearms and magazine gun, military and sporting metallic cartridges. H 70. 265
- 1227 Evans' Rifle Manufacturing Co., Mechanic Falls, Me.—Magazine rifle, carbine, and musket. H 70. 265
- 1227a Clark & Snider, Baltimore, Md.—Guns and parts of breechloading shot guns. H 71. 265
- 1228 Willis, Aug. L., Philadelphia, Pa.—Time and percussion shell fuse. H 68. 265
- 1229 Miller, Wm. Deeds, New York, N. Y.—Firearms. H 70. 265
- 1230 Schneelock, Otto, Brooklyn, N. Y.—Self-indicating target. H 70. 265

Weapons, Ammunition, Medicines.

- 1231 Stevens, J., & Co., Chicopee Falls, Mass.**—Breechloading shotguns, rifles, and pistols. They now supply thoroughly well-made strong and close-shooting breech-loading double shotguns, 10 or 12 gauge twist, \$40.00; laminated steel, \$45.00; extra finish, \$55.00. Their rifles and pocket rifles shoot with wonderful accuracy. Circulars and full particulars on application to their agent, Charles Folsom, 53 Chambers street, New York, or H 71 Main Building. H 71. 265
- 1232 Stoddard, Charles J., Washington, D. C.**—Cartridge-loading implement. H 72. 265
- 1233 Gatling, Richard J., Hartford, Conn.**—Battery gun. This celebrated machine gun fires from 800 to 1000 shots per minute, has great accuracy, and the larger calibres have an effective range of over two miles. Manufactured by the Gatling Gun Company, at Hartford, Conn. H 70. 266
- 1234 Witty, Calvin, New York, N. Y.**—Breechloading field cannon. H 69. 266
- 1235 Nekervis, Wm., Philadelphia, Pa.**—Model of Parrott gun, with caisson complete. H 72. 266
- 1236 South Boston Manufacturing Co., Boston, Mass.**—Bronze and steel rifle cannon, boat howitzer. H 71. 266
- 1237 Boon, B., West Medford, Mass.**—Miniature field artillery, limber, and field piece. H 72. 266
- 1239 Ridgway, John, Heirs of, Boston, Mass.**—Revolving battery. H 69. 267
- 1239^a Stevens Institute of Technology, Hoboken, N. J.**—Model of the Stevens battery. T 67. 267
- 1239^b Paulding, Kemble, & Co., Cold Spring, N. Y.**—Model of gun carriage. H 72. 267
- 1240 Ames Manufacturing Co., Chicopee, Mass.**—United States regulation, masonic, and society swords. H 72. 268
- 1241 Collins & Co., New York, N. Y.**—Machetes, swords, bayonets, etc. N 67. 268
- 242 Gaylord Manufacturing Co., Chicopee, Mass.**—Presentation and society swords. N 70. 268
- 1243 Wurfflein, Wm., Philadelphia, Pa.**—Parlor or gallery rifles and mechanical targets. H 72. 269
- 1244 Krider, John, Philadelphia, Pa.**—H 72. 269
- a* Guns, pistols. 269
b Fishing tackle and sporting goods. 270
- 1245 Providence Tool Co., Providence, R. I.**—Breechloading rifles for military, target, and sporting purposes. Manufacturers of "Peabody-Martini" rifles, for military, target, and sporting purposes. The standard arm of Great Britain, noted for strength, accuracy, simplicity, and beauty; 1,500,000 shots have been fired at the factory from 300,000 of these rifles, without accident; also manufacturers of heavy hardware, ship-chandlers' and sail-makers' hardware, nuts, bolts, hinges, etc. H 72. 269
- 1246 Tryon, E. K., jr., & Co., Philadelphia, Pa.**—Muzzle loading rifles, shotguns, revolvers, gunmakers' tools, etc. H 70. 269
- 1247 Harder, J., & Son, Lock Haven, Pa.**—Single, double, and three-barrel guns. Manufacturers of all kinds of muzzle-loading guns. H 71. 269
- 1248 Parker, Chas., Meriden, Conn.**—Double-barreled breechloading shot guns. H 70. 269
- 1249 Harrington & Richardson, Worcester, Mass.**—Revolving firearms with shell ejector. H 72. 269
- 1250 Burton, Bethel, Brooklyn, N. Y.**—Military and sporting magazine rifles, bayonets, portable cartridge reloader. H 72. 269

Medicine, Surgery, Prothesis.

- 1252 Boericke & Tafel, 635 Arch street, Philadelphia, Pa.**—Official homeopathic medical preparations, books and periodicals. Manufacturing homeopathic pharmacists. Complete assortment of homeopathic medicines, in their different degrees and forms, for physicians, families and druggists; sugar of milk, pellets, cases, corks, vials. Publishers of homeopathic literature. N 50. 272
- 1252^a Planten, H., & Son, New York, N. Y.**—Gelatin capsules. N 58. 272
- 1253 Wallace Bros., Statesville, N. C.**—Wholesale dealers in southern roots, herbs, barks, flowers, seeds, etc., of fine quality. Orders solicited. N 58. 272
- 1253^a Dick, Dundas, 35 & 37 Wooster street, New York.**—Tastless medicines. These soft capsules are acknowledged by the most eminent physicians a true method to administer nauseous medicines, which often detract from, if they do not destroy, the beneficial effects of some of the most valuable remedies prescribed. No patent or proprietary medicines are put up in soft capsules. Explanatory circulars free at every drug store in the United States. These capsules were admitted to the last Paris Exposition. N 50. 272
- 1254 Seabury & Johnson, New York, N. Y.**—Plasters. T 44. 272
- 1255 Mitchell, Geo. E., Lowell, Mass.**—Surgical, medicinal, and pharmaceutical plasters and plaster compounds, lung protectors. N 53. 272
- 1256 Fehr, Julius, Hoboken, N. J.**—Compound talcum—baby powder. The hygienic dermal powder, useful for infants and adults, containing most valuable therapeutic properties. N 52. 272
- 1257 Randle, Wm. H., Baltimore, Md.**—Botanical medicines. N 52. 272
- 1258 Tims, Wm., Paterson, N. J.**—Homeopathic pellets. N 52. 272
- 1259 Wilson, B. O. & G. C., Boston, Mass.**—Pressed medicinal herbs, leaves, flowers, seeds, roots, barks, etc. N 52. 272
- 1260 Smith's Homeopathic Pharmacy, New York, N. Y.**—Homeopathic preparations in tinctures, triturations, and globules, cases for professional and family use. N 54. 272
- 1261 Ayer, J. C., & Co., Lowell, Mass.**—Cherry pectoral, cathartic pills, sarsaparilla, ague cure, hair vigor. N 52. 272

Medicines, Surgical Appliances.

- 1262 Blair's, H. C., Sons, Philadelphia, Pa.—T 47.
- α Wheat food. 273
- δ Fountain syringes. 274
- 1263 Hance Bros. & White, Philadelphia, Pa.—Conical plate drug mill and filtering apparatus. P 43. 274
- 1263α Rohrbeck & Goebeler, New York, N. Y.—School air pump. N 55. 274
- 1264 Bishop, Joaquin, Sugartown, Chester Co., Pa.—Platina crucibles, stills, bottles, blowpipe tubes, ignition tubes, etc. Manufacturers of platinum crucibles, ignition tubes, stills, bottles, wire, and articles used by analytical chemists; refining and melting of scrap or native grain platinum. Old platinum bought and taken in exchange. P 49. 274
- 1265 Gilbert, Alfred A., Philadelphia, Pa.—Medicine chest and saddlebags. N 51. 274
- 1266 Hechelman, H. W., Allegheny City, Pa.—Anatomical preparations of human ear and eye. N 54. 275
- 1266α Seaman, Louis Livingston, New York, N. Y.—Auscultatory percussor, for diagnosing. N 58. 275
- 1266β Longaker, H. D., Allentown, Pa.—Surgical and anatomical specimens of malignant tumors. T 47. 275
- 1266c Bowen, Truman, Boston, Mass.—Casting in the lungs of a calf. N 54. 275
- 1267 McIlroy, T., New York, N. Y.—Invalid, elevating, and fracture bedsteads, surgical operating and dissecting tables, oculists' and surgical operating chair. N 50. 276
- 1267α Whittemore, Joshua, Wakefield, Mass.—Elastic crutches. H 72. 276
- 1268 Condell, J., & Son, New York, N. Y.—Artificial limbs. N 58. 276
- 1268α Vaughan, W. R., Council Bluffs, Ia.—Belt trusses and supporters. N 58. 276
- 1269 Everett, B. C., Philadelphia, Pa.—Trusses, supporters, shoulder braces, elastic stockings, belts, and artificial limbs. N 56. 276
- 1269α Shepard & Dudley, New York, N. Y.—Surgical instruments and orthopedic apparatus. N 58. 276
- 1270 Taylor, Charles F., New York, N. Y.—Orthopedic apparatus and machines for local exercise. N 52. 276
- 1270α Day, G. Hayden, Bennington, Vt.—Fracture splints. N 55. 276
- 1271 Tiemann, Geo., & Co., No. 67 Chatham street, New York, N. Y.—Manufacturers of surgical instruments and orthopedic appliances. Established in 1826; branch store, 107 East Twenty-Eighth street, New York; steam factory, 81, 83, and 85 Boerum street, Brooklyn, E. D. Exhibit a most complete and compact operating set, containing, in ten compartments, over one hundred and eighty instruments, ample for every modern operation; specimens of operating cases used in America; Heine's osteotome for resection; Tiemann & Co.'s new rotating-blade osteotome; Tiemann & Co.'s new apparatus for fracture of arm and leg; anatomical syringe; Dawson's cautery battery, smallest battery known; Tiemann & Co.'s patent and other aspirators; patent steam atomizer; patent automatic and other hypodermic syringes; laryngoscopes; ophthalmologists', aurists', gynecologists', and other instruments; a variety of entirely new instruments of American origin, etc., etc. All articles exhibited are Tiemann & Co.'s own manufacture. Their catalogue, bound in cloth, numbering four hundred and twenty-six pages, and containing over fifteen hundred engravings, can be obtained in New York for the cost of binding—seventy-five cents. N 51. 276
- 1271α Newbauer, Wm. G., Long Island City, N. Y.—Medical-plaster spreading machine. P 47. 276
- 1272 Marks, A. A., New York, N. Y.—Artificial limbs, india rubber hands and feet. N 58. 276
- 1272α Lee, Benjamin, Philadelphia, Pa.—Apparatus for the treatment of spinal curvatures. N 56. 276
- 1273 Woods, J. T., Toledo, O.—Splint for leg and thigh. N 59. 276
- 1273α Ahl, David, Newville, Pa.—Adaptable porous splints. P 71. 276
- 1274 Pilling, Geo. P., Philadelphia, Pa.—Gold, silver, and plated surgical instruments. N 52. 276
- 1275 Mervine, S. P., jr., Philadelphia, Pa.—Gynecological apparatus. N 52. 276
- 1276 Gemrig, J. H., Philadelphia, Pa.—Surgical instruments and appliances. N 57. 276
- 1277 Perry, Vincent, Germantown, Pa.—Elastic bandages for surgical purposes. N 57. 276
- 1278 National Surgical Institute, Indianapolis, Ind.—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276
- 1279 Penfield, E. C., & Co., Philadelphia, Pa.—Trusses, etc. N 59. 276
- 1280 Elastic Truss Co., New York, N. Y.—Elastic trusses and abdominal supporters. N 56. 276
- 1281 Blanck, Wm., & Son, Philadelphia, Pa.—Artificial limbs and appliances. N 58. 276
- 1283 Leiner, M., New York, N. Y.—Surgical instruments, ear cleaners, filtering racks. P 66. 277
- 1284 Rhodes, Isaac M., Hancock, Mich.—Easy chair, invalid bed, and fracture apparatus combined. N 59. 274
- 1285 Clement, Richard, Philadelphia, Pa.—Artificial limbs. N 58. 276
- 1286 Horn, W. H., & Bro., Philadelphia, Pa.—Trusses, abdominal supporters, etc. N 59. 276
- 1287 Darrach, S. A., Newark, N. J.—Wheel crutch and attachments; vulcanized rawhide spine support. N 58. 276
- 1288 Goodier, John, Philadelphia, Pa.—Lever and shield trusses for ruptures. N 53. 276
- 1289 Crandall, Chas. J., New York, N. Y.—Crutches. N 56. 276
- 1290 Wickett & Bradley, New York, N. Y.—Artificial limbs. N 57. 276
- 1290α Beckel, August, & Son, Philadelphia, Pa.—Crutches. 276
- 1291 Hinkle & Mayon, San Francisco, Cal.—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Medical and Surgical Appliances, Tools.

- 1292 Handy & Boland, Atlanta, Ga.—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276
- 1293 Kolbe, D. W., Philadelphia, Pa.—Surgical and orthopedical instruments; artificial limbs. N 53. 276
- 1294 Triumph Truss Co., New York, N. Y.—Truss and supporter. N 53. 276
- 1295 Kern, Horatio G., Philadelphia, Pa.—Surgical and dental instruments. N 56. 276
- 1296 Foster, James A., Philadelphia, Pa.—Artificial limbs. These limbs are manufactured at Philadelphia, Pa.; Cincinnati, O.; St. Louis, Mo.; Chicago, Ill.; and Detroit, Mich. Illustrated descriptive pamphlets free. N 53. 276
- 1297 Pingree, Luther F., Portland, Me.—Artificial limbs. N 53. 276
- 1298 Otto, F. G., & Sons, New York, N. Y.—Surgical instruments and orthopedical appliances. N 53. 276
- 1299 Bartlett, Butman, & Packer, Boston, Mass.—Trusses. N 51. 276
- 1300 Frees, C. A., New York, N. Y.—Artificial limbs and extensions. N 56. 276
- 1301 Palmer, B. Frank, LL.D., Philadelphia, Pa.—New patent leg and arm, safety socket united to the stump, securing positive comfort. Original patent, 1846; new patent, perfected, 1873. New automatic system, for universal motion, power, and sound applied to writing, printing, music, etc. Original writing machine (type-writer) made in 1851, perfected in 1876. N 54. 276
- 1302 Seeley, I. B., Philadelphia, Pa.—Hard rubber trusses, abdominal supporters, pile instruments, elastic surgical hosiery, bandages, etc. N 53. 276
- 1303 McElroy, P. J., East Cambridge, Mass.—Glass and family syringes, feeding and drinking tubes, nipple shields, medicine droppers, etc. N 51. 276
- 1304 Miller, Jas. S., Philadelphia, Pa.—Trusses and braces. N 58. 276
- 1305 Rowand, John R., Philadelphia, Pa.—Gynæcological apparatus. N 51. 276
- 1307 Allen & Johnson, Philadelphia, Pa.—Surgical and mechanical appliances, splints, operating chairs, crutches, supporters, and trusses. N 56. 276
- 1308 Bethell, John P., Philadelphia, Pa.—Surgical and gynæcological apparatus; artificial steel leg. N 57. 276
- 1309 Philadelphia Truss Co., Philadelphia, Pa.—Trusses, supporters, shoulder braces, elastic stockings, belts; combination truss and supporter. N 57. 276
- 1310 Gunning, Thomas Brian, 34 East Twenty-first street, New York, N. Y.—Fractured jaw appliances, including Secretary Seward's; illustrating heads; cleft palate appliances; teeth plates; regulating plates. N 51. 276
- 1311 Spillman, Henry, New Orleans, La.—Trusses, supporters, and shoulder braces. N 58. 276
- 1312 Davis, James T., New York, N. Y.—Artificial human eyes. N 54. 276
- 1313 Teufel, J. J., office and factory, No. 103 South Eighth street, Philadelphia, Pa.—N 54.
- a Surgical instruments. 276
- b Dental instruments. 277
- 1314 Codman & Shurtleff, Boston, Mass.—N 57.
- a Surgical instruments, apparatus and appliances. 276
- b Dental instruments, furniture, and materials; laboratory tools, etc. 277
- 1315 Justi, H. D., Philadelphia, Pa.—Artificial teeth, tools, and materials for their manufacture. N 54. 277
- 1316 Johnson & Lund, Philadelphia, Pa.—Artificial teeth, corundum wheels, gold foil, tooth powders, amalgams, dental instruments and materials. N 59. 277
- 1316a Neve, Edward, Omaha, Neb.—Artificial teeth. N 58. 277
- 1317 Wardle, Thos., Philadelphia, Pa.—Artificial teeth and models. N 58. 277
- 1317a Chapman, John Winslow, Hyannis, Mass.—Artificial teeth. N 53. 277
- 1318 Brown, E. Parmly, Flushing, N. Y.—Gold fillings in human teeth, dentists' cases, dental improvements. N 57. 277
- 1319 White, Samuel S., Philadelphia, Pa.—Artificial teeth, instruments, chairs, dental engines, stools, lathes, brackets, spittoons, gold foils, corundum wheels, etc. N 55. 277
- 1320 White, Chas. A., Philadelphia, Pa.—Celluloid apparatus and dental flasks, process of forming sets of artificial teeth, artificial dentures. N 56. 277
- 1321 Metcalf, David H., Battle Creek, Mich.—Tinman's pattern sheets and squares. N 68. 28c
- 1322 Allen, J., & Son, New York, N. Y.—Artificial dentures. N 57. 277
- 1323 Abbey, Chas., & Sons, Philadelphia, Pa.—Dentists' fine gold foil, soft or non-adhesive and adhesive. Our specialty for fifty years. N 58. 277
- 1324 Bonwill, W. G. A., Philadelphia, Pa.—Electro-magnetic mallet for filling teeth, carving marble, chasing metals, and as an autographic printing press; dental chair and engine. N 59. 277
- 1325 Taylor, J. Hare, Philadelphia, Pa.—Tooth paste, etc. N 57. 277
- 1326 Wardle, S., Cincinnati, O.—Specimens of dentistry. N 58. 277
- 1327 Neall, Daniel W., Camden, N. J.—Porcelain teeth. N 57. 277
- 1329 Crowther, D. W., Hagerstown, Md.—Mechanical and operative dentistry. N 58. 277
- 1330 Scott, Quincy A., Pittsburg, Pa.—Atmospheric disk for holding artificial teeth in the mouth, dental specimens, dentifrice. N 56. 277
- 1331 Ludwig, Schmidt, & Mohl, Houston, Texas.—Enamel; specimens of teeth. N 52. 277
- 1332 Valteau, William, jr., New York, N. Y.—Gold and silver leaf, gold and platinum filling for dentists' use. N 63. 277
- 1334 Cutter, Ephraim, Cambridge, Mass.—Adjustable chair for invalids. N 58. 278
- Hardware, Edge Tools, Cutlery, Metallic Products.**
- 1335 Collins & Co., New York, N. Y.—Cast steel tools; sledges. N 67. 280
- 1336 Elgin National Watch Co., Elgin, Ill.—Watchmakers' tools. P 67. 280

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Hardware, Tools, Cutlery.

- 1336^a Shepardson, H. S., & Co., Shelburn Falls, Mass.—Diamond, pod, and screw driver bits, nail sets, gimlets, tool cases, etc. H 68. 280
- 1337 Douglas Axe Manufacturing Co., Boston, Mass.—Axes, hatchets, adzes, picks, etc. N 67. 280
- 1338 Pugh, Job T., Philadelphia, Pa.—Screw augers and auger bits. Known as an old established manufacturer of augers and bits; established 1774; a descendant of the inventor of the screw auger. These augers are known to all who use them, as the old hand-made auger, thereby gaining great durability. N 72. 280
- 1338^a Ernst & Elterich, Jersey City, N. J.—Tools. N 68. 280
- 1339 Conard, A. & I., Whitmarsh, Pa.—Cast steel wood-boring implements. P 71. 280
- 1339^a Eagle Square Manufacturing Co., South Shaftsbury, Vt.—Boring machines, squares, and rules. P 78. 280
- 1340 Elmira Nobles' Manufacturing Co., Elmira, N. Y.—Carpenters' and shipwrights' tools. N 71. 280
- 1340^a Buck, Charles, Milbury, Mass.—Edge tools. N 71. 280
- 1341 Quint, S. H., & Son, Philadelphia, Pa.—Stencils, stamps, checks, tags, etc.; metallic pattern letters, for raised lettering or castings, names, addresses, etc. H 71. 280
- 1341^a Genkinger, Adolph, Newark, N. J.—Tools, etc. N 68. 280
- 1342 Carter, Edwd., Troy, N. Y.—Nickel-plated goods; planes, mechanics' tools. P 69. 280
- 1342^a Howell, S. J., Orange, Mass.—Polishing lathes and wheels, tweezers, saw frames. N 68. 280
- 1343 Stanley Rule & Level Co., New Britain, Conn.—Rules, levels, squares, and carpenters' tools. N 68. 280
- 1343^a Holland, James C., New York, N. Y.—Self-threading surgical and sewing machine needles, sail and packing needles. F 71. 280
- 1344 Billings & Spencer Co., Hartford, Conn.—Drop forgings, machinists' small tools, sewing machine shuttles. H 72. 280
- 1344^a Bossard, H., Philadelphia, Pa.—Watchmaker's slide rest. N 43. 280
- 1345 Eddy, Geo. M., & Co., Brooklyn, N. Y.—Fine steel band saws and tempered steel springs. N 57. 280
- 1345^a Fry's Bookbinder's Stamp & Tool Manufactory, Philadelphia, Pa.—Stamps and tools for the embellishment of books. T 75. 280
- 1346 Rose, Wm., & Bros., Philadelphia, Pa.—Bricklayers', plasterers', moulders' and saddlers' tools. N 72. 280
- 1346^a Douglass Manufacturing Co., New York, N. Y.—Mechanics' tools, cutting and boring implements. N 70. 280
- 1347 Colton, Alfred J., Philadelphia, Pa.—Stair hand-rail planes and double-edge routers, carpenters' moulding planes. N 69. 280
- 1348 Pratt, Jas. T., & Co., New York, N. Y.—Tool chests for amateurs or mechanics. N 68. 280
- 1349 Maltby, Curtiss, & Co., New York, N. Y.—Nail puller. B 77. 280
- 1350 Kohler, Martin, Philadelphia, Pa.—Kneec-rest for tailors. N 70. 280
- 1351 Carter, Henry, New York, N. Y.—Moulders' and plasterers' tools. N 70. 280
- 1352 Sinz, Philip, Baltimore, Md.—Glaziers' diamonds, machinery for circular and oval cutting, engravers' points, carbon tools. N 68. 280
- 1353 King, Josiah, & Son, New York, N. Y.—Planes and tools for wood workers. N 71. 280
- 1354 Booth, John, & Son, Philadelphia, Pa.—Carpenters' tools and sundries. N 69. 280
- 1355 Barton, D. R., Tool Co., Rochester, N. Y.—Mechanics' edge tools. N 70. 280
- 1356 American Shovel Co., Birmingham, Conn.—Shovels and scoops. P 68. 280
- 1357 Johnson, Wm., Hedenberg Works, Newark, N. J.—Carpenters' and other mechanics' tools and hardware. N 69. 280
- 1358 Hampton, Chas. F., Ardmore, Pa.—Augers and bits. N 71. 280
- 1359 Ten Eyck Axe Manufacturing Co., Cohoes, N. Y.—Axes, carpenters' edge tools, etc. N 68. 280
- 1360 White, Wm., Newark, N. J.—Axes, hatchets, adzes, bush hooks, stone hammers, picks, etc.; carriage shaft-couplings. P 71. 280
- 1361 Selsor, Geo., & Co., Philadelphia, Pa.—Hammers, edge and railroad tools, coffee mills, slaw cutters, tacks, and nails. N 68. 280
- 1362 Star Tool Co., Middletown, Conn.—Machinists' and carpenters' tools; squares, bevels, gauges, standard steel rules, etc.; blind trimmings. These goods are of the finest finish; the squares are perfectly accurate and of different varieties, adapted to the wants of workers in wood or iron; the rules are graduated on spring-tempered steel, and are made only by this company. P 67. 280
- 1362^a Gardam, William, & Son, New York, N. Y.—Index plates, dividing and drilling machines. N 68. 280
- 1363 Snell Manufacturing Co., Fiskdale, Mass.—Augers, auger bits, and boring machines. P 71. 280
- 1364 Buck Bros., Riverlin Works, Milbury, Mass.—Shank and socket firmer chisels and gouges, plane irons, screw drivers, nail sets, etc. N 69. 280
- 1365 Maydole, D., & Co., Norwich, N. Y.—Cast steel hammers. N 71. 280
- 1366 Foerster & Kraenter, Newark, N. J.—Tools. N 68. 280
- 1367 Davis Level & Tool Co., Springfield, Mass.—Adjustable levels and planes and iron planes. P 71. 280
- 1368 De Witt, Morrison, & Kelley, Philadelphia, Pa.—Carpenters', millwrights', gasfitters', pump, and car builders' machine and auger bits. These are the celebrated arrow brand for boring all kinds of wood. P 71. 280
- 1369 Shepherd & Lloyd, Philadelphia, Pa.—Scales, glass cutters, lard presses, and hardware specialties. N 71. 280
- 1370 Rowland, B., & Co., Philadelphia, Pa.—Shovels, spades, and scoops; draining and ditching tools. N 71. 280

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Hardware, Tools, Cutlery.

- 1371 Yerkes & Plumb, Philadelphia, Pa.—Edge tools, hammers; railroad, mining, and blacksmiths' sledges. N 70. 280
- 1372 Bailey, Leonard, & Co., Hartford, Conn.—Bench planes, try squares, bevels. N 68. 280
- 1373 Mayo, M. C., Boston, Mass.—Plane. P 71. 280
- 1374 Miller, Edward, & Co. Meriden, Conn.—N 48.
a Machine oilers. 280
b Tinners' hardware. 284
- 1375 Bemis & Call Hardware & Tool Co., Springfield, Mass.—Machinists' tools. P 72. 280
- 1376 Newton, C. C., Dunkirk, N. Y.—Twisted drill taps, dies, and reamers. T 60. 280
- 1377 Ives, W. A., & Co., New Haven, Conn.—Wood-boring implements, bit braces. N 72. 280
- 1378 Mills, E., & Co., Philadelphia, Pa.—Braces, bits, bevels, screwdrivers, spokeshaves, squares, and saw pads. P 68. 280
- 1379 Donaldson, J. W., Massillon, Ohio.—Block stamps for stamping garments for braiding and embroidery. P 68. 280
- 1380 Bailey Wringing Machine Co., New York, N. Y.—Metallic bench planes, spokeshaves, box scrapers, etc. N 69. 280
- 1381 Klein, Logan, & Co., Birmingham Tool Manufactory, Birmingham, Pa.—Picks, mattocks, fire shovels, etc. N 71. 280
- 1382 Crossman, A. W., & Son, West Warren, Mass.—Carpenters' hand tools. N 70. 280
- 1383 Nixon, G. W. C., New York, N. Y.—Engravers' tools. N 68. 280
- 1384 Ohio Tool Co., Columbus, O.—Planes, screws, edge tools, plane irons, handles, etc. N 71. 280
- 1385 Palmer, Wm. F., Berry street, bet. Fourth & Fifth streets, San Francisco, Cal.—Edge tools. All tools warranted of excellent cutting qualities. N 70. 280
- 1385_a Rue, Theodore, Philadelphia, Pa.—Stencils and tools, nickel-plated signs and numbers, steel stamps. T 54. 280
- 1386 Taylor, Thomas, cor. Eddy & Friendship streets, Providence, R.I., P.O. box 993.—Bloodstone burnishers. Bloodstone burnishers and reflectors made to order. N 71. 280
- 1387 Smyth & Pennington, Paterson, N. J.—Files and rasps. N 69. 280
- 1388 Whitney Manufacturing Co., South Ashburnam, Mass.—Tools used in manufacturing chairs. W 50. 280
- 1389 Franklin, Mrs. Esther P., Philadelphia, Pa.—Marking stencils and branding irons. T 58. 280
- 1390 Sandusky Tool Company, Sandusky, O.—Planes, plane irons, bench and hand screws, chisel and file handles. P 71. 280
- 1391 Hopkins, C., Waltham, Mass.—Watchmakers' tools. N 68. 280
- 1392 Tower, John J., New York, N. Y.—N 68.
a Carpenters' planes, wrenches, adjustable clamps. 280
b Handcuffs and police implements, padlocks. 284
- 1393 Harrison & Kellogg, Troy, N. Y.—N 68.
a Screw wrenches. 280
b Plain, tiined, jappaned, and nickel-plated malleable iron castings to order, in all varieties; extra refined air-furnace irons. (Low freights open all the year.) 283
- 1394 Wills, Edwin S., Philadelphia, Pa.—N 69.
a Tools. 280
b Wood screws, etc. 284
- 1395 Miller's Falls Co., Miller's Falls, Mass.—P 71.
a Mechanics' tools. 280
b Hardware. 284
- 1396 Lloyd, Supplee & Walton, Philadelphia, Pa.—P 70.
a Hollow auger, spokeshave. 280
b Locks. 284
- 1397 Vatterlein, John, Plainfield, N. J.—N 69.
a Carpenters' gauges. 280
b Gate hardware. 284
- 1398 Lowentrant, P., Newark, N. J.—N 70.
a Mechanics' tools. 280
b Hardware. 284
- 1399 Hart, Bliven, & Mead Manufacturing Co., New York, N. Y.—P 70.
a Carpenters' tools. 280
b Carpenters', saddlers', and carriage hardware; gong door bells. 284
- 1400 Hotchkiss's Sons, Bridgeport, Conn.—N 72.
a Hand drills, saw sets, currycombs. 280
b Pruning shears. 281
c Harness snaps, bull rings. 284
- 1401 Beaver Falls Cutlery Co., Beaver Falls, Pa.—Table, pocket, and miscellaneous cutlery. Special exhibits, large carving knife and fork, nine and a half feet long, cost \$1500; revolving knife, with three hundred and sixty-five blades. N 70. 281
- 1402 Barney, E. H., Springfield, Mass.—Skates, perforating stanip, show case and counter combined. Barney & Berry's celebrated "Club All-clamp and Kink Skates," patented 1859, 1866, 1868, 1873. I show the advantage of a screw fastening for operating clamps on metal-topped skates; also, originality of the designs, fine quality, workmanship, and finish. P 68. 281
- 1403 Will & Finck, San Francisco, Cal.—California carving sets and cutlery, bar tools. P 71. 281
- 1404 Union Hardware Co., Wolcottville, Conn.—Skates, skate straps, tool handles, wood turning, dog collars, etc. N 69. 281
- 1405 Badger, Benj. F., Charlestown, Mass.—Razor strops. Leading styles, "Genuine Emersons," established 1810; "Souvenir," for presentation; "German Belt," with non-extensible base; "Badger's super-quality;" "Patent X;" "Square." N 72. 281
- 1406 Goldschmidt, Herrmann, New York, N. Y.—Razor strops. N 71. 281

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Hardware, Cutlery, Metallic Ornaments.

- 1407 Florence Sewing Machine Co., Florence, Mass.—Skates. N 71. 281
- 1408 Herder, L., & Son, Philadelphia, Pa.—Shears and scissors. N 69. 281
- 1409 Russell, John, Cutlery Co., Green River Works, New York, N. Y.—Table cutlery, butchers', hunters', painters', and druggists' knives, etc. N 67. 281
- 1410 Shipley, Howard W., Philadelphia, Pa.—Pocket cutlery. P 71. 281
- 1411 Seymour, Henry, & Co., New York, N. Y.—Tailors', bankers', and sheep shears, trimmers, and scissors. N 71. 281
- 1412 Evans, W. D., & Co., Philadelphia, Pa.—Razor strops and oilstone hone. N 72. 281
- 1413 Meriden Cutlery Co., New York, N. Y.—Table cutlery. N 69. 281
- 1414 Holley Manufacturing Co., Lakeville, Conn.—Pocket cutlery. P 71. 281
- 1415 Lamson & Goodnow Manufacturing Co., Shelburne Falls, Mass.—Table and butchers' cutlery. N 70. 281
- 1416 United States Steel Shear Co., West Meriden, Conn.—Solid cast steel scissors and shears. N 71. 281
- 1417 Miller Bro. Cutlery Co., West Meriden, Conn.—Pocket cutlery. N 70. 281
- 1418 Heinisch's, R., Sons, Newark, N. J.—Tailors' shears, scissors, and trimmings. N 69. 281
- 1419 Wiss, J., Newark, N. J.—Cutlery, shears, and scissors, hand and pole pruning shears. P 68. 281
- 1420 Plimpton, J. L., New York, N. Y.—Parlor skates. P 71. 281
- 1421 Friedman & Lauterjng, New York, N. Y.—Razors. P 70. 281
- 1422 Funke, Leopold, St. Louis, Mo.—Knife with three hundred and sixty-six blades. T 60. 281
- 1423 Robbins, Clark & Biddle, Philadelphia, Pa.—Cutlery. N 43. 281
- 1424 Gesswein & Reichhelm, New York, N. Y.—Polishing implements and materials. N 70. 281
- 1425 Northfield Knife Co., Northfield, Conn.—Pocket cutlery. N 71. 281
- 1426 Breeden & Nelke, New York, N. Y.—Spring scissors and shears. P 71. 281
- 1427 Goodell Company, Antrim, N. H.—Cutlery and shoe knives. N 71. 281
- 1428 Marx Bros., New York, N. Y.—Folding pocket scissors. N 69. 281
- 1429 Winslow, Samuel, Worcester, Mass.—Skates. H 71. 281
- 1430 Brady, Edward, Philadelphia, Pa.—U 63. 281
a Metal boot fastening. 281
b Model of iron fort. 283
- 1431 Willis, Aug. L., Philadelphia, Pa.—Ice creeper. H 71. 281
- 1432 Peck & Snyder, New York, N. Y.—Skates. H 71. 281
- 1433 New York Knife Co., Walden, N. Y.—Table, pen, and pocket cutlery. N 67. 281
- 1433*a* Louis, Julius, & Co., Jeffersonville, Ind.—Oilstones. N 68. 282
- 1434 Mitchell, J. E., Philadelphia, Pa.—Carpenters', engravers', opticians', and cutlers' grindstones; oilstones, razor bones, etc. P 67. 282
- 1434*a* Boyd & Chase, New York, N. Y.—Arkansas and Washita oilstone. N 69. 282
- 1434*b* Zucker & Levett, New York, N. Y.—Hard and soft rouge and composition for polishing metals. T 53. 282
- 1435 Baeder, Adamson, & Co., Philadelphia, Pa.—N 68. 282
a Sand and emery paper, emery cloth, emery, corundum, flint. 282
b Glue. 652
c Curled hair. 669
- 1435*a* Nittinger, Edward, Philadelphia, Pa.—Quartz paste for sharpening knives, etc. T 52. 282
- 1435*b* Tucker, Geo., New York, N. Y.—Polishing compositions. N 68. 282
- 1435*c* White, T. R., Philadelphia, Pa.—Sandilene, for cleaning marble, metal, glass, etc. T 54. 282
- 1436 Harrison, W. H., & Bros., Philadelphia, Pa.—Low and elevated fire grates, fenders, fireplaces, etc. T 52. 283
- 1436*a* Garland, Benj., Philadelphia, Pa.—Iron bridge and fence railings. Y 62. 283
- 1437 Dixon, Thos. S., & Sons, Philadelphia, Pa.—Grates, fenders, fireplace fittings, and gas logs. T 49. 283
- 1437*a* Manly, M. M., & Son, Philadelphia, Pa.—Wrought iron hand rails, mouldings, and bridge railings. T 60. 283
- 1438 Jackson, Wm. H., & Co., New York, N. Y.—Grates, fenders, fireplaces, fire irons, and fancy coal boxes. N 67. 283
- 1439 Lalance & Grosjean Manufacturing Co., New York, N. Y.—Stamped iron culinary ware. T 68. 283
- 1440 Reyburn, Hunter, & Co., Philadelphia, Pa.—Weather vanes. N 62. 283
- 1441 Tin Plate Decorating Co., New York, N. Y.—Decorated tin plates, boxes, cans, etc. N 70. 283
- 1442 Miller & Krips, 716 & 718 Cherry street, Philadelphia, Pa.—Plain and ornamental bronze; white bronze, brass, German silver, and zinc castings. Also, sole manufacturers of bronze reliefs in a new style of mounting; bronze reliefs made to order, from life or photograph. P 72. 283
- 1443 Demuth, Wm., & Co., 501 Broadway, New York, N. Y.—Show figures in metal and wood, meerscham and brier pipes, with rubber and amber mouthpieces; smokers' articles in general. P 69. 283
- 1444 Mott, J. L., Iron Works, New York, N. Y.—Fountains, vases, statuary, settees, aquaria, aquarium fountains, drinking fountains, candelabra, lamp pillars, crestring, castings, railings, gates, summer houses, band stands, stable fixtures, etc. N 54. 283
- 1445 Paxon, Comfort & Co., New York, N. Y.—Zinc monuments. T 64 and outside. 283
- 1446 Woods, Sherwood, & Co., Lowell, Mass.—White lustral wire ware, comprising an extensive line of household, table, and fancy goods, such as fruit, cake and jewel baskets, tea and coffee strainers, castors, toilet articles, etc. N 72. 283

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Wrought and Cast Metal Work, Hardware.

- 1447 Ansonia Brass & Copper Co., Ansonia, Conn.—Brass and nickel-plated kettles. N 57. 283
- 1448 Rohrman, J. Hall, & Son, Philadelphia, Pa.—Tea, coffee, and spice caddies; water coolers and decorated japanned tinware. P 70. 283
- 1449 Hussey, C. G., & Co., Pittsburg, Pa.—Copper sheet, circle, and bottoms; planished and ingot copper, copper lighting rods, sheet brass, brass kettles. N 72. 283
- 1450 Champion Fence Co., Kenton, O.—Wrought and malleable iron fence and gate. The advantages claimed for the champion iron fence are: 1st—The longitudinal rail is rolled in T shape, thus giving the greatest lateral strength, also horizontal strength, when put up in fence, without bolts, rivets, or forging whatever, leaving the iron as it comes from the rolls. 2d—As the arched or cylindrical form of the iron resists the greatest strain, the pickets are rolled concave, convex, with a flange on each side, forming the strongest picket that can be made from the same amount of iron. 3d—The ornaments used, together with the different connecting parts, are made of refined malleable iron, or stamped from wrought iron plates, and of any desired form, and at one-tenth the cost of making them at the forge. 4th—The pickets are driven into the ornaments and passed to nearly the top of the picket, at the rear of the ornaments. There are lugs and clips, which are clinched, combining ornament and picket together, forming a strong and durable top-head for the picket. 5th—The fence is put together with clips; these are slipped on the T rail, and the sides of the ornaments form circles, or segments of circles, thus rendering them adjustable to any and all grades or angles. 6th—The panels are connected with a compound clamp, which holds them firmly together, at the same time allowing for the expansion and contraction of the iron. 7th—That we have in the combination of our rail and picket the strongest and most ornamental fence that can be made, from the same amount of material. 8th—That we can, by our adjustable posts, keep our fence in perfect line; also, that we can set the fence upon coping or stone walk of any grade, the same as upon our iron foundation. 9th—That we can pack the fence for shipment, in compact bundles, and put it upon the ground as conveniently as a wooden fence can be put up. 10th—That we manufacture the fence without the use of any costly and cumbersome machinery, being virtually made when the iron comes from the foundry and the rolls. 11th—The base upon which the fence is set is of cast iron, eighteen inches wide at the bottom, and six inches at the top; twenty-eight inches in length, which is set in the ground; upon this foundation is placed a wrought iron post, adjustable front and rear, and also adjustable at the top, while at the bottom it would be stationary, or *vice versa*. Upon this post we also adjust the height of the fence. One of the beauties of our invention is, that we make a fence that looks light, yet strong and durable. (*Ohio State Building*.) 283
- 1451 Bevin Bros. Manufacturing Co., East Hampton, Conn.—N 72. 283
a Hell metal kettles. 283
b Bells. 284
- 1452 Armbruster, Jacob H., Philadelphia, Pa.—Organ and sash weights. (*Organ, East Gallery*.) 284
- 1453 Yale Lock Manufacturing Co., Stamford, Conn.—Locks, ornamental bronze hardware, post-office boxes. P 72. 284
- 1453a Bray, Edw. L., Boston, Mass.—Balance spring curtain fixture. (*East Gallery*.) 284
- 1454 Stewart & Mattson, Philadelphia, Pa.—Building hardware, locks, door knobs and trimmings. N 69. 284
- 1454a Dexter Spring Co., Hulton, Pa.—Carriage springs. T 60. 284
- 1455 Nock, Geo. W., Philadelphia, Pa.—Locks and padlocks. N 70. 284
- 1455a Cleveland Steel Horseshoe Co., Cleveland, O.—Steel horseshoes and bars, hand shoe formers. T 59. 284
- 1456 Trenton Lock & Hardware Co., Philadelphia, Pa.—Patent lever and spring, with corrugated bolt door locks, latches, knobs, and other hardware. N 68. 284
- 1456a Adams, Wm. R. M., New York, N. Y.—Door bolt and chain check. N 72. 284
- 1457 Shannon, J. B., Philadelphia, Pa.—Hand-made locks and building hardware. N 72. 284
- 1457a Smith & Egge, Bridgeport, Conn.—Padlocks, hasps, chains, etc. N 70. 284
- 1458 Wells & Hope Co., Philadelphia, Pa.—Metallic show cards and advertising signs; decorative glass printing, etc. P 72. 284
- 1458a Stafford Manufacturing Co., New York, N. Y.—Stencil combinations, machine cut alphabets and figures; key-rings, checks, and badges. N 69. 284
- 1459 Corbin, P. & F., New Britain, Conn.—House trimmings and miscellaneous hardware. N 72. 284
- 1459a Brooke, E. & G., Birdsboro', Pa.—Nails. T 67. 284
- 1460 American Stair-Rod Co., New York, N. Y.—Stair rods and stair carpet fasteners. N 71. 284
- 1461 Stanley Works, New Britain, Conn.—Wrought iron batts, japanned, bronzed, and plated; hinges, door bolts, etc. P 71. 284
- 1461a Orbeton, W. W. S., Boston, Mass.—Screw braces and screw-brace blind hinges. N 68. 284
- 1462 Globe Nail Co., Boston, Mass.—Machine-made horseshoe nails. N 71. 284
- 1463 Tuchfarber, F., & Co., Cincinnati, O.—Enameled iron show cards. P 72. 284
- 1464 Wiler, Wm., Philadelphia, Pa.—Stair rods and plates. N 71. 284
- 1465 Walton, E. S., & Co., Philadelphia, Pa.—Lock hardware and fine bronze work. N 72. 284
- 1467 Dunbar, Hobart, & Whidden, South Abington, Mass.—Tacks, brads and nails, steel shanks, heel plates, etc. P 72. 284
- 1468 Hildebrand & Wolf, Philadelphia, Pa.—Trunk locks, padlocks, dead-latches, door springs, etc. P 69. 284

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26

Hardware, Locks, etc.

- 1469 Carr, Crawley, & Devlin, Philadelphia, Pa.—Building, cabinet, carriage, and saddlery hardware; malleable iron, brass, and steel castings. N 70. 284
- 1470 Hall's Safe & Lock Co., Cincinnati, O.—Bank and time locks. H 67. 284
- 1471 Whitaker & Skirm, Trenton, N. J.—Iron chains, chute nails. T 65. 284
- 1472 Gould's, M., Sons, 83 & 85 Duane street, New York, N. Y., and 514 Commerce street, Philadelphia.—Stair rods, step plates, dog collars, upholstery, and trunk hardware. Manufacturers of stair rods, stair plates, dog collars, stepladders, trunk rivets, and all kinds of trunk hardware; also, a general line of upholstery hardware. Factory, Newark, N. J. N 71. 284
- 1473 Morton, Thos., New York, N. Y.—Sash chain and attachments for suspending windows, doors, etc. T 49. 284
- 1474 Mallory, Wheeler, Co., New Haven, Conn.—Door locks and knobs, padlocks, etc. N 69. 284
- 1475 Gaylord Manufacturing Co., Chicopee, Mass.—Cabinet locks. N 70. 284
- 1476 Union Manufacturing Co., New Britain, Conn.—Plain and ornamental butt hinges. N 69. 284
- 1477 Mersereau, W. T. & J., Newark, N. J.—Stair rods and plates, dog collars and muzzles, bridle fronts, and upholsterers' hardware. N 71. 284
- 1478 Marvin's Safe Co., New York, N. Y.—Locks. H 69. 284
- 1479 Bohannon, Wilson, Brooklyn, N. Y.—Brass spring padlocks and car locks. P 68. 284
- 1480 Union Steel Screw Co., Cleveland, O.—Bessemer steel wood screws, with samples showing stages of manufacture. T 59. 284
- 1481 Clark & Co., Buffalo, N. Y.—Nickel-plated builders' hardware. N 71. 284
- 1482 Van Wagoner & Williams, 82 Beekman street, New York, N. Y.—Spring hinges and door springs of the leading kinds, for screen and other doors, gates, etc. All articles of superior manufacture. N 70. 284
- 1483 Gong Bell Manufacturing Co., East Hampton, Conn.—Bells. P 72. 284
- 1484 Romer & Co., Newark, N. J.—Locks for railroad switches, cars, prisons, stores, etc. N 71. 284
- 1485 Cowell, J. J., & Co., Newark, N. J.—Builders' and trunk hardware. Manufacturers of trunk and builders' hardware, sash pulleys, trunk rollers, catches, handle caps, stay hinges, clamps, etc. Also malleable and gray iron small castings. N 71. 284
- 1486 Middletown Tool Co., Middletown, Conn.—Plane irons, harness snaps, washer cutters, hitching chains, plane-makers' hardware, etc. P 71. 284
- 1487 Whipple, H. J. P., West Meriden, Conn.—Door-knob attachment. P 68. 284
- 1488 McEachern, Daniel, Wilmington, Del.—Cast iron Centennial chain, each link representing a State and giving the Governor's name. Q 78. 284
- 1490 Tiebout, W. & J., New York, N. Y.—Brass, galvanized, and ship chandlery hardware. H 65. 284
- 1491 Parker & Whipple Co., West Meriden, Conn.—Door-knob attachment and adjustment. N 69. 284
- 1492 Thorn, Stephen S., 39 Oliver street, Newark, N. J.—Brass, copper, and iron wire ferrules, from $\frac{3}{8}$ to $3\frac{1}{2}$ inches, for paint brushes—these ferrules warranted not to burst or expand; bonnet and insulating wire. N 69. 284
- 1493 Worrell Bank Lock Manufacturing Co., Philadelphia, Pa.—Bank lock. H 70. 284
- 1496 Herring & Co., New York, N. Y.—Safe, bank, and time locks. H 69. 284
- 1497 Neuman, R., & Co., Newark, N. J.—Satchel and traveling bag frames, and bag trimmings. P 68. 284
- 1498 Van Alen & Co., Northumberland, Pa.—Cut nails and spikes. T 66. 284
- 1499 Blake Bros. Hardware Co., New Haven, Conn.—Hardware for builders', cabinet makers', and carriage makers' use. P 69. 284
- 1500 Miller, D. K., Lock Co., Philadelphia, Pa.—Locks. P 70. 284
- 1501 Eagle Lock Co., Terryville, Conn.—Trunk and cabinet locks. H 67. 284
- 1502 Judd, Hubert L., New York, N. Y.—Upholstery and fancy hardware. N 69. 284
- 1503 Coleman Eagle Bolt Works, Philadelphia, Pa.—Carriage bolts, nuts, and axle clips. P 71. 284
- 1504 Meeker, D. M., & Son, Newark, N. J.—Iron, bronze, and German silver castings. N 71. 284
- 1505 Hall, P. W., Austin, Texas.—Combination door, drawer, and trunk locks. P 68. 284
- 1506 Norwalk Lock Co., South Norwalk, Conn.—Door locks, knobs, padlocks, and builders' hardware. N 70. 284
- 1507 Terwilliger & Co., New York, N. Y.—Safe locks. H 72. 284
- 1508 Arms, Bell, & Co., Youngstown, O.—Nuts, bolts, and washers. V 63. 284
- 1509 Wheeling Hinge Co., Wheeling, W. Va.—Hinges, butts, wrought goods, and washers. N 68. 284
- 1511 Vanduzen & Tift, Cincinnati, O.—Bells. T 53. 284
- 1512 American Screw Co., Providence, R. I.—Gimlet pointed screws of iron, brass, and steel; coach, hand rail, and machine screws; rivets; stove and tire bolts. P 69. 284
- 1513 Branford Lock Works, New York, N. Y.—Rim and mortise door locks and latches, brass and steel keys, door knobs, lock furniture. P 69. 284
- 1514 Easton Lock Works, Easton, Pa.—Rim and mortise locks and latches; safety locks and night latches. N 72. 284
- 1515 Wilson, John, Chicago, Ill.—Fire nozzle. B 69. 284
- 1515^a Keystone Hardware Manufacturing Co., Reading, Pa.—Hardware. N 69. 284
- 1516 Quigley, W. E., Waterbury, Pa.—Hand-made horseshoes. T 71. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Hardware, Rubber Goods, Cordage, etc.

- 1517 Evans, F. H., Brooklyn, N. Y.—Expansion bolts and screw fastenings; photographs of other manufactures. P 69. 284
- 1519 Field, A., & Sons, Taunton, Mass.—Tacks, brads, nails, etc. P 68. 284
- 1520 Valentine & Butler Safe & Lock Co., New York, N. Y.—Safe locks. H 70. 284
- 1521 Lewis, Oliver, & Phillips, Pittsburg, Pa.—Wagon and heavy hardware, fence pickets, etc. T 64. 284
- 1522 New Britain Lock Co., New Britain, Conn.—Key register; dial, bank, safe, and time locks. N 72. 284
- 1523 American Wire & Screw Nail Co., cor. Madison and State streets, Covington, Ky.—Common, bright, smooth, and barbed wire nails with sharp points; small, large, depressed heads and without heads. Moulding nails, wire cigar-box nails, iron and brass oval head escutcheon pins. Wire screw nails (patented). These nails have round, tapering points, and screw thread till under the head. Are to be driven with a hammer as quick as common nails, but turn like screws while driving under the hammer. Wire nails of every description, also blued, tinned, and colored nails. P 71. 284
- 1524 Buckman, Ira, Brooklyn, N. Y.—Torsion spring hinge, automatic window lock, and door fixtures. N 68. 284
- 1525 Riverside Iron Works, Wheeling, W. Va.—Nails and spikes. T 64. 284
- 1526 Turner & Seymour Manufacturing Co., Walcottville, Conn.—Brass and iron upholstery goods and hardware, and notion goods. N 68. 284
- 1527 Sargent & Greenleaf, Rochester, N. Y.—Chronometer, bank, safe, and flat key locks. H 72. 284
- 1528 Wilcox, Wm., Manufacturing Co., Middletown, Conn.—Padlocks, plate locks, and keys. N 71. 284
- 1529 King, J. M., & Co., Waterford, N. Y.—Stocks and dies, plug and taper taps, pliers, etc. N 71. 284
- 1530 Keyless Padlock Co., New York, N. Y.—Keyless padlocks. N 70. 284
- 1531 Lyon, Sylvanus, New York, N. Y.—Locks. N 72. 284
- 1532 Johns, H. W., New York, N. Y.—Tacks, etc. P 47. 284
- 1533 Barton, W. E., East Hampton, Conn.—Belts. N 71. 284
- 1534 Clarke Combination Lock Co., Baltimore, Md.—Combination keyless locks. P 68. 284
- 1535 Orbeton, Wm. W., Boston, Mass.—Screw braces and hinges. N 68. 284
- 1539 Sellers, Chas. P., Philadelphia, Pa.—Corn brooms and whisks. T 46. 286
- 1540 Reynolds, C. T., & Co., New York, N. Y.—Brushes. P 42½. 286
- 1540^a Isaacs, M. C., & Co., Chicago, Ill.—Wire brooms, casting, and flue brushes. N 71. 286
- 1541 Leiner, M., New York, N. Y.—Brushes and ear cleaners. T 65. 285
- 1541^a Kerr, Hugh S., Philadelphia, Pa.—Sponge brushes. B 71. 286
- 1542 Lovell, G. H. & M. F., Philadelphia, Pa.—Ear brush. T 50. 286
- 1542^a Pollock & Son, Newark, N. J.—Brushes, buffs, etc. N 68. 286
- 1543 Miles, Bros., & Co., New York, N. Y.—Brushes. N 69. 286
- 1544 Grand Rapids Brush Co., Grand Rapids, Mich.—Brushes. N 72. 286
- 1545 Clinton, E., & Co., Philadelphia, Pa.—Brushes. N 66. 286
- 1546 Bowman, C. A., & Bro., Madison, Ind.—Clothes brushes made of broom corn. T 46. 286
- 1547 Johns, H. W., New York, N. Y.—Brushes. P 47. 286
- 1548 Florence Manufacturing Co., Florence, Mass.—Hair brushes. B 70. 286
- 1550 Bailey, John T., & Co., Philadelphia, Pa.—Rope and twines. B 68. 287
- 1551 Baumgardner, Woodward, & Co., Philadelphia, Pa.—Cordage and clothes lines, tarred yarns, hemp packing. B 70. 287
- 1551^a Lawrence, Waterbury, & Co., New York, N. Y.—Cordage. T 78. 287
- 1552 Vyse, Robt. H., Brooklyn, N. Y.—Rawhide rope, sash cord, and round belting. B 68. 287
- 1553 Hooper, Wm. E., & Sons, Baltimore, Md.—Twine. D 78. 287
- 1554 Hart, A. H., & Co., 90 White street, New York, N. Y.—Elm Flax Mills; flax twines for upholsterers, sail, bag, broom makers, etc.; flax yarns, shoe threads, etc. B 68. 287
- 1555 Wall's, William, Sons, New York, N. Y.—Ships' rigging; rope and cordage. E 78. 287
- 1556 Tucker, Carter, & Co., New York, N. Y.—Wire and manila ropes. B 69. 287
- 1557 Hart, Clarence A., Philadelphia, Pa.—Painted silk banners. B 78. 288
- 1557^a Reynolds, J. P., & Co., New York, N. Y.—Escutcheons of military and naval service. T 44. 288
- 1558 Lilley, M. C., & Co., Columbus, O.—Masonic goods and society supplies. Manufacture society furniture, jewels, regalia, uniforms, banners, band and military goods. Price lists upon application. P 65. 288
- 1559 Wilson, J. H., Philadelphia, Pa.—Regalia, flags, and banners. F 70. 288
- 1560 New England Bunting Co., Lowell, Mass.—Bunting. B 75. 288
- 1561 Salisbury & Co., New York, N. Y.—Muslin flags; engraving, designing, lithographing, and printing; original manufacturers of American, election, and other decorations—all nations—in sets or single. H 77. 288

Fabrics of Vegetable, Animal, or Mineral Materials.

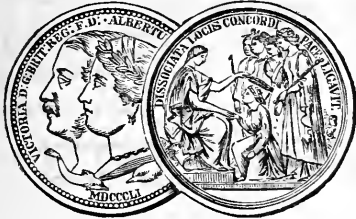
- 1536 Glendale Elastic Fabrics Co., Easthampton, Mass.—Woven and braided elastic rubber fabrics. F 68. 285
- 1537 Easthampton Rubber Thread Co., Easthampton, Mass.—India rubber thread and rubber in process of manufacture. F 68. 285
- 1538 Willis, Aug. L., Philadelphia, Pa.—Rubber rails for tracks. H 71. 285

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

ESTABLISHED 1841.

HERRING'S SAFES.

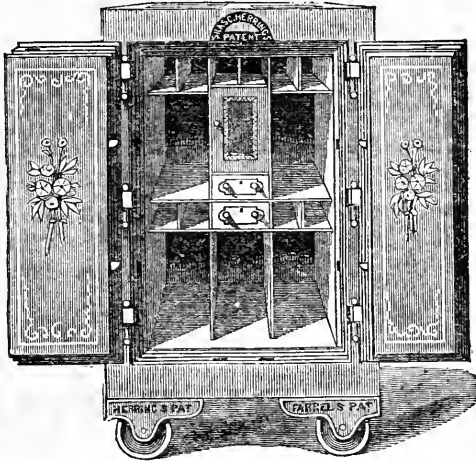
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29 MERCER ST.,

NEW YORK,

SOLE AGENTS FOR

JOHN ENGLISH & CO.'S

CELEBRATED PINSTUCK

NEEDLES

See Show Case in Main Building, Class 254, Siding 4.



ALSO,

PEARL BUTTONS,

ON PATENT CARDS, MOUNTED IN SQUARES
OF ONE DOZEN EACH.



FISH LINES,

FISH HOOKS,

SMALL WARES,

ETC., ETC.

Paper, Wooden, Metallic Fabrics, etc.

- 1562 Piton, Camille, Philadelphia, Pa.—Trophies representing America, Europe, Asia, and Africa. (*Nave and Centre Transept.*) 288
- 1563 Tremain, Chas., Manlius, N. Y.—Paper barrels; cheese and fruit packages. T 57. 289
- 1564 Trasel, Edward G., New York, N. Y.—Papier maché household ware, chamber sets, pails, cuspadors, etc. P 64. 289
- 1565 Wakefield Rattan Co., Boston, Mass.—Rattan baskets. T 57. 289
- 1566 Beaudett, Homer J., Greenpoint, N. Y.—Fancy scroll work. P 50. 289
- 1567 Waters, E., & Sons, Troy, N. Y.—Boat barrels, camp stools, seats, packages for volatile liquids, etc., made of paper. B 73. 269
- 1568 Jennings Brothers, 352 Pearl street, New York, N. Y.—Japanese paper ware. Their manufacture of pails, basins, pitchers, spittoons, cuspadors, etc., are thoroughly waterproof, durable, and ornamental; are not affected by the climate. T 68. 289
- 1569 Preston & Merrill, Boston, Mass.—Wooden boxes. P 48. 289
- 1570 Dorman Manufacturing Co., New York, N. Y.—Baskets, urns, carriage bodies, etc. P 59. 289
- 1571 Paxon, Comfort, & Co., Philadelphia, Pa.—Burial robes and dresses; casket trimmings. B 73 and outside. 290
- 1572 Smith, Wm. M., West Meriden, Conn.—Casket trimmings, handles, name plates, and ornaments. N 43. 290
- 1573 Rogers, C., & Bros., West Meriden, Conn.—Gold and silver plated coffin and casket trimmings. F 72. 290
- 1574 Chase, F. & P. F., Penn Galvanic Works, Philadelphia, Pa.—Galvanized iron goods, sheet iron, water pipe, boilers, hardware, shipsmithing, railings; bar, hoop, and chain iron. P 68. 291
- 1574a Danby, Geo., & Co., Philadelphia, Pa.—Galvanized sheet iron, mantels, cornices, railings, etc. Y 59. 291
- 1575 Straus, J. E., & Co., Philadelphia, Pa.—Galvanized, wrought, and cast iron work. P 71. 291
- 1577 Philadelphia Galvanizing Co., Philadelphia, Pa.—Galvanized sheet iron pipe, railing, wirework, chairs, boilers, sinks, coal hods, etc. P 69. 291
- 1578 Kittredge Cornice & Ornament Co., Salem, O.—Sheet metal cornices, doors, shutters, and pavilion; architectural ornaments, light wrought iron work. (*Outside.*) 291
- 1579 Falstrom & Tomqvist, Passaic City, N. J.—Galvanized iron cornice and ornamental sheet iron work for buildings. P 68. 291
- 1580 Philadelphia Architectural Iron Co., Philadelphia, Pa.—Galvanized iron and sheet zinc gate entrance. P 70. 291
- 1581 McCullough Iron Co., Philadelphia, Pa.—Galvanized sheet iron. P 70. 291
- 1582 Brown & Owen, Philadelphia, Pa.—Cemetery inclosure, ornamental iron work, and wrought iron pipe. (*Outside.*) 291
- 1583 Cornell, J. B. & J. M., 141 Centre street, New York, 9 Studio Buildings, Boston, 427 Walnut street, Philadelphia.—All kinds of heavy and light wrought and cast iron work for buildings and bridges; cast iron fronts, stairs, columns, girders, lamp posts, etc.; wrought iron columns, girders, beams, railings, sheet lath, etc.; steel and iron rolling shutters, fire-proof columns, burglar proof safes and vaults. Works cover six acres of ground. P 70. 291
- 1584 Marshall Brothers & Co., Philadelphia, Pa.—Galvanized and leaded sheet iron work. P 71 and outside. 291
- 1585 Zinc Roofing & Ornamenting Works, Chicago, Ill.—Ornaments in pressed and cast zinc, brass, and copper; zinc statues, emblematic signs, etc. P 69. 291
- 1586 Buringer Brothers, Dayton, O.—Ohio coat-of-arms of galvanized iron. (*In gable of Ohio State Building.*) 291
- 1586a Smith, S. A., New York, N. Y.—Rolling chairs. (*In use in the buildings.*) 292

Carriages, Vehicles, and Accessories.

- 1587 Blake Bros. Hardware Co., New Haven, Conn.—Trucks for moving open barrels and kegs. P 69. 294
- 1588 Newichawanick Co., South Berwick, Me.—Horse blankets and goods for horse clothing. R 78. 296
- 1588a Hopkins & Robinson Manufacturing Co., Akron, O.—Animal pokes. 296
- 1589 Pettingell & Sawyer, East Cambridge, Mass.—Horse and wagon covers. F 76. 296
- 1590 Eager, P. B., Tower, & Co., Boston, Mass.—Oiled horse covers. C 78. 296
- 1592 Faxon, E., & Co., Philadelphia, Pa.—Wool extract. P 43. 667

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GREAT BRITAIN.

(North of Nave, Columns 23 to 38.)

Chemical Manufactures.

Chemical Manufactures.

- 1 Hutchinson, John, & Co., Widnes, Lancashire.**—Soda ash, soda crystals, caustic soda, bicarbonate of soda, salt cake, bleaching powder, and sulphur recovered from vat waste. 200
- 2 Corbett, John, Stoke Prior Salt Works, Worcestershire.**—Refined salt. 200
- 3 Richards, Kearne, & Gasquoine, Malkins Bank Alkali Works, Sandbach, Cheshire.**—Brine, sulphate of ammonia, soda ash, bicarbonate of soda. 200
- 4 Gaskell, Deacon, & Co., Widnes, Lancashire.**—Carbonated soda ash, and refined alkali, bleaching powder, soda crystals, bicarbonate of soda, and chloride of calcium. 200
- 5 Brunner, Mond, & Co., Northwich, Cheshire.**—Alkali or carbonate of soda. 200
- 6 The Desoto Alkali Co. (limited), Widnes, Lancashire.**—Caustic soda, and black ash or ball soda. 200
- 8 Runcorn Soap & Alkali Co. (limited), Liverpool.**—Bleaching powder, soda ash, crystals of soda, caustic soda, and refined resin. 200
- 9 Muspratt Bros. & Huntley, Liverpool.**—Soda ash, caustic soda, bleaching powder, soda crystals, and bicarbonate of soda. 200
- 10 Muspratt, James, & Sons, Liverpool.**—Soda ash, cream caustic soda, bleaching powder, chlorate of potash, salt cake, and brimstone. 200
- 12 Spence, Peter, Manchester.**—Crystallized alum, in block and crystals, and a new alumino-ferric compound for precipitating sewage and for paper making. 200
- 13 Higgin, Thomas, & Co., Liverpool.**—Salt. (*Agricultural Hall*.) 200
- 14 The Newcastle Chemical Works Co. (limited), Newcastle-on-Tyne.**—Soda ash, alkali, bleaching powder, crystals and bicarbonate of soda, caustic soda, chloride of calcium. 200
- 15 White, John & James, Shawfield Works, Glasgow.**—Bichromate of potash. 200
- 16 Liver Alkali Works Co. (limited), Liverpool.**—Caustic soda. 200
- 17 Young, James, Kelly, Wemyss Bay, N. B.**—Illustrations of manufacture of carbonate of soda, chlorate of potash, products from petroleum, coal, and shale, preservation of iron ships. 200
- 18 Greenbank Alkali Co., St. Helen's, Lancashire.**—Chemical products, pure caustic soda, chlorate of potash. 200
- 20 Jennings, T., Brookfield Chemical Works, Cork.**—Carbonate of and calcined magnesia. 200
- 21 Calvert, F. C., & Co., Bradford, Manchester.**
a Carbolic and cresylic acids and derivatives. 200
b Carbolic acid soaps. 201
- 22 Parkinson Bros., Burnley.**—Baking-powder. 200
- 23 Morson & Son, London.**—General chemicals and specialties, creasote, pep-sine, gelatine, etc. 200
- 24 Allen & Hanburys, London.**—Paté de jujube and analogous articles. 200
- 25 Gerrard, Alfred William, London.**—Pharmaceutical preparations. 200
- 26 Chance Bros., Alkali Works, near Birmingham.**—Chemical products. 200
- 27 Wyndham, F., & Co., London.**—“*Esprit des (Eufs)*” (spirit of eggs), a medicinal compound. 200
- 28 Price's Patent Candle Co. (limited), Belmont Works, London.**—Candles, night-lights, glycerine, fatty acids, machinery oils; toilet, household, and mill soaps, glycerine, paraffine, stearine, and tapers. 201
- 29 Field, J. C. & J., London.**—Candles, toilet soaps, beeswax, and refined yellow wax, white wax, dyers' soaps, sealing wax, and fancy ornamental candles. 201
- 30 Pears, A. & F., Lanadron Soap Works, Isleworth, near London.**—Transparent soap. 201
- 31 Wright & Holdsworth, London.**—Dog soap, worm powders, Bauer's baby soap. 201
- 32 Cohné, Sigismund, London.**—Chemical and medical soaps. 201
- 33 Craig & Rose, Caledonian Oil & Color Works, Edinburgh.**
a Oils. 201
b Paints and colors. 202

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

PRIZE MEDAL,



LONDON, 1862.

BARLOW & JONES,
LIMITED,

Spinners, Printers & Manufacturers
by Power,

SILVER MEDAL,



PARIS, 1867.

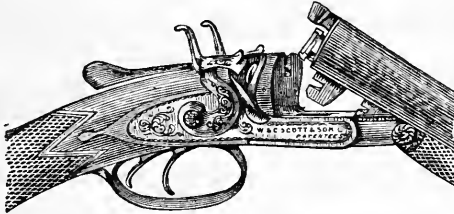
TOILET AND MARSEILLES QUILTS,
COUNTERPANES, ALHAMBRAS, SHEETS,
SHEETINGS, COTTON BLANKETS, TOWELS TOILET COVERS & MATS,
SKIRTS, QUILTINGS,
WHITE AND PRINTED DAMASKS, PLAIN AND FANCY MUSLINS, &c.
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W. & C. SCOTT & SON } Winners of the International Gun
Trial, NEW YORK, 1873, for Points
of Merit of Shooting Qualities, System of Action, Workmanship, &c. &c.

PATENTEES & MANUFACTURERS OF GUNS & RIFLES for
Canada and
the United
States.

India,
China,
Ceylon,
Australia,
Cape,



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REGENT CIRCUS.

PREMIER GUN WORKS, BIRMINGHAM, ENGLAND.

W. W. GREENER'S
PATENT TREBLE WEDGE-FAST BREECHLOADER,

THE WINNING GUN at the great London Gun Trials, in all the classes, for
improved boring. Will kill game at over 100 yards.

The strongest and most
durable breech action ever
invented,
and the easiest to load.



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Messrs. Grubb & Co.'s
Philadelphia.

In the Press, "CHOKE-BORE GUNS, AND HOW TO LOAD FOR ALL KINDS OF GAME." By W. W.
Greener, Author of "Modern Breechloaders."

ST. MARY'S WORKS, BIRMINGHAM.

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MILL HILL WOOL & RAG EXTRACTING COMPANY, LIMITED, HUDDERSFIELD,
WHOSE INTERESTS ARE AMALGAMATED.

EXTRACTED WOOLS.

Neither bugs, lice, fleas, moths nor vermin will live in cloths, blankets or rugs made of these Wools; nor
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mildew. Contracts may be entered into for regular supplies of them. Samples supplied.



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Gun and Rifle Manufacturer,

By Special Appointment to their Royal Highnesses
the Prince of Wales & the Duke of Edinburgh.



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EDWARD & JOHN BURKE'S



CELEBRATED

EXTRA FOREIGN STOUT

AND

ALLSOPP'S BURTON ALES



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the Exhibition Buildings,
And sold by all first-class Liquor Dealers, Restaurateurs, Hotels &c.,
in the whole of the United States.



London, 1874.

JOSEPH HAMBLET,

Piercy Blue Brick Works,

WEST BROMWICH, Staffordshire,

MANUFACTURER OF



Paris, 1875.

VITRIFIED BLUE BRICKS, COPINGS, TILES, PIPES,

AND EVERY VARIETY OF

TERRA METALLIC IMPERISHABLE PAVINGS,

&c., &c.

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Leather, Hide and Bark Factor,

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BELFAST, IRELAND,

INVENTORS AND SOLE MAKERS OF THE

CELEBRATED "ULSTER" COAT.

See SHOW CASE, Class 250, E 27.

W. BARTLEET & SONS,

MANUFACTURERS OF

NEEDLES, SEWING MACHINE NEEDLES,

FISH HOOKS AND FISHING TACKLE,

ABBAY MILLS, REDDITCH, ENGLAND.

Prize Medals—London, Paris, Berlin, Boulogne, & Bergen.

Chemicals, Ceramics.

- 34 Williams, Miles, Britannia Varnish Works, Wigan, Lancashire.
a Gas carburetter and drawings; improvement in manufacture of gas and liquid fuel. 201
b Varnishes, varnish paints, enamels, lacquers, and specimens of work. 202
- 35 Hickisson, Mrs. M. A., London.—Marking ink, pens, linen stretcher, and framed specimens. 202
- 36 Turner, Chas., & Son, London.—Varnishes, fine colors, gums. 202
- 38 Lyons, William, Manchester.—Writing and copying fluids and inks, marking ink, ink powders, paper dye tablets. 202
- 39 Bowman, Charles, London.—Solid ink, stencil plates, stencil brushes, etc. 202
- 40 Rawlins & Son, Brook Works, Prescot.—Ultramarine and smalts, with raw materials. 202
- 41 Chambers, T. F., Hull.—Black varnish. 202
- 42 Johnson Bros., Hull.—Colors, varnishes, machinery oils, and locomotive and anti-friction greases. 202
- 44 Rowney, George, & Co., London.—Pigments, colors, varnishes, artists' materials. 202
- 45 Storer, David, & Sons, Glasgow.—Colors, pigments, and wood stains; Venetian, Indian, and other reds; drop black, greens, and other pigment colors. 202
- 46 Cooper & Co., London.—Writing, register, and japan inks, copying and fluid ink; red, scarlet, blue, and violet inks. 202
- 47 Silicate Paint Co., Liverpool.—Silicate paints and colors; petrifying liquid for damp walls; enameling and anti-fouling paints; cement for steam joints, anti-incrustation fluid, nitre killer, etc. 202
- 47*a* Young & Strang, Glasgow.—Gums for calico printing. 202
- 48 Blackwood, John, & Co., London.—Writing, copying, and indelible marking inks. 202
- 49 Mackay, John, Edinburgh.
a Spirit varnishes and polishes for coating wood of all colors, white, mahogany, oak, or ebony. 202
b Fluid flavoring essences from spices, fruits, and vegetables. 203
- 50 Stephens, Henry Charles, London.—Writing fluids and copying inks, ink powders, machine ruling and indorsing inks; stains for wood. 202
- 51 Crown Perfumery Co., London.—Perfumes and toilet requisites. 203
- 52 Brooks, Henry, & Co., London.—Perfumery. 203
- 53 Atkinson, J. & E., London.—Perfumery and toilet articles. 203
- 54 Jaap, John, Glasgow.—Flavoring essences and other preparations. 203
- 55 Low, Son, & Haydon, London.—Perfume extracts, toilet soaps. 203
- 56 Perks, Samuel, Hitchin Herts.—Essential oil of lavender, extract lavender flowers, etc. 203
- 57 Thiellay, Eugene Henry, London.—Hair tincture, dyes, and bleaching liquid, tonics, and cultivators. 203
- 58 Rimmel, Eugene, London.—Perfumery and toilet articles; perfume vaporizers, etc. 203
- 59 Evans, Sops, & Co., Liverpool, and Evans, Lecher, & Evans, London.—Perfumery. 203
- 59*a* Sturge's Montserrat Co. (limited), Broad street, Birmingham.—Essences. 203
- 60 Bryant & May, Fairfield Works, London.—Safety matches, wax vestas and vesuvians, decorated metal and other boxes. 204
- 62 Bickford, Smith, & Co., Tuckingmill, Cornwall.—Safety fuses for blasting operations. 204
- 63 Pigou, Wilks, & Laurence (limited), London.—Military, sporting, African, and mining powders of every description. 204
- 64 Lacey, Richard George, Coast Guard Station, Leigh, Essex.—Rocket apparatus for throwing lines from one ship to another. 205

Ceramics—Pottery, Porcelain, Glass, etc.

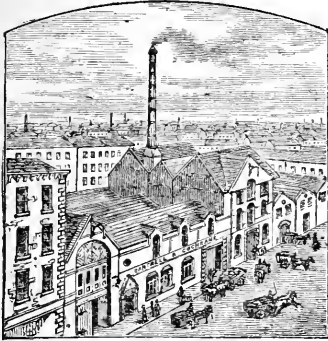
- 65 Peake, Thomas, The Tileries, Tunstall, Staffordshire.
a Paving and facing bricks. 206
b Ridge, roofing, and flooring tiles; ornamental tiles for garden borders, skirtings, and mural decorations. 208
- 66 Hamblet, Joseph, Piercy Blue Brick Works, West Bromwich, Staffordshire.
a Vitrified blue bricks, copings, plinths, stable floor bricks, and quarries. 206
b Ridges, roofing tiles, and terra metallic pavings. 208
- 67 Wood & Ivery, Albion Brick Works, West Bromwich, Staffordshire.—Blue terra metallic building and fancy bricks; mouldings, copings, footpath paving bricks, grooved stable floor bricks, terminals; terra metallic vases, trusses, etc. 206
- 68 Johnson & Co., Ditchling Potteries, Sussex.—Terra-cotta as applied to building purposes; terminals, vases, ridge tiles, and general terra-cotta work. (*Agricultural Hall.*) 206
- 69 Matthews, John, Royal Pottery, Weston-super-Mare, Somerset.—Terra-cotta vases, fountains, and baskets; garden pottery, etc. 206
- 70 Watcombe Terra-Cotta Co. (limited), Watcombe, South Devon.—Terra-cotta, painted vases and plaques, statuettes, etc.; frescoes for mural adornment, and architectural terra-cotta specimens. 206
- 71 Brooke, Edward, & Sons, Fieldhouse Fire Clay Works, Huddersfield, Yorkshire.
a Sanitary tubes. 206
b Fire bricks and clay for furnaces; sewer ventilators; silica fire bricks for furnaces. 207

Ceramics.

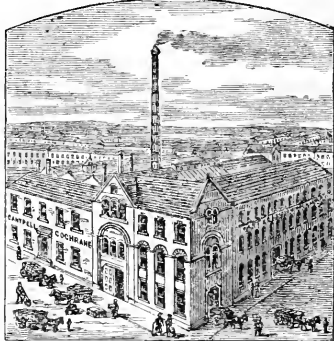
- 72 Stiff, James, & Sons, London.**
a Terra-cotta jars, bottles, tiles, vases, medallions, water filters, refrigerators, air bricks, stoves, and stove linings, tablets with figures in bas-relief, figures for church and other decorations; sanitary ware, sewer traps, drain pipes, etc. 206
b Terra-cotta stoves and stove hinges. 207
c Files. 208
d Chemical stoneware, water filters, refrigerators, etc. 210
- 73 Jennings, George, London.**—Appliances for ventilation, terra-cotta bricks, etc.; stoneware drain pipes, gully traps. 206
- 74 Holland, William Thomas, Yrismudw, South Wales.**
a Architectural terra-cotta, bricks and tiles, sanitary pipes and ware. 206
b Fire bricks and fireproof cements. 207
c Ceramic goods, earthenware, or faience, in table, tea and toilet services, etc. 213
- 75 Lindsay & Anderson, Lilliehill Fire Clay & Terra-Cotta Works, Dunfermline, Scotland.**
a Fountain in terra-cotta, bust and pedestal of Sir Walter Scott, statuette of Sir James Y. Simpson, nymphs at fountain, garden vases and pedestals, sewage pipes and sanitary appliances, collection of terra-cotta. 206
b Gas stove in terra-cotta, fire-clay bricks, chimney cans. 207
- 76 Doulton, Hy., & Co., London.**—Terra-cotta goods for architectural purposes; sanitary pottery in salt-glazed stoneware, queensware; vitrified metallic bricks and pavings. 206
- 76^a Eastwood & Co., (limited) London.**
a Building, paving, ornamental, and fire bricks; Staffordshire blue bricks, grooved paviers. 206
b Red paving and roofing tiles; ridges and clinkers. 208
- 77 Brownhills Pottery Co., Tunstall.**
a Terra-cotta and black glazed ware. 206
b Floor and roof tiles, ridge ornaments, etc. 208
c Jugs. 210
d Earthenware dinner, dessert, and toilet ware. 213
- 78 Dean, Henry, Rugby, Warwickshire.**—Stoneware drain traps and yard gullies of different patterns. 206
- 78^a Maw & Co., Benthall Works, Brosley, Shropshire.**
a Architectural majolica, and terra-cotta. 206
b Geometrical mosaic, encaustic, and majolica tiles. 208
- 79 Tinworth, George, London.**—Panels in terra-cotta, illustrative of Scripture, and articles in colored stoneware. 206
- 79^a Daniell, A. B., & Son, London.**
a Porcelain and pottery, ornamental vases, candelabra, etc.; fountains, jardinières, garden seats, vases, etc. 206
b Dinner, dessert, tea, and coffee services; toilet services. 213
- 80 Harper & Moores, Stourbridge.**—Fire clays, prepared clays, fire bricks, crucibles, melting pots, bricks for smelting furnaces, etc. 207
- 81 Cliff, John, Runcorn, near Liverpool.**—Fire brick. 207
- 82 Patent Plumbago Crucible Co., Battersea Works, London.**—Portable furnaces; skittle pots for glass melting; crucibles for jewelers, assayers, dentists, etc.; founders' blacking. 207
- 83 Price, J. & C., & Bros., Bristol.**—Ale bottles, spirit jars, barrels, preserve jars, water filters, feet warmers, etc.; stoneware. 207
- 84 Bates, Walker, & Co., Dale Hall Works, Burslem.**
a Ironmongers', artists', and gardenware; earthenware goods; signboard letters. 209
b Spirit barrels. 210
c Dinner, dessert, toilet, and tea ware; porcelain slates, menu tablets, etc. 213
- 85 Doulton & Co., London.**—Man-tepieces, stoves, hearth, and fenders of clay; crucibles, furnaces, muffles, in fire clay and plumbago. 207
- 86 King Bros., Stourbridge.**—Fire brick, gas retorts, etc. 207
- 88 Davidson, T., jr., & Co., Caledonian Pipe Works, Glasgow.**—Clay tobacco pipes; white clay pipes, fitted with fancy mouthpieces and cases. 207
- 88^a Doulton & Watts, Lambeth Pottery, London.**
a Stoneware for chemical works. 207
b Tile decorations. 208
c Stoneware for manufacturing purposes; pulpit and font in fine art pottery faience. 209
d Stoneware for domestic purposes. 210
- 89 The Campbell Brick & Tile Co., Stoke-upon-Trent.**—Encaustic, geometric, majolica, and all kinds of glazed tiles and mosaics, bricks, and roofings. 208
- 90 Craven, Dunill, & Co., Jackfield Works, near Ironbridge, Shropshire.**—Tiles for pavements and hearths; ornamental splays for fireplaces; tiles for walls and furniture. 208
- 91 Minton, Hollins, & Co., Minton's China Works, Stoke on Trent.**—Tiles, tile-mosaic, tile fender, chimney piece, fire grate, flower vases, etc. 208
- 92 Stanley Bros., Midland Tile Works, Nuneaton, Warwickshire.**—Perforated tiles for malt kiln floors. 208
- 93 Brown-Westhead, T. C., Moore, & Co., Caudon Place, Staffordshire Potteries.**
a Tiles and sanitary ware. 206
b China, earthenware, statuary, porcelain, and majolica ware. 209
c Druggists' and perfumers' goods. 210
d Dinner, dessert, and toilet services. 213
- 93^a Matthews, Edward, & Son, London.**—Decorative tiles. 208
- 93^b Minton China Works, Stoke upon Trent.**—Enameled tiles, etc. 208
- 93^c Colthurst, Symons & Co., Bridge-water.**—Bricks and tiles. (*In Agricultural Hall.*) 208
- 94 Brownfield, Wm., & Son, Cobridge, Staffordshire Potteries.**—China, majolica, ironstone china, parian, earthenware, stoneware, etc. 210
- 95 Edwards, J., & Son, Burslem, Staffordshire.**—Ironstone whiteware. (*In Agricultural Hall.*) 210

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

CANTRELL & COCHRANE'S & GINGER ALE &



Works DUBLIN The Nassau.



Works BELFAST Cromac Building

IRELAND.

MINERAL-WATER-MANUFACTORIES

FIVE PRIZES, PARIS EXHIBITION, 1867.

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WHO BUY AND USE

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TRADE MARK.

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Having started an additional new mill, full of the best machinery, they can now supply any quantity of perfect Tweeds, punctually delivered.

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AND

PALE ALES,

LIVERPOOL AND LONDON, ENGLAND.

Agents in all principal cities in the United States.



Ceramics, Furniture.

- 96^a** Gardner, Peter, Dunmore Pottery, by Stirling, Scotland.—Rockingham teapots. 210
- 97** Edwards, John, Fenton, Staffordshire.—Ironstone china and porcelain de terre tea, dinner, toilet, and jug services. (*In Agricultural Hall.*) 213
- 98** Bailey, W. & J. A., Alloa, Scotland.—Rockingham earthenware teapots. 213
- 98^a** Powell & Bishop, Hanley, Staffordshire.—Dinner, dessert, tea, and toilet services, white granite, etc. 213
- 99** Hetley, J., & Co., London.—Glass shades; glass used for photographic, building, and horticultural purposes. 214
- 100** Chance Bros., & Co., Glass Works, near Birmingham.—Glass for optical instruments. 214
- 101** Kilner Bros., London.—Glass bottles and glass, for useful and scientific applications. 215
- 107** Aire & Calder Glass Bottle Co., London.—Glass bottles, combination stoppers, packing cases, corks, straw envelopes. 215
- 108** Green, James, & Nephew, Thames Cut Glass Works, London.—Table glass, cut and engraved table decorations and flower stands, glass chandeliers, and lustre candlesticks. 216
- 109** Millar, John, & Co., Edinburgh.—Engraved and cut glass. 216
- 109^a** Jenkinson, Alexander, Edinburgh.—Venetian glass in antique shapes. 216
- Furniture and Objects of General Use in Construction and in Dwellings.**
- 110** Cox & Sons, London.—Chimney piece, embroidered mantel board, ebonized corner cupboard, carved oak furniture, bronze ornament, stained glass church window, wrought iron pulpit body, lecterns, church plate, wrought iron and brass work, art tiles and plaques; the challenge prize of the National Musical Union, etc. 217
- 110^a** Turner, George, & Co., London.
^a Hammock bedstead and sofa, mosquito curtains. 217
^b Camp oven. 222
- 111** Wright & Mansfield, London.—Cabinet furniture of the 18th century. 217
- 112** Hems, Harry, Exeter.—Alabaster statue; carved oak chest made out of ancient beams (nearly 600 years old) from the choir of Salisbury cathedral. 217
- 113** Peyton & Peyton, Bordesley Works, Birmingham.—Metallic bedsteads. 217
- 114** Morton, W. Scott, & Co., Art Furniture Works, Edinburgh.—Decorative furniture, ebonized and decorated cabinet, sideboard. 217
- 115** Hart, Son, Peard, & Co., London.
^a Artistic metal work (chiefly for ecclesiastical purposes), stove grates, etc. 217
^b Stove grates, etc. 222
^c Gas fixtures. 223
- 116** Shoolbred, James, & Co., London.—Furniture in the Jacobean and Queen Anne styles; bedroom furniture in the Anglo-Indian style; curtains and carpets. 217
- 116^a** White, William George, London.—Steel safe. 217
- 117** Barnard, Bradly, London.—Furniture and hammock. 217
- 118** Cooper & Holt, London.—Furniture, sideboard, portion of bedroom suite, decorative drawing-room furniture. 217
- 119** Phipson, Miss Emma, Monk Sherborne, Basingstoke, Hants.—Sideboard, ladies' work table, dressing glass, and candlesticks. 217
- 119^a** Chatwood, Samuel, London.—Fire and burglar proof safes. 217
- 120** Ward & Co., London.—Bear arranged as dumb waiter to hold tray and lamp. 217
- 122** Arthur, Frederick, London.—Cabinet work and fittings for Royal School of Art needlework exhibits. 217
- 123** Wethered, Edwin Robert, Woolwich, Kent.
^a Hammock. 217
^b Friction pulley block, exhibited as a fire-escape. 227
- 124** Matthews, Edward, & Son, London.—Stained glass windows, mural brasses. 217
- 125** Barnard, Bishop, & Barnards, Norfolk Iron Works, Norwich.
^a Stoves. 223
^b Mangles. 225
^c Ornamental wrought and cast iron gates, palisade, pavilions, etc. 710
^d Lawn mowers, hose reels, garden rollers, and iron garden requisites. 720
- 125^a** Howard & Sons, London.—Household furniture. 217
- 126** Singer, J. W., & Son, Frome, Somerset.—Artistic metal work, altar crosses and candlesticks, alms dishes, and mural brass plates for churches. 217
- 126^a** Sage, Frederick, London.—Airtight show cases, velvet show stand, etc. 217
- 127** Knight, Miss Mary, London.—Bedstead. 217
- 128** Jeffreys, Charles, London.
^a Show cases, bronzed shop fittings, and show stands. 217
^b Cut glass mirrors. 219
^c Reflecting lamps. 223
- 129** Royal School of Art Needlework, London.—Artistic needlework and embroidery in applique, crewels, and silk. 217
- 130** MacIntosh, James, London.—Decorative doors and panels; imitations of woods and marbles, decorative designs and paper-hanging. 217
- 130^a** Collmann, L. W., London.—Piano in carved satinwood case, etc. 217
- 130^b** Watson & Son, Bombay, East India.—Indian furniture, etc. 217
- 131** Collinson & Lock, London.—Furniture, wall papers, and textile fabrics in the old English style. 217
- 131^a** Neal, John, London.—Table ware. 218
- 132** Goggin, Jeremiah, Dublin.
^a Table ornaments, drinking cups, tankards, etc. 218
^b Mirrors. 219

Table Furniture, Heating and Lighting Apparatus, Woven Goods.

- 133 Bailey, W. & J. A., Alloa, Scotland.—Engraved table glass. 218
- 133 α Gill, James, London.—General engraving on metals, etc. 218
- 134 Elkinston & Co., Birmingham.
 a Solid silver and electro-silver plate for domestic use; decorative table plate relieved with electro-gold and oxidized silver. 218
 b Cloisonné and champlevé enamels on silver and copper. 413
 c Works of art in gold, silver, and other metals; bronzed statuary. 443
 d Antique art treasures, in metal, from the South Kensington Museum. 454
- 137 Kent, George Barton, & Co., London.
 a Ivoride mirrors. 219
 c Photograph stands. 220
- 138 Engert, A. C., & Co., London.—Ornamental mouldings for picture frames and architectural decorations. 220
- 139 Hieronimus, W., London.—Frame mouldings, window cornices, decorating mouldings, etc. 220
- 140 Heaps & Wheatley, Brotherton, Yorkshire.—Oil cooking stove, gas stove, water boilers, etc. 222
- 143 Steel & Garland, Wharnccliffe Works, Sheffield.—Steel grates, with porcelain tiles; fenders, encaustic tile hearths, stoves with china tiles, fire irons, etc. 222
- 144 Smart, Walter, Buckhurst Hill, Essex.—Sub-fire oven. 222
- 146 Feetham, Mark, & Co., London.—Stoves and grates with appliances; decorated china for fireplaces. 222
- 147 Perkins, A. M., & Son, London.—Steam oven for marine use. (*In Machinery Hall.*) 222
- 148 Thornton, Ebenezer, Bradford, Yorkshire.—Cooking stove for gas or solid fuel. 222
- 148 α Clay, Randolph, London.—Flexible gas tubing. 223
- 149 Gardner, John, & Sons, London.—Lamps, Arctic expedition lamps, traveling canteens. 222
- 150 Field, J. C. & J., London.—Night lights and candle guard. 223
- 151 Partridge & Co., Birmingham.—Brass gaseliers, brackets, etc. 223
- 152 Skelton & Co., London.—Street lamp, with reflectors. 223
- 152 α Kent, George, London.—Knife-cleaning machine. 224
- 153 Etzenberger, R. Z., London.—Patent coffee filter, etc. 224
- 153 α Cheavin, George, Boston, Lincolnshire.—Water filters. (*In Agricultural Hall.*) 226
- 154 Jennings, George, London.—Lavatories, baths, closets, urinals, and latrines; water meters and water waste preventors. 226
- 155 Bullivant, Thomas, London.—Sash window. 227
- 156 Edwards, G., London.—Sliding window sashes and frame. 227
- Yarns and Woven Goods of Vegetable or Mineral Materials.
- 157 Brown, J. B., & Co., London.—Galvanized wire netting for inclosing poultry, pheasants, dogs, etc. (*In Agricultural Hall.*) 228
- 157 α Engert & Rolfe, London.—Felts for roofing, fibrous asphalt, etc. (*In Agricultural Hall.*) 235
- 158 Greening, N., & Sons, Warrington.—Woven wire. (*In Agricultural Hall.*) 228
- 158 α McTear & Co., Belfast, Ireland.—Roofing, ship sheathing, and inodorous felt; model of roof. 228
- 159 Cox Bros., Camperdown Linen Works, Dundee, Scotland.—Jute yarns, twines, etc. 229
- 160 Sandeman, Frank Stewart, Manhattan Works, Dundee, Scotland.—Linen and jute yarns, carpet yarns, burlaps, baggings, canvas paddings, scrim cloth, horse covers, and lap robes. 230
- 161 Laird, William, & Co., Canmore Linen Works, Forfar, Scotland.—Textile fabrics, washed damasks, fancy towelings, horsecloths, sheetings, osnaburgs, stair covering, seamless bags, hessians, striped beddings, paddings, ducks, buckram, etc. 230
- 162 Johnson, Jabez, & Fildes, Manchester.
 a Quilts and bedcovers, toilet or bureau covers, brocades, damasks, diinties, muslins. 230
 b Printed cretons, towels, dress fabrics, etc. 232
- 163 Dewhurst, John, & Sons, Belle Vue Mills, Skipton, Yorkshire.—Sewing cotton, finished and in various stages of manufacture. 230
- 164 Brook, Jonas, & Bros., Meltham Mills, Huddersfield.—Spool cotton, white and colored; crochet and embroidery cotton. 230
- 164 α Greenmount Spinning Co., Greenmount Factory, Dublin.
 a Cotton goods for domestic and clothing purposes. 230
 b Linen goods. 233
- 165 Neilson, Storer, & Sons, Thorn Mills, Johnstone, near Paisley.—Yarns; knitting, mending, and other cottons; yarns for lace, curtain, and fancy dress manufacturers. 230
- 165 α McBride, Robert, & Co., Belfast.
 a Cotton goods. 230
 b Mixed cotton and linen goods. 233
- 166 Clark, John, jr., & Co., Glasgow, Scotland.—Spool cotton. 230
- 167 Swainson, Birley, & Co., Fishwick Mills, Preston.—Bleached cotton fabrics. 230
- 167 α Turner, George, & Co., London.—Tent. 230
- 168 Barlow & Jones (limited), Manchester.—Toilet quilts, covers, and mats; cloakings, cotton towels, blankets, alhambras, and counterpanes, plain and fancy muslins, etc. 230

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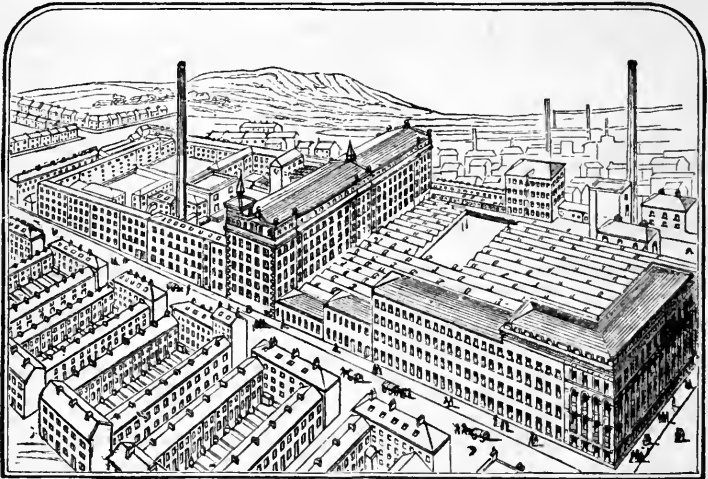
EXHIBITION PRIZES.

Only Medal London, 1851.
Prize Medal London, 1862.

Only First Class Medal, Paris, 1855.
Gold Medal..... Paris, 1867.

ONLY DIPLOMA OF HONOUR, VIENNA, 1873.

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NEW ORLEANS	Messrs. Anderson & Simpson.
PARIS	38, Rue des Jeuneurs.
LONDON	2, Russia Row, Milk Street.
MANCHESTER	12, Piccadilly.

Woven Goods.

- 168a Briggs, J. F., & Co., Huddersfield, Yorkshire.—Drills and ducks. 230
- 169 Ashworth, Edmund, & Sons, Egerton Mills, Bolton, Lancashire.—Cotton in various stages of manufacture; yarns, sewing cottons; crochet, embroidery, knitting, mending, and glove cottons, linen finish thread. 230
- 170 Pearson, Thomas, & Son, Victoria Mills, Little Bolton.—Quilts, quiltings, toilet covers, and mats. 230
- 171 Hawkins, John, & Sons, Manchester.—Plain and twilled calicoes and prints. 232
- 172 Ferguson Bros., Holme Head Works, near Carlisle.—Sateens. 231
- 173 Schwabe, Salis, & Co., Manchester.—Cotton prints for garments, chintzes, and furniture. 232
- 174 Simpson & King, Manchester.—Printed cotton furniture fabrics. 232
- 175 Marshall & Co., Leeds.—Linen sewing threads. 233
- 176 Normand, James, & Sons, Dysart, Fifeshire, Scotland.—Linsens for house-keeping, shoe linings, etc. 233
- 177 Ewart, William, & Sons, Belfast, Ireland.—Linen fabrics. 233
- 178 The York Street Flax Spinning Co. (limited), Belfast.—Linen piece goods, drills, ducks, sheetings, shirtings, and frontings. 233
- 179 Matier, Henry, & Co., Belfast.—Bleached and printed linsens; handkerchiefs, plain, hemstitched printed, and embroidered. 233
- 180 Ainsworth, Thomas, Cleator Mills, Cleator, Cumberland.—Linen threads and towels. 233
- 181 Ullathorne & Co., London.—Shoe and saddlers' threads. 233
- 182 Fenton, Connor, & Co., Linen Hall, Belfast.—White linsens, cambric, table linsens, linen ducks, drills, etc.; printed shirtings and lawn dress goods. 233
- 183 Brown, John S., & Sons, Belfast.—Table linen, diapers, sheetings, shirting linen, lawns, linen and cambric handkerchiefs. 233
- 184 Richardson, J. N., Sons, & Owden, Belfast.—Linen goods. 233
- 185 Dicksons, Ferguson, & Co., Belfast.—Linsens bleached and unbleached. 233
- 190 Dunbar, McMaster, & Co., Gilford, Ireland.—Linen threads. 233
- 191 Nairn, Michael, & Co., Kirkaldy, Scotland.—Floor oil cloths. 234
- 192 Corticene Patent Floor Covering Co., London.—Floor covering. 234
- 193 Hall, Thomas, Edinburgh.—Hand painted cloths in imitation of tapestry, for wall decoration. 234
- 194 Wellock, J., & Co., Bradford, Yorkshire.—Waterproof materials for cart and wagon covers. 234

- 195 Boulonikon Floor Cloth Manufacturing Co. (limited), Manchester.—Floor cloth. 234

Woven and Felted Goods of Wool, etc.

- 196 Andrews, Henry, & Co., Leeds.—Worsted coatings, wool and union cloths, and wool meltons. 235
- 197 Brown, John S., & Sons, Belfast.—Yarns. 235
- 198 Hooper, Charles, & Co., Eastington Mills, Stonehouse, Gloucestershire.—Woolens, broadcloths, military cloths, doeskins, beavers, elysians, kerseys, meltons, coatings, and trowserings. 235
- 199 Salter, Samuel, & Co., Home Mills, Trowbridge, Wiltshire.—Trowserings and coatings. 235
- 200 Dunbar, McMaster, & Co., Gilford, Ireland.—Gray and bleached yarns. 235
- 201 Mahony, Martin, & Bros., Blarney, Ireland.—Tweeds, boating serge, worsted coatings, railway traveling wraps. 235
- 202 Anderson, David, & Son, Lagan Felt Works, Belfast, Ireland.—Roofing, flooring, and ship sheathing felt, lining felt, hair felts for covering boilers and steam pipes. (*In Machinery Hall*) 235
- 203 Bliss, William, & Son, Chipping Norton, Oxon.
a Tweeds, woolen serges, and saddlers' woolens. 235
b Shawls. 237
c Mauds and rugs. 239
- 204 Brigg, J. F., & Co., Huddersfield, Yorkshire.—Beavers, coatings, cheviot, cassimeres, carriage and livery cloths, doeskins, elysians, meltons, kerseys, pilots, rugs, vestings and quiltings, velvets, union cloths, witneys, and reversible coatings. 235
- 205 Carr, Isaac, & Co., Twerton Mills, Bath.—Woolen cloths, meltons, twills, beavers. 235
- 206 Bubb & Co., Southfields Mills, near Stroud.—Woolen cloths; billiards, government, and piano cloths. 235
- 207 Marling & Co., Ebley and Stanley Mills, Stroud, Gloucestershire.—Raw, scoured, and dyed wool; woolen cloths, beavers, venetians, doeskins, deerskins, cassimeres, etc. 235
- 208 King, William, Gilroyd and Albert Mills, Morley, Leeds.—Union and melton cloths. 235
- 209 Birchall, J. D., & Co., Burley Mills, Leeds.—Woolen and worsted goods. 235
- 211 Hargreaves & Nusseys, Farnley Low Mills, Leeds.—Coatings, overcoatings, kerseys, meltons, woolen cloths. 235
- 213 Davies, Robert S., & Sons, Stonehouse Mills, Gloucestershire.—Cloths, doeskins, venetians, meltons, coatings, beavers, etc. 235
- 214 Little, T. W., & Co., Leeds.—Mantle cloths, waterproof tweeds, twills, meltons, blue and black deerskins, and diagonals. 235

Woven Goods, Silk, Clothing.

- | | |
|---|--|
| 215 Jones, Pryce, Newtown, North Wales. | |
| a Welsh flannel, homespuns, tweeds, yarns, etc. | 236 |
| b Shawls. | 237 |
| 216 Buckley, Joseph, & Co., Moorcroft Mills, Delph, near Manchester.—Shawls, raised fancies, Rob Roys, and shepherds. | 237 |
| 217 Farmer & Rogers, London.—Cashmere shawls. (<i>In Indian Section.</i>) | 237 |
| 218 Buckley, J. E. & G. F., Linfitts Mill, Delph, near Manchester.—Queensland and beaver shawls. | 237 |
| 218 ^a Hepworth, B., & Sons, New Wakefield Mills, Dewsbury, Yorkshire. | |
| a Railway knee wrappers. | 237 |
| b Rugs. | 239 |
| 218 ^b McGee, John G., & Co., Belfast, Ireland. | |
| a Traveling wraps, shawls, etc. | 237 |
| b Rugs. | 239 |
| 219 Williams, E. G., & Co., Bradford, Yorkshire.—Textile fabrics for dress goods. | 238 |
| 220 Pim Bros. & Co., Dublin.—Irish poplins, silk terries, and brocates. | 238 |
| 221 Henderson & Co., Durham.—Durham axminster. | 239 |
| 222 Lewis, John, Halifax, Yorkshire.—Brussels and Wilton carpets. (<i>British Offices.</i>) | 239 |
| 223 Gregory & Co., London.—Indian and Persian carpets. | 239 |
| 224 Robinson, Vincent, & Co., London.—Carpets and rugs. | 239 |
| 225 Crossley, John, & Sons (limited), Dean Clough Mills, Halifax, Yorkshire.—Carpets, rugs, sofa carpets, table covers, etc. | 239 |
| 226 Tomkinson & Adam, Kidderminster.—Axminster carpets. | 239 |
| 227 Lapworth Bros., London.—Carpets and rugs. | 239 |
| 228 Templeton J. & J. S., Glasgow.—Brussels and Wilton carpeting; silk and wool window curtains. | 239 |
| 228 ^a Welch, Margetson, & Co., London.—Rugs. | 239 |
| 229 Templeton, James, & Co., Glasgow.—Axminster carpets, breadth carpeting, hearth rugs. | 239 |
| 229 ^a Tapling, Thomas, & Co., London.—Tapestry. | 239 |
| 230 Webb, Edward, & Sons, Worcester.—Hair cloth for furniture covering, hair cloth paddings, curled hair, crinoline, hair cloth. | 240 |
| 230 ^a McLintock, James, & Sons, Barnsley, Yorkshire.—Down quilts and pillows. | 240 |
| 231 Wild, John, Greenfield Mills, Shaw, near Oldham.—Cotton plush velveteen. | 231 |
| | Silk and Silk Fabrics. |
| 232 Sheldon & Fenton, London.—Sewing silks, tailors' twist, machine silks, etc. | 243 |
| 233 Rickards, Charles Ayscough, Bell Busk Mills, near Leeds.—Sewing and machine silks, twists; embroidery, knitting, and crochet silks. | 243 |
| 234 Milner, Wm., & Sons, Leek, Staffordshire.—Sewing silks. | 243 |
| 235 Ward, Anthony, & Co., Albion Silk Mills, Leek, Staffordshire.—Silk threads. | 243 |
| 236 Adams & Co., London.—Knitting silks, filoselle. | 243 |
| 237 Hilditch, G. & J. B., London. | |
| a Silk and silk fabrics. | 245 |
| b Velvets. | 248 |
| 238 Norris & Co., London.—Silk for furniture and upholstery purposes. | 246 |
| 238 ^a Stewart, Moir, & Muir, Glasgow.—Curtains for window and decorative purposes and for use in the British section. | 246 |
| 239 French & Co., St. Mary's Mills, Norwich.—Black crape. | 247 |
| 239 ^a Simon, May, & Co., Nottingham.—Nets, Shetland scarfs, shawls, elastic webs, etc. | 247 |
| 239 ^b Welch, Margetson, & Co., London.—Scarfs, ties, and silk handkerchiefs. | 247 |
| 240 Stevens, Thomas, Stevengraph Works, Coventry.—Jacquard loom at work; ribbons, neckties, sashes, badges, and emblematical regalia; navy hat ribbons, gold and silver lace, silk-centred sachets. | 248 |
| 241 Heymann & Alexander, Nottingham.—Nets, quillings, trimmings, etc. | 249 |
| 243 Turner, Archibald, & Co., Leicester.—Elastic fabrics, cords, and braids. | 249 |
| | Clothing, Jewelry, and Ornaments; Traveling Equipments. |
| 245 Morley, J. & R., London. | |
| a Hosiery. | 250 |
| b Gloves. | 251 |
| 246 McLintock, James, & Sons, Barnsley, Yorkshire. | |
| a Down quilts, skirts, jackets, and dressing gowns; dress improvers. | 250 |
| b Slippers. | 251 |
| 247 Welch, Margetson, & Co., London. | |
| a Linen collars, shirtings, etc. | 250 |
| b Umbrellas. | 254 |
| 248 Sykes, Josephine, & Co., London.—Corsets and ladies' belts. | 250 |
| 249 Hitchcock, Williams, & Co., London.—Costumes of mixed fabrics. | 250 |
| 250 McGee, John G., & Co., Belfast, Ireland.—Ulster overcoats and Irish homespun goods. | 250 |
| 250 ^a Connor, Mrs., Dublin.—Patchwork quilt. | 250 |

PIM BROTHERS & Co.

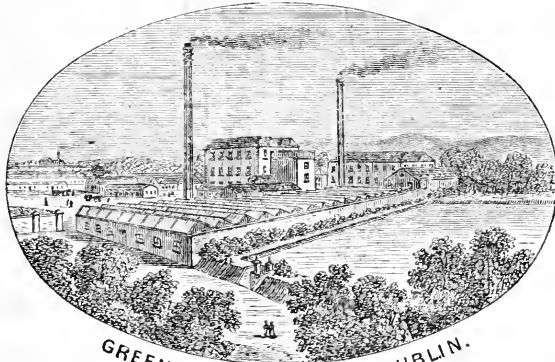


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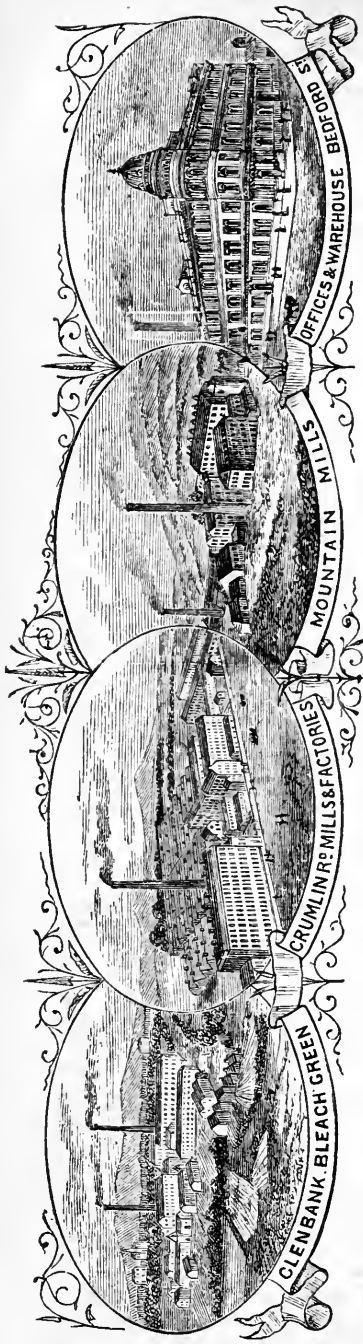
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Damasks; Table Napkins; Diapers; Handkerchiefs; &c., &c.

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Clothing, Jewelry, Fancy Goods.

- 251 Smyth & Co., Balbriggan, Ireland.—Balbriggan hosiery, lace hose, light stockings. 250
- 251^a Turner, George, & Co., London.
^a Military and traveling equipments; appliance for picketing horses. 250
^b Hammock-valise and canteen. 255
- 252 Roe, William Allen, Leicester.—Boots and shoes. 251
- 253 Lobb, John, London.—Gentlemen's and ladies' boots. 251
- 254 Dash, Osmond, Brighton.
^a Hats and caps. 251
^b Umbrellas. 254
- 260 Lincoln, Bennett, & Co., London.—Hats. 251
- 261 Humbert, Hermann, London.—Hats and bonnets; hat and bonnet shapes. 251
- 263 Debenham & Freebody, London.—Gloves. 251
- 264 Tress & Co., London.—Hats; pith and felt solar hats and helmets. 251
- 264^a Jacoby, M., & Co., Nottingham.—Valenciennes and silk guipures; imitation Swiss curtains, lace curtains. 252
- 265 Smith, George John, London.—Irish lace made by the Industrial Poor. 252
- 265^a Heymann & Alexander, Nottingham.—Silk, wool, and cotton laces. 252
- 266 Dunraven, the Countess of, Adare, County Limerick, Ireland.—Embroidery on lawn; robes, pocket handkerchiefs, insertion for dresses, pincushion cover, etc. 252
- 266^a Simon, May, & Co., Nottingham.—Lace curtains, valances. 252
- 267 Goggin, Jeremiah, Dublin.
^a Jewelry. 253
^b Reading-stands, walking-canes, pipes, etc. 254
- 269 Francati & Santamaria, London.—Jet ornaments, brooches, earrings, bracelets, necklaces, etc.: jet cameo mosaics, carved by Roman cameo cutters. 253
- 271 Neal, John, London.—Gold and silver jewelry, precious stones. 253
- 272 Aitchison, James, Edinburgh.—Scottish jewelry, in gold and silver; Highland ornaments, and stones found in Scotland. 253
- 273 Gibson, William, Belfast.
^a Gold, diamond, and Irish bog oak jewelry. 253
^b Walking-sticks and table ornaments. 254
- 274 English, John, & Co., Feckenham, Worcestershire.—Needles; fishhooks; steel pins; hairpins; bodkins. 254
- 275 Johnson, J., & Co., Charterhouse Works, Sycamore street, London.—Shell boxes, toy furniture and ornaments, and fancy paper boxes. 254
- 276 Davis & Wilson, Birmingham.—Whip, walking-stick, and umbrella mountings; African chiefs' canes; whips and general whip materials. 254
- 277 Millward, Henry, & Sons, Redditch.—Needles, sewing machine needles, fishhooks. 254
- 278 Turner, R., & Co., Old Factory, Redditch.—Needles, pins, fishhooks, etc., displayed in a glass case, forming model of the exhibition of 1851. 254
- 279 Swaine & Adeny, London.—Whips, whip lashes, thongs, and sockets; horns, canes, and walking-sticks; sporting apparatus. 254
- 280 Smith, John Wright, Leicester.—Self-acting needles used in hosiery frames. 254
- 281 Kent, George Barton, & Co., London.—Ivory paper knives and shoe lifts. 254
- 282 Evans, David, Studley, Redditch.—Needles for hand and machine sewing. 254
- 283 Fenton, James, Birmingham.—Pearl buttons. 254
- 284 Kirby, Beard, & Co., Birmingham.—Pins, needles, hairpins, fishhooks, etc. 254
- 284^a Elrick, Charles Gray, Aberdeen, Scotland.—Dressing combs; real and imitation shell, side braid, and high Spanish combs, etc. 254
- 285 Sangster & Co., London.—Umbrellas, parasols, sunshades, whips, canes. 254
- 286 Smith, James, & Son, Astwood Bank, near Redditch.—Needles, showing stages of manufacture; bodkins, hairpins, and fancy cases for holding needles. 254
- 287 Hayes, Crossley, & Co., London.—New shape sewing needles, machine needles, pins, bodkins, and specimens in various stages of preparation. 254
- 288 Cooke Bros., Birmingham.—Safety pins, curtain hooks, and fancy nails. 254
- 289 Woodfield, William, & Sons, Easemore Works, Redditch.—Needles, sewing machine needles, fishhooks, etc.; sail tools and fancy needle cases. 254
- 290 Martin, William Henry, London.—Umbrellas, walking-sticks, whips. 254
- 292 Tayler, D. F., & Co., New Hall Works, Birmingham.—Solid-headed toilet pins, hairpins, hooks and eyes, pearl buttons. 254
- 295 Hoe, Richard, & Sons, London.—Leather portmanteaus, hat cases, and bags. 255
- 295^a Ward, Marcus, & Co., London.—Fancy leather work. 255
- 296 Harrington, J., & Co., London.—Imitation leather hat linings, shoes and shoe linings, wall decorations, pocket-books, belts, dispatch boxes, dressing and jewel cases, glove and handkerchief boxes, etc. 255
- 297 Bussey, Geo. G., & Co., London.—Chili leather portmanteaus, trunks, traveling bags, and leather and waterproof goods used for shooting and traveling purposes. 255

Stationery, Weapons.

- 297^a Jeffreys, Charles, London.—Leather traveling and jewel cases; morocco and velvet cases. 255
- Paper, Blank Books, and Stationery.**
- 299 Hinks, Wells, & Co., Buckingham Steel Pen Works, Birmingham.—Steel pens, penholders. 258
- 300 Stephens, Henry Charles, London.—Inkstands, gum mucilage, quills, sealing wax, parallel rulers. 258
- 301 Ortnier & Houle, London.—Seal engraving, steel and copper plate heraldic engraving, and die sinking. 258
- 302 Ward, Marcus, & Co., London.
a Writing paper and envelopes, diaries, calendars, etc. 258
b Photograph albums and scrap books. 261
c Cards and valentines. 262
- 303 Blackwood, John, & Co., London.—Sealing and bottle wax. 258
- 304 Lyons, William, Manchester.—Sealing wax, gum mucilage. 258
- 305 Waterston, George, & Son, Edinburgh.—Sealing wax. 258
- 306 Ford Works Co., Ford, Durham.—Paper stock, manufactured from esparto grass; products from esparto, bamboo, megasse, phormium tenax, maize, and other fibres. 259
- 307 Dudgeon, Arthur, London.—Writing-papers; paper pulp manufactured from peat. 259
- 308 Pirie, Alexander, & Sons, London.
a Writing-papers. 259
b Cardboard. 262
c Enameled papers. 264
- 310 Fletcher, Robert, & Son, Kersley Paper Works, Stoneclough.—White and colored papers, fine tissues, silver tissues, copying and cigarette papers. 259
- 311 Birdsall & Son, Northampton.—Binding of the Hexaglot Bible. 261
- 312 Goodall, Charles, & Son, Camden Works, London.—Playing and Christmas cards. 262
- 313 Rimmel, Eugene, London.
a Valentines. 262
b Fancy crackers. 661
- 313^a Stevens, Thomas, Stevengraph Works, Coventry.—Cards and valentines. 262
- 314 Jeffrey & Co., London.—Artistic wallpaper decorations. 264
- Military and Naval Armaments, Ordnance, Firearms, and Apparatus of Hunting and Fishing.**
- 315 Reilly, E. M., & Co., London.—Breechloading guns and express rifles. 265
- 315^a Bussey, Geo. G., & Co., London.—Breechloading guns and their accessories; gyro pigeon. 265
- 316 Greener, William Wellington, Birmingham.—Sporting guns and rifles; breechloading guns. 265
- 317 Rigby, John, & Co., Dublin.—Guns and rifles and their accessories. 265
- 318 Henry, Alexander, Edinburgh.—Breechloading express rifles, fowling-pieces, harpoon and bomb-lance guns; military arms and target rifles. 265
- 319 Clay, Randolph, London.—Converter for breechloading firearms. 265
- 320 Dougall, James Dalziel, Glasgow.—Long-range shotguns and rifles. 265
- 322 Lancaster, Charles, London.—Guns, rifles, cannon; drawings and models of the civil bored. 265
- 323 Scott, W. & C., & Sons, Premier Gun Works, Birmingham.—Sporting firearms, revolvers, gun materials. 265
- 324 Needham, J. & G. H., London.—Breechloading double guns. 265
- 325 Purdey, Jas., London.—Guns, rifles, etc. 265
- 326 Lancaster, Alfred, London.—Sporting guns and rifles. 265
- 327 Soper, William, Reading.—Rifles. 265
- 328 Lang, J., & Sons, London.—Guns and rifles. 265
- 328^a Eley Bros. (limited), London.—Paper and metal cartridge cases (empty), sporting and military percussion caps, gun waddings. 265
- 329 Webley, P., & Son, Birmingham.—Sporting breechloading guns, rifles, and revolvers. 265
- 329^a Hewitt, William, Bristol.—Breechloading gun, gun carriage. (*In Machinery Hall*). 266
- 330 Needham, John, Sheffield.—Daggers. 268
- 331 Brookes & Crookes, Atlantic Works, Sheffield.—Sportsmen's and bowie knives. 268
- 333 Buchanan, James, Glasgow.—Sea fishhooks. 269
- 334 Ryder, William Henry, Birmingham.—Fishing tackle. 270
- 335 Green, E. C., Cheltenham.—Sporting guns, with their appurtenances; cleaning rods, with attachments; cartridge-loading implements, nipple keys, gun cases and bags. 269
- 336 Tolley, J. & W., Pioneer Works, Birmingham.—Sporting breechloading shot guns, implements, cartridge cases, lubricators, bullets, and primers for reloading cartridges. 269
- 337 Williams & Powell, Liverpool.—Breechloading guns. 269
- Medicine, Surgery, and Prothesis.**
- 338 Allen & Hanburys, London.—Cod-liver oil; gelatine impregnated with atropine and calabar bean, for application to the eye. 272

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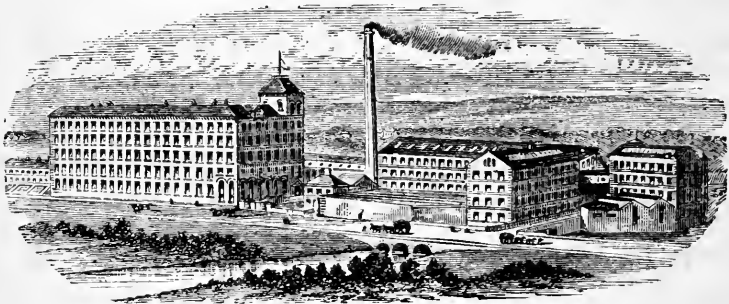
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AGENTS IN THE UNITED STATES,

MESSRS. WILSON & MERRILL, BOSTON.

Medical and Surgical Appliances, Hardware, Cutlery, Vehicles.

- 339** Gerrard, Alfred William, London.—Mustard plasters. 272
- 340** Evans, Sons, & Co., Liverpool.—Vegetable, animal, and mineral drugs; pharmaceutical products and accessories. 272
- 341** Usher, Rufus, Bodicote, Oxon.—Medicinal rhubarb; extract of henbane and dried henbane leaves; photographs of henbane plants. 272
- 342** Mackay, John, Edinburgh.—Articles of diet for invalid and table use. 273
- 343** Mellin, Gustav, London.—Non-farinaceous food for infants and invalids. 273
- 344** Goodall, Backhouse, & Co., Leeds.—Food for infants and invalids. 273
- 345** Lynch & Co., London.—Druggists' sundries and surgical instruments; spinal apparatus, chest protectors, feeding bottles, spray producers, poison bottles, etc. 276
- 346** Glasgow Apothecaries Co., Glasgow.—Surgical appliances and antiseptic dressings. 276
- 347** Mayer & Meltzer, London.—Surgical instruments. 276
- 348** Lee, Robert James, London.—Steam draft inhaler and disinfectant. 276
- 348a** Haywood, J. S., Nottingham.—Surgical bandages, belts, trusses, etc. 276
- 349** Turner, Archibald, & Co., Leicester.—Surgical braids and bandages. 276
- 350** Pulvermacher, Isaac Louis, London.—Electrical instruments for medical purposes. 276
- 353** Liverpool Spun Oakum Co., Liverpool.—Oakum, stygium; pure antiseptic dressing for hospital use. 276
- 353a** Clay, Randolph, & Co., London.—Portable invalid bed tray. 278
- 354** Turner, George, & Co., London.—Ambulances. 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 355** Ward & Payne, Sheffield.
a Tools for carpenters, joiners, coachmakers, shipwrights, millwrights, masons, bricklayers, tanners, carriers, engravers, die-sinkers, plasterers; wood, stone, and metal carvers and turners, etc. 280
b Sheep shears. 281
- 356** Smith, John & Samuel, Low Bridge Works, Keighley, Yorkshire.—Engineers' and machinists' tools. (*In Machinery Hall.*) 280
- 357** Baker, William, London.—Awls, bodkins, needles for saddlers, packers, and upholsterers; screwdrivers. 280
- 358** Addis, J. B., & Sons, Arctic Works, Sheffield.—Tools for carving stone and wood; turning tools for iron, brass, ivory, hard wood, etc.; carpenters' tools. 280
- 359a** Needham, John, Sheffield.—Cutlery, table and dessert knives and forks, fish eaters. 281

- 359b** Wostenholm, George, & Son (limited), Sheffield.—Cutlery. 281
- 359c** Brooks, Henry, & Co., London.—Metal stoppers and collapsible tubes for artists' colors. 281
- 359d** Burnand, James, & Co., Sheffield.—Table cutlery, etc. 281
- 359e** Needham, John, Sheffield.—Cutlery. 281
- 360** Neal, John, & Co., London.—Table, dessert, and fish cutlery. 281
- 360a** Brookes & Crookes, Atlantic Works, Sheffield.—Pen, pocket, and table knives, scissors, razors, and dressing case instruments, cutlery. 281
- 360b** Ryder, William Henry, Birmingham.—Taps for drawing effervescent wines or aerated waters. 281
- 360c** Mayer & Meltzer, London.—Cutlery. 281
- 361** The Patent Nut & Bolt Co. (limited), London Works, near Birmingham.—Iron bolts, nuts, screws, rivets, and washers; fish and sole plates; fish bolts, spikes, and fang bolts. 284
- 362** Francis, Thomas, & Co., Birmingham.—Nails. 284
- 363** Baker, Christopher, & Sons, Birmingham.—Coffin furniture; cabinet and general brass fittings; rails, stair rods, nails, and bolts. 284
- 364** The Phosphor Bronze Co. (limited), London.—Phosphor bronze tools, locks, tubes, wire, sheet, steam fittings, parts of machinery, etc. 284
- 365** Adams, Robert, London.—Hinges and shoes, secure fastening bolts, weather-tight sill bars for French casements, etc. 284
- 366a** Turner, George, & Co., London.—Screw anchor peg. 284
- 367a** Ullathorne & Co., London.—Heel balls and shoe findings. 284
- 367b** Turner, Archibald, & Co., Leicester.—Elastic fabrics. 285

Fabrics of Vegetable, Animal, or Mineral Materials.

- 368** Low, Son, & Haydon, London.—Brushes. 286
- 369** Kent, George Barton, & Co., London.—Brushes. 286
- 370** Culmer, W., & Sons, London.—Brushes used in decorative art. 286
- 371** Bevis, Henry, London.—Silk banner with emblematic designs. 288
- 372** Spill, Daniel, London.—Ivorie. 289
- 372a** Barnard, Brady, London.—Bassinettes, baskets, etc. 289

Carriages, Vehicles, and Accessories.

- 373** Windover, Charles Sandford, London.—Brougham, canoe, landau, Victoria, Parisian, and Stanhope phaeton. 292

Vehicles.

- 374 Mulliner, H., & Co., Northampton.—Carriages. 292
- 375 McNaught & Smith, Worcester.—Barouche, landau, and broughams. 292
- 376 Thorn, Charles, Norwich.
a Carriages. 292
b Shooting and baggage cart. 294
- 377 Roberts, John, Manchester.—Parisian phaeton. 292
- 378 Hooper & Co., London.—Carriages and drawings. 292
- 380 Peters, Thomas, & Sons, London.—Carriages. 292
- 381 Thompson, Charles, London.—Perambulator. 293
- 381*a* Roberts, Digby, Coventry.—English bicycle. 293
- 382 Hawkins Bros., Hatherton Works, Walsall.—Bits, stirrups, spurs, chains, buckles, and general saddlery iron work. 296
- 383 Hudson, Samuel, Dublin.—Trace and shaft tug safety buckles; safety stirrup. (*In Swaine & Adeney's case.*) 296
- 384 Martin, Robert, Old Charlton, Kent.—Horse clipping machines; circular cutters for cutting the teeth of the above machines. (*In Machinery Hall.*) 296
- 385 Pollock, Sydney, London.—Apparatus for checking runaway and unmanageable horses. 296
- 387 Goodall, Chas., & Son, London.—Card printing. 424
- 388 Cohné, Sigismund, London.—Bearings requiring no lubricant. 573
- 389 Parkinson Bros., Burnley.—Spiced pickling vinegar. 660
- (*N. B.—Certain exhibits in this Department, from Great Britain, are installed in Agricultural Hall, and catalogued in Part IV.*)

For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27-45.

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<i>Surplus</i>	<u>224,317.95</u>
<i>Total Assets</i>	\$424,327.95

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NEW ZEALAND.

(North of Nave, Columns 10 to 17.)

Manufactures, Education and Science.

Chemicals.

- 1 Horler, John, Woolston, Canterbury.—Soap and mould candles. 201
- 2 Innes, W. M., Port Chalmers, Otago.—Cod-liver oil. 201
- 3 Louisson, T. B., Nelson.—Paint made from hematite ore. 202
- 4 Johnstone Brothers, Nelson.—Umber and red pigments made from hematite ore. 202
- 5 Grayling, W. S., Taranaki.—Extract of towai (*Weinmannia racemosa*); extract of hinau (*Eldeocarpus dentatus*). 202

Ceramics—Pottery, Porcelain, Glass, etc.

- 6 Kennedy Bros., Nelson.—Fire bricks. 207

Furniture and Objects of General Use in Construction and in Dwellings.

- 7 Greenfield & Stewart, Wellington.—Panel door made of rimu (*Dacrydium cupressinum*). 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 8 Government of New Zealand.—Specimens of fabrics made from Phormium tenax. 233

Woven and Felted Goods of Wool, etc.

- 9 Webley Bros., Nelson.—Nelson tweeds made from New Zealand wool. 235
- 10 Cook, James, Nelson.—Woolen rugs, woven and dyed at Nelson. 239

Clothing, Jewelry, and Ornaments, Traveling Equipments.

- 11 Taylor, B. K., Wanganui.—Hat made of kiekie (*Cordyline*). 251
- 12 Liardet, H. E., Wellington.
a Fancy articles made from feet and bones of sea birds. 254
b Feathers, muffs, collarettes, wristlets, etc. 256
- 13 Taylor, Mrs. Richard, Wanganui.—Ornamental satchel and table mat. 254
- 15 New Zealand Commissioners.—Garments and ornaments of the Maoris. 257

Fabrics of Vegetable, Animal, or Mineral Materials.

- 16 Moyle, Edward, Taranaki.—Cord made from phormium tenax. 287

- 17 Bevan, Thomas, jr., Otaki, Wellington.—Rope made from Maori dressed phormium, fish line, horse halter, lead line, twine. 287
- 18 Bevan & Sons, Otaki, Wellington.—Cord and twines made from Maori dressed phormium. 287
- 19 Kinross & Co., Hawke Bay.—Cordage and twines made from Maori dressed phormium. 287
- 20 Grant & Co., Otago.—Cordage made from phormium. 287
- 21 Auckland Patent Steam Rope Co.—Phormium rope. 287
- 22 Canterbury Flax Association, Christchurch.—Tared and untarred cordage made from phormium. 287
- 23 Lennon, T., Christchurch.—Cordage, ropes, and twines, made from phormium. 287
- 24 Cook, James, Nelson.—Mats and matting made from phormium. 287
- 25 Simons & Malcolm, Nelson.—Door mats made from phormium. 287

Institutions and Organizations.

- 26 Colonial Museum, J. Hector, Director.—Garments and ornaments of the Maoris. 312
- 27 National Museum at Washington, J. Henry, Secretary.—Garments of the Maoris. 312
- 27^a New Zealand Commissioners.—Weapons of the Maoris. 312

Engineering, Architecture, Maps, etc.

- 28 Government of New Zealand.—Geological maps of New Zealand, by James Hector. 335
- 29 Geological Survey Department, James Hector, Director.—Geological plans and sections. 335
- 30 Canterbury Museum, J. von Haast, Director.—Geological plans and sections. 335
- 31^a Hector, J.—Relief Model of New Zealand, geologically colored. 335
- 32^b Government of New Zealand.—Topographical map of the colony, engraved by E. Ravenstein. 335

Physical, Social, and Moral Condition of Man.

- 33 National Museum, Washington, J. Henry, Secretary.—Canoe paddles of Maoris; skulls of Maoris and Moriori from the Chatham Islands. 340

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Education and Science, Art, Agriculture.

- 34 Woon, R. W., Wanganui.—Canoe paddles of the Maoris. 340
- 35 Government of New Zealand.—Statistics and census of New Zealand for 1874, prepared by W. R. E. Brown, Registrar-General. 345
- 35^a Hector, J.—Transactions and Proceedings of the New Zealand Institute, Vols. I. to VII. 345
- 35^b Vogel, Sir Julius.—Hand-book of New Zealand. 345

Painting.

- 35^c Geological Survey Department, James Hector, Director.—Water color sketches by W. M. Cooper. 411

Engraving and Lithography.

- 35^d New Zealand Commissioners.—Pictures from W. L. Buller's "Birds of New Zealand," drawn by J. H. Keulemans. 422

Photography.

- 36 Burton Bros., Dunedin.—Views of scenery of South Island. 430
- 36^a Bothamley, A. T.—Photographs of Maoris. 430
- 37 Government of New Zealand.—Views of scenery, etc., by H. Deveril. 430
- 38 Taranaki Committee.—Views of New Plymouth and surrounding country. 430
- 38^a Hector, J.—Photographs exhibiting domestic life of the Maoris. 430
- 39 Mundy, D. L.—Views of scenery, foliage, buildings, gold mining, etc. 430

Railway Plant, Rolling Stock, etc.

- 40 Government of New Zealand.—Photographs of engines and engineering works used in New Zealand. 570

Arboriculture and Forest Products.

- 41 Cruickshank, J. D., Upper Hutt Saw Mills, Wellington.—Section of trunk of rimu (*Dacrydium cupressinum*), red pine of settlers. 600
- 42 Westland Committee.—Specimens of woods with bark. 600
- 43 Taranaki Committee.
- a* Specimens of woods. 601
- b* Barks of the Atawhero and the Pukatea; earth used by the Maoris as a mordant for dyes. 602
- c* Dried ferns; fungus exported as food to China; esculent fern root; birds' nest fungus and curious parasite. 604
- 44 Black, W. B., American Coach Factory, Wellington.—Specimens of woods. 601
- 45 New Zealand Commissioners.—Specimens of woods. 601
- 46 Grayling, W. S., Taranaki.—Bark of hinau; blue earth, used by the Maoris, mixed with shark oil, as blue paint. 602

- 47 Colonial Museum, Wellington, James Hector, Director.—Tanbarks, native to New Zealand. 602
- 49 Walker, Renwick & Co., New York.—Kauri gum. 603
- 50 Forbes, R. W., New York.—Kauri gum. 603

Agricultural Products.

- 51 Banks, E. H., Christchurch.—Oats and other cereals. 620
- 52 Wood, W. D., Christchurch.—Wheat. 620
- 53 Cunningham, P., & Co., Christchurch.—Wheat grown in Canterbury. 620
- 54 Ruddenklau, J. G., Addington, Canterbury.—Wheat. 620
- 55 Hooper & Dodson, Nelson.—Hops. 623
- 56 Wilkin, Robert, Christchurch.—Perennial rye grass and cocksfoot seed. 624
- 57 Armstrong, J. B., Christchurch.—Phormium seeds. 624

Animal and Vegetable Products.

- 58 Wilson, Thomas, Woolston, Canterbury.—Saddle, harness, and shoemakers' leather; fancy colored skins for shoemakers and bookbinders. 652
- 59 Armitage, Tarapaki.—Dressed kip and calf leather. 652
- 60 Morris, Thomas, Oamaru, Otago.—Gentleman's town saddle. 652
- 61 National Museum, Washington, J. Henry, Secretary.
- a* Specimens of kiwi; skeleton and bones of moa. 652
- b* Egg of the kiwi, and model of egg of moa. 653
- 62 Gilmour, John, Christchurch.—Hams and bacon. 656
- 63 New Zealand Provision & Produce Company, Christchurch.—Preserved meats. 656
- 64 Nairn, David, Addington, Canterbury.—Tomato sauce. 656
- 65 Trent Brothers, Woolston, Canterbury.—Chiccory in different stages of preparation. 657
- 66 Smith, James, Nelson.—Fruit wines. 660
- 67 Henderson & Farrah, Wanganui.—Ale and porter. 660

Horticulture.

- 68 Coates, Laning, Christchurch.—Live ferns. 707

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NEW SOUTH WALES.

(North of Nave, Columns 10 to 17.)

Manufactures, Education, Art.

Chemical Manufactures.

- 1 Read, R. B., Randwick.—Extract, leaves, and berries of *Smilacis glycyphylla*, or Australian sarsaparilla. 200
- 2 Barrett & Co., Sydney.—Aerated waters and cordials. 200
- 3 Gilroy & Hurst, Sydney.—Baking, custard, egg, and butter powders. 200
- 4 Hunt, A. M., & Co., Goulburn.—Baking powders. 200
- 5 Swain & Co., Parramatta.—Washing fluid and soap. 201
- 6 New South Wales Shale & Oil Co., Sydney.—Kerosene oil, etc. 201
- 7 New South Wales Commissioners, Sydney.—Stearine candles. 201
- 8 Layton, Fred., Grafton, Clarence river.—Soap and candles. 201
- 9 Underwood, Thomas, Paddington.—Paints and paint pigment. 202
- 10 Hoff, M. Camille, Nakutakinna, New Caledonia.—Indigo. 202

Ceramics—Pottery, Porcelain, Glass, etc.

- 11 New South Wales Commissioners.—Churns, jars, etc. 210

Furniture, etc.

- 12 Lyons, Cottier, & Co., Sydney.—Stained glass staircase window—subject, "Captain Cook." 219
- 13 Hudson Brothers, Steam Joinery Mills, Sydney.—Window sashes, outside hall door, inside four-panel door, drapery panel door, French casements, cedar table legs. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 14 Read, John Cecil, Darlinghurst, Sydney.—Mats and matting made of cocoa fibre yarn, by aborigines of New South Wales and Frazer's Island. 229
- 15 Rudder, E. W., Kempsey.—Linen. 233

Woven and Felted Goods of Wool, etc.

- 17 New South Wales Commissioners.
a Tweeds. 235
b Shawls. 237
- 18 Jennings, P. A., Sydney.—Rug of tanned platypus skin. 239
- 19 New South Wales Commissioners.—Wallaby skin rug. 239

Clothing, Jewelry, and Ornaments, Traveling Equipments.

- 20 Jennings, P. A., Sydney.—Collaret and cuffs of platypus skin. 250
- 21 Midgley, Mrs., Cook's River.—Wool flowers, copied from Australian native flowers. 254
- 22 Layton, Fred., Grafton.—Furs and skins of opossum, kangaroo, wallaby, and platypus. 256

Paper, Blank Books, and Stationery.

- 23 Government Printing Office, Sydney.—Blank books and printing. 261

Medicine, Surgery, Prothesis.

- 24 Spencer, John, Sydney.—Mechanical dentistry. 277

Fabrics of Vegetable, Animal, or Mineral Materials.

- 25 New South Wales Commissioners, Sydney.—Brushware. 286
- 26 New South Wales Commissioners, Sydney.—Manila rope, New Zealand flax rope, and lines. 287
- 27 Green, R., Sydney.—Cradles, flower stand, chair, perambulator; cane and willow work. 289

Carriages, Vehicles, and Accessories.

- 28 John Robertson, Sydney.—Buggy. 292
- 29 New South Wales Commissioners.—Lady's side saddle. 296
- 30 New South Wales Commissioners, Sydney.—Saddlery. 296

Educational Systems, Methods, and Libraries.

- 30*a* Government Printing Office, Sydney.—Books. 306
- 30*b* Sutherland, George.—Christian psychology. 306
- 30*c* Australian Museum.—Collection of birds, animals, etc. 312
- 30*d* New South Wales Commissioners.—Collection of birds. 312

Photography.

- 30*e* New South Wales Commissioners.—Photographs. 430
- 30*f* Holtermann, B. O.—Photographs. 430
- 30*g* Barnet, James.—Photographs. 430
- 30*h* Richards, Thomas.—Photo-lithographs. 437

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Forest and Agricultural Products, Animal and Vegetable Products.

Arboriculture and Forest Products.

- 31 Macarthur, Sir W., assisted by Hill & Hanrahan & J. Hassell.—Woods of southern districts. 600
- 32 Moore, Charles.—Woods indigenous to the northern districts. 600
- 33 Shoobert, James, Sydney.—Iron bark and turpentine timber. 600
- 34 Derepas, W., Yonngara Station.—Boree, and straight and curly yarran timber. 600
- 35 Hedgson, George, Redfern.—Timber from Bellinger river. 600
- 36 Penzer, J., Bundamar, near Dubbo.—Timber. 600
- 37 Du Faur, E., Sydney.—Timber from Mount Victoria. 600
- 37^a New South Wales Commissioners.—Woods indigenous to New South Wales. 600
- 38 Hudson Bros, Botany Road, Redfern.—Timber. 600
- 39 Derepas, R., Yonngara.
^a Yarran gum. 603
^b Quondong nuts. 605
- 40 Harling, Mrs., & H. H. Field, Sydney.—Pressed ferns. 604
- 41 Moore, Charles, Botanic Gardens, Sydney.—Seeds, ginger-root, and bitter bark. 605
- 42 Hemmings, F. W., Loma Loma, Fiji.—Dried cocconut. 605
- 43 Ryder Bros, Mango Island, Fiji.—Dried cocconut. 605

Agricultural Products.

- 44 Lovegrove, W., Terrara, Shoalhaven river.—Maize. 620
- 45 Ryder Bros, Mango Island, Fiji.
^a Maize. 620
^b Beans. 621
^c Turmeric and turmeric powder. 622
- 46 Peden, M. J., Bega.—Maize. 620
- 47 Demestre, E., Shoalhaven.—Maize. 620
- 48 Eggins, James, Grafton, Clarence river.—Maize. 620
- 49 Blain, C. R., Grafton, Clarence river.—Maize. 620
- 50 Macarthur, Sir W.—Maize. 620
- 51 Lewis Bros., Tamworth.—Wheat. 620
- 52 Dalton Bros., Orange.—Wheat. 620
- 53 Nelson Bros., Orange.—Wheat. 620
- 54 Jaeschke, Gustave, Clarence river.—Cigars and tobacco leaf. 623
- 55 Schweigert, W., & Co.—Cigars. 623
- 56 Muirhead, R., Grafton, Clarence river.—Cigars. 623
- 57 Hoff, M. Camille, Nakutakina, New Caledonia.—Coffee. 623

Land Animals.

- 59 Jennings, P. A., Sydney.—Stuffed platypus. 637

Water Animals, Fish Culture and Apparatus.

- 60 Hemmings, F. & W., Loma Loma, Fiji.—Bêche de mer. 643

Animal and Vegetable Products.

- 61 Secombe, R., Milnton, Ulladulla.—Preserved milk. 651
- 62 Wright, Davenport, & Co., Sydney.—Leather. 652
- 63 Forsyth, J., & Sons, Sydney.—Leather. 652
- 64 Alderson & Sons, Sydney.—Leather. 652
- 65 Bell, H., Sydney.—Tallow and neat's-foot oil. 652
- 66 Hewitt, T. G., Grafton, Clarence river.—Tallow and neat's-foot oil. 652
- 67 Berry, J. S., Botany, Sydney.—Neat's-foot oil and glue. 652
- 68 Layton, Fred., Grafton, Clarence river.—Beeswax. 654
- 69 Sydney Meat Preserving Co., Sydney.—Preserved meats. 656
- 70 Squires, Elam, Penrith.—Preserved fruits, jams, and jellies. 656
- 71 Hoff, Camille, Nakutakina, New Caledonia.—Preserved pineapples. 656
- 72 Biddell Bros, Sydney.—Preserved lemons and oranges. 656
- 73 Moore, Charles, Botanic Gardens, Sydney.—Preserved lemons and oranges. 656
- 74 Watson Bros., Young.—Flour. 657
- 75 Lewis Bros., Tamworth.—Flour. 657
- 76 Cohen & Levy, Tamworth.—Flour. 657
- 77 Dalton Bros., Orange.—Flour. 657
- 78 Nelson Bros, Orange.—Flour. 657
- 79 Waters, James, Ravensdale, Brisbane Water.—Arrowroot. 658
- 80 Cole, W., & Son, Tomago, Hunter river.—Arrowroot. 658
- 81 Laurie, W. & L., Gloucester, Port Stephens.—Arrowroot. 658
- 82 Ryder Bros., Mango Island, Fiji.—Arrowroot. 658
- 83 Payne, George, Grafton, Clarence river.—Arrowroot. 658
- 84 Champion, George, Ulmarra, Clarence river.—Arrowroot. 658
- 85 Munn, A. L., Merimbula.—Maizena. 658
- 86 Colonial Sugar Refining Co.—Refined sugars. 659
- 87 Martin, George, Grafton, Clarence river.—Sugar. 659
- 88 Chowne, E. G., Ulmarra, Clarence river.—Sugars. 659
- 89 Biddell Bros., Sydney.—Confectionery. 659
- 90 New South Wales Co., Clarence river.—Raw sugars. 659
- 91 Fallon, James T., Albury.—Wines. 660
- 92 Munro, A., Bebeah, Singleton.—Wines. 660

Vegetable Products, Textile Substances.

- 93 Carmichael, G. L. & J. B., Porphyry, Williams river.—Wines. 663
- 94 Brecht, Carl J. P., Rosemount, Dennan.—Wines. 663
- 95 Powell, Edward, Richmond.—Wines. 663
- 96 Parnell, Montague, West Maitland, Hunter river.—Wines. 663
- 97 Wyndham, Wadham, Bukkulla, Inverell.—Wines. 663
- 98 Wyndham, George, Branxton, Hunter river.—Wines. 663
- 98^a Doyle, J. F., Kaloodah, Lochinvar.—Wines. 663
- 99 Monk, D. J., Sydney.—Malt and wine vinegars. 663
- 100 Marshall, J., Paddington Brewery.—Ale and porter. 663
- 101 Hardie, John, Sydney.—Biscuits. 661
- 102 Layton, Fred., Grafton, Clarence river.—Castor oil. 662
- Textile Substances of Vegetable or Animal Origin.**
- 103 Hemmings, F. & W., Loma Loma, Fiji.—Cotton. 665
- 104 Ryder Bros., Mango Island, Fiji.—Cotton. 665
- 105 Hoff, Camille, Nakutakina, New Caledonia.—Cotton. 665
- 106 Moore, Charles, Botanic Gardens, Sydney.—Vegetable fibres of various kinds. 666
- 107 Rudder, E. W., Kempsey.—Fibre of gigantic nettle tree. 666
- 107^a Cox, E. K.—Wool. 667
- 107^b Cox, G. H.—Wool. 667
- 107^c Cox, F. & A.—Wool. 667
- 107^d Lamb & Roberts.—Wool. 667
- 107^e Tindal, E. & A.—Wool. 667
- 107^f Clive & Hamilton.—Wool. 667
- 107^g Bettington, J. B.—Wool. 667
- 107^h Loder, Andrew.—Wool. 667
- 107ⁱ King, P. G.—Wool. 667
- 108 Ramsay, D., Sydney.—Wool. 667
- 108^a Shanahan & Jennings.—Wool. 667
- 108^b Henry & Balfour.—Wool. 667
- 108^c Learmonth, L.—Wool. 667
- 108^d White, F. R.—Wool. 667
- 108^e Caughy, S. M.—Wool. 667
- 108^f Campbell, D. H.—Wool. 667
- 108^g Wilson, A.—Wool. 667
- 108^h Loder, A.—Wool. 667
- 108ⁱ Lethbridge, G. L.—Wool. 667
- 109 Lowe, A. H., Dynevor.—Wool. 667
- 109^a Hume, E. B.—Wool. 667
- 109^b Bowman, E. & A.—Wool. 667
- 109^c Brown, T., & Co.—Wool. 667
- 109^d Gell, P. H.—Wool. 667
- 109^e Gilbert, A. N.—Wool. 667
- 109^f Macdonald, J. L.—Wool. 667
- 109^g Allen, J.—Wool. 667
- 109^h Brodribb, W. A.—Wool. 667
- 110 May, J. M., Randwick, near Sydney.—Silk materials from the grain to the manufacture, produced by the inmates of the Asylum for Destitute Children, Randwick. 668
- 111 Thorne, George, Sydney.—Cocoons and cards of eggs desiccated and pierced, grown at Claremont, Rose Bay, Sydney. 668
- Agricultural Engineering and Administration.**
- 112 Bell, H., Sydney.—Bonedust. 681
- 113 Berry, J. S., Botany.—Bonedust. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

VICTORIA.

(North of Nave, Columns 11 to 13.)

Chemical Manufactures, Ceramics, Furniture.

Chemical Manufactures.

- 1 **Bosisto, Joseph, Richmond, Melbourne.**—Chemical and pharmaceutical preparations obtained from the eucalyptus or gum trees of Australia, and other indigenous vegetation. 200
- 3 **Hood & Co., Melbourne.**—Chemical and pharmaceutical preparations. 200
- 4 **Lewis & Whitty, Fitzroy.**—Washing and baking powders, ball blue. 200
- 5 **Stringer & Co., Melbourne.**—Baking powder. 200
- 6 **Sullivan, Joseph, Melbourne.**—Poor man's filter; disinfectants fluke specific and lick, hydrated silicate of aluminum. 200
- 7 **Woodward, George, Kew.**—Guano, deodorants, block of deodorized night-soil. 200
- 8 **Fitts, Charles, & Son, Emerald Hill.**—Neat's-foot and trotter oil. 201
- 8^a **Apollo Stearine Candle Co. (limited), Footscray.**—Stearine and paraffin candles, and products. 201
- 9 **Kitchen & Sons, Melbourne.**—Stearine and large carriage candles. 201
- 10 **Borthwick, Alex., Melbourne.**—Varnishes, anti-fouling composition for ships' bottoms, enameled cast iron pedestal pillars, anti-corrosive paint. 202
- 11 **Bowman, John S., Melbourne.**—Colonial crayons. 202
- 12 **Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.**—Crayons. 202
- 13 **Lewis & Whitty, Melbourne.**—Blacking. 202
- 14 **Hogg, S. P., & Co., Melbourne.**—Curry powder. 203
- 15 **Lewis & Whitty, Fitzroy.**—Hair oil, essences, curry powder. 203
- 16 **Perry, Hunter, & Co., Sandhurst.**—Safety fuse. 204
- Ceramics—Pottery, Porcelain, Glass, etc.**
- 17 **Birmingham & Lacy, Brunswick.**—Red building and white pressed and moulded bricks. 206
- 18 **Nolan, Luke, Brunswick.**
^a Stoneware drain pipes. 206
^b Bronze vases, stone porous jugs, patent damp-proof for floor ventilation. 210
- 19 **Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.**
^a Fire-clay crucibles. 207
^b Encaustic tiles, trusses, vases, etc. 208
^c Earthenware and pottery. 210
^d Glassware. 216

- 20 **Adams, R. T., Melbourne.**—Filters. 210
- 21 **Bendigo Pottery Co., Sandhurst.**—Earthenware worn for still. 210
- 23 **Ferguson & Urie, Melbourne.**—Stained glass for windows. 214
- 24 **Gledhill, Melbourne.**—Glass bottles. 215
- 25 **Melbourne Glass Bottle Works Co., Emerald Hill.**—Glass bottles. 215
- 26 **Mount & Co., Emerald Hill.**—Glassware. 215

Furniture, etc.

- 27 **Alcock & Co., Melbourne.**—Blackwood billiard table with appliances; console table. 217
- 28 **Carr & Sons, Melbourne.**—Window blinds, window sash, with Venetian shutters, etc. 217
- 29 **Davis, J., Richmond.**—Window sash. 217
- 30 **Hodgson Bros., Sandhurst.**—Self-acting Venetian blind, spring roller blind. 217
- 31 **McEwan, James, Melbourne.**—Sideboard. 217
- 32 **Muschialli, Lewis, Melbourne.**—Pier glass, console table. 217
- 33 **Baker, John, Emerald Hill.**—Safety steps. 220
- 34 **Wiegmann, August, Melbourne.**—Basketware cradles, perambulators, chairs and flower stands, baskets. 221
- 35 **Walker, A. R., Melbourne.**—Gas cooking stoves. 222
- 36 **Shaw, Alfred, & Co., Melbourne.**—Millet brooms and whisks. 224
- 37 **Guthrie, G. D., Epsom, Sandhurst.**—Collection of pottery ware for household use, etc. 224
- 38 **Bogle, Andrew, & Co., Melbourne.**—Boot and shoe brushing and cutters' polishing and sharpening machine. 224
- 39 **Draper & Sons, Melbourne.**—Earth-closets and fittings. 226
- Yarns and Woven Goods of Vegetable or Mineral Materials.**
- 40 **Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.**—Flax, ropes, lines, twines, etc. 229
- 41 **Donaghy, Michael, Geelong.**—Ropes and lines. 229

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Fabrics, Paper, Weapons, Vehicles, Art.

42 Miller, James, & Co., Melbourne.—Ropes and lines. 229

43 McPherson, Thomas, Melbourne.—Corn sacks, wool packs, and sugar bagging. 229

Woven and Felted Goods of Wool, etc.

44 Barwon Woolen Mill Co., Geelong.
a Tweeds. 235

b Blankets. 237

45 Gray, Alexander, & Co., Albion Woolen Mills, Geelong.—Plain and fancy tweeds. 235

46 Ballarat Woolen Co., Ballarat.—Shawls, tweeds, blankets. 237

47 Director of Botanic Gardens, Melbourne.—Dyed woolen cloth and silk. 238

48 Robertson, John, Melbourne.—Dyed Angora goat's fleece. 240

49 Zoological and Acclimatization Society, Melbourne.—Angora goat's hair. 240

Silk and Silk Fabrics.

50 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Silk cocoons from the Acclimatization Society, Victoria, and Mrs. Bladen Neill; cultivated silk, in cocoons and hanks, also bleached, dyed, and worked upon llama. 242

51 Timbrell, Ann, Collingwood.

a Cocoons produced by silkworms from Japan, France, Italy, and Greece. 242

b Silk (raw material in hank). 243

c Victorian silk, worked on Brussels net. 246

52 Victoria Ladies' Sericulture Co. (limited), Castlemaine.—Silk, desiccated and pierced cocoons. 242

Clothing, Jewelry, and Ornaments, Traveling Equipments.

53 Ford Brothers, Melbourne.

a Pith hats, in felt, silk, merino, etc. 251

b Pith sunshades for horses. 254

54 Inspector-General of Penal Department, Melbourne.—Boots and shoes. 251

55 Rosier, John, Melbourne.—Boots and shoes. 251

56 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.

a Myall pipes; rouleau boxes of myall wood. 254

b Address-case of inlaid leather. 255

57 De Richelieu, Madam F., Windsor.—Ornaments made from fish scales, etc. 254

58 Pausacker, Evans, & Co., Melbourne.—Registered edge, solid leather portmanteaus. 255

Paper, Blank Books, Stationery.

59 Botanic Gardens, Director of, Melbourne.—Paper made from various barks, stems, and stems and leaves. 260

60 Ramsden, Samuel, Melbourne.—Various grades of paper, including cartridge, printing, and wrapping paper. 260

Weapons, etc.

61 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.

b Aboriginal weapons, native axe. 268

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Medicine, Surgery, Prothesis.

62 Stanway, W., South Yarra.—Models of chairs for invalids. 279

Hardware, Edge Tools, Cutlery, and Metallic Products.

63 Danks, John, Melbourne.—Valves, cocks, lubricators, injectors, etc. 284

64 McIlwraith, John, Melbourne.—Gas pipe and tin tube. 284

Fabrics of Vegetable, Animal or Mineral Materials.

64a Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Victorian and English ensigns. 288

Carriages, Vehicles, and Accessories.

(For farm vehicles and railway carriages, see Departments of Agriculture and Machinery.)

65 Stevenson & Elliott, Melbourne.—Landau. 292

66 Bothwell, Wade, Melbourne.—Harness, saddles, whips, etc. 296

67 Glenister, W. A., Geelong.—Axles, Colling's crank, etc. 296

68 Stoneman, Alfred, Richmond.—Carriage springs. 296

Sculpture.

69 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Medals of the Victorian Intercolonial Exhibition, 1875; seals of the Melbourne Public Library, University, and Exhibition of 1862. 402

Painting.

70 Campbell, O. R., Windsor.—Crossing the Plains. 410

71 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Heraldic painting on panels. 410

72 Curtis, J. W., Melbourne.—Track off the Point Nepean road. 410

73 Guerard, E. Von, Melbourne.—Pul-pit rock, Phillip Island, Ballarat, in 1873. 410

74 Johnston, H. J., Melbourne.—Summer Sunset. 410

75 Whitehead, Isaac, Melbourne.—Dandenong State Forest. 41

Engraving and Lithographing.

76 Bowman, John S., Melbourne.
a "The Knob in the Alps," crayon, Miss Bowman.

b "In the Alps," crayon, Miss Adams.

c "Fall from the Omeo Plains," crayon.

d "Valley in North Gippsland," crayon.

e "A Pool in the Otway Ranges," crayon, F. Shaw.

f "Bushy Park," crayon. 420

77 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Lithographs of fossils, roots, and seeds. 423

Art, Machinery, Agriculture.

Photography.

- 78 Ararat, Shire Council of, Ararat.—Photographic views and statistics of the shire. 430
- 79 Batchelder & Co., Melbourne.—Photographs of persons born in the colony of Victoria. 430
- 80 Bock, Henry, Gippsland.—Photographs of Victorian native flowers. 430
- 81 Chuck, T. F., Melbourne.—Photographs of persons born in the colony of Victoria. 430
- 82 Colac, Shire Council of, Colac.—Photographic views of the district. 430
- 83 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
a Photographic views of scenery, public and private buildings, cattle, etc. 430
b Biographical charts of the schools of Venice and the Venetian state schools. 432
- 84 Creswick, Borough Council of, Creswick.—Photographic views and statistics of the borough. 430
- 85 Darebin Shire, Council of, East Bourke.—Photographic views and statistics of the shire. 430
- 86 Echuca, Borough Council of, Echuca.—Photographic views and statistics. 430
- 87 Emerald Hill, Borough Council of, Emerald Hill.—Photographic views. 430
- 88 Hotham, Town Council of, Hotham.—Photographic views and statistics of the town. 430
- 89 Johnstone, O'Shannessy & Co., Melbourne.—Photographs of persons born in the colony of Victoria, photographs colored in oil. 430
- 90 McDonald, D., St. Kilda.—Photographic views. 430
- 92 Phoenix Foundry Co. (limited), Ballarat.—Photograph of locomotives, engine, and tender, manufactured for the Victorian government. 430
- 93 Prahran, Town Council of, Prahran.—Photographic views and statistics of the town. 430
- 94 Robertson Brothers, Colac.—Colored photographs of cattle, bred by exhibitors. 430
- 95 Sandhurst, City of, Sandhurst.—Photographic views and statistics of the city. 430
- 96 Stewart & Co., Melbourne.—Photographs of persons born in the colony of Victoria. 430
- 97 Surveyor General of Victoria, Melbourne.—Photographic views of botanical and other gardens. 430
- 98 Wangaratta, Shire Council of, Wangaratta.—Photographic views and statistics of the shire. 430
- 99 Willett, G., Ballarat.—Colored photographs. 430
- 100 Wilson, Sir Samuel, Ercildoune.—Photographs: team of Hereford bullocks, bred by himself; prize sheep; his residence, etc. 430
- 101 Melbourne, City of.—Photographic views of city. 430

Industrial and Architectural Designs, etc.

- 102 Dowling, William, Emerald Hill.—Centre flowers, trusses. 442
- 103 Heathcote, T. S., Carlton.—Painted panels. 442
- 104 Murphy, Edward, Sandridge-road.—Centre flowers, and ventilators, ornamental chimney cap. 442
- 105 Patterson Brothers, Carlton.—Tables of imitation wood and marble. 442
- 106 Pepper, George, Windsor.—Plasterers' models, ceiling and wall ventilators. 442

Machines, Tools, etc., of Mining, Chemistry, etc.

- 107 Morrison, L. K., Melbourne.—Abyssinian tube-wells and pumps, with boring apparatus. 501
- 108 White, David, Stawell.—Safety hook, to prevent accidents from over-winding in mining claims. 503
- 109 O'Malley, Edmund, Melbourne.—Ventilating safety cage, for mines. 504
- 110 Harkness, A., & Co., Victoria Foundry, Sandhurst.—Disk, fitted on screwed stamper shank, and showing principle; cam or wiper. 505
- 111 Perry, Davis, & Co., Sandhurst.—Stamper gratings. 505

Railway Plant, Rolling Stock, etc.

- 112 Cornish & Co., Melbourne.—Seats for railway carriages. 571
- 113 Stoneman, Edward, Richmond.—Railway truck spring. 573

Aerial, Pneumatic, and Water Transportation.

- 114 Cornish & Co., Melbourne.—Life-preserving buoys, mattresses, belts, rafts, etc.; seats, couches, and mattresses for ships. 590

Arboriculture and Forest Products.

- 115 Bass River Steam Saw-Mills, Bass river.—Blue gum timber. 630
- 116 Director of Botanic Gardens, Melbourne.
a Carpological collection; barks, polished woods, fibre and tow prepared from barks, leaves, and stems. 600
b Resins, gums, oleo fat, and caoutchouc. 603
- 117 Lands and Agriculture, Department of, Melbourne.—Native woods. 600
- 118 Commissioners for Philadelphia Exhibition, Melbourne.
a Boxes, paper knives, and tubs, made of Victoria woods. 601
b Myall and grass-tree gum, rubber and rubber stamp. 603
- 119 Clark, John, & Sons, Melbourne.—Wattle bark. 602

Agricultural Products.

- 120 Taylor, John, Allansford.—Adelaide wheat, grown at Merunga, near Warrnambool. 620

Agricultural, Animal, and Vegetable Products.

- 120^a Patience, John, Ichuca.—Purple straw wheat. 620
- 120^b Wright, Thomas Spencer, Rochester.—Purple straw wheat. 620
- 120^c Kelly, Mortimer, Bridgewater.—Wheat. 620
- 120^d Patterson, J. Matthew, Loddon.—Wheat. 620
- 121 St. Arnaud Pastoral & Agricultural Society, St. Arnaud.—Short oats, wheat, barley. 620
- 121^a O'Reilly, Thomas, Toolamba.—Wheat. 620
- 121^b Adams, John, Wahring.—Wheat. 620
- 121^c Smith, George, Ballard.—White Tuscan wheat. 620
- 122 Scott, James, Indigo, Chiltern.—Wheat. 620
- 123 Commissioners for Philadelphia Exhibition, Melbourne.
^a Collection of varieties of wheat and grass-tree plant. 620
^b Collection of beans. 621
- 124 O'Keefe, Andrew, Adelaide Vale, Clare Inn.—Purple-straw wheat. 620
- 125 Myring, Joseph, Campbell's Creek, Castlemaine.—Barley. 620
- 126 Adams, James, Wahring.—White Tuscan wheat. 620
- 127 Laidlay, John, Bundoora, Plenty-road.—Wheat. 620
- 128 McNair, Angus, Bellerine East.—New fodder-pea. 620
- 129 Stewart & Ferguson, Indigo, Chiltern.—Wheat. 620
- 130 Connor, James, Allansford.—Fox-tail oats, grown at Merunga, near Warrnambool. 520
- 131 Schmitt, Lewis, Mornington.—Wheat. 620
- 132 Buckley, Edward, Newbridge, Loddon.—Red-straw wheat from counties of Gladstone and Bendigo, oats. 620
- 133 Jack, John, Oxley Plains, Ovens District.—Frampton white wheat, grown on chocolate soil after English grass. 620
- 134 Northeastern Pastoral & Agricultural Society, Murchison.—Wheat grown by J. McNab, Tabilk. 620
- 134^a Catlin, James, Runnymede.—Purple-straw, white Tuscan and other wheats. 620
- 135 Moncrieff, John, Tabilk, Goulburn river.—Purple-straw and white wheat. 620
- 136 Gilmour, Andrew, Colomsky, Buangor.—Oats from parish of Ballyrogan. 620
- 136^a Ararat Flour Mill Co. (limited).—Prime miller's wheat. 620
- 137 Rossi, Thomas, Dry Diggings, near Daylesford.—Purple-straw wheat. 620
- 138 Polson, Angus, Chapman, Moyston.—English barley, Tartarian oats, purple-straw and white wheat. 620
- 139 West Bourke Pastoral & Agricultural Society, Romsey.—White Tuscan wheat, grown by Hon. T. F. Hamilton. 620
- 140 Aboriginal Mission Station, Coranderrk.—Hops. 623
- 141 McKenzie, James F., & Co., Melbourne.—Coffee, chicory, cocoa, and chocolate made from Trinidad nuts; mustard, spices. 623

Land Animals.

- 142 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
^a Water fowl, stuffed by Chas. French. 635
^b Manna, with the insect producing it. 638
- 143 St. John, F., Melbourne.—Ducks, plover, grouse, quail, black swan, etc. 635
- 144 Grimwood, Thomas, Fern Tree Gully.—Quail, snipe, landrail. 635
- 145 Gaskell, Joseph, Melbourne.—Australian snipe. 635
- 146 Robertson, W. W., Richmond.—Australian native birds. 635
- 147 Gaskell, Joseph, Melbourne.—Wild animals. 637
- 148 Godfrey, F. R., Melbourne.—Wild animals. 637
- 149 McCoy, Prof., Melbourne University.—Wild animals, and black swan. 637
- 150 French, C., Melbourne.—Australian longicorns, buprestidial, lepidoptera, etc. 638
- 151 Timbrell, Ann, Collingwood.—Japan silkworms, modeled in wax. 638

Water Animals, Fish Culture and Apparatus.

- 153 St. John, F., Melbourne.—Fish. 641

Animal and Vegetable Products.

- 154 Bird, George, Inkerman, Lyndhurst.—Cheese. 651
- 155 Pierce, G. G., Melbourne.—Cheese. 651
- 156 Riddle, J., Lancefield.—Cheese. 651
- 157 Clark, John, & Sons, Melbourne.—Leathers, skins, basils. 652
- 158 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Rugs made from skins of Victorian animals. 652
- 159 Fink, M., Geelong.—Skins. 652
- 160 Quinn, H. S., Richmond.—Dyed and white wool mats, kangaroo glove leathers. 652
- 161 Brearley Brothers, Geelong.—Sole leather. 652
- 162 Dunckley & McBride, Melbourne.—Sash lines, whip gut, gut lath bands, sausage casings. 652
- 163 Pearce Brothers, Fremantle, Western Australia.—Hides, leather, skins. 652
- 164 Pitts, Charles, & Sons, Emerald Hill.—Glue. 652
- 165 Penal Department, Inspector-General of, Melbourne.—Leather. 652
- 166 Wallis & Co., Richmond.—Leather, goat skin mat. 652
Malt. 657
- 172 Bennett, T. K., Melbourne.—Preserved meats. 656
- 173 Director of Botanic Gardens, Melbourne.—Jam. 656

Animal and Vegetable Products, Textile Substances.

- 174 Zorn, Edward, Clayton's-road, near Oakleigh.—Tomato and Oakleigh sauces. 656
- 175 Wright, Payne, & Co., South Yarra.—Fruit jams. 656
- 176 Watson & Paterson, Melbourne.—Hams, bacon, mess pork. 656
- 177 Western Meat Preserving Co., Colac.—Preserved meats. 656
- 178 Melbourne Meat Preserving Co., Melbourne.—Preserved meats. 656
- 179 Lyon, George, Beechworth.—Tomato sauce. 656
- 180 Grant, Mrs., Richmond.—Tomato sauce. 656
- 181 Comport, Henry, Cheltenham.—Tomato sauce. 656
- 182 Stringer & Co., Melbourne.—Mixed pickles, sauces, curry powder. 656
- 182^a Boddy, Edward, Nagambie.—Flour. 657
- 182^b Hood, F. & J., Melbourne.—Malt. 657
- 183 McKenzie, Jas. F., & Co., Melbourne.—Oatmeal, groats, brose meal. 657
- 183^c Martin, P. J., Melbourne.—Malt. 657
- 184 Trouette & Blampied, Great Western, Ararat District.—Wines. 660
- 184^d Myring, Joseph, Campbell's Creek, Castlemaine.—Malt. 657
- 185 Best, Joseph, Great Western, Ararat District.—Wine. 660
- 185^e Perrin, William, jr., Richmond.—Malt. 657
- 186 Docker, F. G. & J. B., Wangaratta, Beechworth District.—Wine. 660
- 187 Evans, Henry, Beechworth District.—Wine. 660
- 188 Mellon, Francis, Dunolly, Castlemaine District.—Wines. 660
- 189 Botten, William, Eddington, Castlemaine District.—Wine. 660
- 190 Jung, Otto, Castlemaine, Castlemaine District.—Wines. 660
- 191 Schroeder, Castlemaine, Castlemaine District.—Wines. 660
- 192 Crippa, Fabrizio, Hepburn, Castlemaine District.—Wine. 660
- 193 Greer & Co., Echuca, Echuca District.—Wines. 660
- 194 Vettler, John, Echuca, Echuca District.—Wines. 660
- 195 Weber, Jacob, Geelong, Geelong District.—Wine. 660
- 196 Deppeler, Jacob, Gheringhap, Geelong District.—Wine. 660
- 197 Ritchie, John, Murgheboluc, Geelong District.—Wine. 660
- 198 Bear & Ford, Tabilk Vineyard, near Seymour, Goulburn District.—Wine. 660
- 199 Egli, F., Tabilk, Goulburn District.—Wine. 660
- 200 Schmitt, Franz, Berwick, Melbourne District.—Wine. 660
- 201 Francis, Charles, Sunbury, Melbourne District.—Wines. 660
- 202 St. Hubert's Vineyard Co., Yering, Melbourne District.—Wines. 660
- 203 Johnston, J. S., Craiglie Vineyard, Sunbury, Melbourne District.—Wines. 660
- 204 Maplestone, Charles, Ivanhoe Lodge, Heidelberg, Melbourne District.—Wines. 660
- 205 Brasche, Charles, Sunbury, Melbourne District.—Wine. 660
- 206 Snowden, E. G., Boroondara, Melbourne District.—Wine. 660
- 207 Smith, G. S., Wahgunyah, Melbourne District.—Wine. 660
- 208 Pohl, Carl, Strathfieldsaye, Sandhurst District.—Wines. 660
- 209 Bruhn, Albert, Strathfieldsaye, Sandhurst District.—Wines. 660
- 210 Fuchs, Adolph, Strathfieldsaye, Sandhurst District.—Wines. 660
- 211 Fischer, August, Shamrock Vineyard, Emu Creek, Strathfieldsaye, Sandhurst District.—Wines. 660
- 212 Shaw, F. K., Goornong, Sandhurst District.—Wine. 660
- 213 Grosse, Frederick, Strathfieldsaye, Sandhurst District.—Wines. 660
- 214 Grosse, Fred., Toorongo Vineyard, Bendigo, Sandhurst District.—Wine. 660
- 215 Greiffenhagen, Wm., Strathfieldsaye, Sandhurst District.—Wines. 660
- 216 Brown, H. J., Australian Distillery, Melbourne.—Geneva spirits of wine. 660
- 217 Fuller, Alfred, Kew.—Ale, stout. 660
- 218 Henelly, James, Melbourne.—Ale. 660
- 219 Latham, Edward, Carleton Brewery, Carleton.—Ale, porter. 660
- 220 Martin, P. J., Melbourne.—Ale. 660
- 221 Reed, Henry, & Co., South Yarra.—Vinegar. 660
- 222 Steward, James, Eaglehawk, Sandhurst.—Ale. 660
- 223 Tracy, John, & Co., Geelong.—Ale, stout. 660
- 224 Warrenheip Distillery Co., Ballarat.—Whisky, Geneva spirits of wine. 660
- 225 Guest, T. B., & Co., Melbourne.—Fancy biscuits. 661
- 226 Smith & Son, West Melbourne.—Biscuits. 661
- 227 Swallow & Ariell, Sandridge.—Biscuits. 661
- Textile Substances of Vegetable or Animal Origin.
- 228 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Cotton. 665
- 229 Atkinson, Wm., Camperdown.—Teazles. 666
- 230 Longmire, Thomas, Kooroocheang, Smeaton.—Flax stalks and seeds. 666
- 231 McPherson, Thomas, & Co., Melbourne.—Jute. 666
- 232 Armstrong, Alex., Warramintine, Shefford.—Wools. 667
- 233 Arnold, George, & Co., Melbourne.—Assorted wools grown by James Gibson, Cleveland, Tasmania; Wm. Gibson & Son, Scone, Tasmania; P. Russell, Langi Willi and Carngham, Victoria; Wm. Cumming, Mt. Fyans, Victoria; A. M. Campbell, Melaluka, Victoria; John

Textile Substances, Agricultural Machinery, Fruits.

- Macvean, Mooloomoon, Victoria; Thos. Russell & Co., The Plains, Victoria; G. W. Thomson, Challicum, Victoria; Thos. Millar, Green Vale, Victoria; Executors of late A. Russell, Mawallock, Victoria; Wm. Lewis, Stoneleigh, Victoria; J. & S. Austin, Mount Pleasant, Victoria; and Wm. Murray, Brie Brie, Victoria. 667
- 234 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Wools; wool from S. Robertson, Geelong. 667
- 234^a Cumming, Thomas F., Stoney Point. 667
- 235 Currie, John Lang, Larra, Derimallum.—Wools. 667
- 236 Degraives, C. & J., Coliban Park, Elphinstone.—Wool. 667
- 237 Elder, W. & N. G., Elder, Rookwood.—Wools. 667
- 238 Gilbert, Alfred N., Warwilla Station, Wanganilla, Deniliquin.—Wools. 667
- 239 Goldsbrough, R., & Co., Melbourne.—Assorted wools, grown by James Alexander, Woodhouse station; R. & J. Ramsey, Narrow Plains station; Carter Bros., Glenisla station; J. & H. Orborne, Momalong Plains; A. & H. McCulloch, and others. 667
- 240 Greeves, Edward G., Beriallock, Skipton.—Wool. 667
- 241 Hastings, Cunningham, & Co., The Australian Wool Stores, Melbourne.—Fleeces of wool from the following breeders: H. Cattnach, Tellegara; C. W. Simson, Mundagal; Godfrey & Chambers, Pevensey; F. L. Parker, Quiamong; Everett & Watson, Tchelery and Nyang; Hon. Wm. Lang, M. L. A., Wargam; Hon. Phillip Russell, M. L. A., Carnegham and Langi Willi; John L. Currie, Larra; Thomas Dowling & Sons, Jellalabad; executors of late A. Russell, Mawallock; Wm. Lewis, Stoneleigh; Ewan McPherson, Binduck; Godfrey McKinnon, Goonambill; Russell & Shaw, El Elwah; Rutherford Brothers, Cuppa; Hon. Robert Simson, M. L. A., Langi Kal Kal; Nichol & Telford, Tarrowonga; Knight & Lydiard, Koorongah; Mount Battery Co., Mount Battery; Alfred Chenery, Delatite; Alexander Wilson, Mount Emu; J. G. Reeves, Footscray. 667
- 242 Henty, Edward, Portland.—Wools. 667
- 247 Reeves, Isaac G., Footscray, Melbourne.—Wool. 667
- 248 Russell, Thomas, Barunah Plains, Mount Hesse.—Wool. 667
- 249 Rutledge, William, Farnham Park, Warrnambool.—Fleeces. 667
- 250 Rutherford, Andrew, Como, Kensington, Geelong.—Wool. 667
- 251 Synnot, Monckton, Melbourne.—Wool. 667
- 252 Synnot, George, & Co., Geelong.—Wool. 667
- 253 Thomas, C. T., North Sandridge.—Dressed skin of pure Romney ewe, bred by R. Muldoon, Boos. 667
- 254 Timms Brothers, Mount Hesse, Beac.—Wools. 667
- 255 Watson, Alexander, Warribee.—Fleeces. 667
- 256 Wilson, Sir Samuel, Oakleigh Hall, East St. Kilda.—Wools and fleeces. 667
- 257 Wilson, John, Lismore.—Wool. 667
- 258 Howard, John, near Albury.—Sample cocoons of mulberry silk-worms, with wound silk in its natural colors; floss silk; Japanese and Italian grain; hanks of suffocated and pierced cocoons. 668

Machines, Implements, and Processes of Manufacture.

- 259 Lennon, Hugh, North Melbourne.—Double-furrow plow. 670
- 260 Bodington, Robert, Carlton.—Sheep support on rollers. 674

Ornamental Trees, Shrubs, and Flowers.

- 261 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Tree ferns from Dandenong State Forest and Mount Macedon; todea ferns from Mount Macedon. 707
- 262 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Fac-similes of specimens of fruit, the originals of which were selected during the past season, modeled and arranged by Thos. McMillan:
- a* Apples and pears from Josiah Trevestan, Ballarat; Chas. Draper, Hazelghen; H. U. Cole, Twyford; Robert Whatmough, Greensborough; Horticultural Society of Victoria; John Harbison, Essendon; John Smith & Sons, Riddell's Creek; T. C. Cole; King & Sons, Fyansford; Geelong and Western District Agricultural and Horticultural Society; W. L. Hunt, Malvern; Chas. Allen, jr., South Brighton; Thos. Christian, Mount Macedon; W. Lawford, Doncaster; J. Carson; J. Roberts; H. Boyce; Mr. Freike, Carisbrook; C. May, Sunbury; J. C. Cole, Richmond; J. D. Roberts, Hawthorne; Robt. Hepburn, Hawthorne, A. Stuart, Toorak; Geo. Kilroy, Caulfield; J. Weber, Geelong; Jas. Lang, Harcourt; Sir Redmond Barry; J. Banks, Flemington; Mr. James, Ballarat; Jos. Bosisto, Richmond; and Joseph Webster, Wahgunyah.
- b* Quinces from Sir Redmond Barry and J. Webster, Geelong.
- c* The medlar and the loquat.
- d* Peaches from C. Draper, R. Whatmough, W. Lawford, J. McDonald, G. & W. D. Agricultural and Horticultural Society
- e* Nectarines from R. Whatmough and market
- f* Apricots, plums, cherries, and olea europæa.
- g* Grapes, mulberries, figs, pomegranates, and oranges.
- h* Kao apples from Mr. Graham and the Melbourne Botanical Gardens.
- i* Gooseberries from Thos. Lang & Co. and F. Moss, Buninyong.
- j* Black, red, and white currants from Thos. Lang & Co.
- k* Raspberries from Henry Boyce

Fruits, Flowers.

- 7 Almond, walnut, and hazel nuts.
 w Strawberries.
 n Tomatoes from Horticultural Society's
 Gardens; W. Chandler, Scoresby; and
 King & Son, Fyansford.
 o Egg apple from H. J. Dines.

- p Cape gooseberries and capsicums.
 q Book collection of plants, shrubs, trees,
 and herbs. 709
 263 Gaskell, Mrs., Melbourne.—Fac-
 similes of Victorian bush flowers. 709

SOUTH AUSTRALIA.

(North of Nave, Columns 10 to 17.)

COLLECTIVE EXHIBIT.

Minerals, Chemicals, Manufactures, Clothing.

Minerals, Ores, Stone, Mining
Products.

- 1 Clark, F., & Sons, Adelaide.—Iron
 ores. 100
 2 Bahannah Mining Co., Adelaide.—
 Copper ores and bismuth. 100
 3 North Yelta Mine, near Adelaide.—
 Copper ores. 100
 4 Moonta, Wallaroo, and other mines,
 near Adelaide.—Copper ores. 100
 5 Crabb, R. S., Adelaide.—Azurite and
 malachite from the Burra Burra mine,
 near Adelaide. 100
 5a South Australian Commissioners.
 —Specimens of gold quartz from the
 northern territory. 100
 5b Coozong Oil & Coal Co.—“Coozon-
 gik,” a mineral caoutchouc. 100
 COLLECTIVE EXHIBIT OF AURIF-
 EROUS QUARTZ FROM THE NORTHERN
 TERRITORY OF SOUTH AUSTRALIA, BY THE
 COMMISSIONERS, FOR THE FOLLOWING
 OWNERS. 100
 6 Ayliffe, I. H., W. Union Mine.
 7 Becker, I., Yam Creek.
 8 Brese & Starke, Extended Union
 Mine.
 9 Caledonia New Amalgamated Co.
 10 Golden Stream Claim.
 11 Griffiths, W. K., South Union Mine.
 12 Grove Hill Co.
 13 Gunn, J. H., Britannia Reef.
 14 Lewis, John, Pine Creek.
 15 Bernardo, M., Pine Creek.
 16 New Telegraph Co.
 17 Sandy Creek Claim.
 18 Shepperd, E., John Bull Reef.
 19 Sandy Creek Puddling Co.

- 20 Tripp, J. P., Lady Alice & Union
 Reef.
 21 Union Prospectors Co.
 22 Whitelaw, E. H., Pine Creek.
 23 Westcott, J. S., & Wisendunger, I.,
 North Union Mine.
 24 South Australian Commissioners,
 Adelaide.—Marble, sandstone, and slate
 from quarries near Adelaide. 102

Chemical Manufactures.

- 25 Barnard, George L., Adelaide.—
 Olive oil. 201
 26 Davenport, Samuel, Adelaide.—
 Olive oil. 201

Yarns and Woven Goods of Vegetable
or Mineral Materials.

- 27 Knight, J. G., Adelaide.
 a String made from human hair. 229
 b Native bag used by Lubras (women). 230

Clothing, Jewelry, and Ornaments,
Traveling Equipments.

- 28 Steiner, Henry, Adelaide.
 a Shell necklace, gold brooch and earrings;
 shell brooch and earrings set in gold. 253
 b Silver-mounted emu vases and ornaments;
 silver oxidized metal-figured piano candle-
 sticks. 254
 29 Davenport, Samuel, Adelaide.—
 Emu eggs made up in imitation of jew-
 elry. 253
 30 Nitscke, W., Adelaide.—Copper
 vase, cross, and pipe; silver cups made
 from a dollar and a five-franc piece; tea-
 pot made from a shilling. 254
 31 Knight, J. G., Adelaide.—Aboriginal
 ornaments from the northern territory of
 South Australia. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Manufactures, Education, Art, Agriculture.

- 32 Steiner, Henry, Adelaide.—Silver-mounted emu egg inkstands. 254
- 33 Wendt, J. M., Adelaide.—Silver-mounted emu egg inkstand. 254
- 34 South Australian Commissioners, Adelaide.—Skins of indigenous birds and animals of South Australia made into muffis, collarettes, etc. 256

Military and Naval Armaments, Ordnance, Fire Arms, and Hunting Apparatus.

- 35 Knight, J. G., Adelaide.—Aboriginal weapons from the northern territory of South Australia. 269

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 36 South Australian Commissioners, Adelaide.—Iron castings made from Adelaide ore. 283

Educational Systems, Methods, and Libraries.

- 37 South Australian Commission, Adelaide.—Herbarium, comprising specimens of all the known plants indigenous to South Australia, prepared by Dr. Schomburgk, director of the Botanic Gardens at Adelaide. 301

- 38 Adelaide Museum, Adelaide, F. G. Waterhouse, curator.—Collection of birds, mammals, reptiles, skins of animals, and eggs of South Australia. 301

Engineering, Architecture, Charts, Maps, and Graphic Representations.

- 39 South Australian Commissioners, Adelaide.—Statistical records and maps relating to South Australia, compiled by the Surveyor-General. 335

Photography.

- 40 Scott, G. B., South Australia.—Photograph of northern territory of South Australia. 430

- 41 South Australian Commission, Adelaide, South Australia.—Photographs descriptive of town, pastoral, and farming life in South Australia, the Adelaide Botanic Gardens, suburban views, and mining. 430

- 42 Angas, G. H., Collingwood, near Adelaide.—Photographs of stud stock. 430

Arboriculture and Forest Products.

- 43 Hardy, Arthur, Mt. Lofty, near Adelaide.—Cork from tree raised from an acorn imported from Spain in 1864. 600

- 44 Davenport, Samuel, Adelaide.—Woods, useful and ornamental. 600

- 45 South Australian Commissioners, Adelaide.

a Woods, useful and ornamental, from the northern territory of South Australia, forwarded by J. B. Scott, government resident; woods from the neighborhood of Adelaide, collected by Mr. Mais, engineer in chief, and others. 600

b Fungi, supplied by W. B. Hughes, northern territory of South Australia. 604

c Red berries (seeds of the creeping licorice) and corkscrew pine seeds, from J. E. Kelsey and W. B. Hughes, northern territory of South Australia. 605

- 46 Wilke, H., & Co., Port Adelaide.—Barks for tanning; ground and chopped mimosa (black wattle), and ground acacia. 602

- 47 Knight, J. G., Adelaide.—Bark from the northern territory of South Australia. 602

Pomology.

- 48 South Australian Commissioners, Adelaide.—Wax models of fruit taken from originals grown in South Australia. 610

Agricultural Products.

- 49 Carling, Thomas, Adelaide.—Wheat. 620

- 50 Riggs, John, Adelaide.—Wheat. 620

- 51 Young, C. B., Adelaide.—Wheat. 620

- 52 South Australian Commissioners, Adelaide.

a Wheat, barley, oats, and rye. 620

b Peas. 621

c Linseed; hemp, rape, sunflower, prairie and rib grass seed. 624

- 53 Kelsey, J. E., Mt. Gambier, Adelaide.—Hops, grown in volcanic soil. 623

Water Animals, Fish Culture and Apparatus.

- 54 Cardwell, Robert, Port Essington, northern territory of South Australia.—Trepang, cured at the fishery, Port Essington, northern territory of South Australia. 644

Animal and Vegetable Products.

- 55 Kemp, W., Adelaide.—Sheepskin mats. 652

- 56 Angas, J. H., Collingwood, near Adelaide.—Sheepskins; skins of the spotted emu. 652

- 57 South Australian Commissioners, Adelaide.

a Dressed skins of the kangaroo, wallaby, and other indigenous animals; also, skins made up in designs. 652

b Emu eggs. 653

c Raisins, plums, figs, and currants. 656

d Wines. 660

- 58 Davenport, Samuel, Adelaide.

a Skins of native animals and birds. 652

b Emu eggs. 653

- 59 Bagot, E. M., Adelaide.—Extract of meat. 656

- 60 Hardy, Thomas, Adelaide.

a Raisins and currants. 656

b Wine. 660

- 61 Murray, Alexander, near Adelaide.—Jams, jellies, and marmalades. 656

- 61^a McEwen, George, Adelaide.—Assorted jams. 656

- 62 Dunn, John, & Co., Adelaide.—Flour. 657

- 63 Magarey, Thomas, & Co., Adelaide.—Flour. 657

- 64 Cowan, Thomas, & Co., West Adelaide.—Flour. 657

- 65 Gilbert, Joseph, Pewsey Vale, Adelaide.—Wine. 660

Wines, Textiles.

- 66 Clark & Crompton, Adelaide.—
Wines. 660
- 67 Richman, J. W., Watervale.—Wines. 660
- 68 Quick, H. C., Marden, Adelaide.—
Wines. 660
- 69 Ross, R. D., Highercombe, Ade-
laide.—Wines. 660
- 70 Kaines, John H., Adelaide.—
Wines. 660
- 71 Auld, Patrick, Magill, Adelaide.—
Wines. 660
- 72 Barnard, G. L., Adelaide.—
Wines. 660
- 73 Hornabrook, C. A., Adelaide.—
Wines. 660
- 74 White, George, Rosefield, Adelaide.
—Wines. 660
- 75 Baker, Isabella, Morialta, Adelaide.
—Wines. 660
- 76 Gillard, Joseph, Adelaide.—
Wines. 660
- 77 Ind, G. F., Paradise, Adelaide.—
Wines. 660
- 78 Foote, Henry, Adelaide.—Wines. 660
- 79 Holbrook, J. D., Adelaide.—
Wines. 660
- 80 Kelly, Dr., Tintara, Adelaide.—
Wines. 660
- 81 Salter, W., & Son, Saltram, Ade-
laide.—Wines. 660
- 82 Davenport, Samuel, Beaumont, Ade-
laide.—Wines. 660
- 83 Martin, James, Gawler, Adelaide.—
Wines. 660
- 83^a Young, C. B., Adelaide.—Wine. 660
- 84 Thornber, Unley, Adelaide.—
Wines. 660
- 85 Wright, E. W., Horne Park, Ade-
laide.—Wines. 660
- 86 Bickford, A. M., & Sons, Adelaide.
—Bitters, quinine wine, and lime-juice cor-
dial. 660
- 87 Davis, F. C., Adelaide.—Bitters and
cordials. 660
- 88 Nitschke, W., Adelaide.—Cordials
and liquors. 660
- Textile Substances of Vegetable or
Animal Origin.
- 89 Angas, J. H., Collingrove, Adelaide.
—Wool. 667
- 90 Keynes, Joseph, Keynton, Adelaide.
—Wool. 667
- 91 Murray, John, Murrayvale, Ade-
laide.—Wool. 667
- 92 Graham, Thomas, Adelaide.—
Wool. 667
- 93 Browne, W. J., Moorak, Adelaide.
—Wool. 667
- 94 Hayward, Armstrong & Co., Wo-
noka, Adelaide.—Wool. 667
- 94^a Crozier, W., Adelaide.—Wool. 667
- 95 McFarlane, Allan, Wellington
Lodge, Adelaide.—Wool. 667
- 95^a Price & Browne, Adelaide.—
Wool. 667
- 96 Wurm, Frederick, Adelaide.—Silk
and silk cocoons. 668
- Agricultural Engineering and Ad-
ministration.
- 97 Dalwood, W. F., Adelaide.—Gua-
no from Browse Island, off west coast of
Australia. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

CAPE OF GOOD HOPE.

(South of North Aisle, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education and Science.

Minerals, Ores, Stone, Mining Products.

- 1 Cape Copper Mining Co. (limited), Cape Town.—Copper ores from Ookiep, Spectakel, Narrap, Karolusburg, and Kilderman mines, Little Namaqualand. 100
- 2 Bright, H. C. R., Mowbray, near Cape Town.—Copper ores and collection of minerals. 100
- 2a Muskett, E. B.—Galena from Banghock mine, Hope Town division. 100
- 3 Dickson, W. W., Cape Town.—Black oxide of manganese, from Hercules mine. 100
- 4 Stonestreet, Samuel, Kemberly Diamond Fields.—Diamonds and associated rocks. 100
- 5 Vice, G., Stormbergen. 100
- a Saltpetre from the Stormbergen. 100
- b Coal from the Stormbergen. 101
- 6 Wilson, A., Gas Works, Cape Town.—South African coals, cokes, and ashes. 101

Metallurgical Products.

- 7 Cape Copper Mining Co. (limited), Cape Town.—Copper. 111

Chemical Manufactures.

- 8 Smithers, J. & G., Cape Town.—Soaps. 201

Furniture and Objects of General Use in Construction and in Dwellings.

- 9 Moulton, R., Swellendam.—Work-box constructed of South African woods. 217
- 10 Lesar, W., Cape Town.—Table constructed of various colonial timbers. 217

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 10a Cawood, Hon. S., Grahamstown.—Cotton table cloth. 230

Clothing, Jewelry, and Ornaments, Traveling Equipments.

- 11 Perry, Mrs., Cape Town.—Melon seed necklaces, bracelets, etc. 253
- 12 Gladwin, J. P., Kafirland.—Hair of Pandomise, surmounted by ring of Euphorbia jap; ivory earrings of Pandomise baboon skin; dress of witch doctor. 253

- 13 Local Committee, Cape of Good Hope.
 - a Native articles of dress—necklaces, armlets, earrings etc. 253
 - b Native aprons, head-dress, etc. 254
- 14 Ayliff, Mrs., Grahamstown.—Skeletized flowers. 254

Weapons, etc.

- 15 Local Committee of Cape of Good Hope.—Knobe kerie of rhinoceros horn. 268
- 16 Vigors, P., Cape Town.—Native weapons, Kafir assegais, Bushmanaxe. 268

Medicine, Surgery, Prothesis.

- 17 Auret, W. H., Paarl.—Vegetable drugs and medicines. 272
- 18 Barkly, Sir H., Governor of Cape Colony.—Bitter barks used by Kafir doctors in fever cases. 272

Fabrics of Vegetable, Animal, or Mineral Materials.

- 19 Local Committee of Cape of Good Hope.—Kafir beer and milk pots, Kafir and Basuto baskets. 289

Educational Systems, Methods, and Libraries

- 20 Solomon, C., Cape Town.—Map of South Africa. 300
- 23 Solomon, Saul, & Co., Cape Town.—Specimens of bookbinding. 306
- 24 Local Committee of Cape of Good Hope.—Catalogue of South African Public and Sir G. Grey's libraries; University calendar; reports of South African Museum, Public Library, and Botanic Gardens; Dr. Bleek's Bushman Researches. 306
- 25 Juta, J. C., & Co., Cape Town.—Books. 306
- 26 Mabile, A., Morija, Basutoland.—Books printed, bound, and published at Morija Mission Station, Basutoland. 306
- 27 Stewart, G., Lovedale, Kafirland.—Books printed, bound, and published at the Lovedale Kafir Mission Institution. 306

Engineering, Architecture, Maps, etc.

- 28 Local Committee of Cape of Good Hope.—Models of harbor works and dry docks at Cape Town. 330

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Art, Agricultural, Animal, and Vegetable Products.

- 29 Dunn, E. I., Cape Town.—Geological sketch map of Cape Colony. 335
 29a Coates, H. C., Commissioner, Philadelphia, Pa.—Photograph of city of Cape Town. 335
 29b Ayliff, Reuben, Grahamstown.—Photographs of Cape Town, harbor works, etc. 335

Paintings.

- 30 Hermann, W., Cape Town.—Oil paintings. 410
 a View in Knysna Forest, Cape Colony.
 b View of Three Anchor Bay, near Cape Town.
 31 Coppen, F., Cape Town.—Water color sketches. 411
 a Sketch of Hangklip, a spur of the Stormbergen, Queenstown division.
 b Sketch of the Mac Mac Falls, Lydenburg gold fields, South African Republic.
 32 Hays, Miss Anna, Cape Town.—Water color sketch of the native population of Cape Town. 411
 33 Hermann, W., Cape Town.—Six water color sketches of colonial scenery. 411
 34 Thwaites, Miss F. C., Cape Town.—Six water color drawings of indigenous Cape flowers. 411

Engraving and Lithography.

- 35a Bruton, C. I., Cape Town.—Photographs. 430
 a Views in Cape Town.
 b View of Kloof Lodge, near Cape Town.
 c Views of scenery around Cape Town.
 35b Barnard, S. B., Cape Town.—Photographs of Cape Town, natives, etc., in a book. 430
 35c Fenneysey, C. D., George.—Photographs of colonial scenery. 430

Arboriculture and Forest Products.

- 36 Carson, E. J., Ookiep, Namaqualand.—Ebony. 601
 37 Holland, B. H., Alexandria, Cape Colony.—Specimens of timber from the Alexandria crown forests, with articles made from various woods. 601
 38 Mossop & Garland, Cape Town.—Barks in the rough and ground. 602
 39 Smithers, J. & G., Cape Town.—Vegetable wax. 603
 40 Dale, Dr., Cape Town.—Vegetable wax. 603

Agricultural Products.

- 41 Barry, Arnold, & Co., Cape Town.—Wheat. 620
 42 Myburgh, N., Meerlust, Eerste river.—Wheat. 620
 43 Barry & Herdon, Mossel Bay.—Aloes. 623
 44 Barry & Nephews, Cape Town.—Aloes. 623
 45 Jongh, S. J. de, Cape Town.—Snuff. 623
 46 Powrie, E., Mossel Bay.—Leaf tobacco and snuff. 623

Land Animals.

- 46a Coates H. C., Commissioner, Philadelphia, Pa.—King penguin. 635
 47 Gibbon, J. M., Cape Town.—Cochineal, grown and dried in the Botanic Gardens, Cape Town. 638

Water Animals, Fish Culture and Apparatus.

- 48 Merriman, John, Cape Town.—Preserved crayfish from Table Bay. 643
 49 Moodie, D., Swellendam.—Pearl oyster shells from the south coast of the colony. 645

Animal and Vegetable Products.

- 50 Dier & Diets, Port Elizabeth.—Skins. 652
 50a Benningfield & Son, Natal.—Elephant tusks. 652
 51 Mossop & Garland, Cape Town.—Leather. 652
 52 Local Committee, Cape of Good Hope.—Robe of skins of the blackbacked jackal and avarid wolf. 652
 53 Dickson, W. W., Cape Town.—Skins of the lion and cheetah or hunting leopard. 652
 53a Coates, H. C., Commissioner, Philadelphia, Pa.
 a Pair of horns and head. 652
 b Ostrich eggs. 653
 54 Vigors, P., Cape Town.—Lion and leopard skins, head of a leopard, antelope and rhinoceros horns. 652
 54a Clipp, G. W.—Pair of horns. 652
 55 Local Committee of Cape of Good Hope.—Ostrich feathers and eggs. 653
 56 Douglass, A., Grahamstown.—Ostrich incubator, with stuffed ostriches and eggs. 653
 57 Powrie, E., Mossel Bay.—Beeswax. 654
 58 Barry & Nephews, Cape Town.—Beeswax. 654
 59 Toit, A. L. du, Rondebosch.—Grapes in brandy. 656
 59a Volsteedt, P. J., Cape Town.—Preserved lemons, citrons, nartjes, bitter oranges, melons, and Cape gooseberries. 656
 60 Merwe, J. H. van der, Robertson.—Grapes in brandy. 656
 60a Merriman, John, Cape Town.—Preserved tomatoes and Cape gooseberries. 656
 61 Falck, J. A. H., Montagu.—Peaches in brandy. 656
 62 Clear, E., Cape Town.—Wheat flour. 657
 63 Letterstedt & Co., Cape Town.—Wheat flour. 657
 64 Barry, Arnold & Co., Cape Town.—Wheat flour. 657
 65 Heydenrych, B. G. P., Cape Town.—Starch from wheat flour. 658
 74 Ryn, J. H. van, Cape Town.—Pontac, red, and white wines, brandy. 660

Wines, Textiles, Flower Work.

- | | |
|---|--|
| <p>75 Renen, S. van, & Co., High Constantia.—Red and white wines. 660</p> <p>75^a Cloete Brothers, Constantia.—Red and white wines. 660</p> <p>76 Anderson & Murison, Cape Town.—Pontac, pale, and golden sherry wines. 660</p> <p>76^a Cloete, H., Bellevue, Constantia.—Red and white wines. 660</p> <p>77 Green, E. K., Cape Town.—Red, white, and sherry wines. 660</p> <p>78 Collison, H. C., Cape Town.—Sherry, Madeira, Pontac, and Constantia wines. 660</p> <p>78^a Cloete, J. P., Groot Constantia.—Red and white wines. 660</p> <p>79 Joubert, W. A., Stellenbosch.—Dry white wine. 660</p> <p>80 Paarl Wine and Brandy Co., Paarl.—Red and white wines. 660</p> <p>81 Rosenberg, S., Cape Town.—Brandy. 660</p> <p>82 Barry & Nephews, Cape Town.—Brandy. 660</p> <p>83 Collison, H. C., Cape Town.—Cognac. 660</p> <p>84 Hauf, Dr., Robertson.—Brandy. 660</p> <p>85 Marais, H. H., Robertson.—Cape sherry wine and Congo brandy. 660</p> <p>86 Villiers, A. J. J. de, Cape Town.—Sherry, port, and red wines. 660</p> | <p>87 Villiers, A. B. de, Paarl.—Red and white wines. 660</p> <p>Textile Substances of Vegetable or Animal Origin.</p> <p>88 Cawood, Hon. S., Grahamstown.—Cotton. 665</p> <p>89 Grewar, John W., Uitenhage.—Wool. 667</p> <p>90 Priest, W., Graff Reinet.—Wool. 667</p> <p>91 Rubidge, C., Graff Reinet.—Wool. 667</p> <p>92 Stewart, A. C., Port Elizabeth.—Wool. 667</p> <p>93 Court, P. W., Port Elizabeth.—Wool. 667</p> <p>94 Barry & Nephews, Cape Town.—Wool. 667</p> <p>95 Barry, Arnold, & Co., Cape Town.—Wool. 667</p> <p>96 Dier & Diets, Port Elizabeth.—Wool. 667</p> <p>97 Stewart, A. C., & Co., Port Elizabeth.—Angora hair. 669</p> <p>Ornamental Trees, Shrubs, and Flowers.</p> <p>98 Villiers, Miss de, Franche Hoek.—Articles made of everlasting flowers. 709</p> <p>99 Smuts, Miss G., Cape Town.—Articles made of everlasting flowers. 909</p> |
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JAMAICA.

(North of Nave, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Chemicals, Woven Goods, Clothing.

Chemical Manufactures.

- | | |
|---|-----|
| 1 Reynolds, John N.—Salt. | 200 |
| 2 Frith & Murphy.—Salt. | 200 |
| 3 Grant, Charles. | |
| a Bisulphate of lime. | 200 |
| b Chewstick powder and odontine. | 203 |
| 4 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Essential oils. | 203 |
| 5 Auvray, P. E.—Odontine. | 203 |

Yarns and Woven Goods of Vegetable or Mineral Materials.

- | | |
|--|-----|
| 6 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Palm and plantain leaf mats. | 229 |
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Clothing, Jewelry, and Ornaments, Traveling Equipments.

- | | |
|---|-----|
| 7 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government. | |
| a Palm leaf hats. | 251 |
| b Baskets and fans from leaves; shell baskets; walking sticks; bamboo whip; tortoise shell combs, necklaces; napkin rings and egg cups; doilies and fans made of lace bark. | 254 |
| 7 ^a Nash, Mrs. | |
| a Hats made of dagger plant, lace bark, and strainer fibre. | 251 |
| b Dagger plant and lace bark ornaments, comprising fans, flowers, baskets, etc.; earrings and brooch made of lobster shell. | 254 |
| 8 Brooks, Mrs. G.—Doilies and fans made from lace bark, etc. | 254 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Manufactures, Agricultural, Animal, Vegetable Products.

- 8a Reid, William.—Cocoanut Shell Ornaments; walking sticks, etc. 254
- Paper, Blank Books, and Stationery.
- 9 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
- a Rulers. 258
- b Paper stock. 260
- Medicine, Surgery, Prothesis.
- 10 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Cinchona barks, jalap, sena, aloes, etc. 272
- Hardware, Edge Tools, Cutlery, and Metallic Products
- 11 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.—Razor strops made from stems of plants. 281
- Fabrics of Vegetable or Mineral Materials.
- 12 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
- a Brushes from the penitentiary. 286
- b Ropes from sisal hemp; coir; wild cotton, cocoanut, etc. 287
- c Bamboo baskets. 289
- Carriages, Vehicles, and Accessories.
- 13 Brass, John, & Son.—Carriage harness and riding saddle. 296
- Arboriculture and Forest Products.
- 14 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
- a Cedar and juniper shingles; lancewood, etc., for carriage building; cashaw, etc., for railway sleepers; pimento leaves, juniper wood, etc., for making perfumery. 600
- b Mahogany, cedar, bullet tree, brazilletto, lignum vitæ, ebony, satinwood, rosewood, etc. 601
- c Logwood, fustic, annatto, turmeric, etc.; divi-divi, mangrove, catechu, guanga, etc. 602
- d Dried ferns. 604
- 15 Pantrepant Estate.—Lace bark. 600
- 15a Fisher.—Concrete for tanning. 602
- 16a Thompson & Weitzmann.—Tobacco. 623
- 16b Espent, W. B.—Cigars. 623
- 17 Soutar & Co.—Tobacco and cigars. 623
- 17a Major, Dr.—Nutmegs. 623
- 18 Richards, W. S.—Coffee. 623
- Animal and Vegetable Products.
- 18a Fisher.—Leather. 652
- 19 Grant, Charles.—Beeswax. 654
- 20 Brass, John, & Son.—Honey and beeswax. 654
- 20a Fegan.—Bleached wax. 654
- 21 Auvray, P. E.—Bleached wax. 654
- 22 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
- a Candied fruits and preserves; pickles, etc.; fruits preserved in alcohol; meal made from plantains, bananas, cassava, bread, and other fruits. 656
- b Corn, rice, and flour. 657
- c Starch, arrowroot, etc. 658
- d Sugars from the following parties; W. S. Richards, Albion estate and Constant Spring estate; Louis Verley, Mona estate; Ernest Elliott, Bog estate; James Harvey, Hillside estate; Joseph Reid, Caymannas estate, and J. McPhail. 659
- e Rums from the following parties: David Galloway, Vale Royal estate; William Vickers, Frome, and other estates; M. C. Morgan, Appleton estate; James Harrison, Hordley and other estates; Plato Elphick, Belvidere estate; W. S. Richards, Hopewell estate; Ernest Elliott, Bog and other estates; Louis Verley, Mona estate; C. W. Steer, Blenheim estate; F. Hall, Mexico estate; James Harvey, Hillside estate; Joseph Reid, Camanas estate; J. Wray & Nephew, George J. Peynado, Alberga & Mitchell. 660
- f Cocoanut, castor, groundnut, and other oils. 662
- 22a Espent, W. B.—Rum. 660
- 23 Gadpaille, Charles.—Rum. 660
- 23a Wray, J., & Nephew.—Orange and ginger wine, pimento dram, lime-juice, etc. 660
- 24 Melville, James.—Rum and Falerian wine. 660
- 25 Desnoes, P., & Son.—Rum, ginger cordial, orange wine, pimento dram, etc. 666
- 25a Alberga & Mitchell.—Orange and ginger wine, pimento dram, chutney, etc. 660
- 26 Nunes, Robert.—Rum. 660
- 27 King, Alexander, & Co.—Rum and lime-juice. 660
- Textile Substances of Vegetable or Animal Origin.
- 28 Thomson, Robert, Superintendent of Botanical Gardens, Kingston, for the government.
- a Wild cotton. 665
- b Sisal hemp, China grass, pineapple, coir, bamboo, mahoe trumpet tree, bastard cedar, and other fibres, etc. 666

BAHAMAS.

(South of North Avenue, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Manufactures, Agricultural, Animal, Vegetable Products.

Chemical Manufactures.

- 1 Sargent, D., Inagua.—Specimens of salt and table salt. 200
 2 Meadows, John G., Inagua.—Salt and table salt. 200

Furniture and Objects of General Use in Construction and in Dwellings.

- 3 Robertson, Mrs. S. E.—Epergne. 218
 4 Dorsette, Thomas.—Dripstone for filtering water. 224

Clothing, Jewelry, and Ornaments, Traveling Equipments.

- 5 Minns, Albert C. J.—Necklaces, locket, pin and earrings, bracelets, solitaires and studs, vest button, spoon, and paper knife. 253
 6 Dupuch, Joseph.—Card tray, bread platters, and walking canes. 254
 7 Grant, Misses Julia and Mary.—Mimosa bean ornaments, card tray, watch cases, mats, and cross. 254
 8 Armbrister, James A.—Walking canes. 254
 9 Centennial Exhibition Committee, Nassau.—Mimosa bean card basket, bags, and bracelets, manufactured by Messrs. Jarrett, Nassau; tortoise back, cleaned and polished by J. R. Saunders, Nassau; palmetto fans and hats, manufactured by Mrs. John Taylor, Inagua. 254
 10 Evans, Ellen, G. E.—Shell cross, basket, and bridal wreath. 254
 11 Atwell, Misses.—Memorial wreath, cornucopia, brooches, and earrings, made of shells and fish scales. 254
 12 Symonett, Mrs. Matthew.—Palm tree, and watch stand. 254
 13 Wallace, Alexander C.—Walking canes. 254
 14 Eldon, Mrs. James.—Case containing orange tree. 254
 15 Garner, Mrs. Maria E.—Basket, fruit basket, bridal wreath, and sprays. 254

Fabrics of Vegetable, Animal, or Mineral Materials.

- 16 Carrol, Richard E., Long Island.—Rope made of aloe fibre. 287
 17 Centennial Exhibition Committee, Nassau.—Palmetto rope. 287
 18 Knowles, Joseph A., Long Island.—
a Rope and net made out of wild fig tree bark. 287
b Palmetto baskets and mat. 289

Arboriculture and Forest Products.

- 19 Knowles, Joseph A., Long Island.—Wild fig tree bark. 600

- 20 Sawyer, R. H. & Co.
a Stopper wood; ship's knees of sabicu wood; bark. 600
b Mahogany, sabicu, satin, bull, cedar, and cocanot woods. 601
c Green ebony, braziletto wood, and logwood. 602
d Myrtleberry wax. 603
 21 George, John S.
a Specimens of bark and palmetto leaves, yellow pine and cedar woods. 600
b Mahogany, sabicu, satin, stopper, orange, and lignum vitæ woods. 601
c Logwood, braziletto, and green ebony. 602
d Wax made from myrtleberry. 603
 22 Saunders, Samuel P.—Vegetable sponge. 604

Agricultural Products.

- 23 Boyd, Adam.—Tobacco and coffee, cultivated in New Providence. 623

Water Animals, Fish Culture and Apparatus.

- 24 Sawyer, R. H. & Co.—Conch shells. 645
 25 Treco, P. A.—Bahama shells, collected and arranged by J. R. Saunders. 645
 26 Saunders, Samuel P.—Small shells. 645
 27 George, John S.—Queen conch shells. 645

Animal and Vegetable Products.

- 28 Sawyer, R. H. & Co.—Sponges. 650
 29 George, John S.
a Beeswax. 654
b Arrowroot and cassava starch. 658
 30 Centennial Exhibition Committee, Nassau.—Assorted preserved fruits, assorted pickles; pimento manufactured of native fruits by Daphne Fife. 656

Textile Substances of Vegetable or Animal Origin.

- 31 Sawyer, R. H., & Co.—Specimens of cotton produced principally at Long Island. 665
 32 Saunders, S. P.—Cotton. 665
 33 Brice, D. A.—Cotton. 665
 34 Centennial Exhibition Committee, Nassau.—Fibres of the pita and pineapple plants, plantain, banana, and aloe trees, and esparto grass; wool made from leaves of the forest pine, pita plant, banana tree, and plantain. 666

Agricultural Engineering and Administration.

- 35 Saunders, Samuel P.—Cave earth (fertilizer). 681

BERMUDAS.

(North of Main Aisle, H 16.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art, Agriculture.

Furniture and Objects of General Use
in Construction and in Dwellings.

- 1 Bermuda, Government of.—Inlaid tables. 217

Clothing, Jewelry, and Ornaments,
Traveling Equipments.

- 2 Trimmingham, J.
a Bermuda straw plait, bonnets, etc., palmetto plait, and articles made from the palmetto leaf. 251
b Wreath of shell work. 254
3 Middleton, T. D.—Articles in point lace, from Somerset Island. 252
4 Smith, Mrs. R. T.—Fine point lace. 252
5 Ness, Miss.—Point lace sleeveless basque. 252
6 Ness, Miss C.—Point lace sofa pillow. 252
7 Lines, Mrs.—Point lace. 252
9 Bermuda, Government of.—Walking canes. 254

Medicine, Surgery, Prothesis.

- 10 Hugh, J. B.—Medicinal herbs and drugs. 272

Educational Systems, Methods, and
Libraries.

- 11 Education, Board of.—School-map of the Bermudas. 300
12 Thorpe, Mrs. W.—"Afternoon in Bermuda." 306
13 Wilkinson, Major H. J.—"The Sand Hills." 305
14 Anon.—Bermuda flowers from nature. 306

Engineering, Architecture, Maps, etc.

- 15 Bermuda, Government of.—Large general map of the Bermudas, details by Royal Engineers and Major Crawford, R.A.; diagram showing the monthly mean temperature of Bermuda compared with other places of winter resort, drawn by Lieut. Colonel Bland, R.E.; fac-simile of the earliest published map of Bermuda, from Norwood's survey of 1616. 335

Physical, Social, and Moral Condition
of Man.

- 18 Bermuda, Government of.—Examples of the ancient records of the colony of Bermuda, from 1616; title deeds, or original grants of land of the Bermuda Company, 1628-9.

Photography.

- 19 Somerset, Col. Fitzroy, R.E.—Photographs of Bermuda scenery, by the Royal Engineers. 430
20 Hugh, J. B.—Photographs of Bermuda scenery. 430

Aerial, Pneumatic, and Water Transportation.

- 21 Hinson, Dr.—Model of a Bermuda yacht, cutter-rigged. 594
22 Admiralty, Lords of the.—Model of her Majesty's floating dock at Bermuda; sectional drawing of same. 596

Arboriculture and Forest Products.

- 24 Several Contributors.—Sections and specimens of woods. 600
25 Astwood, Mrs.—Bird's-eye cedar, and other ornamental woods. 601

Pomology.

- 26 Committee, The.—Bananas and other fruits. 611

Marine Animals, Fish Culture and
Apparatus.

- 27 Bermuda, Government of.—Conch shells used by cameo cutters; an extinct land shell of relatively large size; Sp. of hyalline; corals, nullipores, corallines, sea fans, and sea rods. 645

Animal and Vegetable Products.

- 28 Bermuda, Government of.—Sponges. 650
29 Hugh, J. B.—Dried and preserved fruits. 656
30 Tucher, Tho. Fowle.—Arrowroot. 658
31 Bertram, J. T.—Arrowroot and Tous les Mois. 653

Textile Substances of Vegetable or
Animal Origin.

- 32 Peniston, W.—Fibre prepared from the leaves of fourcroye gigantea. 666

Machines, Implements, and Processes
of Manufacture.

- 33 Bermuda, Government of.—Tools used in freeing the ground of the roots of sage and wild mimosa. 672

Ornamental Trees, Shrubs, and
Flowers.

- 34 Bermuda, Government of.—Flowers ferns, and ornamental plants. 700

BRITISH GUIANA.

(North of Main Aisle, F 16.)

COLLECTIVE EXHIBIT.

Manufactures, Agricultural and Vegetable Products.

Clothing, Jewelry, and Ornaments; Traveling Equipments.	
1 Great Diamond Plantation.—Rice straw ornaments. 254	10 Met-en-Meerzorg Plantation.— Vacuum pan sugar. 659
Medicine, Surgery, Prothesis.	
2 Fresson, William.—Drugs and other medicinal productions of the colony. 272	11 Ogle Plantation.—Vacuum pan sugar. 659
Arboriculture and Forest Products.	
3 Mackey, T. H.—Greenheart wood, nearly 100 years old. 600	12 Leonora Plantation. a Vacuum pan and other sugars. 559 b Rum. 660
Agricultural Products.	
4 Great Diamond Plantation.—Rice. 620	13 Uitvlugt Plantation.—Vacuum pan sugar. 659
Animal and Vegetable Products.	
5 Fresson, William.—Starches. 658	14 Vreed-en-Hoop Plantation.—Com- mon process sugar. 659
6 Bel Air Plantation.—Vacuum pan sugar. 659	15 Versailles Plantation.—Vacuum pan sugar. 659
7 Columbia Plantation.—Common pro- cess sugar. 659	16 Great Diamond Plantation. a Vacuum pan sugar. 659 b Rum. 660
8 Greenfield Plantation.—Vacuum pan sugar. 659	17 Hope Plantation. a Vacuum pan sugar. 659 b Rum. 660
9 La Bonne Intention Plantation.— Vacuum pan sugar. 659	18 Tuschen de Vrienden Plantation. a Vacuum pan sugar; molasses. 659 b Rum. 660
	19 Lusignan Plantation.—Rum. 660
	Textile Substances of Vegetable or Animal Origin.
	20 Godfrey, B. J.—Plantain, silk grass mahoe, sweet brier, and monkey apple fibres. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

CEYLON.

(North of North Avenue, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education, Art, Agriculture.

Minerals, Ores, Stone, Mining Products.

- 1 Armitage Bros., Colombo.—Tin and plumbago. 100

Clothing, Jewelry and Ornaments, Traveling Equipments.

- 2 Armitage Bros., Colombo.
a Straw hats. 251
b Canes. 254

Fabrics of Vegetable, Animal, or Mineral Materials.

- 3 Armitage Bros., Colombo.
a India-rubber. 285
b Ropes. 287

Educational Systems, Methods, and Libraries.

- 4 Armitage Bros., Colombo.—Almanacs and other books. 306

Sculpture.

- 5 Armitage Bros., Colombo.—Elephant, carved in plumbago. 405

Photography.

- 6 Armitage Bros., Colombo.—Photographs. 430

Arboriculture and Forest Products.

- 7 Armitage Bros., Colombo.
a Woods. 600
b Dye woods. 601
c Gutta-percha and gums. 603

Agricultural Products.

- 8 Armitage Bros., Colombo.
a Coffee, spices, tobacco, and cigars. 623
b Seeds. 624

Water Animals, Fish Culture and Apparatus.

- 9 Armitage Bros., Colombo.—Mother-of-pearl and other shells. 645

Animal and Vegetable Products.

- 10 Armitage Bros., Colombo.
a Coco de mer 650
b Vegetable tallow. 652
c Tapioca. 653
d Sugars. 659

Textile Substances of Vegetable or Animal Origin.

- 11 Armitage Bros., Colombo.
a Cotton. 665
b Fibres. 666

STRAITS SETTLEMENT.

(North of North Avenue, Columns 15 to 17.)

Manufactures, Art, Agriculture.

Silk and Silk Fabrics.

- 1 Meyer, Behn, & Co., Singapore.
a Silk floss from Rungpore. 242
b Dyed silk from Rungpore. 243
c Silk thread from Bengal, Gyah, and Rungpore. 244
d Silk lace from Jubbulpore. 247

Photography.

- 2 Meyer, Behn, & Co., Singapore.—Photographic views. 430

Arboriculture and Forest Products.

- 3 Meyer, Behn, & Co., Singapore.
a Woods from Singapore, Madras, Bombay, and Nagpore. 600
b Dye-woods, galls, bark, etc. 602

Pomology.

- 4 Meyer, Behn, & Co., Singapore.—Nuts. 611

Agricultural Products.

- 5 Meyer, Behn, & Co., Singapore.
a Grass. 620
b Tea, coffee, spices, etc. 623
c Seeds. 624

Textile Substances of Vegetable or Animal Origin.

- 6 Meyer, Behn, & Co., Singapore.
a Cotton boll, seed, and flake. 665
b Hemp and fibres. 666
c Wool. 667
d Cocoon silk. 668

GOLD COAST.

(North of Main Aisle, B 16.)

Minerals, Manufactures, Machinery, Agriculture.

Minerals, Ores, Stone, Mining Products.

- 1 Colonial Government.
a Granite. 102
b White clay,—used in medicine, and to “chalk” divorced wives. 104

Chemical Manufactures.

- 2 Colonial Government.—Palm and other oils. 201
 3 Melton, W.—Palm, cocoanut, groundnut, and other oils. 201

Ceramics—Pottery, Porcelain, Glass, etc.

- 4 Colonial Government.
a Goldsmith's furnace and crucibles. 207
b Earthenware. 210

Furniture and Objects of General Use in Construction and in Dwellings.

- 5 Colonial Government.—Native stools; desk, and envelope case. 217

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 6 Crowther, Bishop.
a Niger mats. 229
b Cotton goods. 230
 7 Colonial Government.
a Mats and baskets of grass. 229
b Cotton fabrics; Whydah and Agney cloth. 230

Woven and Felted Goods of Wool, etc.

- 8 Colonial Government.—Woolen fabrics. 238

Silk and Silk Fabrics.

- 9 Colonial Government.—Silk fabrics. 245

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 10 Colonial School, Cape Coast.—Wool knitting. 250
 11 Crowther, Bishop.—Slippers. 251
 12 Colonial Government.
a Sandals, hats, etc. 251
b Jewelry. 253
c Fans, pipes, walking-sticks, etc. 254
d Leather satchel and leather work. 255

Paper, Blank Books, Stationery.

- 13 Colonial Government.—Book for keeping gold accounts. 261

Weapons, etc.

- 14 Crowther, Bishop.—Dagger. 268
 15 Colonial Government.—Swords, daggers, bows and arrows. 268

Fabrics of Vegetable, Animal, or Mineral Materials.

- 16 Colonial Government.
a Ropes. 287
b Basket ware. 289

Scientific and Philosophical Instruments and Methods.

- 17 Colonial Government.—Drums, guitars, flute, horn, etc.; strings for musical instruments. 227

Sculpture.

- 18 Colonial Government.—Carved wooden figures, ladles, etc.; carved image exhibited at native funerals. 405

Machines and Implements of Spinning, Weaving, Paper Making, etc.

- 19 Colonial Government.—Looms for manufacturing cotton yarns. 521

Arboriculture and Forest Products.

- 20 Colonial Government.
a Odooom wood. 600
b Ornamental woods. 601
c Gums, resin, etc. 603

Pomology.

- 21 Colonial Government.—Nuts. 611

Agricultural Products.

- 22 Colonial Government.
a Beans. 621
b Pepper. 623
c Seeds, gourds, etc. 624
 23 Davison, Mrs.—Coffee (produced in eight months, from the seed). 623

Animal and Vegetable Products.

- 24 Colonial Government.
a Skins. 652
b Beeswax. 654
c Starch. 658
 25 Nugent, Mr., Cape Coast.—Arrow-root. 658
 26 Melton, W.—Colored starch. 658

Textile Substances of Vegetable or Animal Origin.

- 27 Colonial Government.—Fibres of bamboo, pineapple, etc. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

MAURITIUS.

(North of North Avenue, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Agriculture.

Chemical Manufactures.		Arboriculture and Forest Products.	
1	Lemière, A.—Salt. 200	7	Horne, J.—Mauritius Botanical Gardens; native woods. 600
Clothing, Jewelry, and Ornaments; Traveling Equipments.		Agricultural Products.	
2	Foucaud, Mme. Vve.—Slippers, cigar case, baskets, etc., made of Palmiste leaves. 254	8	Flore Mauricienne.—Vanilla. 623
Medicine, Surgery, Prothesis.		9	Bouton, H. & E.—Mauritius coffee. 623
3	Boulton, L.—Medicinal plants. 272	Animal and Vegetable Products.	
Educational Systems, Methods, and Libraries.		10	Mauritius, Flore Mauricienne.—Preserved fruit. 656
4	Boulton, L.—Transactions of the Royal Society of Arts and Sciences of Mauritius, from 1870 to 1875. 305 Book on medicinal plants of Mauritius. 306	11	Marie, François.—Arrowroot. 658
5	Kyshe, J.—Mauritius Almanac, 1874. 306	12	Wiehe, J.—Sugars. 659
Photography.		Textile Substances of Vegetable or Animal Origin.	
6	Moco, S.—Photographs. 430	13	Brugada, L. de, & Boucherville, E. de.—Ramie. 666
For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.		14	Horne, J., Mauritius Botanical Garden.—Fibres, etc. 666

QUEENSLAND.

(North of North Avenue, Columns 10 to 15.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art, Agriculture.

- Chemical Manufactures.**
- 1 Berkley & Taylor, Brisbane.—Dugong oil. 201
- 2 Ching, John.—Dugong oil. 201
- 3 Daintree, Richard.—Essences from Queensland vegetables. 203
- Ceramics—Pottery, Porcelain, Glass, etc.**
- 4 Mount Marley Co.—Fire brick. 207
- Silk and Silk Fabrics.**
- 5 Chubb, C. F., Ipswich.
- a Reeled silk. 242
- b Manufactured silk. 243
- Medicine, Surgery, Prothesis.**
- 6 Clarke, David.—Eucalyptus medicinal preparations. 272
- Hardware, Edge-tools, Cutlery, and Metallic Products.**
- 7 Hipwood & Sutton.—Bells made of Queensland metal. 283
- Carriages, Vehicles, and Accessories.**
- 8 Queensland, Government of.—Saddlery made by prison labor. 296
- Educational Systems, Methods, and Libraries.**
- 9 Bailey, F. M.—“Ferns of Queensland.” 306
- 10 Clarke, David.—Catalogue of plants and seeds. 306
- 11 Groom, W. H.—“Account of Toowoomba and Vicinity.” 306
- 12 Hartmann, C. H.—“Fruits, Flowers, and Timbers of Queensland.” 306
- 13 Hockings, A. T.—Catalogue of seeds and plants. 306
- 14 Hockings, A. J., Brisbane.—“Queensland Garden Manual;” “Horticulture in Queensland.” 306
- 15 Diggles, Silvester.—“Ornithology of Australia.” 306
- 16 Government Printing Establishment.—Bound books, pamphlets, and printed matter. 306
- 17 Lukin & Gresley, Brisbane.—Copies of the “Queenslander.” 306
- 18 Mackay, Angus.—Works entitled “The Sugar-cane in Australia,” “Semi-tropical Agriculturist and Colonist’s Guide.” 306
- 19 Proprietors of volumes of Queensland journals.—Journals with summary, prepared for the Centennial Exhibition. 306
- 20 Robertson.—Maryborough almanac. 306
- 21 Slotter, Geo., & Co.—Slotter’s almanac. 306
- 22 Thorne & Greenwell, Brisbane.—Queensland almanac and directory. 306
- 23 Willmett, Townsville.—Almanacs of Northern Queensland. 306
- Engineering, Architecture, Maps, etc**
- 24 Brisbane Tin Company.—Model showing strata of tin country. 335
- 25 Government Lithographic Establishment.—Maps, plans, charts, etc. 335
- Photography.**
- 26 Commissioners for Queensland.—Views of Ipswich, Rockhampton, Marlborough, Townsville, and Warwick. 430
- 27 Daintree, Richard.—Colored photographs. 430
- 28 Mackay, Angus.—Colonial views. 430
- 29 Wright, J. P.—Photographic views of Brisbane. 430
- Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.**
- 30 Repetti, Joseph.—Model of quartz-crushing machine. 505
- Arboriculture and Forest Products.**
- 32 Daintree, Richard.
- a Collection of polished timbers. 600
- b Gums from Queensland vegetables. 603
- 33 Hill, Walter, Botanical Curator, Brisbane.
- a Collection of timbers in the rough. 600
- b Queensland nuts. 605
- c Bark for tanning. 602
- 34 Mackay, Angus.—Common timbers. 600
- 35 O’Shausey, P. A., Rockhampton.—Timbers of northern Queensland. 600
- 36 Pettigrew, William.—Pick and axe handles of Queensland woods. 600
- For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural, Animal, and Vegetable Products.

- 37 Carey, J. W.—Work-box of various finished woods. 601

Agricultural Products.

- 40 Downs, George, Gowrie.—Barley. 620
 41 Enderitch, H., Toowoomba.—Wheat. 620
 42 Free, A., Warwick.—Wheat. 620
 43 Free, George, Warwick.—Wheat. 620
 44 Mackay, Angus.—Queensland maize. 620
 45 Walker, R. F., Toowoomba.—Wheat, barley, and oats. 620
 46 Grimes, S. & G., Brisbane.—Arrowroot. 622
 47 Marks.—Arrowroot. 622
 48 Tahey, F., Nerang.—Arrowroot. 622
 49 Alexander, W. R., Redbank.
 a Coffee and tea. 623
 b Castor oil seeds. 624
 50 Boreham, J. H.—Chutney and spices. 623
 51 Chubb, F. E., Ipswich.—Coffee beans. 623
 52 Hill, Walter, Botanical Gardens.—Leaf tobacco. 623
 53 Hocker, J. H., Brisbane.—Cigars, cigarettes, leaf and manufactured tobacco. 623
 54 McFarlane.—Chili peppers. 623
 55 Mahony, Albert River.—Leaf tobacco. 623

Land Animals.

- 56 Richland, G., Cardwell.—Butterflies of northern Queensland. 638

Water Animals, Fish Culture and Apparatus.

- 57 Ching, John, Wide Bay.—Dugong calf, preserved in spirits. 640

Animal and Vegetable Products.

- 58 Stephens, T. B., Ekibin Tannery.—Leather and skins. 652
 59 Ching, John, Wide Bay.—Dugong skull, tusks, etc. 652
 60 Hayes, W. H., Candied pineapple, rockmelon, citron, ginger, lemon and orange peel. 656
 61 Neden Bros., Toowoomba.—Flour. 657
 62 Keates, F., Allora Mills.—Wheat, flour, and meal. 657
 63 Black, Messrs., Moyea.—Sugar. 659
 64 Brown, A. H., Antigua, Mary District.—Sugar. 659
 65 Coudrey, W. H., Ageston.
 a Sugar. 659
 b Rum. 660
 66 Davey & Gooding, Beenleigh.—Sugar. 656
 67 Davidson, J. E., Mackay.
 a Sugar. 659
 b Rum. 660

- 68 Fryar and Strachan, Loganholme.
 a Sugar. 659
 69 Gibson & Sons, Clydesdale.—Sugar. 659
 70 Superintendent of Penal Plantations.—Sugar. 659
 71 Grimes, S. & G., Oxley.—Sugar. 659
 72 Johnston, James, Helensfield, Droughboy.—Sugar. 659
 73 Mackenzie, Gairloch.—Sugar. 659
 74 Muir, Robert, Nerang.—Sugar. 659
 75 Tooth & Cran, Zengarré.—Sugar. 656
 76 Neame & Co., Herbert river.—Sugar. 659
 79 Irwin Bros., Warrilla, Ipswich.—Wine. 660
 80 Kirchner, Asmanhausen.—Wines. 660
 81 Mauch, David, Warwick.—Wine. 660
 82 Raff, George, Morayfield.—Rum. 660
 83 Ramsey Bros., Iindah.—White spirits of wine. 660
 84 Brockleemann, Brisbane.—Arrowroot biscuit. 661
 85 Daintree, Richard.—Vegetable oils. 662

Textile Substances of Vegetable or Animal Origin.

- 86 Mackay, Angus.—Queensland cotton. 665
 87 Hill, Walter.—Collection of fibres. 666
 88 McPherson, Alexander, Fortitude Valley.—Collection of Queensland fibres. 666
 89 Clarke, George E., Talgai.—Fleece wool. 667
 90 Davenport, G. H.—Merino wool. 667
 91 Fenwick & Scott.—Australian wool. 667
 92 Fisher, C. B., Headington Hill.—Merino wool. 667
 93 Gore & Co., Yandilla.—Ewe fleece wool. 667
 94 Green, C. H., Goomburra.—Fleece wool. 667
 95 Gunn, Donald, Pikedale.—Wool. 667
 96 Marshall & Slade, Glengallen.—Fleece wool. 667
 97 North British Australian Co.—Fleece wool. 667
 98 Parr, B. le, Chiverton.—Australian merino fleece wool. 667
 99 Parr, B. C.—Fleece wool. 667
 100 Shanahan & Jennings, Westbrook.—Merino wool. 667
 101 Government Penal Establishment.—Silk worm cocoons. 668
 102 Hine, Mrs., Ipswich.—Silk cocoons. 668

Ornamental Trees, Shrubs, and Flowers.

- 103 Bailey, F. M.—Flora of Australia and Botany of Queensland. 709

ARCHIPELAGO OF SEYCHELLES.

(North of North Avenue, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Manufactures, Agricultural, Animal, Vegetable Products.

Furniture and Objects of General Use in Construction and in Dwellings.

- 1 Bouquet, Miss.—Teacups and saucers. 218

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 2 Bouquet, Miss.
a Straw hats and slippers. 251
b Straw baskets, watch-pockets, and fans. 254
 3 Cayol, Mrs. Tony.—Bouquets of shell flowers. 254
 4 Bury, J. Ames.—Walking-canes. 254

Arboriculture and Forest Products.

- 6 Seychelles, Chief Commissioner of.—Samples of woods and planks. 600
 7 Briard, Mr., Praslin Island.
a Black bark dye and samples of dyed stuffs. 602
b Nuts. 605

Agricultural Products.

- 8 Houareau, Sylvain.—Tobacco. 623
 9 Madine, Mr.—Cigars. 623
 10 Lemarchand, Mr.—Cacao, cloves, coffee, and vanilla. 623

Water Animals, Fish Culture and Apparatus.

- 10^a Beyron, F.—Turtle shell. 645

Animal and Vegetable Products.

- 11 Bouquet, Miss.—Coca de mer straw. 650
 13 Cauvin's Distillery.—White rum. 660
 14 Nageon, Mr., La Digue Island.—Cocoanut oil. 662

Textile Substances of Vegetable or Animal Origin.

- 15 Brooks & Dupuy.—Cotton from Denis Island. 665
 16 Briard, Mr.—Cotton. 665

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TASMANIA.

(South of North Avenue, Columns 13 to 15.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art, Agriculture.

Chemical Manufactures.

- 1 Kermode, W. A., Mona Vale.—Salt. 200
 2 Strachan, R., Cambridge.—Salt. 200
 3 Colvin, Charles, Hobart Town.—Oil from nutton birds, from islands in Bass's Straits. 201
 4 Coverdale, John, Port Arthur.—Red ochre, earth for paints. 202
 5 Loughton, James, Hobart Town.—Earth for paints. 202

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 6 Bidenscope, J., Hobart Town.—Silk and felt hats and caps, with material of manufacture. 251
 7 Tasmanian Commissioners.—Opposum and cat skin rugs. 256
 8 Hull, H. M., Hobart Town.—Portraits of aborigines. 257

Weapons, etc.

- 9 Moir, J., Queenborough, Hobart Town.—Shot. 265

Educational Systems, Methods, and Libraries.

- 10 Hull, H. M., Hobart Town.—"Hull's Hints to Emigrants," parliamentary journals. 306
 11 Nowell, E. C.—Books. 306
 12 Tasmanian Commissioners.—Newspapers and statistics. 306
 13 Walch & Sons, Hobart Town.—Almanac and guide. 306

Scientific and Philosophical Methods and Systems.

- 14 Royal Society of Tasmania.—Meteorological tables. 320

Engineering, Architecture, Maps, etc.

- 15 Randall, A., Hobart Town.—Chart of waterworks. 330
 16 Dibbs, T. F., Launceston.—Chart of Launceston. 335
 17 Cemetery Commissioners, Hobart Town.—Chart of cemetery. 335
 18 Moore, Hon. Wm., Hobart Town.—Geological map of Tasmania. 335

- 19 Walch & Sons, Hobart Town.—Charts of Hobart Town and Launceston. 335
 19a Hull, H. M., Hobart Town.—Map of Tasmania. 335

Physical, Social, and Moral Condition of Man.

- 20 Walch & Sons, Hobart Town.—Tasmanian postage stamps. 345

Sculpture.

- 21 Carlsen, P. O., Port Arthur.—Carved ivory and wooden egg and cruet stand; carved ivory and myrtle Danish pipe. 405

Photography.

- 22 Bailey, H. H., Hobart Town.—Photographs. 430
 23 Hobart Town, Corporation of.—Photographs of public buildings. 430
 24 Launceston, Corporation of.—Photographs of public buildings. 430
 25 Tondeur & Lempriere, Melbourne.—Photographs of the British and Tasmanian Charcoal Iron Company's (limited) Works in Tasmania. 430

Machines and Implements of Spinning, Weaving, and Paper Making.

- 26 Coverdale, J., Port Arthur.—Spinning jenny of Tasmanian myrtle. 521

Arboriculture and Forest Products.

- 27 Creswell, C. F., Hobart Town.—Forest tree seeds (340 varieties). 600
 28 Gulliver Brothers, Hobart Town.—Tree seeds. 600
 29 Hull, Hugh M., Hobart Town.—Polished Tasmanian woods. 600
 30 Edwards, G. W., Hobart Town.—Grass-tree gum and resin, for varnish. 603
 31 Mitchell, Mrs., Swansea.—Gum, from Oyster Bay pine. 603
 32 Lipscombe, F., Sandy Bay.—Blue gum seeds. 605

Agricultural Products.

- 33 Dalgety, Moore, & Co., Launceston.—Wheat and oats. 620
 34 Dean, W., New Norfolk.—Wheat. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural, Animal, Vegetable Products.

- 35 Gibson, W., Hobart Town.—Wheat. 620
- 36 Harrap, A., Launceston.—Wheat. 620
- 37 Hogarth, D., Launceston.—Wheat. 620
- 38 Kemp, G., Upper Bagdad.—Wheat. 620
- 39 Archer, W. H. D., Longford.
a Wheat and English barley. 620
b Linseed. 624
- 40 Creswell, C. F., Hobart Town.
a Wheat, barley, oats, and rye. 620
b Peas and beans. 621
c Grass and other seeds. 624
- 41 Graves, J. W., Hobart Town.—Native bread. 621
- 42 Sharland, W. C., New Norfolk.—Hops. 623
- 43 Shoobridge, E., New Norfolk.—Hops. 623
- Land Animals.
- 44 Archer, W. H. D., Longford.
Cream-colored opossum, platypus. 637
- Water Animals, Fish Culture and Apparatus.
- 45 Salmon Commissioners of Tasmania.—Brown trout. 641
- 46 Davies, R. H., Torquay.—Tasmanian shells. 645
- Animal and Vegetable Products.
- 47 Coverdale, John, Port Arthur.—Seaweed, and jelly made therefrom. 650
- 48 Archer, W. H. D., Longford.—Native furs and skins. 652
- 49 Arnot, S., Bothwell.—Leather of kangaroo skins. 652
- 50 Gardner & McKenzie, Launceston.—Skins of kangaroo, tanned and dressed; native furs and skins. 652
- 51 Tasmanian Commissioners.
a Native furs and skins. 652
b Blue gum tree oil. 662
- 52 Holroyd, Kennedy, & Co., Hobart Town.—Jams and tart fruits. 656
- 53 De graves, John, Hobart Town.—Malt. 657
- 54 Dossetor Brothers, Hobart Town.—Flour. 657
- 55 Gracie, William, Hobart Town.—Malt. 657
- Textile Substances of Animal or Vegetable Origin.
- 56 Archer, W. H. D., Brickendon, Longford.—Merino wool. 667
- 57 Brock, J.—Merino wool. 667
- 58 Cameron, Hon. Donald, Burnside.—Merino wool. 667
- 59 Gibson, James, Belle Vue, Cleveland.—Merino wool; portrait of stud sheep. 667
- 60 Gibson, W. H., Fairfield, Snake Banks.—Merino wool. 667
- 61 Gibson, W., & Son, Scone, Perth.—Merino wool; portraits of stud sheep. 667
- 62 Headlam, Charles, Egleston, Macquarie river.—Merino wool. 667
- 63 Keach, G. W., Chiswick, Ross.—Merino wool. 667
- 64 Lindley, G. W., Runnymede, Richmond.—Leicester wool. 667
- 65 McLanachan, Hon. James, Ballochmyle.—Merino wool. 667
- 66 Page, Samuel, Belle Vue, New Town.—Merino wool. 667
- 67 Parramore, Thomas, Beaufront, Ross.—Merino wool. 667
- 68 Ralston, John, Logan, Evandale.—Merino wool. 667
- 69 Searle, C.—Leicester wool. 667
- 70 Sharland, W. S., Woodbridge, New Norfolk.—Merino wool. 667
- 71 Shaw, Fred., Redbanks, Swansea.—Leicester wool. 667
- 72 Simmons, W. C.—Leicester wool. 667
- 73 Taylor, David, St. Johnstone's, Macquarie river.—Merino wool. 667
- 74 Taylor, G. Milford, Campbell Town.—Merino wool. 667
- 75 Taylor, John, Winton, Campbell Town.—Merino wool. 667
- 76 Wilson, George, Oatlands.—Merino wool. 667
- Agricultural Engineering and Administration.
- 77 Anglo-Australian Guano Company, Hobart Town.—Guano from Bird's Island. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TRINIDAD.

(South of North Avenue, Columns 15 to 17.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Animal and Vegetable Products.

Minerals, Ores, Stone, Mining Products.

- 1 André, L. A. F.—Surface coals from the eastern coast. 101
2 Finlayson, Thomas A.—Asphalt, boiled and crude. 101

Furniture and Objects of General Use in Construction and in Dwellings.

- 3 Devenish, Syl., Surveyor General.—Gourd calabash. 224

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 4 Trinidad, Government of.—Mats, fans, strainers, etc. 254
5 McAdam, Miss Venus.—Baskets made of gourds. 254
6 Devenish, Syl., Surveyor General.—Walking-sticks. 254

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 7 Devenish, Syl., Surveyor General.—Razor strops. 281

Fabrics of Vegetable, Animal, or Mineral Materials.

- 8 Trinidad, Government of.—Baskets. 289

Arboriculture and Forest Products.

- 9 Prestoe, Hy., Government Botanist.—Collection of native woods. 600
10 Devenish, Syl., Surveyor General.—Samples of woods. 600
11 Trinidad, Government of.—Gutta-percha, liquid and solid. 603

Pomology.

- 12 Cumming, A., & Co., Port of Spain.—Cocoanuts. 611

Agricultural Products.

- 13 Prestoe, Hy., Government Botanist.—Nutmegs, cloves, mace, etc. 623
14 Needham, Sir Jos., San Antonio.—Cocoa. 623
15 Penco, Jos., La Merced.—Cocoa. 623
16 Cleaver, C., Verdant Vale.—Cocoa. 623
17 D'Abadie, St. L., St. Pedro.—Cocoa. 623
18 Flamant, Mrs. C.—Snuff of native tobacco. 623

Animal and Vegetable Products.

- 19 Prestoe, Hy., Government Botanist.—Preserved fruits. 656
20 Trinidad, Government of.—Cassaripe. 656
21 Flamant, Mrs. Ch.
a Farina and plantain flour. 657
b Cassada starch. 658
22 Jenny, Miss.—Farina. 657
23 Colonial Company's Agency.—Sugar. 659
24 Seigert, Dr., Port of Spain.—Angostura bitters. 660
25 Somes & Co.—Cocoanut oil. 662
26 Devenish, Syl., Surveyor General.—Carap oil. 662

Textile Substances of Animal or Mineral Origin.

- 27 Somes & Co., Nariya Cocal.—Cocoanut fibre. 666
28 Devenish, Syl., Surveyor General.—Fibre from Agave vivipara. 666
29 Prestoe, Hy., Government Botanist.—Fibres. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

INDIA.

(North of Nave, Columns 22 to 25.)

COLLECTIVE EXHIBIT.

Chemicals, Ceramics, Woven Goods, Clothing.

Chemical Manufactures.

COLLECTIONS FROM THE INDIAN MUSEUM, BY J. FORBES WATSON, M.A., LL.D., DIRECTOR OF THE INDIAN MUSEUM, ETC.

- a* Rock salt from Salt range; salt from Poorthemauk, Nellore, Toomlook, Balasore, Cuttack, and Jeypore; black salt from Calcutta; saltpetre from Cutch, Sarun, Bengal, Ahmednugger, Lahore, Central India, Ellore, Nellore, Cawnpore, Salem, Madras, and Calcutta; alum from Madras, Lahore, and Bengal; carbonate of soda from Lind and Calcutta; sulphate of iron from Salt range; borax from Thibet; sal ammoniac from Kurnal and Calcutta; sulphate of copper from Calcutta. 200
- b* Gamboge from Bombay; indigo from South Arcot, Moorshedabad, Madras, and Shikarpore; cutch from Calcutta, Madras, and Burmah; gambier from Bombay and Malacca; lac dye from Jubbulpore and Malwa. 202

Ceramics—Pottery, Porcelain, Glass, etc.

- c* Ornamental tiles from Hyderabad. 208
- d* Water vessels from Patna, Ghallawar, Madras, South Canara, and Allahabad; vase from Sindh; hookah bowl and bottom from Patna; cup, dish, and cover from Hyderabad; milk pan from Madras; goblet from Vizagapatam. 210

Furniture and Objects of General Use in Construction and in Dwellings.

- e* Copper and brass lamps, boxes, plates, dishes, basins, cups, etc., from Calcutta, Benares, Bengal, Bombay, Patna, Indore, Madras, Mirzapore, Travancore, Nepal, Cachar, and Poonah; betel plates inlaid with silver, from Hyderabad; copper amulet case from Thibet; brass spoon for oil from Madras. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

- f* Phulgat mat from Travancore. 229
- g* Muslin and cotton from Dacca and Madras. 230
- h* Striped and checked cotton from Madras. 231

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven and Felted Goods of Wool, etc.

- i* Cashmere and woolen carpets from Madras, Scind, and Ferahan. 239
- j* Cashmere long and square shawls, net shawls, chuddahs, scarfs, burnouse, cravats, gold embroidered cloaks and table covers. 240

Silk and Silk Fabrics.

- k* Raw silk from Surdah, Berhampore, Bogra, Seetapore, and Bengal; Tusseh silk thread from Bengal, Gyah, and Bhagulpore; cocoons from Bengal and Cuttack; Eria silk thread from Kungpore and Assam. 242
- l* Floss silk from Umritsur, Punjab, Vellore, Tatta, and Ca-hmere. 243
- m* Striped and plain piece silk from Beerchoom, Hyderabad, Ahmedabad, Burmah, and Benares. 246

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- n* Women's garments from Madras, Pegu, and Dharwar; men's garments from Goodaspore, Moulton, and Sindh; piina silk skirt from Madras. 250
- o* Embroidered shoes and turbans from Hyderabad, Gwalior, Sindh, Kotah, and Madura. 251
- p* Nets, muslin, cloth, and silk embroidered in gold and colors from Sindh, Madras, Benares, Hyderabad, Delhi, Bhurtpore, and Bombay; gold, silver, white, and colored laces from Bombay, Nagpore, and Madras; handkerchief from Poonna convent; doyleys from Madras. 252
- q* Collection of jewelry from Bombay. 253
- r* Dolls from Benares; fans from Madras, Delhi, Tipperah, South India, Poonna, and Monghyr; chourie split ivory from Sylhet; chowrie, split sandal wood from Madras. 254
- s* Leather box, embroidered with quill work, from Simla. 255

Weapons, etc.

- t* Spears, bows and arrows from Lahore, Delhi, and South India; velvet quivers and arm covers from Lahore; battle axes from Delhi and Nagpore; coat of mail from Punjab; daggers, swords, breast-plates, etc., from Lahore, Burmah, Decan, Coorg, and Bengal. 268

Manufactures, Education, Art, Agriculture.

Medicine, Surgery, Prothesis.

- * Barks, liquorice, opium, nux vomica, aconite, patchouli, tamarinds, anise, cardamom and croton seeds, cubeb, blistering beetles, juniper berries, aloes, and other medicinal products from Madras, Travancore, Bombay, Penang, Bengal, Mysore, North India, Malacca, and Calcutta. 272

Hardware, Edge Tools, Cutlery, and Metallic Products.

- r Copper bell from Burmah. 283
w Lock and key from Indore. 284

Fabrics of Vegetable, Animal, or Mineral Materials

- x Baskets and cigar case from Madras; cane stands from Singapore; grass window shades from Travancore; papier-maché articles from Cashmere, Kurnool, and Sindh; lacquered wood work from Burmah and Sindh; japanned cabinet from Bareilly. 289

Carriages, Vehicles, and Accessories.

- y Model of state carriage from Poona. 292
z Models of passenger and luggage carts, and palanquin from Bombay. 293
aa Sikh saddle; velvet and gold trappings from Punjab. 296

Educational Systems, Methods, and Libraries.

- ab Books, "The People of India" and "The Textile Manufactures of India," by J. Forbes Watson, LL.D.; "Tree and Serpent Worship," by J. Fergusson, F.R.S.; "Ancient Buildings in Kashmir" and "Ancient Buildings near Muttra and Agra," by Lieut. H. H. Cole; "Primitive Tribes of the Nilagiris," by J. W. Brecks; Report on the Archaeology of West India, by J. W. Burgess. 306
ac Stringed and wind instruments from Madras; kettle drum from Bengal; horn from Moorshedabad. 327

Engineering, Architecture, Maps, etc.

- ad Maps illustrative of Indian surveys; relief map of India. 335

Sculpture.

- ae Sculptured stone bull from Nandi. 400
af Sculptures from the Amravati Tope, viz.: base of large slab; panel figure of temple with Buddha seated; portions of frieze; figure standing; slab, Buddha's feet. 401
ag Carved model of Burman chuttree, and sandal wood model of Hindoo temple from Booj; carved vase, sandal wood fan, and glove box from Bombay; carved stone idol, "Vishnu riding on Garuda" from Madras; carved wooden idols from Nepal; carved ivory box from Burmah; carved elephant with howdah from Berhampore; carved horn tazza from Gokah; carved pith figures from Trichinopoly, and carved horn drinking cup from Rutnagherry. 405

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Photography.

- ah Photographic views of India; photographs of races and tribes of Hindoostan; photographs of Indian architecture. 430
ai Photo-lithographs illustrative of the textile fabrics of India. 432

Ceramic Decorations, Mosaics, etc.

- aj Inlaid marble boxes from Agra and Mysore. 450
ak Inlaid wooden glove and work box from Bombay. 452
al Card basket and box of porcupine quill work from Vizagapatam; casket and basket of Kofigari ware; miniature paintings on ivory, in carved sandal wood frames from Delhi; writing pads of ornamental painted leather from Kurnool; paintings on mica from Trichinopoly; samples of ornamental writing in colors. 454

Aerial, Pneumatic, and Water Transportation.

- am Models of passenger, ferry, coasting, and freight boats from Calcutta. 594

Arboriculture and Forest Products.

- an Ornamental and other woods. 601
ao Dye woods, barks, roots, and galls from Madras, Sindh, Cuttack, Nagpore, Burmah, and Singapore. 602
ap Gums, resin, incense, gutta-percha, myrrh, etc., from Raepore, Gyah, Burmah, Maurah, Pegu, Salem, Travancore, Malacca, Indore, and Bombay. 603

Agricultural Products.

- aq Wheat from Sindh, Punjab, Faridpur, and Bengal; barley from Belgaum, and other places; oats from Patna and Monghyr; maize from Northwestern India; millet; raggee; buckwheat from the Himalayas; illustrations of food plants of India. 620
ar Peas, beans, lentils, and vetch. 621
as Tea from Assam, Bishnath, Cachar, Dehra-Doon, Pankabaree, Kangra, Koomoon, and other places; tea buds from Silcoorie; coffee from Aden, Bombay, Tinnevely, Paradise estate, and Chittagong; coffee berries from South India Mysore, and Coorg; spices, pepper, ginger, mustard, curry powder, and turmeric from Bombay, Travancore, Indore, Dehra-Doon, Bengal, Nepal, Madras, and other places. 623
at Coriander, dill, and fennel seed from Berar, Oudh, Faridpur, and Dharwar; water lily stems from Sindh; oil seeds from Faridpur, Nagpore, Ahmednugger, Bengal, and Indore; poppy seed from Central Provinces and Bengal; groundnuts from Berar, Indore, and Khandeish. 624

Land Animals.

- au Various kinds of silk worms of India from Cashmere, Bengal, and the Himalayas. 638

Water Animals, Fish Culture and Apparatus.

- av Pearl oysters from Kurrachee. 645
aw Edible birds' nests from Ceylon; fish maws and sharks' fins from Bombay. 646

Animal and Vegetable Products, Textiles, Machines.

Animal and Vegetable Products.

<i>ax</i> Glue from Cawnpore.	652
<i>ay</i> Beeswax from Travancore, Pegu, Rangoon, Singapore, and Chota Nagpore.	654
<i>az</i> Soojee flour from Madras; rice from Punjab, Sindh, and Bengal.	657
<i>ba</i> Arrowroot, tapioca, and sago.	658

Textile Substances of Vegetable or Animal Origin.

<i>bb</i> Cotton from various parts of India, in its different stages of growth and manufacture.	665
<i>bc</i> Flax from Punjab; rhea stems and fibre from Assam; brown hemp from Bombay; Jubbulpore hemp; pineapple fibre from Madras and Mangalore; aloe fibre from Madras; Manila hemp; mat grass from	

Bengal; illustrations of fibre-producing plants of India.	666
<i>bd</i> Sheep's wool from Bombay, Mysore, Laddakh, and Bokhara; goat's wool from Umritsur, Punjab, Turfan, and Yarkand; camel's wool from Bokhara and Punjab.	667

Machines, Implements, and Processes of Manufacture.

<i>be</i> Plow and yoke from Berar.	670
<i>bf</i> Native cotton gin from Bengal.	673

Agricultural Engineering and Administration.

<i>bg</i> Models of water and cotton cart from Bombay.	682
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CANADA.

(North of Nave, Columns 16 to 23.)

Chemicals.

Chemical Manufactures.

1 Cowan, A., Brockville, Ont.—Salt, nitre cake; nitric, muriatic, and sulphuric acids; sodium nitrate.	200
12 Geological Survey of Canada, Q.	
<i>a</i> Salt, salt cake, salt gypsum cake, residue for crystallizing pans, salt scales.	200
<i>b</i> Ochres.	202
14 Sharp, Jos. S., Apohaqui, N. B.—Salt.	200
17 Cooper, Robert, Toronto, Ont.—Washing crystals.	200
18 Lane, T. G., Hamilton, Ont.—Washing and bleaching crystals.	200
19 Saunders, Wm., London, Ont.	
<i>a</i> Pharmaceutical preparations.	200
<i>b</i> Perfumery.	202
20 Lyman, Clare, & Co., Montreal, Q.	
<i>a</i> Pharmaceutical preparations. One of the longest established drug firms in the Dominion. Specialty—pure drugs. Also, linseed oil crushers and paint grinders.	200
<i>b</i> Oil.	201
<i>c</i> Paints.	202
22 Lyman Bros. & Co., Toronto, Ont.	
<i>a</i> Pharmaceutical and chemical preparations.	200
<i>b</i> Oil for paints.	201
<i>c</i> Paints in oil.	202
23 Wilson, John, St. John, N. B.—Soaps.	201
24 Savage, Alfred, & Son, Montreal, Q.—Oil.	201
25 Morse, Geo. D., & Co., Toronto, Ont.—Soaps, candles, tallow, lard, and oils.	201

26 Walker, J., Hamilton, Ont.—Soaps.	201
28 Hood, A. W., & Son, Montreal, Q.—Soaps.	201
29 Albert Toilet Soap Co., Montreal, Q.—Soaps.	201
30 Spinelli, R., Montreal, Q.—Paraffine soaps.	201
31 Lyman, S. J., Montreal, Q.	
<i>a</i> Phosphorus soap.	201
<i>b</i> Perfumery.	203
33 Waterman Bros., London, Ont.—Hard and soft coke from petroleum, crude and refined petroleum, paraffine oil, benzine, axle oil, tar from petroleum, paraffine scales.	201
36 Leeds Paint Manufacturing Co., Mallorytown, Ont.—Ferruginous rock and paints.	202
39 Buchanan Mineral Co., Walsingham, Ont.—Paints and colors.	202
40 McKay, William, Ottawa, Ont.—Liquid drier for paint, printers' ink.	202
42 Ramsay, T., Montreal, Q.—Paints.	202
44 Ramsay, A., & Son, Montreal, Q.—Paints.	202
45 Montreal Plumbago Mining Co., Montreal, Q.—Stove polish, crucibles.	202
46 Martin, Charles, Montreal, Q.—Stove polish, crucibles.	202
48 Hall, G. B., Quebec, Q.—Ochres.	202
53 Copeland & McLaren, Montreal, Q.—Iron oxide.	202

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Ceramics, Furniture, Woven Goods.

- 55 Thompson, G. F., & Sons, St. John, N. B.—White lead. 202
- 57 Edgett, W., Pudsey's Point, N. S.—Iron ochre. 202
- 58 Miller, Hugh, & Co., Toronto, Ont.—Pomade. 203
- 62 Manuvilling, J. J., Hampton, N. B.—Matches. 204
- Ceramics—Pottery, Porcelain, Glass, etc.**
- 81 Pratt, Charles, London, Ont.—Pottery. 206
- 82 Ahren, J. H., Paris, Ont.—Pottery. 206
- 83 Bell, David, Little River, Q.—Drain tiles. 206
- 84 Mochan, Albert, St. John, Q.—Bricks. 206
- 86 Geological Survey, Montreal, Q.—Bricks. 206
- 87 Advisory Board, Quebec, Q.—Bricks. 206
- 91 Bell, W. & D., Quebec, Q.—Tobacco pipes. 206
- 93 Lee Brothers, St. John, N. B.—Bricks, drain tiles. 206
- 94 Smith & Kaye, Halifax, N. S.—*a* Bricks, drain tiles. 206
b Earthenware. 210
- 98 St. John Stone Chinaware Co., St. John, Q.—Stone chinaware. 210
- 99 Cape Rouge Pottery Co., Quebec, Q.—Crockery ware. 210
- 103 Booth, W., Toronto, Ont.—Sign painting on glass. 216
- 104 McAusland, J., Toronto, Ont.—Stained glass, figured work. 216
- Furniture and Objects of General Use in Construction and in Dwellings.**
- 105 Hay, R., & Co., Toronto, Ont.—Sideboard. 217
- 107 Riley & May, Toronto, Ont.—Billiard tables, etc. 217
- 110 Kremer, C., Preston, Ont.—Furniture. 217
- 111 Murphy, A. A., Montreal, Q.—Store stools. 217
- 112 Roy & Co., Montreal, Q.—Invalid mechanical chair. 217
- 113 Reinhardt, C., Montreal, Q.—Combination spring-bottom bedstead. 217
- 114 Reid, R., Montreal, Q.—Marble mantelpiece. 217
- 115 Stephen, A., & Son, Halifax, N. S.—Secretary. 217
- 117 Drum Cabinet Manufacturing Co., Quebec, Q.—Parlor and bedroom sets, sideboard. 217
- 118 Whiteside, H., & Co., Montreal, Q.—Beds and mattresses. 217
- 121 Chapeau, Godfroi, Montreal, Q.—Fireproof safes, burglar-proof door. 217
- 122 Bennett, Jas., St. John, N. B.—Newspaper files. 217
- 123 Hutching & Co., St. John, N. B.—Mattresses. 217
- 127 Huber, Allen, Berlin, Ont.—Mirrors. 219
- 129 Ewing & Co., Toronto, Ont.—*a* Mirrors. 219
b Mouldings. 220
- 130 Dixon, A. H., Toronto, Ont.—Show cards. 219
- 131 Shantz, J. Y., Berlin, Ont.—Mirror. 219
- 132 Spence, John C., Montreal, Q.—Stained glass window. 219
- 135 Wade, J. M., Montreal, Q.—Ornament on glass and wood. 219
- 136 Cockburn, D., Ottawa, Ont.—Carved frame. 220
- 140 Brown, J. T., St. John, N. B.—Frames, book-rack. 220
- 141 Copp Bros., Hamilton, Ont.—*a* Stoves. 222
b Sad irons. 225
- 142 Moore, D., & Co., Hamilton, Ont.—Stoves, tubular lanterns. 222
- 143 Elliot, J. W., Toronto, Ont.—Stoves. 222
- 144 White, H. A., Hamilton, Ont.—Stovepipe damper. 222
- 146 Wexelburg & Co., Toronto, Ont.—Sheet metal elbows. 222
- 150 Harris, J., & Co., St. John, N. B.—*a* Ship cambouse and register grates. 222
b Iron mantels. 227
- 151 Trudeau, P., Ottawa, Ont.—Gas burner, globe, and gallery. 223
- 154 Williams, J. M., & Co., Hamilton, Ont.—Tin and stamped ware. Manufacturers of plain, stamped, re-tinned and japanned tinware, tubular lanterns, etc. Price lists sent on application. 224
- 158 Penton, Thos., Sarnia, Ont.—Combined cooking and heating engine. 225
- 161 Elliott, T. C., Guelph, Ont.—Washing machine. 225
- 163 Lawlor & Co., Montreal, Q.—Washing machines. 225
- 164 Hall, G. B., Quebec, Q.—*a* Washing machines. 225
b Blinds, etc. 227
- 166 Cable, Bayard, & Co., Montreal, Q.—Clothes rack. 225
- 168 Foster, S. R., & Son, St. John, N. B.—Fireproof shutters. 225
- 171 Wood, T. M., & Co., Toronto, Ont.—Venetian blind. 227
- 174 Evans, Oscar C., Hamilton, Ont.—Blinds. 227
- 176 Fontaine, J., Montreal, Q.—Hot-house windows. 227
- 177 Wells & Co., Toronto, Ont.—Window fastener. 227
- 178 Fairbank, Hawes, & Co., St. John, N. B.—Doors, blinds, sash, turned work. 227
- 179 Wilson, Gilmour, & Co., St. John, N. B.—Marbleized mantels and grates. 227
- Yarns and Woven Goods of Vegetable or Mineral Materials.**
- 180 Dundas Cotton Mills Co., Hamilton, Ont.—Cotton fabrics. 230
- 181 Canada Cotton Manufacturing Co., Cornwall, Ont.—Domestics, tickings, bags, yarn, etc. 230

Woven Goods, Clothing, Paper Work.

- 182 Smith & Wilby, Toronto, Ont.—
Samples of cotton batts. 230
- 183 Woodworth, J. L., St. John, N. B.—
Cotton yarns. 230
- 184 Parks, W., & Son, St. John, N. B.—
White and colored cotton yarns. 230
- 185 Winger, H., Elmira, Ont.
a Canadian and Oxford gray cloth. 230
b Linen sheeting. 233
- 186 Stevens, A. J., & Co., Paris, Ont.—
Floor oil cloth. 234
- Woven and Felted Goods of Wool, etc.**
- 191 Toronto Tweed Co., Toronto, Ont.
a Tweeds. 235
b Flannels. 236
- 192 Rosamond Woolen Co., Almonte,
Ont.—Cassimeres. 235
- 195 Mills & Hutchison, Montreal, Q.—
Tweeds. 235
- 196 Paton Manufacturing Co., Sher-
brooke, Q.—Cloths and tweeds. 235
- 197 Woodworth, J. L., St. John, N. B.—
Woolen yarns. These 4-ply woolen yarns,
chiefly for knitting purposes, are made of
pure native wool, with special regard to
durability. 235
- 198 Oxford Woolen Mills, Oxford, N.
S.—Woolen goods. 235
- 199 Fisher, T. S., Toronto, Ont.
a Tweeds, buckskins, doeskins. 235
b Yarns. 238
- 200 Advisory Board, Victoria, Br. Col.
a Yarn made from wool of Rocky mountain
goat. 235
b Indian blankets from wool of Rocky moun-
tain goat. 237
- 201 Lomas, Adam, & Son, Sherbrook,
Q.—Flannels. 236
- 202 Willett, S. T., Chambly, Q.—Flan-
nels. 236
- 203 St. John Woolen Mills, St. John, Q.—
Flannels. 236
- 203a Smith & Wilby, Toronto, Ont.—
Fancy flannels. 236
- 204 Cantlie, Ewan, & Co., Montreal, Q.—
Plain and fancy flannels. 236
- 205 Winger, H., Elmira, Ont.
a Blankets. 237
b White stocking yarn. 238
- 207 Wardlaw, J., Galt, Ont.—Woolen
yarns. 238
- Clothing, Jewelry, and Ornaments;
Traveling Equipments.**
- 210 Taylor, R. F., & Son, Toronto, Ont.—
Full dress suit, dress overcoat. 250
- 212 McCrae & Co., Guelph, Ont.—Knit
goods and hosiery. 250
- 213 Ancaster Knitting Co., Hamilton,
Ont.—Knitted and fancy goods. 250
- 214 Blacklock, W., & Co., Hastings,
Ont.—Wool shirts and drawers. 250
- 215 Smith, H. H., Goderich, Ont.—
Suits of Canadian goods. 250
- 216 Shorey & Co., Montreal, Q.—Ready
made clothing. 250
- 217 Fisher, T. S., Toronto, Ont.—
Shirts, pants, clouds, and scarfs. 250
- 218 Skelton, Tooke, & Co., Montreal,
Q.—Shirts, collars, and cuffs. 250
- 219 Brown & Clagget, Montreal, Q.—
Dresses. 250
- 220 Willis, E., & Co., St. John, N. B.—
Paper collars and cuffs. 250
- 222 May, James S., St. John, N. B.—
Ready-made clothing. 250
- 225 McKensie, Charlottetown, P. E.
I.—Clothing. 250
- 228 Sussex Boot & Shoe Co., Sussex
N. B.—Boots and shoes. 251
- 229 Sutherland, A., Kingston, Ont.—
Boots and shoes. 251
- 231 King & Brown, Toronto, Ont.—
Boots and shoes. 251
- 233 Moore, T. H., Cooksville, Ont.—
Wood models of boots and shoes. 251
- 235 Corestine, J., & Co., Montreal, Q.—
Hats and caps. 251
- 237 Gentesse, C., Montreal, Q.—Im-
proved head conformateur. 251
- 238 Slater & Perry, Montreal, Q.—
Boots and shoes. 251
- 239 Cloutier, George, Pointe Levis, Q.—
Shooting boots. 251
- 242 Ramsay, D., Cobourg, Ont.—Boots
and shoes. 251
- 244 Dominion Suspender Co., St. Ste-
phens, N. B.—Gents' and youths' suspen-
ders. 251
- 260 Saunders, S., Guelph, Ont.—Carved
walking-canes. 254
- 261 Shantz, J. Y., Berlin, Ont.—Vege-
table ivory buttons. 254
- 263 Lavoie, M., Montreal, Q.—Hair
work. 254
- 264 Leblanc, J. H., Montreal, Q.—
Fancy feathers. 254
- 265 Clarke, U. E., & Co., Toronto, Ont.—
Trunks, valises, and bags. 255
- 266 Taylor, Robert, Halifax, N. S.—
Trunks. 255
- 267 Borbridge, S. & H., Ottawa, Ont.—
Trunks. 255
- 268 Chisholm, W., New Glasgow, N.
S.—Ladies' trunks. 255
- 269 Renfrew, G. R., & Co., Quebec, Q.—
Furs, Indian work. 256
- 270 Reynolds & Volkel, Montreal, Q.—
Complete set of furs. 256
- 271 Hudson Bay Co., Montreal, Q.—
Furs. 256
- 272 Keizer, C., & Son, Halifax, N. S.—
Furs. 256
- 272 Thibault, Lanthier & Co., Mon-
treal, Q.—Furs. 256
- Paper, Blank Books, and Stationery.**
- 278 Kilgoren Bros., Toronto, Ont.—
Paper bags. 260
- 283 Wilson, J. C., & Co., Montreal, Q.—
Paper bags. 260
- 284 Canada Paper Co., Montreal, Q.—
Wrapping and printing paper and enve-
lopes. 260
- 288 Warwick, Wm., Toronto, Ont.—
School blank books, letter press. 261
- 289 Hunter, Rose & Co., Toronto, Ont.—
Books printed and bound. 261
- 290 Brown Bros., Toronto, Ont.—Ac-
count and pocket book binding. 261
- 291 Perrault, L., & Co., Montreal, Q.—
Account books, printing. 261

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Weapons, Medical Appliances, Hardware, Brushes.

- 293 Dawson Bros., Montreal, Q.—
Blank books, binding. 261
- 295 MacKinlay, A. & W., Halifax, N.
S.—Blank books. 261
- 297 Stanton, M., & Co., Toronto, Ont.
—Room paper hangings. 264

Weapons, etc.

- 300 Meyer, F. W. Albert, Montreal,
Q.—Small gun, light artillery. 266
- 301 Rawbone, J. L., Toronto, Ont.—
Implements for breech and muzzle guns. 269
- 302 Stephens, R. E., Owen Sound,
Ont.—Breechloading rifle. This rifle is
remarkable for having only the minimum
of motions, cock, load, and fire; the maxi-
mum of rapid fire is consequently attained.
It has the side-hinge block breech. 269
- 303 Kilby, R. H., Montreal, Q.—Evans
repeating rifle. 269
- 305 Egan, John, Halifax, N. S.—Case
of guns and rifles. 269

Medicine, Surgery, Prothesis.

- 307 Miller, Hugh, & Co., Toronto, Ont.
—Tick destroyer for sheep. 272
- 310 Stewart, George, jr., St. John, N. B.
—Ship's medicine chest. 272
- 311 Marter, F. B., Halifax, N. S.—
Ship's medicine chest. 272
- 314 Canada Truss Factory, Montreal,
Q.—Surgical apparatus, artificial limbs. 276
- 315 Pourtier, M., Quebec, Q.—Philo-
donte fountain. 277

Hardware, Edge Tools, Cutlery, and
Metallic Products.

- 316 Moore, Th., Cooksville, Ont.—Axe
and tool handles. 280
- 318 Smith, R. H., & Co., St. Catherine,
Ont.—Saws. 280
- 220 Dates Patent Steel Co., Toronto,
Ont.—Edge tools. 280
- 322 Ahern & Walsh, Ottawa, Ont.—
Lumbermen's tools. 280
- 323 Robertson, Peter, Ottawa, Ont.—
Lumbermen's and stonecutters' tools. 280
- 324 Warnock, Jos., & Co., Galt, Ont.—
Edge tools for wood, iron, and stone. 280
- 325 Booth, G., Toronto, Ont.—Engine
and pipe wrench. 280
- 327 Chapleau, Godfroi, Montreal, Q.—
Limestone cutters' tools. 280
- 328 Gilmour, G., Cote St. Paul, Q.—Au-
gers and bits. 280
- 329 Boivin & Co., New Liverpool, Q.—
Axes and edge tools. 280
- 332 Spiller Bros., St. John, N. B.—Edge
tools and cutlery. 280
- 335 Broad, E., St. John, N. B.—Axes,
edge tools, hammers. 280
- 339 Morley, Victoria, Br. Col.—Carpen-
ters' mallets, yew and arbutus. 280
- 340 Cable, Bayard, & Co., Montreal, Q.
—Adjustable elastic razor strop. 281
- 341 Whelpley, J. Albert, Greenwich,
N. B.—Skates. 281

- 342 Starr Manufacturing Co., Halifax,
N. S.—Skates. Acme, Club, Forbes' pat-
ent, sold largely in Russia, Sweden, Nor-
way, Denmark, France, England, and
United States. Being self-fastening, it
possesses great merit for convenience.
Quality superior. 281
- 343 Fenerty, E. L., & Co., Halifax, N.
S.—Skates. 281
- 344 Copp Brothers, Hamilton, Ont.—
Enameled ware. 283
- 347 Laidlaw, A., & Co., Hamilton, Ont.
a Enameled hollow ware. 283
b Enameled plumbers' ware. 284
- 349 Dixon, Smith, & Co., Toronto, Ont.
—Sash fastener. 284
- 352 Campbell, Geo., Toronto, Ont.—
Fireproof shutters. 284
- 353 Gibbs, Geo., & Co., Port Hope, Ont.
—Nuts and bolts. 284
- 354 Law, John, London, Ont.—Brass
work. Our mica slit lubricator will bear
high pressure, is transparent, will not
break. Our water-gauge glass guard and
new mode of packing is very durable.
Law's patent tar and petroleum burner
demonstrates gas tar and petroleum tar as
a good and handy fuel. A quarter-inch
stream of tar will give fifty horse-power
sure. 284
- 355 Griffith & Co., Toronto, Ont.—Locks
and latches. 284
- 356 Brisley, W., Toronto, Ont.—Clip
hook. 284
- 358 Stringer, Jos., Kingston, Ont.—
Locks. 284
- 359 Cavern & Button, Gananoque, Ont.
—Hinges and nails. 284
- 360 Ritchie, John, & Son, Toronto, Ont.
—Brass work. 284
- 363 Pillow, Hersey, & Co., Montreal,
Q.—Tacks, nails, spikes, horseshoes.
American export agents and foreign
visitors interested in this class of goods
will do well to examine them. We en-
deavor to please all in executing orders
intrusted to us. They can be sold at
prices that must induce buyers. 284
- 365 Ives, H. R., Montreal, Q.—General
hardware. 284
- 370 Belanger, Vinet, & Dupart, Mon-
treal, Q.—Axles. 284
- 373 Foster, S. R., & Son, St. John, N. B.
—Tacks, nails. 284
- 374 McKenzie, M., Prince Edward's
Island.—Burglar-proof locks. 284
- 376 Starr Manufacturing Co., Halifax,
N. S.—Nails, spikes, bolts, cans, dies. 284

Fabrics of Vegetable, Animal, or
Mineral Materials.

- 379 Gurd, J. R., London, Ont.—Corn
broom and whisks. 286
- 381 Simms, T. S., & Co., St. John,
N. B.—Brushes. 286
- 382 Whitehead & Turner, Quebec, Q.
a Brushes, brooms, dusters. 286
b Fancy woodenware. 289
- 383 Nelson, H. A., & Sons, Montreal, Q.
—Brooms. 286

Cordage, Leather, Wooden, Metal Ware.

- 385 Copland, McLaren, & Co., Montreal, Q.—Wire brushes for cleaning castings. 286
- 387 Copeland, Geo., Hamilton, Ont.—Cordage and twine. 287
- 390 Conner, Thos., & Sons, St. John, N. B.—Cords, ties, lines. 287
- 391 The Dartmouth Ropework Co., Halifax, Nova Scotia—Manila cordage and bolt rope, and tarred manila lanyards, four-strand tarred Russian hemp cordage and ratline. No. 1 navy, navy, and patent new stock oakum in 50-pound bundles, and the same qualities spun, ready for calkers to drive. The patent new stock oakum is made entirely from hemp and tow, tarred upon their own machinery, patented December 30, 1873. It can be carded or spun directly from tarring machine, the finished oakum being completed within the hour. 287
- 392 Bridge, Andrew, West Brook, Ont.—Pails and tubs. 289
- 393 Clerke & Co., St. John, N. B.—Lasts for boots and shoes. 289
- 394 Hall, G. B., Quebec, Q.—Tubs, pails. 289
- 396 Peacock, W., Montreal, Q.—Crick-et bats. 289
- 399 Wendberg & Co., Toronto, Ont.—Galvanized ironwork. 291
- Carriages, Vehicles, and Accessories.**
- 419 Guerin, C., Ottawa, Ont.—Child's carriage. 293
- 426 Webb, John R., Quebec, Q.—Slid-ing sleigh. 295
- 431 Lugsden & Barnett, Toronto, Ont.—Ladies' hunting saddles. 296
- 432 Skellington, S., Bros., Windsor, Ont.—Whip lashes. 296
- 433 Borbridge, S. & H., Ottawa, Ont.—Harness. 296
- 434 Vahey, W., Forrest, Ont.—Collars and machine. 296
- 438 Percy, John, Bowmanville, Ont.—Horseshoes. 296
- 439 Weichel, M., Elmira, Ont.—Horse-shoes. 296
- 440 Bell, C. R., Parkhill, Ontario.—Horseshoes. 296
- 441 Malcolm, R., Toronto, Ont.—Sad-dlery, harness, bags. 296
- 442 Cable, Bayard, & Co., Montreal, Q.—Halter clasps. 296
- 446 Culbert, W. H., Sussex, N. B.—Harness, collars. 296
- 449 Campbell & Fowler, St. John, N. B.—Springs and axles. 296
- 450 Clarke, R., & Co., St. John, N. B.—Lasts. 533
- 451 Bradshaw, T. H., St. Martin's, N. B.—Ship models. 594
- 452 Bradshaw, J. D., St. Martin's, N. B.—Ship models. 594
- 453 Date, John, Montreal, Q.—Diving apparatus. 594
- 454 Skinner, G. M., Gananoque, Ont.—Fishing tackle. 647
- 455 Scribner, D., St. John, N. B.—Salmon and trout rods. 647

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

FRANCE.

(North of Nave, Columns 39 to 53.)

Chemical Manufactures.

Chemical Manufactures.

- | | | | | | |
|----|--|-----|----|---|-----|
| 1 | Grillon, E., Paris.—Indian dates. | 200 | 27 | Joseph, Victor, Petit Quévilly, near Rouen.—Oil for burns. | 200 |
| 2 | Coignet, Father & Son, & Co., Paris.—Chemical and pasture products. | 200 | 28 | Lefebvre, Fortuné, Illiers, Eure & Loire.—Green water. | 200 |
| 3 | Galzy, E., Lyons.—Insect products. | 200 | 29 | Reynal, Léonce, Paris.—Pharmaceutical preparations. | 200 |
| 4 | Fournier, Jean, Roanne, Loire.—Cream of tartar. | 200 | 30 | Rigand & Dusard, Paris.—Chemical and pharmaceutical preparations. | 200 |
| 5 | Hygienic Products Manufacturing Co., Paris.—Chemical preparations. | 200 | 31 | Rubaton, Ges., & Co., Marseilles.—Carbonate of soda. | 200 |
| 6 | Limousin, Paris.—Pharmaceutical preparations; medicated capsules. | 200 | 32 | Solvay & Co., Varangeville, Dombasle, Mewithe and Moselle.—Chemical products. | 200 |
| 7 | Limousin & Co., Paris.—Medicated capsules. | 200 | 33 | Torchon, Ch., Paris.—Pharmaceutical preparations. | 200 |
| 8 | Michel, Pyrrhus, Vaison, Vaucluse.—Digestive elixir and vermifuge. | 200 | 34 | Hottot, A., & Co., Paris.—Pepsin and other digestive preparations. | 200 |
| 9 | Rigollot & Co., Paris.—Mustard poultice and instantaneous plaster. | 200 | 35 | Thomas Brothers, Avignon, Vaucluse. | 200 |
| 10 | Rouault, Ch., Paris.—Syrup of iron and tar. | 200 | a | Chemical products; artificial alizarine, sulphuric acid, etc. | 200 |
| 11 | Audibran, Paris.—Anti-scorbutic elixir. | 200 | b | Madders. | 202 |
| 12 | Baudon, Paris.—Wine of antimony. | 200 | 36 | Coux Roseaux, Asnieres, near Paris.—Oils and greases; covering for steam pipes. | 201 |
| 13 | Boude & Son, Marseilles.—Refined sulphur. | 200 | 37 | Poiret & Son, Paris.—Soap in the form of letters and various ornaments. | 201 |
| 14 | Beslier, A., Paris.—Pharmaceutical preparations. | 200 | 38 | Bourgeois & Co., Paris.—Machine oils. | 201 |
| 15 | Brasseur, Romorantin, Loir & Cher.—Pectoral tonic syrup. | 200 | 39 | Jolivet, L., Paris.—Wax tapers. | 201 |
| 16 | Bravais, Rooul, & Co., Paris.—Pharmaceutical preparations. | 200 | 40 | Deutsch, A., Paris.—Machine oils; refined petroleum. | 201 |
| 17 | Chevrier, Paris.—Pharmaceutical preparations. | 200 | 41 | Chivot, Naudé, Amiens, Somme.—Machine oils. | 201 |
| 18 | Cléry, Hughes, Paris.—Pharmaceutical preparations. | 200 | 42 | Roux, Charles, jr., Marseilles.—Soaps and raw materials; olive oil for dyers. | 201 |
| 19 | Vicat, Joseph Henri, Paris. | | 43 | Rigaud & Co., Paris. | |
| a | Insect powder, and instruments for its use. | 200 | a | Toilet soaps. | 201 |
| b | Liquid blacking. | 202 | b | Perfumery. | 203 |
| 20 | Tancrède Bros., Paris.—Glue and gelatin, animal charcoal, bone tallow. | 200 | 44 | Violet, Godefroy, & Co., Paris. | |
| 21 | Daubin & Co., Paris.—Fly-paper and mosquito powder. | 200 | a | Soaps. | 201 |
| 22 | Druelle, Reims, Marne.—Champagne wines. | 200 | b | Fine perfumery and raw materials. | 203 |
| 23 | Dubois, Charles, Marseilles.—Special chemical preparations for the navy. | 200 | 45 | Richter, F., Lille, Nord.—Ultramarine blue. | 202 |
| 24 | Garnier, P., Noyon, Oise.—Pharmaceutical preparations. | 200 | 46 | Berthoud & Co., Paris.—Blackening. | 202 |
| 25 | Ducro & Co., Paris.—Meat extract. | 200 | 47 | Antoine's, L., Son, Paris.—Writing inks. | 202 |
| 26 | Jacquand, Father & Son, Lyons.—Glues, gelatins, bone phosphates, etc. | 200 | 48 | Chiraux, L., Cambrai.—Blackening. | 202 |
| | | | 49 | Clauseau, Father & Son, Palun & Co., Avignon, Vaucluse.—Madder extract. | 202 |
| | | | 50 | Coez, E., & Co., St. Denis.—Paints and varnishes. | 202 |
| | | | 51 | Julien, A., & Co., Marseilles.—Chemical products, submarine paint. | 202 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 27-45.

Chemicals, Ceramics, Furniture.

- 52 Bourgeois, senior, Paris.—Fine colors for painting and drawing. 202
- 53 Caron, L., Paris.—Cement and plaster dryer. 202
- 54 Guinon's Son & Co., Lyons.—Chemical products for dyeing and printing. 202
- 55 Gillet & Son, Lyons.—Chemical products for dyeing. 202
- 56 Guimet, Lyons.—Ultramarine blue. 202
- 57 Hardy, Milori, Ch. G., Paris.—Colors. 202
- 58 Jacquot & Co., Paris.—Blacking. 202
- 59 Kaulek, Adolphe, Puteaux, Seine.—Coloring materials. 202
- 60 Larenaudière, F., Paris.—Inks. 202
- 61 Lacroix, A., Paris.—Vitrifiable colors for china, faience, church windows, opal, and enamel. 202
- 62 Lorilleux, Ch., Paris.—Black and colored typographic and lithographic inks. 202
- 63 Plateau, E., Paris.—Writing inks. 202
- 64 Poirrier, A., Paris.—Chemical products, coloring materials. 202
- 65 Seurin, J., Paris.—Varnish, mastic, and oil colors. 202
- 66 Toiray, Maurin, Paris.—Writing inks. 202
- 67 Foubert, A., Paris.—Hair dyes. 202
- 68 Brochocki, C. D., & Co., Boulogne, Seine.—Javelle water. 203
- 69 Chiris, A., Grasse, Alpes Maritimes.—Perfumery and raw materials. 203
- 70 Colas, E., & Christoff, C., Paris.—Essence of roses. 203
- 71 Delettretz, Adolphe, Paris.—Perfumery. 203
- 71a Chouet & Co., Paris.—Dentifrice water. 203
- 72 Hermann, Louis, Paris.—Raw materials for perfumery. 203
- 73 Lautier Sons, Grasse, Alpes Maritimes.—Pomades, essential oils, essences, etc. 203
- 74 Mottett, J., & Co., Marseilles.—Raw materials for perfumery. 203
- 75 Roure, Bertrand, Son, Grasse, Alpes Maritimes.—Raw materials for perfumery; extracts and essences. 203
- 76 Seguin, Bordeaux.—Zenobia water and dyes. 203
- 77 Sensfelder, Arcueil, Seine.—Eye water and pomades. 203
- 78 Viard, F., Paris.—Perfumery. 203
- 79 Viguier, Manager French Hygienic Society, Paris.—Figaro water. 203
- 80 Séguin, Paris.—Althocinum. 203
- Ceramics—Pottery, Porcelain, Glass, etc.**
- 84 Goyard, F., Paris.—Crucibles and furnaces for laboratories. 207
- 85 Simons & Co., Cateau (Nord).—Mosaic tiles of sandstone in vestibule of Department of Public Works Pavillion. 208
- 86 Muller, E., & Co., Ivry (Seine).—Enameled tiles in the vestibule and on the front of Department of Public Works Pavillion. 208
- 87 Ollive, A., Paris.—Faience pavements. 208
- 88 Trichaud, A., Marseilles.—Tiles. 208
- 89 Boulenger, senior, Paris.—Incrusted mosaic pavement. 208
- 90 Gien Pottery Mnfg. Co., Gien (Loiret).—Artistic faience. 210
- 91 Caille, Miss Fanny, Paris.—Artistic faience. 210
- 92 Montagnon, A., Nevers.—Artistic faience. 210
- 93 Howry, J., Paris.—Artistic china and faience, fancy furniture. 210
- 94 Hasslauer & de Champeaux, Givet (Ardennes).—Clay pipes 210
- 95 Aubry, J., Bellevue (near Toul).—Artistic faience. 210
- 96 Fiolet, L., St. Omer (Pas de Calais).—Clay pipes. 210
- 97 Brianchon, J., senior, Paris.
a Artistic faience. 210
b Pearl porcelain. 213
- 98 Sergent, Th., Paris.—Artistic faience. 211
- 99 Barbizet, Son, Paris.—Bernard Palissy faience. 211
- 100 Sohn, L., & Delabre, A., Paris.—Porcelain flowers, jewels, ornaments, crowns, and bouquets. 212
- 101 Woodcock, F., Paris.—Porcelain flowers and bouquet. 212
- 102 Blot, Paul, Paris.—China and glass. 213
- 103 Détemmerman, P., Paris.—Porcelain flowers. 213
- 104 Vacquerel, P. E., Paris.—Decalcomania on porcelain. 213
- 105 Thierry, Paris.—Decorated china. 213
- 106 Field-Haviland, Ch., Paris.—Porcelain. 213
- 107 Hache, Ad., & Lehalleur Bros., Paris.—White and decorated porcelain. 213
- 108 Haviland & Co., Limoges.—China. 213
- 109 Floreffé Company, Jeumont (Nord).—Mirrors and glassware. 214
- 110 St. Gobain, Chauny, & Cirey, Paris.—Plain, plated, and silvered glass; rough glass for skylights. 214
- 111 Pelletier, M. A., & Sons, St. Just on the Loire.—Stained window glass. 216
- 112 Appert, Lengele, & Co., Paris.—Glass cylinders. 216
- 113 Brocard, P. J., Paris.—Chandeliers and mirrors. 216
- 114 Souchet & Co., Paris.—Flowers in enamel. 216
- 115 Hue & Co., Paris.—Crystals for interior decorations. 216
- Furniture and Objects of General Use in Construction and in Dwellings.**
- 116 Raff & Co., Paris.—Church statues and furniture. 217
- 117 Poussielgue, Rusan P., Paris.—Church decorations. 217
- 118 Perrot, Henry, Paris.—Bronzes for furniture. 217

Furniture, Glassware, Heating and Lighting Apparatus.

- 119 Parfony & Lemaire, Paris.—Marble chimney pieces. 217
- 120 Touchard, Ernest, Paris.—Special ornaments for churches. 217
- 121 Duplan, Hamot, & Co., Paris.—Furniture. 217
- 122 Brunet, Paul, Paris.—Bronze and goldsmiths' wares for churches. 217
- 123 Morel, A., Paris.—Bronzes for furniture. 217
- 124 Michel, Louis, Toulouse.—Church decorations. 217
- 125 Mazaroz, Ribalier, Paris.—Artistic furniture. 217
- 126 Marga, Eugene, Paris.—Marble chimney piece. 217
- 127 Mayaud Bros., Paris.—Religious articles. 217
- 128 Marchand, I., Paris.—Decorated furniture. 217
- 129 Marchand, Louis-Léon, Paris.—Artistic bronzes for furniture. 217
- 130 Lichtenfelder, Paris.—Elastic steel seats. 217
- 131 Haffner, B., senior, Paris.—Safes with combination locks. 217
- 132 Kaffel Bros., Paris.—Bronze furniture with china, faience, crystal, and marble decorations. 217
- 133 Jolivet, L., Paris.—Candles for churches. 217
- 134 Houry, T., Paris.—Fancy furniture. 217
- 135 Gallais, A., Paris.—Lacquered furniture. 217
- 136 Froc, Robert, & Son, Paris.—Altars and religious statues. 217
- 136^a Allard, Paris.—Furniture. 217
- 137 Eliaers, A. E., Paris.—Folding seats. 217
- 138 Cornu, E., & Co., Paris.—Bronzes. 217
- 139 Chovet, L., Paris.—Religious pictures. 217
- 140 Beysens & Beckers, Paris.—Religious articles. 217
- 141 Susse Brothers, Paris.—Bronzes. 217
- 142 Sussfeld, Lorsch, & Co., Paris.—Marble clocks. 217
- 143 Sauvage & Ruck, Paris.—Bronze mantel ornaments. 217
- 144 Frenais, Armand, Paris.—Unplated and plated knives, forks, and spoons. 218
- 145 Bitterlin, Paul, jr., Paris.—Glassware. 218
- 147 Haviland & Co., Limoges.—Table china. 218
- 148 Field-Haviland, Ch., Paris.—Table china. 218
- 149 Hache, Ad., & Pepin, Lehalleur Bros., Paris.—Table china. 218
- 150 Bitterlin, Son, Paris.—Glassware. 218
- 151 Blot, Paul, Paris.—Table glass and chinaware. 218
- 152 Lorin, A., Chartres (Eure & Loir).—Stained glass church windows. 219
- 153 Brocard, P. T., Paris.—Emdeane glass. 219
- 155 Chabin, H., Paris.—Stained glass windows. 219
- 156 St. Gobain, Chauny, & Cirey, Paris.—Mirrors. 219
- 157 Mansuy-Dotin, Jules, Paris.—Artistic enamels for furniture. 219
- 158 Pelletier, M. A., & Sons, St. Just sur Loire.—Stained window glass. 219
- 159 Pottier, Paris.—Artistic enamels, Limousin and Henry II. style. 219
- 159^a Brot, Leopold, Paris.—Mirrors in gilt frames; mirrors in furniture. 219
- 160 Thiry, jr., Paris.
^a Galvanized iron bird cage. 219
^b Forged iron pavilion. 227
- 161 Luttringer, Ch., Paris.—Pasteboard frames. 220
- 162 Neuvialle, J. B., Paris.—Heating apparatus. 222
- 163 Laperche, Paris.—Marble chimney pieces. 222
- 163^a Bouhon & Co., Paris.—Bronze fire guards. 222
- 164 Aubry, T., Bellevue, near Toul.—Faience stoves. 222
- 165 Entz, H., Wazcon, near Sedan.—Portable cooking range used in the army. 222
- 166 Roux, L., Lyons.—Heaters and chimney pieces. 222
- 167 Robinot, Ch., Paris.—Gas fixtures. 223
- 168 Corbon, Paris.—Lamps. 223
- 169 Peltier, E., & Paillard, A., Paris.—Metallic labels and boxes for preserves; direct printing upon metals. 224
- 170 Barau & Colas, Nantes (à la Ville en Bois).—Metallic jars for preserving. 224
- 171 Mestre, A. de, Bordeaux.—Apparatus for corking gaseous liquids. 224
- 172 Letang, Th. I. B., Paris.—Chocolate moulds. 224
- 173 Gervais, A., & Co., Paris.—Kettles. 224
- 174 Fisse, Thirion, & Co., Reims.—Iron clasps; system of corking wines. 224
- 175 Denet, E., Paris.—Copper moulds for alimentary pastes. 224
- 176 Dagand, Etienne, Paris.
^a Coffee pots used by the army, navy, steamships, and public establishments. 224
^b Hot water baths. 226
- 177 Dienheim-Brochocki, T. O. de, Paris.—Automatic disinfector. 226
- 178 Chappée, A., Mans (Sarthe).—Iron water and gas pipes. 227
- 179 Richard, B., Longecourt, near Aisery (Cote d'or).—Massive floor with borders. 227
- 180 Regnier, Paris.—Economical wooden ridge of a house. 227

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods, Silk.

- 181 Bonhomme, Uncle & Nephew, Paris.—Wooden doors of the vestibule, and wainscoting and frames of the drawings of the Department of Public Works Pavilion. 227
- 182 Moisant, A., Paris.—Metallic frame of Department of Public Works Exhibition Pavilion. 227
- 183 Secretan, E., Paris.—Copper sheets for construction. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 184 Pallu, Eug., & Co., Mahé (Seychelle Island).—Cocoon fibres. 229
- 185 Dumortier & Cuigniet, Roubain (Nord).—Tickings. 230
- 186 Cartier-Bresson, Paris.—Cotton threads. 230
- 187 Perreaux, L. G., Paris.—Model of a military tent. 230
- 188 Walcker, W., Paris.—Military and garden tents. 230
- 189 Chiffroy, A., Maronne, near Rouen.—Prints and calicoes. 232
- 190 Roussel, Emile, Roubaix (Nord).—Dyed and printed cotton fabrics. 232
- 191 Vraux & Co., Paris.—Linen thread. 233
- 192 Meunier & Co., Paris.—Linen and linen table covers. 233
- 192a Vrau & Co., Paris.—Linen and thread. 233
- 193 Hassebroucq Brothers, Comines (Nord).—Linen threads. 233
- 194 Vrau & Co., Lille.—Hemp thread for sewing. 233

Woven and Felted Goods of Wool, etc.

- 195 Demar, L., Elbeuf (Seine Inférieure).—Gentlemen's dress goods. 235
- 196 Dumortier & Cuigniet, Roubaix (Nord).—Cloth. 235
- 197 Prouvost, Amédée, & Co., Roubaix.—Carded wools. 235
- 193 Chamber of Commerce, Reims.—Woolen fabrics. 235
- 199 Delamotte-Mongrenier, Reims (Marne).—Dyed merinoes, cashmeres, reps, etc. 235
- 200 Seydoux, Sieber, & Co., Paris.—Carded threads and woolen fabrics. 235
- 201 Talamon, Son, & Co., Paris.—Woolen fabrics. 235
- 202 Bellest, E., & Co., Elbeuf.—Woolen cloth. 235
- 203 Blin & Bloch, Elbeuf (Seine Inférieure).—Woolen cloth. 235
- 204 Decaux, Son, Elbeuf.—Woolen cloth. 235
- 205 Dabert & Co., Saint Denis (Seine).—Dyed woolen fabrics. 235
- 206 Fortin Bros., Paris.—Felts. 235
- 207 Fouchet, sr. & jr., & Hulme, Elbeuf.—Cloth. 235
- 208 Frézon, senior, & Leclerc, senior, Amiens.—Cloth. 235
- 209 Philippe, C., Elbeuf (Seine Inférieure).—Cloth for pants and vests. 235

- 210 Mali, Henry W. T., & Co., Paris.—Woolen fabrics and cloth. 235
- 211 Pinon & Guérin, Paris.
a Cloth for men's wear. 235
b Novelties for females' wear. 238
- 212 Reynaud, Paris.—Medicated flannel. 236
- 213 Terrillon, L., Paris.—Shawls. 237
- 214 Robert, Guérin, Widow, & Son, Reims (Marne).—Merinoes and Scotch cashmeres. 238
- 215 Houpin, Ernest, Reims (Marne).—Dyed merinoes, cashmeres, reps, etc. 238
- 216 Maes, G., Clichy-la-Garonne.—Dyed woolen fabrics. 238
- 217 Dufourmantel, Ph., & Co., Corbie (Somme).—Woolen and silk warps. 238
- 218 Chalamel, Alf., & Co., Paris.—Dyed woolen fabrics. 238
- 219 Laroche, A., Saulxures (Vosges).—Cotton and wool, with process of manufacture. 238
- 220 Drogue & Monnard, Lyons.—Poplins. 238
- 221 Droz, Juillet, & Co., Lyons.—Poplins. 238
- 222 Gravier, Clément, Nimes (Gard).—Velvet carpets. 239
- 223 Duplan, Hamot, & Co., Paris.—Carpets. 239
- 224 Bertrand, Boulla, Nimes (Gard).—Imitations of old tapestries. 239
- 225 Braquenie Brothers, Paris.—Tapestries and carpets. 239
- 226 Grison, T., & Co., Lisieux (Calvados).—Dyed and printed cloth. 241
- 227 Guillaumet, A., Sons, Suresnes (Seine).—Dyed woolen fabrics. 241
- 228 Boquet, J., & Co., Amiens.—Velvet. 241
- 229 Chiffroy, A., Maromme, near Rouen.—Printed woolen fabrics. 241
- 230 Roussel, Emile, Roubaix (Nord).—Dyed and printed woolen fabrics. 241
- 231 Piquée, F., & Bros., Paris.—Reps and velvets. 241
- 232 Poirrier-Mortier & Muller, Paris.—Dyed fabrics. 241
- 233 Vanoutryve, F., & Co., Paris.—Furniture coverings. 241
- 234 Wattine, Ch., & Co., Roubaix (Nord).—Furniture coverings and draperies. 241
- 235 Montagnac, E. de, & Son, Sedan (Ardennes).—Velvet. 241
- 236 Dupont, L., Paris.—Furniture coverings. 241

Silk and Silk Fabrics.

- 237 Pellet, A. P., St. Jean du Gard.—Raw silk. 242
- 238 Arles, Dufour, Lyons.—Raw silk. 242
- 239 Boudon, Louis, St. Jean du Gard.—Raw silk. 242
- 240 Chabert, J., & Co., Chomerac (Ardèche).
a Raw silk. 242
b Woven silks. 245

Silk, Clothing.

- 241 Thomas Brothers, Avignon (Vaucluse).
a Raw silk. 242
b Silks. 245
- 242 Thomas, F., Pont-des-Charrettes (Gard).
a Cocoons and raw silk. 242
b Silks. 245
- 243 Bonnet & Co., Lyons.
a Raw silk. 242
b Failles, taffetas, and satins. 245
- 244 Chardin, Ernest, Paris.—Sewing and embroidery silks. 243
- 244*a* Poydebard, St. Paul-on-Jarret, Loire.—Sewing silk. 243
- 245 Hamelin, A., Son, Paris.—Silks. 244
- 246 Faye & Thèvenin, Lyons.—Colored silks. 245
- 246*a* Droz, Juillet & Co., Lyons.—Silks. 245
- 247 Gascou, L. R., Montauban (Tarn and Garonne).—Bolting silk. 245
- 248 Gillett & Son, Lyons.—Black silks. 245
- 249 Giraud, Alex., & Co., Lyons.—Colored silks and foulards. 245
- 250 Trapadoux, A. L., Bros., & Co., Lyons.—Foulards. 245
- 251 Poncet, senior & junior, Lyons.—Silks. 245
- 252 Sévène, Barral, & Co., Lyons.—Failles. 245
- 253 Tapissier Sons & Debry, Lyons.—Black silks, failles, and taffetas. 245
- 254 Doux, E., & Co., Lyons.—Silks. 245
- 255 Mauvernay & Co., Lyons.—Silks. 245
- 256 Lachard Bros. & Co., Lyons.—Lining silks 245
- 257 Jaubert, Audras, & Co., Lyons.—Black silks. 245
- 258 Jaudin & Duval, Lyons.—Foulards. 245
- 259 Brosset-Heckel & Co., Lyons.—Satins. 245
- 260 Audibert, Monin, & Co., Lyons.—Silks and poplins. 245
- 261 Bardon & Ritton, Lyons.—Colored silks. 245
- 262 Bullot, C., Paris.—Millinery goods. 245
- 263 Huber, E., & Co., Paris.—Silk plush for hatters. 245
- 264 Tabard, Benoit, & Co., Lyons.
a Silks and failles. 245
b Moire antiques. 246
- 265 Bressen-Agnès & Co., Lyons.
a Silks. 245
b Gauzes. 247
- 266 Guinet, Ant., & Co., Lyons.
a Black silks. 245
b Velvets. 247
- 267 Jurie, A., & Co., Lyons.
a Silks. 245
b Velvets. 247
- 268 Gondard, Cirlot, & Martel, Lyons.
a Foulards. 245
b Velvets. 247
- 269 Martin, J. B., Tarare (Rhône).
a Silks 245
b Plush and velvets. 247
- 270 Million & Servier, Lyons.
a Silks. 245
b Velvets. 247
- 271 Champomy, J. B., Renaison (Loire).
a Foulards. 245
b Ribbons. 248
- 272 Gour, Croizat, Son, & Dubost, Lyons.—Silks. 246
- 273 Henry, J. A., Lyons.—Silk fabrics for church ornaments and furniture. 246
- 274 Luthringer, Lyons.—Figured silks. 246
- 275 Tassinari & Chatel, Lyons.—Silks for church ornaments and furniture. 246
- 276 Chiffroy, A., Maromme, near Rouen.—Printing upon silk. 246
- 277 Servant, C. J., & Co., Lyons.—Black velvets. 247
- 278 Montessuy & Chomer, Lyons.—Crapes. 247
- 279 Terrillon, L., Paris.—Fancy goods and handkerchiefs. 247
- 280 Villard & Co., Lyons.—Black velvets. 247
- 281 Bouchinet, Paris.—Dress goods. 247
- 282 Gautier, Bellon, & Co., Lyons.—Velvets. 247
- 283 Dornon, L., Lyons.—Silk gauzes for bolting flour, and sifting chemical and ceramic products. 247
- 284 Font, Chambeyron, & Benoit, Lyons.—Black velvets. 247
- 285 David, J. B., Saint-Etienne (Loire).—Ribbons. 248
- 285*a* Brionde, St. Etienne.—Velvet ribbons. 248
- 286 Girou Brothers, St. Etienne (Loire).—Velvet ribbons. 248
- 287 Lamary, Paris.—Silk watch guards. 249

Clothing, Jewelry, and Ornaments:
Traveling Equipments.

- 288 Lutton, Am., Paris.—Chasubles. 250
- 289 Fromage, Lucien, & Co., Rouen.—Braces, belts, garters, and elastic trusses. 250
- 290 Tabourot & Pacault, Paris.—Shirts. 250
- 291 Vessiere-Paulin, J. A., Paris.—Children's clothing. 250
- 292 Vauthier, Mrs., Paris.—Children's clothing. 250
- 293 Tailors' Society, Paris.—Gentlemen's clothing. 250
- 294 Bullot, C., Paris.—Silk stockings. 250
- 295 Levillon, Paris.—Ladies' costumes and trimmings. 250
- 296 Lenoir, P., Paris.—Corsets. 250
- 297 Fouet, Mrs., Paris.—Ladies' underwear. 250
- 298 Farcy & Oppenheim, Paris.—Corsets. 250
- 299 Society of United Cutters, Paris.—Gentlemen's furnishing goods. 250

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Clothing, Jewelry.

- 300 Vasseur, Mrs. Virginie, Paris.
 a Traveling and court dresses; cloaks. 250
 b Laces. 252
- 301 Herth, Henry, Paris.—Boots and shoes. 251
- 302 Jouvin & Co., Paris.—Kid gloves. 251
- 303 Tréfousse & Co., Chaumont (Haute-Marne).—Kid gloves. 251
- 304 Poron Bros., Troyes (Aube).—Millinery. 251
- 305 Jouvin, Mrs. Xavier, Paris.—Kid gloves. 251
- 306 Jeandron-Ferry, Paris.—Ladies' boots and shoes. 251
- 307 Jugla, D., Paris.—Kid gloves. 251
- 308 Méliés, Louis Stanislas, Paris.—Boots and shoes. 251
- 309 Nemoz, Pierre, Paris.—Ladies' and children's felt hats. 251
- 309a Legendre, Paris.—Boots and shoes. 251
- 310 Ruffin, J. B., Paris.—Hats for ladies and children. 251
- 311 Berr, Eugène, Paris.—Kid gloves. 251
- 311a Guibert, jr., Paris.—Gloves. 251
- 312 Bullot, C., Paris.—Millinery. 251
- 313 Buscarlet, Widow, & Malo, Paris.—Kid gloves and skins. 251
- 314 Shoemakers' Society, Paris.—Boots and shoes. 251
- 315 Chapsal, Auguste, Aurillac (Cantal).—Waterproof shoes. 251
- 316 Dubois, Gustave, Mony (Oise).—Boots and shoes. 251
- 317 Corady, Julia de, Paris.—Millinery. 251
- 318 Pinet, F., Paris.—Boots and shoes for ladies and children. 251
- 319 Huard, L., Paris.—Boots and shoes. 251
- 320 Hègle-Glandines & Corbeau, Paris.—Gloves. 251
- 321 Bacquet & Co., Saint-Pierre-les-Calais.—Machine-made laces. 252
- 322 Babey, Ch., Calais.—Tulles and embroideries. 252
- 323 Bailey, Alfred, Paris.—Tulles and gimp for furniture. 252
- 324 Boutenjeun, Saint-Pierre-les-Calais.—Machine-made laces. 252
- 326 Maxton, Robert, & Co., Saint-Pierre-les-Calais.—Machine-made laces. 252
- 327 Meunier & Co., Paris.—Embroidered curtains. 252
- 328 Millas, Toulouse.—Gimps for furniture. 252
- 328a Galoppe & Tragin, Paris.—Laces. 252
- 329 Herbelot & Devaux, Calais.—Blonde and laces. 252
- 330 Dieutegard, E. & E., Paris.—Trimmings. 252
- 331 Dognin & Co., Paris.—Lama, India, and Chantilly laces. 252
- 332 Giraud & Josserand, Tarare (Rhône).—Muslins and tarlatans. 252
- 333 Gaillard, J., senior & junior, Saint-Pierre-les-Calais.—Machine-made laces. 252
- 334 Frances Brothers, Saint-Pierre-les-Calais.—Tulle and blonde laces. 252
- 335 Flauraud & Son.—Laces. 252
- 336 Pauw, F. de, Paris.—Trimmings. 252
- 337 Perrin Brothers, Grenoble.—Kid gloves. 252
- 338 Raffin, Mrs. C. M., & Son, Tarare.—Tarlatans and muslins. 252
- 339 Terrillon, L., Paris.—Ladies' trimmings. 252
- 339a Crassier & Co., Paris.—Laces. 252
- 340 Cossard, Paris.—Laces. 252
- 341 Cazin & Noyon, Saint-Pierre-les-Calais.—Blonde and black laces. 252
- 342 Verdé-Delisle & Co. (India Company), Paris.—Hand-made lace. 252
- 343 Davenieré, E., jr., Saint-Pierre-les-Calais.—Machine-made laces. 252
- 343a Erassier, Paris.—Laces. 252
- 344 Collective Exhibit of the Calvados lace manufacturers.—Dalechamp, J., Caen; Lecornu, Caen; Lecoq-Lamotte, Caen; Leroy, Mrs., Caen; Mèrouze, Mrs., Caen; Robert Bros., Courseulles-sur-Mer (Calvados); Mèrouze, U., Caen; Verdé Delisle & Co., Caen. Laces. 252
- 345 Clément & Co., Paris.—Pearls and diamonds. 253
- 346 Audy, Mrs., Paris.—Imitation pearls. 253
- 347 Bolzani, Jean, Son, Paris.—Chains. 253
- 347a Boucheron, Paris.—Jewelry. 253
- 348 Bourcier, Ch., Paris.—Imitation jewelry. 253
- 349 Carbonneaux, François, Paris.—Gilt and steel jewelry. 253
- 349a Otterbourg, Paris.—Jewelry. 253
- 350 Capra, J., Paris.—Gilt jewelry. 253
- 351 Foruch, A., Bourg (Ain).—Jewelry. 253
- 352 Hémery, Ed., Paris.—Gilt and gold-plated jewelry. 253
- 352a Briens, Paris.—Jewelry. 253
- 353 Hirn, A., & Co., Paris.—Gilt jewelry. 253
- 354 Levy, Isidore, Paris.—Imitation jewelry. 253
- 355 Maseurand Bros., Paris.—Gilt jewelry and pearls. 253
- 356 Murat & Co., Paris.—Gold-plated jewelry. 253
- 356a Bosset, Paris.—Jewelry. 253
- 357 Philippe, Emile, Paris.—Jewelry. 253
- 358 Piel, A., Paris.—Imitation jewelry. 253
- 359 Regad, Anatole, jr., Paris.—Imitation diamonds. 253
- 360 Savary & Rondeleux, Paris.—Jewelry and imitation stones. 253
- 361 Sordoillet, Joseph François, Paris.—Steel jewelry. 253
- 362 Soyer, Paul, Paris.—Jewelry. 253

Jewelry, Fancy Articles, Stationery.

- 363 Topart Bros., Paris.—Imitation pearls and corals. 253
- 364 Touchard, Ernest, Paris.—Gilt church and theatrical ornaments. 253
- 365 Carmant, Adolphe, Paris.
 a Jewelry. 253
 b Fancy bronzes. 254
- 366 Cléray, E., Paris.
 a Shell jewelry. 253
 b Fancy articles. 254
- 367 Woodcock, F., Vaugirard.—Porcelain flowers. 254
- 368 Aubé, H., Paris.—Napkin ring and fastener. 254
- 369 Bapterosses, F., Paris.—Porcelain buttons and pearls. 254
- 370 Biqué & Dupressoir, Paris.—Feathers. 254
- 371 Blot, Eugène, Boulogne-sur-Mer.—Clay pipes. 254
- 372 Bondier, Ulbrich, & Co., Paris.—Meerscham and briar-wood pipes. 254
- 373 Bontems, B., Paris.—Moving and singing birds. 254
- 374 Bourgeois, senior, Paris.—Colors without poison, for toys. 254
- 375 Brodin, jr., Paris.—Aerostatic articles. 254
- 376 Cohumer & Collet, Paris.—Children's and dolls' furniture. 254
- 377 Charageat, E., Paris.—Paragon and automatic umbrella. 254
- 378 Dehors, A., Paris.—Toys. 254
- 379 Delivré, L., Paris.—Artificial flowers. 254
- 380 Deschamps, Maurey, & Co., Paris.—Toilet brushes. 254
- 381 Détémmernann, P., Paris.—Porcelain flowers. 254
- 382 Didout, H., Son, Paris.—Clasps for pocket books, cigar cases, etc. 254
- 383 Dupont, A., Beauvais.—Ivory brushes. 254
- 384 Faivre, Paris.—Toys. 254
- 385 Favier, A., Paris.—Flowers and leaves. 254
- 386 Fiolet, L., Saint Omer (Pas de Calais).—Clay pipes. 254
- 387 Girondeau, François, Paris.—Fancy bronzes. 254
- 388 Gogly, Auguste, Paris.—Artificial flowers. 254
- 389 Gosse-Perier, Paris.—Artificial flowers. 254
- 390 Guyot & Migneaux, Paris.—Birds and insects made of flowers and feathers. 254
- 391 Hasslauer, Mrs., & Champeaux de, Givet (Ardennes).—Clay pipes. 254
- 392 Hiélard, L., & Co., Paris.—Feathers and artificial flowers. 254
- 393 Jumeau, F., Paris.—Dolls. 254
- 394 Kees, Ernest, Paris.—Fans. 254
- 395 Lamarre, Paris.—Fancy articles. 254
- 396 Loiseau, A., Son, Paris.—Toys. 254
- 397 Loonen, F., Paris.—Ivory brushes. 254
- 398 Maltête, Paris.—Toys. 254
- 399 Mayaud Bros., Paris.—Medals and ornaments. 254
- 400 Muzet & Co., Paris.—Hair work. 254
- 401 Pinson, Paris.—Shell, ivory, and pearl fancy articles. 254
- 402 Radiguet, Paris.—Toys. 254
- 403 Ravenet, senior, Paris.—Combs. 254
- 404 Sohn & Delabre, Paris.—Porcelain flowers. 254
- 405 Souchet & Co., Paris.—Enameled flowers. 254
- 406 Truffy, Paris.—Mechanical toys. 254
- 407 Vacquere, P. E., Paris.—Decalcomanic. 254
- 408 Voisin, V. C., Paris.—Fancy articles. 25
- 409 Bapterosses, F., Paris.—Buttons and pearls of porcelain. 254
- 410 Alexandre, Paris.—Fans. 254
- 411 Walker, W., Paris.—Traveling articles. 255
- 412 Lenégre, A., Paris.—Photographic albums and fancy leather work. 255
- 413 Revillon Bros., Paris.—Furs. 256
- 414 Jacquemin, Paris.—Historical costumes. 257
- Paper, Blank Books, Stationery.**
- 415 Dubourguet, A., Paris.—Inkstands and office and artists' articles. 258
- 416 Gaffré & Caen, Paris.—Steel pens. 258
- 417 Gonthier, Dreyfus, & Co., Paris.—Stationery, lithography, and engravings. 258
- 418 Panier, Ernest, Paris.—Mathematical instruments. 258
- 419 Plateau, E., Paris.—Office stationery. 258
- 420 Poure, Gillot, O'Kelly, & Co., Boulogne-sur-Mer.—Steel pens and pen holders. 258
- 421 Rous, Ermond, Paris.—Inkstand. 258
- 422 Susse Brothers, Paris.—Fancy stationery. 258
- 423 Toiray, Maurin G., Paris.—Office stationery. 258
- 424 Bondier, Ulbrich, & Co., Paris.—Cigarette paper. 259
- 425 Bardou, J. P., Perpignan.—Cigarette paper. 259
- 426 Blanchet Bros., & Kléber, Paris.—Paper. 259
- 427 Bernard, J., & Co., Paris.—Papers. 259
- 428 Haymann Bros., Paris.—Tissue papers. 259
- 429 Hennecart & Co., Paris.—Papers. 259
- 430 Lacroix Bros., Paris.—Writing papers and parchments. 259
- 431 Maguet, Paris.—Fancy stationery and engraving. 259
- 432 Marais & St. Marie Paper Mills, Paris.—Paper. 1259
- 433 Lair, E., Paris.
 a Bond paper. 259
 b Printing paper. 260

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Stationery, Weapons, Medical Appliances, Hardware.

- 434 Bécoulét & Co., Paris.
a White and fancy papers. 259
b Colored papers. 264
- 435 Canson & Montgolfier, Paris.—Paper. 260
- 435*a* Lortie, Paris.—Bookbinding. 261
- 436 Hutinet, D., Paris.—Bristol board and cards. 262
- 437 Laroche, A., Saulxures (Vosges).—Vegetable paste for pasteboard manufacturers. 262
- 438 Desfeux, Ph., Paris.—Leather roofing. 262
- 439 Bourgeois, Martin, jr., Paris.—Decorative paintings for apartments and fireboards. 263
- 440 Roger & Montlouis, Paris.—Wall papers. 264
- Weapons, etc.**
- 441 Gévelot, Paris.—Guns and ammunition. 265
- 442 Jullien & Gauthey Bros., Paris.—Metallic cartridges. 265
- 443 Lafiteau & Rieger, Paris.—Fancy arms. 269
- Medicine, Surgery, Prothesis.**
- 444 Eadiole, Henry, Tarbes (Hautes-Pyrénées).—Medicines. 272
- 446 Vie, Garnier, & Co., Paris.—Pharmaceutical preparations. 272
- 447 Valby, Dijon.—Medicinal capsules and pills. 272
- 448 Limousin, Paris.—Machine for the manufacture of capsules, and apparatus for inhaling oxygen gas. 274
- 449 Reynal, Léonce, Paris.—Physicians' case. 274
- 450 Brière, Jules, Alençon (Orne).—Hygienic nipples. 274
- 451 Benas, Jean Pierre, Paris.—Rubber surgical instruments. 276
- 452 Vergne & Chose Bros., Paris.—Rubber surgical instruments. 276
- 453 Rondeau Bros., Paris.—Rubber surgical instruments, truss. 276
- 454 Eliaers, A. E., Paris.—Chairs for invalids. 278
- Hardware, Edge Tools, Cutlery, and Metallic Products.**
- 455 Lichtenfelder, Paris.—Locksmiths' tools. 280
- 455*a* Segant, Paris.—Shoemakers' tools. 280
- 456 Pottecher, B., Bussang (Vosges).—Iron covers and currycombs. 280
- 457 Dugoujon, J., senior, Paris.—Saws. 280
- 458 Limet, Lapareillé, & Co., Paris.—Files. 280
- 459 Rheims, Anatole, Paris.—Military equipments; screws. 280
- 460 Guillemin, Renaut, Nogent (Haute-Marne).—Cutlery. 281
- 461 Girard, Charles, Nogent (Haute-Marne).—Cutlery. 281
- 462 Sommelet, Courcelles (Haute-Marne).—Cutlery. 481
- 463 Thèvenot, Felix, Nogent (Haute-Marne).—Cutlery. 281
- 464 Thinet, Paris.—Cutlery. 281
- 465 Vitry Bros., Paris.—Cutlery. 281
- 466 Charbonne-Thuillier, J., Nogent (Haute-Marne).—Cutlery. 281
- 467 Couvreur, Wichard, Nogent (Haute-Marne).—Pruning shears and cutlery. 281
- 468 Thomachot - Thuillier, Nogent (Haute-Marne).—Scissors and pruning shears. 281
- 469 Dissoire, Nogent (Haute-Marne).—Surgical instruments. 281
- 470 Denizet, Langres (Haute-Marne).—Wall Cutlery. 281
- 470*a* Scheidecker, Ch., Paris.—Shearing machines. 281
- 470*b* Pérard, V., Paris.—Sheep shearing machines. 281
- 471 Chateau, Louis Auguste, Paris.—Emery paper and cloth for polishing glass. 282
- 472 Deplanque, senior, Maison-Alfort (Seine).—Whetstones. 282
- 473 Dumas, Fremy, Mrs., Paris.—Emery paper and cloth. 282
- 474 Durrschmidt, Lyons.—Whetstones. 282
- 475 Edeline, Amédée Jean, Paris.—Bur-nishing stones. 282
- 476 Fournier, Dondel & Co., Paris.—Metallic fire fenders and bronze articles. 283
- 478 Marchand, Louis Léon, Paris.—Bronzes. 283
- 479 Martin, Louis, Paris.—Sheet iron ornaments. 283
- 480 Morel, A., Paris.—Bronze ornaments. 283
- 481 Perrot, Henry, Paris.—Bronzes. 283
- 482 Christoffe & Co., Paris.—Goldsmiths' ware. 283
- 483 Froment-Meurice, Paris.—Goldsmiths' ware. 283
- 484 Cornu, Eug., & Co., Paris.—Bronzes. 283
- 485 Poussielgue - Rusand, Paris.—Bronzes and plated ware for churches. 283
- 486 Sauvage & Rück, Paris.—Bronzes. 283
- 487 Tahon, Felix, Lille.—Forged copper plates. 283
- 488 Susse Bros., Paris.—Bronzes. 283
- 489 Deny, Louis, Paris.—Construction materials. 284
- 489*a* Carmoy, Celestin, Paris.—Brass and steel nails. 284
- 490 Anthoni, G., Levallois-Perret (Seine).—Axles and springs for carriages. 284
- 491 Jeantaud & Co., Paris.—Carriage wheels. 284
- 492 David-Damoiseau & Co., Paris.—Chains. 284
- 493 Marquise Iron Co., Paris.—Chandeliers and stove pipes. 284

Metal, Wooden, Rubber Ware, Vehicles.

- 494 Mage, senior, Lyons.—Woven wire for mattresses. 284
- 495 Siro, C. & L., Charleville (Ardennes).—Nails. 284
- 496 Vachette Bros., Paris.—Locks for furniture. 284
- 497 Chappée, A., Le Mans (Sarthe).—Iron pipes for water and gas. 284
- 498 Chameroy & Co., Paris.—Water pipes and cocks. 284
- 499 Cazaubon, D., Paris.—Pumps and water closets. 284
- 500 Gallais, A., Paris.—Gilt nails. 284
- 501 Thiry, jr., Paris.—Artistic locksmiths' goods. 284
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 502 Fromage, Lucien, & Co., Rouen.—Elastic fabric. 285
- 503 Bénas, Jean-Pierre, Paris.—Rubber surgical instruments. 285
- 504 Vergne & Chose Bros., Paris.—Rubber surgical instruments. 285
- 505 Rondeau Bros., Paris.—Rubber surgical instruments. 285
- 506 Vital, A., Paris.—Lithographic press rollers. 285
- 507 Deschamps, Mauroy, & Co., Paris.—Toilet brushes. 286
- 508 Dupont, A., Beauvais (Oise).—Toilet brushes and prepared bristles. 286
- 509 Loonen, F., Paris.—Brushes. 286
- 510 Pitet, senior & junior, Paris.—Brushes. 286
- 511 Roullies & Co., Paris.—Carpet brushes. 286
- 512 Caruc, Paris.—Ropes. 287
- 513 Arnold, E., Paris.—Metallic, glass, porcelain, and wooden letters; coats of arms of all nations. 288
- 514 Bornet, Paul, Paris.—Signs and leather letters. 288
- 515 Boudvillain, J., Paris.—Trophy of flags. 288
- 516 Pichot, E., Paris.—Ornamental labels. 288
- 517 Moitrier, Leon, Bénaménil (Meurthe).—Wicker baskets. 289
- 518 Policard, René, Paris.—Flower stands, etc. 289
- Carriages, Vehicles, and Accessories.**
- 519 Mühlbacher, Paris.—Carriages. 292
- 520 Gaudichet, Vierzon Cher.—Carriages. 292
- 521 Desouches, Paris.—Carriages. 292
- 522 Binder Bros., Paris.—Carriages. 292
- 523 Million, Guet, & Co., Paris.
a Carriages. 292
b Harness. 296
- 524 Perreaux, Paris.—Steam velocipede. 293
- 525 Huret, N., Paris.—Carriage. 293
- 526 Fortin Bros., Paris.—Harness felts. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GERMANY.

(South of Nave, Columns 28 to 38.)

Chemical Manufactures.

Chemical Manufactures.

COLLECTIVE EXHIBIT OF THE
GERMAN UNION OF MANUFACTURING
CHEMISTS.—MANUFACTURED CHEMICALS, ETC. 200-203

- 1 Kahlbaum, C. A. F., Berlin.
- 2 D'Andrian & Wegelin, Mülhausen.
- 3 Vorster & Grüeneberg, Kalk, near Cologne.
- 4 Schuchardt, Theodor, Görlitz.
- 5 Koepp, Rud., & Co., Oestrich.
- 6 Saame & Co., Ludwigshafen.
- 7 Th. Wurtz's successors, Leipsic.
- 8 Von Heyden, F., Dresden.
- 9 Chemical Joint Stock Co., Berlin.
- 10 Jobst, Friedrich, Stuttgart.
- 11 Fischer & Schmitt, Höchst.
- 12 Brohme & Co., Bergen-on-Dosse.
- 13 Bartels & Kroyemann, Frohse.
- 14 Trommsdorff, H., Erfurt.
- 15 Lindenbauer, Otto, Hanau.
- 16 Marquart, L. C., Bonn.
- 17 Loefflund, Edward, Stuttgart.
- 18 Suhr, W., Altona.
- 19 Heyl, J. F., & Co., Berlin.
- 20 Sauberlich, Anton, Zwickau.
- 21 Bloedner's, Joh. Chr., Son, Gotha.
- 22 Hübner, B., Rehmsdorf.
- 23 Saxon Thuringian Joint Stock Co., Halle-on-Saale
- 24 Ruffer & Co., Breslau.
- 25 Hisgen, G. C., Nassmühle, near Hanau.
- 26 Gans & Leonhardt, Frankfort-on-Main.
- 27 Clever, Joh., Werden.
- 28 Aniline Manufacturing Co., Rummelsburg and Berlin
- 29 Zeltner, Johann, Nuremberg.
- 30 Gysae, Robert, Oberlössnitz.
- 31 Ultramarine Works, Marienberg.
- 32 Kaiserslautern Ultramarine Works, Kaiserslautern.
- 33 Rosenstein, W., Stettin.
- 34 Vossen Bros., Aix-la-Chapelle.
- 35 Hirsch & Merzenich, Cologne.
- 36 Bayer, Fr., & Co., Cologne.
- 37 Johann Anton Farina, zur Stadt Mailand, Cologne.
- 38 Mack, Ernst, Reichenhall.
- 41 Goedecke & Co., Leipsic.

- 41^a Honigman, M. & Co., Aix-la-Chapelle.
- 42 Kluge & Pöritzsch, Leipsic.
- 42^a Sieperman, C. F., & Son, Elberfeld
- 43 Bernhardt, J., Leipsic.
- 43^a Gebens, Ernst, Baden-Baden.
- 44 Brückner, Lampe & Co., Leipsic.
- 45 Sachse, E., & Co., Leipsic.
- 46 Haensel, Heinrich, Pirna-on-Elbe.
- 47 Wolff, F., & Son, Karlsruhe.
- 48 Langwisch, Bernh., Hamburg.
- 49 Lohse, Gustav, Berlin.
- 50 Wilhelmi, F., Reudnitz.
- 51 Lüder & Leidloff, Dresden.
- 52 Kunheim & Co., Berlin.
- 53 Haarmann, W., Holzminden.
- 53^a Royal Prussian & Ducal Brunswick Smelting Works of the Lower Hartz, Gaslar.—Sulphuric acid, intermediate products, etc. 200

- 54 Nörr, Eugene, Berlin.—Siphon valve. 200

STASSFURT COLLECTIVE
EXHIBIT.

- 54^a Royal Salt Works, Stassfurt.—Rock salt, salts of potassium, magnesium, etc. 200
- 54^b Chemical Factory, Stassfurt.—Potassium salts, chloride of potassium, manure salts, etc. 200
- 54^c Chemical Factory, Leopoldshall.—Chloride of potassium, sulphate of potash, glauber salts, etc. 200
- 54^d Chemical Factory of Nett, Faulwasser, & Co., Leopoldshall.—Chloride of potassium. 200
- 54^e Zimmer & Co., Stassfurt.—Artificial salts of chloride of potassium, manure salts, etc. 200
- 54^f Lindemann, G., & Co., Stassfurt.—Chloride of potassium. 200
- 54^g Douglas, B. W. B., Westeregeln.—Salt, medical and manure salts; plans, section of the mine. 200
- 54^h Lairitz, C. & L., Remda.—Pine oil. 201

COLLECTIVE EXHIBIT OF BAVARIAN METAL LEAF AND BRONZE COLORS. 202

- 55 Haenle, Leo, Munich.
- 57 Fuchs, Gg. L., & Sons, Fürth.
- 58 Nuchterlein, Fried., Fürth.
- 59 Metz, Friedrich, Fürth.
- 60 Stoeber & Segitz, Fürth.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 27-45

Chemicals, Ceramics, Glass, Furniture.

- 61 Schaezler, G. E., Nuremberg.
 62 Weidner, J. L. & P., Nuremberg.
 63 Reich, H. & Chr., Nuremberg.
 65 Eiermann & Tabor, Fürth.
 67 Spiegelberger, Ludwig, Fürth.
 68 Cramer, J. W., Fürth.
 69 Beckh, Georg Adam, Nuremberg.
 71 Kühn's Wire Factory, Nuremberg.
 72 Meier, J. C., Fürth, near Nuremberg.
 73 Beyer, Edward, Chemnitz.—Copying, writing, and fancy inks. 202
 74 Jäenecke Bros. & F. Schneemann, Hanover.—Printing inks; varnishes. 202
 75 Vogel, M. B., Leipsic.—Colors. 202
 75^a Lesser, G., & Co., Leipsic.—Preparations for finishing textile manufactures. 202
 76 Farina, Johann Maria, Jülichspatz No. 4, Cologne.—Eau de Cologne. 203
 77 Farina, F. Maria, Glockengasse 4711, Cologne.—Eau de Cologne extracts, Florida water, soaps, and perfumery. 203
 78 Schimmel & Co., Leipsic.—Essential oils. 203
 79 Gadamer & Jaeger, Waldenburg.—Swedish matches. 204
 80 Hochstätter, Heinrich, Langen, near Darmstadt.—Matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

- 81 Mendheim, Georg, Berlin.—Clay goods. 206
 81^a Lonitz, Hugo, Neuahaldenslaben.—Jars, terra-cotta figures, etc. 206
 82 Gundlach Bros., Grossalmerode.—Crucibles and fire-bricks. 207
 83 Gundlach, W., & Son, Grossalmerode.—Fire-clay crucibles. 207
 84 Stettin Fire-brick Manufacturing Co.—Fire-brick retorts and fire-bricks. 207
 85 Gundlach, Joh., jr., Grossalmerode.—Crucibles and jars for ointments. 207
 86 Knodchen, J. A., Höhr.—Clay ware. 207
 87 Villeroy & Boch, Mettlach.—Mosaic tiles. 208
 87^a Wagner & Starker, Stuttgart.—Parquet tiles. 208
 88 Telegraph Supply Manufacturing Co., Berlin.—Porcelain for chemical uses. 210
 89 Royal Porcelain Works, Berlin.—Porcelain, biscuit work, etc. 207
 90 Hanke, Reinhold, Höhr, near Coblenz.—Antique German pottery. 213
 91 Merkelbach & Wick, Grenzhausen.—Pottery partly in the antique German style. 213
 92 Joint Stock Association of Looking-glass Manufacturers & Manufacturing Chemists of St. Gobain, Chauny and Cirey, Stolberg, near Aix-la-Chapelle.—Looking-glass plates, mirrors, and rough glass. 214

COLLECTIVE EXHIBIT OF BAVARIAN LOOKING-GLASSES AND LOOKING-GLASS PLATE. 214

- 93 Schaller, Joh., Fürth.
 94 Vogel, G., Fürth.
 96 Berlin, J. W., Fürth.
 97 Heilbronn, Leop., Fürth.
 97^a Winkler, Ch., & Son, Fürth.
 97^b Wrieder, N., Fürth.
 97^c Brann & Reich, Fürth.
 98 Underberg-Albrecht, H., Rheinberg.—Bottles. 215
 99 Greiner, Elias, Cousin's Son, Lauscha, near Sonneberg.—Enameling colors. 216

Furniture and Objects of General Use in Construction and in Dwellings.

- 100 Friedrich, O. B., Dresden.—Fancy furniture. 217
 101 Gutte, Louis, Görlitz.—Wood carving. 217
 101^a Vogts, F., & Co., Berlin.—Furniture. 217
 102 Kimbel, Martin, Breslau.—Fancy furniture, etc. 217
 103 Schöttle, Georg, Stuttgart.—Furniture. 217
 106 Völker, Otto, Berlin.—Carved furniture. 226
 107 Tenner, A. B., Eisfeld.—Wooden rolling blinds. 217
 108 German Sewing Machine Factory, Frankfort-on-Main.—Ship furniture for the prevention of sea-sickness. 217
 109 Neuhusen, J., Berlin.—Billiard table. 217
 110 Bahse & Haendel, Chemnitz.—School desk and bench. 217
 111 Mayer's Art Institution for the Manufacture of Church Furniture and Decorations, Munich.—Wooden statues and altars. 217
 113 Friedrich, Hch. Ottm., Beierfeld, near Schwarzenberg.—Tin-plated iron spoons and forks. 213
 114 Schreiner, Anton, Nabburg.—Ornamental drinking utensils. 218
 115 Woldemar, Wimmer, Annaberg, Saxony.—Gold and silver wire-ware. 218
 117 Voeltzkow, W., Berlin.—Picture frames. 220
 118 Voeltzkow, G. W., jr., Berlin.—Picture frames. 220
 119 Massmann, F., Kiel.—Gold cornices. 220
 119^a Mendheim, Georg, Berlin.—Plans for stove. 222
 120 Joint Stock Co. for the Manufacture of Bronze Goods & Zinc Castings, Berlin.—Chandelier of bronze, and zinc castings. 223
 121 Körner & Co., Berlin.—Lamps. 223
 122 Kleemann, C. A., Erfurt.—Lamps. 223
 123 Schwarz, J. von, Nuremberg.—Gas-burners made of soapstone. 223
 125 Normann, Joh. Georg, Nuremberg.—Moulds for confectioners' use. 224

Woven and Felted Goods, Silk.

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 128 Herrmann, L., jr., Dresden.—Woven wire goods. 228
 129 Scholler, Ph. Jacob, & Sons, Neustadt-on-Hardt.—Woven wire goods. 228
 130 Siemsen, Joh., Hameln-on-Weser.—Manila hemp goods. 229

COLLECTIVE EXHIBIT OF COTTON AND MIXED GOODS FROM THE GLADBACH DISTRICT. 230

- 131 Gladbach Joint Stock Spinning & Weaving Mills, M. Gladbach.
 132 Busch Bros., M. Gladbach.
 133 Droste & Siepermann, M. Gladbach.
 134 Ercklentz, Max, & Co., M. Gladbach.
 135 Goertz & Kirch, M. Gladbach.
 136 Willemsen, P., Widow, M. Gladbach.
 137 Rosenberg & Cohen, M. Gladbach.
 138 Schlafhorst & Brüel, M. Gladbach.
 139 Everling, Carl, & Co., M. Gladbach.
 140 Ercklenz & Reuter, M. Gladbach.
 141 Bötterling & Schultze, M. Gladbach.
 142 Essers, Martin, M. Gladbach.
 143 Croon Bros., M. Gladbach.
 144 Langen, Kruchen, & Borrenkott, M. Gladbach.
 145 Wolff, Fr., M. Gladbach.
 146 Hellendall & Steinberg, M. Gladbach.
 147 Grunwald & Klei, Rheydt.
 148 Kropp, J. P., Rheydt.
 149 Nacken, G. H., Rheydt.
 150 Sanders, W., Rheydt.
 151 Ax, Heinrich, Rheydt.
 152 Oechelhäuser, Rheydt.
 153 Coenen & Wolter, Odenkirchen.
 154 Erckens & Co., Grevenbroich.
 155 Rolffs & Co., Siegfeld.

- 156 Steam Net Manufactory, Itzehoe, Holstein.—Nets. 230
 157 Rischbieter, Carl, Dessau.—Window-shades. 230
 158 Schlieper & Baum, Elberfeld.—Calico. 232

COLLECTIVE EXHIBIT OF WURTEMBERG MANUFACTURERS OF LINEN GOODS.

- 159 Lang, Ed., of Blaubeuren.—Linen handkerchiefs. 233
 160 Eckstein & Kahn, Stuttgart.—Table cloths, towels, shirts. 233
 162 Pichler, Hermann, Urach.—Table cloths, damask covers. 233
 163 Beck, E., Ulm.—Linen and cotton shirt fronts; linen. 233
 164 Steam Ticking Mills, Göppingen.—Ticking. 233
 165 Kolb & Schüle, Kirchlieun.—Fustian for bed covers. 233
 166 Mayer & Co., Bielefeld.—Linen goods. 233

- 166^a Meyer, Jos., Dresden.—Damask goods. 233
 166^b Lairitz, C. & L., Remda.—Linen fabrics. 233
 166^c Loewenberg, H., Charlottenburg.—Imitation leather goods. 234

Woven and Felted Goods of Wool, etc

- 167 Bergmann & Co., Berlin.—Zephyr wool. 235
 168 Hüffer, Heinrich, Crimmitschau.—Worsted for weaving. 235
 170 Scholz, Paul, Friedberg-on-Oder.—Knitting yarns. 235
 171 Titte! & Krüger, Leipsic.—Dyed zephyr wools. 235

RHENISH COLLECTIVE EXHIBIT OF CLOTHS. 235

- 172 Erckens', Joh., Sons, Burtscheid, near Aix-la-Chapelle.
 173 Ackens, Grand, Ry. & Co., Eupen.
 174 Delius, C., Aix-la-Chapelle.
 175 Jansen, Joh. Wilh., Montjoie.
 176 Knops, Aloys., Aix-la-Chapelle.
 177 Schöller, J. P., Düren, near Aix-la-Chapelle.
 177^a Schöller, L., & Sons, Düren, near Aix-la-Chapelle.
 178 Wiess Bros., Werden-on-Ruhr.

- 179 Weiss Bros., Leipsic.—Cloths. 235
 180 Wurtemberg Felt Factory, Giengen.—Felt shabracks. 235
 181 Marthaus, Ambrose, Oschatz.—Felt goods. 235
 183 Kauffmann, Carl, Reutlingen.—Coverlets. 237

COLLECTIVE EXHIBIT OF ELBERFELD, MANUFACTURERS OF ITALIAN CLOTH AND TAILORS' TRIMMINGS. 238

- 184 Boeddinghaus, Fr., & Son, Elberfeld.
 185 Boeddinghaus, Wilh., & Co., Elberfeld.
 186 Herminghaus & Co., Elberfeld.
 187 Jung & Simons, Elberfeld.
 188 Lucas Bros., Elberfeld.
 189 Schaefer & Co., Elberfeld.
 190 Weerth, de, & Co., Elberfeld.
 191 Wolff, R. & E., Elberfeld.

- 192 Worsted Spinning Mills, Kaiserslautern.—Worsted yarns. 238
 194 Gevers & Schmidt, Schmiedeberg, Silesia.—Carpets. 236
 195 Valckenberg & Schoen, Worms.—Artificial wool. 240
 198 Linden Steam Mills Joint Stock Co., Linden, near Hanover.—Velvet. 241
 199 Weigert & Co., Berlin.—Furniture plushes, etc. 241

Silk and Silk Fabrics.

- 200 Mez, Carl, & Son, Freiburg, Baden.—Sewing-silks. 243
 201 Gebhard & Co., Elberfeld.—Satins, silks, etc. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Silk, Clothing, Jewelry.

- 202 Gressard & Co., Hilden.—Silks, taffetas, foulards, etc. 245
- 203 Massing, Bros., & Co., Püttlingen, Lorraine.—Silk plushes. 247
- 204 Escales & Hatry, Saargemünde.—Silk plushes. 247
- 204a Hoemmighaus & de Greiff, Crefeld.—Silk velvets. 247
- Clothing, Jewelry, etc.
- 205 Hake, Mrs. von, Berlin.—Ladies' underwear. 250
- 206 Gros & Co., Bruchsal, Baden.—Corsets. 250
- 207 Ottenheimer, J. M., & Sons, Stuttgart.—Corsets. 250
- 208 Gulden, Heinrich, Chemnitz.—Gloves. 251
- 209 Woller, Fr. Ehreg., Stollberg, near Chemnitz.—Cotton hosiery. 250
- 210 Kaufmann, A. & C., Berlin.—Paper collars and cuffs. 250
- 211 Ereutznach, Ed., successor, Chemnitz.—Cotton hosiery. 250
- 212 Scholz, Paul, Friedeberg-on-Oder.—Hosiery. 250
- 212a Bortfeld, Carl, Bremen.—Hats. 251
- 213 Miller, Thomas, Berlin.—Hats. 251
- 214 Natanson & Hurwitz, Berlin.—Felt shoes and boots. 251
- 215 Wolf, S., Mayence.—Shoes. (*In Shoe and Leather Building.*) 251
- 216 Koraczewski, G., Posen.—Shoes. (*In Shoe and Leather Building.*) 251
- 217 Krebs, F. Eugen, Regensburg.—Kid gloves. 251
- 218 Lehmann, Heinrich, Berlin.—Kid gloves. 251
- 219 Zeitteles, D., Esslingen.—Leather gloves. 251
- 220 Ellstätter & Urbino, Carlsruhe.—Leather gloves. 251
- 221 Ranniger, J. L., & Sons, Altenburg.—Leather gloves. 251
- 221a Doerffel, C. G., & Sons, Eibenstock.—Laces, embroidered covers. 252
- 222 Kuehn, Heinrich, Berlin.—Embroidery patterns. 252
- 222a Tittel & Krüger, Leipsic.—Embroidery. 252
- 223 Schneider, Bruno, Buchholz, Saxony.—Embroideries. 252
- 225 Aren & Blumenheim, Berlin.—Embroideries. 252
- 226 Hirschberg, M., & Co., Eibenstock.—Embroideries and laces. 252
- 227 Hesselbein, Sophie, Berlin.—Embroideries. 252
- COLLECTIVE EXHIBIT OF IDAR-OBERSTEIN.—POLISHED STONES, AGATE GOODS, ETC. 253
- 228 Boehm, Philipp, Oberstein.
- 229 Hahn, Carl, Idar.
- 230 Leyser, Wilhelm, Idar.
- 231 Wild, J. C., IX, Idar.
- 232 Hahn, Philipp, Idar.
- 233 Heydt, Friedrich, Idar.
- 234 Caesar, Louis, Idar.
- 235 Herringer, Johann, Idar.
- 236 Fuchs, Friedrich August, Obefstein.
- COLLECTIVE EXHIBIT OF GOLD, SILVER, AND PLATED JEWELRY. 253
- 237 Spranger, N., Schwäb. Gmünd.
- 238 Renner & Buchler, Schwäb. Gmünd.
- 239 Wöhler, Edward, Schwäb. Gmünd.
- 240 Ott, B., & Co., Schwäb. Gmünd.
- 241 Zieher, Ottmar, Schwäb. Gmünd.
- 242 Erhard & Sons, Schwäb. Gmünd.
- 243 Hauber, Gustav, Schwäb. Gmünd
- 244 Soergel & Stollmeyer, Schwäb. Gmünd.
- 245 Pleuer & Co., Stuttgart.
- 246 Strohmeier & Co., Stuttgart.
- 247 Gabler Brothers, Schorndorf.
- 248 Ritter & Co., Esslingen.
- 249 Zimmermann, E. G., Hanau.
- 250 Geissel & Hartung, Hanau.
- 251 Kurr-Schüttner, C., Hanau.
- 252 Steinhauer & Co., Hanau.
- 253 Weber, O., & Co., Hanau.
- 254 Weishaupt, C. M., Sons, Hanau.
- 255 Bissinger, C., Sons, Hanau.
- 256 Kraul & Bier, Hanau.
- 257 Hertel, C., & Son, Hanau.
- 258 Krug, J. M., Hanau.
- 259 Winkler, Carl, Hanau.
- 260 Drescher & Kiefer, Hanau.
- 261 Roth, J., Hanau.
- 262 Schehl, C. W., Hanau.
- 263 Zeuner, Hugo, Hanau.
- 264 Dingeldein Bros., Hanau.
- 265 Storck & Sinsheimer, Hanau.
- 266 Baker & Co., Hanau.
- 267 Volz-Bier, A., Hanau.
- 268 Schoenfeld, E., jr., Hanau.
- 269 Schantz & Katz, Pforzheim.
- 270 Spahn, C. C., Pforzheim.
- 271 Keller, Heinrich., Pforzheim.
- 272 Lay, Edward, Pforzheim.
- 273 Heidegger, W., & Co., Pforzheim
- 274 Deyhle Bros., Pforzheim.
- 275 Kiehnle, Aug., Pforzheim.
- 276 Gerwig, Aug., Pforzheim.
- 277 Bizer Bros., Pforzheim.
- 278 Wild & Co., Pforzheim.
- 279 Becker, Fritz, Pforzheim.
- 280 Siebenpfeiffer, C., Pforzheim.
- 281 Lodholz, Friedrich, Pforzheim.
- 282 Koch & Bergfeld, Bremen.
- 283 Humbert & Heylandt, Berlin.
- 284 Binder, W., Schwäb. Gmünd.
- 285 Becker, Chr., Pforzheim.
- 286 Felge, Paul, Berlin.
- 287 Burchardt, C. A., Berlin.—Artificial flowers and plants. 254
- 288 Boeck, W., Berlin.—Artificial leaves. 254

Toys, Fancy Articles, Weapons, Medical Appliances.

- 289 Sachs, Joseph, & Co., Berlin.—
Umbrellas, sunshades, etc. 254
- 290 Wiegander Bros., Höhr, Nassau.
—Clay and bruxère pipes. 254
- 291 Meyer, Heinrich, Hamburg.—Ivory
goods. 254
- 292 Peine, Edward, Hamburg.—Cuff
buttons. 254
- BAVARIAN COLLECTIVE EXHIBIT
OF TOYS AND SMALL WARES. 254
- 294 Pabst, G. J., Nuremberg.
- 295 Hinrichsen, W., Nuremberg.
- 296 Eichner, G. L., & Son, Nurem-
berg.
- 297 Issmayer, J. A., Nuremberg.
- 299 Norrmann, J., Nuremberg.
- 300 Helmbrecht, G., Nuremberg.
- 301 Schleuerflug, E., Nuremberg.
- 302 Stief, J., Nuremberg.
- 303 Miller, Th., Nuremberg.
- 304 Strobel, J. P., Nuremberg.
- 305 Baudenbacher, C., Nuremberg.
- 306 Kithil, A., Nuremberg.
- 307 Uebelacker, L., Nuremberg.
- 308 Hess, Math., Nuremberg.
- 310 Fischer, J. G., Erlangen.
- 311 Schlenk & Lutzenberger, Nurem-
berg.
- 312 Probst, Gottfr., Nuremberg.
- 313 Hahn, Gottlieb, Fürth.
- 314 Ott, Gebhard, Nuremberg.
- 315 Ziegele & Hauck, Fürth.
- 316 Keller, Conrad, Fürth.
- 319 Pruckner, D., Munich.
- 320 Bettman & Kupfer, Bayreuth.
- 321 Stolze, J. F. E., Bayreuth.
- 322 Schlegel, J., Nuremberg.
- 324 Sichling, H., Nuremberg.
- 325 Plank, E., Nuremberg.
- 326 Barth & Wagner, Rodach near
Coburg.—Mechanical toys. 254
- 327 Dressel, Cuno & Otto, Sonne-
berg, Thuringia.—Toys, dolls, and slates.
254
- 328 Schunemann, L., Magdeburg.—
Dolls. 254
- 329 Hawsky, Adalbert, Leipsic.—
Paper balloons. 254
- 330 Magnus, G., & Co., Berlin.—Bill-
iard balls. 254
- 331 Oehme, J. D., & Sons, Grunhai-
nichen.—Toys. 254
- 332 Knipp, T. F., Berlin.—Album. 255
- 333 Vité, François, Berlin.—Leather
goods. 255
- Paper, Blank Books, Stationery.
- 334 Faber, A. W., Stein, near Nurem-
berg.—Lead pencils, water-colors, etc. 258
- 335 Pensel, H., & Co., Ludwigstadt,
Bavaria.—Slates, etc. 258
- 336 Schwanhäuser, Nuremberg.—
Lead pencils, rubber, chalk, etc. 258
- 337 Büttner, Ed., & Co., Berlin.—Fancy
papers. 259
- 338 Heinitz & Seckelson, Berlin.—
Fancy papers. 259
- 339 Mayer, M., Coblenz.—Envelopes.
259
- 340 Meissner, C. F., & Son, Raths-Dam-
nitz, near Stolp.—Papers. 259
- 341 Munich-Dachau Joint Stock Paper
Mill, Munich
a Writing papers. 259
b Paper for artificial flowers. 264
- 342 Schött, Hermann, Rheydt.—
Fancy papers, etc. 259
- 343 König, J. C., & Ebhardt, Hanover.
—Account books. 261
- 344 Rufus, Fr. Wilh., Dortmund.—
Account books. 261
- 345 Joint Stock Playing Card Manu-
factory, Stralsund.—Playing cards. 262
- 346 Adler, Geo., Buchholz, Saxony.—
Card-board work. 262
- 347 Schlesinger, Martin, Berlin.—
Paper letters, cards, etc. 262
- 348 Wiskott, C. T., Breslau.—La-
bels. 262
- 349 Haenle, Leo., Munich.—Gold and
silver papers. 264
- 350 Herting, C., Einbeck, Hanover.—
Paper-hangings. 264
- 351 Dessauer, Alois, Aschaffenburg.—
Fancy colored papers. 264
- 353 Werner & Schumann, Berlin.—
Paper letters. 264
- Weapons, etc.
- 353a Krupp, Fr., Essen.—Cannon and
projectiles. 267
- 354 Schilling, V. Chr., Suhl.—Military
weapons. 269
- Medicine, Surgery, Prothesis.
- 355 Scheller, Ferdinand, Hildburg-
hausen.—Malt preparations. 273
- 356 Wolff, F. A., & Sons, Heilbron.—
Pharmaceutical apparatus. 274
- 357 Lepowski, E., Heidelberg.—Roll-
ing chairs, and general apparatus for the
sick and wounded. 276
- 357a Müller, L., Lauscha.—Artificial
human eyes. 276
- 357b Esmarch, F., Kiel.—Bandages and
dressings. 276
- 357c Horn, G., Kiel.—Bandages, safe-
guards for broken legs, etc. 276
- 357d Hartmann, P., Heidenheim.—Pre-
pared medical dressing materials, etc. 276
- 357e Surgical Clinic of the University
of Königsberg.—Plaster of Paris and
hemp bandages for fracture. 276
- 357f Port, Dr., Munich.—Dressing for
fractures. 276
- 357g Moratski, A., New Buckan.—
Plaster of Paris dressings. 276
- 357h Paper & Chemical Manufactory.—
Plaster and dressing materials. 276
- 357i Beck, Dr., Carlsruhe.
a Dressings for wounds. 276
b Articles for transporting the wounded in
battle. 278
- 357j Gehrig Brothers, Berlin.—Teeth-
ing necklaces. 277

Medical Appliances, Metal and Wooden Ware.

- 357* Saal, F. O., Coblenz.—Model of larynx. 277
- 357/ Plambeck, N., Hamburg.—Model of a hospital car, and other sanitary apparatus. 278
- 357m Lower Silesian and Markish Railway.—Models of cars, etc., for transportation of the wounded. 278
- Hardware, Edge Tools, Cutlery, and Metallic Products.**
- 358 Vorster, R. & H., Hagen, Westphalia.—Edge tools, etc. 280
- 359 Eisenführ, Wilh., Berlin.—Tools. 280
- 360 Böker, H., & Co., Solingen.—Cutlery, etc. 281
- 361 Hessenbruch, T., & Co., Ronsdorf.—Steel goods, cutlery, etc. 281
- 362 Höller, J. S., & Co., Solingen.—Steel goods, cutlery, etc. 281
- 363 Wellmann, Fr., Altona.—Cutlery. 281
- 364 Leykauf, George, Nuremberg.—Burnishing stones. 282
- 365 Felsing, Conrad, Berlin.—Ornamental castings. 283
- 366 Castner, A., Berlin.—Zinc castings. 283
- 367 Stolberg, Count, Wernigerodes Factory, Ilseburg.—Ornamental castings, basins, etc. 283
- 368 Amsberg, Adolphe, Aix-la-Chapelle.—Door knobs. 284
- 369 Brousson, J., & Son, Neuwied-on-Rhine.—Nails, etc. 284
- 370 Roehle, Louis, Dresden.—Door and window knobs, etc. 284
- 371 Wire & Screw Factory, Talkau.—Screws. 284
- 372 Koch & Bein, Berlin.—Metal letters and castings. 284
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 375 Reissbarth, G. C., & Son, Nuremberg.—Brushes. 286
- 376 Kochs, Gustav, Broich, near Muhlheina-on-Ruhr.—Hempen and wire rope. 287
- 377 Lorenz, Gustav, Bockau, Saxony.—Basket ware. 289
- 378 Cordes & Ellgass, Delmenhorst, near Bremen.—Corks. 289
- 379 Lindemann, Carl, Dresden.—Corks. 289
- 380 Lürssen, Carl, Delmenhorst, near Bremen.—Corks. 289
- 381 Præchter, Bros., & Co., Heidelberg.—Cork ware. 289
- 382 Gagel, Lorenz, Lichtenfels.—Basket goods. 289
- Carriages, Vehicles, and Accessories.**
- 383 Dick & Kirschten, Offenbach-on-Main.—Axles for fine carriages. 293

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

AUSTRIA.

(South of Nave, Columns 23 to 28.)

Chemicals, Ceramics, Glass.

Chemical Manufactures.

- 1 Gobetsky, Josef, Essegg.—Prepared quinine. 200
- 2 Mook, John Peter, Vienna.—Extracts of soap and pine spurs, kali cream. 201
- 3 Weineck, Ignaz, Stockerau.
a Candles, soap, toilet soap. 201
b Perfumery. 203
- 4 Fritsch, Ferdinand, Vienna.
a Soap. 201
b Ink, colors. 202
c Perfumeries. 203
- 5 Sarg, F. A., Son, & Co., Liesing, near Vienna.
a Artificial wax candles, soap, glycerine, oleo margerine butter, etc. 201
b Toilet articles. 203
- 6 Dobel, Paul, Boryslaw, Galicia.—Crude and melted ozocerite. 201
- 8 Sell, Charles, Pirano, Istria.—Soap. 201
- 9 Demartini, I., Prague.
a Toilet soap. 201
b Perfumery. 203
- 10 Calderara & Bankmann, Vienna.
a Toilet and glycerine soap. 201
b Perfumery. 203
- 12 Prochaska, Franz, Prague.
a Toilet soap. 201
b Perfumeries, pomades, etc. 203
- 12 Ujhely & Co., Stockerau.—Candles, tapers, etc., of ceresine. 201
- 12 Wagenmann, G., Vienna.—Petroleum, mineral wax, candles, tapers, etc. 201
- 14 Prziham & Co., Vienna.—Alizarine, Adrianople red. 202
- 16 Palme, Elias, Steinschonan, Bohemia.—Glass and bronze lustre. 202
- 17 Herbert, Franz Paul, Klagenfurt.—White lead. 202
- 18 Riha, Ernst, Pilsen, Bohemia.—Water colors for artists. 202
- 19 Andés & Son, Vienna.—Lac, varnish, oil color, mastic. 202
- 20 Ecker, Alexander, Stockerau, near Vienna.—Colors for painters and carriage varnishers. 202
- 21 Wuste, F., Vienna.—Colors for stone and copper-plate printing. 202
- 30 Pollak, Jacques, Vienna.—Essences, essential oils. 203
- 35 Zasche, Joseph, Vienna.
a China. 210
b Porcelain. 213
- 36 Fischer, Samuel, Vienna—China. 210
- 39 Thun, Count v. Klosterle, Bohemia.—China articles of luxury. 210
- 41 Eberhardt, Carl, Prague.—China-ware; flowers made of china, bouquets, wreaths, and jewelry. 213
- 42 Chemical Technical Manufactory, Elbogen, Bohemia.—Porcelain (lustrous colors). 213
- 43 Riedl von Riedenstein, David & Fredrich, Dallwitz, Bohemia.—China services. 213
- 46 Ziegler's Son, Joh. Ant., Kreuzhutte, Bohemia.—Blown plate-glass. 214
- 47 Ziegler's Son, Andreas, Sofienhutte, Bohemia.—Cast looking-glass, glass tiles. 214
- 48 Austrian Glass Foundry Association, Aussig, Bohemia.—Glass bottles. 215
- 49 Schmid, Jos. Ed., Annathal, Bohemia.—Concave glass articles. 215
- 50 Batka, Franz, Prague.—Glassware for chemical purposes. 215
- 51 Franke, Carl, Prague.—Chemists' fixtures. 215
- 52 Umann, John, Tiefenbach, Bohemia.
a Flagons. 215
b Glass articles. 216
- 53 Rasch, Clemens, Meistersdorf, Bohemia.—Concave glass articles. 216
- 54 Lobmeyr, I. & L., Vienna.—Glass articles. 216
- 55 Grohmann & Kessler, Haida, Bohemia.—Glass articles. 216
- 58 Muller, Hermann, Ulrichsthal, Bohemia.—Concave glass articles. 216
- 59 Von Harrach, Count, Neuvelt, Bohemia.—Glass articles. 216
- 60 Tyrolese Glass Painting Manufactory, Innsbruck.—Glass painting and annealing. 216
- 61 Hartmann, Moritz, Pribram, Bohemia.—Glass pearls and cylinders. 216
- 62 Wagner, Franz, Meistersdorf, Bohemia.—Glass and bronze articles. 216
- 63 Zeckert, John, Meistersdorf, Bohemia.—Glassware and bronze. 216
- 64 Brunfant, Jules de, Vienna.—Glassware. 216
- 65 Schreiber, S. Neffen, Jos., Vienna.—Glassware. 216
- 66 Palme's Son, F. E., Zvecevo, Slavonia.—Glassware. 216
- 67 Stolzle's Sons, C., Vienna.—Glassware. 216
- Ceramics—Pottery, Porcelain, Glass, etc.
- 34 Klammerth, Alois, Znaim, Moravia.—Earthenware vessels. 210

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture, Woven Goods, Silk, Clothing.

68 Meyr's Nephew, Adolf, near Wint-
terberg, Bohemia.—Glassware. 216

**Furniture and Objects of General Use
in Construction and in Dwellings.**

69 Kohn, Jacob & Joseph, Vienna.—
Furniture of bent wood. 217

70 Dillmann, I., & Fischer, L., Vienna.
—Iron furniture. 217

71 Rigl, Rudolf, Vienna.—Iron double
bed. 217

73 Stein, Carl, Vienna.—Cabinet fur-
niture. 217

74 Thonet Brothers, Vienna.—Furni-
ture of bent wood. 217

75 Hoyer, Joseph, Svetla, Hungary.—
Plates of crystal. 218

76 Moser, Ludwig, Carlsbad, Bohe-
mia.—Glass articles, painted services. 218

77 Lerl, Gustave, & Sons, Vienna.—
Frames for photographs (in bronze). 220

78 Scheidl, Alois, Vienna.—Gold frames
and cornices. 220

79 Krauliz, M., Vienna.—Frames for
photographs. 220

80 Bambula, John, Vienna.—Bronze
picture frames. 220

81 Sommerschuh, W. I., Prague.—
Earthenware stoves and slabs. 222

82 Osterseizer Brothers, Vienna.—
Paper lamp screens. 223

83 Kerl's Heir, F. A., Platten, near
Carlsbad, Bohemia.—Plated and tinned
spoons, boxes, tin articles. 224

84 Kirchhof's Sons, C. F., Vienna.—
Refrigerators. 224

85 Buchsbaum, Max, Vienna.—Ceiling
ornaments. 227

86 Csánk & Co., Vienna.—Wood work,
blinds, table mats, wall screens. 227

**Yarns and Woven Goods of Vegetable
or Mineral Materials.**

87 Beutel, Franz, Vienna.—Wicker
work. 229

88 Richter, Ignaz, & Sons, Nieder-
grund, Bohemia.—Cotton velvets. 231

89 Parma, Joseph, Tichau, Moravia.—
Bleached piques. 233

90 Regenhart, Raymann, & Kufferle,
Vienna.—Table linen, linen. 233

92 Siegl, Carl, Vienna.—Bleached
linen. 233

93 Weiss & Grohmann, Vienna.—Linen
and cotton thread. 233

Woven and Felted Goods of Wool, etc.

95 Huckel Sons, I., Neutitschelm,
Moravia.—Hatters' articles, felts. 235

96 Cloth Manufacturers' Association,
Reichenberg, Bohemia.—Cloths, with and
without finish. 235

98 Schmidt, I. Ph., & Sons, Reichen-
berg, Bohemia.—Woolens. 235

99 Jakob, Adolf, Reichenberg, Bohe-
mia.—Woolens, military cloth. 235

100 Von Bauer, Otto, Brunn.—Wool-
ens. 235

103 Siegmund, Wilhelm, Reichenberg.
—Woolens. 235

104 Koch, Max, Vienna.—Woven long
and square shawls. 237

106 Hlawatsch & Isbary, Vienna.—
Woven shawls. 237

107 Vöslau Yarn Manufactory, Vöslau,
near Vienna.—Dyod woolen yarns. 238

111 Schweinburg, Gustav, Vienna.—
Carpets. 239

Silk and Silk Fabrics.

113 Hornbostel, C. G., & Co., Vienna.—
Silk and half silk goods. 245

114 Reichert's Sons, F., Vienna.—
Silks. 245

115 Frebtsch, S., & Son, Vienna.—Silk
articles. 245

117 Hetzer, Carl, & Sons, Vienna.—
Silk ribbon and velvet. 248

118 Kemperling, John, & Sons, Vienna.
—Silk ribbons. 248

119 Stefsky, Joseph, Stockerau.—Hab-
erdasheries, woolen and silk cords and
laces for military purposes. 249

120 Schmidl Sons, W., Vienna.—Pas-
smenterie. 249

**Clothing, Jewelry, and Ornaments;
Traveling Equipments.**

121 Bauer, Albert, Humpoletz, Bohe-
mia.—Cloth, velvets, clothing for military
purposes. 250

122 Keller & Alt, Vienna.—Clothing. 250

124 Mottl Sons, M., Prague.—Men's
clothing. 250

126 Straschitz, Beermann, Prague.—
Men's clothing. 250

127 Schwarzmann, D., & Co., Vienna.—
Men's clothing; European costumes, from
coarse to fine. 250

128 Thieben, Emanuel, Vienna.—
Woven shawls and dressing garments. 250

130 Werner, John, Prague.—Men's
clothing. 250

131 Budan, Joseph, Prague.—Leather
gloves. 251

132 Eckstein Brothers, Prague.—Kid
gloves. 251

133 Engelmuller, Ferdinand, Prague.
—Leather gloves. 251

134 Habig, Peter, & Co., Vienna.—
Hats. 252

135 Bencker, M., & Son, Prague.—Kid
gloves. 251

136 Lörincz, Stephan, Budapest.—
Boots. 251

137 Micka, Karl, Prague.—Leather
gloves. 251

138 Pfla, Anton, Prague.—Leather
gloves. 251

139 Pokorny, Karl, Prague.—Leather
gloves. 251

140 Reichart, Adolf, Vienna.—
Shoes. 251

141 Repper, Joseph, Vienna.—Leather
gloves. 251

Clothing, Fancy Goods, Jewelry.

- 142 Stiasny, Franz & Max, Vienna.—
Leather gloves. 251
- 143 Dewidels, Simon, Prague.—Kid
gloves. 251
- 144 Stoger, Ludwig, Vienna.—Leather
gloves. 251
- 145 Hauer, Carl, Brunn.—Leather
gloves. 251
- 146 Straub, August, Prague.—Leather
gloves. 251
- 147 Frese, Anton, Prague.—Kid
gloves. 251
- 148 Steinhilber, Anton, Prague.—
Leather gloves. 251
- 149 Bencker, I. U., Prague.—Leather
gloves. 251
- 150 Turnwald, Ch., Prague.—Leather
gloves. 251
- 151 Braunek, Edward, Vienna.—Leath-
er gloves. 251
- 152 Beutel, Franz, Vienna.—Bath
shoes made of plaited rushes. 251
- 153 Aue, Fred. v. d., and Kollmann,
Prague.—Kid gloves. 251
- 155 Berg, S., Krakau.—Albumen for
the manufacture of gloves, condensed
yolks of eggs. 251
- 156 Roth, Franz, Prague.—Leather
gloves. 251
- 158 Suchy, Anton, Prague.—Leather
gloves. 251
- 159 Schwarz & Son, Joh., Vienna.—
Hatbands. 251
- 160 Vcelicka, August, Prague.—Kid
gloves. 251
- 161 Haberkorn, George, Prague.—
Leather gloves. 251
- 162 Hamerli, John, Funfskirchen, Hun-
gary.—Leather gloves. 251
- 163 Hoffmann, Joseph, Prague.—
Leather gloves. 251
- 164 Irmenbach's successor, Gottlieb,
Prague.—Kid gloves. 215
- 167 Kubik, Joh. Nep., Stuhlweissen-
burg, Hungary.—Leather gloves. 251
- 168 Lowenstein, Adolf R., Vienna.—
Fancy shoes. 251
- 170 Skriván, John, & Son, Vienna.—
Hats, felts. 251
- 171 Port, Alois, Vienna.—Leather
gloves. 251
- 172 Bloch, E., & Sons, Brunn.
a Boots and shoes. 251
b Cartridge pouches. 255
- 174 Martius, W., Vienna.—Leather
gloves. 251
- 175 Korb, Vincenz, Graslitz, Bohemia.
—Silk laces, lace articles. 252
- 176 Czerminska, Inocenta, Wisniow-
czyk, Galicia.—Embroidery. 252
- 178 Richter, Edward A., Vienna.—
Variegated embroidery, working materials
requisite for the same. 252
- 179 Schnabl, Joseph, Gossengrun, Bo-
hemia.—Laces, fichus, handkerchiefs, and
fan decorations of lace. 252
- 181 Ullmann, J. F., Neudeck.—Laces.
252
- 182 Dorner, Emilie, Bosing, Hungary.
—Laces and embroideries. 252
- 183 Erlbeck, Anton, Gossengrun.—
Laces, fan decorations, handkerchiefs,
and lace fichus. 252
- 184 Horner, Anton, Gossengrun, Bo-
hemia.—Laces, lace fichus, and fan deco-
rations. 252
- 185 Schmidl & Sons, W., Vienna.—
Haberdashery, trimmings, silk and woolen
braids. 252
- 186 Fritsch, Joseph, Gossengrun.—
Laces, handkerchiefs, fichus, and fan
decorations of lace. 252
- 187 Lapaine, Caroline, Idria.—Bobbi-
nets. 252
- 189 Metzner, Bernhard, Graslitz, Bo-
hemia.—Laces, handkerchiefs, and fan
decorations. 252
- 190 Stramitzer, I., Vienna.—Point
gaze tape laces. 252
- 191 Menzel, W. E., Teplitz, Bohemia.
—Garnets, genuine and imitation stones
(pierres de strasse). 253
- 192 Reif, Joseph, Prague.—Jewelry of
precious stones. 253
- 193 Goldschmidt's Sons, Michael,
Prague.—Gold and silver ornaments. 253
- 194 Steiner & Kollner, Prague.—Gar-
net, gold and silver jewelry. 253
- 195 Goldschmidt, Louis A., Dubnik,
Hungary.—Polished opals. 253
- 196 Markowitsch & Scheid, Vienna.—
Silver trinkets. 253
- 197 Neustadt, M. H., Prague.—Garnet
jewelry. 253
- 199 Bolzani & Fussl, Vienna.—Gold
chains. 253
- 200 Bergmann, Franz, Gablonz.—Imi-
tation gems. 253
- 202 Rodek Brothers, Vienna.—
Bronze and leather jewelry. 253
- 205 Kersch, Moritz, Prague.—Garnet
articles. 253
- 207 Ulbrich, Franz, Ober-Kukan, near
Gablonz.—Imitation of precious stones. 253
- 209 Hofrichter's Son, Joseph, Reich-
enau, near Gablonz, Bohemia.
a Imitation precious stones. 253
b Papier-maché boxes. 254
- 213 Schadelbauer, Vincenz, Vienna.—
Mother-of-pearl buttons. 254
- 216 Baudissin, Countess Pauline, Vi-
enna.—Artificial flowers. 254
- 217 Turners' Sample Office, Vienna.—
Cork articles, tobacco pipe tube, and am-
ber cigar holders. 254
- 223 Iaruschka, Joseph, Vienna.—Mo-
ther-of-pearl buttons. 254
- 226 Hieke, Augustine, Tyssa, near
Bodenbach, Bohemia.—Horn and metal
buttons. 254
- 227 Lux, Cl., Vienna.—Bronze ar-
ticles. 254
- 228 Bergman, Franz, Vienna.—Bronze
articles. 254
- 231 Hellmich, F. A. Eidam, Wolfers-
dorf, Bohemia.—Glass, pearls, bone, ivory,
horn, and tortoise-shell buttons, real and
imitation. 254
- 232 Heller's Sons, Balduin, Teplitz,
Bohemia.—Metal buttons and trinkets. 254

Fancy Goods, Stationery, Medical Appliances, Hardware.

- 234 Hiess, Franz, Vienna.—Turners' articles, meerscham and amber. 254
- 237 Kemperling, Hermann, Vienna.—Turners' articles, pipes, cigar holders, canes. 254
- 241 Krehan, Ignaz, Vienna.—Mother-of-pearl buttons. 254
- 243 Kuzel, John, & Jankowsky, C., Vienna.—Turners' articles, inkstand, cigar holder, ash bowls, watch holder, candle screens. 254
- 248 Umann, John, Tiefenbach, Bohemia.—Paper weights. 254
- 251 Wagner, Franz, Meistersdorf.—Bronze articles. 254
- 252 Lederer, K., Gablonz, Bohemia.—Glass trinkets. 254
- 254 Hartmann, L., & Eidam, Vienna.—Turners' articles, smoking requisites made of meerscham and amber. 254
- 256 Lukasch, I., Vienna.—Mother-of-pearl fancies. 254
- 256a Schneider, Wenzel, Prague.—Necessaries for the toilet, threading machines. 254
- 267 Sittig, Joseph, Vienna.—Horn buttons. 254
- 271 Coffani, Maria, Vienna.—Parasols, fans, hats, and trinkets, made of straw. 254
- 272 Bauer & Pokorny, Vienna.—Meerscham pipes. 254
- 274 Osterritter, Joseph, Vienna.—Fans of tortoise-shell, ivory, feathers, silk, wood, and leather. 254
- 278 Puschner, Franz Anton, Tyssa, near Bodenbach, Bohemia.—Metal buttons, brooches, sets of earrings, emblems, medals, decorative buckles. 254
- 279 Schwan, Wilhelm, Willendorf.—Mother-of-pearl buttons. 254
- 283 Wittek, Adalbert, Vienna.—Mother-of-pearl buttons. 254
- 285 Steindl, Carl, Vienna.—Mother-of-pearl buttons. 254
- 286 Blazincic & Sons, John, Vienna.—Haberdashery. 254
- 290 Trebitsch, Arnold, Vienna.—Articles of meerscham and amber. 254
- 291 Unger, Franz, Vienna.
a Smoking requisites. 254
b Leather articles. 255
- 293 Danberger, George, Vienna.—Bronze ware, frames for photographs, toilet looking glass, cigar holders, inkstands, match boxes. 254
- 297 Bechmann, A. F., Vienna.—Bronze ware. 254
- 298 Beihl, Franz, Vienna.—Bronze ware. 254
- 299 Frank, Joseph, Vienna.—Bronze ware. 254
- 300 Dzedzinski & Hanusch, Vienna.—Bronze articles. 254
- 301 Bohm, Anton, Vienna.—Bronze ware. 254
- 302 Bohm, Ludwig, Vienna.—Bronze ware. 425
- 306 Wertheimer, Joseph, Vienna.—Fans. 254
- 307 Wielander, Peter, Vienna.—Mother-of-pearl buttons. 254
- 308 Bambula, John, Vienna.—Bronze goods, albums, writing portfolios, belts. 254
- 310 Unger, Franz, Vienna.—Portemonnaie, frames for manufacture of leather fancy goods. 255
- 315 Seewald, Michael, Vienna.—Leather ware and trinkets. 255
- 316 Rodek Bros., Vienna.—Leather articles. 255
- 317 Osterritter, Joseph, Vienna.—Leather articles. 255
- Paper, Blank Books, Stationery.
- 321 Fialkowski Bros. & Twerdy, Bielitz, Austria-Silesia.
a Writing paper. 259
b Printing paper. 260
- 322 Eichmann & Co., Arnau, near Prague.—Samples of paper. 259
- 323 Opitz & Son, Carl, Teplitz, Bohemia.
a Paper. 259
b Pasteboard. 262
- 325 Knepper, W., Vienna.
a Cigarette paper. 260
b Fancy paper. 264
- 326 Schloglmuhl Paper Factory, Vienna.—Paper rolls for printing machines. 260
- 327 Schoffel, Anton, Reichenau, Bohemia.—Papier-maché boxes. 262
- 328 Wesely, Veit., Vienna.—Boxes. 262
- 331 Ostersetzer Bros., Vienna.—Paper laces. 264
- Weapons, etc.
- 333 Percussion Caps, Cartridge, & Breech Ring Factory, Prague.—Percussion caps, cartridges, and breech rings. 265
- Medicine, Surgery, Prothesis.
- 334 Wilhelm, Franz, & Co., Vienna.—Drugs, medicinal herbs, volatile oils, etc. 272
- 335 Wartpatrikoff Bros., Vienna.—Insect powder. 272
- 336 Pollak, Jacques, Vienna.—Ether. 272
- 337 Zacherl, John, Vienna.—Insect powder and tinctures. 274
- 338 Hamerli, John, Funfkirchen, Hungary.—Leather trusses. 276
- 338a Politzer, Adam, Vienna.—Anatomical and pathologico-anatomical preparations. 276
- 339 Berghammer, Fr., Vienna.—Set of artificial teeth. 277
- 340 Perl, Joseph, Klausenburg, Hungary.—Teeth, sets of teeth. 277
- 341 Zsigmondy, Adolf, Vienna.—Teeth. 277
- Hardware, Edge Tools, Cutlery, and Metallic Products.
- 343 Wertheim, Baron Franz, Vienna.—Complete representation of the Austrian tool manufacture. 280
- 344 Schneider, Wenzel, Prague.—Fine penknives. 281
- 346 Winkler, Alois, Vienna.—Cast zinc articles, plates, emblems, letters, and coat of arms. 283
- 347 Winkler, Michael, Vienna.—Cast metal signs and letters. 283

Manufactures, Art, Machinery, Animal Products.

348 Moravia Ironware Industry & Trade Co., Vienna.—Nails, screws. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

350 Schnek & Kohnberger, Vienna.—India-rubber goods. 285

351 Hausmann, Wilhelm, Reichenberg.—Rope articles, twine, cords, girths. 287

352 Kohl, August, Vienna.
a Hemp hose, mill straps for mills. 287
b Fire buckets for mills. 289

Carriages, Vehicles, and Accessories.

353 Lohner & Co., Jacob, Vienna.—Phaeton carriages. 292

356 Armbruster, Sebastian, Vienna.—Landau coach. 293

357 Bloch & Sons, E., Brunn.—Sole-leather saddle cloths. 296

Painting.

357*a* Hofrichter's Sons, Reichenau, near Gablonz.—Oil paintings. 410

357*b* Isella, Pietro, Vienna.—Painting. 410

Engraving and Lithography.

357*c* Paterno, Fr., Vienna.
a Drawings. 420
b Chromo-lithographs. 424

357*d* Kaeser, P., Vienna.—Engravings. 421

357*e* Bader, F. W., Vienna.—View of Vienna. 422

358 Winkler, Alois, Vienna.—Oleo-graphs. 424

358*a* Lehmann, Nikolaus, Prague.—Chromos. 424

358*b* Lott, Ludwig, Vienna.—Chromotypographs. 424

358*c* Reiffenstein & Rösch, Vienna.—Chromos. 424

358*d* Sieger, Edward, Vienna.—Lithographs. 424

358*e* Czeiger, S., Vienna.—Chromos. 424

Ceramic Decorations, Mosaics, etc.

359 Steinmetz, Franz, Petronberd, Illyria.—Inlaid work and veneer. 452

360 Egger, I. B., Villach, Karnten.—Inlaid work and veneer. 452

Machines for Printing, Making Books, Paper Working, etc.

361 Wuste, F., Vienna.—Cylinder coverings. 543

Arboriculture and Forest Products.

362 Frankl, J. G. & L., Vienna.—Wood specimens for the manufacture of furniture. 601

Water Animals, Fish Culture and Apparatus.

364 Nachtmann, Jacob, Tannwald, Bohemia.—Chamber leech aquariums. 640

Animal and Vegetable Products.

365 Zacherl, John, Vienna.—Cleaned sponges. 650

370 Ujhely & Co., H., Stockerau.—Wax. 654

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 27-45.

SWITZERLAND.

(North of Nave, Columns 52 to 55.)

Chemicals, Ceramics, Woven Goods, Silk.

Chemical Manufactures.

- 1 Guyot-Lupold, A., Locle, Ct. Neuchâtel.—Chemical products, artificial black diamond, diamantine, powder of rubies, enamels for jewelry. 200
- 4 Amblet & Poncet, Geneva.—Oil for watches and instruments of precision. 201
- 5 Brunnschweiler, Traugott, St. Gallen.—Caseum for calico printing, caseum glue for cold glueing. 201
- 6 Vaucher, L., Peseux, near Neuchâtel.—Animal oil for chronometers and fine watches. 201
- 7 Bindschedler & Busch, Basle.—Raw materials for the manufacture of dyes, aniline dyes, artificial alizarine. 202
- 8 Brunnschweiler & Son, St. Gallen.—Printing inks, inks for Morse & Hughes' apparatus, extracts of ink in powder. 202
- 9 Durand & Huguenin, L., Basle.—Naphthaline, resorcin, fluorescene, eocene, phthaline and solutions, sefranine, galleine, ceruleine, steam blue, etc. 202
- 10 Bühler, Emile, Neuchatel.—Hair regenerator, pomade, balsam, tooth-water, quinine-water. 203

Ceramics—Pottery, Porcelain, Glass, etc.

- 11 Collin, Ch., Derendingen, Ct. Solothurn.—Watch glasses. 214

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 13 Billeter, C. G., Zurich.—Singed cotton threads, unbleached cotton sewing thread, cotton leash threads. 230
- 14 Brunner, A., Männedorf, Ct. Zurich.—White and colored bed-covers. 230
- 15 Gujer-Brunner, Uster, Ct. Zurich.—White and colored tricot bed-covers and table-cloths. 230
- 16 Oetiker, M. R., Männedorf, Ct. Zurich.—White and colored cotton bed-covers and table-cloths. 230
- 17 Schlaepfer, J. U., Waldstatt, Ct. Appenzell, Inner Rhodes.—Muslin. 230
- 18 Fierz, Henri, Zurich.—Cotton goods. 231
- 19 Wallenstadt Fancy Cotton Goods Mills, Wallenstadt, Ct. St. Gallen.—Fancy cotton goods. 231
- 20 Fierz, Henri, Zurich.—Turkey-red printed handkerchiefs, cashmere shawls, door-curtains, chintz. 232
- 21 Hanhart-Solivo, J., Dietikon, Ct. Zurich.—Cambrics, handkerchiefs, shawls, chintzes. 232

- 22 Azmoos Weaving Mills, Azmoos, Ct. St. Gallen.—Figured cotton goods. 232
- 23 Schneider, C. F., Dättlikon, Ct. Zurich.—Lint for hospitals, colored wadding for jewelry. 233

Woven and Felted Goods of Wool, etc.

- 24 Munzinger, Conrad, Olten, Ct. Solothurn.—Felt of wool and cotton for paper mills, cylinder-cloth. 235
- 25 Siegenthaler, St., Eggistein, near Worb, Ct. Berne.—Boots and shoes of felt, with and without wooden soles, felt soles, felt tablets for watch-makers, filtering bags, felt trimmings. 235
- 26 Ernst, Ferdinand, Winterthur, Ct. Zurich.—Goods of wool and mixtures of wool. 238
- 27 Schnyder, J. J., Wädensweil, Ct. Zurich.—Worsted horse-hair and fibre for mattresses and upholstery, horse-tails, bristles. 240

Silk and Silk Fabrics

- 28 Baumann, senior, & Co., Zurich.—Silks. 245
- 28a Zæslein & Müller, Basle.—Argal, silk waste, and fabrics of silk waste. 245
- 29 Baumann & Streuli, Horgen, Ct. Zurich.—Silks. 245
- 30 Dufour & Co., Thal, Ct. St. Gallen.—Silk bolting-cloth, silk grit-gauze. 245
- 31 Egli & Sennhauser, Zurich.—Silk bolting-cloth, middlings purifiers. 245
- 32 Frey-Feer, J., & Co., Aargau, Ct. Aargau.—Silk ribbons, faille, cord-edged taffetas, sarsenets, listons, satins. 245
- 33 Heidegger, Wegmann, & Co., Seefeld, Zurich.—Silk bolting-cloth. 245
- 34 Homberger Bros., Wetzikon, Ct. Zurich.—Silk bolting-cloth. 243
- 35 Jansen, Bodek, & Hertz, Riesbach, near Zurich.—Silks and satins. 245
- 36 Adlischweil Silk Goods Factory, Adlischweil, near Zurich.—Silks. 245
- 37 Winterthur Silk Goods Factory, Winterthur, Ct. Zurich.—Umbrella silks. 247
- 38 Meyer, Bros., Zurich.—Swiss silk bolting-cloth. 245
- 39 Reiff-Huber, Zurich.—Silk bolting-cloth. 245
- 40 Rüttschi, S., & Co., Zurich.—Silks and satins. 245
- 41 Ryffel & Co., Stæfa.—Silks. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Silk, Clothing, Jewelry, Weapons.

- 42 Schärer, Emil, & Co., Zürich.—Silks. 245
- 43 Schröder, Wilhelm, & Co., Zürich.—Silks. 245
- 44 Schwarzenbach, Landis J., Thalweil, near Zürich.—Silks. 245
- 45 Stapfer, Joh., Sons, Horgen, Ct. Zürich.—Silks. 245
- 46 Stunzi & Sons, Horgen, Ct. Zürich.—Silks and satins. 245

Clothing, Jewelry, etc.

- 47 Blumer & Wild, St. Gallen.—Hosiery, ladies' fancy articles. 250
- 48 Bourquin, C. F., Cormondrèche, near Neuchâtel.—Wool hosiery, jackets, and waistcoats. 250
- 49 End-Ulmi, Ali., Lucerne.—Knitted under-garments. 250
- 50 Hess, Gebr., Amrisweil, Ct. Thurgau.—Colored shirts and over-shirts. 250
- 51 Huggenberger, U., Frauenfeld, Ct. Thurgau.—Hosiery. 250
- 52 Meyer-Wæspi & Co., Altstetten, near Zürich.—Knitted under-garments. 250
- 53 Wiki, B., Lucerne.—Gentlemen's clothing. 250
- 54 Bell, August, Kriens, near Lucerne.—Crimoline braids. 251
- 55 Chiesa Bros., Locarno, Ct. de Tessin.—Braids and straw hats, Canton Tessin specialty. 251
- 56 Eich & Co., Lenzburg, Ct. Aargau.—Horse-hair braids, straw-plaitings, cotton tress-work, borderings, hair-cloth. 251
- 57 Indermühle, E. Th., Berne.—Straw hats. 251
- 58 Isler, Aloyse, & Co., Wildegg, Ct. Aargau.—Hair and cotton plaits, fancy goods of hair, straw, cotton, and silk for hats and bonnets. 251
- 59 Isler, Jacob, & Co., Wohlen, Ct. Aargau.—Straw goods. 251
- 60 Walser, Conrad, Wohlen, Ct. Aargau.—Straw hats, plaits, and fancy articles of straw, crinoline, cotton, and manila hemp, tissues of straw, silk, and other materials for fancy boxes, sparterie, embroidery, and ornaments for bonnets. 251
- 61 Alder Bros., Herisau, Ct. Appenzell, Inner Rhodes.—Hand and mechanical embroideries. 252
- 62 Alder & Meyer, Herisau, Ct. Appenzell, Inner Rhodes.—Embroidered trimmings. 252
- 63 Baerlocher-Custer, Rheineck, Ct. St. Gallen.—Embroidery, lace curtains, tidies, bed-covers, pillow-case covers. 252
- 64 Basquin, Hector, & Schweizer, St. Gallen.—Machine embroideries. 252
- 65 Bion & Tschumper, St. Gallen.—Mechanical embroideries. 252
- 66 Fisch Bros., Buhler, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries. 252
- 67 Göldy, A., & Co., St. Gallen.—Mechanical embroideries, Hamburg edgings and insertions. 252
- 68 Hirschfeld Bros. & Co., St. Gallen.—Swiss lace curtains. 252

- 69 Iklé Bros., St. Gallen.—Mechanical embroideries. 252
- 70 Locher Bros., Speicher, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries on silk. 252
- 71 Wülfinger Machine Embroidery Establishment, near Winterthur, Ct. Zürich.—Colored embroidery by machinery, Hamburg edgings. 252
- 72 Scheitlin & Widmer, St. Gallen.—Mechanical embroideries. 252
- 73 Stäheli-Wild, C., St. Gallen.—Hand and mechanical embroideries. 252
- 74 Steiger & Co., Herisau, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries, lace curtains. 252
- 75 Strauss, D., & Co., St. Gallen.—Lace curtains, drop laces, embroideries. 252
- 76 Sturzenegger & Rutz, Trogen, Ct. Appenzell, Inner Rhodes.—Cravats, edgings. 252
- 77 Sutter-Dörig, R., Appenzell.—Hand and machine embroidery. 252
- 78 Tobler, Ulr., & A., Rheineck & Thal, Ct. St. Gallen.—Machine embroidery. 252
- 79 Zähler & Schiess, Herisau, Ct. Appenzell, Inner Rhodes.—Hamburg edgings and insertions. 252
- 80 Zellweger, J. C., Trogen, Ct. Appenzell, Inner Rhodes.—Mechanical embroideries. 252
- 81 Drawing School of the Board of Trade, St. Gallen.—Embroideries executed from designs of the drawing school. 252
- 82 Urech, E., Herisau, Ct. Appenzell, Inner Rhodes.—Mechanical embroidery. 252
- 82^a Zürcher-Banziger, J., Teufen, Ct. Appenzell, Inner Rhodes.—Mechanical embroidery. 252
- 83 Petit-Pierre & Bryson, Geneva.—Jewelry. 253
- 84 Gay, Jean, Geneva.—Watch chains. 253
- 84^a Meylan & Mertens, Ed., Geneva.—Gold chains and chatelaines. 253
- 85 Jaccard, Eugène, St. Croix, Ct. de Vaud.—Plate engraved with flowers, ornaments, and devices relating to the Centennial. 254
- 86 Rohr, Walter von, A., Mümliswyl, Ct. Solothurn.—Combs. 254

Paper, Blank Books, Stationery.

- 88 Müller, Johs., Schaffhausen.—German, French, English, and Spanish playing cards, railway tickets. 262

Weapons, etc.

- 89 Swiss Manufacturing Co., Neuhausen, near Schaffhausen.—Vetterli-system, infantry and target rifles, blank cartridges. 265
- 89^a Schmidt, Major, Berne.—Rifle and revolver. 266

Medicine, Surgery, Prothesis.

- 90 Durieu, Oetli, & Co., Vevay, Ct. Vaud.—Milk-powder. 273

Medical Appliances, Hardware, Animal and Vegetable Products.

- 91 Gerber & Co., Thun, Ct. Berne.—Condensed milk, children's food, medical condensed milk. 273
- 92 Lapp, C., Freiburg.—Food for children, condensed milk. 273
- 93 Naumann-Burkhardt, H., Basle.—Extract honey, syrup, and flour of meat. 273
- 94 Nestlé, Henry, Vevay, Ct. Vaud.—Milk food or lacteous farina. 273
- 94^a Wander, G., Berne.—Extracts of malt and malt drops. 273
- 95 International Bandage-shiff Factory, Schaffhausen.—Dressings, lint, appliances for the dressing of wounds, pharmaceutical apparatus. 276
- Hardware, Edge Tools, Cutlery, and Metallic Products.**
- 96 Spillmann, Heinrich, Unterstrass, near Zurich.—Engineering tools. 280
- 97 Schneider, C. F., Geneva.—Complicated pocket-knives. 280
- 98 Bürgin, Bros., Schaffhausen.—Upholsterers' nails. 280
- 98^a Le Coultre, Jacques, Sentier, Ct. Vaud.—Razors. 281
- 98^b Bossi, Gaetano, Locarno, Ct. Tessin.—New system of safety locks. 284
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 99 Bally & Schmitter, Aargau, Ct. Aargau.—Elastic webs for boots. 285

AGRICULTURE.

Agricultural Products.

- 1 Anastasio, Giuseppe, Lugano, Ct. Tessin.—Cigars. 623
- 2 Kottmann, J., Solothurn.—Cigars. 623
- 3 Sauter, A., Diessenhofen, Ct. Thurgau.—Cigars. 623

Animal and Vegetable Products.

- 4 Schleife Tanneries, Winterthur, Ct. Zurich.—Blackened calf leather. 652

- 5 Hürlimann, J. J., Rapperswyl, Ct. St. Gallen.—Swiss honey. 654
- 6 Society for Bee Culture, Lukmanier, Sobrio, Ct. Tessin.—Honey and wax. 654
- 7 Coffee Surrogate Factory, Zurich.—Fig-meal (surrogate of coffee), conserved coffee. 656
- 8 Robbi & Co., Geneva.—Chocolate. 656
- 9 Schweigert, Auguste, Geneva.—Theodoro's sauce. 656
- 10 Suchard, Ph., Neuchâtel.—Chocolate, cacao. 656
- 11 Almen, von, & Kopp, Fleurier, Ct. Neuchâtel.—Absinthe. 660
- 12 Berger, C. F., Couvet, Ct. Neuchâtel.—Absinthe. 660
- 13 Bernhard, S., Samaden, Engadin, Ct. Graubünden.—Jva bitter, Jva perfume, and tincture. 660
- 14 Bolle, L. A., Son, Verrières, Ct. Neuchâtel.—Green and white absinthe. 660
- 15 Grandpierre, J., Geneva.—Vermouth. 660
- 16 Henny & Moullet, Fleurier, Ct. Neuchâtel.—Absinthe. 660
- 17 Kirschwasser Company Zug, Zug.—Kirschwasser. 660
- 18 Nievergelt, Joh., Maschwanden, Ct. Zurich.—Kirschwasser. 660
- 19 Pernod, Ed., Couvet, Ct. Neuchâtel.—Green and white absinthe, gentian-liquor, kirschwasser. 660
- 20 Scherer, Bros., Meggen, Lucerne.—Kirschwasser. 660
- 21 Schmidt, Joseph, Zug.—Sweet-liquors, righibitter, stomach-bitters, kirschwasser. 660
- 22 Stauffenegger, Chr., Travers, Ct. Neuchâtel.—Absinthe. 660
- 23 Gessler-Zeller, J., Basle.—Leckerly of Basle. 660
- 24 Mattmann, Brothers, C. & J., Horw, near Lucerne.—Italian pastry. 661

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

BELGIUM.

(North of Nave, Columns 54 to 59.)

Chemicals, Ceramics, Glass.

Chemical Manufactures.

- 1 Hemptinne, A. de, Son, Molenbeek, St. Jean, near Brussels.—Plan of apparatus for manufacturing sulphuric acid. 200
 - 3 Meeus, M. & J., Antwerp.—Refined sulphur. 200
 - 4 Solvay & Co., Couillet, near Charleroi.—Chemicals, soda-salt. 200
 - 6 Des Cressonnières (widow) & Son, Molenbeek, St. Jean, near Brussels.—Toilet soap. 201
 - 8 Staes, Sproelants, Termonde, East Flanders.—Linseed, rape-seed, hempseed, cotton, and other oils. 201
 - 9 Botelberge, Gustave, & Co., Melle, near Ghent, East Flanders.—Ultra-marine. 202
 - 10 Gilkinet, C. J., Ensival, near Verviers.—*Cache-epoutil*, or special ink, to point out the defects on cloth and dyestuffs. 202
 - 11 Lummerzheim, M. H., & Co., Wondelgem, near Ghent, East Flanders.—Bituminous and re-asphaltic roof and ship sheathing paper, lampblack. 202
 - 12 Offergeld Bros., Forest, near Brussels.—Red, brown, and chestnut iron paint. 202
 - 13 Planche, Edouard, Son, Laeken, near Brussels.—Writing ink. 202
 - 14 Planche, Melchior, Ixelles, near Brussels.—Writing ink. 202
 - 15 Singer, Max, Tournai (Hainaut).—Aniline products for dyes extracted from coal-tar, etc. 202
 - 16 White Lead & Iron Paint Joint Stock Co., Anderghem, near Brussels.—White lead, iron paint, mastics. 202
 - 17 Van der Velden, Leopold, Liège.—Writing, glossing, and indelible ink, liquid glue, etc. 202
 - 18 Van Laer, Guillaume, Verviers.—Dyers' practical guide, mordant processes. 203
 - 19 Marbaix, Auguste de, Antwerp.—Aromatic liquor, Anvers water, essential oil, caraway essence, cedar essence, Florentine iris, and oil of cloves. 203
 - 20 Cooppal & Co., Wetteren, East Flanders.—Charcoal, sulphur, powder and cartridges. 204
- Province of Liège.—Burnt refractory earthenware, brick for gas furnaces, etc., gas retorts, refractory plastic clay. 207
- 25 Wingender Bros., Chokier, near Liège.—White and colored clay pipes. 210
 - 26 Floreffé Co., Floreffé, near Namur.—Plate glass for windows. 214
 - 26a Schmidt Brothers & Sisters, Lodelinsart.—Window glass. 214
 - 27 Andris, Lambert, & Co., Marchienne-au-Pont, near Charleroi (Hainaut).—White window and heavy muslin glass. 214
 - 27a National Glass Works Joint Stock Co., Jumet.—Window glass. 214
 - 28 Baudoux & Co., Charleroi.—White and colored window and unpolished and corrugated muslin glass, with variegated rosettes engraved and cut. 214
 - 29 Baudoux, E., & Jonet, Lodelinsart.—Colored and fancy window glass. 214
 - 30 Bennert & Bivort, Jumet, near Charleroi.—Window glass. 214
 - 31 Bougard, A., Le Brun, H., & Co., Roux, near Charleroi.—Window glass. 214
 - 32 Dorlodot, L. de, & Co., Lodelinsart.—Unpolished and corrugated window glass, greenhouse, cathedral, and stained glass, old glass imitation. 214
 - 33 Looper, de, Haidin, & Co., Courcelles.—Window glass. 214
 - 34 Dessent, J., & Bros., Jumet.—Window glass. 214
 - 35 Fourcalt-Frison, A., & Co., Dampremy, near Charleroi.—Window glass. 214
 - 36 Hans, Octave, & Co., Jumet, near Charleroi.—Window glass. 214
 - 37 Lambert, Casimir, Son, Charleroi.—Window glass. 214
 - 38 Lambert, L., & Co., Hamendes Glass Works, Jumet.—Window glass. 214
 - 39 Leurant, Emile, Jumet (Heigne), near Charleroi.—Glass cylinder. 214
 - 40 Mondron, Leon, Lodelinsart, near Charleroi.—Window glass. 214
 - 41 Monnoyer, J., & Son, Dampremy, near Charleroi.—Window glass. 214
 - 42 Morel, Alphonse, Lodelinsart, near Charleroi.—Window glass. 214
 - 43 Schmidt, A., & Co., L'Alliance Glass Works, Jumet (Brulotte), near Charleroi.—Window and fluted glass. 214
 - 44 Schmidt, Devillez, & Co., Dampremy, near Charleroi.—Window glass. 214
 - 45 Glass Works Joint Stock Co., Charleroi.—Window glass. 214

Ceramics—Pottery, Porcelain, Glass, etc.

- 23 Seilles lez Andenne & Bouffoulx Joint Stock Co. of Refractory Products and Plastic Clay, Seilles, near Andenne,

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Glass, Furniture, Woven Goods.

- 46 Plate Glass Manufacturing Joint Stock Co., Courcelles, near Charleroi.—Clean polished and plated glass. 214
- 47 Hainaut Glass Manufacturing Joint Stock Co., Roux, near Charleroi.—Plate glass for windows, silvered glass, samples of plate glass at different stages of manufacture. 214
- 48 Glassware & Plate Glass Manufacturing Joint Stock Co., Brussels.—Framed plated and unplated mirrors. 214
- 49 Bougard, A., Manage (Hainaut).—Crystals. 216
- 50 Boussu, Familleureux & Blanc Misseron Glass Works Joint Stock Co., Boussu, near Mons (Hainaut).—Crystals and half crystals, dinner service, and articles for lighting. 216

Furniture and Objects of General Use in Construction and in Dwellings.

- 51 Demeuter, Leopold, Son, Brussels.—Furniture and hangings. 217
- 53 Goyers, J. A. & H., Bros., Louvain.—Pulpit in the ogive style. 217
- 54 Snyers, Rang, & Co., Brussels.—Carved walnut furniture, renaissance style, ebony inlaid with ivory. 217
- 55 Teugels, Emile, Malines, Province of Anvers.—Carved furniture, a chair of the sixteenth century, a Flemish chair of the sixteenth century. 217
- 56 Zech, H., Malines.—Ebony bureau, arm-chair, and book-case. 217
- 57 Boucneau, Leon, Schaarbeek, near Brussels.—Marble mantelpiece, Belgian mosaic marble panels for dining-room decoration, brick pavement and Belgian mosaic marble table. 217
- 58 Guyaux Bros., Bouffoulx, near Charleroi.—Black marble, St. Anne mantelpiece. 217
- 59 Lintelo, A., Brussels.—Clocks and marble slabs. 217
- 60 Parmentier, Gosset, & Co., Sivry (Hainaut).—Marble mantelpieces with vases and clocks. 217
- 61 Tainsy, F., Brussels.—Marble mantelpieces. 217
- 62 Brodure, Mathieu, Spa.—Painted, varnished, and gilt wooden work. 219
- 63 Bronfort Bros., Spa.—Painted and ornamented wooden boxes, etc. 219
- 64 Debrus-Leclair (widow), Spa.—Painted and ornamented wooden boxes, etc. 219
- 65 Debrus, Willem Alexandre, Spa.—Wooden boxes, etc. 219
- 66 Krins, E., Spa.—Wood carvings. 219
- 67 Van Ginderdeuren, Brussels.—Wood carvings, furniture. 219
- 68 Costermans, Jean, Brussels.—Hearth of the Flemish renaissance. 222
- 69 Miedel, Dieudonné, Sombrefte, near Gembloux, Province of Namur.—A brick layer ventilator for chimneys and coal-mine pits. 222
- 70 Serta, G. N., Director of the State Railroad.—A plan for utilizing the heat wasted by kitchen stoves, and a heating and ventilating system for passenger railroad cars. 222
- 71 L'Eclair Joint Stock Co., Kessel-Loo, near Louvain (Brabant).—Match tapers. 223
- 73 Pas, Gerard, Brussels.—Silver, copper, and bronze household utensils. 224
- 74 Tremouroux, N. & J., Bros., Saint Gilles, near Brussels.—Polished, varnished, bronzed, enameled, plated, and wrought iron household utensils. 224
- 75 Valania, Jean, Ixelles, near Brussels.—Machines for confectioners. 224
- 76 Vanderrest, Guillaume, Brussels.—Machine for the manufacture of sweetmeats. 224
- 76a Dogny, Jean Baptiste, Brussels.—Balusters, ornaments for door panels. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 77 Baertsoen, A., & Buysse, A., Ghent.
a Cotton textile fabrics. 230
b Linen textile fabrics. 233
- 78 Smet, E. de, & Co., Ghent.—Thread in packages; warped, unbleached and dyed skeins. 23c
- 79 Desmet Bros., Ghent.—Dyed, bleached, and unbleached textile fabrics. 230
- 80 Parmentier, Van Hoegarden & Co., Ghent.—Spun cotton, bleached and unbleached printed cotton textile fabrics. 230
- 81 Devos, Camille, & Brother, Courtrai.—Stuff for trousers. 231
- 82 Idiers, Emile, Auderghem, near Brussels.—Spun cotton, dyed Adrianople red, etc. 231
- 85 Brandt, Jacques de, Alost.—Diapered and damasked table linen. 233
- 86 Declercq, Clement, Iseghem, East Flanders.—Twisted linen thread for machine and hand sewing. 233
- 87 Govaert Bros., Alost, East Flanders.—Canvas, sackcloth and bags for grain, guano, salt, etc. 233
- 88 Leirens-Elijaert of Eliaert-Cools, Alost, East Flanders.—Thread and tow for weaving, sewing thread. 233
- 90 Re y, senior, Brussels.—Linen fabrics. 233
- 91 Sak-Volders, Joseph, Turnhout, Province of Antwerp.—Tickings for beds and awnings. 233
- 92 La Lys Co., Ghent.—Jute and linen thread. 233
- 93 Van Damme Bros., Roulers, East Flanders.—Cloth. 233
- 94 Vande Wynckele Bros. & Alsborge, Ghent.—Tow and linen thread bleached, at every stage. 233
- 95 Wilford, William, Tamise, East Flanders.—Imperial extra flax, merchant and navy canvas; combed flax and thread for its manufacture. 233

Woven and Felted Goods of Wool, etc.

- 96 Hauzeur-Gerard, Son, Verviers.—Carded woolen thread. 235
- 99 Baras-Navaux, Verviers.—Cloth and woolen stuff. 235
- 100 Bettonville, Clement, Hodimont, near Verviers.—Cloth and woolen stuff. 235

Woven Goods, Silk, Clothing, Stationery.

- 101 Biolley, François, & Son, Verviers.—Cloth and woolen stuff. 235
- 102 Biolley Bros. & Co., Jusleville, near Verviers.—Cloth and woolen stuff. 235
- 103 Chatten, M., & Co., Dison, near Verviers.—Cloth and woolen stuff. 235
- 104 Delhez Bros., Dison.—Cloth and woolen stuff. 235
- 105 Devosse-Blaise, Dison.—Cloth and woolen stuff. 235
- 106 Dolne, Lekeux, & Co., Dison.—Cloth and woolen stuff. 235
- 107 Domken Bros., Verviers.—Cloth and woolen stuff. 235
- 108 Dreze, H. & J., Dison.—Cloth and woolen stuff. 235
- 109 Franck Bros., Dison.—Cloth and woolen stuff. 235
- 110 Henrion, J. J., Dison.—Cloth and woolen stuff. 235
- 111 Herve, Fanchamps, Verviers.—Cloth and woolen stuff. 235
- 112 Lecloux, G. J., Dison.—Cloth and woolen stuff. 235
- 113 Lejeune-Vincent, H. J., Dison.—Cloth and woolen stuff. 235
- 114 Olivier, J. J., & Son, Verviers.—Cloth and woolen stuff. 235
- 115 Peltzer & Son, Verviers.—Cloth and woolen stuff, carded woolen thread. 235
- 116 Simonis, Iwan, Verviers.—Cloth and woolen stuff. 235
- 117 Tasté, J., Verviers.—Cloth and woolen stuff, carded woolen thread. 235
- 118 Wihl, M., & Co., Verviers.—Cloth and woolen stuff. 235
- 119 Jamme, Armand, Saint Hadelin, (Nessonvaux), near Verviers.—Carded woolen thread. 235
- 120 Begasse, Charles, Liège.—Felt for paper manufacture, rag-end fabrics, and woolen bed blankets. 237
- 121 Jacobs, Poelaert, & Co., Brussels.—Woolen bed blankets. 237
- 122 Rolin, H., Son, & Co., Saint Nicholas, East Flanders.—Tartan shawls, thin, light cloth, tweeds, waterproofs, lady cloth, fancy cloths, etc. 237
- 123 Braquenié Bros., Malines.—Malines tapestry. 239
- a* Portrait of Rubens, panel from Gallait.
- b* Portrait of Cousin, in Arabian costume.
- c* Eight panels together, representing eight gods, from Olympus, with all their attributes, from Audran.
- d* Full length painting—style Louis XVI.
- 128 Leynen-Hougaerts, J. A. H., Peet, Province of Limbourg.—Church vestments, chasuble, and various embroideries. 250
- 128₂ Couvreur Sisters, Brussels.—Women's dresses. 250
- 129 Bouhon, François, Verviers.—Wooden and other shoes. 251
- 131 Frenay Bros., Rocleuge-sur-Geer (Limbourg).—Braids and straw hats. 251
- 132 Level, Leon, Brussels.—Kid gloves. 251
- 133 Vandebos-Poelman, G., Ghent.—Shoes. 251
- 134 Watrigant, Alphonse, Brussels.—Gentlemen's, ladies', and children's shoes. 251
- 135 Begerem, René, Ypres.—Valenciennes lace. 252
- 136 Crommelinck, Courtrai.—Lace. 252
- 137 Dassonville, Courtrai.—Lace. 252
- 138 Declercq-Clement, Iseghem, East Flanders.—Common lace of twisted thread. 252
- 139 Des Mares, P. T., Laeken, near Brussels.—Lace. 252
- 140 Vergnies, O. De, & Sisters, Brussels.—Lace. 252
- 141 Duden Bros., Brussels.—Lace. 252
- 142 Everaert, Julie, & Sisters, Brussels.—White and black lace. 252
- 143 Bruyneel, senior, Grammont.—Black lace. 252
- 144 Grootte, Vierendeel de, Grammont.—Black lace. 252
- 145 Everaert-Leclercq, Jules, Grammont.—Black lace. 252
- 146 Everaert Sisters, Grammont.—Black lace. 252
- 147 Ghys-Bruyneel, Grammont.—Black lace. 252
- 148 Leclercq (widow), Grammont.—Black lace. 252
- 149 Saligo-Vandenberghé, Grammont.—Black lace. 252
- 150 Gillon-Steyaert, Courtrai.—Valenciennes lace. 252
- 151 Rectem, Jean, Brussels.—Gold embroidered picture. 252
- 152 Sacré, L., Brussels.—Lace. 252
- 153 Vandezande-Goemaere, Courtrai.—Valenciennes lace. 252
- 154 Verdé, Delise Bros., & Co. (India Co.), Brussels.—Lace. 252
- 156 Coryn, Jules, Ghent, East Flanders.—Chignons and wigs. 254
- 157 Gossieaux, Félicien, Wavre (Brabant).—Hair picture. 254
- 157_a Graf, Emile, Son, Liège.—Trunk. 255

Silk and Silk Fabrics.

- 124 Fonteyn Bros., Lede, East Flanders.—Black silk goods. 245
- 125 Van Bellingen, Jos., Son, Antwerp.—Black silk cassimere, Antwerp silk and trimmings. 245
- 126 Van Bellingen, J. H., & Suremont, Max, Antwerp.—Antwerp black silk tissues. 245

Clothing, Jewelry, etc.

- 127 Dujardin Bros., Leuze (Hainaut).—Cotton and woolen hosiery. 250

Paper, Blank Books, Stationery.

- 158 Vandamme, Pierre Jean, Brussels.—Proofs of steel engraving for stamping with colors, illuminated with gold and silver, chromograms, and coats of arms. 258
- 159 Braff, Pfeffer, & Co., Ghent.—Raw material for the manufacture of paper, worked and cleaned rags, and old paper. 259

Weapons, Medical Appliances, Animal and Vegetable Products.

- 160 De Mesmaecker, Fr., Brussels.—Samples of bindery work. 261
- 161 De Tournay-Catala, Brussels.—Printing, writing, and wrapping paper, and pasteboard. 259
- 162 Poissonniez, Jean Baptiste, Brussels.—Cases for jewelers, confectioners, druggists, etc.; card of samples. 262
- 163 Daye, F., & Co., Scharbeek, near Brussels.—Pressed leather, pasteboard made from Cordoue and Malines old hides. 264

Weapons, etc.

- 164 Fusnot, Charles, & Co., Cureghem, near Brussels.—Cartridges for weapons of every description. 265
- 165 Heuse, Ernest, Nessonvaux, near Liège.—Gun-barrels. 265
- 166 Mairlot & Heuse, Fraipont (Liège).—Gun-barrels for warfare and export. 265
- 167 Bayet Bros., Liège.—Fine weapons. 269
- 168 Neumann Bros., Liège.—Double-barreled hunting guns. 269
- 169 Tambeur, Michel, Liège.—Hunting weapons. 269

Medicine, Surgery, Prothesis.

- 170 Depuy, Barthélémy, Brussels.—Pharmaceutical preparations, pamphlets on toxicology, pharmacy, and hygiene. 272
- 173 Guillery, Hippolyte, Brussels.—Sanitary report of the battle-field at Sedan in 1870; apparatus for the rapid dressing of wounds on the battle-field, etc., and for the treatment of limb fractures. 276
- 174 Hermant, Emile, Bruges.—Treatise on flying ambulances, model of ambulance bags adopted by the Belgian government, memoir of the military physician. 276
- 174^a Buys, L., Brussels.—Car for the transport of the sick and wounded. 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 175 Lambert, A. de, Liège.—Files for watchmakers and jewelers. 280
- 175^a Jean, Emile de, Brussels.—Collection of iron and tools for horse-shoeing. 280
- 176 Constant, Emile, Monceau-sur-Sambre, near Charleroi.—Cheese-vat bolts, clamps for rails, rivets, tinkers' ware. 284
- 177 Demanet, Albert, Gosselies (Hainaut).—Forged nails. 284
- 178 Fondu, Jean Baptiste, Brussels.—Locksmiths' work, locks for vehicles, carriages, and railway cars; nickel ware used in construction. 284
- 179 Hoorickx, Guillaume, Brussels.—Two large chests—one representing an old-fashioned Flemish trunk, the other the present style. 284
- 180 Nicaise, Charles, Louvière (Hainaut).—Locomotive and other bolts, screws for locomotives, screw nuts, rivets, clamps for rails, etc. 284

- 180^a Fix, A. J., Brussels.—Nails, rivets, etc. 284
- 181 Nicaise, Pierre & Nicolas, Marci-nelle, near Charleroi.—Bolts, screw-nuts and rivets, spokes, and round-nose chisels, carriage tenders, clamps, etc. 284
- 182 Velings & Co., Chatelet, near Charleroi (Hainaut).—Iron wire, tacks, nails. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

- 183 Ryckere, Edouard de, senior, Ise-ghem, East Flanders.—Brushes and pencils. 286
- Carriages, Vehicles, and Accessories.
- 184 Ruytter, Charles de, Ghent.—Carriages. 292
- 185 Van Aken, Louis, Anvers.—Carriages. 292

AGRICULTURE.

Agricultural Products.

- 1 Le Bailly-D'Inghuem, Viscount Arthur John, Villeneuve, Switzerland.—Cereals cultivated in a sandy soil. 620
- 2 Ameye Berte, Rodolph, Ghent.—Chicory, raw, in the pod, and manufactured. 623
- 5 Vandendaele-Rigot, Charles, Quiévrain (Hainaut).—Ground mustard. 623
- 6 Delannoy, Nicholas, Tournai.—Chocolate. 623
- 6^a Mottie, L., Brussels.—Tobacco and cigars. 623
- 7 Joveneau, Arthur, Tournai (Hainaut).—Powdered cocoa and chocolate; detail of chocolate manufacture. 623

Animal and Vegetable Products.

- 9 Bodart, Ed., Louvain (Brabant).—Sheepskins, white leather, morocco, salted roans. 652
- 10 Bagniet, T., & Co., Brussels.—Crystallized blood. 652
- 11 Lebermuth, J., & Co., Brussels.—Waxed leather and goat skins. 652
- 12 Ocreman, L., & Witdoeck, E., Mechlin, province of Antwerp.—Varnished skins. 652
- 13 Schmitz, F. A., & Co., Koekelberg, near Brussels.—Skins for hats; manufactured morocco leather. 652
- 15 Versé-Spelmans, Brichot, Ant, & Co., Brussels.—Curried leather. 652
- 17 Remy & Co., Louvain (Brabant).—Starch and similar products. 658
- 20 Vandendaele-Rigot, Ch., Quiévrain (Hainaut).
^a Pear, apple, and beet-root syrups. 659
^b Vinegar. 660
- 21 Charlier, John Baptist, Ghent.—Beer. 660
- 22 De Boukelaer, F. X., Antwerp.—Antwerp elixir, hygienic cordial. 660
- 23 Melkior, P. J., Brussels.—Liquors. 660

Agricultural Products and Machines.

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| <p>24 Schaltin, Pierry & Co., Spa.—Cordial, mineral waters, etc. 660</p> <p>25 Schmidt, Emile, Schaerbeck, near Brussels.—Belgian bitters, cordial. 660</p> <p>27 Bergh, van den, & Co., Antwerp.—Gin made from fine grains. 660</p> <p>29 Wauters-de-Busscher, Mechlin, Province of Antwerp.—Cordials. 660</p> <p>30 Damman, Edm., Borgerhout, near Antwerp.—Ship biscuit. 661</p> <p>31 Couvreur Sisters, Brussels.—Confections. 661</p> <p>Textile Substances of Vegetable or Animal Origin.</p> <p>32 Leclercq, Henry, Courtrai.—Flax. 666</p> | <p>33 Taulez-Bottelier, Charles, Bruges, East Flanders.—Oakum, flax. 666</p> <p>35 Müllender, S., Verviers.—Flocks of wool and shearings. 667</p> <p>36 Delmotte, Hippolitus, Ghent.—White bristles. 669</p> <p>Machines, Implements, and Processes of Manufacture.</p> <p>37 Dassonville de Saint-Hubert, L.-Namur.—Stones for grinding grain, cements, etc. 674</p> <p>38 Vandendaele, Rigot, Charles, Quievrain (Hainault).—Steam machine for manufacturing chiccory. 674</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NETHERLANDS.

(North of Main Aisle, Columns 60 to 65.)

Chemicals, Ceramics, Furniture, Woven Goods, Silk.

Chemical Manufactures.

- 1 Matthes, W. E., Amsterdam.—Sulphate of ammonia. 200
- 2 Gorter, D. & S., Sneek.—Soap. 201
- 3 Willems, P. J., Schiedam.—Oils. 201
- 4 Sauders & Co., Leyden.—Soaps. 201
- 5 Henny, C. O., Deventer.—Gluc. 202
- 6 Van Calker, P. W., Utrecht.—Gluc. 202
- 7 Verrocy & Van Heusde, Tiel.—Dyes, turpentine, inks, wax, colors, salves. 202
- 8 Grootes, M., Westzaan.—Blueing. 202
- 9 Leur, W., Schooten, near Haarlem.—Red lead made from iron ore. 202
- 10 Mills, M. A.—Inks. 202
- 11 Vriesendorp, H. M., Dordrecht.—Oils and varnish. 202
- 12 Loushergh, V., Gravenhage.—Colors. 202
- 13 Van den Bergh, N. L. J., Arnhem.—Cologne. 203

Ceramics—Pottery, Porcelain, Glass, etc.

- 14 Van Bergen, A. H., Heiligerlee, Province of Groningen.—Stone and drain tiles. 206
- 15 Van Henkelom, H. C., Utrecht.—Building stone. 206
- 17 Koolemans-Beijnen, C. G. L., Willeskop.—Architectural pottery. 206
- 18 Goedwaagen, P., Gouda.—Chemical stoneware and stoves. 207
- 19 Fontein, R., Franeker.—Roofing tiles. 208
- 20 Ravesteijn, H. F., Westraven.—Painted wall stone. 208
- 21 Bouvy, J. J. B. J., Dordrecht.—Glassware. 214

Furniture and Objects of General Use in Construction and in Dwellings.

- 22 Nooijen, L. J., Rotterdam.—Furniture and fancy articles. 217
- 23 Van Vliet, W. F., Gravenhage.—Chairs. 217
- 24 Lowman, J., Zwolle.—Folding screen. 217
- 25 Van der Lugt, Gravenhage.—Furniture and fancy articles. 217
- 26 Lommen, C. H., Roermond.—Painted and cut glass. 219
- 27 Grolman, C. W., Utrecht.—Picture frames. 220
- 28 Batenburg & Co., Rotterdam.—Lamps. 223
- 29 Cool, G. Thz., Amsterdam.—Mantels. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 31 Director of Prison, Utrecht.—Matting and rugs. 209
- 32 Ter Horst, J. H., Ryssen.
 - a Jute matting. 229
 - b Linen. 233
- 33 Aratzenius, Jannink, & Co., Goor.—Fish nets and yarn. 230
- 34 Hilversumsche Spinning & Weaving Manufactory, Amsterdam.—Spun and woven cotton goods. 230
- 35 Plantelijdt, L., Krommenie.—Thread cloth and canvas. 230
- 36 Maas en Zonen, A. E., Scheveningen.—Fish nets. 230
- 37 Bottenheim, D. & S., Amsterdam.—Yarns. 230
- 38 Stork, C. F., Hengeloo.—Colored woven goods. 231
- 39 Swinkels, W., Helmond.—Yarns. 231
- 40 Veltman, J. A., jr., Amsterdam.—Covers and scarfs. 232
- 41 Veetman, J. A., Amsterdam.—Scarfs. 232
- 42 Elias, J., Strijp.—Table cloths, napkins, and dress goods. 233
- 43 Nieuwenhuizen & Van Stratum, Geldrop.—Towels, napkins, and table cloths. 233

Woven and Felted Goods of Wool, etc.

- 44 Tilburg Woolen Manufacturing Co.—Flannels, opera cloaks, and fancy goods. 236
- 45 Zaalberg, J., Leyden.—Woolen covers. 237
- 46 De Lange, A. G., Delft.—Imitation Smyrna rugs. 239
- 47 Garjeanne, A. G., Delft.—Imitation Smyrna carpets. 239
- 48 Royal Carpet Manufactory, Deventer.—Deventer hangings. 239
- 49 Prins, M., Deventer.—Artificial wool and cowhair carpets. 239
- 50 Van Leer, B., Amersfoort.—Hangings. 239
- 51 Veelo, P. J., Gravenhage.—Sofa cloths. 241

Silk and Silk Fabrics.

- 52 Travaglino, P. J. & W. J. P., Haarlem.—Silks. 244

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 54 Wienbelt, W., Deventer.—Boots. 251
- 55 Costermans, C., jr., Gravenhage.—Trunks, satchels, and bags. 255

Stationery, Weapons, Medical Appliances, Hardware.

Paper, Blank Books, and Stationery.

- 56 Loeber, G., Amsterdam.—Stationery. 258
 57 Abrahams Bros., Middleburg.—Blank books. 261
 58 Simons, Ph., Gravenhage.—Bindings for maps, etc. 261
 59 Cramer, H. G. D., Ootmarsum.—Pasteboard. 262
 60 Van der Burgh, M., Schiedam.—Imitations of marble and wood. 264
 61 Van der Burgh, A. R. & P., Rotterdam.—Imitations of marble and wood. 264
 62 Rijperman, C. J. F., Velzen.—Wood painting. 264
 63 Dobbe, J. P., Gravenhage.—Wood and marble painting. 264
 64 Kerkhoven, R., Utrecht.—Wood and marble painting. 264

Weapons, etc.

- 65 Government Arm Manufactory, Delft.—Army rifle. 265
 66 Betou, J. P. de, Delft.—Breechloading rifle. 265

Medicine, Surgery, Prothesis.

- 67 Van de Loo, J. P. H., Venlo.—Plaster and bandages. 276
 68 Schokking, J. A. J., Amsterdam.—Conical tube for injections. 276
 70 Krol, W., Kampen.—Plasters and bandages. 276
 71 Mathijssen, A., Budel.—Plaster and bandages. 276
 73 Gori, M. W. C., Amsterdam.—Water and land conveyances for sick and wounded. 278
 74 Committee on Sick & Wounded Soldiers.—Work of the "Red Cross." 278

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 75 Erdman-Schmidt, J. D., Helmond.—Cast engraving plates. 280
 77 Enthoven, H. S., Zalt-Bommel.—Tinned iron kitchen utensils. 284
 78 Van Heukelom, H. C., Utrecht.—Machine screws. 284

Fabrics of Vegetable, Animal, or Mineral Materials.

- 79 Reus, N., Pzn, Dordrecht.—House and ship brushes. 286

NETHERLANDS EAST INDIAN COLONIES.

COLLECTIVE EXHIBIT.

Minerals, Manufactures.

Minerals, Ores, Building Stones, and Mining Products.

- 1 Netherlands Commission.
 a Gold, quicksilver, lead, and hematite iron ores; sulphur, feldspar, quartz, porphyry, trachyte, obsidian, garnet rocks, talc, flinty schist. 100
 b Coal. 101
 c Marble, granite, sandstone, syenite, diorite. 102
 d Limestone. 103
 e Clays, chalk bamboe. 104

Metallurgical Products.

- f Gold, from Soepayang. 110
 g Block tin. 113

Chemical Manufactures.

- h Nutmeg soaps. 201
 i Indigo. 202

Ceramics—Pottery, Porcelain, etc.

- j Water jug. 210

Furniture and Objects of General Use in Construction and in Dwellings.

- k Table, benches, rocking chairs, footstools. 217

Yarns and Woven Goods of Vegetable or Mineral Materials.

- l Mats, fabric of beaten bark. 229
 la Native cotton thread. 230
 lb Native calico. 232

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- m Native garments of silk, cotton, etc. 250
 n Native caps, headkerchiefs, plaited hats, and Chinese slippers. 251

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Manufactures, Agricultural Products.

- o Lace, silk embroideries, embroidered handkerchiefs, etc. 252
 p Silver filigree necklace, brooches, ear-drops, and bracelets. 253
 q Artificial flowers, lacquered boxes, cases, fruits, etc.; nutmeg-tree made of feathers; flower baskets, cigar cases, vases, box, native boat and sedan chair made of cloves, book mark, tortoise-shell covers, models of Malay dwelling, chapel, rice barns, baskets, tea-set of silver filigree work, etc. 254

Weapons, etc.

- r Native weapons, small models of inland arms. 265
 s East Indian weapons, creeses, swords, knives, sabres, head-choppers, blow pipes for arrows, arrows, and shields. (Loaned by His Majesty the King of the Netherlands.) 265

Medicine, Surgery, Prothesis.

- t Alkaloids from cinchona bark, quinium, quinine, quinidine, cinchonine, cinchonidine, and cinchona powder; gum damar, catechu. 272

Hardware, Edge Tools, Cutlery, Metallic Products.

- u Small models of inland tools. 280
 v Rice knife. 281

Fabrics of Vegetable, Animal, or Mineral Materials.

- w Ropes made of fibres of native trees and plants. 287
 x Baskets, lacquered wooden box and trays. 289

Arboriculture and Forest Products.

- y Cotton reels; East Indian loom; trunks, roots, barks, etc., of various species of the cinchona tree; collection of native woods; leaves, fruit, and pulp of the vegetable tallow tree; samples of bamboo. 600
 z Ebony, sapan, and fustic woods. 601
 aa Gutta-percha, gutta-gitang, gutta-soesoe, India-rubber, agar-agar, gum benjamin, camphor, dragon's blood, vegetable talc, etc. 603

- bb Wild nuts, binamoe, langa bidjan, leadoeri flue seeds, sapo ranto, fruit, preserved wild nutmegs, etc. 605

Agricultural Products.

- cc Rices, hulled, unhulled, and in the stalk; millet, dragong wheat. 620
 dd Bienkoero and tarok roots. 622
 ee Coffees, teas, cocoa, nutmegs, white and black peppers, mace, cloves, tobacco. 623

Land Animals.

- ff Birds of Paradise.

Marine Animals, Fish Culture and Apparatus.

- gg Tripang fish. 641
 hh Turtles. 643
 ii Mother-of-pearl shells. 645

Animal and Vegetable Products.

- jj Edible birds' nests. 650
 kk Tiger skins. 652
 ll Wax. 654
 mm Preserved victuals. 656
 nn Arrow-root, sente, ketella, red obi, tales, aren, cassava, and potato flours. 657
 oo Sago. 658
 pp Sugars. 659
 qq Arrack. 660
 rr Kajoe-poeti, Macassar, and Tekawan oils. 662

Textile Substances of Vegetable or Animal Origin.

- ss Kapok (cotton), cotton. 665
 tt Ramie flax, leaves, etc.; oakum; fibrous materials from trees and plants; rattan, samanboe pipit, and samanboe besar reeds. 666
 uu Imitation clove-tree. 709
 2 Bernelot, Moens, J. C.—Herbarium exhibiting the cinchona cultivation in Java. 721
 3 Noordendorp, J., Amsterdam.—Photographs of the government cinchona establishments, and the Bouda Temple at Boro Bodor. 430

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

DENMARK.

(South of Nave, Columns 11 to 13.)

Manufactures, Education and Science.

Chemical Manufactures.

- 1 Aalborg Chemical Works, Aalborg.—Bicarbonate and carbonate of soda. 200
- 2 Holmblad, L. P., Copenhagen.—Stearine candles. 201
- 3 Guldberg, C. Hoegh, Copenhagen.—Varnish, and wood polished with it. 202
- 4 Hansen, C., Copenhagen.—Cheese rennet extract and coloring fluid; butter coloring. 202
- 5 Meyer & Henckel, Copenhagen.—Butter and cheese coloring, cheese rennet extract, varnishes. 202
- 6 Riise, A. H., St. Thomas, West Indies.—Double-distilled bay spirit and oil of bay leaves. 203
- 7 Odense Match Factory, Odense.—Matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

- 8 Hesse, Georg W., Copenhagen.—Terra-cotta vases, jugs, etc. 206
- 9 Ipsen's, P., widow, Copenhagen.—Terra-cotta vases, tazzas, figures, etc. 206
- 10 Wendrich & Son, Copenhagen.—Terra-cotta bas-reliefs, bowls, vases, etc. 206
- 11 Royal Porcelain Manufactory, Copenhagen.—Biscuit bas-reliefs after Thorwaldsen, exhibited by the Commissioner. 212
- 12 Argentine Manufactory, Copenhagen.—Porcelain covered with copper, silver, and gold. 213

Furniture and Objects of General Use in Construction and in Dwellings.

- 13 Hansen, C. B., Copenhagen.—Furniture. 217
- 14 Meidel, F., Copenhagen.—Fire-proof safes. 217
- 15 Christesen, V., Copenhagen.—Silverware; large table ornament of silver, representing Art, Science, and Industry; tea and coffee sets, etc. 218
- 16 Stenstrup, Copenhagen.—Sign painting. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 17 Ramsing, Th., Aarhus.—Dyed linen fabrics. 233

Woven and Felted Goods of Wool and Mixtures of Wool.

- 18 Müller, H., Faroe Islands.—Woolen goods. 235

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 19 Möller, C., Copenhagen.—Water-proof oil clothing. 250
- 19^a Sorensen, C. P., Copenhagen.—Hand-sewed black coat, waistcoat, and pantaloons. 250
- 20 Larsen, N. F., Copenhagen.—Gloves. 251
- 21 Christesen, V., Copenhagen.—Jewelry and ornaments. 253
- 22 Assam, H. M., Odense.—Tobacco pipes, etc. 254
- 23 Ovre, Mrs., Copenhagen.—Artificial flowers. 254

Paper, Blank Books, Stationery.

- 24 Holmblad, L. P., Copenhagen.—Playing cards. 262
- 25 Hansen, Carl, & Co., Ebeltoft.—Impregnated pasteboard. 262

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 25^a Engelbrecht, C., Copenhagen.—Pair of water-skates. 281

Educational Systems, Methods, and Libraries.

- 1 Hveisel, G., Randers.—School maps. 300
- 2 Simonsen, C., Copenhagen.—"Punch," an illustrated paper. 306
- 3 Steenberg, A., Copenhagen.—"Industriden," an industrial paper. 306

Institutions and Organizations.

- 4 Browning, Georg, Copenhagen.—Ethnographical collection, products, minerals, etc., from Iceland and Faroe Islands. 312
- 5 Müller, H., Faroe Islands.—Collection of birds, feathers, eggs, etc. 312
- 6 Harboe, C., Copenhagen.—Ethnographical collection; products, minerals, etc., from Greenland. 312

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 27-45.

Science, Art, Machinery, Agricultural Products.

Scientific and Philosophical Instruments and Methods.

- 7 Bie, C., Aalborg.—Arithmometer. 321
 8 Ferslew, C., & Co., Copenhagen.—Register for cars, etc. 323

Engineering, Architecture, Maps, etc.

- 9 The Royal Staff, Copenhagen.—Topographical maps. 335
 10 Steen, C., & Son, Copenhagen.—Geographical, historical, meteorological, and other maps. 335

Sculpture.

- 10^a Fjeldskov, V., Copenhagen.—Carving in wood, statuettes, medals, etc. 405
 a Sailor.
 b Viking.
 c Crucifix.
 d Peasant.
 e Children.
 f Friends.
 g Spring.
 h Thorwaldsen.
 i Gøthe.
 j Angelo.
 k H. C. Andersen.
 l Oersted.

Painting.

- 10^b Ferslew, C., & Co., Copenhagen.—Lithographs. 413

Industrial and Architectural Designs, etc.

- 10^c Hetsch, Chr., Copenhagen.—Architectural designs. 441

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

- 1 Ambrosiussen, O. P., Copenhagen.—Model of a scaffold. 503

Machines and Implements of Spinning, Weaving, Felting, and Paper-making.

- 2 Tullesen, P., Lyngby.—Hair-braiding machine. 524

Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.

- 3 Henriksen, H., Copenhagen.—Sewing machine. 531

Machines for Printing, Making Books, Paper-working, etc.

- 4 Hansen, R. Malling, Copenhagen.—The tachygraph, operated by electricity, and the type-writing ball, operated by hand. 542

Motors, Power Generators, etc.

- 5 Godfredsen, R., Copenhagen.—Belt-ing, etc., for transmission of power. 553

Arboriculture and Forest Products.

- 1 Halkier, P. A., Copenhagen.—Timber, planks, boards, rough and finished, for buildings, etc. 503

Agricultural Products.

- 2 Wendt, Frantz, Roeskilde.—Rye, winter and spring wheat, barley, and oats. 620

Animal and Vegetable Products.

- 3 Danish Preserved Butter Co., Aarhus.—Canned butter for export. 651
 4 Heymann, P. W., Copenhagen.—Preserved butter for export, also butter which was at the Vienna Exposition in 1873. 651
 5 Copenhagen Leather Manufactory, Copenhagen.—Consolidated leather soles, heels, sheets, etc. 652
 6 Pork Packing Co., Copenhagen.—Lard packed in bladder. 652
 7 Eriksen, C., Lyngby.
 a Honey and wax. 654
 b Mead. 660
 8 Müller, P. A. E., Copenhagen.—Honey and wax. 654
 9 Herreborg, Otto, Copenhagen.—Preserved fruit, vegetables, jellies, etc. 656
 10 Brøndum, A., Copenhagen.—Corn brandy and table liquor. 660
 11 Aalborg Syrup & Spirit Factory, Aalborg.—Table liquor and spirit. 660
 12 Anthony, F., Copenhagen.—Brandy and liquors. 660
 13 Been, C. A., Copenhagen.—Liquors, etc. 66c
 14 Gottschalk, I. C., Holbek.—Essences. 660
 16 Heering, Peter F., Copenhagen.—Cherry cordial. 660
 17 Lorenzen, L., Aarhus.—Bitter cordial. 660
 18 Odin Distillery, Randers.—Corn brandy flavored with caraway seeds, table liquor, and rectified spirit. 663
 19 Sabro, I. C., Randers.—Bitters, etc. 663
 19^a Farch, J., & Sons, Nibe.—Alcohol, raw spirits, and brandy. 663
 20 Schucani & Wegmann, Copenhagen.—Liquors, bitters, etc. 660
 21 Svanholm Brewery, Copenhagen.—Beer for export. 660
 22 Ramsing, T., Aarhus.—Chocolate. 661
 Textile Substances of Vegetable or Animal Origin.
 23 Müller, H., Faroe Islands.—Wool. 667
 Machines, Implements, and Processes of Manufacture.
 24 Schütz, Thurebyholm.—Model of milk cooler. 675
 Agricultural Engineering and Administration.
 25 Aalborg Chemical Works, Aalborg.—Artificial bone manure. 683

SWEDEN.

(North of Nave, Columns 6 to 11.)

Chemicals, Ceramics, Furniture.

Chemical Manufactures.

- 1 Aseptin Amykos Stock Co.
a Upsala Aseptin, for preservation of provisions and animal materials. 200
b Upsala amykos, used as a cosmetic. 203
- 2 Bengtsson, B., Astra Torp, Trelleborg.—Chemicals. 200
- 4 Friestedt, A. W., Stockholm.—Chemicals. 200
- 5 Gullberg Stock Co. (limited), Göteborg.—Sulphuric acid. 200
- 6 Liljeholmen Stearine Manufacturing Stock Co., Stockholm.—Stearine candles, oleine, glycerine, and stearine. 201
- 7 Sjöberg, A. P., Malmö.—Soaps. 201
- 8 Werner, C. O., Stockholm.—Bone oil. 201
- 14 Strandberg, Fr. Aug., Jönköping.—Varnishes, ink. 202
- 17 Granholm, J. P., Stockholm.—Rectified amykos. 203
- 18 Pauli F., Stockholm.—Essences, perfumery, cosmetics. 203
- 21 New Match Manufacturing Co. (limited), Stockholm.—Safety matches. 204
- 22 Berg, Gottfried Warby, Stockholm.—Gunpowder. 204
- 23 Blombacka Stock Co., Molkom.—Safety matches and their raw materials. 204
- 24 Guesta Match Manufactory, Stockholm.—Paraffined safety matches. 204
- 25 Holmberg, Eric, Södertelje.—Safety matches. 204
- 26 Jönköping Match Manufacturing Co. (limited), Jönköping.—Safety matches. 204
- 27 Kreuger, P. E., & Jennings, Kalmar.—Safety matches. 204
- 28 Ellbo Göteborg Match Factory, Göteborg.—Matches. 204
- 29 Lindahl, J. F., Kalmar.—Safety matches. 204
- 30 Lover Manufacturing Co. (limited), Kalmar.—Matches. 204
- 31 Norrköping Match Manufacturing Co. (limited), Norrköping.—Safety matches and appurtenances. 204
- 32 Stregnas Match Manufacturing Co. (limited), Stregnäs.—Safety matches. 204
- 33 Phoenix Match Manufacturing Co. (limited), Malmö.—Matches. 204
- 34 Vulcan Match Manufacturing Co. (limited), Göteborg.—Matches. 204

- 35 Westervik Match Factory, Westervik.—Matches. 204
- 36 Wisby Match Manufacturing Co. (limited), Wisby.—Matches. 204
- 37 Ystad Match Manufacturing Co. (limited), Ystad.—Safety matches. 204

Ceramics—Pottery, Porcelain, Glass, etc.

- 39 Helsingborgs Iron and Stone Ware Manufacturing Co. (limited), Helsingborg.—Salt glazed clay goods. 207
- 40 Höganäs Coal Mining Co., Höganäs.
a Fire clay goods. 207
b Tiles for pavements. 208
- 42 Gustafsbergs Manufacturing Co., Stockholm.
a Architectural pottery. 206
b Faience. 210
c Biscuit ware and parian. 212
d Porcelain and Argentine. 213
- 43 Rörstrands Stock Co. (limited), Stockholm.
a Faience. 210
b Majolica and palissy ware. 211
c Biscuit ware and parian. 212
d Porcelain. 213
- 46 Malmö Porcelain Manufacturing Co., Malmö.—Porcelain for table use. 213
- 47 Brusewitz, Fr., Limmared.—Glassware. 215
- 48 Reymyre Glass Factory (limited), Reymyra.—Glassware. 215

Furniture and Objects of General Use in Construction and in Dwellings.

- 49 Backman, J. F., Stockholm.—Safe. 217
- 50 Glömsta Manufacturing Co. (limited), Huddinge.—Cottage furniture. 217
- 51 Lastbom, Iven, Stockholm.—Cupboard of birchwood. 217
- 52 Peterson, C. E., Stockholm.
a Table. 217
b Frame. 220
- 53 Rambach, C. Stockholm.—Chair. 217
- 54 Rusch, P. O., Göteborg.—Japanned furniture. 217
- 54^a Holm, F. F. W., Stockholm.—Furniture. 217
- 55 Sandberg, A. Cook, Stockholm.—Writing chair. 217
- 56 Wahlström, S. Fr., Stockholm.—Willow furniture. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture, Woven Goods, Clothing, Stationery.

- 57 Osterberg, C. G., Jäder, Eskilstuna.—
School furniture. 217
- 58 Bruzewitz, Fr., Limmared.—Table
glass. 218
- 59 Goldsmiths' Stock Co. (limited),
Stockholm.—Silver tankard. 218
- 60 Gustafsberg Manufacturing Co.,
Stockholm.—Table china. 218
- 61 Reymyre Glass Factory (limited),
Reymyra.—Table glass. 218
- 62 Rörstrand Stock Co. (limited), Stock-
holm.
a Table china 218
b Stoves. 222
- 64 Bolinders, J. & C. G., Machine Co.
(limited), Stockholm.
a Heating apparatus. 222
b Stove for smoothing-irons. 225
- 65 Hedengren, A. F., & Son, Eskilstuna.
—Stove sets. 222
- 66 Eriksson, G., Eskilstuna.—Brass
doors for stoves. 222
- 68 Moberg Machine Co., Stockholm.—
Range. 222
- 73 Elfving, C. E., Stockholm.—Appa-
ratus for cutting lamp wicks. 223
- 74 Kuntze & Co., Stockholm.—Water
filters, refrigerators. 224
- 74^a Kallinge Iron Works, Ronneby.—
Kitchen utensils of iron and steel sheets.
224
- 75 Lafquist, J. A., Eskilstuna.—
Smoothing-irons. 225
- 76 Björk, J. O., Eskilstuna.—Hardware
of mottified iron. 227
- 77 Dickson, James, & Co., Sandarne,
—Woodwork for buildings. 227
- 78 Essen, Baron H. H. von, Tidaholm.
—Woodwork for buildings. 227
- 79 Hedlund, Joh., Eskilstuna.—Metal
work for buildings. 227
- 82 Wengström, J. O., Stockholm.—
Manufactured parts of buildings. 227

Yarns and Woven Goods of Vegetable
or Mineral Materials.

- 83 Anderson, J., Kjårdingagärde,
Gnosjö.—Wire and sieve cloth. 228
- 84 Berg, J. Th., Nääs, Floda.
a Cotton yarns. 230
b Dyed cotton yarn. 231
- 86 Malmö Manufacturing Co.
(limited), Malmö.
a Cotton yarns. 230
b Dyed cotton fabrics. 231
- 87 Rosenlunds Spinning Co. (limited),
Göteborg.—Cotton yarns and fabrics. 230
- 89 Johansson & Carlander, Göteborg.—
Calicoes. 232
- 90 Stenburg's, G., Widow, Jönköping.—
Linen fabrics. 233

Woven and Felted Goods of Wool, etc.

- 91 Bergsbro Stock Co., Norrköping.—
Card-wool fabrics. 235
- 92 Drag Stock Co. (limited), Norrkö-
ping.—Card-wool fabrics. 235
- 93 Landskrona Manufacturing Co.,
Landskrona.—Card-wool fabrics. 235

- 94 Malmö Woolen Manufacturing Co.
(limited), Malmö.—Card-wool fabrics. 235
- 95 Stockholm Woolen Manufactur-
ing Co. (limited), Stockholm.—Woven and
felted goods of wool. 235

Silk and Silk Fabrics.

- 96 Almgren, K. A., Stockholm.—Plain
woven silks. 245

Clothing, Jewelry, and Ornaments;
Traveling Equipments.

- 98 Ek, J. A., Stockholm.—Military
equipments. 250
- 99 Fernlund, E. F., Stockholm.—Mil-
itary and civil clothing. 250
- 100 Heurlin, G. U., & Co., Stockholm.
—Military clothing. 250
- 101 Royal War Office, Department of
Investment, Stockholm.—Complete equip-
ment of foot and mounted soldiers; speci-
mens of cloth, linen, etc. 250
- 103 Swedmark, G., Malmö.
a Leather jackets. 250
b Gloves. 251
- 104 Wallgren, A. R., Stockholm.—Mil-
itary clothing. 250
- 105 Forsell, David, & Co., Stockholm.
a Hats and caps. 251
b Furs. 256
- 106 Jacobson & Anderson, Malmö.—
Gloves. 251
- 107 Svanberg, C. E., Jönköping.—
Shoes. 251
- 109 Tornberg, Olof, Göteborg.—Boots
and shoes. 251
- 110 Odberg, C. R., Stockholm.—Hunt-
ing boots. 251
- 111 Peterson, C. E., Stockholm.—
Embroidered portrait of Washington. 252
- 112 Klintberg, J. W., & Co., Wisby.—
Jewelry made of petrifications. 253
- 113 Anderson, J., Kjårdingagärde,
Gnosjö.—Pins. 254
- 114 Berg, F. J., Göteborg.—Wigs,
braids, and chignons. 254
- 114^a Clarborg, T. A., Stockholm.—
Jewel case. 254
- 116 Bergström, P. N., Stockholm.—
Furs. 256
- 118 Royal Swedish Commission,
Stockholm.—Life-size figures, dressed in
national costume. 257

Paper, Blank Books, Stationery.

- 119 Berggren, A. N., Stockholm.—Pen-
holders of cork. 258
- 120 Brunell, J. E., Stockholm.—Pen-
holders of common reed. 258
- 121 Klintberg, J. W., & Co., Wisby.—
Letter-presses of petrifications. 258
- 122 Kullgren's, C. A., Widow, Udde-
valla.—Letter-presses of polished gran-
ite. 258
- 123 Nordström, M. S., Stockholm.—
Stamps for marking on linen or paper. 258
- 125 Munktell, J. H., Grycksbo, Falun.
a Filtering paper. 259
b Wood pulp. 260

Paper, Weapons, Medical Appliances, Hardware.

- 127 Nynäs Pasteboard Factory, Nynas, Mavida.—Pasteboard. 260
- 129 Lewenhaupt, Count, Sten, Wermbohl, Katrineholm.—Wood pulp, chemically prepared. 260
- 130 Malmö Wood Pulp Manufacturing Co. (limited), Delaryd, Elmhult.—Wood pulp, chemically prepared. 260
- 131 Munkedal Manufacturing Co. (limited), Uddevalla.
a Wrapping, bagging, and sketching paper. 260
b Building papers. 263
c Wall paper. 264
- 132 Munksjö Paper Factory, Jönköping.—Wrapping paper. 260
- 133 Rosendahl Manufacturing Co., Göteborg.—Paper pulp of wood and straw, paper. 260
- 134 Wargöns Stock Co., Rannum.—Printing paper for newspapers. 260
- 135 Litografiska Stock Co., Norrköping.
a Blank books, sets of account books, billheads, etc. 261
b Playing cards. 262
- 136 Tidström, C. W., Stockholm.—Account books, portfolios. 261
- 137 Djupafors' Manufacturing Co. (limited), Ronneby, Djupafors.—Pasteboard; building paper. 262
- 138 Köhler & Co., Malmö.—Playing cards. 262
- 140 Munksjö Paper Mill, Jönköping.—Building paper. 263
- 141 Edgren, Julius, Jönköping.—Wall paper. 264
- 142 Kaberg, C. A., Stockholm.—Wall paper. 264
- 143 Mineur, C. G., Stockholm.—Wall paper, imitation of leather, and ornaments of wood pulp. 264
- 145 Rosell, P. A., & Co., Jönköping.—Wall paper. 264

Weapons, etc.

- 146 Husqvarna Arms Manufacturing Co. (limited), Jönköping.
a Military small arms, muskets, and revolvers. 265
b Fire arms for sporting and hunting. 269
- 147 Royal War Office, Artillery Department, Stockholm.
a Military small arms from the royal factory at Carl Gustafs Stad. 265
b Field gun with carriage, ammunition carriage, field forge. 266
c Fortification ordnance with carriage and shots. 267
- 148 Motala Mechanical Works Co. (limited), Motala.—Hoops for guns. 266
- 149 Palmcrantz, Helge, Stockholm.—Mitrailleuse. 266
- 150 Ekman, Carl, Finspong, & De Maré, A., Ankarsrum.—Steel guns and shot. 267
- 151 Eskilstuna Iron Manufacturing Co. (limited), Eskilstuna.—Blades of swords, sabres, foils, and hunters' hangers. 263
- 153 Norrström, C. A. & C. H., Eskilstuna.—Hunting knives. 268

Medicine, Surgery, Prothesis.

- 154 Pitz, G., Stockholm.—Medicated gelatine. 272
- 155 Lamm, Axel, M., Stockholm.—Galvano-caustic apparatus, gynecological apparatus. 275
- 156 Royal War Office, Sanitary Department, Stockholm.—Surgical instruments for military use. 276
- 157 Stille, Alb., Stockholm.—Surgical instruments. 276
- 158 Zander, G., Stockholm.—Apparatus for mechanical gymnastics. 276

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 159 Eskilstuna Iron Manufacturing Co. (limited).—Screw plates and hinges. 280
- 160 Liberg, B. & O., Rosenfors.
a Edge tools. 280
b Cutlery. 281
- 161 New File Manufactory, Eskilstuna.—Files. 280
- 162 Oberg, C. O., & Co., Eskilstuna.—Files. 280
- 163 Fagersta Iron & Steel Works, Westanfors.
a Saws. 280
b Nails. 284
- 164 Uddeholm Stock Co. (limited), Råda.
a Hand tools. 280
b Springs and hardware. 284
- 165 Engström, Joh., Eskilstuna.—Razors. 281
- 166 Gustafson, G., Eskilstuna.—Knives. 281
- 167 Halling, A., Eskilstuna.—Knives. 281
- 168 Heljestrand, Christoffer, Eskilstuna.—Razors, knives, and corkscrews. 281
- 169 Ståhlberg, L. F., Ståhlfors.—Cutlery. 281
- 170 Svalling, E. M., Eskilstuna.—Knives. 281
- 171 Söderén, F. W., Eskilstuna.—Knives. 281
- 172 Hedlund, Joh., Eskilstuna.—Locks. 284
- 173 Jernberg, S., Eskilstuna.—Latches. 284
- 174 Lafqvist, J. A., Eskilstuna.—Hinges. 284
- 175 Lagerbäck, H., Eskilstuna.—Locks. 284
- 178 Stenman, F. A., Eskilstuna.—Locks. 284
- 179 Strandberg, J., Eskilstuna.—Brass. 284
- 181 Walén, Joh., Eskilstuna.—Locks. 284
- 182 Johnson, A. & Co., Stockholm.—Cart springs. 281

Metal, Leather, Wooden Ware.

183 Kallinge Iron Works, Ronneby.— Nails. 284	Fabrics of Vegetable, Animal, or Mineral Materials.
183 ^a New Gellivara Co. (limited), Luleå.—Nails. 284	189 Tuxen, Louis von, Stockholm.— Fabrics of patent leather. 285
184 Robson, Albert, Aspa, Askersund. —Oak spikes. 284	190 Olsson, M., Arnäs, Lina.—Flower stand, willow chair and basket. 289
185 Sundström, J. O., Charlottenberg. —Nails. 284	191 Kallinge Iron Works, Ronneby.— Galvanized iron vessels. 291
187 Wiklund, W., Stockholm.—Brass hardware. 284	192 Karlskrona Galvanizing Stock Co. (limited), Karlskrona.—Galvanized sheet iron. 291

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

NORWAY.

(North of Nave, Columns 4 to 7.)

Textiles, Ceramics, Woven Goods, Clothing.

Chemical Manufactures.

- 1 Bergen Gas Works, Bergen.—Sulphate of ammonia, raw and refined. 200
- 1^a Bergen's Commercial Association, Bergen.—Cod-liver oil. 201
- 2 Borthen, J., Trondhjem.—Medical cod-liver oil. 201
- 3 Hanssen, F., Aalesund.—Medical cod-liver oil. 201
- 4 Devold, L. C., Aalesund.—Medical cod-liver oil. 201
- 4^a Henriksen, J. H., Tromsø.—Medical cod-liver oil. 201
- 5 Jordan, C., Trondhjem.—Medical cod-liver oil. 201
- 6 Moller, Peter, Christiania.—Cod-liver oil. 201
- 6^a Bordewick & Co., Lynzvor.—Medical cod-liver oil. 201
- 7 Steen, Daniel, Christiania.
^a Soaps. 201
^b Essences, perfumery, pomades, cosmetics. 203
- 8 Holmen's, G. R., Technical Works, Fuglesang, Christiania.—Writing ink, aseptic, diamond oil blacking, grease for leather. 202
- 10 Rode, C. N., Porsgrund.—Scandinavian ink, writing and copying, dark violet copying ink. 202
- 11 Pettersen, Andr., Bergen.—Hair dressing and perfumery. 203
- 12 Dons, Henrik, Christiania.—Matches from Bryn manufactory. 204
- 16 Jølsens, H., Match Manufactory, Christiania.—Matches. 204
- 17 Nitedals Match Manufactory, Christiania.—Safety and common matches. 204
 (For fish oil, see Agricultural Catalogue, page 61.)

Ceramics—Pottery, Porcelain, Glass, &c.

- 17^a Havnven's Works, Christiania.—Tiles and bricks. 206
- 18 Schwarzenhorn, Fr. von, Christiania.—Painted and decorated porcelain. 213
- 19 Hurdal, Biri, Hadeland & Høvik's Glass Works.
^a Window glass. 214
^b Bottles. 215
^c Glassware. 216
- 20 Bergen's Glass Works.—Floaters. 215

Furniture and Objects of General Use in Construction and in Dwellings.

- 21 Gram, Wm., Christiania.
^a Antique bedstead and cupboards. 217
^b Antique brass and copper dishes. 218
^c Candlesticks. 223
- 22 Holst, Chr., Head Steward to His Majesty the King, Christiania.—Buffet chairs, antique arm chairs, peasant chairs. 217
- 23 Klemetsen, Chr., Christiania.—The fittings of the Norwegian section. 217
- 24 Moestue, Thv., & Co., Christiania.—Iron safe. 217
- 25 Opsahl, P. J., Christiania.—Iron safes. 217
- 28 Drammen Foundry and Mechanical Works, Drammen.—Stoves. 222
- 29 Nord & Son, M. E., Christiania.—Refrigerator. 224
- 30 O. Jacobsen's Mechanical Works, Christiania.—Mechanical mangle. 225

(For stoves, see page 88.)

(For door-handles, see page 83.)

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 31 Christiania Sail Cloth Manufactory, Christiania.—Sail cloth, fishing yarns, etc. 230
- 32 Nydalens Company, Christiania.—Cottons, sail cloth, tissues, and yarns, fishing nets, etc. 230
- 34 Eche, J. D., & Son, Bergen.—Floor oil cloths and painted window blinds. 234

Woven and Felted Goods of Wool and Mixtures of Wool.

- 36 Pettersen, Gunerius, Christiania.—Textile domestic industry; valises. 238

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 40 Falkenberg, Johs., Christiania.—Ready-made linen. 250
- 41 Næss, H. S., Christiania.—Boots and shoes. 251
- 42 Nordahl, Petter N., Christiansand.—Boots. 251
- 43 Falck-Yster, Christiania.—Snow shoes. 251
- 44 Gram, Wm., Christiania.
^a Collection of antique and modern silver ornaments worn upon the person. 252
^b National costumes from Hardanger. 252

Fancy Goods, Paper, Hardware, Carriages, Machinery.

- 45 Lie, P. A., Christiania.—Silver filigree work in Norwegian style. 253
- 45^a Olsen, Th., Bergen.—Filigree silver ornaments. 253
- 46 Tostrup, J., Christiania.—Silver work; silver filigree work in specific Norwegian style. 253
- 49 Kittelsen, Jens, Christiania.—Valises. 255
- 50 Brandt, C., Bergen.—Furs, skins, etc. 256
- 51 Rustad, A. S., Drammen.—Collection of Norwegian furs. 256

Paper, Blank Books, and Stationery.

- 53 Haneborg, A. O., Christiania.
- a* Paper. 260
- b* Wood pulp for paper manufacturing. 263
- 54 Moestue, Thv., & Co., Christiania.
- a* Account books. 261
- b* Pasteboard boxes. 262
- 55 Christophersen, Chr., Christiania.—Wood pulp for paper manufacturing. 263
- 56 Frolich, F. H., & Son, Christiania.—Paper hangings and borders. 264

Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.

- 57 Gram, William, Christiania.—Antique weapons. 268

Medicine, Surgery, Prothesis.

- 58 Ditten, H. S., Christiania.—Aperient tonic pills, tourist pharmacies. 272

Hardware, Edge Tools, Cutlery and Metallic Products.

- 58^a Bennett, T.—Cutlery and carved goods. 281
- 59 Michelsen, John B., Bergen.
- a* Cutlery. 281
- b* Brass goods. 283
- c* Carvings in wood and walrus teeth. 405
- 59^a Smith, William.—Knives with carved handles. 281
- 60 Blunck, C., Christiania.
- a* Metal hollow ware, cast iron ware. 283
- b* Pumps. 560
- c* Fire engines. 564
- 61 Krogstad Society, Drammen.—Nails and spikes, machine-made by hot and cold process. 284
- 61^a Opsahl, P. J., Christiania.—Locks. 284

(For anchors, chains, and stoves, see page 80.)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Fabrics of Vegetable, Animal, or Mineral Materials.

- 65 Fredriksvorn Rope Manufactory, Fredriksvorn.—Cordage. 287
- 66 Kuhne, W., Christiania.—Basket ware. 289

Carriages, Vehicles, and Accessories.

- 67 Heffermehl, L., Drammen.
- a* Carriages (kariols). 292
- b* Racing sledge. 295
- 68 Sorensen & Klovsstad, Christiania.—Carriages (kariols). 292
- 69 Christensen, Chr., Christiania.
- a* Kariol. 292
- b* Antique sleigh. 295
- 70 Falck-Yster, Christiania.—Fisherman's ice sledge. 295

Motors, Power Generators, etc.

- 71 Gjerdrum, Otto, Christiania.—Model of self-acting smoke-consuming apparatus for boilers. 550
- 72 Klem Hansen & Co., Trondhjem.—Belting. 553
- 73 Roed Works, near Sandefjord.—Rotating steam-engine with boiler and feed-water heater. 554

Hydraulic and Pneumatic Apparatus.

- 74 Blunck, C., Christiania.
- a* Pumps. 560
- b* Fire-engines. 564

Aerial, Pneumatic, and Water Transportation.

- 75 Arentz, Hjalmar, Christiania.—Models and drawings of iron ships. 594
- 76 Board of Commerce, Aalesund.—Models of fishing boats. 594
- 77 Brandt, J., Christiania.—Drawings and models of sailing vessels. 594
- 78 Brunchorst & Dekke, Bergen.—Models of sailing vessels. 594
- 79 Gran, Jens, Bergen.—Models of sailing vessels. 591
- 80 Hansen, Carl A., Porsgrund.—Models and drawings of sailing vessels. 594
- 81 Museum of Bergen, Bergen.—Models of fishing boats. 594
- 82 Naval Establishment of Carl Johansværn, Herten.—Models of boats. 594

ITALY.

(North of Nave, Columns 1 to 5.)

Chemicals.

Chemical Manufactures.

- | | |
|---|--|
| 1 Mineralogical Society of Naples.—Sulphurous products. 200 | 26 Scuderi, Giuseppe, Catania.—Cream of tartar, zamba. 200 |
| 2 Salinella, Baron Michele, Nicosia, Catania.—Rock salt. 200 | 27 Rampazzini, Federico, Milan.—Sulphur and chemicals. 200 |
| 3 Musumeci, Gulli Gaetano, Catania.—Liquorice. 200 | 28 Solinas, Arras Giuseppe, Sassari.—Olive oil. 201 |
| 4 Giacomazzi, Favare Salvatore, Trapani.—Sea salt. 200 | 29 Oneto, Agostino, & Co., Sampierdarena, Genoa.—Soap. 201 |
| 5 Giacomazzi, Rocco, Trapani.—Liquorice. 200 | 30 Agostini Della Seta, Count Alfredo, Pisa.—Olive oil. 201 |
| 6 Martorana, Paladino S., Trapani.—Sea salt. 200 | 31 Cenami, Count Bartolomeo, Lucca.—Olive oil. 201 |
| 7 Mazullo, Cav. Agostino, Mandanui, Messina.—Rock salt. 200 | 32 Mingori, Vincenzo, Lucca.—Olive oil. 201 |
| 8 Pirrone, Antonino, of Gaetano, Messina.—Liquorice. 200 | 33 Tellini, Vincenzo, Calci, Pisa.—Olive oil. 201 |
| 9 Labonia, B. G., Naples.—Liquorice. 200 | 34 Tellini, Dario, & Co., Cascina, Pisa.—Olive oil soap. 201 |
| 10 Romano, Gaetano, Palermo.—Salt. 200 | 35 Binei, Casuccini Ottavio, Sienna.—Olive oil. 201 |
| 11 Ferrino, Cesare, Turin.
a Nitrate. 200
b Colors in powder and paste. 202 | 36 Contucci, Eustachio, Montepulciano, Sienna.—Olive oil. 201 |
| 12 Baroncelli, Baldassarre, Cinciano, Sienna.—Bicarbonate of potassium and sodium. 200 | 37 Lanza Bros., Turin.—Stearine, candles, soap. 201 |
| 13 Borelli, Luigi, late Tommaso, Asti, Alexandria.—Cream of tartar, acids. 200 | 38 Rinaldo, Raffaele, Salerno.—Olive oil. 201 |
| 14 Reimandi, Giuseppe, Acqui, Alexandria.—Cream of tartar, tartaric acid. 200 | 39 Guglielmini, Andrea, Salerno.—Olive oil. 201 |
| 15 Gentili, Grassini, late Giuseppe, Padua.—Cream of tartar. 200 | 40 Virgili, Angelo, Vacone, Perugia.—Olive oil. 201 |
| 16 Sbertoli, Giuseppe, late Domenico, Genoa.—Carbonate of lead. 200 | 41 Rosselli Del Turco, Pier Francesco, Florence.—Olive oil. 201 |
| 17 Candiani & Biffi, Milan.—Acids and chemicals. 200 | 42 Capponi, Conti Bros., Florence.—Olive oil. 201 |
| 18 Emmanuele, Francesco, Catania.—Cream of tartar. 200 | 43 Alli Macarani Claudio, Florence.—Olive oil and paste of Zanza. 201 |
| 19 Grimaldi, Giovanni, Paterno, Sicily.—Extract of liquorice. 200 | 44 Corsini, Prince Tommaso, Florence.—Olive oil. 201 |
| 20 Pastore, Gio., late Filippo, Catania.—Juice of liquorice. 200 | 45 Merlini, Alfonso, & Enrico Bros., Terricciola, Pisa.—Olive oil. 201 |
| 21 Grasso, Giuseppe, Catania.—Juice of liquorice. 200 | 46 Farinola, M. Paolo, Florence.—Olive oil. 201 |
| 22 Catanzaro, Giuseppe, Termini, Palermo.—Liquorice paste. 200 | 47 Albergotti, Geo., & Agostino Bros., Arezzo.—Olive oil. 201 |
| 23 Lancià di Brolo, Duke Federigo, Palermo.—Sea salt. 200 | 48 Rospigliosi, Prince Clemente, Lampocecchio, Florence.—Olive oil. 201 |
| 24 Fonzo, Domenico, Catania.—Cream of tartar. 200 | 49 Chamber of Commerce & Arts, Sienna.—Olive oil. 201 |
| 25 Di Mauro, Francisco, Catania.—Cream of tartar. 200 | 50 Saracini, Alessandro, Sienna.—Olive oil. 201 |
| | 51 Pucci, Sansedoni Aless., Sienna.—Olive oil. 201 |
| | 52 Ricasoli, Baron Bettino, Florence.—Olive oil. 20 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Chemicals, Ceramics.

- 53 Botti, Alessandro, Chiavari, Genoa.—Olive oil. 201
- 54 Calamari, Pietro, Milan.—Soaps. 201
- 55 Gianoli Bros., Milan.—Soaps. 201
- 56 Giuffrida, Leotta Giovanni, Catania.—Oil of sweet almonds. 201
- 57 Merlo, Baron Vincenzo, Palermo.—Olive oil. 201
- 58 Sciacca della Scala, Baron, Palermo.—Olive oil. 201
- 59 Martines, Filippo, Palermo.—Olive oil. 201
- 60 Inguaggiato, Baron Croce, Palermo.—Olive oil. 201
- 61 Pacchiani, Eliseo, Passignano, Umbria.—Olive oil. 201
- 62 Rossi, Leopardi Cav. Cesare, Comiso, Syracuse.—Soaps. 201
- 63 Fazio, Domenico, Palermo.—Olive oil. 201
- 64 Galli, Cesare, Florence.—Olive oil. 201
- 65 Piacente, Francesco, Bari.—Olive oil. 201
- 66 Agrarian Committee for Thirty Exhibitors, Florence.—Olive oil. 201
- 67 Jatta, Antonio, Ruvo di Puglia.—Olive oil. 201
- 68 Chamber of Commerce & Arts, of Bari.—Olive oil. 201
- 69 Mazzullo, Cav. Luigi, Messina.—Olive oil. 201
- 70 Di Salvo, Salvatore, Messina.
a Olive oil. 201
b Essences. 230
- 71 Agrarian Committee of Chiavari.—Olive oil, soap. 201
- 72 Marzi Bros., Poggibonsi, Siena.—Olive oil. 201
- 73 Russo, Calogero, Termini, Palermo.—Olive oil. 201
- 74 Favare, Marchese della, Palermo.—Olive oil. 201
- 75 Martillaro, Mar. Carlo, Palermo.—Olive oil. 201
- 76 Tucci-Savo Benedetto, Rome.—Olive oil. 201
- 77 Agosti Brothers, Bagnoria, Rome.—Olive oil. 201
- 78 Marini, Marq. Pietro, Rome.—Olive oil. 201
- 79 Rotali, Francesco, Rome.—Olive oil. 201
- 80 Isnardi, Pierre, Leghorn.—Olive oil. 201
- 81 Conti, E., & Sons, Leghorn.—Soaps. 201
- 82 Tarussi, Luigi, & Bros., Leghorn.—Olive oil. 201
- 83 Generois, Felice, & Sons, Naples.—Soaps. 201
- 84 Anselmi & Marassi, Naples.—Oils. 201
- 85 Rocco, Francesco, Catania.—Olive oil. 201
- 86 Rolando, Giacomo, Modena.—Ink. 202
- 87 Mora, Domenico, Turin.—Chestnut extract for dyeing. 202
- 88 Morandi, Pietro, Milan.—Ink. 202
- 89 Bassolini, Vincenzo, Milan.—Various colors. 202
- 90 Bonacina, Cesare, Milan.
a Varnishes, ink. 202
b Aromatic tooth paste. 203
- 91 Maranesi, Gaetano, & Masetti Bartolomeo, Bologna.—Ink. 202
- 92 Gnocchi, Giovanni, Milan.—Inks. 202
- 93 Scarselli, Benedetto, Rome.—Gru-ma, incrustation from casks. 202
- 94 Ghibellini Bros., S. Giovanni in Persiceto, Bologna.—Varnish. 202
- 95 Santi, Amantini, Adamo, Florence.—Perfumery. 203
- 96 Lardera, A., Milan.—Perfumery. 203
- 97 Cosentini & Caruso, S. Manno Marchesato, Calabria Citra.—Extract of liquorice. 203
- 98 Scochiolini, Adone, Rome.—Potatium. 203
- 99 Pateguazza Bros., N. & A., Rome.—Perfumery. 203
- 100 Bortolotti, Pietro, Bologna.—Felsina water (for the toilet). 203
- 101 Antonelli, Cav. Alessandro, Bologna.—Essence of lemon. 203
- 102 Alessi & Bonaventura, Messina.—Essences. 203
- 103 Alessi, Gaetano, Messina.—Essences. 203
- 104 Ottaviani Bros., Messina.—Essences. 203
- 105 Rizzuto Carmelo, Reggio-Calabria.—Essences. 203
- 106 De Sieto Bros., Reggio-Calabria.—Essences. 203
- 107 Siles, Ignazio, Reggio-Calabria.—Essences. 203
- 108 Lactoria, Felice, Reggio-Calabria.—Essences. 203
- 109 Entological & Agrarian Society of Acireale, Sicily.—Essence of lemon. 203
- 110 De Nava, Giuseppe di P., Reggio-Calabria.—Essences. 203
- 111 Mostardini, Adolfo, Florence.—Perfumery. 203
- 112 Melissari, Giuseppe, Florence.—Essences. 203
- 113 Pennise, Baron di Floristallo, Catania.—Boiled essence of lemon (agro). 203
- 114 Lavaggi, Francesco, Trofarello, Turin.—Matches. 204
- 115 Dellachi, Ambrogio, Moncalieri, Turin.—Wax and wood matches. 204
- Ceramics—Pottery, Porcelain, Glass, etc.
- 116 Trojani, G. Batta, Florence.—Bas-relief in baked clay. 206
- 117 Pagliaccetti, Raffaello, Florence.—Statues in baked clay. 206
- 118 Stock Company for Manufacturing Bricks, Reggio, Emilia.—Bricks. 206

Ceramics, Furniture, Woven Goods, Silk.

- 119 Tomei, Albiani Franco, Pietrasanta, Lucca.—Sample of pavements. 208
 120 Pellas, Giuseppe, Florence.—Galvano-plastic ornaments. 209
 121 Bertini, Emilio, Pisa.—Crockery. 210
 122 Miliani, Cesare, Fabriano, Ancona.—Crockery. 210
 123 Torelli, Jafet, Florence.—Crockery. 210
 124 Castellani, Torquato, Rome.—Crockery. 210
 125 Ferniani, Count Annibale, Faenza.—Crockery. 210
 126 Crockery Society of Farina, Faenza.—Artistic crockery. 210
 127 Benucci & Latti, Pesaro.—Majolica vases and dishes. 211

Furniture and Objects of General Use in Construction and in Dwellings.

- 128 Ammirati, Domenico, Palermo.—Chairs. 217
 129 Lopez, Salvatore, Palermo.—Stone tables. 217
 130 Coco, Salvatore, Palermo.—Ebony furniture. 217
 131 Cavallaro, L. & G., Palermo.—Metallic beds. 217
 132 Catalano, Antonio, Palermo.—Furniture. 217
 133 Martinotti, Luigi, Turin.—Carved furniture. 217
 134 Buzzi, Giberto Francesco, Varese, Lombardo.—Marble furniture. 217
 135 Lancetti, Federigo, Perugia.—Furniture. 217
 136 Elli, Luigi, Milan.—Seats for theatre. 217
 137 Fava, Avo, Niccolo, Florence.—Carved walnut furniture. 217
 138 Castelvedere, Luigi, Brescia.—Metal candelabra and chased dish. 218
 139 Rolandi, G. Batto, Milan.—Crystals and glasses. 219
 140 Grattarola, Cesare, Bologna.—Picture frames of other exhibitors' pictures. (*In Art Gallery.*) 220
 141 Pontif. Oleographic Society, Bologna.—Frames. 220
 142 Saretti, Giuseppe, Palermo.—Lamps. 223
 143 Menici, Angiolo, Leghorn.—Shower bath. 226
 144 Della, Casa Nicola, Baveno, Novara.—Granite cornice. 227
 145 Bianchi & Molinari, Milan.—Wooden floor. 227
 146 Vajani, Pietro, Milan.—Window blinds, curtains, etc. 227
 147 Rizzi, Augusto, Milan.—Persian window blinds. 227

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 148 Vecchietti, Cesare, Florence.—Green-weed (ginestro) products. 229
 149 Polidori, Count Augusto, Anghiari, Arezzo.—Prepared green-weed (ginestro). 229

- 150 Scurati, Manzoni de G., Biella, Novara.—Skein of cotton. 230
 151 Assetto di Graziani Bros., Chieri, Turin.—Cotton goods. 230
 152 Madini, Augusto, & Co., Bologna.—Seamless bags. 230
 153 Gentiluomi, I. V., & Co., Pisa.—Colored cotton goods. 231
 154 Meda, Bernardo, Monza, Milan.—Colored calico. 231
 155 Alessio Bros., Milan.—Red calico. 231
 156 Special Committee of Salerno.—Linen goods. 233
 157 Remaggi Bros., Navacchio, Pisa.—Linen goods. 233

Woven and Felted Goods of Wool, etc.

- 158 Caldara, Salvatore, Palermo.—Cloths. 235
 159 Mangeri, Antonino, Messina.—Cloths. 235
 160 Barbarulo Bros., Naples.—Cloths. 235
 161 Radieri Bros., Gandino, Bergamo.—Felted flannel and cloth. 235
 162 Barbarulo, Antonio, Peluzzano, Salerno.—Cloths. 235
 163 Correction Department of Saliceto, Modena.—Cloths. 235
 164 Assetto di Graziani Bros., Chieri, Turin.—Blankets. 237
 165 Chapelle & Co., Turin.—Woolen blankets. 237
 166 Bass, Abrate, & Co., Turin.—Blankets. 237
 167 Woolen Manufactory of Borgo Sesia, Turin.—Worsted wool. 238
 168 Bozzalla, Gio, & Son, Biella, Novara.—Woolen goods. 238
 169 Bozzalla, Antonio, & Brother, Coggiola, Novara.—Woolen goods. 238

Silk and Silk Fabrics.

- 170 Keller, Alberto, Milan.
a Raw silk. 242
b Woven silk. 245
 171 Chiericoni, Ugolino, Messina.—Cocoons. 242
 172 Giannotti, Giuseppe, Barga (Lucca).
a Raw silk. 242
b Spun silk. 244
 173 Diena, M. G., Modena.—Raw silk. 242
 174 Sinigaglia, Salomon, Heir of, Latte, Turin.
a Raw silk. 242
b Woven silk. 245
 175 Franzi Bros., Alzano Maggiore, Bergamo.
a Raw silk. 242
b Woven silk. 245
 176 Dalla Pozza, Filippo, Vicenza.
a Raw silk. 242
b Woven silk. 245
 177 Frizzoni, Antonio F., Bergamo.
a Raw silk. 242
b Woven silk. 245

Silk, Clothing, Jewelry, Stationery.

- 178 Meyer & Co., Milan.**
a Raw silk. 242
b Spun silk. 244
- 179 Sciacca della Scala, Baron, Palermo.—Silk.** 245
- 180 De Silvestri, Salvatore, Rome.—Silk goods.** 245
- 181 Cagliani, Leopoldo, Milan.—Silk velvets.** 247
- Clothing, Jewelry and Ornaments; Traveling Equipments.**
- 182 Morandi, G. Montepulciano, Siena.—Dress for lady.** 250
- 183 Incerti Anselmo, Modena.—Knit goods.** 250
- 184 Comellini & Buratti, Bologna.—Corsets.** 250
- 185 Marchesini, Pietro, Bologna.—Straw hats.** 251
- 186 Ricci, Luigi, & Sons, Florence.—Straw hats.** 251
- 187 Duranti, Agostino, Florence.—Straw hats.** 251
- 188 Angelucci, Gerolamo, Ancona.—Shoes.** 251
- 189 Lodi, G. Batta, Palermo.—Gloves.** 251
- 190 Di Rosalia, Antonino, Palermo.—Shoes.** 251
- 191 Vinci, Melchiorre, Palermo.—Shoes.** 251
- 192 Petroli, Pietro, Pallanza.—Shoes.** 251
- 193 Shoemakers' Co-operative Society, Bologna.—Shoes.** 251
- 194 Baccillieri, Lorenzo, Bologna.—Gloves.** 251
- 195 Bossi, Eduardo, Naples.—Gloves.** 251
- 196 De Notaris, Sigismundo, Naples.—Shoes.** 251
- 197 Calise, Tommaso, Ischia Island, Naples.—Ladies' straw hats.** 251
- 198 Rumieri, Gabriele, Naples.—Silk and felt hats.** 251
- 199 Casella, Giuseppe, Salerno.—Shoes.** 251
- 200 Moiraghi, Antonio, Turin.—Shoes.** 251
- 201 Bruzzesi, Giacinto, Milan.—Shoes.** 251
- 202 Scarselli, Benedetto, Rome.—Straw hats and braided straw.** 251
- 203 Taddei, Gaetano, Florence.—Straw hats and braided straw.** 251
- 204 Straw Hat Stock Co., Pianoro, Bologna.—Straw hats and braided straw.** 251
- 205 Santini Bros., Florence.—Straw hats and braided straw.** 251
- 206 Working Men's Benevolent Association of Falerone.—Straw hats and braided straw.** 251
- 207 Angeli Candido, Reggio, Emilia.—Hats and braided straw.** 251
- 208 Kubli, Gio Giacomo, Florence.—Straw hats and braided straw.** 251
- 209 Romani, Eugenio, & Wife, Milan.—Embroidered pictures.** 252
- 210 Gerosa, Adele Educanda, Milan.—Embroidered pictures and handkerchief.** 252
- 211 Stock Co. for Manufacturing Laces, Venice.—Laces, old and new styles.** 252
- 212 Bon Regina, Como.—Laces.** 252
- 213 Gioiuzza, Giuseppe, Naples.—Jewelry and coral.** 253
- 214 Melillo, Giacinto, Naples.—Jewelry and coral.** 253
- 215 Francati & Santamaria, Rome.—Jewelry.** 253
- 216 Geraldini, Ettore, Rome.—Gold and silver jewelry.** 253
- 217 Bellezza, Niccolo Aless, Rome.—Jewelry.** 253
- 218 Accarisi, Giuseppe, Florence.—Roman jewelry.** 253
- 219 Jacobini, Raffae, & Giobbe, Pio, Rome.—Old precious stones.** 253
- 220 Ponti, Rovera, & Co., Piacenza.—Buttons.** 254
- 221 Olivieri, Luigi, Venice.—Fancy articles.** 254
- 222 Forte, Emilio, Genoa.—Silver filigree work.** 254
- 223 Salvo, C., & Sons, Genoa.—Objects in filigree and gold.** 254
- 224 Righini Bros., Turin.—Umbrella and parasol.** 254
- 225 Labriola, Luigi, Naples.—Tortoise-shell work.** 254
- 226 Castellani, Alessandro, Rome.—Gold and silver articles.** 254
- 227 Brusa, G. Batta, Venice.—Album.** 255
- 228 Rossetti, Cav. Giacomo, Brescia.—Album, with photographs.** 255
- 229 Cavaleri, Avo. Michele, Milan.—Album and miniatures.** 255
- 230 Leoni, Angelo, Catania.—Sicilian costumes.** 257
- Paper, Blank Books, Stationery.**
- 231 Grassi, Francesco, Bologna.—Vertical letter press.** 258
- 232 Cartiera Italiana, Turin.—Paper and envelopes.** 259
- 233 Agosti, Agnes, Rome.—Paper embroideries.** 259
- 234 Cataneo, Alessandro & Bro., Bergamo.—Common paper.** 260
- 235 Vallini, Natale, Bologna.—Paper.** 260
- 236 Miliani, Pietro, Falciano, Marche.—Various kinds of paper.** 260
- 237 Fornari, Antonio G. B., Fabriano, Ancona.**
a Papers. 260
b Pasteboard. 262
- 238 Migliaccio, Raffaele, Salerno.—Paper.** 260
- 239 Giordano, Scipione, Turin.—Blank form of contract for nurses.** 261
- 240 Cassinara, Eugenio, Pavia.—Bill-heads.** 261
- 241 Fagioli, Gaetano, Piacenza.—Paper boxes.** 262
- 242 Mottura, Ing. Oreste, Piacenza.—Bricks of pasteboard.** 263

Weapons, Medical Appliances, Hardware, Vehicles, Sculpture.

Weapons, etc.

- 243 Comminassi Bros., Brescia.—
Needle-gun barrels. 265
- 244 Botti, Pietro, Brescia.—Gun. 265
- 245 Corica, Agostino, Messina.—
Shot. 265

Medicine, Surgery, Prothesis.

- 246 Decol, Maria, Bologna.—Decotto
(a medicine). 272
- 247 Garau, Salvatore, Milan.—Tama-
rind powder; extract to prevent sea sick-
ness. 227
- 248 Morreale, Ettore, Palermo.—Medi-
cinal liquors. 272
- 249 Margani-Valenti, Gaetano, Nisce-
mi, Sicily.—Medicines. 272
- 250 Pagliaro, Domenico, St. Stefano
Camostra, Palermo.—Medicines. 272
- 251 Pagliaro, Andrea, Mistretta, Mes-
sina.—Medicinal gelatines. 272
- 252 Valentini, Gottardo, Milan.—
Medicines. 272
- 253 Arrosto, Gioacchino, Messina.—
Citrates and medicines. 272
- 254 Spadaro, Grassi P., Catania.—
Medicinal citrate. 272
- 255 Ponzoni, Luigi, Milan.—Hygienic
liquors and medicine. 272
- 256 Menici, Angiolo, Leghorn.—Appli-
ance for raising the sick. 276
- 257 Bernabei, Alessandro, Rome.—
Tubes and metallic syringes. 276
- 258 Papini, Leopoldo, Florence.—
Hernial truss. 276
- 259 Gramignani, Leopoldo, Ancona.—
Dental prothesis. 277
- 260 Noel-Winderling Bros., Milan.—
Dental anatomy. 277
- 261 Testi, Ulisse, Bologna.—Dental
machines. 277
- 262 Sirletti, Francesco, Rome.—Sets
of teeth. 277

Hardware, Edge Tools, Cutlery, and
Metallic Products.

- 263 Guelpa-Piazza Bros., Biella,
Novara.—Gimlets. 280
- 264 Giulivo, B., & Co., Turin.—Iron
and tin knives, forks, and spoons. 281
- 265 Ferrino, Cesare, Turin.—Sand
linen and sand paper. 282
- 266 Bonini, Emilio, Pignone, Florence.
—Articles in zinc. 283
- 267 De Poli Bros., Vittorio, Treviso.—
Bronze church bell. 283

- 268 Zaffari, Benedetto, Sienna.—Iron
work. 283
- 269 Parise, Achille, Sons, Naples.—
Mechanical lock. 284
- 270 Cane, Geremia, Bologna.—Tools
for umbrellas. 284
- 271 Namei, Giovanni, Florence.—
Turned metallic articles. 284
- 272 Olivieri, Luigi, Venice.—Hard-
ware. 284
- 273 Escoffier, Giuseppe Gio., Florence.
—Mechanical articles. 284

Fabrics of Vegetable, Animal, or
Mineral Materials.

- 274 Giacomini, Luigi, & Co., Treviso.—
Brushes. 286
- 275 Bargioni, Ferdinando, Florence.—
Ropes of rush. 287
- 276 Chamber of Commerce of Syra-
cuse.—Ropes. 287
- 277 Rosso, Leopardo Cav. Cesare,
Comiso, Syracuse.—Ropes. 287
- 278 Vincenzi, Paolo, Carpi, Modena.—
Corks. 289
- 279 Marchini, Cesare, Fiesole, Flo-
rence.—Straw works. 289

Carriages, Vehicles, and Accessories.

- 280 Saretti, Giuseppe, Palermo.—
Lamps for carriages. 292
- 281 Locati, Cav. Alessandro, Turin.—
Carriages. (*In Annex.*) 292
- 282 Mainetti, Francesco, Milan.—Car-
riage (landau). (*In Annex.*) 292

Sculpture.

- 283 Bazzantie, Figlio, Florence.—Cupid
and Psyche (group). 400
- 284 Porcinai, Antonio, Florence.
a Surprised (bust). 400
b Venus of Canova (statue). 400
- 285 Torelli, Lot, Florence.—David, by
Michael Angelo (copy). 400
- 286 Garofoli, Oreste, Rome.
a Trasteverina (Roman costume). 400
b After the Theatre. 400
c Ciociara (Roman costume). 400
d Genzanese. 400
- 287 Ricci, Paolo, Florence.—Dante
(statuette). 400

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

EGYPT.

(South of South Avenue, Columns 12 to 15.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures.

- | | | |
|---|-----|---|
| Minerals, Ores, Building Stones, Mining Products. | | |
| 1 National Museum. | | |
| <i>a</i> Rough gold-dust, petrified wood. | 100 | |
| <i>b</i> Rough, hewn, and polished marbles, alabaster, and limestones. | 102 | |
| <i>c</i> Crude lime rock, cement, burned lime, and plaster. | 103 | |
| <i>d</i> Clays and materials for manufacturing porcelain and faience. | 104 | |
| <i>a</i> Sand. | 106 | |
| <i>f</i> Soil and water. | 107 | |
| Metallurgical Products. | | |
| 2 National Museum. | | |
| <i>a</i> Solid rough gold pieces. | 110 | |
| <i>b</i> Iron. | 111 | |
| Chemical Manufactures. | | |
| 3 Laboratory of the Government. | | |
| <i>a</i> Chemicals of all kinds and pharmaceutical preparations. | 200 | |
| <i>b</i> Prepared oils, solid and liquid. | 201 | |
| <i>c</i> Flavoring extracts, solid and liquid. | 203 | |
| Ceramics—Pottery, Porcelain, etc. | | |
| 4 National Museum. | | |
| <i>a</i> Bricks from Lower Egypt. | 206 | |
| <i>b</i> Porcelain tiles. | 208 | |
| <i>c</i> Egyptian earthenware, from Upper Egypt. | 210 | |
| 5 Brugsch Bey, Cairo. | | |
| <i>a</i> Majolica ware in different designs. | 211 | |
| <i>b</i> Porcelain of all kinds. | 213 | |
| Furniture, and Objects of General Use in Construction and in Dwellings. | | |
| 6 Parvis, Mr., Cairo.—Oriental drawing-room furniture. | 217 | |
| 7 National Museum. | | |
| <i>a</i> Table furniture of porcelain, solid gold and silver ware, coffee sets, and vessels of brass. | 218 | |
| <i>b</i> Utensils for kitchen, and tinware. | 224 | |
| Yarns and Woven Goods of Vegetable or Mineral Materials. | | |
| 8 National Museum. | | |
| <i>a</i> Coarse fabrics of rattan, bark, palm-leaf, grass, and rushes. | 229 | |
| <i>b</i> Cotton fabrics, unbleached, bleached, and dyed. | 231 | |
| | | <i>c</i> Linen fabrics, uncolored and dyed, and linen canvas and duck for awnings and tents. 233 |
| | | Woven and Felted Goods of Wool and Mixtures of Wool. |
| | | 9 National Museum. |
| | | <i>a</i> Fabrics of wool, fancy cassimeres. 235 |
| | | <i>b</i> Flannels. 236 |
| | | <i>c</i> Robes. 237 |
| | | 10 National Museum.—Collection of Brussels carpet, Melton, and tapestry, from wool and camel's hair. 239 |
| | | Silk and Silk Fabrics, and Mixtures in which Silk is the predominating material. |
| | | 11 Tramontino, Mr., Cairo.—Cocoons and raw silk. 242 |
| | | 12 National Museum. |
| | | <i>a</i> Twisted silk in spools and skeins. 243 |
| | | <i>b</i> Woven silk, lute-strings, satins, and foulards. 245 |
| | | <i>c</i> Woven figured silk goods. 246 |
| | | <i>d</i> Fancy silk and velvet ribbons. 248 |
| | | Clothing, Jewelry and Ornaments; Traveling Equipments. |
| | | 13 National Museum. |
| | | <i>a</i> Dress goods for men's and women's wear, with gold and silver trimmings. 250 |
| | | <i>b</i> Hats, and boots; women's shoes embroidered in velvet, silk, gold, and silver. 251 |
| | | <i>c</i> Silk dress trimmings and embroideries, woven with gold and silver. 252 |
| | | <i>d</i> Turquoises, jewelry, and ornaments worn upon the person. 253 |
| | | <i>e</i> Fancy articles, dress adornments, fans, walking-canes, sunshades, and pipes of all descriptions, with gold, silver, and silk woven ornaments, ostrich and marabout feathers. 254 |
| | | <i>f</i> Fancy leather work. 255 |
| | | <i>g</i> Historical collection of the national costumes from Abyssinia and the Soudan. 257 |
| | | Paper, Blank Books, and Stationery. |
| | | 14 National Museum. |
| | | <i>a</i> Stationers' articles of the Orient. 258 |
| | | <i>b</i> Writing paper. 259 |
| | | Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus. |
| | | 15 National Museum.—Swords, spears, and dirks. 261 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Manufactures, Education and Science, Art, Agriculture.

16 Cassegrain, F. P., of Cairo.—Hunting firearms of a special pattern. 269

Medicine, Surgery, and Prothesis.

17 National Museum.—Medicinal plants. 272

18 National Museum of Egypt, Mr. Zucchinetti, of Cairo.—Veterinary instruments. 276

Hardware, Edge Tools, Cutlery, and Metallic Products.

19 Mechanic Institute of Boolak.—Iron hardware for different mechanical purposes. 284

Carriages, Vehicles, and Accessories.

20 National Museum of Egypt, Mr. Zucchinetti, of Cairo.—Furniture for horses and mules, harness and saddlery, ornamental mule blankets, and silk woven saddle blankets. 296

Educational Systems, Methods, and Libraries.

21 Ministry of Public Instruction.—Maps, charts, penmanship, drawings of pupils' work and course of study in water colors, from the public schools and academies. 300

22 National Museum.
a Map of Egypt and the new annexed provinces made by Mr. Friederichsen. 300
b Mechanical instruments executed by scholars at the Polytechnic school. 302
c Text-books and apparatus. 306

23 Onsy, Mr., of Cairo.—Types and books for the education of the blind. 303

24 Ministry of Public Instruction.
a College and school statistics and educational reports of Egypt. 304
b Statistical reports. 305

25 Mourès & Co., Cairo, Ministry of Public Instruction.—Printed works, school and text books, and dictionary, from the public schools of Egypt; literature in the Arabic language, newspapers, and periodical literature. 306

Institutions and Organizations.

26 National Museum.—Ethnographical collection and publications. 312

Scientific and Philosophical Instruments and Methods.

27 National Museum.
a Egyptian weights and measures. 322
b Musical instruments from Egypt and the provinces of Soudan. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

28 National Museum.—Maps of railways, roads, telegraphs, and postal service; topographical maps and charts. 335

Physical, Social, and Moral Condition of Man.

29 National Museum.—Collection of Egyptian gold, silver, and copper coins. 344

Sculpture.

30 National Museum.—Plaster casts from Egyptian monuments. 400

31 National Museum.
a Stones with ancient Arabic inscriptions. 401
b Hammered relief works in copper, and collection of plates, trays, and vases of the modern time of Egypt. 405

32 Vegis, Mr., Cairo.—Repoussé and rehaussé work in copper and iron of the ancient Arabic time. 403

33 National Museum.—Specimens of "Mousharabie" window patterns in wood and ivory, engraved wood. 405

Painting.

34 National Museum.
a View of Cairo and other water-color paintings, executed by Mr. Weidenbach, Berlin. 411
b Painted water-bottles. 413

Engraving and Lithography.

35 Ravon, H., Staff-officer National Museum.—Drawing in ink of the citadel of Cairo, list of the names of the caliphs and sultans who have reigned in Egypt, from Omar to Ismail Pacha, Khedive of Egypt, list of the names of Pharaohs. 420

35^a Penasson, A., Alexandria.—Samples of lithographic printing. 423

Photography.

36 National Museum.—Collection of photographs, views of public works, costumes, scenery, panorama, and a collection of albums. 430

Industrial and Architectural Designs, Models, and Decorations.

37 National Museum.—Collection of Arabic ornaments (plaster and zinc casts, painted and gilt), from time of the caliphs, made by Schmo-ranz. 443

Decorations with Ceramic and Vitreous Materials, Mosaic and Inlaid Work.

38 National Museum.
a Ancient glass lamps from the mosques. 451
b Woodwork inlaid with ivory; ancient door from the sanctuary of a mosque, carved and inlaid in ivory and ebony. 452

Arboriculture and Forest Products.

39 National Museum.
a Collection of woods from Egypt and the annexed provinces, cotton tree. 600
b Materials for dyeing and other industrial purposes. 602

40 National Museum & Mr. Heller.—Samples of gums. 603

Agricultural Products.

41 National Museum.
a Cereals. 620
b Legumes—beans, lentils, etc. 621
c Tuberculous alimentaries. 622
d Tobacco. 623
e Cotton seeds. 624

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Animal and Vegetable Products, Textile Substances.

Water Animals, Fish Culture and Apparatus.		<i>e</i> Flour and rice.	657
42 National Museum.		<i>f</i> Starches.	658
<i>a</i> Crocodiles.	640	<i>g</i> Sacchariculture.	659
<i>b</i> Pearls.	645	<i>h</i> Wines, alcohol, rum, and vinegar.	660
Animal and Vegetable Products.		<i>i</i> Biscuits.	662
43 National Museum.		Textile Substances of Vegetable or Animal Origin.	
<i>a</i> Samples of tutter.	651	44 Estate of the Khedive. —Collection of over 2000 cotton samples, representing the crops of eight years, with classification and price of sale in Egypt and England.	
<i>b</i> Samples of grease, colored hides, skins, collection of hippopotamus and rhinoceros horns, tusks of elephants and hippopotami.	652	665	
<i>c</i> Ostrich eggs and feathers.	653	45 National Museum. —Textile fibres, raw and manufactured, cords and ropes, flax.	
<i>d</i> Edible pulps, seeds, fruits, pastes, and confections, dried fruits and vegetables.	656	666	

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TUNIS.

(South of South Avenue, Columns 10 to 14.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art.

- | | | |
|---|--|-----|
| Minerals, Ores, Stones, Mining Products. | | |
| 1 | His Highness Sidi Mohammed Essadok, Bey of Tunis.—Minerals and ores of Tunis. | 100 |
| Chemical Manufactures. | | |
| 2 | His Highness Sidi Mohammed Essadok, Bey of Tunis.—Essences and flavoring extracts. | 203 |
| Ceramics—Pottery, Porcelain, Glass, etc. | | |
| 3 | Valensi, M., Tunis and Paris.—Pottery. | 206 |
| 3a | His Highness Sidi Mohammed Essadok, Bey of Tunis. | |
| <i>a</i> | Pottery. | 206 |
| <i>b</i> | Earthenware. | 210 |
| Furniture and Objects of General Use in Construction and in Dwellings. | | |
| 4 | Valensi, M., Tunis and Paris. | |
| <i>a</i> | Inlaid furniture. | 217 |
| <i>b</i> | Brackets. | 220 |
| 5 | His Highness Sidi Mohammed Essadok, Bey of Tunis. | |
| <i>a</i> | Inlaid and household furniture. | 217 |
| <i>b</i> | Gilt brackets. | 220 |
| Woven and Felted Goods of Wool and Mixtures of Wool. | | |
| 6 | His Highness Sidi Mohammed Essadok, Bey of Tunis. | |
| <i>a</i> | Woolen blankets, shawls. | 237 |
| <i>b</i> | Carpets, rugs. | 239 |
| 7 | Valensi, M., Tunis and Paris. | |
| <i>a</i> | Shawls. | 237 |
| <i>b</i> | Carpets and rugs. | 239 |
| Silk and Silk Fabrics, and Mixtures in which Silk is the predominating material. | | |
| 8 | His Highness Sidi Mohammed Essadok, Bey of Tunis. | |
| <i>a</i> | Woven silks. | 245 |
| <i>b</i> | Hangings. | 246 |
| For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45. | | |
| 9 | Valensi, M., Tunis and Paris. | |
| <i>a</i> | Woven silks. | 245 |
| <i>b</i> | Hangings. | 246 |
| Clothing, Jewelry, and Ornaments; Traveling Equipments. | | |
| 10 | His Highness Sidi Mohammed Essadok, Bey of Tunis. | |
| <i>a</i> | Burrous. | 250 |
| <i>b</i> | Embroideries. | 252 |
| <i>c</i> | Jewelry. | 253 |
| <i>d</i> | National costumes. | 257 |
| 11 | Valensi, M., Tunis and Paris. | |
| <i>a</i> | Jewelry. | 253 |
| <i>b</i> | Oriental manufactures generally. | 254 |
| <i>c</i> | Tunisian costumes. | 257 |
| Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus. | | |
| 12 | His Highness Sidi Mohammed Essadok, Bey of Tunis.—Ancient and modern arms. | 265 |
| 13 | Valensi, M., Tunis and Paris.—Arms. | 265 |
| Carriages, Vehicles, and Accessories. | | |
| 14 | His Highness Sidi Mohammed Essadok, Bey of Tunis.—Saddlery; furniture and accoutrements for horses, mules, and camels; ornamental horse and mule saddles and bridles. | 296 |
| Scientific and Philosophical Instruments and Methods. | | |
| 15 | Valensi, M., Tunis and Paris.—Musical instruments. | 327 |
| Ceramic Decorations, Mosaics, etc. | | |
| 16 | Ancient mosaics from Carthage. | 450 |
| Physical, Social, and Moral Condition of Man. | | |
| 17 | His Highness Sidi Mohammed Essadok, Bey of Tunis.—Two Arab tents, exhibiting the domestic life and customs of Arab sheiks and Bedouins; farming implements of Arabs. (<i>In Park.</i>) | 342 |

ORANGE FREE STATE.

(South of South Avenue, Columns 2 to 5.)

COLLECTIVE GOVERNMENT EXHIBIT.

Minerals, Clothing, Animal and Vegetable Products.

<i>a</i> Diamonds in the rough, from the diamond fields of the Orange Free State. 100	<i>g</i> Cream of tartar fruit. 611
<i>b</i> Diamondiferous soil, with a diamond in it. 100	<i>r</i> Wheat, mealies, and Kaffir corn. 620
<i>c</i> Copper and iron ore, chloresastrolite, and magnesita. 100	<i>s</i> Stuffed birds. 635
<i>d</i> Coal. 101	<i>t</i> Butterflies and other insects. 638
<i>e</i> Pebbles accompanying the diamond. 102	<i>u</i> Tusks of ivory. 652
<i>f</i> Kaolin. 104	<i>v</i> Gemsbuck, roorbuck, rietbuck, and hartebeeste horns. 652
<i>g</i> Springbuck mats. 239	<i>w</i> Koodoo cow hides. 652
<i>h</i> Angora, blesbuck, and jackal rosses. 239	<i>x</i> Blesbuck skins. 652
<i>i</i> Boots of native manufacture. 251	<i>y</i> Hartebeeste and blesbuck skins, tanned. 652
<i>j</i> Pipes of native manufacture. 254	<i>z</i> Shambucks, long and short. 652
<i>k</i> Baskets of native manufacture. 289	<i>aa</i> Rhinoceros hide flexible rods, reins, thongs, and girdles. 652
<i>l</i> Harnesses and whips. 296	<i>bb</i> Whips of giraffe hide. 652
<i>m</i> Figures in wood, cut with a pen-knife. 405	<i>cc</i> Ostrich feathers and eggs. 653
<i>n</i> Blue gum, olive, and thorn woods. 600	<i>dd</i> Bird plumage, natural. 653
<i>o</i> Petrified wood. 600	<i>ee</i> Dried fruit. 656
<i>p</i> Sumach. 602	<i>ff</i> Mealie meal. 657
	<i>gg</i> Wool, washed and unwashed. 667
	<i>hh</i> Mohair of Angora goat. 669
	<i>ii</i> Model of transport wagon. 682

GRAND DUCHY OF LUXEMBURG.

COLLECTIVE EXHIBIT.

Ceramics, Clothing, Animal and Vegetable Products.

Ceramics—Pottery, Porcelain, Glass, etc.	4 Boot Manufactory of Luxemburg.—Boots and shoes. 251
1 Utschneider & Jaunez, Wasserbillig.—Cement products of Wasserbillig. 206	Animal and Vegetable Products.
Clothing, Jewelry, and Ornaments; Traveling Equipments.	4a Charles, Auguste, & Co., Bonnevoie, near Luxemburg.—Tanned and dyed kid skins. 652
2 Charles, Auguste, & Co., Bonnevoie, near Luxemburg.—Kid gloves. 251	5 Michaelis, Frederic, Luxemburg.—Concentrated vinegar. 660
3 Mayer, Gabriel, Luxemburg.—Kid gloves. 251	6 Pauly, Bouthon, & Co., Distillery Vinegar Manufactory.—Concentrated vinegar. 660
	7 Eichhorn, Gustav, Wormeldang.—Moselle wines. 66c

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

CHINA.

(South of South Avenue, Columns 5 to 11.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures.

Minerals, Ores, Stone, Mining Products.

- 1 Harman, G., Swatow.—Petrification. 100
- 2 Imperial Maritime Customs.
- a* Coal. 101
- b* Granite stones. 102
- c* Borax. 104
- d* Gypsum. 107

Metallurgical Products.

- 3 Imperial Maritime Customs.
- a* Silver leaf and imitation of gold leaf. 110
- b* Steel. 111
- c* Tin foil. 113

Chemical Manufactures.

- 4 Imperial Maritime Customs.
- a* Various seed, vegetable, and wood oils. 201
- b* Varnish, indigo, and sundry other dyes and colors. 202
- c* Sauce. 203

Ceramics—Pottery, Porcelain, Glass, etc.

- 5 Imperial Maritime Customs.
- a* Bricks. 206
- b* Roof tiles. 208
- c* Collection of earthenware. 210
- 6 Tack Loong, Canton.
- a* Earthenware ornaments, figures, etc. 210
- b* Porcelain vases, flower-pots, tea set, cigar holders, etc. 213
- 7 Bean & Jardine, Kiukiang.—Porcelain vases, flower-pots, cups, etc. 213
- 8 Fow Loong, Canton.—Porcelain vases, dinner service, etc. 213
- 9 Hö Kan Cheu, Shanghai.—Collection of old china. 213
- 10 Hu Kwang, Yung Hang Chow.—Collection of old china porcelain. 213
- 11 Imperial Maritime Customs, Canton.—Porcelain vases, dinner, dessert, tea, and toilet sets, flower-pots, candle-holders, howls, cuspadors, etc. 213
- 12 Imperial Maritime Customs, Kiukiang.—Porcelain vases, cups, and bowls; plates, teapots, etc. 213
- 13 Imperial Maritime Customs, Shanghai.—Collection of old china. 213
- 14 Kopsch, H., Kiukiang.—Porcelain vases, cups, bottles, cups and plates, dessert dishes, goblets, etc. 213
- 15 Lovatt, W. N., Kiukiang.—Porcelain vases, flower-pots, garden seats, teacups, dessert dishes, goblets, etc. 213

- 16 Moore, C. F., Kiukiang.—Porcelain teapots, bottles, flower-pots, ornaments, etc. 213
- 17 Rose, S. C., Kiukiang.—Porcelain vases, flower-pots, jars, plates, dishes, cups, dinner sets, etc. 213
- 18 Tong Chock-hing, Kiukiang.—Porcelain vases, ornaments, dessert service, etc. 213
- 19 Toin Peh Mei, Kiukiang.—Porcelain vases, teacups, fruit stands, dinner sets, and screen. 213
- 20 Wadman, E., Ningpo.—Collection of old china vases. 213

Furniture and Objects of General Use in Construction and in Dwellings.

- 21 Fow Loong, Canton.—Blackwood furniture—tables, sofas, chairs, screens, cabinets, etc. 217
- 22 Imperial Maritime Customs, Canton.
- a* Blackwood, bamboo, rattan, and lacquered furniture. 217
- b* Rattan cradle, and children's chairs. 221
- c* Different kinds of lanterns. 223
- 23 Kopsch, H., Kiukiang.—Screens. 217
- 24 Lien Shing, Canton.—Lacquered furniture, chairs, and blackwood screens. 217
- 25 Sung Sing Kung, Ningpo.
- a* Carved furniture—beds, chairs, tables, bookcases, cabinets, etc. 217
- b* Carved picture and photograph frames. 220
- 26 Imperial Maritime Customs, Ningpo.
- a* Teakettles and dishes. 224
- b* Washbasins. 226

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 27 Fergusson & Co., Chefoo.—Samples of straw braid 229
- 28 Imperial Maritime Customs.
- a* Samples of grass cloth, rattan and coir matting, etc. 229
- b* Plain cotton fabrics. 230
- c* Printed cotton fabrics. 232
- d* Hemp cloth. 233

Woven and Felted Goods of Wool, etc.

- 29 Imperial Maritime Customs.—Felt rugs. 239

Silk and Silk Fabrics.

- 30 Fergusson & Co., Chefoo.
- a* Raw silk. 242
- b* Plain woven silks. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Manufactures, Education and Science, Art, Agriculture.

- 31 Imperial Maritime Customs, Shanghai.**—Collection of reeled and re-reeled silks. 242
- 32 Hō Kan-cheu, Shanghai.**—Plain woven silks. 245
- 33 Hu Kwang-Yung, Hangchow.**—Plain woven silks. 245
- 34 Imperial Maritime Customs.**
a Plain woven silks. 245
b Figured silk piece goods. 246
c Embroidered silk scarfs. 247
- 35 Fergusson & Co., Chefoo.**—Figured silk piece goods. 246
- 36 Hō Kan-cheu, Shanghai.**—Figured silk piece goods. 246
- 37 Hu Kwang-Yung, Hangchow.**—Figured silk piece goods. 246
- 38 Wu, Shanghai.**—Soochow gauzes. 247
- Clothing, Jewelry, and Ornaments; Traveling Equipments.**
- 39 Imperial Maritime Customs.**
a Stockings. 250
b Shoes, hats, caps, etc. 251
c Fans, small articles of dress, pipes, smoking apparatus, etc. 254
- 40 Imperial Maritime Customs, Canton.**—Collection of silk embroidered goods, shawls, slippers, and caps, bed and cushion covers, cloth, etc. 252
- 41 Sisters of Charity, Ningpo.**—Embroideries. 252
- 42 Sung Sing Kung, Ningpo.**—Satin embroideries. 252
- 43 Lien Shing, Canton.**
a Jewelry. 253
b Fans and hand screens. 254
- 44 Moore, C. F., Kiukiang.**—Jewelry and ornaments. 253
- 45 Ho A Ching, Canton.**—Carved fans. 254
- 46 Imperial Maritime Customs, Niuchwang.**—Collection of furs and skins. 255
- 47 Imperial Maritime Customs, Shanghai.**—Fancy leather work, trunks, and toilet boxes. 255
- Paper, Blank Books, and Stationery.**
- 48 Imperial Maritime Customs.**
a Paper, knives, ink, pens, etc. 258
b Writing paper. 259
c Oiled and pith paper. 260
d Various colored paper. 264
- 49 Tong Chou Hing, Kiukiang.**—Ink. 259
- Medicine, Surgery, Prothesis.**
- 50 Imperial Maritime Customs.**—Collection of medicines, officinal and unofficial. 272
- Hardware, Edge Tools, Cutlery, Metallic Products.**
- 51 Ho Kan Cheu, Shanghai.**—Collection of old bronzes, vases, urns, etc. 283
- 52 Hu Kwang-Yung, Hangchow.**—Collection of old bronzes, vases, urns, etc. 283
- 53 Imperial Maritime Customs.**—Pewter ware, tea canisters, cups, pots, mugs, boxes, candlesticks, etc. 283
- 54 Imperial Maritime Customs, Shanghai.**—Collection of old bronzes, vases, urns, etc. 283
- 55 Wadman, E., Ningpo.**—Collection of old bronzes, vases, urns, etc. 283
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 56 Imperial Maritime Customs.**
a Cord, rope, twine, etc. 287
b Lacquer, rattan, and bamboo ware. 289
- 57 Ho A Ching, Canton.**—Lacquer ware. 289
- 58 Lien Shing, Canton.**—Lacquer and sandalwood ware. 289
- Scientific and Philosophical Instruments and Methods.**
- 59 Imperial Maritime Customs.**—Collection of musical instruments. 327
- Physical, Social, and Moral Condition of Man.**
- 60 The Protestant Missionaries in China.**—Publications. 348
- Sculpture.**
- 61 Grimm, B., Shanghai.**—Collection of coins and medals. 401
- 62 Ho A Ching, Canton.**—Carved ivory ware. 405
- 63 Imperial Maritime Customs, Canton.**—Carved ivory and tortoise shell ware. 405
- 64 Lien Shing, Canton.**—Carved ivory ware, etc. 405
- 65 Moore, C. F., Kiukiang.**—Carved figure. 405
- Paintings.**
- 66 Hippisley, A. E., Shanghai.**—Water-color paintings on silk, for screens, painted by Wang Kieu-ting. 411
- 67 Imperial Maritime Customs.**—Collection of ancient water-color paintings on silk and paper; pictures on pith paper. 411
- Ceramic Decorations, Mosaics, etc.**
- 68 Vo Chon, Canton.**
a Two cloisonné brass incense burners. 452
b Bronze vases, incense burners, plates, etc. 454
- 69 Moore, C. F., Kiukiang.**—Enamel vase and bowl, idols, jade plate. 454
- Arboriculture and Forest Products.**
- 71 Imperial Maritime Customs.**
a Specimens of timber. 600
b Gallnuts and dyestuff. 602
c Camphor. 603
d Moss and fungus. 604
e Collection of nuts and seeds. 605
- 72 Fergusson & Co., Chefoo.**—Red dye-stuff. 602
- Agricultural Products.**
- 73 Fergusson & Co., Chefoo.**
a Peas and beans. 620
b Tobacco. 623

Agricultural, Animal, Vegetable Products.

74 Imperial Maritime Customs.		<i>b</i> Leather, furs, skins, tallow, glue, etc.	652
<i>a</i> Cereals.	620	<i>c</i> Honey and wax.	654
<i>b</i> Leguminous plants.	621	<i>d</i> Dried fruit.	656
<i>c</i> Ginger.	622	<i>e</i> Flour.	657
<i>d</i> Tobacco and opium.	623	<i>f</i> Vermicelli, macaroni, starch, etc.	658
<i>e</i> Seeds.	624	<i>g</i> Sugar, etc.	659
75 Imperial Maritime Customs, Shanghai.—Collection of teas.	623	<i>h</i> Wines, etc.	660
		<i>i</i> Vegetable tallow and oil.	662
Water Animals, Fish Culture and Apparatus.		79 Fergusson & Co., Chefoo.	
76 Imperial Maritime Customs.		<i>a</i> Bean cakes.	657
<i>a</i> Dried fish.	642	<i>b</i> Vermicelli.	658
<i>b</i> Clams, dried.	644		
<i>c</i> Fish glue and sea blubber.	646	Textile Substances of Vegetable or Animal Origin.	
<i>d</i> Instruments and apparatus of fishing.	647		
77 Imperial Maritime Customs, Tamsui.—Collection of sea shells.	645	80 Imperial Maritime Customs.	
		<i>a</i> Cotton.	665
Animal and Vegetable Products.		<i>b</i> Hemp, coir, etc.	666
78 Imperial Maritime Customs.		<i>c</i> Wool.	667
<i>a</i> Seaweed.	650	<i>d</i> Hair.	669
		81 Fergusson & Co., Chefoo.—Sample of hemp.	666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

JAPAN.

(South of Nave, Columns 5 to 11.)

COLLECTIVE EXHIBIT.

Minerals, Chemicals, Ceramics.

Minerals, Ores, Stone, Mining Products.

- 1 Kaitakushi, Department for the colonization of the Island of Hokkaido.—Minerals and geological collection from Hokkaido. 100
- 2 Kozanriyo, Mining Department, Tokio. 100
- a Ores. 100
- b Coals and anthracite. 101
- 3 Seki-yu Kuwaisha Petroleum Co., Tokio.—Mineral oils, crude and refined. 101
- 4 Hashimoto, S., Tokio.—Building stones. 102
- 5 Oyama, K., Chichibu, Province of Musashi.—Limestone and quick lime. 103
- 6 Hattori, C., Tokio.—Mortars. 103
- 7 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.—Clay, chinastone, kaolin, etc. 104
- 8 Chemical Laboratory of the City of Kiyoto.—Natural carbonated water. 107
- 9 Yeisei-Kiyoku, Board of Public Health, Tokio.—Mineral water statistics. 107

Chemical Manufactures.

- 10 Chemical Laboratory of the City of Kiyoto.—Pharmaceutical preparations. 200
- 11 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.—Vegetable oils, wax candles, etc. 201
- 12 Matsu-zaki, S., Yorita, Y., & Kondo, M., Tokio.—Soap. 201
- 13 Koshima, J., Tokio.—Shark liver oil. 201
- 14 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.—Japanese and Chinese ink. 202
- 15 Wada, Y., Tokio.—Indigo and specimens of dyed silk. 202

Ceramics—Pottery, Porcelain, etc.

- 16 Kobu-sho, Department of Public Works Tokio.—Bricks. 206
- 17 Nakashima, R., Kagoshima, Province of Satsuma.—Vases, jars, tea sets, and ornamental pieces. 210

- 18 Kashiu, Sampei, Igano-Mura, Province of Awaji.—Vases, coffee and tea sets, candlesticks, etc. 210
- 19 Minoda, Ch., Tokio.—Ancient pottery and ornaments. 210
- 20 Miyagawa, T., Ota, near Yokohama.—Vases, censers, etc. 210
- 21 Susuki, Y., Yokohama.—Earthenware. 210
- 22 Shitomi Sohei, Yokka-ichi, Province of Ise.—Banko ware, vases, tea pots, etc. 213
- 23 Mori, Y., Yokka-ichi, Province of Ise.—Banko ware, vases, tea pots, bowls, etc. 213
- 24 Nakayama, M., Kuwana, Province of Ise.—Vases, cake boxes, and dishes. 213
- 25 Kato Gosuke, Tajimimura, Province of Mino.—Cups, covered bowls, flower pots, etc. 213
- 26 Fukihara, S., Tokio.—Cloisonné enamel on porcelain. 213
- 27 Koran-Sha Porcelain Manufactory, Arita, Province of Hizen.—Cups and flower vases, pedestals, tea and coffee services, etc. 213
- 28 Chaki-Shosha, Tea Set Manufactory, Kiyoto.—Tea pots, cups, jars, etc. 213
- 29 Tanzan Seikai, Kiyoto.—Vases, flower pots, dinner sets, jewel cases, photographs on porcelain, etc. 213
- 30 Kinkozan-Sobei, Kiyoto.—Vases, flower pots, plates, jewel cases, etc. 213
- 31 Takahashi, Dohachi, Kiyoto.—Vases, dishes, flower pots, etc. 213
- 32 Shimidzu Rokubei, Kiyoto.—Tarzan, vases, jars, sets, etc. 213
- 33 Kanzan Denshichi, Kiyoto.—Tea and coffee sets, incense cases, pitchers, and tablets. 213
- 34 Wage Kitei, Kiyoto.—Cigar stands, vases, basins, etc. 213
- 35 Mashimidzu Zoroku, Kiyoto.—Vases, flower pots, and dishes. 213
- 36 Shimidzu Shichibei, Kiyoto.—Tea and coffee cups and saucers, milk jugs, and sugar bowls. 213
- 37 Shimidzu Kameshichi, Kiyoto.—Tea and coffee sets. 213
- 38 Yeiraku, Z., Kiyoto.—Bowls, flower vases and pots, egg cups, jewel cases, etc. 213

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Ceramics, Furniture, Woven Goods.

- 39 Tsuji, Ch., Kiyoto.—Toilet services. 213
- 40 Taizan Yohei, Kiyoto.—Tea sets, tazzas, etc. 213
- 41 Seifu Yohei, Kiyoto.—Vases, flower pots, bowls, etc. 213
- 42 Wateya, G., Kanazawa, Province of Kaga.—Coffee and tea sets, tea jars, cake boxes, and tazzas. 213
- 43 Yoshida, Y., Kanazawa, Province of Kaga.—Large bowls 213
- 44 Awo, P., Kanazawa, Province of Kaga.—Vases, tea and coffee cups, bowls, etc. 213
- 45 Hekizan, T., Kanazawa, Province of Kaga.—Vases, cups, bowls, etc. 213
- 46 Seikan, S., Kanazawa, Province of Kaga.—Tea jars and coffee sets. 213
- 47 Kachoken, A., Kanazawa, Province of Kaga.—Flower vases and cake boxes. 213
- 48 Shoza, T., Kanazawa, Province of Kaga.—Coffee cups, flower pots, etc. 213
- 49 Setzuzan, A., Kanazawa, Province of Kaga.—Coffee and tea cups, teapots, and vases. 213
- 50 Haruna, S., Kanazawa, Province of Kaga.—Cake boxes, lamp vases, coffee and dinner sets. 213
- 51 Muneaki, Kanazawa, Province of Kaga.—Coffee sets. 213
- 52 Utsumi, K., Kanazawa, Province of Kaga.—Cups, vases, cake boxes, etc. 213
- 53 Yamakishi, Kanazawa, Province of Kaga.—Bowls, coffee cups, etc. 213
- 54 Chiuji, Kanazawa, Province of Kaga.—Coffee and tea pots. 213
- 55 Sekitei, I., Kanazawa, Province of Kaga.—Teapots, lamp vases, etc. 213
- 56 Kaga Association for the Encouragement of Manufactures.—Bowls, coffee cups, vases, etc. 213
- 57 Shinoda, K., Province of Kaga.—Flower vases, cigar stands, etc. 213
- 58 Hiyochiyen-sha, Manufactory of Painted Porcelain, Tokio.—Flower pots and vases, coffee and tea sets, dishes, tables, and ornaments. 213
- 59 Shippo-Kuwaisha, Cloisonné Enamel Manufactory, Nagoya, Province of Owari.—Enamel on porcelain. 213
- 60 Makudzu Kozan, Ota.—Flower and lamp vases, coffee sets, etc. 213
- 61 Minoda, Ch., Tokio.—Old and new porcelain. 213
- 62 Kawamoto Masukichi, Nagoya, Province of Owari.—Tables, vases, and flower pots. 213
- 63 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.—Ancient pottery and porcelain. 213
- 63^a Iida, T., Nagoya, Province of Owari.—Porcelain flower vases and pots, plates, fruit dishes, pitchers, ladles, bowls, tea services, tables, braziers, etc. 213

- 65 Arai, H., Tokio.—Lacquered furniture. 217
- 66 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.
a Bureaus, tables, etc. 217
b Silver tea sets, etc. 218
c Blinds and screens. 227
- 67 Minoda, Ch., Tokio.
a Bureau, toilet tables, etagères, etc. 217
b Silver tea kettle. 218
c Bath tub and accessories. 226
- 68 Yamamoto, Y., Shizuoka, Province of Suruga.—Lacquered furniture, screens etc. 217
- 69 Shikki-Shosha, Lacquered Ware Manufactory, Kiyoto.—Lacquered furniture, etc. 217
- 70 Kikuchi-Kuhei, Tokio.—Hat racks, chairs, etc. 217
- 71 Ota, M., Tokio.—Furniture and cabinet work. 217
- 72 Chaki-Shosha, Kiyoto.—Tea services, etc. 218
- 73 Iwahashi, K., Kuroimura, Province of Kii.—Lacquered ware for household use. 218
- 74 Awoumi, G., Hiromai, Province of Mutzu.—Lacquered utensils. 218
- 75 Fujisawa, H., Osaka.—Lacquered lunch boxes and trays. 218
- 76 Ishioka, S., Noshiro, Province of Ugo.—Trays, boxes, dishes, tables, etc. 218
- 77 Kimura, H., Kiyoto.—Table ware. 218
- 78 Hirai Ikkan, Kiyoto.—Coffee sets. 218
- 79 Asano, T., Kiyoto.—Lacquered vases. 218
- 80 Nakamura, H., Kiyoto.—Bowls, trays, etc. 218
- 81 Uyemura, S., Tsuruga, Province of Yechizen.—Lacquered ware. 218
- 82 Riukiu-han, the island of Loochoo.—Lacquered plates, bowls, etc. 218
- 83 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.
a Lanterns. 223
b Iron utensils, kettles, etc. 224

Yarns and Woven Goods of Vegetable or Mineral Materials.

- 86 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.—Mats. 229
- 87 Sakaiken, Local Government of.—Cotton cloths, yarns, etc. 230
- 88 Ono, G., Naniwamura, Province of Settsu.—Cotton cloths. 230
- 89 Riu-kiu-han, Loochoo Islands.
a White cotton cloths. 230
b Striped cotton cloths. 231
c Ramie and fibre cloths. 233
- 90 Kawamura, Y., Province of Owari.—Cotton cloths dyed and spotted. 231
- 91 Osaka fu, Municipality of, Osaka.—Cotton rugs. 231
- 92 Miye-ken, Local Government of.—Cotton gauze. 231

Furniture and Objects of General Use in Construction and in Dwellings.

- 64 Kuwangiyo-Riyo-Shi-ken-jo, Experimental Section of the Board of Agriculture, Industry, & Commerce, Tokio.—Cabinets and toilet table. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods, Silk, Clothing, Fancy Articles.

- 93 Association for Women's Work, Kiyoto.—Cotton rugs. 231
- 94 Fuji-Kawa, G., Kiyoto.—Printed cotton cloth. 231
- 95 Watanabe, S., Shiro-ishi, Province of Iwaki.—Shifu cloth, paper yarn. 233
- 96 Ni-i-gata-ken, Local Government of.—Ramie cloth. 233
- 97 Nara-ken, Local Government of.—Hemp cloth. 233
- Silks and Silk Fabrics.**
- 98 Yoyan-jo, Silk-Worm Breeding Establishment, Kiyoto.—Raw silks. 242
- 99 Sci-shi-jo, Silk Reeling Establishment, Kiyoto.—Raw silks. 242
- 100 Association for Women's Work, Kiyoto.
a Raw silks. 242
b Dress silks. 245
c Cravats. 245
- 101 Kojima, T., Kiyoto.—Silk thread. 242
- 102 Suzuki, Yo, Yamura, Province of Kai.
a Dress silks. 245
b Handkerchiefs. 247
- 103 Tsurugaken, Local Government of.—White dress silk. 245
- 104 Yehara, T., Kiriu, Province of Kotsuke.—Dress silk. 245
- 105 Yamamoto Kinu, Ousakamura, Province of Shinano.—Bombyx sho-chin silk. 245
- 106 Nakagawa, Y., Kiyoto.—White silk. 245
- 107 Morita, B., Kiyoto.—Colored silks. 245
- 108 Nishimura, S., Kiyoto.
a Fancy dress silks. 245
b Plaid dress silks. 246
c Crapes dyed and figured. 247
- 109 Kuwangyo-jo, Association for the Encouragement of Arts & Manufactures, Kiyoto.—White dress silk. 245
- 110 Shibata, Y., Hakata, Province of Chikuzen.—Striped and figured silks. 246
- 111 Shiromidzu, Ch., Hakata, Province of Chikuzen.—Striped dress silk. 246
- 12 Nawa, S., Akita, Province of Ugo.—Fancy silks. 246
- 113 Ito, T., Sendai, Province of Kikusen.—Checked dress silk. 246
- 114 The Nishijin Weavers, Kiyoto.
a Silk goods; brocade and striped silk. 246
b Velvets and gauze. 247
- 115 The Shokkojo Weavers, Kiyoto.—Striped and figured dress silks. 246
- 116 Sumiyama, I., Kiyoto.—Checked dress silk. 246
- 117 Kiriu-Kosho-Kuwaisha, Tokio.—
a Silk carpetings and brocades. 246
b Cravats. 247
- 118 Tsubaki Yoshi, Sendai, Province of Rikusen.—Striped shot dress silk. 246
- 119 Tomita, S., Kiyoto.—Gauze. 247
- 120 The Kanokoshosha, Kiyoto.—Dyed and spotted crapes. 247
- 121 Ichida, R., Kiyoto.—Dyed and spotted crapes. 247
- 122 Shii-no, S., Yokohama.—Handkerchiefs, cravats, etc., of crape. 247
- 123 Yoshida, S., Mineyami, Province of Tango.—Crapes. 247
- 124 Nabeshima, S., Mineyami, Province of Tango.—Crapes. 247
- 125 Ikebe, N., Mineyama, Province of Tango.—Crapes. 247
- 126 Nishigori, K., Nagahama, Province of Omi.—White crapes. 247
- 127 Nakamura, M., Nagahama, Province of Omi.—White crapes. 247
- 128 Tsuboi, C., Nagahama, Province of Omi.—White crapes. 247
- 129 Kimura, G., Kiyoto.—Crapes. 247
- 130 Inagaki, T., Kiyoto.—White crape. 247
- 131 Koseki, I., Kiyoto.—Braids. 249
- 131^a Nakatsu-ji, Kiyoto.—Braids. 24
- 132 Izu-kura, K., Kiyoto.—Watch guards. 245
- Clothing, Jewelry, and Ornaments; Traveling Equipments.**
- 133 Wakamatsu, R., Minakuchi, Province of Omi.—Hats. 250
- 134 Hosoda, Z., Kiyoto.—Silk embroidery. 252
- 135 Sakaguchi, S., Niyoto.—Embroideries. 252
- 136 Nishimura, S., Kiyoto.—Embroidered tablets, table cloths, screens, etc. 252
- 137 Cha-ki-shosha, Kiyoto.—Embroidered picture of Buddha; embroidered carpeting and cushions. 252
- 138 Teramura, S., Kiyoto.—Embroidered table cloths and shawls. 252
- 139 Sumiyama, I., Kiyoto.—Embroidered silks. 252
- 140 Kiriu-Kosha-Kuwaisha, Tokio.
a Embroidered table cloths and silks. 252
b Crystal necklaces and earrings. 253
c Cigar cases, buttons, toys, umbrellas, etc. 254
d Leather boxes. 255
- 141 Shii-no, S., Yokohama.—Embroidered silks, coverlets, etc. 252
- 142 Association for Women's Work, Kiyoto.
a Embroidered table cloths and screens. 252
b Pin cushions; silk pictures in relief. 254
c Wallets and tobacco pouches. 255
- 143 Nuishosha (Embroiderer's Society), Kiyoto.—Embroidered cloths, curtains, and screens. 252
- 144 Tanaka, R., Kiyoto.—Embroidered screens, curtains, etc. 252
- 145 Asakura, M., Tokio.—Toys and fancy articles, small objects of adornment. 254
- 145^a Arai, H., Tokio.—Lacquered jewelry: cases, needle boxes, card boxes, cigar stands, canes, etc. 254
- 146 Kuwangyo-Riyo, Tokio.—Ornamental piece of rock crystal. 254
- 147 The Shikki-shosha, Kiyoto.—Toys. 254
- 148 Iwai, Z., Nara, Province of Yamato.—Fans. 254

Fancy Goods, Stationery, Weapons, Medical Appliances, Education.

- 149 Myagawa, C., Tokio.—Portfolios, cigar cases, fans, pipes, etc. 254
 150 Fukuda, K., Kiyoto.—Silk pictures. 254
 151 Katayama, G., Kiyoto.—Ornaments. 254
 152 Wobanawa, M., Tokio.—Fans. 254
 153 Shippo Kuwaisha, Nagoya, Province of Owari.—Fans. 254
 154 Kimura, T., Kiyoto.—Fans. 254
 155 Sumii, Z., Kiyoto.—Fans. 254
 156 Kuwangiyo-jo (Association for the encouragement of art and manufactures), Kiyoto.—Fans, pouches, cages, etc. 254
 157 Jiami Joyen, Kiyoto.—Fans. 254
 158 Tei-Ami Tegiyo, Kiyoto.—Fans. 254
 159 Jo-Ami Heishiro, Kiyoto.—Fans. 254

- 160 Rin-ami Hanzo, Kiyoto.—Fans. 254
 161 Murakami, T., Kiyoto.—Walking-canes. 254
 162 Terada, G., Kiyoto.—Pipes. 254
 163 Namikawa, S., Kiyoto.—Birds and toys. 254
 164 Funaki, S., Kiyoto.—Birds and toys. 254
 165 Yamamoto, Y., Shidzu-oka, Province of Suruga.—Cages. 254
 166 Suzuki, M., Kiyoto.—Buttons, etc. 254
 167 Mitsui, Kiyoto.—Pictures on small pieces of silk. 254
 167^a Awoumi, G., Hiromai, Province of Mutzu.—Lacquered glove cases, jewel cases, letter holders, etc. 254
 168 Kimura, H., Kiyoto.—Note tablets. 254

Paper, Blank Books, and Stationery.

- 169 Kiriu-Kosho-Kuwaisha (First Japanese Manufacturing & Trading Company), Tokio.—Writing-brushes. 258
 170 Kochi-ken, Local Government of.—Paper. 259
 171 Hamadaken, Local Government of.—Paper. 259
 172 Kiyoto-Fu, Municipality of Kiyoto.—Paper. 259
 173 Riu-Kiu-han, Loo Choo Island.—Paper, of plantain fibre and straw. 259
 174 Gifu-ken, Local Government of.—Writing-paper. 259
 175 Tsuruga-ken, Local Government of.—Paper. 259
 176 Kuwangiyo-Riyo, Imperial Board of Agriculture, Industry, & Commerce, Tokio.—Paper. 259
 177 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Company, Tokio.
 a Paper. 259
 b Blank books. 261
 c Wall papers. 264
 178 Yoshida, K., Kiyoto.—Colored and ornamented paper for writing poetry. 260
 180 Minoda, Ch., Tokio.—Albums. 261
 181 Ikibe, S., & Okuyama, K., Inakimura & Komatamura, Province of Ise.—Wall paper, etc. 264

- 182 Haibara, N., Tokio.—Wall papers. 264
 183 Matsumoto, T., Tokio.—Wall paper. 264

Weapons, etc.

- 184 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Company, Tokio.
 a Coat of mail. 265
 b Swords, spears, etc. 268
 c Bows and arrows. 269
 185 Minoda, Ch., Tokio.—Swords. 268
 186 Kumagai, K., Kiyoto.—Halberds. 268
 187 Yamamoto, Y., Shidzu-oka, Province of Suruga.—Swords. 268

Medicine, Surgery, Prothesis.

- 188 Kuwangiyo-Riyo Imperial, Board of Agriculture, Industry & Commerce), Tokio.—Drugs and medicines. 272
 189 Nara, Y., Kiyoto.
 a Surgical instruments. 276
 b Dental instruments. 277
 190 Rikugunsho, Imperial War Department.—Vehicles and litters for the transportation of wounded soldiers. 278

Fabrics of Vegetable, Animal, or Mineral Materials.

- 191 Hiogo-ken, Local Government of.—Bamboo work. 289
 192 Toyo-oka-ken, Local Government of.—Straw work. 289
 193 Shiga-ken, Local Government of.—Basket ware, mats, cake boxes, etc. 289
 194 Nagata, Y., Tokio.—Rattan work, trays. 289
 195 Yamamoto, Y., Shidzu-oka, Province of Suruga.—Bamboo work. 289
 196 Kiriu-Kosho-Kuwaisha First Japanese Manufacturing & Trading Company, Tokio.—Wooden ware, boxes, cases, etc. 289
 197 Shimidzu, J., Kiyoto.—Bamboo ware. 289
 198 Murakami, T., Kiyoto.—Bamboo ware. 289
 199 Terada, G., Kiyoto.—Bamboo ware. 289
 200 Iwada, H., Kiyoto.—Bamboo ware. 289
 201 Hotta, Z., Kiyoto.—Bamboo ware. 289
 202 Chikumaken, Local Government of.—Bamboo ware. 289

Educational Systems, Methods, and Libraries.

- 203 Mombusho, Department of Public Education, Tokio.
 a Educational systems and methods.
 b Constitution of the Japanese Educational Department, and maps showing the divisions.
 c Elementary school books and apparatus.
 d Chairs and tables, etc., for schoolrooms.
 e Infant training and toys.
 f Reading and writing implements, such as were used by children in former times.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Education and Science, Arts.

- g Maps, charts, globes, etc.
 h Educational equipments, tables, pens, ink boxes, blank books, paper, and other stationery.
 i Abacus, arithmetical board, slates, pencils, etc.
 k Examination paper for students.
 l Designs and photographs for schools.
 m Sectional specimens of woods.
 n Leaves of various plants.
 o Books of botany.
 p Tabular statements of botanical classification.
 q Moku-zai-sho-ran (album showing samples of the various woods used for industrial purposes).
 r Artificial fruits.
 s Ancient and modern medical and surgical books, and modern surgical instruments made by K. Iwashiya.
 t Medicines and drugs.
 u I-in zas-si, miscellaneous reports of the hospital pertaining to the medical academy.
 v Anatomical designs.
 w Paintings and printing materials.
 x Lacquer work, showing process of manufacture and implements used.
 y Wood engravings and engraving-tools, blocks and types; printing materials.
 z Photographs.
 ab Outline of the history of education in Japan; history of the literature and short historical sketch of the educational department. (All accompanied by the English translation.)
 bb Educational regulations, notifications, reports, miscellaneous information, and Riji-ko-tei (educational reports by F. Tanaka).
 cb Statistical table, showing the number of public and private schools, with their scholars, tabular statement of the revenue and expenditure of the public schools and the public school property, and other statistical tables relating to education.
 db Photographs, history, regulation, and catalogue of Tokio Library.
 eb Almanacs, history, dictionaries, and illustrated works on natural history, etc.
 fb Newspapers, journals, and magazines, etc. 300
- 204 Kuwangiyo-riyo Imperial Board of Agriculture, Industry, & Commerce.**—Tabular statement showing number of national newspapers. 300
- 205 Hirano, T., Tokio.**—Collection of type and paper matrices used in printing. 300
- 206 Tamai, C., Province of Mino.**—Illustrated work on the flora of Japan. 300
- 207 Hababutskuwan Museum, Tokio.**—Zoological collection. 310
- Scientific and Philosophical Instruments and Methods.**
- 208 Mombusho, Department of Public Education.**—Geometrical instruments; apparatus for experiments in natural philosophy. 320
- 209 Kozan-riyo, Mining Department, Tokio.**—Meteorological report. 320
- 210 Kuwangiyo-riyo Imperial Board of Agriculture, Industry, & Commerce.**—Counting machine. 321
- 211 Okurasho, Finance Department.**—Graduated scales of bamboo and brass; measures of capacity, scales, and graduated beams for weighing. 322
- 212 Kiri-ko-sho-kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.**—Musical instruments. 327
- Engineering, Architecture, Maps, etc.**
- 213 Kuwangiyo-riyo, Imperial Board of Agriculture, Industry, & Commerce.**—Diagrams, showing the means of arresting and controlling the flow of water; plan of water supply at the city of Tokio. 330
- 214 Shiu-shi-kiyoku, National Archive Office, Tokio.**—Map of the Empire of Japan. 335
- 215 Todai-riyo, Lighthouse Department, Tokio.**—Photographs of lighthouses, and maps showing their location. 335
- 216 Yeki-tei-riyo, General Post-office, Tokio.**—Map showing the mail routes. 335
- 217 Suiro-riyo, Hydrographic Department, Tokio.**—Marine and coast line charts. 335
- 218 Denshin-riyo, Telegraph Department, Tokio.**—Map, showing telegraphic lines and stations. 335
- Physical, Social, and Moral Condition of Man.**
- 219 Kuwangiyo-riyo, Tokio.**—Games and manly sports. 340
- 220 Komura, S., Kanazawa, Province of Kaga.**—Japanese model house on the exhibition grounds, built by I. Matsuo. 342
- 221 Matsuo, I., Tokio.**—Bazar on the exhibition grounds. 343
- 222 Zohai-riyo, Imperial Mint, Tokio.**—Collection of gold and silver coins. 344
- 223 Kiri-ko-sho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.**—Collection of old copper coins. 344
- 224 Yeki-tei-riyo, General Post-office, Tokio.**—Postal cards and stamps; annual reports. 345
- 225 Sozeiriyo, National Revenue Department.**—Revenue stamps, blank papers and licenses, etc. 345
- Sculpture.**
- 226 Honma Takusai, Sado Island.**—Bronze statuette, vases, etc. 403
- 227 Kiri-ko-sho-kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.**
 a Bronze fountains, vases, braziers, plates, censers, teacup stands, etc. 403
 b Miniature palace of sandal wood. 405
- 228 Minodo, Ch., Tokio.**—Bronze censers, vases, candlesticks, etc. 403
- 230 Minodo, Ch., Tokio.**—Metal pipe, paper weight, and statue. 403
- 231 Arai, H., Tokio.**—Silver vase and decorative objects. 403
- 232 The Chaki-sho-sha Co., Kiyoto.**—Bronze vessel. 403
- 233 Yoshida, Ya, Kiyoto.**—Bronze vases and censers. 403

Art.

- 234 Nakagawa Joyeki, Kiyoto.—Bronze kettle, vase, and sweetmeat boxes. 403
- 235 Kanaya Gorosaburo, Kiyoto.—Bronze kettle, vases, and sweetmeat boxes. 403
- 236 Shomi, Y., Kiyoto.—Bronze vases and trays. 403
- 237 Shinoyama, A. U., Kiyoto.—Bronze sweetmeat box. 403
- 238 Kawara-bayashi Hidekuni, Kiyoto.—Bronze jug. 403
- 239 Kawamura, Ya, Kiyoto.—Metal teapot, cup, and stand. 403
- 240 Saito, Z., Tokio.—Bronze censer, vases, tablet, and images. 403
- 241 Yamamoto, I., Wakamatsu, Province of Iwashiro.—Bronze vases. 403
- 242 Imai Rihei, Kiyoto.—Carved ivory images. 405
- 243 The Chakishosha Co., Kiyoto.—Ivory incense box. 405
- 244 Hotta, Z., Kiyoto.—Ivory paper weight and tray. 405
- 245 Shichijo Yasunori, Kiyoto.—Carved and colored wooden statuettes. 405
- 246 Ide, Z., Kiyoto.—Carved wooden statuettes. 405
- 247 Yamamoto, Y., Shizuoka, Province of Suruga.—Carved ivory images. 405
- 248 Suzuki, M., Tokio.—Ivory vase, boats, and other decorative objects. 405
- 249 Negishi Manzo, Tokio.—Carved wooden bedstead and bedroom furniture. 405
- 250 Makudsu Kozan, Yokohama.—Porcelain mouldings. 405
- 251 Tsuji Katsuzo, Arita, Province of Hizen.—Porcelain mouldings. 405
- Paintings.
- 252 Kikuchi Yosai, Tokio.—Water color picture. 411
- 253 Tanaka Honi, Tokio.—Water color picture. 411
- 254 Fukushima Riuho, Tokio.—Water color picture. 411
- 255 Kishi Seppo, Tokio.—Water color picture. 411
- 256 Kawanabe Giosai, Tokio.—Water color picture. 411
- 257 Hasegawa Settei, Tokio.—Water color picture. 411
- 258 Megata Kaian, Tokio.—Water color picture. 411
- 259 Yamazaki Toson, Tokio.—Water color picture. 411
- 260 Nagasaka Suiho, Tokio.—Water color picture. 411
- 261 Numado Masa-u-ki, Tokio.—Water color picture. 411
- 262 Minoda, Ch., Tokio.—Pictures and album. 411

- 263 Suzuki Hiyakunen, Kiyoto.—Pictures. 411
- 264 Tanaka, R., Kiyoto.—Picture album. 411
- 265 Shi-o-kawa Bunrin, Kiyoto.—Picture. 411
- 266 Nishimura, S., Kiyoto.—Pictures. 411
- 267 Sakaguchi, S., Kiyoto.—Pictures. 411
- 268 Fukami, Suminosuke, Arita, Province of Hizen.—Painted porcelain. 413
- Engraving and Lithography.
- 269 Kuwappankiyoku, Government Printing Office.—Copper plates for government bonds, revenue stamps, etc., and specimens of work. 421

Photography.

- 270 Sakai, T., Kiyoto.—Photographs. 430
- 271 Kuwangiyo-jo, Association for the Encouragement of Art & Manufactures, Kiyoto.—Photographs. 430

Industrial and Architectural Designs, etc.

- 272 Zoroku, H., Kiyoto.—Bronze statuettes, tripod kettles. 443
- 273 Kumagai, K., Kiyoto.—Bronze vases. 443

Ceramic Decorations, Mosaics, etc.

- 274 Nishimura, S. J., Mikuria, Province of Hoki.—Inlaid work in wood. 452
- 275 Yamamoto, Y., Shizuoka, Province of Suruga.—Inlaid work in wood. 452
- 276 Marunaka, M, Kanazawa, Province of Kaga.
a Vases, inlaid boxes, etc. 452
b Enameled silver goblets. 454
- 277 The Shippokuwasha, Province of Owari.—Tea caddy. 452
- 278 Kanaya Gorosaburo, Kiyoto.
a Bronze vases and pots. 452
b Water pot, goblets, and sweetmeat boxes. 454
- 279 Yomo Yasunosuke, Kiyoto.—Bronze plates. 452
- 280 Fukihara, S., Tokio.—Enameled plates and jar. 454
- 283 Ta-Ho-jo, Kiyoto.—Vase. 454
- 284 Namiwaka Yasu-u-ki, Kiyoto.—Vases, lunch boxes, cigar stands, etc. 454
- 285 Zoroku, H., Kiyoto.—Ornamental buckle in imitation of old bronze. 454
- 286 Kiriu-Kosho-Kuwaisha, First Japanese Manufacturing & Trading Co., Tokio.—Enameled basin, imitation of Chinese ware; porcelain statuettes, bronze bowl. 454

For classes of exhibit, indicated by numbers at end of entries, see Classification, pp. 27-45.

HAWAII.

(South of South Avenue, Columns 10 to 14.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education.

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| <p>Minerals, Ores, Stone, Mining Products.</p> <p>1 Gilman, J. H.—Lava specimens from Kilauea. 100</p> <p>2 Hawaiian Museum.—Geological specimens, by W. L. Green. 100</p> <p>3 Hitchcock, H. R.—Geological specimens from crater of Kilauea. 100</p> <p>4 Boys' Boarding School.—Coal from the forests of Haleakala. 101</p> <p>Chemical Manufactures.</p> <p>5 Pinkham, G. S.—Blackening. 202</p> <p>Furniture and Objects of General Use in Construction and in Dwellings.</p> <p>6 Auld, William.—Cue. 217</p> <p>7 Brown, G. W.—Table from a variety of woods. 217</p> <p>8 Kamaipelekane, E. P.—Fac-simile of bed, etc., used by Kamchamha I. 217</p> <p>9 Fischer & Co.</p> <p> <i>a</i> Small and large tables, revolving book-rack. 217</p> <p> <i>b</i> Picture frame. 220</p> <p>10 Williams, C. E.—Revolving shell case. 217</p> <p>11 Hopper, J. A.—Kou calabashes. 224</p> <p>11<i>a</i> Emma, Queen.—Water gourds and figured calabashes. 224</p> <p>Yarns and Woven Goods of Vegetable or Mineral Materials.</p> <p>12 Gilman, J. H.—Bamboo of silky fibre for decorations. 229</p> <p>12<i>a</i> Emma, Queen.—Figured kapas and niibau mats. 229</p> <p>Clothing, Jewelry, and Ornaments; Traveling Equipments.</p> <p>12<i>b</i> Peterson, James A.—Yellow and black feather cape. 250</p> <p>12<i>c</i> Kawaiahaeo Female Seminary.</p> <p> <i>a</i> Crotchet work by pupils. 252</p> <p> <i>b</i> Mimosa seed necklaces by pupils. 254</p> <p>13 Emma, Queen.</p> <p> <i>a</i> Cane flower and fern stem hats. 251</p> | <p> <i>b</i> Yellow and green feather wreaths, feather fly brushes, ever-lasting and moss wreaths, strings of Niibau shells, and arrowroot plant fans. 254</p> <p>14 Dickson, J. Bates.—Micronesian curiosities and corals. 254</p> <p>15 Beckley, F. W.—Set of kapa. 254</p> <p>16 Boyd, Miss E.—Spatter work of mottoes and island ferns. 254</p> <p>16<i>a</i> Pratt, Mrs.—Feather fly brushes. 254</p> <p>17 Kealoha.—Set of kapa. 254</p> <p>18 Oahu College.—Land shells. 254</p> <p>19 Rose, Katie.—Set of kapas. 254</p> <p>20 Williams, C. E.—Canes. 254</p> <p>21 Wilder, Helen.—Manahiki woman's hair. 254</p> <p>22 Young, Mrs.—Wreath of mosses and shells. 254</p> <p>Fabrics of Vegetable, Animal, or Mineral Materials.</p> <p>23 Department of War.—Hawaiian flag, royal standard. 288</p> <p>Carriages, Vehicles, and Accessories.</p> <p>24 Lyman, F. S.—Saddle and bridle. 296</p> <p>Educational Systems, Methods, and Libraries.</p> <p>25 Department of Education.</p> <p> <i>a</i> Photographs of school-houses and groups of Hawaiian teachers and pupils. 300</p> <p> <i>b</i> Hawaiian school-books and legislative reports. 306</p> <p>25<i>a</i> Brigham, W. T.—"Hawaiian Volcanoes" and various works on the Hawaiian Islands. 306</p> <p>27 Damon, S. C.—"The Friend" and Bowditch's Navigator, in the Japanese language. 306</p> <p>28 Whitney, H. M.—"Gazette" and "Kuokoa" for 1875. 306</p> <p>29 Sheldon, H. L.—"Pacific Commercial Advertiser." 306</p> <p>29<i>a</i> Thrum, T. G.—Volume of the "Islander." 306</p> <p>Institutions and Organizations.</p> <p>30 Clarke, F. L.—Hawaiian curiosities; cocoanut shell water calabash, lei palaya tobacco pipe, stone lamp, stone adze, sling stone. 312</p> |
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Education and Science, Art, Machinery, Agriculture.

- 30^a Emma, Queen.—Ancient imple-
ments of various kinds. 312
- Engineering, Architecture, Charts,
Maps, and Graphic Representations.
- 31 Honolulu Iron Works.—Drafts of
machinery. 330
- 32 Alexander, W. D.—Map of the cra-
ter of Haleakala. 335
- 32^a Department of Government Sur-
vey.—Map of the Hawaiian Islands. 335
- 32^b Thrum, T. G.—Sets of Hawaiian
postage stamps. 345
- Physical, Social, and Moral Condition
of Man.
- 33 Native of Hawaii.—Wooden
idols. 348
- Painting.
- 34 Spencer, O. B.—Oil painting "Hilo
Bay," by J. H. Nawahi. 410
- 35 Bailey, E.—Oil paintings. 410
a Bird's eye view of the crater of Haleakala.
b View of Hilo Village and Cocoanut Island.
c Views in Hilo.
d Scenery in Iao Valley.
- Photography.
- 36 Honolulu Iron Works.—Photo-
graphs of works. 430
- 36^a Brigham, W. T.—Photographs of
ancient idols. 430
- 37 Thrum, T. G.—Photograph of Hono-
lulu. 430
- 38 Dickson, M.—Photographs of Island
scenes. 430
- Ceramic Decorations, Mosaics, etc.
- 39 Department of Interior.—Hawaiian
coat of arms painted on glass. 453
- Machines and Implements of Spin-
ning, Weaving, Felting, and Paper
Making.
- 39^a Kapa beaters and dies for print-
ing. 524
- Arboriculture and Forest Products.
- 40 Boys' Boarding School.
a Woods from the forests of Haleakala. 600
b Silver swords, 1 ring ferns. 604
- 41 Andrews, C. B.—Mounted ferns. 604
- 42 Hitchcock, D. H. & E. G.—Speci-
mens of the pulu ferns, silver swords. 604
- 43 Hitchcock, H. R.—Ferns and
mosses. 604
- 44 Jones, G. W. C.—Large tree fern. 604
- Agricultural Products.
- 44^a Wong Go.—Rice. 620
- 44^b Chulan & Co.—Rice and paddy. 620
- 44^c Waimanalo Plantation.—Rice. 620
- 45 Hackfeld, H., & Co.—Coffee from H.
N. Greenwell. 623
- Land Animals.
- 46 Mills, J. D.—Hawaiian birds. 635
- Animal and Vegetable Products.
- 47 Krull, E.—Tallow. 652
- 48 Lyman, F. S.—Leather. 652
- 49 Eldarts, T. E.—Arrowroot and tapi-
oca. 653
- 49^a Dreier & Heine.—Manioc root. 653
- 50 Spencer, T., Hilo.—Cane sugars. 659
- 51 Hitchcock Bros., Hilo.—Cane su-
gars. 659
- 52 Austin, S. L., Hilo.—Cane sugars. 659
- 53 Afong & Achuck, Hilo.—Cane su-
gars. 659
- 54 Campbell & Turton, Lahaina.—Cane
sugars. 659
- 55 Bailey, W. H., Wailuku.—Cane su-
gars. 659
- 56 Makee, Capt. James, Ulupalakua.—
Cane sugars. 659
- 57 Alexander, S. T., Haku.—Cane su-
gars. 659
- 58 Waihee Plantation, Mani.—Cane
sugars. 659
- 59 Lihue Plantation, Kauai.—Cane su-
gars. 659
- 60 Kapena, J. M.—Samples of sugar
cane. 659
- 61 McLean, G. C.—Castor, cocoanut,
and kukui oils. 662
- Textile Substances of Vegetable or
Animal Origin.
- 62 Holstein, H.—Sea Island cotton. 665
- 63 Wilder, S. G.—Olona fibre. 666
- 64 Hyman Bros.—Ramie fibre. 666
- 65 Gilman, J. N.—Painiu fibre. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

BRAZIL.

(North of Nave, Columns 58 to 61.)

Chemicals, Ceramics, Furniture.

Chemicals.

- | | |
|---|--|
| 1 Lopez, F. J. de Almeida.—Salt-petre. 200 | 32 Lepage, F. J.—Essences and pomades. 203 |
| 2 Muricy, J. C. da Silva.—Sulphur from quartz. 200 | 33 Commission-General for the National Exhibitions.—Flavoring extracts, essences, and perfumery. 203 |
| 3 Leao, D. Agostinho, S. E.—Sulphuret of lead. 200 | 34 Lang, J.—Toilet soaps. 203 |
| 4 Lendenberg, L. B.—Salt. 200 | 35 Province of Pernambuco.—Safety matches. 204 |
| 5 Penna, A. G. d'Araujo.—Homœopathic vegetable tinctures and opodeldoc. 200 | Ceramics—Pottery, Porcelain, Glass, etc. |
| 6 Chemical Laboratory.—Chemical and pharmaceutical preparations. 200 | 36 Esberard, F. A. M.—Terra-cotta vases and pottery. 206 |
| 7 Maia, Ferreira, & Co.—Pharmaceutical preparations. 200 | 37 Colony of D. Francisca.—Bricks and tubes. 206 |
| 8 Perdigao, D. F. Z.—Pharmaceutical products. 200 | 38 Commission-General for the National Exhibitions.—Bricks. 206 |
| 9 Province of Maranhao.—Pharmaceutical preparations. 200 | 39 Leao, D. A. E.—Brick of gres (clay). 206 |
| 10 Province of San Paulo.—Medical preparations. 200 | 40 Province of San Pedro do Sul.—Stone bricks. 206 |
| 11 Yiotti, E.—Pharmaceutical preparations. 200 | 41 Province of Paraná.—Tiles and bricks. 206 |
| 12 Province of Pará.—Medicinal oils. 200 | 42 Grillo, Amaro D.—Clay pots, cups, and vases. 207 |
| 13 Cardoso & Gonsalves.—Soap. 201 | 43 Patury, J. J. S.—Clay pots. 207 |
| 14 Alves, Pereira, & Co.—Soap and candles. 201 | 44 Correa, J. S.—Slate tiles for pavements and roofing. 208 |
| 15 Guimaraes, A. J. A.—Soap and candles. 201 | 45 Muricy, J. C. da Silva.—Enameled tiles. 208 |
| 16 Oliveira & Bro.—Soaps. 201 | Furniture and Objects of General Use in Construction and in Dwellings. |
| 17 Carvalho, Ferreira de, & Bro.—Soap and candles. 201 | 46 Commission-General for the National Exhibitions. |
| 18 Stearic Light Co.—Soaps and candles. 201 | <i>a</i> Parlor furniture. 217 |
| 19 Dias, Duarte.—Oils. 201 | <i>b</i> Tortoise-shell boxes and articles of straw. 218 |
| 20 Province of Paraná.—Soaps and candles. 201 | 47 Province of Paraná.—Furniture. 217 |
| 21 Safarana, J.—Wax candles. 201 | 48 Army Arsenal of Porto-Alegre.—Secretary of cedar wood. 217 |
| 22 Stechel.—Oils. 201 | 49 House of Correction of Bahia.—Furniture made by the inmates. 217 |
| 23 Silva, S. S. G. da.—Copying and writing ink. 202 | 50 House of Correction of Rio de Janeiro. |
| 24 Monteiro & Co.—Writing inks. 202 | <i>a</i> Secretary and cabinet suit of satinwood. 217 |
| 25 Guimaraes, J. A. da Sa.—Pigments and varnishes. 202 | <i>b</i> Baskets, barrels, and stands for manioc flour. 224 |
| 26 Province of San Paulo.—Writing inks. 202 | 51 Kern, Clara, & Lang, Tela.—Reclining chair. 217 |
| 27 Yillela.—Writing inks. 202 | 52 Itabapoana, Baron of.—Reclining chair. 217 |
| 28 Henninger, Dan., & Co.—Toilet soaps. 203 | 53 Gerth, R. J.—Willow furniture. 217 |
| 29 Lang & Co.—Toilet soaps. 203 | 54 Kappel & Bro.—Wood works. 217 |
| 30 Leao & Alves.—Perfumery. 203 | |
| 31 Freire, Otto.—Essences. 203 | |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture, Woven Goods, Clothing.

- 55 Aguar, J. C. da Costa.—Book-stand. 217
- 56 Supplicity, J. F.—Hanging shelves and cane-seated chairs. 217
- 57 Loesch, Zacharias.—Work-box. 217
- 58 Moreira, F. J., & Co.—Chairs. 217
- 59 Alpio, D. J.—Writing-desk of sole leather. 217
- 60 Rodriguez, A. A.—Writing-desk. 217
- 61 Province of San Paulo.—Suit of furniture made of straw. 217
- 62 Keppler & Bro.
a Wooden chairs. 217
b Mouldings. 227
- 63 Borddal, Jonas.—Tables and shelves. 217
- 64 Province of Sancta Catharina.—Furniture. 217
- 65 Rocha, Polybio da.—Multiform piece of furniture. 217
- 66 Martinelli & Bro.—Marble fixtures for wash-stands. 219
- 67 Pittanti, Adriano, & Co.—Marble wash-stand. 219
- 68 Pommerais, Leon.—Imitation marbles. 219
- 69 Baumgarten, J.—Box with looking-glass for examining eggs. 224
- 70 Malcher, A. J., Gama.—Straw satchels and sieves. 224
- Yarns and Woven Goods of Vegetable or Mineral Materials.**
- 72 Person, A.—Wire cloths. 228
- 73 Bardet, F.—Wire cloths and manufactures. 228
- 74 Commission-General for the National Exhibitions.
a Hammocks made of different coarse materials, and in different provinces. 229
b Cotton fabrics, quilts, and towels. 230
c Dyed cotton fabrics. 231
- 75 Arouca & Co.—Cotton fabrics. 230
- 76 Rebello & Co.—Cotton fabrics. 230
- 77 Brazil Industrial Cotton Mill Co.—Cotton fabrics. 230
- 78 Colony of Blumenau.—Cotton fabrics and quilts. 230
- 79 Mascarenhas & Bros.—Cotton goods. 230
- 80 Barros, Diogo A. de.—Cotton goods. 230
- 81 Anhaia & Angelo.—Cotton goods. 230
- 82 Union Mercantile Co.—Cotton goods. 230
- 83 College of the Immaculate Conception.—Cotton hammocks. 230
- 84 Yicara, C. P. Sá.—Cotton hammocks. 230
- 85 Province of Paraná.—Twisted yarns. 230
- 86 Petropolitan Co.—Cotton goods. 230
- 87 Chaná, Barthelemy.—Dyed cotton goods. 230
- 88 Reyner, F.—Dyed cotton goods. 231
- 89 Lemes, R. Z. Paes.—Cotton articles. 232
- 90 Keller, Felipe.—Linen goods. 233
- 91 Colony of St. Maria da Soledade.—Linen goods. 233
- 92 Colony of Nova Petropolis.—Linen goods. 233
- 93 Kalden, Baron of.—Linen goods. 233
- Woven and Felted Goods of Wool and Mixtures of Wool.**
- 94 Lopez, F. J., Almeida.—Cotton quilts, and cassimeres. 235
- 95 Moura, J. C. de.—Cassimeres. 235
- 96 Rheingantz & Vater.—Woolen goods. 235
- 97 Machado, M. A.—Articles made of horsehair. 240
- Silk and Silk Fabrics.**
- 98 Reyhner, Fernando.—Silk goods. 245
- Clothing, Jewelry, and Ornaments.**
- 99 Dol, Ad., & Co.—Linen underwear. 250
- 100 Lopez, F. J. A.—Pantaloons and other cotton wear. 250
- 101 Roballo, J. J.—Coat of fine cloth. 250
- 102 Grava, Frei L. da.—Knitted shirt. 250
- 103 Amaral & Co.—Complete suit for gents. 250
- 104 Fayett & Battcher.—Pantaloons. 250
- 105 Commission-General for the National Exhibitions.
a Wooden and leather shoes and cipó hats. 251
b Walking-canes and articles of tortoise-shell and straw. 254
c Leather suit worn by herdsmen. 257
- 106 Chastel & Co.—Hats. 251
- 107 Armada, J. Alvaro de.—Hats, caps, and bonnets. 251
- 108 Bierrenback & Bros.—Hats and caps. 251
- 109 Braga, Fernandes, & Co.—Hats, caps, and bonnets. 251
- 110 Bithencourt, J.—Lasts for shoes. 251
- 111 Viguier.—Boots and shoes. 251
- 112 Silva, J. B. Carvalho da.—Hats. 251
- 113 Camará, J. E. P.—Hats. 251
- 114 City Council of Cameta.—Hats. 251
- 115 Santos, P. C. dos.—Hats. 251
- 116 Bossel, H.—Felt hats. 251
- 117 House of Correction, Rio de Janeiro.—Boots and shoes. 251
- 118 Fischer, F.—Hats and caps. 251
- 119 Figueredo & Co.—Boots and shoes worn by the army and navy. 251
- 120 Cathiard, C. F.—Boots and shoes. 251
- 121 Berthon.—Ladies' shoes. 251
- 122 District of Paulo Alfonso.—Leather hats. 251
- 123 Silva, H. J. da.—Canvas shoes. 251
- 124 Requiao, F. P.—Hats. 251
- 125 Gomes, M. M. Rodriguez.—Boots and shoes. 251

Fancy Goods, Medical Appliances, Harness, Leather.

- 126 Sertorio & Pinho.—Kid gloves. 251
 127 Viguier, H.—Shoes. 251
 128 Moraes, J. C. de.—Silk hats. 251
 129 Fluminense Institute of Agriculture.
 a Hats made of the Bombonacea fibre. 251
 b Cigar cases made of the same. 254
 130 Valentin, M. J.—Jewelry. 252
 131 Resse, jr., Victor, & Bros.—Decorations. 252
 132 Natté, Miss.—Fancy objects made of feathers, as fans, coiffures, etc. 254
 133 Province of Amazonas.—Wreath of feathers. 254
 134 Lima, C. A. de, & Calarana, J. M. de.—Artificial flowers. 254
 135 Braga, A. J. F.—Feather articles. 254
 136 Cavalcanti, J. S. H.—Umbrella, with secret spring. 254
 137 Henke Bros.—Walking-canes. 254
 138 Leme, D. R. Paes.—Leather walking-canes. 254
 139 Rocha, J. P. da.—Buttons, earrings, and watch chain made of cocoa. 254
 140 Ferreira, L. Gomes.—Walking-canes. 254
 141 Barros, A. A.—Walking-canes. 254
 142 Bastos, José Xavier.—Carved walking-cane. 254
 143 Costa, J. F. da.—Pictures made of mosses and insects. 254
 144 Reis, H. F. dos.—Walking-cane. 254
 145 Province of Rio Grande do Norte.—Jewelry boxes of wood and tortoise-shell. 254
 146 Province of Maranhao.—Drinking-cups of wood. 254
 147 Silva, F. J. X. da.—Chalices and cups of sassafras. 254
 148 Sabut, George.—Objects made from pine-tree knots. 254
- Paper, Blank Books, Stationery.**
- 149 Leusinger Sons.—Blank books and specimens of binding. 261
 150 Seckler, J.—Specimens of ruling and binding. 261
- Medicine, Surgery, and Prothesis.**
- 151 Garrid, J. F. da Silva.—Druggist's scales. 274
 152 Merino & Co.—Surgical instruments. 276
 153 Costa, jr, M. F. da.—Artificial teeth. 277
 154 Faria, J. Bento da.—Artificial teeth. 277
- 155 Diniz, J. Borges.—Artificial teeth. 277
- Hardware, Edge Tools, Cutlery, etc.**
- 156 Commission-General for the National Exhibitions.—Knives, daggers, and other implements. 281
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 157 Commission-General for the National Exhibitions.
 a Brooms, brushes, etc. 286
 b Cordage. 287
 158 Almeida, A. R. de.—Cordage. 287
 159 Andrade, J. Neves.—Baskets. 289
 160 Mello, G. C. de.—Wooden urn. 289
- Carriages, Vehicles, Harness, and Accessories.**
- 161 Commission-General for the National Exhibitions.—Harness and saddle. 296
 162 Guimaraes, A. A. A.—Lady's saddle. 296
 163 Maylasky, S.—Scrigotis (a leather girth). 296
 164 Lima, F. Gomes dos Santos.—Girths. 296
 165 Cahy, Baron of.—Leather reins and bridles. 296
 166 Cranz, Joao, & Pinto.—Harness and horse collar. 296
 167 Schmitt, Nicolau, & Co.—Complete set of harness. 296
 168 Guimaraes, T. T. A.—Saddles. 296
 169 Coullant, Aimé.—Horse collars. 296
 170 House of Correction of San Paulo.—Bridles, reins, and harness. 296
 171 Almeida, A. L.—Leather reins. 296
 172 Moraes, T. C.—Saddle. 296
 173 Barros, J. de A.—Leather reins. 296
 174 Bierrengard, Waldemar.—Harness. 296
 175 Leao, A. E. de.—Whip. 296
 176 Barros, A. A., & Gaveao, B. A.—Whips. 296
 177 Freischlag, Frederico.—Harness. 296
- Animal and Vegetable Products.**
- 178 Klippel & Bro.—Hides and furs. 652
 179 Freischlag, F.—Patent leather. 652
 180 Costa, Eymael, & Co.—Tanned hides. 652
 181 Lima, F. G. S.—Tanned and sole leather. 652
 182 Richlin, Jacob.—Tanned and sole leather. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ARGENTINE REPUBLIC.

(South of Nave, Columns 2 to 5.)

Chemical Manufactures.

- Chemical Manufactures.**
- 1 Serravalle, Carlos, Province of Corrientes.—Chemical and pharmaceutical preparations. 200
- 1^a Cabrera, Mauro, Province of Buenos Ayres.—Horse medicine. 200
- 1^b Cardalda, Inocencio, Province of Buenos Ayres.
 a Iodoform and pepsin. 200
 b Glycerine. 201
- 2 Queirel, Joaquin, Province of Corrientes.—Depurative solution. 200
- 3 Táva, Carlos, Province of Corrientes.—Bitters, digestive pepsin wine, pectoral syrup. 200
- 4 Sub-Commission of Bella Vista, Province of Corrientes.—Salt extracted from clay; sample of clay. 200
- 5 Perez, A. G., Province of La Rioja.—Tonic. 200
- 6 Gelos, Martin, Province of La Rioja.—Mineral salt. 200
- 7 Provincial Commission, Province of La Rioja.—Salt and alum. 200
- 7^a Lagos, Joseph M., Province of Buenos Ayres.—Sheep wash. 200
- 7^b Torres, Ana Barton de, Province of Buenos Ayres.—Fumigating lozenges. 200
- 8 Provincial Commission, Province of Santiago del Estero.—Ashes for soap manufacturing. 200
- 9 Provincial Commission, Province of Salta.
 a Salt. 200
 b Soap. 201
- 10 Justice of the Peace of Bahía Blanca, Province of Buenos Ayres.—Salt. 200
- 11 Justice of the Peace of Patagones, Province of Buenos Ayres.—Salt. 200
- 11^a Rosquellas, Julian, Province of Santa Fé.—Medicines for animals. 200
- 12 Murga, N., Patagones, Province of Buenos Ayres.—Coarse salt. 200
- 12^a Mujica, Eleuterio, S., Province of Buenos Ayres.
 a Artificial guano from dried and boiled blood. 200
 b Soluble blood albumen for producing fast colors. 202
- 12^b Fablet, Beltran.—Preserved and soluble blood. 200
- 13 Provincial Commission, Province of Tucuman.
 a Sea salt. 200
 b Soap. 201
- 14 Commission of Andalgalá, Province of Catamarca.—Rock salt from Laguna Blanca. 200
- 15 Provincial Commission, Province of Catamarca.
 a Rock salt from Fiambalá, and saltpetre. 200
 b Soap. 201
- 16 Lafone-Quevedo, Samuel A., Province of Catamarca.
 a Ashes of Cachi Yuyo for the production of carbonate of soda; carbonate of soda. 200
 b Soap. 201
- 17 Provincial Commission, Province of Jujui.—Salt. 200
- 18 Escobar, Juan D., Province of San Luis.—Salt. 200
- 19 Terramola, Delfin, Province of San Juan.—Salt from the mines of Leoncito. 200
- 20 Jones, Fabian, Province of San Juan.—Ashes for manufacturing soap. 200
- 21 Vidal, M. A., Province of San Juan.—Ashes for manufacturing soap. 200
- 22 Bruna, Estevan, Province of San Juan.—Ashes for manufacturing soap. 200
- 23 Puertas, Lorenzo, Province of San Luis.—Cholera medicine. 200
- 24 Escrich, Pedro, Province of Buenos Ayres.—Peanut oil. 201
- 26 Piñeiro, Aurelio, Province of Buenos Ayres.—Soap. 201
- 27 Lanieri, Miguel, Province of Entre-Ríos.—Soap. 201
- 28 Iglesias, José, Province of Entre-Ríos.—Soap. 201
- 32 Provincial Commission, Province of Córdoba.—Balsamic oil. 201
- 33 Carmen, T. Dávila, Province of La Rioja.—Olive oil. 201
- 34 Alric, Antonio, Province of San Luis.—Soap. 201
- 34^a Bergaré, Dr, Province of Santa Fé.—Peanut oil. 200
- 35 Billar, Salvador, Province of Jujui.—Petroleum. 201
- 36 Julien & Son, Province of Buenos Ayres.—Dyed stuff fabrics. 202
- 37 Prat, Adrian, Province of Buenos Ayres.—Dyed wool. 202
- 38 Doucet, Emilio, Province of Buenos Ayres.—Writing fluids. 202
- 39^a Muro, Antonio, Province of Buenos Ayres.—Inks. 202
- 40 Herrera, Melchora, Province of Catamarca.—Cochineal. 202

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Ceramics, Furniture, Woven Goods.

- 42 Nolte, Ernesto, Province of Buenos Ayres.—Tooth powder. 203
- 42^a Corneja, Melchora T. de, Province of Salta.—Zarza water. 203
- Ceramics—Pottery, Porcelain, Glass, etc.**
- 43 Pedruncini, Juan, Province of Buenos Ayres.—Burnt bricks. 206
- 44 Valdes, Emiliano, & Cipriano, Province of Buenos Ayres.—Burnt brick from Balcarce; brick made of black clay. 206
- 45 Fauvety & De Ville Massot, Province of Buenos Ayres.—Bricks. 206
- 46 Sub-Commission of the Department of Victoria, Province of Entre-Rios.—Architectural pottery. 206
- 47 Tudicar, H., & Co., Province of Entre-Rios.—Bricks made in Gualeguaychí. 206
- 48 Commission of the Department of Paraná, Province of Entre-Rios.—Tiles and bricks made in Victoria. 206
- 49 Provincial Commission, Province of Córdoba.
- a* Tiles of burnt clay, of San Vicente Factory. 206
- b* Flower pots, jars, stew pans, and dishes. 207
- c* Cup, jug, etc. 213
- 50 Grunes & Co., Chaco-Argentine Territory.—Bricks. 206
- 51 Cervera & Co., Province of Santa Fé.—Tiles and bricks. 206
- 51^a Provincial Commission, Province of Tucuman.—Bricks and tiles. 206
- 53 Echevarria, Cecilio, Province of Santa Fé.—Pitchers made by Indians. 210
- 54 Provincial Commission, Province of Salta.—Pans and plates. 213
- 55 Provincial Commission, Province of San Luis.—Crockery. 213
- 56 Alegre, Juan, Province of Corrientes.—Italian earthenware. 213
- 57 Provincial Commission, Province of Corrientes.—Crockery. 213
- 58 Pini & Co., Province of Buenos Ayres.—Glass cruet stand. 216
- Furniture, and Objects of General Use in Construction and in Dwellings.**
- 50 Provincial Commission, Province of Córdoba.
- a* Tables of cocconut and carrob-tree wood. 217
- b* Wooden cups, silver pitchers. 218
- 62 Gimenez, Luis, Province of Buenos Ayres.—Combined writing-desk, wash-stand, etc. 217
- 63 Galeano, Salvador, Province of Buenos Ayres.—Venetian blinds. 217
- 64 Molinari, Joaquin, Province of Buenos Ayres.—Carved arm chair. 217
- 65 Provincial Commission, Province of Catamarca.—Cups made of Retamo wood, silver drinking-tubes. 218
- 67 Ladies' Commission, Province of San Luis.—Plain and carved cups. 218
- 68 Provincial Commission, Province of Tucuman.—Cebil wood cups. 218
- 69 Güemes, Domingo, Province of Salta.—Cup of palo santo wood. 218
- 70 Provincial Commission, Province of Salta.—Goblets and cup of palo santo wood. 218
- 71 Azzimonte, Luis, Province of Buenos Ayres.—Silver drinking-cup and tube. 218
- 71^a Martinez, Antonio Souza, Province of Salta.—Stone cup. 218
- 72 Escobar, Juan D., Province of San Luis.
- a* Wooden dish and soup ladle. 224
- b* Wooden washing-tub. 225
- Yarns and Woven Goods of Vegetable or Mineral Materials.**
- 74 Provincial Commission, Province of Mendoza.—Mat made by prisoners in the penitentiary. 229
- 75 Benevolent Society, Province of Buenos Ayres.—Hemp mat. 229
- 76 Provincial Commission, Province of Corrientes.—Cotton counterpanes; spun cotton. 230
- 77 Sotomayor, Pretrona, Province of Corrientes.—Cotton counterpane. 230
- 78 Mantilla, Concepcion, Province of Corrientes.—Cotton counterpane; spun cotton fabrics. 230
- 79 Sub-Commission of Bella Vista, Province of Corrientes.—Cotton thread. 230
- 80 Llanos, Jorge R. de, Province of Salta.—Poncho, a national garment. 230
- 81 Provincial Commission, Province of Salta.—Embroidered towel. 230
- 82 Zorilla, Benjamin, Province of Salta.—Hammock; poncho, a national garment. 230
- 83 Provincial Commission, Province of La Rioja.—Cotton shawl, table cloth, and carpet. 230
- 84 Provincial Commission, Province of Catamarca.—Cotton napkins and table cloth. 230
- 85 Ponce, Delfina, Province of Catamarca.—Table cloth. 230
- 86 Government of the Province of Catamarca.—Cotton table cloth, napkins, handkerchief, and counterpane. 230
- 86^a Burgos, Josefa, Province of Catamarca.—Table cloth. 230
- 87 Echevarria, Cecilio, Province of Santa Fé.—White cotton from the Province of Corrientes. 230
- 88 Silva, Florentino, Province of Corrientes.—Cotton from Gayasta. 230
- 89 Commission of the Province of Santiago del Estero.—Cotton counterpane. 230
- 90 Provincial Commission, Province of Tucuman.—Poncho, a national garment. 230
- 91 Commission of the Province of Córdoba.—White counterpanes. 230
- 92 Roibon, Federico, Province of Corrientes.—Fabric made by Indians from a native plant. 233
- 93 Benevolent Society of the Paraná, Province of Entre-Rios.—Spun cotton and napkins. 233
- 94 Carreras, Rosaura C. de, Province of Mendoza.—Table mat. 233

Woven and Felted Goods, Clothing.

- 95 Provincial Commission, Province of Salta.—Cuirass made of chaguar grass. 233
- Woven and Felted Goods of Wool, etc.**
- 96 Provincial Commission, Province of Salta.
a Woolen fabrics, saddle bags, cloth, etc. 235
b Vicuña cloak. 240
- 97 Provincial Commission, Province of Jujui.
a Woolen fabrics, ropes and slings, saddle bags. 235
b Blanket. 237
- 98 Palacios, Prudencio, Province of Salta.—Woolen fabrics. 235
- 99 Diaz, Julia, Province of Catamarca.—Dyed woolen counterpane. 235
- 100 Lafone Quevedo, Samuel A., Province of Catamarca.
a Dyed poncho. 235
b Vicuña cloak, without seam, handkerchief and garment. 240
- 101 Carranza, Adolfo E., Province of Catamarca.—Woolen counterpane. 235
- 102 Government of the Province of Catamarca.
a Woolen articles. 235
b Vicuña blankets. 237
c Vicuña scarf, cloak, handkerchief, and quilt. 240
- 103 Provincial Commission, Province of Tucuman.
a Manufactures of wool. 235
b Vicuña cloak. 240
- 104 Provincial Commission, Province of Corrientes.—Yarns and woolen goods. 235
- 104*a* Devotee, A., Province of Buenos Ayres.—Ponchos, saddle cloth, and garters. 235
- 104*b* Campos, Julio, Province of Buenos Ayres.—Pampa girdle. 235
- 105 Sub-Commission of Bella Vista, Province of Corrientes.—Dyed woolen yarns. 235
- 106 Commission of the Province of Córdoba.
a Woolen yarns and fabrics. 235
b Tulumba blankets. 237
c Carpets. 239
d Vicuña counterpane. 240
- 107 Industrial Society of Rio de la Plata, Province of Buenos Ayres.—Cloth. 235
- 108 Provincial Commission, Province of Buenos Ayres.—Fabrics made by the Pampas Indians. 235
- 109 Provincial Commission, Province of Santiago del Estero.—Woolen counterpanes. 237
- 110 Provincial Commission, Province of San Luis.—Woolen mattress, saddle bags, quilt, blanket. 237
- 111 Provincial Commission, Province of La Rioja.
a Quilt, boa, etc. 237
b Vicuña cloak and shawl. 240
- 112 Provincial Commission, Province of San Juan.
a Woolen cloaks, blankets. 237
b Vicuña cloak and shawl. 240
- 114 Bustamente, Abdon, Province of Córdoba.—Blanket. 237
- 120 Carreras, Rosaura C. de, Province of Mendoza.—Ladies' head-dress, collars, bracelets, and gloves made of bristles. 240
- 121 Franco, Luis A., Province of Catamarca.—Vicuña cloak. 240
- 123 Schikendantz, Maria, Province of Catamarca.—Vicuña quilt. 240
- 125 Ocampo, Vicente, Province of Catamarca.—Vicuña shawl and coverlet. 240
- Clothing, Jewelry, and Ornaments; Traveling Equipments.**
- 138 Muntaner & Bermudéz, Province of Buenos Ayres.—Shirts. 250
- 139 Donato, Fortunato, Province of Buenos Ayres.—Child's suit. 250
- 140 Videla, Juan, Province of Buenos Ayres.—Leggings worn by the Argentine army. 250
- 141 Madueño, Jova, Province of Catamarca.—Vicuña handkerchief, neckties gloves, etc. 257
- 142 Buasso, Lorenzo, Province of Buenos Ayres.—Boots and shoes made of domestic material. 251
- 142*a* Carneiro, Serafin A., Province of Buenos Ayres.—Vicuña hats. 251
- 143 Rodriguez & Sangronis, Province of Buenos Ayres.—Boots. 251
- 144 Buffetti & Maya, Province of Buenos Ayres.—Hats. 251
- 145 Heully, Marie, Province of Buenos Ayres.—Bonnets. 251
- 146 Valdes, Emiliano & Cipriano, Province of Buenos Ayres.—Boots. 251
- 146*a* Tramon, T., Province of Santa Fé.—Boots. 251
- 147 Provincial Commission, Province of Tucuman.
a Boots and shoes; hats. 251
b Towels, tuckers for chemises. 252
- 148 Provincial Commission, Province of Corrientes.
a Palm-leaf hats. 251
b Embroideries, laces, trimmings, etc. 252
- 149 Nicolas, Francisco, Province of Corrientes.—Boots made of snake skin. 251
- 150 Provincial Commission, Province of Córdoba.
a Shoes and kid boots. 251
b Embroidered saddle bags, tuckers, towels, pillow case, and insertions. 252
c Ostrich feather dusters, silver tinder box. 254
- 151 Machado, Ruben, Province of Catamarca.—Aibé straw hat. 251
- 152 Provincial Commission, Province of San Juan.—Wool hats. 251
- 153 Boulet, Lewis, & Isodoro Ibarre, Province of Santa Fé.—Fur hats. 251
- 154 Barelli, Francisco, & Son, Province of Santa Fé.—Boots. 251
- 155 Treolar, Guillermo A., Province of La Rioja.—Shoes worn by Argentine miners. 251

Clothing and Fancy Articles.

- 156 Provincial Commission, Province of Salta.
a Boots, gaiters, cloth for hats, and Vicuña wool hats. 251
b Embroidered North American flags. 252
c Ostrich feather dusters. 254
d Leather bags. 255
- 157 Provincial Commission, Province of Jujui.
a Wool hats. 251
b Leather traveling bag. 255
- 158 Provincial Commission, Province of San Luis.
a Straw hats. 251
b Laces, embroidered underwear, church carpet, and other needle work. 252
- 160 Cabral, Juana T., Province of Corrientes.—Embroidered tidies, doylies. 252
- 161 Silva, Mercedes, Province of Corrientes.—Embroidered cloth, napkins, handkerchiefs, and chemises. 252
- 162 Pampin, Carmen, Province of Corrientes.—Embroidered cloth. 252
- 163 Colodrero, M. Cabral de, Province of Corrientes.—Crochet tray cloth, table cloth. 252
- 164 Lagraña, Sinfarosa, Province of Corrientes.—Embroidered shawls. 252
- 165 Torrent, Eloiza G. de, Province of Corrientes.—Embroidered chemise and handkerchief. 252
- 166 Anzotegui, Escolastica S. de, Province of Corrientes.—Embroidered towel. 252
- 167 Pujol, Leonor, Province of Corrientes.—Embroidered chemises and towels. 252
- 168 Parras, Angela E. de, Province of Corrientes.—Embroidered cloth. 252
- 169 Mantilla, Pilar, Province of Corrientes.—Embroidered shirts. 252
- 170 Mantilla, Francisca, Province of Corrientes.—Embroidered shirts. 252
- 171 Enríguez, Anastasia Gonzalez de, Province of Corrientes.—Embroidered quilt. 252
- 172 Perichon, Telesfora, Province of Corrientes.—Embroidered fabric. 252
- 173 Mantilla, Concepcion, Province of Corrientes.—Shawls, thread lace table covers. 252
- 174 General Ferré's Widow, Province of Corrientes.—Embroidered cotton shirts. 252
- 175 Arguello, Esequiel, Province of Córdoba.—Feather mats. 252
- 181 Provincial Commission, Province of Catamarca.
a Crotchet quilt and towels. 252
b Raw hide trunks. 255
- 182 Avellaneda, Nicomedes, Province of Catamarca.—Embroidered towel. 252
- 183 Caballi, Cristobal, Province of San Juan.—Chasuble embroidered in colors. 252
- 184 Klappenbach, Sofia de, Province of San Juan.—Embroidered handkerchief. 252
- 185 Tello, Juana, Province of San Juan.—Embroidered handkerchief. 252
- 186 Provincial Commission, Province of Santa Fé.—Embroidered towel. 252
- 188 Provincial Commission, Province of La Rioja.
a Crochet and lace work, ornamental watch cases, embroidered tuckers, pillow cases, and napkins. 252
b Hair watch chain, screen. 254
- 189*a* Lillo, Tomasa, Province of Tucuman.—Towels and tuckers, for chemises. 252
- 189*b* Santillan, J. C., Province of Tucuman.—Cuffs. 252
- 190 Commission of the Chaco Argentine Territory.—Embroidered cloth. 252
- 191 Provincial Commission, Province of Santiago del Estero.—Embroidered counterpanes, netted towels, linen towels, and tuckers. 252
- 191*a* Irygoyen, Carmen O. de, Province of Salta.—Worked mat. 252
- 193 Bustos, Mariano, Province of San Luis.—Religious pictures embroidered in silk. 252
- 194 Videla, Rosa, Province of San Luis.—Embroidered paper case. 252
- 195 Public School of "Las Conchas," Province of Buenos Ayres.—Embroidered pillow and child's shirt, made by the scholars. 252
- 196 Gimenez, José, Province of Buenos Ayres.—Silk sash, with the Argentine and American colors. 252
- 197 Balugera, Angela, Province of Entre-Rios.—Gold and silk embroidered writing-case. 252
- 197*a* Simon Bros., Province of Buenos Ayres.—Embroidered picture. 252
- 198 Balugera, Elena, Province of Entre-Rios.—Embroidered velvet pillow. 252
- 199 Benevolent Society of Paraná, Province of Entre-Rios.—Crochet counterpane; tucker; embroidered handkerchief. 252
- 200 Etcheveherre, G., Province of Entre-Rios.—Embroidered handkerchief, dedicated to the President of the United States. 252
- 202 Clarke, Roberto, Province of San Luis.—Silver rings made by the Indians. 253
- 203 Grande, Rosario, Province of Buenos Ayres.—Gold necklace and medallion, representing the fourteen Argentine Provinces. 253
- 204 Lopez, Feliciano.—Cocoon rings made of Mabocaya palm, by the Indians. 253
- 205 Pujol, Leonor, Province of Corrientes.—Flower made of hair. 254
- 205*a* Alegree, John, Province of Corrientes.—Work box. 254
- 206 Gonzalez, Damiana, Province of Corrientes.—Artificial flower wreath. 254
- 206*a* Webster, Stephen, Province of Córdoba.—Tippet made of feathers. 254
- 207 Etchevehère, Irene, Province of Entre-Rios.—Artificial flowers. 254
- 207*a* Colodrero y Pedra, Maria del Transito, Province of Corrientes.—Jatay palm, made of hair. 254
- 207*b* Goyena, Juana Z. de, Province of Buenos Ayres.—Hair flowers. 254

Fancy Goods, Stationery, Medicines, Harness.

- 207^c Mullan, Ciriaca de la Elguera, Province of Buenos Ayres.—Hair flowers. 254
 208 Bourgeois, N., Province of Buenos Ayres.—Hair picture. 254
 210^a Robion, Julian, Province of Buenos Ayres.—Hair flowers. 254
 211 Ferrer, Eleucadia, Province of Córdoba.—Flowers made of seeds. 254
 212 Sub-Commission of Andalgalá, Province of Catamarca.—Artificial flowers. 254
 213 Guntsche, J., & Schröder, Province of Buenos Ayres.—Trunks. 255
 214 Mattaldi, Eugenio, Province of Buenos Ayres.—Trunk which can be transformed into a sofa, with writing-desk, etc. 255
 215 Grest, M., & Co., Province of Santa Fé.—Trunk. 255

Paper, Blank Books, and Stationery.

- 216 Benelische, Federico, Province of Buenos Ayres.—Blank books, diaries, and bindings. 261
 217 Piqueras, Cuspinera, & Co., Province of Buenos Ayres.—Books bound by hand. 261

Medicine, Surgery, Prothesis.

- 232 Provincial Commission, Province of Catamarca.—Medicinal herbs. 272
 233 Provincial Commission & D. Abraham Lemos, Province of Mendoza.—Herbarium of the official flora of the province. 272
 234 Roman, Medardo, Province of Mendoza.—Wild fennel. 272
 235 Provincial Commission, Province of San Luis.—Medicinal herbs. 272
 236 Molina, Angela, Province of Catamarca.—Sudorific and digestive substances; cedron de puna, for affections of the lungs. 272
 237 Iturbe, Fidel, Province of Catamarca.—Pharmaceutical preparations. 272
 238 Castelo, Guadalupe, Province of Catamarca.—Medicinal herbs and plants. 272
 239 Hurlley, Tomas, Province of Catamarca.—Medicinal herbs. 272
 240 Lafone Quevedo, Samuel A., Province of Catamarca.—Medicinal herbs. 272
 241 Würffbain, Gustavo, & the Provincial Commission, Province of La Rioja.—Herbarium composed of herbs and medicinal plants. 272
 241^a Schickendantz, Frederick, Province of Catamarca.—Medicinal herbs. 272
 242 Gonzalez, Joaquin, Province of La Rioja.—Medicinal plants and herbs. 272
 243 Gelos, Martin, Province of La Rioja.—Spurge, from which castor oil is extracted. 272
 245 Justice of the Peace of Ensenada, Province of Buenos Ayres.—Sarsaparilla, etc. 272
 247 Valdez, E. & C., Province of Buenos Ayres.—Chamomile, borage, sponge, sarsaparilla, sage, etc. 272

- 248 Gonzales, Juan, Province of Buenos Ayres.—Medicinal herbs. 272
 249 Iñiguez, Dalmira, Province of Buenos Ayres.—Medicinal herbs. 272
 250 Provincial Commission, Province of Buenos Ayres.—Medicinal herbs. 272
 250^a Oliden, Tomas, Province of Buenos Ayres.—Medicinal herbs. 272
 250^b Gache, Manuel, Province of Buenos Ayres.—Tè pampa. 272
 251 Ferrer, Vicente, Province of Corrientes.—Medicinal herbs. 272
 252 Roibon, Enrique, Province of Corrientes.—Herbarium. 272
 253 Sub-Commission of Bella Vista, Province of Corrientes.—Tartago seed, chamico, etc. 272
 255 Provincial Commission, & Sola, Juan, Province of Salta.—Medicinal herbs. 272
 256 Provincial Commission, Province of Córdoba.—Medicinal herbs and plants. 272
 257 Fontes, Vicente Martinez, Province of Entre-Rios.—Medicinal herbs. 272
 259 Berdie, M., Province of Entre-Rios.—Medicinal water. 272
 260 Commission of Paraná, Province of Entre-Rios.—Berros waters and medicinal herbs. 272
 261 Rodriguez, Victor, Province of San Juan.—Saffron, flax seed. 272
 263 Rodriguez, Severo, Province of San Juan.—Mustard. 272
 266 Poblete, Tiburcio, Province of San Juan.—Medicinal seeds, herbs, and plants. 272
 267 Provincial Commission, Province of Santiago del Estero.—Medicinal herbs. 272
 268 Lacour, Guillermo, Province of Buenos Ayres.—Orthopedic apparatus. 276
 269 Newbery, Rodolfo, Province of Buenos Ayres.—Artificial teeth. 277

Fabrics of Vegetable, Animal, or Mineral Materials.

- 271 Provincial Commission, Province of Salta.—Brooms from Totora. 286

Carriages, Vehicles, and Accessories.

- 272 Balvidares, Victorino, Province of Buenos Ayres.—Horse-hair whip. 296
 273 Peñalva, Benito, Province of Buenos Ayres.—Horse belt. 296
 274 Videla, Juan, Province of Buenos Ayres.—Harness. 296
 275 Provincial Commission, Province of Buenos Ayres.—Silver spurs. 296
 276 Guntsche, J., & Schröder, Province of Buenos Ayres.—Saddles. 296
 276^a Valdes, Honorio, Province of Buenos Ayres.—Plaited lasso. 296
 277 Mattaldi, Eugenio, Province of Buenos Ayres.—Saddles and harness. 296
 278 Provincial Commission, Province of San Juan.—Saddlery and harness. 296

Harness, Ornaments.

- | | |
|---|--|
| <p>279 Tirapegui, Ramon, Province of San Juan.—Mexican saddle, stirrups, bridles, etc. 296</p> <p>280 Rodriguez, Victor, Province of San Juan.—Harness and stirrups. 296</p> <p>281 Rodriguez, Severo, Province of San Juan.—Spurs and horse cloth. 296</p> <p>282 Crest, M., & Co., Province of Santa Fé.—Pack saddle used by the army, leather girth, etc. 296</p> <p>283 Provincial Commission, Province of Santa Fé.—Horse cloths, tapir leather reins and surcingle. 296</p> <p>284 Provincial Commission, Province of Tucuman.—Leather caparisons, saddlery, lassoes, etc. 296</p> <p>285 Provincial Commission, Province of Cordoba.—Harness, saddlery, horse cloth, etc. 296</p> <p>286 Provincial Commission, Province of San Luis.—Bristle horse cloth, ostrich feather and other caparisons. 296</p> | <p>287 Escobar, Juan de D., Province of San Luis.—Stirrups, braided shackles, girth, and reins. 296</p> <p>288 Sosa, Rafael, Province of San Luis.—Ostrich feather caparison. 296</p> <p>289 Provincial Commission, Province of Salta.—Pack-saddle, girth, straps, head stall, tapir leather reins, caparisons, lassos, etc. 296</p> <p>290 Provincial Commission, Province of Catamarca.—Vizacha leather caparison, and braided lasso. 296</p> <p>291 Andalgala Commission, Province of Catamarca.—Horse cloth, harness, girths, reins, bridles, etc. 296</p> <p>292 Gigena, Justiniano, Province of Catamarca.—Horse cloth. 296</p> <p>293 Gonzalez, Daniel, Province of Mendoza.—Horse cloths. 296</p> <p>295 Provincial Commission, Province of Jujui.—Tapir leather reins, bridle, etc. 296</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

CHILI.

(South of Nave, Columns 3 to 5.)

COLLECTIVE EXHIBIT.

Manufactures, Education and Science, Art.

Chemical Manufactures.

1 Salcedo, L., Bogota, Columbia.—
Oil of wood, for medicinal purposes. 2012 Campora Brothers, Department of
Santiago, Province of Santiago.—Olive
oil. 2013 Celedonia, Diaz de la Vega, Valpa-
raiso.—Perfumes, etc. 203Ceramics—Pottery, Porcelain, Glass,
etc.4 Escudero, R., Santiago.—Samples
of enameled tiles for flooring. 208Furniture and Objects of General Use
in Construction and in Dwellings.5 Dell, Aquila A., Santiago.—Ala-
baster table tops. 217

Woven and Felted Goods of Wool, etc.

6 School for Poor Girls, Molina, De-
partment of Lontue.—Assorted worsteds. 238Clothing, Jewelry, Ornaments, and
Traveling Equipments.7 School for Poor Girls, Molina, De-
partment of Lontue.

a Knitted spread and afghan. 250

b Sofa pillows of satin and lace; hand-made
lace, crochet and lace tidies, bed covers,
embroidered tapestry rug, and silk para-
sol embroidered with tatting. 2528 Astudillo, J. M., Santiago.—Leather
and silk boots and shoes. 2519 Monastery, of the Good Shepherd,
Santiago.—Embroidered handkerchief. 25210 Cadiz, José, Gabriel, Santiago.—
Gypsum ornaments. 25411 Schrebler, Federico, Santiago.—
Card baskets. 254

Paper, Blank Books, Stationery.

12 Shrebler, Federico, Santiago.—
Blank books; samples of printing, lith-
ography, and binding. 26113 "Mercurio" Printing & Binding
Office.—Specimens of printing and bind-
ing. 261

Medicine, Surgery, Prothesis.

14 Celedonia, Diaz de la Vega, Valpa-
raiso.—"Wine of life," medicinal. 272Fabrics of Vegetable, Animal, or
Mineral Materials.15 Waddington, Wm., Department of
Limache, Province of Valparaiso.—Straw,
brooms, and brushes. 28616 Osthaus, Luis, Department of Li-
mache, Province of Valparaiso.—Rope
and cordage. 28717 Reich, Federico, Santiago.—Rope
and wire cordage. 287Educational Systems, Methods, and
Libraries.18 Gonzalez, Ugalde, Carlos.—Educa-
tional reports. 30419 Chili, Government of, Statistics Bu-
reau, Valparaiso.—Statistics of Chili. 30520 Séve, Edouard, Santiago.—Periodi-
cal publications of Chili, and "Chili as
it is." 30621 Chaigneau, Julie, Valparaiso.—
Newspapers. 30622 Lefèvre, R., Valparaiso.—Works on
agriculture. 30623 Hydrographic Office, Valparaiso.—
Various publications. 30624 Villaroel, A., Santiago.—Various
publications. 30625 Latrop, E., Valparaiso.—Various
publications. 30626 Lastarria, Victorine, Santiago.—
Various publications. 30627 "Mercurio" Printing Office, Valpa-
raiso.—Various publications. 30628 Tarnero, S., Valparaiso.—"Chili Il-
lustrated." 306Scientific and Philosophical Instru-
ments and Methods.29 Galapé, J. M. L., Andes.—Model of
telegraph machine. 326Engineering, Architecture, Maps,
etc.30 Chili, Government of.—Map of Chili;
plans of bridges and public buildings. 335

Sculpture.

31 Plaza, Nicanor.—Gypsum bust, two
bronze medallions, and one bronze
statue. 400

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Art, Machinery, Agricultural, Animal, Vegetable Products.

- 32 Bravo, Simon, Santiago.—One crucifix, carved in wood. 405
Engraving and Lithography.
- 33 Balbè, Juan C., Santiago.—Pen drawing. 420
Ceramic Decorations, Mosaics, etc.
- 34 Dell, Aquila A., Santiago.—Black marble table tops, inlaid with mosaic. 450
- 35 Dee, José, Antonio, Valparaiso.—Wood mosaic. 452
Machines, Tools, etc., of Mining, Chemistry, etc.
- 36 Chili, Government of.—Working model of gold and silver amalgamating machine. 506
Machines and Implements of Spinning, Weaving, and Paper-making.
- 37 School for Poor Girls of Molina, Department of Lontue.—Weaving frame for cotton. 521
Arboriculture and Forest Products.
- 38 National Society of Agriculture, Santiago.
a Building woods of Chili. 600
b Ornamental woods of Chili. 601
- 39 Billerlich, Juan, Ancud.—Varnished woods. 601
- 40 Lontue, Department of.—Samples of wood. 60x
Agricultural Products.
- 41 National Society of Agriculture Santiago.
a Medicinal herbs of Chili 621
b Seeds. 624
- 42 Enrique, Clasen, & Co.—Cigars, cigarettes, smoking and leaf tobacco. 623
- 43 Cox, W. O.—Cut tobacco. 622
- 44 Waterhouse, Thomas, Santiago.—Hops. 623
- 45 Pretta, Pedro, Santiago.—Seeds separated by machinery. 624
Land Animals
- 46 Soto, O. & M., Canquenes.
a Stuffed heimuel. 633
b Stuffed condor 635
c Stuffed puma 637
Water Animals, Fish Culture and Apparatus.
- 47 Sciacaluga & Co., Calbuco.
a Preserved fish. 641
b Preserved shell fish. 643
Animal and Vegetable Products.
- 48 Valenzuela, P. N., Rengo.—Leather, tanned and varnished. 652
- 49 Wollé, A., & C., Tome.—Glue. 652
- 50 Day, J. M., Colchagua.—Wax. 654
- 51 National Society of Agriculture, Santiago.—Wax. 654
- 52 Escheverría, J. R., Guillota.—Wax. 654
- 53 Gallo, A. M., Caupolican.—Wax. 654
- 54 Dupuch, B., Limache.
a Preserved fruits, marmalades, etc. 656
b Claret. 660
- 55 Pretta, Pedro, Santiago.—Extract of coffee. 656
- 56 Velazco, J. J., Mill Santiago.—Flour and bran. 657
- 57 Zapata, L., Department of Quillota, Province of Valparaiso.—Starch. 658
- 58 Donis, Felipe, Department & Province of Santiago.—Fruit syrup and lemonades. 659
- 59 Urnieneta, José Tomas de, Department of Limache, Province of Valparaiso.—Claret and sauterne wines. 660
- 60 Montane, R., Department of Limache, Province of Valparaiso.—Claret. 660
- 62 Campora Bros., Department of Santiago, Province of Santiago.—Wines and cider. 660
- 63 Ochagavia, Silvestre, Department of Santiago, Province of Santiago.—Claret and sauterne. 660
- 64 Infante, Manuel, Department of San Felipe, Province of Aconcagua.—Whisky, cider, and wine. 660
- 65 Rusque, Juan, Department of Quillota, Province of Valparaiso.—Claret. 660
- 66 Salva, de Pelle, Margarita, Department of Quillota, Province of Valparaiso.—Claret. 660
- 67 Zapata, L., Department of Quillota, Province of Valparaiso.—Whisky and claret. 660
- 68 Meneses, N., Department of Quillota, Province of Valparaiso.—Claret. 660
- 69 Rogers, Salamanca F., & Co., Department of Victoria, Province of Santiago.—Claret and sauterne. 660
- 70 Ovalle, D. & E., Department of Victoria, Province of Santiago.—Claret and sauterne. 660
- 71 Vargas, Blas, Department of Victoria, Province of Santiago.—Claret and sauterne. 660
- 72 Paulsen, J., Department of Chillan, Province of Chillan.—Claret, white, and port wine. 660
- 73 Gallo, Department of Copiapo, Province of Alacama.—Madeira wine. 660
- 74 Riquieri & Co., Department of Valparaiso, Province of Valparaiso.—Brandy, curaçoa, and fancy liquors. 660
- 75 Serrano, H., Department of Concepcion, Province of Concepcion.—Claret and red wine. 660
- 76 Perez, Juan José, Department of Casablanca, Province of Valparaiso.—Whisky and claret. 660
- 77 Plageman & Co., Valparaiso.—Beer, ale, and lager beer. 660
- 78 Codelia, Juan, Santiago.—Vermicelli. 661
Textile Substances of Vegetable or Animal Origin.
- 79 Barros, Lauro, Santiago.—Wool. 667

PERU.

(South of South Avenue, Columns 2 to 5.)

COLLECTIVE EXHIBIT.

Minerals, Manufactures, Education, Art, Agriculture.

- Minerals, Ores, Stones, Mining Products.**
- 1 Special Commission to the Exposition from Lima.—Minerals of Peru. 100
- 2 Helguero, Genaro S., Puirá.
a Sulphur. 100
b Tar. 101
- 3 Davila é hyos, Maguegua.—Plans of Maguegua. 120
- Chemical Manufactures.**
- 4 Garces, Vicente, Puirá.—Soap. 201
- 5 Smith, Estéban G., Puirá.—Petroleum. 201
- 6 Prugue, E., Lima.—Oil, soap, candles. 201
- Furniture and Objects of General Use in Construction and in Dwellings.**
- 7 Penitentiary of Lima.—Wood work. 220
- Yarns and Woven Goods of Vegetable or Mineral Materials.**
- 8 Puirá, Department of.—Ponchas, towels, etc. 233
- Woven and Felted Goods of Wool, etc.**
- 9 Torre, Manuel Espirito la, Lima.—Vicuña texture. 238
- Silk and Silk Fabrics.**
- 10 Amazon, Department of the.—Vegetable silk. 244
- Clothing, Jewelry, and Ornaments; Traveling Equipments.**
- 11 Brambilla, Fortunato, Lima.—Shirts, cuffs, and collars. 250
- 12 Ayacucho, Department of.
a Clothing. 250
b Silver filigree work, etc. 254
- 13 Torre, Manuel Espirito la, Lima.—Gloves. 251
- 14 Navarro, Pedro, Catasos.—Straw hats. 251
- 15 Pinó, Manual, Lima.—Gloves. 250
- 16 Penitentiary of Lima.
a Shoes. 251
b Canes. 254
- 17 Manzanares, Josefa, Lima.—Embroideries. 252
- 18 House of Santa Rosa, Lima.—Embroideries. 252
- 19 House of Santa Teresa, Lima.—Artificial flowers. 254
- Paper, Blank Books, Stationery.**
- 20 Perez, Manuel, Trinidad.—Typographical specimens. 261
- Educational Systems, Methods, and Libraries.**
- 21 Bureau of Education, Lima.—Map of Peru. 300
- 22 Raimondi, Antonio.—Map of Peru. 300
- Institutions and Organizations.**
- 23 Hevvera, Antonio M., Lima.—Antiquities. 312
- 24 Cohille, Guillermo B., Lima.—Antiquities. 312
- Sculpture.**
- 25 Manual de la Vega, Juana.—“General Grant” (wire bust). 400
- 26 Barrenechea, Paulino, Lima.—Coat of arms of Peru (wood carving). 405
- Painting.**
- 27 Muniz, Ramon, Lima.—“La Chilena,” “The Peruvian Rabona” (oil paintings). 410
- Photography.**
- 28 Municipal School of Lima.—Photographs. 430
- Arboriculture and Forest Products.**
- 29 Ayacucho, Department of.—Woods from Huanta and La Mar. 600
- 30 Special Commission to the Exhibition.—Woods. 605
- Pomology.**
- 31 Ayacucho, Department of.—Nuts. 611
- 32 Valcarcel, Venancio, Moguega.—Olives. 611
- 33 Pisco, Province of.—Raisins. 611
- For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 27-45.

Agricultural, Animal, Vegetable Products.

- 34 Vico, Vicente, Moguega.—Olives. 611
- 35 Loreto, Department of.—Nuts. 611
- Agricultural Products.**
- 36 Society for the Increase of Peruvian Industry, Lima.—Grains. 620
- 37 La Libertad, Department of.—Grains from the Province of Ozuxco. 620
- 38 Loreto, Department of.
- a Beans. 621
- b Coffee. 623
- 40 Ayacucho, Department of.—Coffee and cocoa. 623
- 41 Amazon, Department of The.—Coffee and tobacco. 623
- 42 Goybura, J. B., San Pedro.—Coffee. 623
- 43 Pouehan, Antonio, & Co., Lima.—Cigars. 623
- 44 Special Commissioner to the Exposition from Lima.—Huanco coffee. 623
- 45 Puirá, Department of.—Cigars. 623
- 46 Botanical Garden of Lima.—Seeds. 624
- Animal and Vegetable Products.**
- 47 Segovia, Carolina, Challuanca.—Hides. 652
- 48 Ayacucho, Department of.—Skins. 652
- 49 Goybura, J. B., San Pedro.—Rice. 657
- 50 Solf, Alfred, & Co., Chiclayo.
- a Rice. 657
- b Sugar. 659
- c Alcohol. 660
- 51 Puirá, Department of.—Starch. 658
- 52 Laos, Mariano.—Sugars. 659
- 53 Laos, Domingo, Lima.—Sugar. 659
- 54 Swain, Enrique, Lima.
- a Sugar. 659
- b Rum and brandies. 660
- 55 Ward, M. Adrian, Tacna.—Wines and brandies. 660
- 56 Boza, José, Pisco.—Liquors, wines, and brandies. 660
- 57 Davila e higos, Lima.—Brandies. 660
- 58 Torre, Marianola, Lima.—Wines. 660
- 59 Palacios, Fernande, Lima.—Wines and brandies. 660
- 60 Pandoy, José Maria, Algosta.—Wines. 660
- 61 Society for the Improvement of Peruvian Industries, Lima.—Amazon bit-
ters, liquors. 660
- 62 Barrios, José P., Moquegua.—Brandy and liquors. 660
- 63 Cabello, Gregorio, Lima.—Liquors, wines, and brandies. 660
- 64 Barrios, Domingo, Moquegua.—Wines. 660
- 65 Barrios, Samuel, Moquegua.—Wines. 660
- 66 Dios de la Quintana, Juan de, Ica.—Liquors, wines, and brandies. 660
- 67 Barrios, José Maria.—Liquors, wines, and brandies. 660
- 68 Torre, Manuel Espirito la.—Liquor from Conocancha. 660
- 69 Salas & Terry, Lima.—Rum. 660
- 70 Soldan, Luis Paz, Lima.—Olive oil. 662
- 71 Ylo, Province of.—Olive oil. 662
- 72 Lerra, Manuel J., Puirá.—Castor oil. 662
- Textile Substances of Vegetable or Mineral Origin.**
- 73 Dios de la Quintana, Juan de, Ica.—Cotton. 665
- 74 Navvare, José Maria Cardenas, Ayacucho.—Huantra cotton. 665
- 75 Elias, D. & C., Lima.—Cotton. 665
- 76 Torre, Manuel Espirito la.—Wool. 667
- 77 Ayacucho, Department of.
- a Wool. 667
- b Silk. 668
- 78 Special Commissioner to the Exhibition.—Cocoons and silk. 668
- Agricultural Engineering and Administration.**
- 79 Peru, Government of.—Guano deposits from Lobos, Pabellon de Pica, and Guamillas. 621
- Ornamental Trees, Shrubs, and Flowers.**
- 80 Botanical Garden of Lima.—Plants. 701
- 81 Special Commissioner to the Exhibition.—Plants for silk worms. 704

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-47

MEXICO.

(South of Nave, Columns 64 to 67.)

COLLECTIVE EXHIBIT.

Chemicals, Ceramics, Furniture, Woven Goods, Clothing.

Chemicals.

- 1 Mier, Antonio, State of Jalisco.—Natural salts of sodium. 200
- 2 Hay, Guillermo, City of Mexico.—Salts of sodium, extracted from the lakes of the Valley of Mexico. 200
- 3 Rio de la Loza, Manuel, City of Mexico.—Salts of sodium. 200
- 4 State Government of Yucatan, Merida.—Salts of sodium. 200
- 5 State Government of Campeche.—Salts of sodium. 200
- 6 State Government of Mexico.—Salts of sodium. 200
- 7 Rio de la Loza, Maximino.—Chemical products. 200
- 8 Ligero, M., City of Puebla.—Stearine. 201
- 8a Hurtado, H.—White and red lead. 200

Ceramics—Pottery, Porcelain, Glass etc.

- 9 Casarir, Alexander, & Co., City of Mexico.
- a Indian vases. 206
- b Porcelain. 213
- 10 Guerrero, Ygnacia, Puebla City.—Bricks. 206
- 11 State Government of Morelos.—Indian vases. 206

Furniture and Objects of General Use in Construction and in Dwellings.

- 12 Garcia, Francisco, State of Oaxaca.—Chairs of Mexican reeds. 217
- 12a State Government of Hidalgo.—Mexican agave fibre manufactures. 229
- 12b State Government of Yucatan.—Hammocks, shawls, bags, and other objects, made of istle, or fibres, of the Mexican hereguen (agave of Yucatan). 229
- 13 Gomez, Poloma J., Guadalajara City.—Cotton yarns. 230
- 14 Rosario Hacienda, State of Coahuila.—Cotton goods. 230
- 15 Trapaga, Torriello, & Co., State of Oaxaca.—Yarns; cotton cloth. 230
- 16 Colima Workmen's Club.—Cotton goods for vestings, etc. 230
- 17 Bermejillo, Pio, City of Mexico.—Cotton goods. 230

- 18 Davila, Hoyas, Saltillo City.—Cotton goods. 230
- 19 El Labrador Factory, Saltillo City.—Cotton goods. 230
- 20 Aurora Factory, Saltillo City.—Cotton goods. 230
- 21 Comte, Manuel, City of Puebla.—Cotton goods. 230
- 22 Patriotismo Factory.—Cotton cloths. 230
- 23 Quijano, Alexandro.—Cotton goods. 230
- 24 La Beneficencia Factory.—Cotton goods. 230
- 25 Benites, D., City of Puebla.—Cotton goods. 230

Woven and Felted Goods of Wool, etc.

- 25a Zempoala Factory, State of Guanajuato.—Woolen goods. 235
- 26 Rosa, Manuel, City of Mexico.
- a Cassimeres. 235
- b Blankets. 237

Silk and Silk Fabrics.

- 27 City of Puebla.—Silks and silk fabrics. 244

Clothing, Jewelry, and Ornaments; Traveling Equipments.

- 28 State Government of Coahuila.—Zarapes. 250
- 29 Tailors' Society, City of Mexico.—Charro dress. 250
- 30 State Government of Yucatan.—Indian baby dress. 250
- 31 Polo, Miss Luz, City of Mexico.—Fancy shirt. 250
- 32 Hernandez, Mrs. Amalia, City of Mexico.—Fancy shirts. 250
- 33 Cusset, N., City of Mexico.—Gloves. 251
- 34 Fernandez, Gertrude.—Embroidery. 252
- 35 Robles, Miss Rita.—Embroidery. 252
- 36 Perry, Miss Concepcion.—Embroidery. 252
- 37 Castorena, Miss Merced.—Embroidery. 252
- 38 Fuentes, Miss Loreto.—Embroidery. 252

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-4;

Fancy Goods, Stationery, Medicine, Education and Science.

- 39 Montes de Oca, Miss Bernardo.—Embroideries. 252
- 40 Velasquez, Mrs. Luz, City of Mexico.—Embroidered handkerchief. 252
- 41 Loreto, Mrs., City of Mexico.—Embroidery. 251
- 42 Mata, Mrs. Josefina, City of Mexico.—Fancy towel. 252
- 43 Campo de Mata, Mrs. Josefa, City of Mexico.
a Cushion in filigree. 252
b Fancy box. 254
- 45 Pensado, Mrs., & Sisters.—Artificial flowers. 254
- 46 Carvajal, Antonio, City of Mexico.—Gold and silver galloon. 254
- Paper, Blank Books, Stationery.
- 47 Benfield, City of Mexico.—Paper. 260
- 48 Palomar & Co., State of Jalisco.—Paper. 260
- 49 Dias, Leon Francisco de, City of Mexico.—Specimens of printing. 260
- Medicine, Surgery, Prothesis.
- 50 Griss, J.—Medicinal plaster. 272
- 51 Morrill, A.—Extract of zarzaparrilla and other preparations. 272
- 52 Society of Natural History.—Medicinal plants. 272
- 53 Fink, Hugo, State of Vera Cruz.—Cinchona, from Cordova. 272
- 54 Rogul, Antonio, City of Mexico.—Artificial teeth. 273
- 55 Chacun, Mariano.—Artificial teeth. 273
- Fabrics of Vegetable, Animal, or Mineral Materials.
- 56 Carvajal, Antonio, City of Mexico.—Indian manufactures from the State of Michoacan. 283
- 56a Escobedo, Mariano, City of Mexico.—Indian manufactures from the State of Yucatan. 289
- Educational Systems, Methods, and Libraries.
- 57 Cerna, David, City of Mexico.—Musical compositions. 302
- 57a Peralta, Mrs. Angela.—Musical compositions. 302
- 58 Garfias, Miss Maria.—Musical works. 302
- 58a Rocha, Miss Amelia, City of Mexico.—Musical compositions. 302
- 59 Alcarar, Vicente.—Elementary arithmetic. 306
- 60 Almazan, Pascal.—Treatise on railroads. 306
- 61 Argandar, Alexandro.—Commercial arithmetic. 306
- 62 Bablot, Aranyo y.—Children's recreative books. 306
- 63 Castilla, Antonio y.—Lessons on religion and morality. 306
- 64 Manuel, Contreras.—Elements of mathematics; lessons on morality. 306
- 65 Chimalpopoca, Faustino, City of Mexico.—Nahuatl language. 306
- 66 Covarriebias, Francisco.—Astronomical and geographical works. 306
- 67 Domisguer, J.—Geography and statistics. 306
- 68 Garcia y Cubas, Antonio.—Geography and statistics. 306
- 69 Gama, Mucéo.—Geometry. 306
- 70 Gutierrez, Serapio.—School books. 306
- 71 Garcia, Vargas.—Elementary Spanish grammar. 306
- 72 Gabran, Rivera.—Arithmetic. 306
- 73 Hermosa, J.—Geography. 306
- 74 Moral, Fomas.—Geography. 306
- 75 Marroqui, J. M.—Democratic catechism and orthology. 306
- 76 Murguria.—School books. 306
- 77 Magalori, Horatio.—Italian grammar. 306
- 78 Orellana, Estevan.—Latin language. 306
- 79 Oviedo, Paulino.—School books. 306
- 80 Orozco, Antonio.—Book-keeping. 306
- 81 Payno, Manuel.—Compendium of geography. 306
- 82 Paniagua, Cenobio.—Lessons on harmony. 306
- 83 Rosas, José.—School books and other works. 306
- 84 Rivera, T. Rio.—Reading book. 306
- 85 Ruis, Davila.—Metrical system. 306
- 86 Remigio, Rodriguez.—Spanish grammar. 306
- 87 Tamborrel.—Equations. 306
- 88 Ferrazas, José Joaquim.—Elementary arithmetic. 306
- 89 Zambrano, Francisco.—Lessons on orthology, and other works. 306
- 90 Mexican Mining Society.—"El Propegandor" (scientific paper). 306
- 91 Tapia, Mrs. Ester.—Works on literature and poetry. 306
- 92 Arriago, Joaquim.—Recreative science. 306
- 93 Aguilar, Bruno.—Treatise on artillery. 306
- 94 Arteaga, Juan.—Zöotechnic studies. 306
- 95 Aiye, Patricio.—Calculus. 306
- 96 Arroniz, Marcus.—Biography. 306
- 97 Barcana, Mariano.—Works on natural history. 306
- 98 Barcana, M. José Roa.—Treatise on history and geography. 306
- 99 Brito, José.—Works on jurisprudence. 306
- 100 Bernardy, Mrs. Louisa.—Geography of Mexico. 306
- 101 Castillo, Velasco.—Constitutional rights. 306
- 102 Chavero, Alfredo.—Archæological essays. 306
- 103 Dias, Barriero.—Mexican penal code. 306
- 104 Diaz, José Covarrubias.—Public instruction in Mexico. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Education and Science, Art, Vessels, Woods.

- 105 Escandon, Pedro.—Instruction in fine arts. 306
- 106 Esptein, Isidoro.—Works on topography and thermometry. 306
- 107 Garcia, Antonio Cubas.—History. 306
- 108 Iglesias, Jose Maria.—Historical documents. 306
- 109 Iglesias, Angel.—Laryngoscopy. 306
- 110 Jirnez, Julio.—On public administration. 306
- 111 Lobato, J. Guadalupe.—Cerebral softening. 306
- 112 Lozano, J. M.—Civil code. 306
- 113 Lescanor, Antenor.—Agriculture. 306
- 114 Mender.—Narrow gauge in operation. 306
- 115 Maravedo, Salazar.—Military maneuvering. 306
- 116 Montez, R. Oca.—Ornithological essays. 306
- 117 Martinez, Victor.—History of the Mexican Revolution. 306
- 118 Monteil, Duarte.—Personal and civil rights. 306
- 119 Martinez, Joaquin.—Modern and ancient history and mythology. 306
- 120 Martinez, Del Rio.—Cultivation of cotton. 306
- 121 Nunez, Angel.—Geography of Vera Cruz. 306
- 122 Orasco, Manuel Berra J.—Hydrographical chart of the valley of Mexico, and geography of language. 306
- 123 Perez, E. Juan.—Statistical almanacs. 306
- 124 Perez, Hernandez.—Geographical dictionary. 306
- 125 Prieto, Guillermo.—Political economy, and other works. 306
- 126 Pimental, Francisco.—Comparative and descriptive sketch of American physiology. 306
- 127 Peon, José Contreras.—Historical romances. 306
- 128 Rivas, José.—Code of urbanity. 306
- 129 Sierra, Justo.—Maritime law. 306
- 130 Pován, Parrraleon.—Parliamentary history. 306
- 131 Zayas, Pablo.—Dictionary of Mexican legislation, civil code. 306
- 132 Federal Government.—Works upon the gubernatorial system, relating to the department of the interior, war, navy, public instruction, topography, and other scientific subjects. 306
- 133 Pharmaceutical Society of Mexico.—Pharmacopœia of the city of Mexico. 306
- 134 Larry Scientific Association.—Historical accounts and reports of the proceedings of the association. 306
- 135 Mexican Scientific Society.—Works on education and geography. 306
- 136 Society of Natural History.—“La Naturaleza”—scientific newspaper. 306
- 137 Humboldt Society.—“Humboldt’s Annals.” 306
- 138 Department of Public Works.—Drainage of the valley of Mexico, topography of the federal districts of the city of Mexico, of the mountains of Pacheco, and of the palace of the archbishop of Mexico. 306
- Institutions and Organizations.**
- 139 Romier, Cuatafraro T.—Pyrocnostical study of minerals from Guanajuato. 311
- 140 Camacho, J., City of Mexico.—Musical compositions. 313
- 141 Ytuarte, J., City of Mexico.—Musical compositions. 313
- Scientific and Philosophic Instruments and Methods.**
- 142 Loera, City of Mexico.—Frenometry. 320
- 143 Oropera, Guillermo.—Sensible scales. 320
- 144 Zenca, J. Estrada, City of Mexico.—Map. 335
- 145 Ramirez & Cuataparo, City of Mexico.—Maps. 335
- 146 Barcena, Mariano, City of Mexico.—Maps. 335
- Oil Paintings.**
- 148 Majira, Mrs. G.—Oil paintings. 410
- 149 Labisky, Mrs.—Water color painting, “coffee plant.” 411
- Engraving and Lithography.**
- 150 Loretta, Pupils of Mrs.
a Engraving on wood. 422
b Lithographic work. 423
- Photography.**
- 151 Salazar, Miss.—Photographs. 430
- Ceramic Decorations, Mosaics, etc.**
- 152 Ramirez, Miss Soledad.—Cottage with clay figures. 454
- 153 Alcocer, Miss Antonia.—Fruits and flowers in wax. 454
- Aerial, Pneumatic, and Water Transportation.**
- 154 State Government of Campeche, Campeche City.—Model of a vessel. 594
- 154a Cesar, José Maria, City of Mexico.—Model of steam vessel. 595
- Arboriculture and Forest Products.**
- 155 State Government of Vera Cruz.—Woods. 600
- 156 State Government of Puebla.—Woods. 600
- 157 State Government of Yucatan.—Woods. 600
- 158 State Government of Campeche.—Woods. 600
- 159 State Government of Mexico.—Woods. 600
- 160 State Government of Hidalgo.—Woods. 600
- 161 State Government of Colima.—Woods. 600

Agricultural, Animal, Vegetable Products.

- 163 State Government of Morelos.—Woods. 600
- 165 Jimenez, J., Cuernavaca City.—wood. 600
- 166 Vallarta, L. Y.—Aloes, aromatic Woods. 600
- 167 State Government of Oaxaca.—Indigo. 602
- 168 State Government of Colima.—Indigo. 602
- 169 Society of Natural History.—Gums and resins. 603
- 169^a State Government of Oaxaca, Oaxaca City.—Resins. 603
- 196^a State Government of Campeche, Campeche City.—Caoutchouc. 603
- Agricultural Products.**
- 170 Legarreta, A., Queretaro.—Cereals. 620
- 171 Cuevas Bros.—Wheat. 620
- 172 State Government of Puebla.—Cereals. 620
- 173 State Government of Hidalgo.
a Cereals. 620
b Coffee. 623
- 174 State Government of Morelos.—Cereals. 620
- 174^a Coahuistla Hacienda, State of Mexico.—Wheat. 620
- 175 Society of Natural History.—Cereals. 620
- 176 Cirilo, Mingo.—Córdoba coffee. 623
- 177 Cuantecomatan Co., Colima City.—Coffee. 623
- 178 Canedo, Señor.—Cigars and cigarettes. 623
- 179 Martinez de la Torre, City of Mexico.—Cigars and tobacco-leaf. 623
- 180 Gardida, Thomas.—Tobacco and cigars. 623
- 181 State Government of Vera Cruz.—Coffee. 623
- 182 State Government of Mexico.—Coffee. 623
- 182^a State Government of Yucatan.—Coffee. 623
- 182^b Ortiz, Anastacio, City of Mexico.—Tobacco. 623
- 183 Balza Bros.—Cigars. 623
- 184 Lascrain & Co.—Cigars, cigarettes, etc. 623
- 185 Cainzo, Antonio.—Tobacco, etc. 623
- 186 Madrazos & Co.—Tobacco, etc. 623
- 187 Asylum for the Poor, State of Puebla.—Cigars, tobacco, etc. 623
- 188 Escobedo Gral, State of Michoacan.—Coffee. 623
- 189 Santiago Villa, Vera Cruz.—Córdoba coffee. 623
- Animal and Vegetable Products.**
- 190 Severino, Perez.—Pipitza-huina (a new vegetable base). 650
- 190^a Garcia, Hilario, City of Mexico.—Skins. 652
- 191 State Government of Oaxaca.—Skins. 652
- 192 State of Colima.—Skins. 652
- 193 State of Puebla.—Skins. 652
- 194 State Government of Yucatan.—Skins. 652
- 195 State Government of Morelos.—Beeswax. 654
- 196 State Government of Hidalgo.—Beeswax. 654
- 196^a State Government of Oaxaca, Oaxaca City.—Beeswax. 654
- 196^b Preparatory School, Mexico City.—Beeswax. 654
- 196^c State Government of Hidalgo.—Vegetable wax. 654
- 196^d Society of Natural History, City of Mexico.—Vegetable wax. 654
- 197 State Government of Yucatan.—Oil of the insect niin, used for burnishing metallic instruments. 657
- 198 Torres, N., Puebla City.—Flour. 657
- 199 Society of Natural History.—Farina. 657
- 200 Ycazbalcata & Garcia.—Sugar. 659
- 201 State Government of Coahuila.—Preserved fruits. 659
- 202 State of Puebla.—Sugar. 659
- 203 Zerango Hacienda.—Sugar. 659
- 203^a State Government of Yucatan, Morida City.—Sugar. 659
- 204 Oacalco Hacienda, State of Morelos.—Sugar. 659
- 205 Goribar, Faustino.—Sugar. 659
- 206 Clara Santa Hacienda.—Sugar. 659
- 207 Atlihuayan Hacienda.—Sugar. 659
- 207^a Ferrer, Ignacio, City of Mexico.—Chocolate. 659
- 208 Campos, Fernande.—Feguila liquor. 660
- 208^a State Government of Yucatan.—Sugar. 659
- 209 Paraiso Factory, Campeche Distillery.—Whisky. 660
- 210 Ylizalitivú, Rivera.—Pulque (agave liquor). 660
- 211 Cortez, Agapito.—Wines. 660
- 212 Royo, Remegio, State of Coahuila.—Grape wines from Parras. 660
- 213 Barreda, C.—Alcohol. 660
- 214 Martinez, J. M.—Jehuacan Puebla wines. 660
- 215 Boeza, Simon.—Wines. 660
- 216 Society of Natural History.—Vegetable oils. 662
- 217 Canas, Eduardo.—Olive oil. 662
- 218 Morril, A.—Vegetable oils. 662
- 219 Jaspeado, J.—Olive oil. 662
- 220 State Government of Yucatan.—Ricino oil. 662
- 221 Sayo, Vega de la, City of Mexico.—Vegetable oil. 662
- 221^a Cordera, Manuel, City of Mexico.—Vegetable oil. 662
- Textile Substances of Animal or Vegetable Origin.**
- 222 State Government of Morelos, Cuernavaca City.—Cotton. 665

Textile Fibres, Agricultural Engineering, Botanical Collections.

- | | |
|---|---|
| <p>222^a State of Coahuila, Saltillo City.—
Cotton. 665</p> <p>222^b Pereda, Blas, San Luis Potosí
City.—Cotton. 665</p> <p>222^c State Government of Campeche,
Campeche City.—Cotton. 665</p> <p>222^d State Government of Hidalgo.—
Cotton. 665</p> <p>222^e Herrera, Alfonso, Mexico City.—
Products of chayote plant. 666</p> <p>222^f State Government of Oaxaca,
Oaxaca City.—Vegetable fibres. 666</p> <p>222^g Juarez, T., Texcoco City.—Hemp.
666</p> <p>223 State of Yucatan.—Fibres. 666</p> <p>224 Cabo, J. de Villa.—Strings and
cords. 666</p> <p>225 State of Hidalgo.—Fibres of the
Mexican maguay. 666</p> <p>226 Lopez, Miguel.—Cords from the
fibres of the agave. 666</p> | <p>227 Society of Natural History.—Wild
silk. 668</p> <p>Agricultural Engineering and Ad-
ministration.</p> <p>228 Gomez, Z., City of Colima.—Agro-
metre. 680</p> <p>228^a Rul, Miguel.—Photographic
views of agricultural works and farms.
683</p> <p style="text-align: center;">Horticulture.</p> <p>229 Preparatory School of the City of
Mexico.—Botanical collection of the Val-
ley of Mexico. 709</p> <p>230 Barcena, Marinana.—Botanical
map of the State of Queretaro. 709</p> <p>231 Ocampo, Miss J.—Botanical collec-
tions. 709</p> <p>232 State Government of Mexico.—
Botanical collections. 709</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SPAIN.

(South of Nave, Columns 16 to 18.)

Chemical Manufactures.

- | Chemical Manufactures. | |
|------------------------|---|
| 1 | Community of Heirs of Añana, Salinas de Añana, Province of Alava.—Salt obtained by filtering and by evaporation. 200 |
| 2 | Salines of Torrevieja, Province of Alicante.—Salt. 200 |
| 3 | Rosa Martinez, Joaquin de la, Berja, Province of Almería.—Syrup of protoiodide of iron and of ferruginous Peruvian bark. 200 |
| 4 | Zabala Iñiguez, Justo, Dalías, Province of Almería.—Syrup of ferruginous Peruvian bark and concentrated essence of sarsaparilla. 200 |
| 5 | Padilla, Francisco, Almería.—Carbonate of lead. 200 |
| 6 | Sureda & Villalonga, Juan, San José, Ibiza, Baleares.—Chloride of sodium. 200 |
| 7 | Estruch & Co., Andrés, Barcelona.—Manure. 200 |
| 8 | Tobella & Argila, Francisco, J., Hospital de Llobregat, Province of Barcelona.—Manure. 200 |
| 9 | Medinaceli, Duchess, Cardona, Province of Barcelona.—Sal gemma. 200 |
| 10 | Sanchez, Miguel, Barcelona.—Mineral and sea salt. 200 |
| 11 | Pons, Bartolomé, Sans, Province of Barcelona.—Cream of tartar and tartar crystal. 200 |
| 12 | Fortuny Bros., Barcelona.
a Magnesia, mustard paper, etc. 200
b Almond oil. 201 |
| 13 | Vte Mondova, Juan, San Juan, Porto Rico.—Cocoa butter, orange-flower water, citrate of lime, ricinus oil, almond oil, cocoanut oil, essential oil of orange-flower and lemon. 200 |
| 14 | Dominguez, Celestino, Guyana, Porto Rico.—Cocoa butter, castor oil, and tobacco pepper essence. 200 |
| 15 | Tauriño, Juan, Toledo.—Remedy for deafness. 200 |
| 16 | Formiguera, G., Barcelona.—Pastilles, extracts, oil, syrups, liniments, etc. 200 |
| 17 | Ferrer & Batlle, Barcelona.—Chemical and pharmaceutical preparations. 200 |
| 18 | Arola, A., & Domenech, Francisco, Barcelona.—Chemical and pharmaceutical preparations. 200 |
| 19 | Boada, G., & Travessa, Gracia, Province of Barcelona.—Sulphate of copper, chloride of tin, sulphuric acid, nitric acid, etc. 200 |
| 20 | Provincial Commission, Búrgos.—Calcined and black animal bone. 200 |
| 21 | Regis Cisneros, Francisco, Búrgos.—Cream of tartar. 200 |
| 22 | Bensusan, Antonio J., Puerto-Real, Province of Cádiz.—Sea salt. 200 |
| 23 | Calle, Bernardo, M. de la, Cadiz.—Sea salt. 200 |
| 24 | Hidalgo y Berjano, Eduardo, Sanlúcar de Barrameda, Province of Cádiz.—Sea salt. 200 |
| 25 | Forner Sales, Domingo, Burriana, Province of Castellon.—Orange flower and orange-flower water. 200 |
| 26 | Corporation of Minglanilla, Province of Cuenca.—Sal gemma. 200 |
| 27 | Gamboa y Calvo, José, Villalcayado, Province of Guadalajara.—Salt. 200 |
| 28 | Muñoz, Marcelino, Imon, Province of Guadalajara.—Salt. 200 |
| 28a | Marín, Manuel, Córdoba.—Essence of sarsaparilla, extract and syrup of eucalyptus, cod-liver oil, balsam opodeldoc, etc. 200 |
| 29 | Leon Teruel, José, Huelva.—Salt obtained by evaporation. 200 |
| 30 | Lopez de Codes, Tomás, Isle of Cristina, Province of Huelva.—Chemical guano. 200 |
| 31 | Tapia y Pereira, Pedro, Isle Cristina, Province of Huelva.—Artificial guano. 200 |
| 32 | Soriano, Aniceto, Jaen.—Salt obtained by evaporation. 200 |
| 33 | Tiburcio Escabias, José, Jaen.—Salt. 200 |
| 34 | Miguel Garcia, Manuel de, Jaen.—Salt. 200 |
| 35 | Mas, Ramon, Lérida.—Barilla (impure soda). 200 |
| 36 | Arteche, Angel María, Azofra, Province of Logroño.—Inalterable carbonate of iron. 200 |
| 37 | Baanante, Juan, Chantada, Province of Lugo.—Mustard and cantharides powder. 200 |
| 38 | Armesto Vinuesa, Francisco, Mondoñedo, Province of Lugo.—Peat. 200 |
| 39 | Delf Factory of Sargadelos, Cerro, Province of Lugo.—Peat. 200 |
| 40 | Jorge de la Peña, José, Lugo.—Peat. 200 |
| 41 | Puerta, Gabriel de la, Madrid.—Emetic tartar. 200 |
| 42 | Canales, Juan Bautista, Málaga.—Essence of lemon, citric acid. 200 |
| 43 | Fuentes & Sons, Palencia.—Blister. 200 |
| 44 | Escarpizo, Lorenzana, Augusto, Cangas, Province of Pontevedra.—Antiscorbatic and odontalgic elixir. 200 |
| 45 | Gonzalez, Domingo Cecilio, Salamanca.—Nitrate of ammonia. 200 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Chemical Manufactures.

- 46 Santiago Fuentes, Ignacio, Salamanca.—Chromic acid, arseniate of iron, etc. 200
- 47 Villar, José, Salamanca.—Pharmaceutical preparations. 200
- 48 Delgado, Joaquin, Seville.—Inalterable syrups. 200
- 49 Vinet, Troviño, & Co., Seville.—Citric acid, hyposulphate of soda, etc. 200
- 50 Monge & Sanz, Bonifacio, Soria.—Digital, extract of digital, digitaline, essence of sarsaparilla, etc. 200
- 51 Cuchi y Deixens, Tomás, Tarragona.—Arsenic, extract of tar, and meat in powder. 200
- 52 Eyries, Agustin, Valladolid.—Phosphate of lime and nitrate of soda. 200
- 53 Flor Carenou, & Tur, Zaragoza.—Extract of liquorice. 200
- 54 Diaz & Acebedo, Cleto, Havana, Cuba.—Preservative to prevent oxidizing of metals. 200
- 55 Quesada & Garcia, Almería.—Soap. 201
- 56 Fuster, Francisco, Palma de Mallorca, Balearic.—Oil of sweet almonds. 201
- 57 Corps of Mountain Engineers, Lerma, Province of Búrgos.—Juniper oil. 201
- 58 Vega Grande, Count of, Las Palmas, Canaries.—Walnut oil. 201
- 59 Carné & Moreno, Tarancon, Province of Cuenca.—Soaps. 201
- 60 Yaniz, Ambrosio, Villar del Humo, Province of Cuenca.—Juniper oil. 201
- 61 Coco & Bro., Celestino, Ubeda, Province of Jaen.—Soaps. 201
- 62 Gil de Muro, Isidoro, Andújar, Province of Jaen.—Common soaps. 201
- 63 Mon, Celestino, Rivadeo, Province of Lugo.—Soaps. 201
- 64 Perez Villamil, José, Rivadeo, Province of Lugo.—Soaps. 201
- 65 Juliá y Garcia Nuñez, Eusebio, Madrid.—Soaps. 201
- 66 Yarritu, Sons of, Carabanchel Baio, Madrid.—Soap. 201
- 67 Saenz Martinez, José Benito, Málaga.—Stearine and candles. 201
- 68 San Roman, Pedro, Oviedo.—Prepared wax for the manufacture of matches. 201
- 69 Moneo & Mirat, Salamanca.—Soap. 201
- 70 Renau, Angel, Béjar, Province of Salamanca.—Soap. 201
- 71 Falcon, Ruiz & Llorente, Coca, Province of Segovia.
a Resin oil. 201
b Turpentine, varnish, and essence of turpentine. 202
- 72 Falcon, Ruiz & Llorente, Córdoba.—Resin and colophonium. 201
- 74 Astolfi, Carlos, Seville.—Soap. 201
- 75 Conradi Bros., Seville.—Soap. 201
- 76 Conradi, Sons of J. B., Seville.—Soap. 201
- 77 Gasau, José Antonio, Seville.—Soap. 201
- 78 Carol & Co., Antonio, Reus, Province of Tarragona.—Soap. 201
- 79 Marca, Salvador, Reus, Province of Tarragona.—Soap. 201
- 80 Oliiva, Salvador, Reus, Province of Tarragona.—Olive oil soap. 201
- 81 Zamora, Francisco, Reus, Province of Tarragona.—Soap. 201
- 82 Ruedas y Pedraza, Lorenzo, Toledo.—Soap. 201
- 83 Agudo, Gonzalez, Leandro, Valladolid.—Soap. 201
- 84 Girart, Nicolás, Regla, Island of Cuba.—Purification of burning gas. 201
- 85 Planella Roure, Alejandro, Barcelona.—Colors, varnishes, cardboards, and canvas for painting. 202
- 86 Perez Romero, Diego, Huelva.—Collodion and photographers' varnish. 202
- 87 Acero, Antonio, Jaen.—Peroxide of aluminum iron. 202
- 88 Alcaraz Angulo, José, Madrid.—Ink. 202
- 90 Grau y Puig, José, Seville.—Bitumen. 202
- 91 Corporation of Belilla Medina, Province of Soria.—Ochre. 202
- 92 Serra, Juan, Reus, Province of Tarragona.—Ink. 202
- 93 Magallon, Francisco, Zaragoza.—Ink. 202
- 94 Miró & Corominola, José, Barcelona.—Spanish hair-dye. 203
- 96 Avilés y Merino, Francisco, Córdoba.—Alcohol, orange-peel syrup, etc. 203
- 97 Garcia Martinez, Francisco, Santiago de Compostela.—Ether. 202
- 98 Villalon, Eduardo, Madrid.—Toilet waters and cream. 203
- 99 Huelin & Son, Guillermo, Malaga.—Extract of liquorice. 203
- 100 MacAndrews & Co., Coria, Province of Sevilla.—Liquorice. 203
- 101 Llofriú, Manuel, Seville.—Rice flour. 203
- 102 Delgado, Joaquin, Seville.—Depurative and regenerative essence. 203
- 103 Padilla, José, Seville.—Tincture Bismarck. 203
- 104 Burguillo, Castro, Joaquin, Seville.—Vegetable balsam. 203
- 105 Estivill, Antonio, Reus, Province of Tarragona.—Orange-flower water. 203
- 106 Gisbert & Soler, Juan, Torredembarra, Province of Tarragona.—Dentifrice powder and elixirs. 203
- 107 Orive, Salustiano, Bilbao, Province of Vizcaya.—Chemical and pharmaceutical products. 203
- 108 Saliaz, Juan Vicente, Havana, Island of Cuba.—Cosmetic. 203
- 109 Lasa y Elizondo, Dionisio, Tarazona, Province of Zaragoza.—Phosphoric wax tapers. 204
- 110 Artiz Antonio, Maria, Havana, Island of Cuba.—Phosphorus. 203
- 111 Arteaga & Jáuregui, Havana, Cuba.—Phosphorus. 204
- 112 Military Pyrotechny, Seville.—Fuses, quick-matches, and cartridges 204

Ceramics, Glass, Furniture.

- 113 Muñoz Iñiguez, José, Seville.—Rockets. 204
- Ceramics—Pottery, Porcelain, Glass, etc.
- 115 Romeu & Barella, Hospitalet, Province of Barcelona.—Bricks and tiles. 206
- 116 Provincial Commission, Búrgos.
a Tiles, bricks, and pipes. 206
b Pottery. 210
- 117 Escudero, Pascual, Búrgos.—Bricks. 206
- 118 Bueso Fabregad, Vicente, Castellon.—Glazed tiles. 206
- 119 Fabregad & Co., Francisco, Castellon.—Glazed tiles. 206
- 120 Provincial Commission, Lugo.—Pottery. 206
- 121 Fernandez Castañeda, Telesforo, Las Rozas y Arroyo.—Tiles. 206
- 122 Ochoa, José Maria de, Segovia.—Bricks, tiles, and flagstones. 206
- 123 Carral, Widow of Ignacio, Segovia.—Tiles, flagstones, and bricks. 206
- 124 Corporation of Moron, Province of Seville.—Bricks and pipes. 206
- 125 Casado, Melchor, Débanos, Province of Soria.—Tiles, flagstones, and bricks. 206
- 126 Cucurny, Pablo, Barcelona.—Refractory earthenware. 207
- 127 Molás & Co., Barcelona.—Refractory clay. 207
- 128 Gomez, Sebastian, Trujillo, Province of Cáceres.—Earthenware. 207
- 129 Fernandez, Tomás, Trujillo, Province of Cáceres.—Earthenware. 207
- 130 Bueno, Remigio, Trujillo, Province of Cáceres.—Earthenware. 207
- 131 Fernandez, José, Trujillo, Province of Cáceres.—Earthenware. 207
- 132 Olago, Manuel, Trujillo, Cáceres.—Earthenware. 207
- 133 Olago, Juan, Trujillo, Province of Cáceres.—Earthenware. 207
- 134 Pajares, Juan, Arroyo del Puerco, Province of Cáceres.—Earthenware. 207
- 135 Bisier, Benito, Cuenca.—Manufactures of clay. 207
- 136 Corporation of Chiclana, Province of Cádiz.—Pitchers and pottery. 207
- 137 National Factory of Trubia, Oviedo.—Refractory bricks. 207
- 138 Sagarminaga, Gerardo, Muelas del Pan, Province of Zamora.—Refractory clay and crucibles. 207
- 139 Santigós & Co., Macías, Barcelona.
a Tiles. 208
b Crockery. 210
- 140 Barella, Joaquin, Hospitalet de Llobregat, Province of Barcelona.—Ceramics, ornaments and paving tiles. 208
- 141 Llevát & Son, Antonio, Reus, Province of Tarragona.—Mosaic. 208
- 142 Soto y Tello, Manuel, Seville.—Mosaic tiles. 208
- 143 Gonzalez, R., Valencia.—Enameled tiles. 208
- 144 Vives & Aspiroz, Rafael, Villa de Oliva, Province of Valencia.—Flags. 208
- 145 Diez Cataluña, Salvador, Manises, Province of Valencia.—Enameled tiles. 208
- 146 Nolla & Son, Miguel, Meliana, Province of Valencia.—Mosaic flagstones. 208
- 149 Girona y Mató, Ramon, Alcora, Province of Castellon.—Delft. 210
- 150 Aljama Moreno, Miguel, La Rambla, Province of Córdoba.—Pitchers. 210
- 151 Jimenez de García, Antonio, La Rambla, Province of Córdoba.—Pitchers. 210
- 152 Leon y Raigon, Antonio, La Rambla, Province of Córdoba.—Pitchers. 210
- 153 Provincial Deputation of Murcia.—Delft. 210
- 154 Fuentes y Ponte, Javier, Murcia.—Antique vases. 210
- 155 Association of Potters of Andújar, Province of Jaen.—Pots. 211
- 156 His Majesty the King of Spain, Madrid.—China. 213
- 157 García Montalvan, Francisco, Seville.—Delft of earthenware. 213
- 158 Pickman & Co., Seville.—Delft and china. 213
- 159 Vallés & Sons, José, Barcelona.—Crystal. 214
- 160 Fernandez Castañeda, Telesforo, Las Rozas, Province of Santander.
a Plate glass. 214
b Crystal lantern. 216
- 161 Casademunt, Modesto, Barcelona.—Fine glass bottles for chemicals. 214
- 162 Fernandez Castañeda, Telesforo, Reinoso, Province of Santander.—Glass bottles. 214
- 163 Farris, A., & Co., Badalona, Province of Barcelona.—Crystal ware. 216
- Furniture and Objects of General Use in Construction and in Dwellings.
- 165 Isaura, Francisco de Paula, Barcelona.—Objects of bronze and white metal. 217
- 166 Roberst, Epifanio, Barcelona.
a Dressing-table, couch. 217
b Picture frame. 220
- 167 Forzano Bros., Madrid.—Sideboard for dining-room. 217
- 168 Pascual y Granés, Pedro, Barcelona.—Window. 219
- 169 Molins, José, Havana, Cuba.—Impermeable wood curtains. 220
- 170 Gallardo Bastant, Luis, Barcelona.—Gas apparatus. 222
- 171 Isaura, Francisco de Paula, Barcelona.—Gas apparatus. 222
- 172 Metallurgical Society of San Juan de Alcaráz, Province of Albacete.—Manufactures of brass. 224
- 173 Riera, L. A., & Co., Arenys de Mar, Province of Barcelona.—Corks. 224
- 174 Moragrega & Soldevila, Tomás, Castellon.—Cork vessel. 224
- 175 Brochi, Juan, Havana, Cuba.—Tin cans for preserving fruits. 224

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods.

- 176 Oyarzabal, Jorgé, Philadelphia, Pa.—Apparatus for serving ice cream. 224
- Yarns and Woven Goods of Vegetable or Mineral Materials.**
- 177 Beltran y Lopez, José, Elche, Province of Alicante.—Twine and string. 229
- 178 Fuentes Agulló & Bros., Francisco, Elche, Province of Alicante.—Palm leaf and articles manufactured from the same. 229
- 179 Más & Son, Manuel, Crevillente, Province of Alicante.—Esparto, rush, and bass fabrics. 229
- 180 Rampál, Juan, Elda, Province of Alicante.—Esparto mats and carpets. 229
- 181 Sevilla & Perez Bros., Monforte, Province of Alicante.—Baskets and ropes of green esparto. 229
- 182 Lopez, José, Badajoz.—Esparto matting. 229
- 183 Mora, Manuel, Badajoz.—Esparto and rush matting. 229
- 184 Amat, Gervasio, Gracia, Province of Barcelona.—Fine matting. 229
- 185 Martínez la Llana, Tiburcio, Cuenca.—Work basket. 229
- 186 García Brito, Manuel, Córdoba.—Cyprus cable. 229
- 187 Arzalaya, Ramon de, Jaen.—Osier basket. 229
- 188 Gonzalez Maceda, Pedro, Villalba, Province of Lugo.—Horse-hair webs. 229
- 189 Huelin & Son, Guillermo, Almogía, Province of Málaga.—Palm baskets. 229
- 190 Corps of Mountain Engineers, Madrid.—Fabrics and ropes of esparto. 229
- 191 Provincial Deputation of Murcia.—Esparto work. 229
- 192 Fernandez Bros. & Co., Aguilas, Province of Murcia.—Mats. 229
- 193 Mazarrasa, Gregorio, Santander.—Osier basket. 229
- 194 Peró & Buxeda, Barcelona.—Cotton textiles. 230
- 195 Pagés & Co., Salvador, Mataró, Province of Barcelona.—Bleached linen. 230
- 196 Oliver, Fonrodona, Mataró, Province of Barcelona.—Cotton canvas. 230
- 197 Volart Bros. & Conill, Barcelona.—Cotton fabrics. 230
- 198 Puig & Co., José, Esparraguera, Province of Barcelona.—Madapolans, etc. 230
- 199 Conti, Juan, Barcelona.—Cotton fabrics. 230
- 200 Ribot & Bros., Estéban, Granada.—Thread. 230
- 201 Roiz de la Parra, Gerónimo, La Cavada, Province of Santander.—Twisted cotton. 230
- 202 Solé, Estéban, Reus, Province of Tarragona.—Cotton. 230
- 203 Regordosa & Co., Mariano, Sans, Province of Barcelona.—Dyed cotton. 231
- 204 Parellada, Flaquer & Co., Sans, Province of Barcelona.—Cotton velvet. 231
- 205 Clariano Ciuró, Angé, & Co., Granollers, Province of Barcelona.—Cotton tartan. 231
- 206 Batlló Bros., Barcelona.—Cotton thread and fabrics. 231
- 207 Cavelles y Ferré, José, Reus, Province of Tarragona.—Serges, nankin, etc. 231
- 208 Ferrer & Co., José, Villanueva y Geltrú, Province of Barcelona.—Cretons, percales, etc. 232
- 209 Ferrer y Vidal, José, Barcelona.—Cretons, percales, etc. 232
- 210 Casas & Jovèr, Joaquin, San Martín de Provençalls, Province of Barcelona.—Cotton prints. 232
- 212 Saladrigas Bros., Barcelona.—Cotton prints. 232
- 213 Jaumandreu & Co., Barcelona.—Cotton prints. 232
- 214 Achon, J., Barcelona.—Cotton prints. 232
- 215 Tolrà & Co., José, Barcelona.—Cretons and madapolans. 232
- 216 "España Industrial," Barcelona.—Dyed and printed cotton fabrics. 232
- 217 Torrelló & Co., Mateo, Barcelona.—Cotton prints. 232
- 218 Borràs, Eduardo, Barcelona.—Printed cotton shawls. 232
- 219 Ricart & Co., Barcelona.—Cotton prints. 232
- 220 Rivas & Co., Francisco, Barcelona.—Cotton prints. 232
- 221 Beltran y Lopez, José, Elche, Province of Alicante.—Hempen bags. 233
- 221 α Igualadina, Algodonera, Barcelona.—Bleached linens. 233
- 222 Sadó, Jaime, Barcelona.—Table linen and towels. 233
- 223 Conti, Juan, Barcelona.—Drilling fabrics, for ladies' dresses, and Turkish towels. 233
- 224 Mestra Pedro, Barcelona.—Linen drilling. 233
- 225 Provincial Commission of Búrgos.—Linen cloth and towels. 233
- 226 Society of Friends of the Country Las Palmas, Canary Islands.—Pita cloth for girths. 233
- 227 Salomé & Co., Francisco Antonio, Vinaróz, Province of Castellon.—Canvas. 233
- 228 Bas y Verdera, Juan Bautista, Vinaróz, Province of Castellon.—Canvas. 233
- 229 Ribot & Bros., Estéban, Granada.—Saddle bag, hemp fabric, bags and hemp soles for sandals. 233
- 230 Igualada, Francisco, Seville.—Andalusian saddle-bag. 233
- 231 García Valdeavellano, J., Seville.—Table linen, etc., made on hand-loom. 233
- 232 Landa, Sons of Salvador, Calatayud, Province of Zaragoza.—Linen cloth. 233
- 233 Vega & Co., Seville.—Oil cloth. 234
- Woven and Felted Goods of Wool and Mixtures of Wool.**
- 234 Abad Bros., Vicente, Alcoy, Province of Alicante.—Edredon and paten cloth. 235

Woven Goods.

- 235 Boronás Soler, Antonio, Alcoy, Province of Alicante.—Lanilla cloth. 235
- 236 Hernandez Osa, Juan, Alcoy, Province of Alicante.—Paten cloth. 235
- 237 Candela, Miguel, Alcoy, Province of Alicante.—Paten cloth. 235
- 238 Cantó, Tomás, & Sons, Alcoy, Province of Alicante.—Paten cloth. 235
- 239 Gisbert Pascual, Camilo, Alcoy, Province of Alicante.—Paten cloth. 235
- 240 Jordá & Sons, José, Alcoy, Province of Alicante.—Paten cloth. 235
- 241 Llacer, Agustín, Alcoy, Province of Alicante.—Paten cloth. 235
- 242 Llopis & Son, Widow of C., Alcoy, Province of Alicante.—Paten cloth. 235
- 243 Mataix, Cristobal, Alcoy, Province of Alicante.—Paten, tricot, and edredon cloth. 235
- 244 Miró, Sons of Gabriel, Alcoy, Province of Alicante.—Paten, castor, and edredon cloth. 235
- 245 Pastor, Moltó, & Co., Alcoy, Province of Alicante.—Paten cloth. 235
- 246 Moltó y Sanz, José, Alcoy, Province of Alicante.—Satin. 235
- 247 Moltó y Valor, Francisco, Alcoy, Province of Alicante.—Tricot and paten cloth. 235
- 248 Monllor & Sons, Miguel, Alcoy, Province of Alicante.—Paten cloth. 235
- 249 Pascual & Co., Fabian, Alcoy, Province of Alicante.—Paten and edredon cloth. 235
- 250 Pascual, Santiago, Alcoy, Province of Alicante.—Paten cloth. 235
- 251 Perez & Son, Benito, Alcoy, Province of Alicante.—Corduroy cloth. 235
- 252 Perez, Sons of J., Alcoy, Province of Alicante.—Velvet cloth. 235
- 253 Poblet, Antonio, Alcoy, Province of Alicante.—Paten cloth. 235
- 254 Reig, Rafael, Alcoy, Province of Alicante.—Paten and velvet cloth. 235
- 255 Sanz & Sons, Widow of Felipe, Alcoy, Province of Alicante.—Paten cloth. 235
- 256 Vicedo, José, Alcoy, Province of Alicante.—Tricot. 235
- 257 Amores, Miguel, Badajoz.—Mantas cloth. 235
- 258 Clariana, Ciuró, Angé, & Co., Province of Barcelona.
a Woolen fabrics and cloths. 235
b Shawls. 237
c Mixed fabrics. 238
d Paten cloth. 241
- 259 Provincial Commission, Búrgos.—Woolen articles. 235
- 260 Mendiola & Co., Casimiro, Munilla, Province of Logroño.—Cloth, melton, tweeds etc. 235
- 261 Provincial Commission of Lugo.—Woolen fabrics. 235
- 262 Rodriguez Arias, Cipriano, Béjar, Province of Salamanca.—Cloth. 235
- 263 Rodriguez Bros., Béjar, Province of Salamanca.—Cloths. 235
- 264 Gonzalez Sanz, Luis, Riaza, Province of Logroño.—Cloths. 235
- 265 Sanz, Manuel, Molinos de Razon, Province of Soria.—Cloths. 235
- 266 Torre, José, Almenar, Province of Soria.—Cloths and woolen fabrics. 235
- 267 Tarrat & Sociats, Teruel.—Cloths. 235
- 268 Garcia Aranda, Antonic & Co., Sonseca, Province of Toledo.—Cloths. 235
- 269 Bonel & Sons, Benito, Tarazona, Province of Zaragoza.—Cloths. 235
- 270 Provincial Commission of Pradolungo, Province of Búrgos.—Flannels. 236
- 271 Delgado & Co., Faustino, Antequera, Province of Málaga.—Flannels. 236
- 272 Moreno, Widow of, Antequera, Province of Málaga.—Flannels. 236
- 273 Alia y Lopez, Miguel, Escalonilla, Province of Toledo.—Serge. 236
- 274 Delgado & Co., Faustino, Seville.—Waistbands. 237
- 275 Murtró y Turelló, Widow of A., Reus, Province of Tarragona.—Matafrios (waistbands). 237
- 276 Conti, Juan, Barcelona.—Woolen fabrics. 238
- 277 Planas, Sons of M., Sabadell, Province of Barcelona.—Woolen fabrics. 238
- 278 Sallares & Son, Juan, Sabadell, Province of Barcelona.—Woolen fabrics. 238
- 279 Buxeda Bros., Sabadell, Province of Barcelona.—Woolen fabrics. 238
- 281 Dalinau, José M., Barcelona.—Flannels. 238
- 282 Sert Bros. & Solá, Barcelona.—Woolen goods. 238
- 283 Badia, José, Sabadell, Province of Barcelona.—Woolen yarns. 238
- 284 Arañó, Enrique, San Martin de Provençals, Province of Barcelona.—Woolen yarns. 238
- 285 Bresca & Co., Province of Barcelona.—Merinoes. 238
- 286 Serret & Turull, Sabadell, Province of Barcelona.—Woolen shawls, etc. 238
- 287 Viejo, Isidoro, Búrgos.—Woolen blanket. 238
- 288 Blanco, Bartolina, Valverde del Camino, Province of Huelva.—Saddlebag. 236
- 289 Murtró Turelló, Widow of A., Reus, Province of Tarragona.—Cloak, tartans, woolen yarns, etc. 238
- 290 Clariana, Ciuró, Angé, & Co., Santa Coloma de Querals, Province of Tarragona.—Mixed fabrics, shawls, etc. 238
- 292 Casaramona, Juan, Barcelona.—Blankets and mantas. 238
- 293 Baucells & Co., Narciso, Barcelona.—Moleskins and mantas. 238
- 294 Serret & Turull, Sabadell, Province of Barcelona.—Woolen webs and shawls. 238
- 295 Viejo, Isidoro, Búrgos.—Mantas. 238
- 296 Nuñez Ramos, Francisco, Torrejoncillo, Province of Cáceres.—Coarse cloth. 238
- 297 Moreno y Sanchez, Francisco, Torrejoncillo, Province of Cáceres.—Coarse cloth. 238

Woven Goods, Silk.

- 298 Llanos de Pedro, José, Torrejuncillo, Province of Cáceres.—Coarse cloth. 238
- 299 Llanos Nuñez, Pedro, Torrejuncillo, Province of Cáceres.—Coarse cloth. 238
- 300 Llanos Valle, Sebastian, Torrejuncillo, Province of Cáceres.—Coarse cloth. 238
- 301 Llanos Moreno, Saturnino, Torrejuncillo, Province of Cáceres.—Coarse cloth. 238
- 302 Bonilla, Ramon, Torrejuncillo, Province of Cáceres.—Coarse cloth. 238
- 303 Serrano, Benito, Torrejuncillo, Province of Cáceres.—Coarse cloth. 238
- 304 Society of Friends of the Country, Las Palmas, Canary Islands.—Cloth. 238
- 305 Guimera Bro., Giner, Morella, Province of Castellon.—Woolen textile. 238
- 306 Provincial Board of Agriculture, Morella, Province of Castellon.—Woolen mantas. 238
- 307 Aparicio, Jaime, Córdoba.—Ends of cloth, and cloak. 238
- 308 Alvarez Otin Bros., Córdoba.—Mountain cloaks and jergas. 238
- 309 Corporation of Pozoblanco, Province of Córdoba.—Mantas and flannels. 238
- 310 Corporation of Bujalance, Province of Córdoba.—Mantas and jergas. 238
- 311 Corporation of Villa del Rio, Province of Córdoba.—Mantas, jergas, and mountain cloaks. 238
- 312 Cabezas, Sarabia, José, Córdoba.—Mountain cloak. 238
- 311a Provincial Deputation of Murcia.—Manta. 238
- 311b Fuentes, Maria, Prádanos, Province of Palencia.—Coarse cloth. 238
- 316 Garcia, Mauricio, Prádanos, Province of Palencia.—Coarse cloth. 238
- 317 Val, Angel, Prádanos, Province of Palencia.—Coarse cloth. 238
- 318 Martin, Domingo, Prádanos, Province of Palencia.—Coarse cloth. 238
- 319 Gomez, Andrés, Astudillo, Province of Palencia.—Cloth. 238
- 320 Obneda, Faustino, Astudillo, Province of Palencia.—Cloth. 238
- 321 Sanmillan, Manuel, Astudillo, Province of Palencia.—Cloth. 238
- 322 Rodriguez Mambilla, Manuel, Astudillo, Province of Palencia.—Cloth. 238
- 323 Hera, Vicente de la, Palencia.—Mantas. 238
- 324 Arroyo, Gerónimo, Palencia.—Mantas. 238
- 325 Aguilar Calvo, Antonio, Amusco, Province of Palencia.—Flannel. 238
- 327 Corporation of Vitigudino, Province of Salamanca.—National manta and sayal. 238
- 329 Alia & Lopez, Miguel, Escalonilla, Province of Toledo.—Counterpane. 238
- 330 Maquez y Tomás, T., Valencia.—Mantas and fabrics for upholstering. 238
- 331 Fernandez Laza, & Sons, M., Valladolid.—Manta. 238
- 332 Perdiguero, Guillermo, Valladolid.—Mantas. 238
- 332a Castell de Pons, Antonio, Barcelona.—Tapestry. 239
- 332b His Majesty the King of Spain, Madrid.—Tapestry from the royal factory, Madrid. 239
- 333 Alsina, Juan, San Andrés de Palomar, Province of Barcelona.—Velvets. 241
- 334 Casanovas & Sons, Joaquin, Sabadell, Province of Barcelona.—Woolen cloths 241
- 336 Carominas, Salas, & Co., Sabadell, Province of Barcelona.—Woolen fabrics. 241
- 337 Durán, J., & Son, Sabadell, Province of Barcelona.—Woolen fabrics. 241
- 338 Montllor Bros., Sabadell, Province of Barcelona.—Cloths and woolen goods. 241
- 339 Volta Vivé, José, Sabadell, Province of Barcelona.—Woolen fabrics and fine woolen yarns. 241
- Silk and Silk Fabrics.
- 340 Carrillo, Blas, & Co., Santa Cruz de la Palma, Canary Islands.—Yellow and White Silk. 242
- 341 Diaz Varela, Celestino, Sober, Province of Lugo.—Raw Silk. 242
- 342 Victor, Navarro, Pedro, Espinardo, Province of Murcia.—Silks. 242
- 343 Martinez, Faustino, Seville.
- a Raw silk. 242
 - b Silk thread and twist. 243
 - c Ribbons. 248
- 344 Oñate, Sons of, Valencia.
- a Raw silk. 242
 - b Twisted Silk. 243
- 345 Piedrola, Juan de Dios, Granada.—Twisted silk. 243
- 346 Económica of Murcia.—Silks and cord made of the gut of silkworms. 243
- 347 Andrión, Heirs of, Murcia.
- a Silks, twist, and cord. 243
 - b Silk purses. 247
- 350 Fariols & Sons, Barcelona.—Silk textile. 244
- 351 Provincial Deputation of Murcia.—Silk taja (national waistband) and shawls. 244
- 352 Ferrer & Co., Joaquin, Barcelona.—Silk goods. 245
- 353 Gué & Co., G., Barcelona.—Silk goods. 245
- 354 Diaz Varela, Celestino, Sober, Province of Lugo.—Silk fabrics. 245
- 355 Freixa, Sebastian, Reus, Province of Tarragona.—Gró (silk fabric). 245
- 356 Pascual & Co., Antonio, Reus, Province of Tarragona.—Gró, glasé, and other silk fabrics. 245
- 357 Ibañez Palenclano, Fernando, Valencia.—Gró, taffetas, damasks, and poplins. 245
- 357a Rodriguez, Arias, Cipriano, Bejar, Province of Salamanca.—Satin. 245
- 358 Malvey, Benito, Barcelona.—Silk goods. 246
- 359 College of Superior Works of Art in Silk, Barcelona.—Portrait of H. M. the King of Spain. 246

Silk, Clothing, Embroidery.

- 360 Reig & Co., Barcelona.—Silk fabrics. 246
- 361 Masoliver Bros., Barcelona.—Silk hosiery, etc. 247
- 362 Pascual & Co., Antonio, Province of Tarragona.—Velvets. 248
- 363 Piédrola, Juan de Dios, Granada.—Woven silk. 248
- 365 Blanco, Emilio, Seville.—Trim-mings. 249
- 366 Sanchez, Francisco, Seville.—Trim-mings. 249
- Clothing, Jewelry, and Ornaments.**
- 367 Solanas, Antonia, Barcelona.—Shirts. 250
- 367^a Tarriba Pablos, Clemente, Palencia.—Embroidered Manta. 250
- 368 Escaler, Benito, Barcelona.—System of cutting garments. 250
- 369 Provincial Commission of Salas de los Infantes, Province of Burgos.—National dress and photographs. 250
- 370 Corporation of Bujalance, Province of Córdoba.—Jacket. 250
- 371 Salgado Rodriguez, Rafael, Santiago, Province of la Coruña.—Jacket, pants, and vest. 250
- 372 Direction of Cavalry, Madrid.—Military equipment. 250
- 373 Gonzalez, Benito, Vilaboa, Province of Pontevedra.—Country woman's cloak, made of rush. 250
- 374 Luna, Ramon, Havana, Cuba.—Figure dressed in the uniform of a captain of volunteers. 250
- 375 Marfá, Cayetano, Mataró, Province of Barcelona.—Cotton hosiery. 250
- 376 Sala Baladia & Coll, Barcelona.—Cotton hosiery. 250
- 377 Oliver & Co., Mataró, Province of Barcelona.—Cotton shirts, hose, and socks. 250
- 377^a García, Aranda, & Co., Antonio, Sonseca, Province of Toledo.—Working men's cloaks. 250
- 378 Beltran & Lopez, José, Elche, Province of Alicante.—Sandals and slip-shods. 251
- 379 Ceva y Llorens, Enrique, Elche, Province of Alicante.—Sandals. 251
- 380 Diaz Corrales, Antonio, Madrid.—Boots, shoes, and slippers. 251
- 381 Cardona Baldrich, José, Barcelona.—Corsets and waistbands. 251
- 382 Freixa & Son, Barcelona.—Boots, shoes, and gaiters. 251
- 383 Conde Puerto & Co., Barcelona.—Shirts. 251
- 384 Says, José, Barcelona.—Boots and shoes. 251
- 385 Verderau, Luis, Barcelona.—Shirts. 251
- 386 Provincial Commission of Burgos.—Shoes, gloves, and caps. 251
- 387 Zamorano & Bros., Nemesio, Burgos.—Kid gloves. 251
- 388 Bueso Herrando, José, Castellon.—Sandals. 251
- 389 Carpi, Vicente, jr., Castellon.—Sandals. 251
- 390 Provincial Board of Agriculture, Castellon.—Sandals. 251
- 391 Ruiz Vicent, Francisco, Castellon.—Sandals. 251
- 392 Verchili y Marqués, Francisco, Castellon.—Sandals for women. 251
- 393 Pintado y Morales, Luis, Ciudad-Real.—Hat. 251
- 394 Devesa Dominguez, José, Santiago, Province of Coruña.—Boots and shoes. 251
- 395 Rodriguez, Rafael, Coruña.—Boots and shoes. 251
- 396 Ribot & Bros., Estéban, Granada.—Sandals and slip-shods. 251
- 397 Fernandez & Toscano, José Huelva.—Shoes and boot patterns. 251
- 398 Mantero & Asuero, Manuel, Valverde, Province of Huelva.—Riding-boots. 251
- 399 Montiel, José, Huelva.—Boots. 251
- 400 Acero & Son, José, Jaen.—Hats. 251
- 401 Ares, Rosendo, Villalba, Province of Lugo.—Clogs. 251
- 402 Fraga, José, Corpeito, Province of Lugo.—Clogs. 251
- 403 Pallares, Count of, Villalba, Province of Lugo.—Sabots. 251
- 404 Robledo, Luis Paulino, Fonsagrada, Province of Lugo.—Clogs. 251
- 405 Villasante, Francisco, Madrid.—Hats. 251
- 406 Huelin & Son, Guillermo, Málaga.—Palm-leaf hats. 251
- 407 Provincial Deputation of Murcia.—Sandals. 251
- 408 Crespo, Melchor, Peñaranda, Province of Salamanca.—Hats. 251
- 409 Galindo, Rafael, Peñaranda, Province of Salamanca.—Hats. 251
- 410 Gonzalez, Fermin, Peñaranda, Province of Salamanca.—Hats. 251
- 411 Ralero, Epifanio, Segovia.—Shoes. 251
- 412 Chia & Ganga, Francisco, Seville.—Boots and shoes. 251
- 413 Gely Bros. & Co., Seville.—Kid gloves. 251
- 414 Sarton, Gregorio, Seville.—Hats. 251
- 415 Villen, José, Valencia.—Shoes. 251
- 416 Ronchetti Denti, B., Valladolid.—Gloves. 251
- 417 Stampa Bula, Felipe, Valladolid.—Gloves. 251
- 418 Iborna, Mateo, Zamora.—Hats. 251
- 419 Melendez Carvajal & Co., Havana, Cuba.—Hats. 251
- 420 Central Commission, Havana, Cuba.—Hats. 251
- 421 Garcia & Garcia, Juliana, Avila.—Lithographed embroidery. 252
- 422 Martinez, Rosamunda, Avila.—Silk embroidery. 252
- 423 Provincial Convent, Superior of, Avila.—Embroidered altar cloth. 252
- 424 Nin & Mañé, Benito & Luisa, Barcelona.—Embroidery. 252

Embroidery, Fancy Goods, Stationery.

- 425 Marti de Detrell, Dolores, Barcelona.—Embroidered sofa cushion. 252
- 426 Pi & Solanes, José, Barcelona.—Laces. 252
- 427 Tejada, Antolina, Cáceres.—Openwork. 252
- 428 Vidal, Rosa, Plasencia, Province of Cáceres.—Embroidered handkerchief. 252
- 429 Delgado, Rita, Alcalá de los Gazules, Province of Cádiz.—Counterpane. 252
- 430 Bianchi & Mellado, Pedro, Almagro, Province of Ciudad-Real.—Guipure and other laces. 252
- 431 Barinaga de Oteiza, Amalia, Madrid.—Embroidered tapestry. 252
- 432 Agudo, Asuncion, Madrid.—Embroidered handkerchief. 252
- 433 Guibelalde, Caledonia, Madrid.—Embroidered picture. 252
- 434 His Majesty the King of Spain, Madrid.—Embroideries for the lay brothers of San Lorenzo. 252
- 435 President of the Women's Catholic Association, Madrid.—Church ornaments. 252
- 436 Asylum of San Manuel, Málaga.—Handkerchief bag. 252
- 437 Asylum of Mendicity, Seville.—Embroidered shirt and handkerchief. 252
- 438 Eguiazu, Leon, San Sebastian, Province of Guipúzcoa.—Objects of damasked iron. 252
- 439 Ibarzabal de Eibar, Teodoro, San Sebastian, Province of Guipúzcoa.—Objects of damasked iron. 252
- 440 Feu, P. & Sons, Madrid.—Crosses and ornaments. 252
- 441 Hernandez, Demétrio, Salamanca.—Toothpick case, of filigree silver. 252
- 442 Morán, Ramon S., Salamanca.—Cross and earrings. 252
- 443 Fernandez de Sola, Dolores, Madrid.—Embroidered shawls and other embroideries. 252
- 444 Martinez, Rosmunda, Avila.—Basket of wax grapes. 254
- 445 Garcia & Garcia, Julia, Avila.—Branch of flowers. 254
- 446 Garcia, Cristina, Badajoz.—Embroidered picture. 254
- 447 Lucenqui de Pimentel, Walda, Badajoz.—Paper pictures and album of design. 254
- 448 Oriol, Son of J., Barcelona.—Fans, umbrellas, and sunshades. 254
- 449 Riba Bros., Barcelona.—Hooks and eyes, and buttons. 254
- 450 Provincial Commission, Vivero, Province of Lugo.—Basket and needle-case of straw. 254
- 451 Feu, P., & Sons, Madrid.—Buttons. 254
- 452 Gutierrez, Juan Enrique, Madrid.—Fan. 254
- 453 Mozoncillo, Concepcion, Madrid.—Paper fan. 254
- 454 Gonzalez, Maria Cruz, Madrid.—Sunshade of embroidered satin. 254
- 455 Villalón, Eduardo, Madrid.—Human hair work. 254
- 456 Peña, Pantaleon, Madrid.—Wigs, human hair, album, etc. 254
- 457 Rey Gomez, Andrés, Presidio de Santoña, Province of Santander.—Lady's work-box, covered with straw. 254
- 458 Gimenez, Justo, Presidio de Santoña, Province of Santander.—Glove-box, covered with straw. 254
- 459 Fraola, José, Santoña, Province of Santander.—Bottles, covered with straw. 254
- 460 Bernbal, Manuel, Santoña, Province of Santander.—Straw hampers. 254
- 461 Urbina, Meliton, Santoña, Province of Santander.—Hampers and match-box, of straw. 254
- 462 Plaza, Salvador de la, Riaza, Province of Segovia.—Pins. 254
- 463 Soto & Barrera, Matilde, Toledo.—Flower basket. 252
- 464 Sans de Mardevall, Alejandro, Valencia.—Fans. 254
- 465 Massaguer & Lledó, Valencia.—Fans. 254
- 466 Noailles, Antonio, Zaragoza.—Canes and cane-heads. 254
- 467 Salvi y Don Antonio, Barcelona.—Combs of horn and tortoise shell. 254
- 468 Sabato Bros., Barcelona.—Leather belting. 254
- 469 Ribot & Bros., Estéban, Granada.—Portmanteau. 254
- 470 Martinez, Benito, Seville.—Leather trunks. 254
- 471 Yavas, Francisco, Barcelona.—Toys. 254
- 472 Casas, José, Havana, Cuba.—Hair work. 254
- 473 Fuentes & Ponte, Javier, Murcia.—Embroidered belt, cap, sandals, and photographs of national costumes. 257
- 474 Becerra & Gomez, Braulio, Vidriales, Province of Zamora.—Dress worn in the valley of Vidriales. 257
- 475 Perez, Miguel, Carvajales, Province of Zamora.—Cloak. 257
- 476 Heras, Elena de las, Almeida, Province of Zamora.—Complete woman's dress. 257
- Paper, Blank Books, and Stationery.
- 477 Quintana, Juan de, Las Palmas, Canary Islands.—Blotting sand. 258
- 478 Ferrer & Son, Widow of, Alcoy, Province of Alicante.—Cigarette paper. 259
- 479 Blanes Bros., Alcoy, Province of Alicante.—Cigarette paper. 259
- 480 Payá & Gisbert, Facundo, Cocentaina, Province of Alicante.—Cigarette paper. 259
- 481 Romani & Puigdemoglas, Juan, Capellades, Province of Barcelona.—Paper. 259
- 482 Vila & Son, Cristóbal, Capellades, Province of Barcelona.—Paper. 259
- 483 Valadia, Conradó, Barcelona.—Cigarette paper. 259
- 484 Capdevila & Co., Barcelona.—Paper. 259

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Stationery, Weapons, Medical and Surgical Appliances.

- 485 Villaseca & Pniggene, José, Barcelona.—Paper. 259
- 486 Ruis & Co., Pedro, Barcelona.—Cigarette paper. 259
- 487 Guarro, Wenceslao, Gélida, Province of Barcelona.—Paper. 259
- 488 Ferrer & Roca, Widow of F., Capellades, Province of Barcelona.—White and colored paper. 259
- 489 Romani & Tarres, Sons of, Capellades, Province of Barcelona.—Paper. 259
- 490 Prats, Widow & Sons of José, Capellades, Province of Barcelona.—Card-board for the manufacture of playing-cards. 259
- 491 Provincial Commission, Búrgos.—Writing-paper. 259
- 492 Torras Bros., San Juan las Fonts, Province of Gerona.—Writing-paper. 259
- 493 Riber & Co., Widow & Sons of José, Segovia.—Cigarette paper. 259
- 494 Garcia Martin, Modesto, Segovia.—Cigarette paper. 259
- 495 Gavarra & Son, Jaime, Reus, Province of Tarragona.—Cigarette paper. 259
- 496 Gavaarro, Mora, José, Bocayrente, Province of Valencia.—Cigarette paper. 259
- 497 Comas Delgado, Rafael, Onteniente, Province of Valencia.—Cigarette paper. 259
- 498 Pesquera, Alonzo, Miguel, Sardon del Duero, Province of Valencia.—Cigarette paper. 259
- 499 La Peña, Partners of, Bilbao, Province of Vizcaya.—Cigarette paper. 259
- 500 Provincial Commission, Búrgos.—Printing paper. 260
- 501 Coromina & Antiga, San Juan las Fonts, Province of Gerona.—Straw paper. 260
- 502 Martinez Lopez, Francisco, Caravaca, Province of Múrcia.—Brown paper. 260
- 503 Fulladosa & Co., Barcelona.—Playing-cards. 262
- 504 Inclán, Ramon, Yoca de Juarros, Province of Búrgos.—Card-boards. 262
- 505 Olea, Segundo of, Cádiz.—Complete pack of cards. 262
- 506 Maffei, Patrocínio, Cádiz.—Complete pack of cards. 262
- 507 Loix, Francisco, Rivadeo, Province of Lugo.—Papier-maché. 262
- Military and Naval Armaments, Ordnance, Firearms, and Hunting Apparatus.**
- 508 Metallurgical Company of San Juan de Alcaráz, Province of Albacete.—Cartridges for the Remington system. 265
- 508a Bronze Foundry, Seville.—Shells and canister shot. 265
- 509 Soldevilla, Estanislao, Madrid.—Double-barreled pistols. 265
- 510 National Manufactory of Firearms, Oviedo.—Rifle parts. 265
- 511 Manufactory of Arms, Toledo.—Remington cartridges. 265
- 512 Museum of Artillery, Madrid.—Bronze gun and accessories. 266
- 513 Artillery Corps, Seville.—Plasencia gun and accessories. 266
- 514 National Manufactory of Trubia, Province of Oviedo.—Carriage for eight centimeter mountain gun. 266
- 515 Manufactory of Side-arms, Toledo.—Side-arms. 268
- 516 Nieulant, Count of, Valencia.—Bayonet. 268
- 517 Manufactory of Arms, Toledo.—Hunting knife, Arabian sword blade, gumia (dagger) blade, and dagger. 268
- 518 Harzabel, Teodoro, San Sebastian, Province of Guipuzcoa.—Sword, dagger, and shield. 268
- 519 Osorio, Fernando, Madrid.—Pistols. 269
- 520 Fabra, Camilo, San Martin de Provençals, Province of Barcelona.—Mechanical fishing-rods. 270
- 521 Alien, Pedro, Gracia, Province of Barcelona.—Mechanical and hand fishing rods. 270
- 522 Roca Bros., Múrcia.—Wormgut fishing line. 270
- Medicine, Surgery, Prothesis.**
- 523 Arnaus, Melchor, Sabadell, Province of Barcelona.—Odontalgic elixir. 272
- 524 Gener, Pompeyo, Barcelona.—Medicinal syrups. 272
- 525 Terrades & Vallmana, Jaime, San Feliu de Guixol, Province of Gerona.—Liquid vulcanized sulphur. 272
- 526 Rubio Perez, Juan, Granada.—Essences, pastilles, syrups, and extracts. 272
- 527 Martinez, Carlos, Madrid.—Cicatrisant preparation. 272
- 528 Zaragoza, Manuel, Málaga.—Balsams, unguent, and Zaragoza waters. 272
- 529 Orduña, Calixto, Cascante, Province of Navarra.—Poppy capsules. 272
- 530 Gibert & Soler, Juan, Torredembarra, Province of Tarragona.—Lemon essence. 272
- 531 Corporation of Vinuesa, Province of Soria.—Chamomile. 272
- 532 Pelaez, Raphael, Havana, Cuba.—Balsam. 272
- 533 Serra & Font, José, Sabadell, Province of Barcelona.—Stomach liquor. 273
- 534 Casademont, Modesto, Barcelona.—Apparatus for the finishing of pills. 274
- 535 Revuelta Carrillo & Montes, Doctor, Jerez de la Frontera, Province of Cadiz.—Uteroscope. 276
- 536 Gastaldo, Doctor José, Madrid.—Elephantotome. 276
- 537 Pozuelo & Canto, Francisco, Madrid.—Gynecological apparatus. 276
- 538 Losada, Leocadio, Palacios de Goda, Province of Avila.—Set of teeth, atmospheric pressure. 277
- 539 Garcia, Martinez Francisco, Santiago de Compostela, Province of Coruña.—Superior set of teeth, atmospheric pressure. 277

Surgical Appliances, Hardware, Harness, Art.

- 540 Centeno, Luis, Seville.—Anatomical piece, and set of artificial teeth. 277
- 541 Valenzuela, Manuel, Seville.—Set of artificial teeth. 277
- 542 Military Park of Health, Madrid.—Sanitary material. 278
- Hardware, Edge Tools, Cutlery, and Metallic Products.**
- 543 Corporation of Bujalance, Province of Córdoba.—Gimlets for hard woods. 280
- 544 Cabeza, Angel, Husillos, Province of Palencia.—Hammers. 280
- 545 National Factory of Trubia, Province of Oviedo.—Files. 280
- 546 Rosa & Carin, Jaime, Torres-Torres, Province of Valencia.—Watchmaker's tool. 280
- 547 Metallurgical Co. of San Juan de Alcaráz, Province of Albacete.—Knockers, door knobs, latches, bolts, etc. 284
- 548 His Majesty the King of Spain, Madrid.—Locks and ornamental ironwork for dwellings. 284
- 549 Corcho, Domingo, Santander.—Bronze nails. 284
- 550 Flechoso, Gregorio, Santander.—Key and latch. 284
- 551 Benito, Santiago de, Escorial, Province of Madrid.—Lock and padlock. 284
- 552 Metallurgical Co. of San Juan de Alcaráz, Province of Albacete.—Collection of objects of metal. 284
- Carriages, Vehicles, and Accessories.**
- 553 Fuentes & Ponte, Javier, Murcia.—Piece from the body of an antique coach. 292
- Machines and Implements of Spinning, Weaving, Felting, and Paper-making.**
- 569 Abriell, José Carreras.—Harness and reeds for looms. 521
- Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.**
- 570 Escuder y Castella, Miguel.—Sewing machines. 531
- Motors and Apparatus for the Generation and Transmission of Power.**
- 571 Bentabol y Ureta, Horatio, Madrid.—Apparatus for the rectilinear transmission of power.
- 554 Saiz, Juan, Burgos.—Saddle armor. 296
- 555 Direction General of Cavalry, Madrid.—Complete mounting. 296
- 556 Rodriguez Zurdo, José, Madrid.—Ladies' saddles, with bridles, bits, etc. 296
- 557 Diaz, Antonio, Málaga.—Andalusian harness. 296
- 558 Fuentes & Ponte, Javier, Murcia.—Soft skin put on the forehead of working oxen to prevent their being hurt by the yoke; halter, breast-leather, crupper. 296
- 559 Rio, Rafael del, Peñaranda de Bracamonte, Province of Salamanca.—Hemp bridles. 296
- 560 Muñoz, Bruno, Peñaranda de Bracamonte, Province of Salamanca.—Horse cover. 296
- 561 Martin & Bros., Demétrio, Peñaranda de Bracamonte, Province of Salamanca.—Horse cover. 296
- 562 Aranda & Co., Garcia, Antonio, Sonseca, Province of Toledo.—Horse covers. 296
- Miscellaneous Art Objects.**
- 563 Feu, P., é hijos, Madrid.—Collection of medals. 454
- 564 Gelabert, R. y hermano, Barcelona.—Ornamental models in frames. 454
- 565 Laties, Marcos, Madrid.—Four shields; coat of arms; six frames, with subjects in bronze. 454
- 566 Pando, Acha y Garcia, Seville.—An ornamented iron frame. 454
- 567 Metallic Co. of San Juan de Alcaraz, Province of Albacete.—Collection of metallic objects. 454
- 568 Harzahal, Teodoro, St. Sebastian, Province of Guipuzcoa.—Sword, knife, and shield. 454
- Railway Plant, Rolling Stock, and Apparatus.**
- 572 Campos, Manuel Maria, [Habana, Cuba.
a. Models of wagons. 571
b. System of movable rails. 574
- Aerial, Pneumatic, and Water Transportation.**
- 573 Ballesteros, Elias Aurelio, Madrid.—Apparatus for aerial navigation. 592
- 576 Arozena, Sebastian, Santa Cruz de Palma, Canary Islands.—Designs and models of boats and vessels. 594

For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 27-45.

PHILIPPINE ISLANDS.

(*South of Nave, Columns 16 to 18.*)

COLLECTIVE EXHIBIT.

Chemical Manufactures, Woven Goods.

Chemical Manufactures.

- 1 Inspection-General of Woods & Forests.—Ashes. 200
- 2 Rodriguez, Lucia, Province of Pampanga.—Tintarron. 202
- 3 Buison, Nicasio, Province of Bataan.—Tantarron. 202
- 4 Gonzalez, Mariano, Province of Santa Cruz, Province of Manila.—Japan varnish. 202
- 5 Rodriguez, José, Province of Ilocos Sur.—Indigo. 202
- 6 Rodoreda, Francisco, Province of Manila.—Indigo. 202
- 7 Llamas, Gabriel de, Province of Manila.—Balsam Dugtungajas. 203
- 8 Gruppe, Gustavo, Province of Manila.—Philippine drugs. 203
- 9 Reymann, Oscar, Province of Manila.—Philippine essences. 203
- 0 Westernhagen, Agustin, Province of Manila.—Philippine essences. 203
- 1 Provincial Board, Province of Batangas.—Balsam maria, and Pacayaus. 203

Yarns and Woven Goods, of Vegetable or Mineral Materials.

- 12 Alibalas, Crisanto, Province of Bulacan.—Buri mats. 229
- 13 Gil, Rafael, Province of Pampanga.—Buri brooms. 229
- 14 Villamarzo, Tiburcio, Province of Tayabas.—Buri mats. 229
- 15 Oliveros, Miguel, Province of Pampanga.—Buri mats and bags. 229
- 16 Buison, Julian, Province of Pampanga.—Buri mats. 229
- 17 Rojas, Juan M., Province of Pangasinan.—Buri mats and Saguran matting. 229
- 18 Vera Bauton, Maria, Province of Albay.—Work baskets. 229
- 19 Ramos, José, Province of Bohol.—Saguran mats. 229
- 20 Provincial Board, Province of Masbate.—Nito baskets. 229
- 21 Provincial Board, Province of Mindoro.—Basket of cane and nito. 229
- 22 Provincial Board, Province of Bohol.
 - a Sagurang, Sabatan mats and buri bags. 229
 - b Buri and sinamay fabrics. 233

- 23 Provincial Board, Province of Batangas.
 - a Buri mats. 220
 - b Cotton fabrics. 230
 - c Sinamay, Guinaras, and Jusi fabrics. 233
- 24 Provincial Board, Province of Antigua.
 - a Cocoa basket. 229
 - b Cotton fabrics and counterpanes. 230
 - c Abacá, sinamay, piña and jusi fabrics. 233
- 25 Villamen, Clemencia, Province of Batangas.—Cotton bagging. 230
- 26 Bravo, Fr. Antonio, Province of Pampanga.—Cotton tapestry. 230
- 27 Gomez, Nepomuceno, Province of Pampanga.—Cotton towels and napkins. 230
- 28 Martinez, Margarita, Province of Ilocos Sur.—Cotton fabrics. 230
- 29 Batlle y Hernandez, José Paoay, Province of Ilocos N.—Cotton blanket. 230
- 30 Prado, Margarito, Province of Antigua.—Cotton towel. 230
- 31 Simson, Alexandra, Province of Ilocos Sur.—Cotton fabric. 230
- 32 Mendez, Bartolomé A., Province of Batangas.—Cotton fabric. 230
- 33 Garcia, Cipriana, Province of Pampanga.
 - a Cotton napkins and fabric. 230
 - b Fabrics of pineapple leaf fibres. 233
- 34 Dumayuga, Procesa, Province of Batangas.
 - a Cotton handkerchief and saya (native garment). 230
 - b Abacá fabrics, and shirt of sinamay. 233
- 35 Provincial Board, Province of Mindanao.
 - a Cotton fabrics. 230
 - b Dyed cotton fabrics. 230
 - c Guinaras fabric. 233
- 36 Governor and Municipality of San Pedro, Province of Antigua.
 - a Cotton counterpanes. 231
 - b Fabrics of sinamay and pineapple leaf fibres. 233
- 37 Reyes, Juana, Province of Batangas.—Abacá shirting. 233
- 38 Agregado, Angel, Province of Batangas.—Abacá shirting. 233
- 39 Sangalan, Maria, Province of Batangas.—Towels. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods, Silk, Clothing, Fancy Articles.

- 40 Governor and Municipality of Libalón, Province of Antigua.—Sinamay fabric. 233
- 41 Quiamson, Lázaro, San José, Province of Cavite.—Sinamay fabric. 233
- 42 Governor and Municipality of Sibalón, Province of Antigua.—Sinamay fabric. 233
- 43 Rania, Tio de la, Province of Iloilo.—Sinamay fabric and piña and jusi handkerchiefs. 233
- 44 Calacao, Apolinario, Province of Iloilo.—Sinamay fabric. 233
- 45 Provincial Board, Province of Samar.—Jusi fabric. 233
- 46 Feced, José, Province of Manila.—Piña and abacá fabrics. 233
- 47 Flores, Segunda, Manila, Province of Manila.—Sinamay fabric, and jusi shirt and handkerchief. 233
- 48 Temprado, Ramon F., Province of Camarines Sur.—Handkerchiefs of pineapple leaf fibres and sinamay. 233
- 49 Prieto, Federico, Province of Albay.—Abacá fabric. 233
- 50 Gallegos, Tomás, Province of Albay.—Sinamay fabric. 233
- 51 Roca, Joaquim E. de, Province of Albay.—Guinaras fabric. 233
- 52 Prieto, Federico, Province of Albay.—Jusi fabric. 233
- 53 Yuson, Plácido, Province of Iloilo.—Jusi fabric. 233
- 54 Riosa, Juana, Province of Albay.—Jusi fabric. 233
- 55 Hernandez, Telesforo, San José, Province of Batangas.—Jusi fabric. 233
- 56 Guevara, Saturnino, Province of Ilocos Sur.—Fabric of pineapple leaf. 233
- 57 Provincial Board, Province of Leyte.—Sinamay and guinaras fabrics. 233
- 58 Provincial Board, Province of Tayabas.—Fabric of pineapple leaf and sinamay. 233
- 59 Gonzalez J., Dolores, Province of Batangas.—Jusi handkerchiefs. 233
- 60 Provincial Board, Province of Albay.—Sinamay fabric. 253
- Silk and Silk Fabrics.**
- 61 Provincial Board, Province of Pampanga.—Silk tapestry. 246
- 62 Bravo, Antonio, Macabebe, Province of Pampanga.—Silk handkerchief. 247
- 63 Provincial Board, Province of Batangas.—Silk handkerchiefs. 247
- 64 Flores, Segunda, Manila, Province of Manila.—Silk saya. 247
- 65 Gomez, Nepomuceno, Province of Pampanga.—Silk handkerchiefs. 247
- 66 Feced, José, Province of Manila.—Silk handkerchief. 247
- Clothing, Jewelry, and Ornaments; Traveling Equipments.**
- 67 Reyes, Juana de los, Province of Batangas.—Cotton pantaloons. 250
- 68 Saludares, Wenceslao, Province of Tayabas.—Nito and panday hats. 251
- 69 Esteves, Fr., Province of Albay.—Nito hat. 251
- 70 Rosales, Gregoria, Province of Tayabas.—Buri hats. 251
- 71 Arguin, Eustaquio, Province of Tayabas.—Nito webs. 251
- 72 Gallego, Tomás, Province of Albay.—Nito hat. 251
- 73 Provincial Board, Province of Manila.
- a Nito hats, sandals, and clogs. 251
- b Nito cigarette cases. 254
- 74 College of St. Isabel, Province of Manila.
- a Sandals for women. 251
- b Embroidered velvet watch-stand. 252
- c Pictures of artificial flowers and hair-work. 254
- 75 Prieto, Federico, Tabaco, Province of Albay.
- a Nito and Buri hats. 251
- b Nito cigarette cases. 254
- 76 Rojas, Juan M. de, Province of Pangasinan.
- a Buri and Nito hats. 251
- b Buri, Nito, and Uay cases. 254
- 77 Martinez, Dorotea, Province of Batangas.—Embroidered silk bag. 252
- 78 Mendoza, Perfecta, Province of Manila.—Picture and embroidered pin-cushion. 252
- 79 Morales, Lucina, Santa Cruz, Province of Manila.—Embroidery. 252
- 80 Davila, Teodora, Navotas, Province of Manila.—Embroidered shawl. 252
- 81 Trinidad, Maria, Province of Batangas.—Silk bag embroidered with gold. 252
- 82 Badon, Bartolomé, Province of Camarines Sur.—Embroidered sleeves made of pineapple leaf fibres. 252
- 83 Batlle y Hernandez, José, Hermita, Province of Manila.—Embroidered handkerchiefs made of pineapple leaf fibres. 252
- 84 Provincial Board, Lucban, Province of Tayabas.—Buri cases. 254
- 85 Cadelino, Pedro, Province of Tayabas.—Salacot (natural head-dress) of horn. 254
- 86 Feced, José, Province of Manila.—Tobacco and cigarette cases. 254
- 87 Vidal, Balinag, Province of Bulacan.—Nito cases. 254
- 88 Garcia, Cipriano, Province of Pampanga.—Silk purses with silver rings. 254
- 89 Reyes, Laureana; Huerto, Josefa; Martinez, Arcadia; Bello, Toribia, Province of Batangas.—Ornaments of fish scales. 254
- 90 Provincial Board, Province of Batangas.—Picture of artificial branches. 254
- 91 Ilustre, Gregoria, Taal, Province of Batangas.—Ornament of glass beads. 254
- 92 Uson, Antonio, Province of Ilocos Sur.—Pipes, buttons of buffalo horn, gold-headed coral cane. 254
- 93 Provincial Board, Province of Manila.—Tortoise-shell combs and horn drinking-cups. 254

Clothing, Fancy Goods, Weapons, Harness.

- 94 Leonardo, Quintin, Province of Laguna.—Salacot (national head-dress) of horn and silver. 254
- 95 Ilagan, Gregoria; Ilagan, Leoncia; Cabrera, Eulalia; Garcia, Leoncia; Montenegro, Eulalia; Montenegro, Maria, Province of Batangas.—Feathers with gold. 254
- 96 Ilustre, Timotea, Province of Batangas.—Flowers of glass beads. 254
- 97 Máximo, Isabel & Evarista, Province of Batangas.—Artificial flowers. 254
- 98 Jordana & Morera, Manila, Province of Manila.—National wearing apparel. 257
- 99 Provincial Board, Province of Batangas.—Pantaloons and saya, the national garment. 257

Weapons, etc.

- 100 Economical Society, Province of Manila.—Collection of national arms and photographs of same. 265
- 101 Provincial Board, Province of Mindanao.—Collection of national arms and photographs. 265
- 102 Provincial Board, Province of Bulacan.—Hunting-knives and sheaths. 268

Carriages, Vehicles, and Accessories.

- 103 Osmeña, Rita, & Co., Province of Cebú.—Harness made of abacá. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

PORTUGAL.

(South of South Avenue, Columns 13 to 17.)

Chemical Manufactures, Ceramics.

Chemical Manufactures.

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| <p>1 Direction of the Works at Mondego river & Figueira bar, Figueira da Foz.—Salt. 200</p> <p>2 Samora Correa, Baroness, Lisbon.—Salt. 200</p> <p>3 Companhia das Lezirias do Tejo e Sado, Lisbon.—Salt. 200</p> <p>4 Vinva, A. J. Judice, Masilhaeira.—Salt. 200</p> <p>5 Bandeira, A.S.B.M., Setubal.—Salt. 200</p> <p>6 Branca, Anna Delphina, Alcacer do Sal.—Salt. 200</p> <p>7 Bivar, Jeronymo, d'A. C. de, Algarve.—Salt. 200</p> <p>8 Cooke & Co., Figueira da Foz.—Salt. 200</p> <p>9 Drack, Jr., José R. G., Lisbon.—Pharmaceutical preparations. 200</p> <p>10 Cresswell & Co., Lisbon.—Salt. 200</p> <p>11 Castello Branco, Joaó da S. F., Villa Franca de Xira.—Salt. 200</p> <p>12 Delegny Bros., Lisbon.—Chemicals. 200</p> <p>13 Franco, Pedro Augusto, Belem.—Pharmaceutical preparations. 200</p> <p>14 Figueiredo, Joaquim, Aviz.—Pharmaceutical preparations. 200</p> <p>15 Ferraz, José Libertador Magalhaes, Coimbra.—Pharmaceutical preparations. 200</p> <p>16 Galiano, Manuel d'Asfes, d'Oliveira, Oporto.—Pharmaceutical preparations. 220</p> <p>17 Gragera, Antonio Maria Mendes, Villa Nova de Reguengos.—Pharmaceutical preparations. 200</p> <p>18 Judice, V. A. J., Mexilhoeira.—Salt. 200</p> <p>19 Jesus, Manuel Vicente de, Lisbon.—Pharmaceutical preparations. 200</p> <p>20 Lezirias Co., Lisbon.—Salt. 200</p> <p>21 Leite, Francisco de Paula, Alcacer do Sal.—Salt. 200</p> <p>22 Lima, Guilherme A. E., Lisbon.—Pharmaceutical preparations. 200</p> <p>23 Meirelles, Antonio Moreira de Souza, Faro.—Salt. 200</p> <p>24 Miranda & Sons, Lisbon.—Salt. 200</p> <p>25 Pires, Joao Luiz, Lisbon.—Salt. 200</p> <p>26 Pedroza, Dellaria José Lopes, Figueira.—Salt. 200</p> <p>27 Pires, Joao de Jesus, Lisbon.—Patent medicines. 200</p> <p>28 Rei, Jose Joaquim, Lisbon.—Pharmaceutical preparations. 200</p> | <p>29 Salgueiro, Nuno Freire Dias, Oporto.—Pharmaceutical preparations. 200</p> <p>30 Serzedello & Co., Lisbon.—Chemicals. 200</p> <p>31 Silva, Silverio Augusto Percira da, & Francisco Antonio, Marques de Moura, Aveiro.—Salt. 200</p> <p>32 Schurmann, Adolpho, Lisbon.—Patent medicines 200</p> <p>33 Torlades, O'Neill, Setubal.—Salt. 200</p> <p>35 Alcacer do Sal, Viscount d', Alcacerdo Sal.—Salt. 200</p> <p>36 Peres, Joaquim Manuel de Mattos, Evora.—Soaps 201</p> <p>37 Gueiroz, José Sequeira Pinto de, Vianna.—Orange-peel oil. 201</p> <p>38 Navarro & Co., Beja.—Soap. 201</p> <p>39 Tenorio, Francisco Domingues.—Soap. 201</p> <p>40 Vieira, Agostinho José, Villa Nova de Gaia.—Soap. 201</p> <p>41 Mello, Antonio José Teixeira, Lisbon.—Wax candles. 201</p> <p>42 Esmoriz, Manuel Ferreira, Oporto.—Soaps. 201</p> <p>43 Department of Public Works, Lisbon.
 <i>a</i> Wax candles. 201
 <i>b</i> Blacking. 202</p> <p>44 Costa, Joaquim Soares da, Oporto.—Oils. 201</p> <p>45 Burnay, Viuva de J. B. B., Lisbon.—Oils. 201</p> <p>46 Administrative Board of Works for the artificial port of Ponta Delgada.—Building materials. 102</p> <p>47 Ferreira da Silva, Agostinho, & Co.—Common and fancy soaps. 201</p> <p>48 Board of Public Forests, Lisbon.—Turpentine, oil, and spirits 202</p> <p>49 Costa, Rodrigo de Campos, Soure.—Writing-ink. 202</p> <p>50 Moedas, José, Moura.—Building materials. 102</p> <p>50<i>a</i> Torres, Felciano Luiz, Lisbon.—Paints and varnishes. 202</p> <p>51 Mendona, Thomaz Antunes de, Lisbon.—Blue. 202</p> <p>52 Souza Braga, Joar José, Oporto.—Writing-ink. 202</p> <p>53 Domingo, Juan, Lisbon.—Wax matches. 204</p> <p>Porcelain, Ceramics—Pottery, Glass, etc.</p> <p>54 Silva, Miguel da, Evora.—Pottery. 206</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Ceramics, Glass, Furniture, Woven Goods.

- 55 Papanhos, Balthasar José, Beja.—Bricks, tiles, and bricks dried in the sun, etc. 206
- 56 Pimentao, Antonio Ayres.—Pottery. 206
- 57 Marcal, Joao Lopes, Evora.—Bricks, tiles, etc. 206
- 58 Oliveira Soares, M. de, Evora.—Bricks and tiles. 206
- 59 Mira, José Paulo de, Evora.—Tiles, bricks, etc. 206
- 60 Neuville, Luis, Lisbon.—Ceramics. 206
- 61 Joao, Antonio, Evora.—Ceramics. 206
- 62 Martins, Alberto Cypriano, Lisbon.—Pottery. 206
- 63 Coelho, Francisco, Torres Novas.
a Bricks. 206
b Tiles. 208
- 64 Alves Cunha, José, & Mendonça, Henriquetta S., Caldas da Rainha.—Ceramics. 206
- 65 Lamego, Antonio da Costa, Lisbon.
a Architectural pottery. 206
b Tiles. 208
c Earthenware and faience. 210
- 66 Almeida da Costa, Antonio d', & Co., Oporto.
a Architectural pottery. 206
b Tiles. 208
c Earthenware and stoneware. 210
- 67 Boim & Co., Ponta Delgada.
a Architectural pottery. 206
b Dutch tiles, plain and ornamented. 208
c Stone china. 210
- 68 Rio Junior, J. do, Oporto.—Dutch tiles. 208
- 69 Victoria, José Goncalves, Aveiro.—Earthenware. 210
- 70 Scholfield, John Howarth, Lisbon.—Stoneware, faience, etc. 210
- 71 Marques, Pedro Antonio, Aviero.—Glazed earthenware. 210
- 72 Marques, Joao da Rosa, Entremoz.—Earthenware. 210
- 73 Manuel Leita Pereira & Bro., Ponta Delgada.—Glazed pottery. 210
- 74 Mafra, Manuel Cypriano Gomes, Caldas.—Ceramics (Caldas ware). 210
- 75 Conquis, Manuel, Ponta Delgada.—Earthenware. 210
- 76 Department of Public Works, Lisbon.—Earthenware. 210
- 77 Campolini, Miguel, Oporto.—Earthenware. 210
- 78 Coimbra, Candido.—Black earthenware. 210
- 79 Fanfarrao, Joao, Villa Verde.—Earthenware. 210
- 80 Cavaquinha, Joaquim Antonio, Beja.—Earthen water-vessel. 210
- 81 Borges, Joaquim Antonio, Vianna do Alentejo.—Earthenware. 210
- 82 Vista Alegre Porcelain Manufactory, Vista Alegre.—Table, toilet, and decorative porcelain. 213
- 83 Montes, Manuel Alvares, Oporto.—Cylindrical glass, plate and window glass. 214
- 84 Marinha Grande Royal Glass Manufactory.—Marinha Grande.
a Glass. 214
b Glassware. 216
- 85 Margarido, Manuel d'Oliveira, Oporto.—Bottle and flask. 215
- 86 Cabo Mondego Mining Industrial Co., Figueira.—Specimens of glass work. 216
- Furniture and Objects of General Use in Construction and in Dwellings.**
- 87 Barboza & Costa, Lisbon.—Praying desk of pock wood. 217
- 88 Chaves, Augusto P. dos S., Lisbon.—Iron furniture. 217
- 89 Vallongo Slate & Marble Quarries Co., Oporto.
a Billiard and other tables. 217
b Stoves. 222
- 91 Gaspar, Manuel Rodrigues, Funchal.—Table. 217
- 92 Industrial Institute of Oporto, Oporto.—Silver cup and trays. 218
- 93 Gold Working Co., Oporto.—Plate. 218
- 94 Santos & Bro., Oporto.—Mirrors. 219
- 96 Corta, Basto, & Co., Oporto.—Drawing-room stoves. 222
- 97 Maralha, Pedro, Beja.—Brass pitcher. 224
- 98 Department of Public Works, Lisbon.—Kitchen utensils. 224
- 99 Alcobia, Joao Thomé, Lisbon.—Tin-ware and apparatus used in cooking. 224
- 100 Moreira, Antonio B., & Bro.—Cast iron pots. 224
- 101 Santos, Joaquim Autunes dos, Lisbon.—Marble bath. 226
- Yarns and Woven Goods of Vegetable or Mineral Materials.**
- 102 Ferreira, Manuel Simoes, Aveiro.—Sieves. 228
- 103 Panada, Joao Luiz, Lisbon.—Woven goods of mineral origin. 228
- 104 Lopez do Campo, Amaro, Beja.—Sieves. 228
- 105 Carvalho, D. Maria da C., Ponta Delgada.—Articles of Guinea aloes fibre. 229
- 106 Borges, Manuel da Cunha, Ponta Delgada.—Grass mats. 229
- 107 Dabney, R. L., Fayal, Azores.—Straw mat. 229
- 108 House of Correction, Lisbon.—Mats, coarse fabrics of rushes. 229
- 109 Lisbon Central Jail, Lisbon.—Mats. 229
- 110 Machado, Manuel, Ponta Delgada.—Marsh reed matting and straw fabrics. 229
- 111 Lima, Carvalho, Fayal.—Plaited straw. 229
- 112 Melindre, Joaquin d'Oliveira, Oporto.—Matting. 229
- 113 Margarido, Manuel d'Oliveira, Oporto.—Matting. 229

Woven Goods.

- 114 Santos, José Marques, Ovar.—
Coarse matting. 229
- 115 Silvas, Manuel Dias da, Oporto.—
Drawing-room matting. 229
- 116 Silva, José Pinto, Aveiro.—Mats. 229
- 117 Silva, Bruno da, Lisbon.—Straw
mats. 229
- 118 Santos, Antonio Marques dos,
Braga.—Kush mats. 229
- 119 Thomar Royal Weaving Co., Tho-
mar.—Cotton yarns and fabrics. 230
- 120 Xabregas Cotton Manufactory,
Lisbon.—Cotton yarns and fabrics. 230
- 121 Torres Novas National Spinning
& Weaving Co., Torres Novas.—Cotton
fabrics, bleached and unbleached. 230
- 122 Souza & Silva, Antonio José, Val-
longa.—Cotton yarns. 230
- 123 Rezendes, Barbara, Ponta Delega-
da.—Counterpane. 230
- 124 Rio Vizella Weaving Co., Oporto.—
Cotton yarns. 230
- 125 Oporto Weaving Co., Oporto.—
Cotton yarns. 230
- 126 Neves, Casuniro de Castro, Opor-
to.—Cotton yarns. 230
- 127 Nogueira, Manuel Augusto, Ponta
Delgada.—Cotton canvases. 230
- 128 Deut, José Rodriguez de, & Co.,
Torres Novas.—Unbleached cotton can-
vases. 230
- 129 Leite, Tito José, Oporto.—Cotton
yarns. 230
- 130 Lisbon Spinning & Weaving Co.,
Lisbon.—Cotton yarns and fabrics,
bleached and unbleached. 230
- 131 Fraternal Association of Weavers
& Correlative Trades, Braçal.—Cotton
fabrics. 230
- 132 Ferricra, Joao José, Oporto.—Tow-
eling. 230
- 133 Department of Public Works, Lis-
bon.
a Cotton fabrics. 230
b Linen fabrics. 233
- 134 Crestuma Weaving Co., Oporto.—
Cotton yarns. 230
- 135 Carneiro, Annã, Ponta Delgada.—
Counterpane. 230
- 136 Camara, Manuel da, Ponta Delga-
da.—Embroidered table cloth. 230
- 137 Barraya, Maria, Safara, Alemtijo.
—Counterpane. 230
- 138 Albuquerque, Caetano de A., Pon-
ta Delgada.—Cotton rags. 230
- 139 Diaz, Rodrigo A. F., Oporto.
a Cotton fabrics. 230
b Linen fabrics. 233
- 140 Nabinho, José da Fonseca, Oporto.
a Cotton twine. 230
b Linen twine. 233
- 141 Bahia & Genro, Oporto.
a Cotton fabrics. 230
b Linen fabrics. 233
- 142 Michon, André, Oporto.
a Cotton fabrics. 230
b Linen fabrics. 233
- 143 Moreira, Manuel José, Ponta De-
gada.
a Counterpane of colored linen and cot-
ton. 230
b Unbleached linen fabrics. 233
- 144 Mello, José Carneiro de, Oporto.
a Cotton fabrics. 230
b Linen fabrics. 233
- 145 Gueiroz, Antonio Gonçalves, Opor-
to.—Cotton prints. 232
- 146 Lisbon Dyeing & Cotton Printing
Co., Lisbon.—Cotton prints. 232
- 147 Etur, Augusto Frederico, Sacavem.
—Cotton prints. 232
- 148 Anjos & Co., Lisbon.
a Cotton prints. 232
b Handkerchiefs. 233
- 149 Guimaraes, Joaquim A. da S., Son,
& Genro, Oporto.—Cotton prints. 232
- 149*x* Anjos, Cunha, Ferreira, & Co.,
Lisbon.
a Cotton prints. 232
b Handkerchiefs. 233
- 150 Guimaraes, Antonio da Costa, Gui-
maraes.—Linen fabrics, towels, napkins,
thread, vases made of thread. 233
- 151 Guimaraes, Balthasar J. P., Pena-
fiel.—Linen woof. 233
- 152 Guimaraes, Manuel M. R., Gui-
maraes.—Linen table cloths and napkins.
233
- 153 Guerra, Joaquim Baptista da Silva,
Oporto.—Linen stuffs, nets. 233
- 155 Castro, Joao Vaz Pacheco, Ponta
Delgada.—Packing thread. 233
- 156 Carvalho, Isabel Candida Alves,
Mondein de Basto.—Linen fabrics. 233
- 157 Baptista, Joao Guerreiro, Almodo-
var.—Linen yarns and fabrics. 233
- 158 Brum, Caetano de, Ponta Delgada.
—Linen duck. 233
- 159 Collaço, Manuel Matheus, Castro
Verde.—Linen fabrics. 233
- 160 Camara, D. H. Gago da, Ponta Del-
gada.—Linen fabrics and threads. 233
- 161 Canto, Anna Adelaide, Ponta Del-
gada.—Linen yarns. 233
- 162 Almeida, Jacintho Pacheco, Ponta
Delgada.—Linen fabrics. 233
- 163 Teixeira, Maria Amalia, Ponta Del-
gada.—Reeled linen thread, bleached and
unbleached. 233
- 164 Silva, José Pinto, Aveiro.—Linen
stuffs. 233
- 165 Santos, Ascencio José dos, Valença
—Linen counterpanes, napkins, etc. 233
- 166 Pacheco, J. V., Ponta Delgada.—
Striped linen counterpanes. 233
- 167 Pacheco, Antonio Vaz, Ponta Del-
gada.—Linen stuffs. 233
- 168 Pacheco, Francisco Jeronymo, Pon-
ta Delgada.—Uncolored linen fabrics and
linen threads. 233
- 169 Rosa, Izable, Castro Verde.—Nap-
kins. 233
- 170 Peres, Joaquim Manuel de Mattos,
Evora.—Linen fabrics. 233
- 171 Mesquita, Pedro José de, Taboa.—
Linen fabric. 233
- 172 Nobre, J. R. Furtado, Odemira.—
Linen yarns and fabrics. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven and Felted Goods, Silks.

- 173 Magalhaes, Francisco Thiago, Taboa.—Linen fabric. 233
- 174 Lança, Francisco Parreira de, Castro Verde.—Linen fabrics. 233
- 175 Barboza Marinho, Veuva, Lisbon.—Oil cloths. 234
- Woolen and Felted Goods of Wool, etc.**
- 176 Silva, José Francisco, Redondo.—Brown woolen cloth (Saragossa). 235
- 177 Rosa, Vicencia, Ithavo.—Woolen fabrics. 235
- 178 Portalegre National Wool Manufacturing Co., Portalegre.
a Cloths. 235
b Cassimeres. 238
- 179 Perdigao, Miguel Salvado, San Miguel de Machede.—Brown woolen cloth. 235
- 180 Peres, Joaquim Manuel de Matos, Evora.—Woolen fabrics. 235
- 181 Neves, Balbina das, Serpa.—Coarse woolen fabrics. 235
- 182 Andrade, Antonio Pequito Sieras de Gaviás, Portalegre.—Wool. 235
- 183 Padronello Woolen Manufacturing Co., Amarante.—Card-wool fabrics. 235
- 184 Ponte, Jose Caetano da, Almodovar.—Woolen fabrics. 235
- 185 Mello, Gil Tavares, Ponta Delgada.—Yarn. 235
- 186 Netto, Antonio Eugenio Bello, Macao.—Woolen fabrics. 235
- 187 National Rope Yard, Belem.—Yarn. 235
- 188 Mirrada, José Pedro Meudas, Macao.—Card-wool fabrics. 235
- 189 Leandro, Manuel, Beja.—Woolen fabrics. 235
- 190 Lança, Francisco Parreira de, Castro Verde.—Woolen fabrics. 235
- 191 Lordello Woolen Manufacturing Co., Oporto.—Cloths, cassimeres. 235
- 192 Department of Public Works, Lisbon.—Woolen fabrics, yarns. 235
- 193 Campo Grande, Company of Woolen Manufacturers of, Lisbon.—Card-wool fabrics, kerseymeres, etc. 235
- 194 Custodio & Silva, Covilha.—Woolen fabrics. 235
- 195 Burnay, Constant, Lisbon.
a Woolen fabrics, kerseymeres, plaids. 235
b Blankets. 237
- 196 Costas & Carvalho, Oliveira, d'Azemeis.
a Woolen cloths. 235
b Shawls. 237
- 197 Collaço, Manuel Matheus, Castroverde.
a Woolen fabrics. 235
b Combined wool fabrics. 238
- 198 Bibianno, Antonio Alves, Lisbon.—Broadcloth. 235
- 199 Bernardo, Daupias, & Co., Lisbon.—Woolen fabrics. 235
- 200 Nabinho, José da Fonseca, Oporto.—Woolen twine. 235
- 201 Pacheco, Francisco Jeronymo, Ponta Delgada.—Plain flannel. 236
- 202 Guilherme, Maria, Castro Verde.—Coarse blankets. 237
- 203 Simaes, Rosa Clara, Aveiro.—Blanket. 237
- 204 Pignatelli, José da Cunha, Guarda.—Blanket. 237
- 205 Piteira, Filipe, Serpa.—Blankets and mantilla. 237
- 206 Department of Public Works, Lisbon.—Blankets. 237
- 207 Guerra, Joaquim Baptista da Silva, Oporto.—Poplins. 238
- 208 Campos, Mello, & Co., Covilha.—Kerseymeres. 238
- 209 Costa, Clemente Joaquim da, Ponta Delgada.—Mixed fabrics of linen and wool. 238
- 210 Albuquerque, Caetano de A., Ponta Delgada.—Counterpane of linen and wool. 238
- 211 Abren e Lima, Joao A., Ponta Delgada.—Table cloth of linen and wool. 238
- 212 Santos, Ascencio José dos, Valença.—Combined woolen fabrics. 238
- 213 Pacheco, J. V., Ponta Delgada.—Combined wool fabrics, for blankets and wearing apparel. 238
- 214 Almeida & Silva, José Soares d', Oporto.—Mats. 239
- 215 Fernandes, Manuel, Coimbra.—Goat's hair cloth. 240
- Silks and Silk Fabrics.**
- 216 Sonto, Antonio Manuel Granzo, Nova Visen.—Silk cocoons. 242
- 217 Vasconcellas, Jacintha P., Villa Nova de Leacira, Oporto.—Raw silk. 242
- 218 Silva, Antonio José de Lansa e Valongo, Oporto.—Silk cocoons. 242
- 219 Patricio, Francisco Antonio, Guarda.—Silk cocoons. 242
- 220 Queiroz, José de Sequeira Pinto, S. Sebastiao do Duque, Vianna do Castello.—Raw silk. 242
- 221 Reis, José Antonio, Moncorvo, Bragança.—Raw silk. 242
- 222 Pereira, Antonio de la Velha, Bragança.
a Raw silk, silk cocoons. 242
b Thrown silk. 243
- 223 Vasconcellas, Joas da Camara Seure Hornema, Funchal, Madeira.
a Raw silk. 242
b Spun silk and web. 244
- 224 National Silk Spinning & Weaving Manufactory, Lisbon.
a Cocoons, raw silk. 242
b Twisted silk. 243
c Woven silks. 245
- 224a Pereira, Antonio de la Velha, Bragança.
a Raw silk. 242
b Thrown silk. 243
c Silk cocoons. 244
- 225 Brandao, José Marçal, Oporto.—Twisted sewing-silk. 243
- 226 Silva, Antonio J. P. da, & Alves.—Twisted sewing-silks. 243

Woven Goods, Silks, Clothing.

- 227 Egyptian Silk Growing Co., Oporto.
—Spun silk yarns. 244
- 228 Cavalho, José Baptista Valhe,
Passos, Vilha Real.—Spun silk. 244
- 229 Azevedo, Miguelina Julia de J.
Garvea Roris, Oporto.—Spun silk. 244
- 230 Ribas, Limas, Guarda.—Silk wefts.
244
- 231 Silva, David Jose da, & Sons,
Oporto.
a Satin and gold damasks. 245
b Figured silk. 246
c Gold tissue. 249
- 232 Ramires & Ramires, Lisbon.—
Woven silks. 245
- 233 Pimentel & Queiroz, Oporto.
a Plain silks, serges, tailles, glaces, and
satins. 245
b Figured silks. 246
c Velvets. 247
- 234 Moreira, Verdeiras de Manuel Custodia,
Oporto.
a Plain damask. 245
b Figured damask. 246
c Satin handkerchiefs. 247
- 235 Fouseca, Manuel da Motta, Oporto.
a Serges. 245
b Figured satin handkerchiefs. 247
- 236 Awaújo, Antonio J. B. de., Braga.
—Damasked silk. 246
- 237 Guerra, Joaquim Baptista da Silva,
Oporto.
a Brocates. 246
b Satin handkerchiefs. 247
- 238 Vasconcellos, José da Silva Pereira,
Braga.
a Damask. 246
b Black velvet. 247
- 239 Manuel, Joaquim de Luna & F.,
Oporto.—Black velvet. 247
- 240 Silva, Manuel José Francisco da,
Braga.
a Gold lustring upholstery silk. 247
b Silk braids, galloons. 249
- 240^a Motta, Augusto Antonio da,
Oporto.—Silk and cotton ribbon. 248
- 240^b Nogueira, Francisco José, Oporto.
a Ribbons. 248
b Velvets, fringes, etc. 249
- 240^c Silva Guimaraes, Custodio José,
Oporto.—Samples of galloons. 249
- 240^d Machado, Julio Rodrigues, Oporto.
—Bindings, braids, cords, etc. 249
- 240^e Coelho, José de Soura, Penafiel.—
Galloons. 249
- 241 Braga, Manuel J. V., Coimbra.—
Silk trimmings. 249
- 241^a Antunes, Jeronimo J., Braga.—
Elastic braids. 249
- Clothing, Jewelry, and Ornaments;
Traveling Equipments.
- 241^b Dabney, S. W., Fayal, Azores.—
Aloe shawl, knitted hose, jacket, sash,
etc. 250
- 241^c Serrana, Florencia, Aveiro.—
Waistcoat. 250
- 241^d Rezendes, Francisco de, Ponta
Delgada.—Colored petticoat. 250
- 242 Rego, A. P., Lisbon.—Clothing. 250
- 243 Paixao, Antonio Augusto da, jr.,
Coimbra.—Clothing. 250
- 244 Gonçalves, Manuel Joao, Castro
Verde.—Woolen girdle. 250
- 245 Brites, Rose e M. G. do S., Ovar.
a Articles of dress. 250
b Lace, crochet. 252
c Artificial flowers, representation of Calvary,
in pasteboard. 254
- 246 Ferreira, Joanna E., Fayal.
a Lace skirt, jacket, and sash. 250
b Hats. 251
c Lace, mats. 252
d Artificial flowers. 254
- 247 Vianna, Antonio Martius, Oporto.
—Plated shoes. 251
- 248 Valença, Domingo Fernandes,
Oliveira d'Azemeis.—Hats. 251
- 249 Trindade, Joaquim Antonio, Beja.—
Peasant gaiters. 251
- 250 Silva, Antonio Moreira, Oliveira
d'Azemeis.—Hats. 251
- 251 Silva, Miguel Manuelda, Vianna
do Castello.—Military boots. 251
- 252 Santo Thirso, Antonio dos Reis,
Aveiro.—Embroidered wooden-soled
shoes. 251
- 253 Scheehan, Diogo Jorge, Lisbon.—
Kid gloves. 251
- 254 Soares, José Nogueira, Penafiel.—
Wooden shoes. 251
- 255 Silva, Julio Pereira, Penafiel.—
Peasant's shoes. 251
- 256 Souza, José da Cunha Alves, Braga.
—Boots and ladies' kid boots. 251
- 257 Salga, Maria da, Ponta Delgada.—
March-reed hat. 251
- 258 Serra, Felipe José, Lisbon.—Boots
and shoes. 251
- 259 Silva, Bernardino Antunes, Lisbon.—
Kid gloves. 251
- 260 Ramalho, José da Cunha, Ponta
Delgada.—Straw hats. 251
- 261 Gonçalves, Joao, Almodovar.—
Card worked by the hand. 251
- 262 Sonto, Rodrigo Alves Martius de,
Oporto.—Boots and shoes. 251
- 263 Sequeira, Francisco Pinto, Oporto.
—Boots and shoes. 251
- 264 Silva Guimaraes, Custodio José,
Oporto.—Braided shoes. 251
- 265 Paiva, Manuel J. de, Braga.—Boots
and shoes. 251
- 266 Pereira, Luiz Maria, Oporto.—
Boots and shoes. 251
- 267 Roxo, Viuva de A., Roxo, Lisbon.
—Hats. 251
- 268 Pereira Bros., Ponta Delgada.—
Straw hat. 251
- 269 Paula, Antonio José, Barcellos.—
Cork hats. 251
- 270 Oporto Glove Manufacturing Co.,
Oporto.—Gloves. 251
- 271 Lima, Carvalho, Fayal.—Straw
hats. 251
- 272 Maria & Silvia, F., & Gonçalves,
Oporto.—Hats. 251
- 273 Gomez & Sons, Lisbon.—Boots
and shoes. 251
- 274 House of Correction, Lisbon.—
Boots and shoes. 251
- 275 Ferreira, José Bento.—Boots and
shoes. 251

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Clothing, Fancy Goods, Jewelry.

- 276 Delaye, Hypolite, Lisbon.—Kid gloves. 251
- 277 Dias, Antonio, Oporto.—Wooden shoes. 251
- 278 Dabney, R. L., Fayal Azores.—Hat made of wood shavings. 251
- 279 Corta, Braga, & Son, Oporto.—Hats. 251
- 280 Ponta Delgada, Committee of, San Miguel.—Straw hats. 251
- 282 Coutinho, José M. da C., Ponta Delgada.—Linen and woolen caps. 251
- 283 Carvalho, Joaquim José, Guimaraes.—Wooden shoes, slippers. 251
- 284 Barreiros, Francisco I., Beja.—Boots and shoes. 251
- 285 Bahia, Antonio José R., Braga.—Hats. 251
- 286 Bahia, Custodio J. R., Braga.—Hats. 251
- 287 Almeida, Germano, Lisbon.—Boots and shoes. 251
- 288 Aren, Manuel J. da S., Braga.—Boots and shoes. 251
- 289 Santos & Bro., St. Vincente de Pereira.—Hats. 251
- 290 Calheta, Maria Pereira da, Ponta Delgada.
a Woolen caps. 251
b Linen embroidery. 252
- 291 Department of Public Works, Lisbon.
a Wooden shoes, hats. 251
b Laces, bindings, and braids. 252
c Costumes. 257
- 292 Infant School, Barcellos.
a Knit stockings. 251
b Needlework embroideries. 252
- 293 Oliveira, J. F. de, Funchal.
a Caps. 251
b Embroideries. 252
- 293a Camara, Manuel da, Ponta Delgada.—Cotton lace. 252
- 294 Tavares, Rita de J., Aveiro.—Lace. 252
- 295 Theresa de Jesus, Ponta Delgada.—Needlework. 252
- 296 Teixeira, Carlota Matilde, Funchal.—Embroideries. 252
- 297 Themudo, Maria Eduarda, Castro Verde.—Lace. 252
- 298 V u i v a Ferreira Campos & Co., Oporto.—Materials for gold and silver embroidery, gold lustring, galloons, and lace. 252
- 299 Magalhaes, Anna Maria Barboza de, Aveiro.—Lace. 252
- 300 Gois, Francisca, Emilia de, Aljustrel.—Lace. 252
- 301 Davies, John, Fayal.—Pin-cushion covers, crivo work. 252
- 303 Carvalho, Anna C. L. da C., Ovar.—Embroideries. 252
- 304 Coral, Joanna Maria Dias, Ovar.—Embroideries. 252
- 305 Bivar, Manuel d' A. C. de, Algarve.—Lace. 252
- 307 Abren e Lima, Joáo, B., Ponta Delgada.
a Embroideries. 252
b Frame with pricked paper work. 254
- 308 Carneiro, Francisco dos Santos, Oporto.—Gilt tissue. 252
- 309 Teixeira, José Rodriguez, Oporto.—Silver jewelry. 253
- 310 Seabra, José dos Santos, Oporto.—Gold and silver jewelry. 253
- 311 Montinho Souza, F. de, Oporto.—Gold and silver jewelry. 253
- 312 Nogueira, Antonio Marques, Oporto.—Gold jewelry. 253
- 313 Montinho, Luiz Pinto, Oporto.—Silver jewelry. 253
- 314 Marques, Manuel Martius, jr., Oporto.—Silver jewelry. 253
- 315 Lobao & Ferreira, Oporto.—Gold and silver jewelry. 253
- 316 Leitao & Irinao, Oporto.—Gold and silversmith's work, jewelry. 253
- 317 Gold Working Co., Oporto.—Goldsmith's work, jewelry. 253
- 318 Cerquinho, Francisco Augusto V., Oporto.—Gold and silver jewelry. 253
- 319 Conto, Antonio Guilherme, San Pedro da Cova.—Silver jewelry. 253
- 320 Coutinho, A., & Titho, Oporto.—Gold and silver jewelry. 253
- 321 Augusta, Maria da P., Coimbra.—Toothpicks. 254
- 322 Martins, Jeronymo, & Son, Lisbon.—Toothpicks. 254
- 323 Martins Jeronymo & Bro., Lisbon.—Toothpicks. 254
- 324 Avellar & Miranda, Lisbon.—Toothpicks. 254
- 325 Cunha, Augusto Mendes da, Guimaraes.—Horn combs. 254
- 326 Dabney, S. W., Fayal, Azores.—Eagle made of fig-tree pith. 254
- 327 Gonçalves, Ribas, & Co., Oporto.—Buttons and materials of manufacture. 254
- 328 Maria, Joaquim, Coimbra.—Tree composed of toothpicks. 254
- 329 Margues, José Antonio, Braga.—Umbrellas. 254
- 330 Diogo, Antonio Manuel, Oporto.—Umbrellas. 254
- 331 Gandencio, José, Coimbra.—Toothpicks. 254
- 332 Maria, José, Coimbra.—Toothpicks. 254
- 333 Lauriano & Tavares, Ponta Delgada.—Pincushion of silk and aloes-thread. 254
- 334 Pinho, Guithermina d'Oliveira, Ponta Delgada.—Flowers made of feathers and rags. 254
- 335 Passos, Augusto Fructuoso, Guimaraes.—Horn combs. 254
- 336 Mello, Antonio Machado de Souza, Ponta Delgada.—Bead work, flowers, and lace. 254
- 337 Schalck, H., Lisbon.—Buttons, hooks and eyes, etc. 254
- 338 Silva, José Gonçalves, Oporto.—Bird cages. 254
- 339 Souza, Maria Magdalena, Ponta Delgada.—Artificial flowers of stearine and Guinea aloe fibres. 254
- 340 Silva, Joaquim da, Coimbra.—Toothpicks. 254

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Traveling Equipments, Stationery, Weapons, Hardware, etc.

- 341 David, José de A., Oporto.—Port-
manteau and hat-boxes. 255
- 342 Conceição, Umbelina da, Castro
Verde.—Saddlebags. 255
- 343 Ramos, Joaquim Antonio, Beja.—
Leather bottles. 255
- 344 Neves, Balbina dos, Serpa.—Sad-
dlebags. 255
- 345 Rocha, Francisco José da Silva,
Oporto.—Leather portmanteaus, traveling
bags, valises, belts, and game pouches.
255

Paper, Blank Books, Stationery.

- 346 Manilha, Francisco dos Santos
Lopes, Valongo.—Slates. 258
- 347 Lemos, J. Gonçalves de, Louzan.—
Paper. 259
- 348 Galiano, Manuel d'A., d'O.,
Oporto.—Cigarette paper. 259
- 349 Mesnier, Raul, Coimbra.—Cigarette
paper. 259
- 350 Freitas, Feliciano Gabriel de, Lis-
bon.—Writing-paper. 259
- 351 Prado Paper Manufacturing Co.,
Thomar.—Paper. 259
- 352 National Printing Office, Lisbon.
a Printing materials, etc. 260
b Playing cards, etc. 262
- 353 Reis & Monteiro, Oporto.
a Typographical proofs. 260
b Lithographic proofs. 261

Military and Naval Armaments, Ord-
nance, Firearms, and Hunting Appa-
ratus.

- 355 Cardozo, José Pereira, Oporto.—
Lead shot. 265
- 355a National Printing Office, Lisbon.
—Weapons, etc. 265
- 356 Manuel, Antonio da Silva, & Sons,
Lisbon.—Lead shot. 265
- 357 Carvalho e Mello, Adrianno José,
Bragança.—Convertible fowling-piece and
cane. 269

Medicine, Surgery, Prothesis.

- 358 Nobreza, Francisco Augusto da
Silva, Figueira.—Vermifuge lozenges. 272
- 359 Rodrigues, José Pereira, Lisbon.—
Pharmaceutical preparations. 272
- 360 Andradi, Albano Abilio de, Oporto.
—Surgical instruments. 276

Hardware, Edge Tools, Cutlery, and
Metallic Products.

- 361 Direction of the Works at Mon-
dego river & Figueira bar, Figueira da
Foz.—Tools employed in the salt pits. 280
- 362 Santos, Manuel Moreira, Oporto.—
Carpenters' tools and calking irons. 280
- 363 Industrial Institute of Oporto,
Oporto.—Stone-cutters' tools. 280
- 364 Cardozo, Joao Thomaz, Villa Nova
de Gaia.
a Coopers' tools. 280
b Locks and nails. 284
- 365 Cunha, August Mendes da, Gui-
maraes.—Knives, scissors. 281
- 365a Guimaraes, Joaquim M. da S.,
Guimaraes.—Scissors. 281

- 366 Alves, Antonio, jr., Villa Real.—
Pruning knives. 281
- 367 Cruz, Luiz F. de S., Oporto.—Cast
iron escutcheons. 283
- 368 Souza, Luiz Augusto de, Evora.—
Small bells. 283
- 369 Santos Rocha & Morena, Oporto.—
Leadon tubes. 283
- 370 Corta, Basto, & Co., Oporto.
a Cast iron cross, lead pipes. 283
b Tinned hardware. 284
- 371 Cruz, Luiz F. de S., Oporto.—
Ranges and bushes for axles. 284
- 372 Santos, Joaquim Antunes dos, Lis-
bon.—Card of wire and wire nails. 284
- 373 Schalck, H., Lisbon.—Nails, etc.
284
- 374 Peixoto, Rodrigo José, Penafiel.—
Brass nails. 284
- 375 Pacheco, Francisco Gomez, Braga.
—Nails. 284
- 376 Ferreira, M. J., & da Silva, Jos.,
Braga.—Hardware. 284
- 377 Guerra, Antonio José de Soua,
Oporto.—Brass cocks, hinges, etc. 284
- 378 Department of Public Works, Lis-
bon.—Hardware. 284
- 379 Camara, Antonio da, Ponta Dei-
gada.—Nails, lock. 284
- 380 Ponta Delgada, Committee of, San
Miguel.—Lock. 284
- 381 Ben Saude, Jacob, Ponta Delgada.
—Copper nails. 284

Fabrics of Vegetable, Animal, or
Mineral Materials.

- 382 Heuriques, Antonio Alexandre,
Oporto.—Elastic webs for boots and
shoes. 285
- 383 Cardozo, Manuel Joaquim, Oporto.
—Elastic webs for boots and shoes. 285
- 384 Costa, José Antonio, Oporto.—Elas-
tic webs for boots and shoes. 285
- 385 Lisbon Central Jail, Lisbon.—
Scouring brushes. 286
- 386 Carvalho, Antonio Raymundo,
Lisbon.—Brushes. 286
- 387 Oliveira, Balthasar, Pinto.—
Ropes. 287
- 388 National Rope Yard, Belem.—
Ropes. 287
- 389 Lauriano & Tavares, Ponta Dei-
gada.—Osier baskets. 287
- 390 Castro, Joao Vaz Pacheco, Ponta
Delgada.—Rope. 287
- 391 Barboza, Antonio José, Oporto.—
Flax and hempen ropes and twines. 287
- 392 Cruz, Joao Maria.—Hemp and
esparto ropes. 287
- 393 Department of Public Works, Lis-
bon.—Statistical monograms. 288
- 394 Braga, Antonio P. da S., Braga.—
Portuguese armorial bearings. 288
- 395 Tavares, José, Oporto.—Willow
baskets. 289
- 396 Matlos, Antonio José de, Barcel-
los.—Basket work. 289
- 397 Department of Public Works, Lis-
bon.
a Basket ware. 289
b Wooden spoons. 289

Woodenware, Harness, Art.

- | | |
|---|--|
| <p>399 Baptista, Joáo Guerreiro, Almodovar.—Wooden spoons. 289</p> <p>400 Mattos, F. C. Pereira de, Faro.—Palm-leaf flails. 289</p> <p>401 Araiyo, José Antonio, Barcellos.—Basket work. 289</p> <p>402 Mendonca, Manuel Fernandes de, Lisbon.—Spools. 289</p> <p>404 Direction of the Works at Mondego river & Figueira bar, Figueira da Foz.—Baskets and mats, tatch. 289</p> <p>405 Lemos & Antunes, Figueira da Foz.—Pulley blocks. 289</p> <p>Carriages, Vehicles, and Accessories.</p> <p>406 Cunha, Augusto Mendes da, Guimaraés.—Horse bits, snaffles, spurs. 296</p> <p>407 Carvalho, Manuel, Guimaraes.—Horse bits, stirrups, spurs. 296</p> | <p>408 Guimaraes, Joáo Carvalho, Guimaraés.—Horse bits, spurs. 296</p> <p>409 Sonto José Sebastiao, Oeiras.—Horse-shoe. 296</p> <p>410 Silva, Joáo d'Oliveira, Braga.—Horse furniture. 296</p> <p>411 Silva, J. Baptista da, Guimaraes.—Horse bits. 296</p> <p style="text-align: center;">Sculpture.</p> <p>412 Gonçaves, A. D.—Christ Crucified (in marble). 400</p> <p style="text-align: center;">Oil Paintings.</p> <p>413 Segueira, D. A.—Distribution of Soup in Lisbon to the Refugees during the French Invasion of 1810. 410</p> |
|---|--|
- For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

TURKEY.

(South of Nave, Columns 14 to 17.)

Chemical Manufactures.

Chemical Manufactures.

- 1 Ali Effendi, Angora.—Salt. 200
- 2 Allah, Tozula, Bosnia.—Salt. 200
- 3 Djorbaji, Chio, Dardanelles.—Sulphate of antimony. 200
- 4 Ayvadjik, Government of, Dardanelles.—Sea salt. 200
- 5 Adana, Government of, Adana.—Salt. 200
- 6 Bigdè, Government of, Koniah.—Mineral salt. 200
- 7 Canea, Government of, Crete.—Sea salt. 200
- 8 Djidè, Government of, Hidjaz.—Salt. 200
- 9 Kara-Hissar, Government of, Sivas.—Alum. 200
- 10 Tous-Hissar, Government of, Sivas.—Sea salt and white salt. 200
- 11 Toutous, Government of, Sivas.—Nitrate. 200
- 12 Syria, Government of.—Dead Sea salt. 200
- 13 Van, Government of, Erzeroum.—Nitrate. 200
- 14 Beker, Hadji, Aleppo.—Salt. 200
- 15 Seit, Hadji, Koniah.—Crude potash. 200
- 16 Ligory, Effendi, Stankens, Dardanelles.—Sulphate of iron. 200
- 17 Maktis, Diarbekir.—Balsam flower. 200
- 18 Mehemed, Aleppo.—Salt. 200
- 19 Memla Memour, Kangre, Castamouni.—Salt. 200
- 20 Moustapha, Diarbekir.—White and red salt. 200
- 21 Pano Mamatti, Prévèzè, Yanina.—Salt. 200
- 22 Suleiman, Prévèzè, Yanani.—Salt. 200
- 23 Saldne, Erzeroum.—Salt. 200
- 24 Saline de Coniah, Koniah.—Salt. 200
- 25 Zanni, Constantinople.—Pharmaceutical preparations. 200
- 26 Smyrna, Government of, Aydin.
a Sea salt. 200
b Olive oil. 201
- 27 Erzeroum, Government of.
a Mineral salt. 200
b Soap. 201
- 28 Tchelder, Government of, Erzeroum.
a Borax. 200
b Orpiment (a pigment). 202
- 29 Riza, Effendi, Constantinople.—Candles. 201

- 30 Anaghosti Dascalo Paolo, Sfakia, Crete.—Wild mint, apple, and daphné oils. 201
- 31 Vaskapoli, Arnasnoti, Canea, Crete.—Sumac, rosemary, and red oils. 201
- 32 Chakir Agha, Ayvadjik, Dardanelles.—Olive oil. 201
- 33 Chakir Elkè, Aleppo.—Soap. 201
- 34 Chal Kepka, Bérat, Yanina.—Olive oil. 201
- 35 Chamlotte, Malatia, Diarbekir.—Opium oil. 201
- 36 Costa, Prévèzè, Yanina.—Soap. 201
- 37 Mazalaki, Dimitri, Canea, Crete.—Oil of sweet and bitter almonds. 201
- 38 Effimitaki, Giorgui, Canea, Crete.—Essential oil. 201
- 39 Salonica, Government of.—Olive oil. 201
- 40 Samos, Government of.—Soap and olive oil. 201
- 41 Volania, Government of, Yanina.—Olive and other oils. 201
- 42 Haranlar, Boyorki, Mytilene, Dardanelles.—Soap. 201
- 43 Koudour, Hadji, Aleppo.—Olive and sesame oils. 201
- 44 Yehrapalaki, Hadji, Nicolas, Lachite, Crete.—Oil of myrtle. 201
- 45 Schidebalaki, Hadji Nicolas, Lachite, Crete.—Oil of juniper. 201
- 46 Fezli Oglu Samy, Bey, Hadji.—Soaps. 201
- 47 Hussein, Saret, Diarbekir.—Soap. 201
- 48 Foliatis, Joseph, Smyrna, Aydin, Soap. 201
- 49 Mehemed, Piseren, Monastir.—Soap. 201
- 50 Pedros, Diarbekir.—Olive oils. 201
- 51 Pla Oghli, Smyrna, Aydin.—Soap. 201
- 52 Tanassi, Aydonat, Yanina.—Olive oil. 201
- 53 Tassia Didè, Prévèzè, Yanina.—Olive oil. 201
- 54 Yani Paoli, Narda, Yanina.—Olive oil. 201
- 55 Salomon, Salonica.—Soap. 201
- 56 Panayote, Petron, Chio, Dardanelles.—Oil of flowers. 201
- 57 Nicosforaki, Théophane, Canea, Crete.
a Olive oil. 201
b Orange flower and rose waters. 203

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Chemicals, Ceramics, Furniture.

- 58 Anastassiades, George, Constantinople.
a Fancy soaps. 201
b Perfumery, tooth powder, cosmetics, etc. 202
- 59 Garatoëla, Aleppo.
a Scented soap. 201
b Perfumed argil for baths. 203
- 60 Kisin, Government of, Salonica.—Chromie. 202
- 61 Massoudjou, Diarbekir.—Ochre. 202
- 62 Moury, Bey, Fokat, Sivas.—Madder. 202
- 64 Roussio, Tchihlahi, Sfakia, Crete.—Red ochre. 202
- 65 Salé, Zubei, Ziemen.—Indigo. 202
- 65^a Feizoulah, Constantinople.—Perfumery, essences, cosmetics, soap, etc. 203
- 66 Aleppo, Governor of.—Rose and orange blossom waters. 203
- 67 Menteché, Government of, Aydin.—Incense. 203
- 68 Aydin, Government of, Aydin.—Liquorice juice. 203
- 69 Selim Agha, Prévézé, Yanina.—Cedar and orange blossom waters. 203
- 70 Medina, Government of, Hidjaz.—Kena, for coloring the nails. 203
- 71 Maktis, Diarbekir.—Violet, marsh-mallow, virgin maria, and rose flowers. 203
- 72 Papaz, Oglou Bros., Philippopolis, Adrianople.—Rose oil. 203
- 73 Abdoullah, Tahil, Hidjat.—Essence of roses; mint and rose waters. 203
- 74 Ali Agha Bachkin, Tripoli, Tripoli.—Essences of geranium and orange flowers. 203
- 75 Ali Mehemed, Effendi, Koniah, Koniah.—Essence of mint and wild thyme oil. 203
- 76 Christo, Philippopolis, Adrianople.—Rose oil and rose water. 203
- Ceramics—Pottery, Porcelain, Glass, etc.**
- 77 Ali, Agha, Roostchook, Danube.—Flower pots. 206
- 78 Djebar Oglou Mustapha, Vardar, Bosnia.—Pottery. 206
- 79 Kirkor, Aintab.—Terra-cotta pot. 206
- 80 Ousta, Tahir, Dardanelles.—Flower pots. 206
- 81 Ousta, Hussein, Dardanelles.—Terra-cotta vases, flower pots. 206
- 82 Kirkor, Terssus, Adana.
a Water pots. 206
b Earthenware cup. 210
- 83 Nicoforaki, Théophani, Canea, Crete.—Yellowware. 210
- 84 Mehemed, Hadji, Constantinople.—Earthenware coffee pot, boxes, cups and saucers, plates, spoons, pipe bowls, vases, etc. 210
- Furniture and Objects in General Use in Construction and in Dwellings.**
- 85 Vester, Jerusalem, Syria.
a Olive wood table. 217
b Olive wood sugar bowls, napkin rings, cups. 218
- c* Olive wood shelves, wall pockets, frames, etc. 220
d Olive wood candlesticks. 223
- 86 Seid Alip, Damascus.
a Inlaid mother-of-pearl tables. 217
b Plate. 218
c Looking glass. 219
- 87 Ludovic & Vallauri, Constantinople.
a Curtains. 217
b Plates, coffee cup and saucer, spoons, tumblers. 218
c Mirrors. 219
d Copper braziers, bellows. 222
e Bronze and paper lanterns. 223
f Bronze coffee pots, coffee mill, preserve jars, etc. 224
- 88 Isaac Agha, Brousse.—Curtain. 217
- 89 Ibrahim, Constantinople.—Table inlaid with mother-of-pearl. 217
- 90 Murtazi, Hadji, Trebizond.—Secretary. 217
- 91 Abdi Agha, Hadji, Bosnia.
a Gilt copper censor. 217
b Copper plates, dishes, etc. 224
- 92 Ebou Raguel Ana, Damascus.
a Table. 217
b Plate. 218
- 93 Ahmed Ana, Damascus.—Chair. 217
- 94 Yanaki, Widin, Danube.—Zarf saucer, silver candy-basket. 218
- 95 Tahir, Ousta, Dardanelles.—Water pitcher and decanters. 218
- 96 Tahir, Ousta, Piseren, Monastir.—Gilt spoon, knife, and fork. 218
- 97 Parabet, Tokat, Sivas.—Basket. 218
- 98 Seid Ragui, Damascus.—Plate. 218
- 99 Papaz Avediz, Trebizond.—Copper dinner set. 218
- 100 Nicolas, Oglou, Trebizond.—Silver filigree cupholder. 218
- 101 Abil, Aleppo.—Silver filigree saucers. 218
- 102 Ferrad, Ousta, Keuprula, Salonica.—Earthen cup and tumblers, inlaid with silver. 218
- 103 Nazar Kezork, Aintab, Aleppo.—Silver filigree saucers and silver saucer. 218
- 104 Manouk, Aleppo.—Silver plate. 218
- 105 Mehemed, Ousta, Castamouni, Castamouni.
a Dinner sets and copper dishes. 218
b Copper plate and wash basin. 224
- 106 Ismail Ousta, Koniah, Koniah.—Earthen goblets and drinking cup. 218
- 107 Ith, Jerusalem.—Cups and saucer. 218
- 108 Hussein Ousta, Dardanelles.—Terra-cotta plates, cups, sugar bowl, decanters, tumblers, soup tureen, pots, and dinner set; water pitchers. 218
- 109 Hussein Ousta, Bollo, Castamouni.—Copper decanter and drinking cups. 218
- 110 Mehemed Ousta Hadji, Castamouni, Castamouni.—Copper cup. 218
- 111 Hussein, Ousta, Castamouni.
a Copper decanter cup, and dinner set. 218
b Water pitcher. 224
- 112 Bagdad, Government of.—Silver goblet and saucer, brass cup. 218

Household Utensils, Woven Goods.

- 113 Jerusalem, Government of, Syria.—
Earthen cup. 218
- 114 Zafربولo, Government of, Castamouni.—Marble drinking cups. 218
- 115 Vissoka, Government of, Bosnia.—
Coffee cup and saucer. 218
- 116 Giorki, Berat, Yanina.—Pitchers
and dishes. 218
- 117 Boch Kirkor, Aintab.—Forks and
spoons. 218
- 118 Avedis Papazogla, Trebizond.—
Copper pitcher, water pots, decanter,
etc. 218
- 119 Assi Agha, Trebizond.
a Plate. 218
b Chandelier. 223
- 120 Ali Agha, Roostchook, Danube.—
Coffee and tea set, decanter and plate,
glasses, jam pots, spoon holder, tumbler,
and brandy service. 218
- 121 Abdourahman, Mehemed Ousta,
Castamouni, Castamouni.—Dinner sets.
218
- 122 Miran Moundjia, Constantinople.—
Picture frame. 220
- 123 Rizzo Giorki, Yanina, Yanina.—
Looking-glass frames. 220
- 124 Moustapha, Effendi, Constantinople.—
Brass brazier. 222
- 125 Brahim Agha, Hadji, Aintab.—Bel-
lows. 222
- 126 Ovakim, Constantinople.—Lan-
tern. 223
- 127 Tanasse, Yanina, Yanina.
a Brass chandelier, candlesticks, censer. 223
b Hand bell, scales, steelyards, pestle
and mortar, liquor flask. 224
- 128 Usine Hassan, Retimo, Crete.—
Chandeliers. 223
- 129 Abdoulah, Hadji, Bosnia.
a Gilt copper lantern. 223
b Copper water pots. 224
- 130 Suleiman, Bosnia.—Coffee-grind-
ers. 224
- 132 Raz Oglou Hussein, Bello, Casta-
mouni.—Copper tea pot, coffee pot. 224
- 133 Moustapha, Constantinople.
a Mortar and pestle. 224
b Wash basin. 225
- 134 Keur Ali, Koniah, Koniah.—
Earthen pitcher. 224
- 135 Jacob Ousta, Bollo, Castamouni.—
Copper vase, refrigerator, water pitcher,
and tea pots. 224
- 136 Prévèzè, Government of, Yanina.—
Dishes. 224
- 137 Kara-Hissar, Government of, Si-
vas.—Wooden spoons. 224
- 138 Medina, Government of, Hidjaz.—
Coffee pot and roaster. 224
- 139 Espahi, Tripoli, Tripoli.—Pestle
and mortar. 224
- 140 Ali Ousta, Koniah, Koniah.—Earthen
pitchers. 224
- 141 Abdourahman, Castamouni, Casta-
mouni.—Copper plate. 224

Yarns and Woven Goods of Vegetable
or Mineral Materials.

- 142 Aintab, Government of.—Reed
mat. 229
- 143 Basra, Government of, Bagdad.—
Palm leaf mats. 229
- 144 Bagdad, Government of.
a Palm mats. 229
b Cotton fabrics. 230
c Linen fabrics, coverlet. 233
- 145 Cherif Effendi, Aintab.—Mat. 229
- 146 Tiraki Selim Agha, Retimo, Crete.—
Cotton fabric. 230
- 147 Salih, Tripoli.—Cotton tissue. 230
- 148 Tanach, Yanina.—Cotton fabric. 230
- 149 Tchoula Cheyfi, Aintab, Aleppo.—
Cotton cloth. 230
- 150 Seid Cherif, Aleppo.—Cotton tis-
sues. 230
- 151 Razakoula, Aleppo.—Embroidered
cotton fabric. 230
- 152 Pirik Oglou, Pedros, Aleppo.—Cot-
ton tissue. 230
- 153 Oun edji, Osman, Castamouni.—
Duck. 230
- 154 Bolad, Nicolas, Damascus.—Cot-
ton fabric. 230
- 155 Nerssez, Marach, Aleppo.
a Sheeting, etc. 230
b Printed calicoes. 232
- 156 Moustapha Bey, Castamouni.—
Sheeting. 230
- 157 Maktès Bagdo, Ourpha, Aleppo.
a Sheeting. 230
b Printed calicoes. 232
- 158 Mehameda, Nabachir du Tidjan,
Canea, Crete.—Cotton fabric. 230
- 159 Mehamed Bin Adoura, Tripoli,
Tripoli.—Cotton tissue. 230
- 160 Mahmoud, Effendi, Damascus.—
Cotton fabric. 230
- 161 Mahmoud Cozzi, Tripoli, Tripoli.—
Cotton tissue. 230
- 162 Mitchez, Yanina.—Cotton foulards.
230
- 163 Kesban, Madame, Koniah.—Cotton
yarn. 230
- 164 Kaisparexeko & Co., Aleppo.—Cot-
ton fabrics. 230
- 165 Koussou Kirkor, Aintab, Aleppo.
a Sheeting. 230
b Printed calicoes. 232
- 166 Ibrahim, Miss, Dardanelles.—Cot-
ton fabric. 230
- 167 Ibrahim Agha, Canea, Crete.—Cot-
ton shirting. 230
- 168 Ilias Hatti, Aleppo.—Silk and cot-
ton tissue. 230
- 169 Ibrahim, Cyprus.
a Cotton fabrics. 230
b Handkerchief and napkin stuff, counter-
pane, sheet, and table cloth. 233
- 170 Iskildjian, Canea, Crete.
a Cotton fabrics and thread. 230
b Linen napkins. 233
- 171 Mansour, Hadji, Tripoli, Tripoli.—
Cotton coverlet. 230
- 172 Aghop, Hodja, Adrianople.—Cotton
cord. 230

Woven Goods.

- 173 Ilias, Hodja, Aleppo.
a Embroidered cotton fabrics. 230
b Colored cotton fabric. 231
- 174 Mehemed Agha, Hadji, Bartia, Castamouni.—Cotton fabric. 230
- 175 Hassan, Ousta, Angora.—Cotton thread. 230
- 176 Hassan Ali, Houdehida, Yiemen.—Cotton fabrics; curtains. 230
- 177 Hassan Chaban, Houdehida, Yiemen.—Cotton fabrics. 230
- 178 Hakim, Hadji, Bros., Aleppo.
a Embroidered cotton fabric, tissues. 230
b Silver-embroidered table cloth. 233
- 179 Constantinople, Government of.—Cotton cloths. 230
- 180 Aintab, Government of, Aleppo.—Tent curtains. 230
- 181 Beyroot, Government of, Syria.—Cotton fabrics. 230
- 182 Aleppo, Government of.—Cotton tissues. 230
- 183 Karraissalo, Government of, Adana.—Cotton thread. 230
- 184 Kerbella, Government of, Bagdad.—Cotton yarn. 230
- 185 Kara-Hissar, Government of, Sivas.
a Cotton threads and fabrics. 230
b Calicoes. 232
c Linen cloths and duck, towels, etc. 233
- 186 Erzeroum, Government of.
a Cotton cloth. 230
b Unbleached linen. 233
- 187 Nich, Government of, Danube.
a Cotton tissues. 230
b Linen, coverlets, etc. 233
- 188 Gasko, Gaspard, Aleppo.—Cotton fabric. 230
- 189 Eminé, Koniah.—Shirting. 230
- 190 Esmé, Ani, Koniah.
a Sheeting. 230
b Linen textile. 233
- 191 Edilé Factory, Damascus.—Cotton yarn. 230
- 192 David Ilias, Yanina.—Cotton thread, twist, and cord. 230
- 193 Chicho Zeko, Makrincha, Yanina.—Quilts. 230
- 194 Bassardji Maktés, Ourpha, Aleppo.—Cotton cloths. 230
- 196 Bruffel, Kricca, & Co., Smyrna.—Spun cotton. 230
- 197 Ahmed Agha, Aleppo.—Cotton thread. 230
- 198 Abir Tarip, Aleppo.—Cotton fabric. 230
- 199 Abadji Molagha, Aintab, Aleppo.—Divan stuff. 230
- 200 Antoli, Miss Maidos, Dardanelles.—Spun cotton. 230
- 201 Aiché, Konaih.—Shirting. 230
- 202 Ayaza Oglou Ahmed, Kangre, Castamouni.—Cotton cloths. 230
- 203 Allahjadji Alop, Aleppo.—Cotton tissue. 230
- 204 Atidgé, Madame, Koniah.—Cotton cloth. 230
- 205 Astartji Narssés, Aintab, Aleppo.—Cotton fabrics. 230
- 206 Ahmed, Agha, Sivas, Sivas.
a Cotton thread. 230
b Linen. 233
- 207 Papazaki, Manoli, Candia, Crete.—Counterpane. 231
- 208 Iskilechina, Crete, Crete.—Striped ticking. 231
- 209 Abdul Hahat, Mosul, Bagdad.
a Cottonade. 231
b Towels, bathing linen, and handkerchiefs. 233
- 210 Mehemed Ali, Zoubid, Yiemen.—Printed calicoes. 232
- 211 Kachpi, Zoubid, Yiemen.—Printed calicoes. 232
- 212 Hana Meti, Mosul, Bagdad.—Printed calico. 232
- 213 Hartin, Adana, Adana.—Printed calico. 232
- 214 Ali Hadji, Koniah.—Printed calico. 232
- 215 Mahmoud Hadji, Aleppo.—Printed calicoes. 232
- 216 Chaban Hussein, Zoubid, Yiemen.
a Calico. 232
b Bathing linen. 233
- 217 Van, Government of, Erzeroum.
a Calicoes. 232
b Linen cloths. 233
- 218 Garabet, Tokat, Sivas.—Printed calico. 232
- 219 Caba Oglou Mehemed, Gueugnek, Castamouni.—Printed calico. 232
- 220 Ahmed Ousta, Castamouni.—Printed calico. 232
- 221 Aghop, Sivas, Sivas.—Printed calicoes. 232
- 222 Ezinchan, Government of, Erzeroum.
a Printed calicoes. 232
b Bathing linen and napkins. 233
- 223 Abdoulah Keiré, Zoubid, Yiemen.
a Calico. 232
b Handkerchief. 233
- 224 Youssuf, Mosul, Bagdad.—Bathing linen. 233
- 225 Youssouf Gunki, Diarbekir.—Linen cloth. 233
- 226 Yasmadji, Mehemed, Tefrik, Constantinople.—Fabric for counterpanes and pillows. 233
- 227 Wasikili, Yanina.—Linen cloth. 233
- 228 Vidal, J. M., Constantinople.—Linen. 233
- 229 Thomas, Diarbekir.—Bathing linen. 233
- 230 Ohannés, Agha, Angora.—Pillow case. 233
- 231 Ohan, Diarbekir.—Thread. 233
- 232 Musulmé, Madame, Koniah.—Table cloth. 233
- 233 Marquar, Trebizond.—Napkins and bathing apron. 233
- 234 Mourouk, Oglou Ohanés, Brousse.—Towels, napkins, bathing linen, etc. 233
- 235 Mehemed Effendi, Denizli, Aydin.—Linen, etc. 233
- 236 Mehemed Effendi, Smyrna.—Linen, napkins, divan cover, towels, bur-nous, sheeting, etc. 233

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Woven Goods.

- 237 Mehemed, Merzifoun, Sivas.—
Bed curtains, sheet, and towels. 233
- 238 Mehemed Effendi, Kara-Sou, Aydin.—Bathing linen. 233
- 239 Mehemed Agha, Castamouni.—
Linen sheeting. 233
- 240 Ousta Mehemed, Koniah, Koniah.—Spun hemp and flax. 233
- 241 Kodan, Smyrna.—Bed covers. 233
- 242 Kamile, Madame, Tripoli, Syria.—
Towels. 233
- 243 Kicho Dimitri, Yanina.—Linen. 233
- 244 Karasch Oglou, Tokat, Sivas.—
Linen thread. 233
- 245 Karabet, Malatia, Diarbekir.—
Thread textile. 233
- 246 Ibrahim Agha, Brousse.—Bathing
towels, counterpane, etc. 233
- 247 Iskildjan, Dellalé, Canea, Crete.—
Towels. 233
- 248 Harline, Merzifoun, Sivas.—Tow-
els. 233
- 249 Hatna Gros, Mosul, Bagdad.—
Handkerchiefs. 233
- 250 Mehemed, Hadji, Tripoli, Tripoli.—
Linen coverlet. 233
- 251 Mohammed, Hadji, Malatia, Diar-
bekir.—Thread. 233
- 252 Cherisor, Government of, Bag-
dad.—Linen fabric. 233
- 253 Bigdè, Government of, Koniah.—
Spun hemp. 233
- 254 Damascus, Government of, Syria.—
Linen. 233
- 255 Smyrna, Government of.—Towels
and bed covers. 233
- 256 Volonia, Government of, Yanina.—
Linen. 233
- 257 Yanina, Government of.—Spun
hemp. 233
- 258 Gabriel, Sivas, Sivas.—Towels. 233
- 259 Faladj Imssi, Malatia, Diarbekir.—
Thread textile. 233
- 260 Dimitri, Yanina.—Shirting, pillow
cases, and divan cover. 233
- 261 Fatma, Madame, Koniah.—Linen.
233
- 262 Duran Effendi, Constantinople.—
Table cloth, cushion cover, etc. 233
- 263 Salé Agha, Madame, Koniah.—
Linen pillow case. 233
- 264 Dervich Oglou, Kokas, Brousse.—
Bathing linen, etc. 233
- 265 Cadir, Sulcimaneeyah, Bagdad.—
Sheets. 233
- 266 Cazas, Thomas, Diarbekir.—
Twisted thread. 233
- 267 Buftam, Mosul, Bagdad.—Coun-
terpane. 233
- 268 Ahmed Effendi, Madame, Canea,
Crete.—Towels. 233
- 269 Ana, Madame, Mosul, Bagdad.—
Pillow case. 233
- 270 Aicha, Madame, Koniah.—Linen.
233
- 271 Azar Ogli, Tokat, Sivas.—Linen
cloth. 233
- 272 Abdul Kader, Koniah.—Table
cloth. 233
- 273 Ali Imi, Madame, Koniah.—Towels.
233
- Woven and Felted Goods of Wool, etc.**
- 274 Zokopolani, Maria, Canea, Crete.—
Wool fabric. 235
- 275 Zaferembolo Orphan School, Zafe-
rembolo, Castamouni.—Cloth for gar-
ments. 235
- 276 Vassil Postak, Salonica.—Cloth. 235
- 277 Youssoul Blouna, Aleppo.—Woolen
yarn. 234
- 279 Tasse Kochman, Berat, Yanina.—
Cloth. 235
- 280 Tathma, Trebizond.—Woolen fab-
rics. 235
- 281 Trentefil, Miss, Otoulouk, Adriano-
ple.—Pants stuff. 235
- 282 Sahak Ousta, Angora.—Woolen
fabric. 235
- 283 Kamps, Oglou, Angora.—Woolen
fabric. 235
- 284 Ohannès Agha, Angora.
a Woolen fabrics. 235
b Carpet, tapestry. 239
- 285 Maripa Golopo, Canea, Crete.—
Striped yellow cloth. 235
- 286 Mollat Ahmed, Salonica.—Wool
fabric. 235
- 287 Moussè Kapsal, Yanina.—Woolen
fringe. 235
- 288 Moustapha, Tripoli, Tripoli.—Wool
yarn. 235
- 289 Mehemed Effendi, Boldan, Aydin.—
Cloth for garments. 235
- 290 Mehemed Effendi, Saroukhan, Ay-
din.—Cloth for garments. 235
- 291 Mehemed Ousta, Biledjeklî,
Brousse.—Furniture cloth. 235
- 292 Marie, Madame, Koniah.
a Woolen ribbon. 235
b Cushion carpet. 239
- 293 Mehemed, Hadji, Mousra, Casta-
mouni.—Woolen fabric. 235
- 294 Mehemed Agha, Hadji, Bartia,
Castamouni.—Woolen fabric. 235
- 295 Mahmouda, Hadji, Sivas, Sivas.—
Felts. 235
- 296 Erzeroum, Government of.—Wool-
en fabrics. 235
- 297 Kendi Oglou Trantchi, Islimia,
Adrianople.—Woolen fabrics. 235
- 298 Usni, Hadji, Brousse.
a Felts. 235
b Felt blanket. 237
- 299 Constantinople, Government of.
a Cloths. 235
b Flannels. 236
c Woolen counterpanes. 237
d Carpet. 239
- 300 Nich, Government of, Danube.
a Woolen fabrics. 235
b Carpets. 239
- 301 Ineboli, Government of, Castamou-
ni.—Woolen yarn. 235
- 302 Van, Government of, Erzeroum.
a Cloth for pants, woolen fabric. 235
b Carpets. 239
- 303 Bagdad, Government of.
a Woolen yarn and textiles. 235
b Goat-hair fabric. 240

Woolen Goods, Carpets.

- 304 Fevrik, Erzeroum.—Woolen yarn. 235
- 305 Djamian, Gabriel, Kara-Hissar.—Woolen fabric. 235
- 306 Cheri Oglou Ahmed Agha, Kangre, Castamouni.
a Woolen textile. 235
b Angora wool yarn. 240
- 307 Cheri Oglou Ahmed Agha, Zafrem-bolo, Castamouni.—Woolen textiles. 235
- 308 Ahmed Agha, Madame, Mousra, Castamouni.—Woolen fabric. 235
- 309 Ahmed Ousta, Balat, Brousse.—Cloth. 235
- 310 Zaha, Mosul, Bagdad.
a Shawls. 237
b Carpet. 239
- 311 Tehezi Agha, Adrianople.—Blanket. 237
- 312 Sali Agha, Madame, Koniah.—Woolen bag. 237
- 313 Poto Yani, Kerénié, Yanina.—Woolen counterpane. 237
- 314 Ousta Ahmed, Cherisor, Bagdad.—Coverlet. 237
- 315 Ousta Mehemed, Suleimaneeyah, Bagdad.—Woolen coverlet. 237
- 316 Mekon, Kiron, Sivas.—Woolen shawls. 237
- 317 Mehoulourt, Suleimaneeyah, Bagdad.—Counterpane. 237
- 318 Mosla Mahmoud, Diarbekir.—Woolen sheet. 237
- 319 Moustapha, Suleimaneeyah, Bagdad.—Coverlet. 237
- 320 Matros, Erzeroum.—Blanket. 237
- 321 Irahima, Canea, Crete.—Woolen counterpane. 237
- 322 Marie, Gueuridjé, Monastir.—Woolen coverlet. 237
- 323 Cassim Bakar, Hadji, Tripoli, Tripoli.—Blankets and coverlets. 237
- 324 Kerénié, Government of, Yanina.—Woolen cover. 237
- 325 Mosul, Government of, Bagdad.—Shawls. 237
- 326 Cherifé, Madame, Koniah.—Blanket. 237
- 327 Abdoullah Oglou Hassan, Guengnek, Castamouni.—Woolen shawl. 237
- 328 Nicolaki, Yanina.—Organzine. 238
- 329 Minodoro, Sophia, Danube.—Woolen and silk fabric. 238
- 330 Oulmia, Hadji, Sophia, Danube.—Woolen and silk fabrics. 238
- 331 Dervich, Oglon Ko Kas, Brousse.—Mohair. 238
- 331*a* Deli Mourad, Diarbekir.—Various fabrics. 238
- 332 Casas, David, Yanina.—Organzine. 238
- 333 Yanaki Micholi, Prevézé, Yanina.—Carpet. 239
- 334 Yorgaki, Miss, Dardanelles.—Tapestry. 239
- 336 Said Effendi, Sivas, Sivas.—Carpets. 239
- 337 Rakinié, Madame, Koniah.—Prayer carpet. 239
- 338 Papa Giorki, Volonia, Yanina.—Carpet. 239
- 339 Rahimé, Madame, Haltah, Koniah.—Carpet. 239
- 340 Osman Agha, Sivas, Sivas.—Divan carpet. 239
- 341 Omer Agha, Sivas, Sivas.—Carpets. 239
- 342 Ohanna, Angora.—Carpet.
- 343 Manapola, Catherine, Sfakia, Crete.—Carpet. 239
- 344 Mourad Kasson, Ayvadjik, Dardanelles.—Carpet. 239
- 345 Mehemed Oglou Alichan, Turgosklou, Koniah.—Prayer and other carpets. 239
- 346 Mehemed Agha, Gabwva, Danube.—Carpet. 239
- 347 Mohamed, Hanari, Mecca.—Carpet. 239
- 348 Mehemed Kirkit, Tripoli, Tripoli.—Carpets. 239
- 349 Marie, Madame, Larik, Koniah.—Cushion carpet. 239
- 350 Karabet, Kangre, Castamouni.—Carpet. 239
- 351 Kerim, Suleimaneeyah, Bagdad.—Prayer carpet. 239
- 352 Ibrahim Effendi, Salonica.—Carpets. 239
- 353 Hussein Agha, Sivas, Sivas.—Divan carpet. 239
- 354 Hamparssoum, Sivas, Sivas.—Carpet. 239
- 355 Hassan, Hadji, Kircheré, Angora.—Carpet. 239
- 356 Mehemed, Hadji, Kircheré, Angora.—Carpet. 239
- 357 Tahera, Hadji, Volonia, Yanina.—Carpet. 239
- 358 Haicha Agha, Koniah.—Carpet. 239
- 359 Castamouni, Government of.—Carpet. 239
- 360 Semaré, Government of, Bagdad.—Carpet. 239
- 361 Rekanie, Government of Aleppo.—Carpets. 239
- 362 Smyrna, Government of.—Carpets. 239
- 363 Prevézé, Government of, Yanina.—Carpet. 239
- 364 Oulé, Government of, Bagdad.—Carpets. 239
- 365 Bourd, Government of, Bagdad.—Carpet and prayer carpet. 239
- 366 Widin, Government of, Danube.—Carpet. 239
- 367 D'Andria, Lombard, & Co., Boston, Mass.—Smyrna carpets. 239
- 368 Chakir, Trebizond.—Carpet. 239
- 369 Chamdelon. Ohanès, Angora.—Carpet. 239
- 370 Chakir Agha, Ayvadjik, Dardanelles.—Carpet. 239
- 371 Chicho Zeko, Kerénié, Yanina.—Carpet. 239
- 372 Allatorini, Piaz, Adana.—Carpet. 239

Woolen and Silk Goods.

- 373 Bikè, Madame, Philippopolis, Adrianople.—Carpet. 239
- 374 Chaban Oglou, Mussein, Guengnek.—Carpet. 239
- 375 Ali Ani, Larik, Koniah.—Carpet. 239
- 376 Ali Agha, Ouchak, Brousse.—Divan carpet. 239
- 377 Ahmed Effendi, Sivas, Sivas.—Carpet. 239
- 378 Adret, Agha, Diarbekir.—Carpet. 239
- 379 Adver, Mardin, Diarbekir.—Carpet. 239
- 380 Abdoullah Effendi, Guelguen, Trebizond.—Woolen carpet. 239
- 381 Abdi Effendi, Sivas, Sivas.—Carpet. 239
- 382 Tchorbadji Serkis, Marach, Aleppo.—Goat-hair bag. 240
- 383 Simon, Piseren, Monastir.—Goat-hair carpet. 240
- 384 Piseren, Government of, Monastir.—Goat-hair cloth. 240
- 385 Ludovic & Vallauri, Constantinople.—Table and bench covers. 241
- Silk and Silk Fabrics.**
- 386 Sukiasian, Adrianople.
a Raw silk. 242
b Japanese silk. 245
- 387 Schilizzi, E. F., Adrianople.—Raw silk. 242
- 388 Temio Petcha, Yenidjé, Danube.—Raw silk. 242
- 389 Temno Petcha, Yanina.—Raw silk. 242
- 390 Oustour, Piaç, Adana.—Silk. 242
- 391 Moustapha Effendi, Ayvadjik, Dardanelles.—Raw silk. 242
- 392 Mehamoud Dekiz, Hadji, Tripoli, Tripoli.—Raw silk. 242
- 393 Hassan, Cyprus.
a Silk. 242
b Silk fabrics. 245
c Silk handkerchief. 247
- 394 Hassan Effendi, Cyprus.
a Silk. 242
b Silk fabric and taffetas. 245
- 395 Zaferemboli, Government of, Castamouni.—Raw silk. 242
- 396 Bèrat, Government of, Danube.—Raw silk. 242
- 397 Smyrna, Government of.—Raw silk. 242
- 398 Samos, Government of, Castamouni.
a Raw silk. 242
b Silk shirting. 245
c Silk lace and gauzes. 247
- 399 Bagdad, Government of.
a Raw silk. 242
b Foulards. 245
c Embroidered foulards, etc. 246
d Silk fichus, belt and sabretaches. 249
- 400 Demerdji Constantin, Madame, Candia, Crete.—Raw silk. 242
- 401 Andonafake, Anasthas, Canea, Crete.—Raw silk. 242
- 402 Antakia Caimakan, Antakia, Aleppo.—Raw silk. 242
- 403 Sayas Karabetli, Salonica.—Silk. 243
- 404 Sali Kamber, Ichkodra, Monastir.
a Silk twist, skeins, etc. 243
b Organzine. 245
c Silk garters. 247
d Silk cords, fringes, etc. 249
- 405 Kandilaphtaki Mehemed, Candia, Crete.
a Silk skeins. 243
b Organzine. 245
c Silk braid. 249
- 406 Yanina, Government of.—Silk. 243
- 407 Retchani, Government of, Yanina.—Silk. 243
- 408 Brousse, Government of.—Twisted silk. 243
- 409 Cazas, David, Yanina.
a Silk threads and twists. 243
b Silk buttons, ribbons, etc. 249
- 410 Ahmed Mehamoudik, Yanina, Bosnia.—Silk. 243
- 411 Mavrilis, Emanuel E. G., Brousse.—Silk. 244
- 412 Litolu Nakous Oglou, Aleppo.—Silk fabrics. 244
- 413 Yekahim, Hadji, Aleppo.—Embroidered silk and silver fabric. 244
- 414 Ilias, Hodja, Aleppo.—Embroidered silk fabrics. 244
- 415 Hakin Hadji Bros., Aleppo.
a Silk fabrics. 244
b Taffetas, satins, etc. 245
c Silk tissue. 247
- 416 Ineboli, Government of, Castamouni.
a Raw spun silk. 244
b Organzine. 245
- 417 Demitraki, Constantinople.—Silk fabrics. 244
- 418 Cazas, Thomas, Diarbekir.
a Silk twist. 244
b Silk belt. 247
c Ribbons. 248
d Silk buttons. 249
- 419 Schakal, Anton, Aleppo.—Cotton and silk tissue. 245
- 420 Seid Yayia, Damascus.—Silk fabric. 245
- 421 Thomas Isaac, Van, Erzeroum.—Silk foulard. 245
- 422 Tetoullah, Diarbekir.—Silk fabrics. 245
- 423 Tasse Kochman, Berat, Yanina.—Silk fabric. 245
- 444 Vidal, J. M., Constantinople.—Silk fabrics. 245
- 445 Seid Abdul Hamid, Damascus.
a Silk fabric, mixed cotton and silk fabrics. 245
b Silk scarf, coverlet, belt, and pillow case. 247
- 446 Pansein, Yanina.—Silk shirting. 245
- 447 Nessibo, Madame, Ichkodra, Monastir.
a Silk fabric. 245
b Lace. 247
- 448 Sebou, Nicolas, Damascus.—Silk fabrics. 245
- 449 Nakos, Mikail, Aleppo.—Silk fabrics; mixed cotton and silk fabrics. 245

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Silk Goods.

450 Bolad, Nicolas, Damascus.	
<i>a</i> Silk fabrics, mixed cotton and silk fabrics.	245
<i>b</i> Figured silk fabrics.	246
<i>c</i> Silk goods.	247
<i>d</i> Silk cord.	249
451 Mourad Agha, Brousse.	
<i>a</i> Silk fabrics, foulards.	245
<i>b</i> Silk gauzes.	247
452 Moustapha Effendi, Brousse.— Organzine.	245
453 Mourouk Oglou Ohanès, Brousse.	
<i>a</i> Silk foulards.	245
<i>b</i> Silk gauzes.	247
454 Mikali, Redjani, Yanina.— Silk fabrics.	245
457 Kirkor, Mamour, Diarbekir.— Silk fabrics.	245
458 Mallah Ahmed, Malech, Salonica.— Silk fabrics.	245
459 Metrouge, Berat, Yanina.— Silk tissue.	245
460 Kendi Oglou Trantchi, Adrianople.— Silk fabrics.	245
461 Talep, Hadji, Brousse.	
<i>a</i> Silk fabrics, satin, etc.	245
<i>b</i> Gauzes.	247
463 Ibrahimia, Cyprus.	
<i>a</i> Silk fabric and mixed cotton and silk fabric.	245
<i>b</i> Silk handkerchief.	247
464 Youssouf, Hodja, Aleppo.— Silk and silver foulards.	245
465 Aghop, Hodja, Adrianople.	
<i>a</i> Organzine.	245
<i>b</i> Ribbons.	248
<i>c</i> Cord.	249
466 Thomas, Hodja, Diarbekir.— Silk fabric.	245
467 Thomas, Hadji, Malatia, Diarbekir.— Silk fabrics and foulards.	245
468 Heleni, Berat, Yanina.	
<i>a</i> Silk fabric.	245
<i>b</i> Silk gauze.	247
469 Hassan Ali, Houdehida, Yieman.	
<i>a</i> Silk and cotton fabrics.	245
<i>b</i> Silk pillow case.	247
470 Hakim Bros., Aleppo.	
<i>a</i> Silk and cotton mixed piqué, silk fabrics, etc.	245
<i>b</i> Silk handkerchiefs and tissue.	247
471 Gasko, Gaspard, Aleppo.— Cotton and silk mixed fabric.	245
472 Vassili, Piaz, Adana.— Silk cloth.	245
473 Gascandil, Trebizond.	
<i>a</i> Silk tissue and coverlet.	245
<i>b</i> Silk belt.	247
474 Aleppo, Government of.— Silk crape tissue.	245
475 Amassia, Government of, Sivas.— Silk fabrics for shirts and bed coverings.	245
476 Gergi Melouk, Damascus.	
<i>a</i> Silk fabric.	245
<i>b</i> Silk coverlet.	247
477 Beyroot, Government of, Syria.	
<i>a</i> Silk fabrics, organzine, etc.	245
<i>b</i> Silk laces, belts.	247
<i>c</i> Ribbons.	248
<i>d</i> Silk embroideries.	249
478 Karkali, Dimitri, Yanina.— Silk fabrics.	245
479 Eminé, Trebizond.	
<i>a</i> Tissue for shirting.	245
<i>b</i> Silk belt.	247
480 Deli Mourad, Diarbekir.	
<i>a</i> Silk fabric.	245
<i>b</i> Silk prayer carpet.	247
481 Chicho Zeka, Volonia, Yanina.— Silk fabric.	245
482 Constanti Giorki, Berat, Yanina.— Silk fabrics.	245
483 Birkor, Trebizond.— Colored tissues.	245
484 Bezas Effendi, Diarbekir.— Silk fabrics.	245
485 Atanach, Més, Dardanelles.— Silk sheet.	245
486 Ahmed Effendi, Mamour, Diarbekir.— Silk fabric.	245
487 Abir Tarip, Aleppo.— Silk fabric.	245
488 Abbas Riza, Damascus.— Silk fabric.	245
489 Alil Fakildin, Damascus.— Silk fabric.	245
490 Abdul Hamid, Damascus.— Silk foulard.	245
491 Anagnosti, Yanina.— Silk fabric.	245
492 Anastassi, Yanina.— Silk shirting.	245
493 Ana, Yania, Bosnia.— Silk and cotton fabric.	245
494 Nefissé, Madame, Ichkohra, Monastir.	
<i>a</i> Embroidered foulards.	246
<i>b</i> Silk coverlet.	247
494^a Elias Hatti, Hadji, Aleppo.— Upholstery satins.	246
495 Marionga, Constantinople.— Silk counterpane.	246
496 Mehemed Emin, Constantinople.— Upholstering fabrics.	246
497 Matié, Lady, Adrianople.— Figured silk fabric.	246
498 Ludovic & Vallauri, Constantinople.— Upholstery and divan fabrics.	246
499 Kadir Oglou Abdul Kader, Said Ili, Koniah.— Divan cover.	246
500 Gueudjehan, Ohannés, Constantinople.— Silk fabrics, taffeta, moreen, etc.	246
501 Constantinople, Government of.— Silk curtain fabrics.	246
502 Sagoundjaki, Lefteraki, Canea, Crete.— Silk gauze.	247
503 Seid Alil, Damascus.— Silk goods.	247
504 Thomas, Diarbekir.	
<i>a</i> Silk belt.	247
<i>b</i> Silk ribbons.	248
505 Taquoui, Madame, Adrianople.— Gauzes.	247
506 Regnier, Yanina.— Gauze.	247
507 Rechid Effendi, Damascus.— Silk lace.	247
508 Omeraki, Ibrahimia, Canea, Crete.— Silk gauze.	247
509 Nefissé, Madame, Tripoli, Syria.— Silk shirts	247
510 Namsi Effendi, Madame, Candia, Crete.— Silk gauze.	247

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Silk Goods, Clothing.

- 511 Naoun Miltelete, Aleppo.—Silk and cotton and silk tissues. 247
- 512 Monnoug Ozlou, Brousse.—Silk fabric and aprons. 247
- 513 Muniré, Brousse.—Silk lace. 247
- 514 Milaki, Nicolaki, Melle, Canea, Crete.—Silk gauze. 247
- 515 Maroli, Kara Yanapola, Canea, Crete.—Silk crape. 247
- 516 Marouli, Madame Giorgui Sefakanaki, Candia, Crete.—Silk gauze. 247
- 517 Meuzœurlé Fathma, Candia, Crete.—Gauze. 247
- 518 Marie, Yanina.—Silk gauze. 247
- 519 Moussa Chaouch, Oglou Ibrahim, Canea, Crete.—Gauzes. 247
- 520 Ismail Agha, Hadj Brousse.—Silk counterpane. 247
- 521 Istiphanidja, Candia, Crete.—Silk gauze. 247
- 522 Kamil, Tripoli, Syria.—Embroidered gauze foulard and silk pillow cases. 247
- 523 Mahmoud Deguiz, Hadji, Tripoli, Tripoli.—Silk coverlets. 247
- 524 Ismail Agha, Hadji, Candia, Crete.—Silk gauze. 247
- 525 Mikali, Hadji, Tripoli, Syria.—Silk coverlets. 247
- 527 Gotha, Tripoli, Tripoli.—Silk shirts. 247
- 528 Kara-Hissar, Government of, Sivas.—Silk belt. 247
- 529 Piseren, Government of, Monastir.—Silk caps. 247
- 530 Emzia, Ibrichindji Nicoli, Mme., Candia, Crete.—Gauze. 247
- 531 Dervich Oglou Kokas, Brousse.—Silk gauzes, silk burnous, scarf and belt. 247
- 532 Cazas Abdoullah, Damascus.
a Silk belts. 247
b Silk cords, etc. 249
- 533 Cazas Ahmed, Damascus.—Silk crochet belt. 247
- 534 Ana, Madam, Mosul, Bagdad.—Silk lace. 247
- 535 Cazas Said, Tripoli, Syria.—Silk belts and suspenders. 247
- 536 Assibi, Madame, Koniah.—Silk lace. 247
- 537 Avadiz, Miss, Dardanelles.—Silk lace. 247
- 537a Makboubi, Trebizond.—Silk towels and shirting. 247
- 538 Isaac Effendi, Bello, Castamouni.—Silver ribbon. 248
- 539 Selim, Mosul, Bagdad.—Turban cord. 249
- 540 Sali Kamber, Piseren, Monastir.—Gold and silver filigree cord. 249
- 541 Idrissi Agha, Hadji, Bonandji, Adrianople.—Cord. 249
- 544 Zahardji Gotcha, Yanina.—Vests. 250
- 545 Yani, Hadji, Berat, Yanina.
a Vests. 250
b Gaiters. 251
- 546 Yani, Forol, Trebizond.
a Woolen hose. 250
b Woolen gloves. 251
- 547 Vely Bey, Sivas, Sivas.—Woolen socks. 250
- 548 Seid Hassan, Mosul, Bagdad.—Turkish garment. 250
- 549 Siméon, Trebizond.—Ladies' trousers, jacket. 250
- 550 Seid Cherif, Aleppo.—Cotton belts. 250
- 551 Seid Abdul Hamid, Damascus.
a Cotton scarf. 250
b Embroidered cap and slippers. 251
c Tobacco pouch. 254
- 552 Raphaelian, Gabriel, Constantinople.
a Collars and cuffs. 250
b Crochet caps, slippers. 251
c Crochet fichu, curtains, etc. 252
- 553 Rinko, Permidi, Yanina.—Ladies' hose. 250
- 554 Palassé, Madame, Trebizond.—Gown. 250
- 555 Rina, Yanina.—Chemise, embroidered with gold. 250
- 556 Ousta Bachou, Forol, Trebizond.—Woolen hose. 250
- 557 Ousta Yano, Bonandji, Adrianople.—Woolen hose. 250
- 558 Ousta Yani, Miss, Bonandji, Adrianople.—Men's woolen hose. 250
- 559 Nogho, Uskup, Monastir.—Woolen apron and stockings. 250
- 560 Moustapha Agha, Damascus.—Woolen garment. 250
- 561 Moustapha, Miss, Balekoi, Dardanelles.—Bridal trousseau. 250
- 562 Moussa Chaouch Oglou Ibrahim, Canea, Crete.
a Silk embroidered shirt, etc. 250
b Tobacco pouch. 254
- 563 Mahmoud Agha Djiri, Damascus.—Turkish garments. 250
- 564 Mehemed Abdul Hamid, Houdehida, Yiemen.—Drawers. 253
- 565 Mehemed Ousta, Koniah.—Goat-hair jacket. 250
- 566 Mikahil Sebou, Damascus.—Turkish garments. 250
- 567 Lambron, Phrasine, Yanina.—Chemise. 250
- 568 Mer Allah, Zoubid, Yiemen.—Percale shirt. 250
- 569 Mitscheré, Marie, Yanina.—Men's and women's hose. 250
- 570 Mikahl Agha, Adrianople.—Jacket. 250
- 571 Karabet, Yangre, Castamouni.—Cloak belt. 250
- 572 Kurschu Casmad, Diarbekir.—Wolf-skin jacket. 250
- 573 Isaac, Mosul, Bagdad.—Turkish garment. 250
- 574 Ibrahim Agha, Brousse.—Bathing suit, woolen burnous. 25

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Clothing, Fancy Articles.

- 575 Osman, Hadji, Koniah.—Turkish woolen belt. 250
- 576 Hadj, Trebizond.—Ladies' trousers, vest. 250
- 577 Ahmed, Hadji, Aleppo.—Turkish belt. 250
- 578 Hakim Bros., Hadji, Aleppo.—Silk, ornous, and other garments. 250
- 579 Mikahili, Hadji, Adrianople.—Woolen garments. 250
- 580 Osman, Hadji, Suleimaneeyah, Bagdad.—Shepherd's cloak. 250
- 581 Hassan, Cyprus.—Silk underskirt. 250
- 582 Hussien Chaban, Zoubia, Zicmen.—Cotton jacket, Turkish belt. 250
- 583 Hassan Agha, Trebizond.—Turkish trousers and vest. 250
- 584 Hassan Effendi, Kotchettissar, Castamouni.—Woolen belts. 250
- 585 Haler Oglou Hassan, Kara Baitar.—Woolen hose. 250
- 586 Haler Oglou Hassan, Koniah.—Woolen hose. 250
- 587 Haidar, Mosul, Bagdad.—Turkish garment. 250
- 588 Haido, Bagdad.—Turkish garment. 250
- 589 Haldji Oulmia, Sophia, Danube.
a Turkish belts. 250
b Woolen gloves, mittens. 251
c Necktie, etc. 254
- 590 Helene, Miss, Bonandji, Adrianople.—Waterproof cloak. 250
- 591 Asco, Giorgio, Yanina.—Vest. 250
- 592 Heleni, Permidi, Yanina.
a Ladies' hose. 250
b Gold embroidered fichu. 252
- 593 Giorki, Miss, Bonandji, Adrianople.—Woolen hose. 250
- 594 Damascus, Government of, Syria.—Woolen hose. 250
- 595 Bourd, Government of, Bagdad.—Stockings. 250
- 596 Ohannes Agha, Angora.
a Woolen and cotton hose. 250
b Head-dress ornament, belt. 254
- 597 Men'efek, Government of, Bagdad.—Turkish garment. 250
- 598 Kara-Hissar, Government of, Sivas.—Belts. 250
- 599 Semarè, Government of, Bagdad.—Veils, Turkish garment. 250
- 600 Nedjep, Government of, Bagdad.—Turkish garments. 250
- 601 Van, Government of, Erzeroum.—Woolen belt. 250
- 601*a* Uskup, Government of, Monastir.—Woolen stockings. 250
- 602 Ezinchan, Government of, Erzeroum.—Turkish belt, woolen trousers. 250
- 603 Piseren, Government of, Monastir.—Turkish belt, lisle thread hose. 250
- 604 Gotha, Tripoli, Tripoli.
a Embroidered silk vest. 250
b Woman's hat. 251
- 605 Fatma, Madame, Koniah.
a Woolen hose. 250
b Purse. 254
- 606 Elvadji Youssouf, Diarbekir.—Vest. 250
- 607 Erza Yaco, Yanina.—Albanian skirt. 250
- 608 Eminè, Trebizond.—Silk shirt. 250
- 609 Diptou Noutoukdji, Damascus.—Woolen belt. 250
- 610 Delepné, Koniah.—Woolen stockings. 250
- 611 Despot, Yanina.—Women's hose. 250
- 612 Delal Mehemed, Diarbekir.—Cloak. 250
- 613 Dervichian, Smyrna.
a Shirt. 250
b Embroidered belt, silk lace. 252
c Ladies' cuffs and collars, necktie and cushion. 254
- 614 Cazas David Ilias, Permidi, Yanina.
a Hosiery. 250
b Cotton cap. 251
c Cotton ribbons, and buttons. 252
d Purse, garters. 254
- 615 Christo, Daughter of, Bonandji, Adrianople.—Waterproof. 250
- 616 Christo, Bonandji, Adrianople.—Turkish garments. 250
- 617 Cazas Said, Tripoli, Syria.—Belt. 250
- 618 Cheik Moussa, Mardin, Diarbekir.—Arabian garment. 250
- 619 Constanti, Miss, Stankeny, Dardanelles.—Socks. 250
- 620 Chavirdi Hadji, Ourpha, Aleppo.—Vests. 250
- 621 Balthazar, Miss, Dardanelles.—Cotton chemises. 250
- 622 Bagdad, Government of.
a Turkish garments, embroidered belt. 250
b Boots and shoes. 251
c Silver tobacco-box, pipes, Narghilès, pipe-bowls, combs, pouches, etc. 254
- 623 Abdul Kader Ousta, Koniah.—Embroidered jacket. 250
- 624 Abdourahman, Erzeroum.—Sheepskin jacket. 250
- 625 Moustapha, Abadji, Bigha, Aleppo.—Vest. 250
- 626 Ismail, Abadji, Aintab, Aleppo.—Vest. 250
- 627 Abas Ousta, Piseren, Monastir.—Velvet jacket and vest. 250
- 628 Anastassi, Héleni, Yanina.—Chemise. 250
- 629 Alexia, Miss, Bonandji, Adrianople.—Men's woolen hose. 250
- 630 Aichè, Koniah.—Shirt. 250
- 631 Antaki, Giorki, Aleppo.—Belt. 250
- 632 Ali, Diarbekir.—Vest. 250
- 633 Astor, Aleppo.—Woolen socks. 250
- 634 Atidjé, Madame, Eski-Kariel, Koniah.—Woolen hose. 250
- 635 Astadji Oglou Narcisse, Aleppo.—Turkish belt. 250
- 636 Zorié, wife of Ahmed, Yanina.—White cap. 251
- 637 Zahardj Nocha, Yanina.—Woolen gaiters. 251
- 638 Zekiyé, Madame, Koniah.—White cap. 251
- 639 Stéphanie, Dardanelles.—Boots and shoes. 251

Clothing, Needle Work, Fancy Articles.

- 640 Rahari, Mosul, Bagdad.—Morocco boots. 251
- 641 Mahmoud Agha, Damascus.—Morocco boots. 251
- 642 Ferrouch, Mehemed, Tripoli, Tripoli.—Morocco slippers. 251
- 643 Oulfrouch, Mehemed, Tripoli, Tripoli.—Ladies' boots. 251
- 644 Mehadedani, Ali, Damascus.—Boots and shoes. 251
- 645 Mehemed, Houdehida, Yiemani.—Leather clogs. 251
- 646 Mehamed Mousseri, Zoubid, Yiemani.
a Cotton cap. 251
b Handkerchiefs. 254
- 647 Mahmoud, Tahif, Hidjaz.—Embroidered cap. 251
- 648 Mehemed, Mosul, Bagdad.—Morocco boots. 251
- 649 Mahmoud, Aintab.—Turkish shoes. 251
- 650 Mehemed Ali, Mosul, Bagdad.—Morocco boots. 251
- 651 Ludovic & Vallauri, Constantinople.
a Form for Turkish caps; men's shoes. 251
b Pipes, pipe stems, and bowls, narghilés and requisites, ash receivers, ornamental pictures. 254
c Albanian and Turkish café waiters' costumes; office lady's costume. 257
- 652 Moustapha, Hadji, Constantinople.—Embroidered velvet slippers. 251
- 653 Mahmoud, Hadji, Marach, Aleppo.—Men's boots. 251
- 654 Isaac, Aintab.—Red shoes. 25
- 655 Hassan Reiss, Rhodes.—Wooden shoes. 251
- 656 Hassan Reiss, Dardanelles.—Wooden shoes. 251
- 657 Hassan Sali, Damascus.—Wooden and mother-of-pearl clogs. 251
- 658 Hamid Moustapha, Bosnia.—Ladies' boots and shoes; wooden clogs, etc. 251
- 659 Mosul, Government of, Bagdad.—Rhinoceros hide boots. 251
- 660 Constantinople, Government of.
a Boots and shoes, military caps, etc. 251
b Russia leather whip. 255
c Popular costumes. 257
- 661 Alidjé, Madame, Koudehida, Yiemani.—Palm-wood clogs. 251
- 662 Duric, Madame, Constantinople.
a Velvet slippers. 251
b Coiffure ornament. 254
- 663 Dimo, Yanina.—Shoes. 251
- 664 Dimitri, Yanina.
a Morocco boots. 251
b Morocco belt. 253
- 665 Cafak Mehameda, Aintab.—Turkish shoes and slippers. 251
- 666 Cafak Mahmoud, Marach, Aleppo.—Children's boots and shoes. 251
- 667 Chaouch Mahmoud Agha, Damascus.—Ladies' boots and shoes; Turkish shoes. 251
- 668 Baba Chika, Yanina.—Morocco boots and shoes. 251
- 669 Abhou Oglou Avediz, Marach, Aleppo.—Morocco boots. 251
- 670 Abhou, Avediz, Marach, Aleppo.—Boots and shoes. 251
- 671 Abdourahman, Tahif, Hidjaz.—Women's boots and shoes. 251
- 672 Abdul Keri, Mecca.—Boots and shoes; embroidered cap. 251
- 673 Abdoullah Arouniyé, Koudehida, Yiemani.—Leather clogs. 251
- 674 Ali bin Chaban, Tripoli, Tripoli.—Morocco boots and shoes. 251
- 675 Ali Bachakar, Tripoli, Tripoli.—Clogs. 251
- 676 Ali Nazif, Tripoli, Tripoli.—Morocco boots. 251
- 677 Ali bin Nazif, Tripoli, Tripoli.—Boots and shoes. 251
- 678 Atanach, Miss, Dardanelles.
a Velvet slippers. 251
b Crochet work; pillow case. 252
- 679 Aghop, Smyrna.
a Ladies' bonnet. 251
b Silver embroidery, lace. 252
- 681 Zozié, Yanina.—Silk lace. 252
- 682 Ziamani, daughter of Nicoli, Canea, Crete.—Crochet pillow case. 252
- 683 Vidal, J. M., Constantinople.—Oriental embroidery. 252
- 684 Vassiliki, Madame, Constantinople.—Laces. 252
- 685 Tromastoropolani, Catrini, Canea, Crete.—Crochet counterpane. 252
- 686 Tophna, Koniah.—Crochet lace and pillow case. 252
- 687 Tchiko, Yanina.—Lace. 252
- 688 Sali Djestine, Mecca.—Trimnings for clothing. 252
- 689 Stacoupola, Madame Héleni, Canea, Crete.—Divan cover. 252
- 690 Rokopolani, Héleni, Canea, Crete.—Crochet table cloth. 252
- 691 Rehid Effendi, Damascus.—Crochet coverlet, etc. 252
- 692 Pérachipolani, Krissi, Canea, Crete.—Crochet sofa cover. 252
- 693 Papazoupola, Annetta, Canea, Crete.—Table cloth. 252
- 694 Osman Effendi, Salonica.—Lace trimmings, silver lace, thread, etc. 252
- 695 Penssimo, Redjani, Yanina.—Laces. 252
- 696 Osman, Effendi, Brousse.—Embroidered handkerchief. 252
- 697 Nefissé, Madame, Ichkodra, Monastir.—Embroidered napkins. 252
- 698 Nikogos, Koniah.—Crochet cuffs. 252
- 699 Nicolaide, Azulfé, Mdle., Canea, Crete.—Lace. 252
- 700 Moustapha Bey, Bartia, Castamouni.
a Embroidered napkins. 252
b Belt. 254
- 701 Mombjian, Kirkor, Constantinople.—Embroideries, embroidered table cover. 252
- 702 Manoli Toraki, Catherine, Canea, Crete.—Crochet pillow case. 252
- 703 Mikail, Dardanelles.—Silk lace. 252
- 704 Legueurdjii, Miss, Dardanelles.—Silk lace. 252

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Needle Work, Fancy Articles, Jewelry.

- 705 Kamile, Madame, Tripoli, Syria.—
Embroidered napkin, etc. 252
- 706 Koliopoula, Maria, Canea, Crete.—
Embroidery, embroidered handkerchiefs,
cuffs. 252
- 707 Ismyrnpola, Héleni, Canea, Crete.—
—Crochet table cloth. 252
- 708 Isphakanopola, A s p a s i a, C a n e a,
Crete.—Crochet table cloth. 252
- 709 Iskildjan, Canea, Crete.—Crochet
work, napkins, etc. 252
- 710 Isaac Agha, Brousse.—Stand-cover.
252
- 712 Dervich Effendi, Hadji, Canea,
Crete.—Embroidered handkerchiefs and
belts. 252
- 713 Héleni, Madame, Constantinople.—
—Laces. 252
- 714 Heminé, Madame, Koniah.—
Crochet cap. 252
- 715 Beyroot, Government of, Syria.
a Trimmings, gold lace, cords. 252
b Tobacco pouch. 254
- 716 Grandaki Ahmed Effendi, Canea,
Crete.—Embroidered handkerchiefs,
belts, etc. 252
- 717 Grandaki Ahmed Effendi, Madame,
Canea, Crete.—Gold embroidered nap-
kins. 252
- 718 Fatma Eminé, Koniah.—Embroid-
ered napkins. 252
- 719 Ellissi, Madame, Constantinople.
a Laces. 252
b Tobacco pouch. 254
- 720 Feriyé, Madame, Koniah.—Crochet
lace. 252
- 721 Dervich Oglou Kokas, Brousse.—
Embroidered neckties, handkerchiefs,
and skirt. 252
- 722 Catherine, Constantinople.—Silk
embroidered fabric. 252
- 723 Boyachipolani, Marigo, Canea,
Crete.—Crochet lounge cover. 252
- 724 Abdi Azadé Ali Bey, Canea, Crete.—
—Embroidery, silk and silver lace, embroi-
dered handkerchiefs and belt, etc. 252
- 725 Aghop, Miss, Dardanelles.—Silk
lace. 252
- 726 Aiacha, Madame, Koniah.—Em-
broidered handkerchief. 252
- 727 Avanza, Torki, Miss, Canea,
Crete.—Crochet chair cover. 254
- 728 Assibi, Madame, Koniah.—Em-
broidered belt. 252
- 729 Vester, Jerusalem, Syria.
a Olive wood cuff buttons. 253
b Olive wood ladies' companions, caskets,
purses, needle cases, tobacco pots and
boxes, book and album covers; card cases,
spectacle cases, cane and cane heads;
match boxes, cigar case and holders,
chalices, crosses, glove boxes, postage
stamp boxes, pipes, beads, snuff boxes,
toys, etc. 252
- 730 Toup Hané c Hadji, Trebizond.
a Watch chain. 253
b Ornaments, etc. 254
- 731 Sako, Aintab.—Gilt silver bracelets.
253
- 732 Sassi Nahil, Tripoli, Tripoli.—Sil-
ver bracelets. 253
- 733 Rapate, Mikail, Aleppo.
a Necklace, earrings, and pin. 253
- 734 Omer Agha, Canea, Crete.—Silver
and gilt chains. 253
- 735 Manouk, Aleppo.—Gilt silver purse
chain. 253
- 736 Mikail, Aleppo.—Gilt silver ear-
rings. 253
- 737 Mikail, Aintab.
a Ring. 253
c Silver cigarette pincers. 254
- 738 Mesrouhout, Tripoli, Tripoli.—
Gold bracelets. 253
- 739 Lalotte Ahmed, Siros, Salonica.—
Amethysts. 253
- 740 Kirio, Aleppo.—Silver vest buttons.
253
- 741 Golaksiz Oglou Nicolas, Trebizond.
a Earrings, brooches, sleeve buttons, locket,
etc. 253
b Silver snuff box, pin, cigarette holders,
bouquet holder, etc. 254
- 742 Raphaélion, Gabriel, Constantino-
ple.
a Amber brooches, earrings, crosses, etc.
253
b Pipe stems and bowls, cigarette holders,
and canes. 254
- 743 Suleimaneeyah, Government of,
Bagdad.—Rock crystal seal and beads.
253
- 744 Babani Azeré, Tripoli, Tripoli.—
Gold ear-rings. 253
- 745 Cherkis Berké, Jerusalem.—
Mother-of-pearl lockets. 253
- 746 Andonaki, Kenprez, Dardanelles.—
—Amethyst. 253
- 747 Meskout Serros, Tripoli, Tripoli.—
Silver earrings. 253
- 748 Abil, Aleppo.
a Silver and silver gilt jewelry. 253
b Silver thimble, pincers, and paint flasks.
254
- 749 Zenoup, Marie, Constantinople.—
Embroidered necktie. 254
- 750 Yanaki, Widin, Danube.—Tobacco
box. 254
- 751 Thomas, Diarbekir.—Head-dress
ornament, ladies' belt. 254
- 752 Tanach, Thomas, Yanina, Yanina.—
—Silver filigree belt, snuff box, cigarette
box, looking glass, cigarette holders, etc.
254
- 753 Selim Zeutekli, Damascus.—Nar-
ghilé stems. 254
- 754 Sedj Agha, Madame, Koniah.—
Purse. 254
- 755 Selim Arikili, Damascus.—Acces-
sories of the narghilé. 254
- 756 Sehi Tassane, Djidé, Hidjaz.—
Cigarette cases. 254
- 757 Selim Zia Effendi, Candia, Crete.—
Canes. 254
- 758 Sali Kamber, Piseren, Monastir.—
Garter ornamented with gold. 254
- 759 Sako, Aleppo.—Silver filigree cig-
arette holder. 254
- 760 Suleiman, Djidé, Hidjaz.—Mother-
of-pearl ash receivers. 254
- 761 Suleiman Agha, Yania, Bosnia.—
Pipe bowl. 254

Needle Work, Fancy Articles, Jewelry.

- 762 Amassia, Government of, Sivas.—Night cap and tobacco pouch. 254
- 763 Panoucha, Yanina.—Morocco belt. 254
- 764 Emaré, Government of, Bagdad.—Silver saucer. 254
- 765 Djidé, Government of, Hidjaz.—Fan. 254
- 766 Oustour, Aleppo.—Canes. 254
- 767 Oannés, Sivas, Sivas.—Ladies' companion. 254
- 768 Mehemed Tourmae, Ousta, Tripoli, Tripoli.—Suspender belt. 254
- 769 Chaban Assiani, Ousta, Tripoli, Tripoli.—Suspender belt. 254
- 770 Ferrad, Keuprulu, Ousta, Salonica.—Cigarette cases. 254
- 771 Nazar Kezork, Aleppo.—Silver filigree goblet, comb case, silver comb, etc. 254
- 772 Namik Effendi, Yanina.—Silk purse. 254
- 773 Nicoforaki, Théophani, Oulia, Crete.—Linen belt. 254
- 774 Nazar Kezork, Aintab.—Silver filigree cigarette holders; silver belt buckle. 254
- 775 Nazar Kerkor, Aintab.—Silver needle case. 254
- 776 Moustapha Agha, Constantinople.—Ivory needle case, box, wooden spindle, pipe, etc. 254
- 777 Moustapha Oglou, Salonica.—Purses. 254
- 778 Moustapha Ousta, Broussa, Broussa.—Cane. 254
- 779 Moustapha, Tripoli, Tripoli.—Cigarette holders. 254
- 780 Mehemed Ali, Kerat, Damascus.—Accessories of the narghilé. 254
- 781 Mehemed Dervich, Roostchook, Danube.—Fan. 254
- 782 Manol Velejidinko, Karchova, Monastir.—Silver cigarette basket. 254
- 783 Marie, Madame, Constantinople.—Purses, tobacco pouch, and cushion. 254
- 784 Mikail Antaki, Aleppo.—Silver filigree box, and saucer. 254
- 785 Kesban, Madame, Koniah.—Watch holder. 254
- 786 Kouyoumdjou Epsso, Piseren, Monastir.—Silver filigree box and belt. 254
- 787 Kessiar, Sivas, Sivas.—Silver pipe, snuff box, cigarette holders, and pipe stems. 254
- 788 Ibrahim, Cyprus.—Embroidered handkerchief. 254
- 789 Ibrahim Ousta, Terssus, Adana.—Canes. 254
- 790 Ismail Ibrahim, Ak-Hissar, Bosnia.—Pipe. 254
- 791 Ismail, Tripoli, Tripoli.—Rhinoceros-horn cup and saucers. 254
- 792 Ismail Ousta, Koniah, Koniah.—Earthen pipe bowls. 254
- 793 Ismaila, Sivas, Sivas.—Pipe stem. 254
- 794 Koudour, Hadji, Aleppo.—Pipes, pipe bowls, cigarette holders, etc. 254
- 795 Hussein, Hadji, Mardin, Diarbekir.—Pipe heads. 254
- 796 Hadjidl Ousta, Bollo, Castamouni.—Silver tobacco box and cigarette cases. 254
- 797 Hassan Usine, Retimo, Crete.—Canes, narghilé pipe, cigarette holder, and tobacco vase. 254
- 798 Hussein Ousta, Dardanelles.—Cigarette holders, ash receivers, tobacco pots, and toys. 254
- 799 Hussein Ousta, Sivas, Sivas.—Cigarette holders and pipe stems. 254
- 800 Hussein Agha, Zakra, Tripoli.—Cane, cigarette box. 254
- 801 Feti, Mosul, Bagdad.—Pipe stems. 254
- 802 Kasseudje, Giorgi, Aleppo.—Pipe. 254
- 803 Kerbella, Government of, Bagdad.—Palm-leaf fans and fly-brush. 254
- 804 Uskup, Government of, Bagdad.—Cigarette holder, snuff box, knife haft, and bellows. 254
- 805 Vissoka, Government of, Bosnia.—Cigarette cases. 254
- 806 Dervich Osman, Herede, Castamouni.—Cigarette cases. 254
- 807 Emina, Madame, Ichkodra, Monastir.—Handkerchief. 254
- 808 Dervich Yaya, Uskup, Monastir.—Pipe bowls. 254
- 809 Djéza Hirli Moustapha, Tripoli, Tripoli.—Ivory fan, fly-brush. 254
- 810 Dervichian, School for Young Ladies, Smyrna.—Divan cushions, chatelet, slippers, lace collar, needle case, etc. 254
- 811 Cazas Said, Tripoli, Syria.—Garters. 254
- 812 Catherine, Redjani, Redjani, Yanina.—Collars and cuffs. 254
- 813 Bekir Agha, Ourpha.—Narghilé heads. 254
- 814 Babi, Saret, Diarbekir.—Ebony wood canes. 254
- 815 Beram, Agha, Trebizond.—Cane. 254
- 816 Abil, Aintab.—Silver needle case, cigarette holder, belt buckles, finger cover, gilt silver relic shrine. 254
- 817 Suriani, Anton, Aleppo.—Silver filigree cigarette holder. 254
- 818 Ahmed Hassan, Adila, Yieman.—Mother-of-pearl ash receivers. 254
- 818^a Ahmed Chibre, Houdehida, Yieman.—Rhinoceros-horn and wooden cups and saucers; canes, cigarette box and holders, ash receivers. 254
- 819 Ahmed Moussa, Rhodes.—Wooden pipes. 254
- 820 Ali, Aintab.—Ash receivers. 254
- 821 Ali Agha, Roostchook, Danube.—Pipe heads, tobacco pot, and cigarette holder. 254
- 822 Ali Agha, Widin, Danube.—Ash receivers. 254
- 823 Ali, Houdehida, Yieman.—Bamboo cup and cigarette box. 254
- 824 Ahmed Ousta, Trebizond.
^a Pipe inlaid with silver. 254
^b Cartridge box, case, and bag. 255

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Fancy Articles, Stationery, Weapons, Medicines.

- 825 Ardavissa, Madame, Constantinople.—Thread baskets. 254
- 826 Avadiz, Miss, Dardanelles.—Tobacco pouch, silk purse. 254
- 828 Mounidjian Kirkor, Constantinople.—Traveling bag. 255
- 829 Moustapha, Mosul, Bagdad.—Morocco pistol cases. 255
- 830 Moustapha Ani, Koniah.—Couriers' bags. 255
- 831 Ibrahim, Hadji, Tripoli, Tripoli.—Morocco pistol holders. 255
- 832 Hachmet, Trebizond.—Cartridge box. 255
- 833 Abdoullah Chili, Tripoli, Tripoli.—Morocco cushion cover. 255
- 834 Ahmed Cherif, Damascus.—Morocco cartridge box and case. 255
- 835 Ali Oglou Velz, Larik, Koniah.—Courier's bag. 255
- 836 Aghop, Erzeroum.—Fox furs. 256
- Paper, Blank Books, Stationery.**
- 837 Dervich, Oglou Nacif, Hadji, Candia, Crete.—Writing materials and inkstands. 258
- 838 Koniah, Government of.—Turkish inkstands. 258
- 839 Chirignan, Constantinople.—Turkish inkstands. 258
- 840 Dimitri, Yanina, Yanina.—Turkish inkstand. 258
- 841 Birch Kirkor, Aintab.—Inkstand. 258
- 842 Bekir Agha, Ourpha, Aleppo.—Inkstands. 258
- 843 Ahmed Chibre, Houdehida, Yie-man.—Turkish inkstand. 258
- 844 Ali Agha, Roostchook, Danube.—Turkish inkstands. 258
- 845 Karabet, Constantinople.—Turkish inkstands. 258
- 846 Zaferembolo, Government of, Castamouni.—Marble inkstand. 258
- 847 Vester, Jerusalem, Syria.—Olive wood desks, inkstands, penholders, paper weights, calenders, rules, seals, paperknives, paper boxes, etc. 258
- 848 Ferrad, Ousta, Keuprulu, Salonica.—Office utensils. 258
- 849 Nicoforaki, Thèophani, Canea, Crete.—Green parchment. 259
- 850 Ludovic & Vallauri, Constantinople.—Liquor labels. 261
- Weapons, etc.**
- 851 Christo, Polita, Trebizond.—Pistol and case. 265
- 852 Vidal, J. M., Constantinople.—Old firearms. 265
- 853 Constantinople, Government of.
a Schneider rifles, knapsack and cartridge box. 265
b Sabres. 268
- 854 Ahmed Agha, Poya, Trebizond.—Yataghan. 268
- 855 Ahido, Adrianople.—Yataghan. 268
- 856 Ali Osman, Broussa, Broussa.—Knives. 268
- 857 Raphaëlion, Gabriel, Constantinople.—Tomahawk. 268
- 858 Mehemed, Mosul, Bagdad.—Cart-ridge boxes, pistol cases, military belt, saddle bags. 269
- Medicine, Surgery, Prothesis.**
- 859 Spalhareon, Government of, Samos.—Amianthus. 272
- 860 Abdourhman, Aleppo.—Sumac berries. 272
- 861 Anguel, Ichkodra, Monastir.—Leaves of the adragante plant. 272
- 862 Boghend Luzzena, Constantinople.—Benzine. 272
- 863 Fakari, Aleppo.—Nigella. 272
- 864 Smyrne, Government of, Aydin.—Jalap. 272
- 865 Tootchana, Government of, Monastir.—Opium. 272
- 866 Saroukhan, Government of, Aydin.—Opium, and tipigonde. 272
- 867 Medina, Government of, Hidjaz.—Zathère and chinan plants, used as medicines. 272
- 868 Mosul, Government of, Bagdad.—Mint, dried roses, etc. 272
- 869 Kara-Tach, Government of.—Poutargue. 272
- 870 Kerbella, Government of, Bagdad.—Opium. 272
- 871 Kara Issalé, Government of, Adana.—Asphodele plant. 272
- 872 Koyondja, Government of, Bosnia.—Orpiment, a narcotic. 272
- 873 Catara, Government of, Yanina.—Salep. 272
- 874 Damascus, Government of, Syria.—Poppy heads, cartlamum seeds and blossoms. 272
- 875 Canea, Government of, Crete.—Laudanum. 272
- 876 Broussa, Government of.—Opium. 272
- 877 Hazrou, Aleppo.—Bastard saffron. 272
- 878 Hab Usu, Sullé, Koniah.—Chaleb aléanus. 272
- 879 Moustapha, Hadji, Marach, Aleppo.—Opium. 272
- 880 Hussein Effendi, Koniah, Koniah.—Opium. 272
- 881 Illias Manou, Aleppo.—Poppy heads. 272
- 882 Koular Oglou Mehemed, Lapseki Dardanelles.—Poutargue. 272
- 883 Nicolas, Prévèzè, Yanina.—Poutargue. 272
- 884 Starri, Oglou, Castamouni, Castamouni.—Salep. 272
- 885 Sali, Ichkodra, Monastir.—Poutargue. 272
- 886 Tadjiché, Malatia, Diarbekir.—Opium. 272
- 887 Tarrou & Co., Volonia, Yanina.—Poutargue. 272
- 888 Tayk Pasha, Constantinople.—Opium. 272
- 889 Mourad Oglou Ali, Ayvadjik, Dardanelles.—Scammony. 272
- 890 Yussuf Mocha, Salonica.—Poutargue. 272

Hardware, Woodenware, Harness.

- 891 Mussa Soleiman, Tdomane, Yanina.—Pernécone. 272
- 892 Zuccala, Carlo, Constantinople.—Pharmaceutical preparations. 272
- 893 Abazar Ketour, Saret, Diarbekir.—Ebony wood crutches. 276
- Hardware, Edge Tools, Cutlery, and Metallic Products.**
- 894 Bagdad, Government of.—Hatchet, iron tomahawks. 280
- 895 Palonka, Government of, Monastir.—Iron nippers, etc. 280
- 897 Isaac Agha, Hadji, Constantinople.—Saws. 280
- 898 Hussein, Constantinople.—Planes and ruler. 280
- 899 Chaouch, Ibrahim, Constantinople.—Joiners' chisels. 280
- 900 Ibrahim, Ousta, Constantinople.—Gimlets. 280
- 901 Suleiman, Constantinople.—Files. 280
- 902 Ludovic & Vallauri, Constantinople.—Copper pincers. 280
- 903 Suriani, Anton, Aleppo.—Silver scissors. 281
- 903^a Hartine, Sivas, Sivas.—Scissors. 281
- 904 Kodja Osman Agha, Bosnia.—Knife. 281
- 905 Laz Oglou Giorki, Castamouni, Castamouni.—Penknives. 281
- 906 Noury Eddin Ousta, Piseren, Monastir.—Scissors. 281
- 907 Samarina Yani, Yanina, Yanina.—Knife. 281
- 908 Soliman, Candia, Crete.—Pocket-knife, scissors, etc. 281
- 909 Tanasse, Yanina, Yanina.
^a Goat and sheep bells. 283
^b Door knocker. 284
- 910 Moustapha, Constantinople.—Copper cocks, etc. 284
- 911 Ahmed, Ousta, Trebizond.—Lock. 284
- 912 Kirkor, Aintab.—Pincers. 284
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 913 Ludovic & Vallauri, Constantinople.
^a Brooms. 286
^b Turkish ensign and wooden crescent. 288
- 914 Medina, Government of, Hidjaz.
^a Fly brush. 286
^b Wooden dish; palm-leaf basket. 289
- 915 Ali, Marach, Aleppo.—Sorghum straw brooms. 286
- 916 Yazacoula, Marach, Aleppo.—Broom. 286
- 917 Mehemed, Ousta, Koniah.—Ropes. 287
- 918 Andon, Mitchrè, Yanina.—Wooden casks. 289
- 919 Alidjè, Madame, Koudehida, Yie-man.—Baskets. 289
- 920 Tchobano, Dimitri, Yanina, Yanina.—Wooden mould. 289
- 921 Dimitri, Yanina, Yanina.—Wooden dish. 289
- 922 Bagdad, Government of.—Palm baskets. 289
- 923 Piseren, Government of, Monastir.—Wooden water pitcher. 289
- 924 Djira, Government of, Castamouni.—Wooden spoons. 289
- 925 Chaban, Hadji, Koniah, Koniah.—Wooden cups. 289
- 926 Youssouf, Hadji, Terssus, Adana.—Wooden water pots. 289
- 927 Murtaza, Hadji, Trebizond.—Wooden box. 289
- 928 Ibrahim, Terssus, Adana.—Wooden scraper. 289
- 929 Kiamil, Effendi, Koniah, Koniah.—Wooden spoons. 289
- 930 Marco, Bosnia.—Wooden spoons. 289
- 931 Mehemed bin Abdoulah, Bosnia.—Wooden spoons. 289
- 932 Menehoz, Priest of Mount Athos, Salonica.—Wooden spoons. 289
- 933 Mahmoud Kabali, Mecca, Hidjaz.—Wooden decanter, goblet, and dish. 289
- 934 Mollah, Youssouf, Cassendi, Adana.—Wooden mortar. 289
- 935 Moustapha, Nevrekop, Salonica.—Wooden casks, drinking cup, and coffee box. 289
- 936 Younusse, Uskup, Monastir.—Wooden spoons. 289
- Carriages, Vehicles, and Accessories.**
- 937 Abdourahman, Aman, Zoubeid, Yie-man.—Whip. 296
- 938 Boch, Kirkor, Aintab.—Stirrups. 296
- 939 Cazas, Thomas, Diarbekir.—Silk breast-piece for horses. 296
- 940 Delimè, Suleimaneeyah, Bagdad.—Saddle cloth. 296
- 941 Dip Notutchu, Damascus.—Woolen bridle, pistol holders, cartridge box. 296
- 942 Bagdad, Government of.—Reins and stirrups. 296
- 943 Constantinople, Government of.—Cavalry saddle and harness. 296
- 944 Ibrahim, Oglou Ali, Koniah.—Woolen knapsack. 296
- 945 Maktès, Heron, Ourpha, Aleppo.—Saddle cloth. 296
- 946 Mehemed, Larik, Koniah.—Saddle cloth. 296
- 946^a Moustapha, Omer, Koniah.—Woolen halter. 296
- 947 Moustapha, Mosul, Bagdad.—Saddle cloths. 296
- 948 Osman Effendi, Broussa.—Girth. 296
- 949 Ousta Mehemed Tournous, Tripoli, Tripoli.—Saddle and harness. 296
- 950 Sarak, Salif, Damascus.—Pack saddles of tiger skin. 296
- 951 Sarradj, Moustapha, Marach, Aleppo.—Saddle girth and stirrups. 296
- 952 Tanasse, Yanina, Yanina.—Stirrups. 296

Arboriculture and Forest Products.

- Agriculture, Arboriculture, and Forest Products.**
- 953 Noury Bey, Darendè, Sivas.—
Sumac. 600
- 954 Kara-Hissar, Government of, Sivas.—
Sumac leaves. 600
- 955 Dofat & Co., Pargua, Yanina.—
Acorn cups. 600
- 956 Chakir Agha, Ayvadjik, Dardanelles.—Acorn cups. 600
- 957 Cadi Kazi Agha, Caraman.—Sumac berries. 600
- 958 Ali Agha, Kangre, Castamouni.—
Sorbus (tree). 600
- 959 Avadjan, Savas, Savas.—Aloe wood. 600
- 960 Massoudjou, Diarbekir.
a Bark of the pomegranate tree. 600
b Gall-nuts, acorn cups, madder. 602
c Vegetable gum. 603
d Juniper berries and asphodele seed. 605
- 961 Schit Mohammed, Sparthe, Koniah.—Gall-nuts. 602
- 962 Ali Oglou Mehemed, Koniah, Koniah.—Gall-nuts. 602
- 963 Ziadji Oglou Bolis, Diarbekir.
a Sumac leaves. 602
b Excrecence of an oak tree, etc. 604
- 964 Taraihe Metre, Monastir, Monastir.—Madder. 602
- 965 Pano Mamatti, Prévèzè, Yanina.—
Gall-nuts. 602
- 966 Petro, Volonia, Yanina.—Gall-nuts. 602
- 967 Djourbachi, Nicolas, Imbros, Dardanelles.—Madder root. 602
- 968 Moustapha Effendi, Koniah, Koniah.—Madder. 602
- 969 Mosul, Government of, Bagdad.
a Madder root. 602
b Excrecence of an oak. 604
c Yellow seeds. 605
- 970 Illias Tènè, Aleppo.—Madder. 602
- 971 Ahmed, Hadji, Tripoli, Tripoli.—
Saffron. 602
- 972 Moustapha, Hadji, Tripoli, Tripoli.—
Galls for tanning. 602
- 973 Bougali, Hadji Ali, Tripoli, Tripoli.—
Henna leaves. 602
- 974 Mehemet Agha, Hadji, Angora.—
Acorn cups, gall-nuts, sumac leaves. 602
- 975 Charade, Hadji Ali, Tripoli, Tripoli.—
Madder. 602
- 976 Moustapha, Hadji, Aleppo.
a Gall-nuts, madder. 602
b Pitch, vegetable gum. 603
- 977 Cherishor, Government of, Bagdad.—
Henna gum and leaves. 602
- 978 Bigdè, Government of, Koniah.
a Madder root. 602
b Vegetable gum. 603
c Yellow seeds. 605
- 979 Adrianople, Government of.—Gall-nuts. 602
- 980 Damascus, Government of, Syria.
a Gall-nut, sumac, and madder root. 602
b Basson gum. 603
- 981 Erezena, Government of, Crete.—
Pine tree bark. 602
- 982 Zaferampolo, Government of, Castamouni.—Saffron. 602
- 983 Mihalgazi, Government of, Castamouni.—Sumac leaves. 602
- 984 Kara-Issali, Government of, Adana.
a Sumac leaves. 602
b Mastic tree resin. 603
- 985 Isklip, Government of, Castamouni.
a Scammony. 602
b Yellow seeds. 605
- 986 Adana, Government of.
a Gall-nuts, etc. 602
b Adragante seed. 605
- 987 Suleimaneeyah, Government of, Bagdad.
a Galls, gall-nuts, etc. 602
b Vegetable gum. 603
c Yellow seeds. 605
- 988 Saroukhan, Government of, Aydin.—Gall-nuts. 602
- 989 Smyrna, Government of, Aydin.
a Pine tree bark. 602
b Pitch. 603
c Dolique seed. 605
- 990 Retimo, Government of, Crete.—
Gall-nuts. 602
- 991 Abdourahman Effendi, Kangre, Castamouni.
a Gall-nuts. 602
b Yellow seed. 605
- 992 Artin Effendi, Adana, Adana.—
Madder root. 602
- 993 Ali Effendi, Angora.
a Madder. 602
b Yellow and black pitch. 603
- 994 Oghan, Sivas, Sivas.—Black pitch and tar. 603
- 995 Suleiman, Ichkodra, Monastir.—
Pitch. 602
- 996 Nicolaki, Jovan Oglou, Bairamich, Dardanelles.—Resin. 603
- 997 Maktis, Diarbekir.—Manna. 603
- 998 Mahmoud Katlani, Aleppo.—
Pitch. 603
- 999 Moustapha, Ahmed Oglou, Bairamich, Dardanelles.—Pitch. 603
- 1000 Las Osman, Kangre, Castamouni.—
Adragante gum. 602
- 1001 Kouyoun Oglou, Andoni, Angora.—
Opium and adragante gum. 603
- 1002 Ismail, Cherishor, Bagdad.—
Vegetable gum. 603
- 1003 Illias Manou, Aleppo.—Pine resin. 603
- 1004 Erzeroum, Government of.—
Pitch. 603
- 1005 Sfakia, Government of, Crete.—
Vegetable pitch, resin. 603
- 1006 Yldis-Ili, Government of, Sivas.—
White pitch. 603
- 1007 Merssine, Government of, Adana.—
Yellow pitch. 603
- 1008 Volonia, Government of, Yanina.—
Pitch. 603
- 1009 Akhati, Giorki, Aleppo.—Apricot tree gum. 603
- 1010 Toutous, Government of, Sivas.—
Vegetable gums. 603

Arboriculture, Pomology, Agricultural Products.

- 1011 Samos, Government of.
a Resin. 603
b Carob bean. 605
- 1012 Central Drug-store, della Sudda's, Broussa.—Scammony resin. 603
- 1013 Yconomidès, Antonio, Canea, Crete.—Mastic. 603
- 1014 Ahmed, Agha, Alada, Koniah.—Resin. 603
- 1015 Ahmed, Agha, Koniah, Koniah.—Vegetable and purified pitch. 603
- 1016 Mehemed Galz Effendi, Damascus.—Marshmallow. 604
- 1018 Thèophani, Nicoforaki, Canea, Crete.—Sweet almonds; seeds. 605
- 1019 Stiraki, Marinaki, Canea, Crete.—Sweet almonds. 605
- 1020 Over, Agha, Malalio, Diarbekir.—Pistachio-nuts. 605
- 1021 Latzindaki, Nicoli, Canea, Crete.—Sweet almonds. 605
- 1022 Missa Yian, Diarbekir.—Yellow seeds. 605
- 1023 Moustapha, Bandjak, Adana.—Palma-christi seed. 605
- 1025 Mehemed Rechio, Diarbekir.—Batones, a species of pistachio-nuts. 605
- 1026 Mehemed Ousta, Koniah, Koniah.—Yellow seeds. 605
- 1027 Karabet, Kangre, Castamouni.—Yellow seeds. 605
- 1028 Latzindaki, Hadji Yorghi, Canea, Crete.—Sweet almonds. 605
- 1029 Ali Bekir, Hadji, Sarret, Diarbekir.—Batones, species of pistachio-nuts; hazel-nuts. 605
- 1030 Aleppo, Government of.—Yellow Avignon seed. 605
- 1031 Esiné, Government of, Dardanelles.—Gall-nuts. 605
- 1032 Fokat, Government of, Sivas.—Avignon seed. 605
- 1033 Houran, Government of, Syria.—Asphodele seed. 605
- 1034 Chagir, Agha, Canea, Crete.—Sweet almonds. 605
- 1035 Bolesse, Diarbekir.—Yellow seeds. 605
- 1036 Ali Ani, Sullè, Koniah.—Yellow seed. 605
- 1037 Ali Baba, Aleppo.—Pine seeds. 605
- Pomology.**
- 1038 Ali Bekir, Hadji, Sarret, Diarbekir.—Crab apples. 610
- 1039 Carnic Ali Agha, Kangre, Castamouni.—Corinth grapes. 610
- 1040 Feefik, Mamor, Diarbekir.—Cherries. 610
- 1041 Seid, Hadji, Koniah, Koniah.—Corinth grapes. 610
- 1042 Over Agha, Malatio, Diarbekir.—Grapes. 610
- 1043 Abdoullah, Aleppo.—Almonds. 611
- 1044 Abdourahman, Aleppo.—Hazel and pistachio nuts. 611
- 1045 Austagan, Adrianople.—Gombo fruit. 611
- 1046 Djemal Ali, Sarret, Diarbekir.—Dried figs. 611
- 1046^a Yanacoli, Canea, Crete.—Sweet almonds. 611
- 1047 Amassia, Government of, Sivas.—Nuts. 611
- 1048 Retimo, Government of, Crete.—Salted olives. 611
- 1049 Cattari Giorki, Yanina, Yanina.—Olives. 611
- 1050 Tschataldja, Government of, Yanina.—Green olives. 611
- 1051 Ichel, Government of, Adana.—Olives. 611
- 1052 Medina, Government of, Hidjaz.—Dates. 611
- 1053 Samos, Government of.—Olives, almonds, and raisins. 611
- 1054 Prévèzé, Government of, Yanina.—Cedras, a sort of lemon. 611
- 1055 Churadè, Hadji Ali, Tripoli, Tripoli.—Raisins. 611
- 1056 Kemer Kirkor, Mamor, Diarbekir.—Dried almonds. 611
- 1057 Youssouf, Aleppo.—Jujube. 611
- 1058 Chaouch, Moustapha, Ayvadjik, Dardanelles.—Olives. 611
- 1059 Mehemed Effendi, Dardanelles, Dardanelles.—Almonds and nuts. 611
- 1060 Djudie, Mehemed, Tripoli, Tripoli.—Dates. 611
- 1061 Petro, Bèrat, Yanina.—Almonds and nuts. 611
- 1062 Seid Hussa, Mardin, Diarbekir.—Mahaleb. 611
- 1063 Salomon, Salonica.—Olives. 611
- 1064 Smyrna, Government of, Aydin.—Almonds, olives. 611
- Agricultural Products.**
- 1065 Topchin Mulasin, Koniah, Koniah.
a Oats. 620
b Flaxseed. 624
- 1066 Toran Costa, Philippopolis, Adrianople.
a Wheat, rye, maize, barley, rice, and millet. 620
b Vetch. 621
- 1067 Youssouf, Diarbekir.
a Cereals: wheat, barley, and millet. 620
b Gray peas. 621
c Kuchénè seed. 624
- 1068 Abdi Agha, Prévèzé, Yanina.—Oats. 620
- 1069 Ab-del Kader Kourou Ateché, Adana.—Sesame. 620
- 1070 Abdourahman, Aleppo.
a White sorghum. 620
b Lentils, gray peas. 621
c Dolique seed. 624
- 1071 Ahmed, Tchataldja, Yanina.—Barley. 620
- 1072 Banouch Agha, Permidé, Yanina.—Wheat. 620
- 1073 Christo, Yanina, Yanina.
a Wheat, barley, rye, oats, maize, and millet. 620
b Lentils, green peas. 621
c Dolique seed. 624
- 1074 Christo, Volonia, Yanina.—Barley. 620
- 1075 Christo, Prévèzé, Yanina.—Barley. 620

Agricultural Products.

- 1076 Ahmed, Chaouch, Cus-Kuri, Dardanelles.—Oats. 620
- 1077 Dibra Gaza, Aleppo. 620
a Rice. 620
b Asphodele and liquorice root. 622
- 1078 Emin Agha, Constantinople. 620
a Wheat, maize, oats, sesame, millet, spelt, etc. 620
b Lentils, vetch, and grach. 621
c Flaxseed. 624
- 1079 Ferssouz, Adana, Adana.—Wheat. 620
- 1080 Fodolali, Nazif Agha, Candia, Crete.—Barley. 620
- 1081 Giorki, Antaki, Aleppo.—Sesame. 620
- 1082 Giorki, Volonia, Yanina. 620
a Rice. 620
b Kidney beans. 621
- 1083 Aydin, Government of. 620
a Wheat, barley. 620
b Liquorice root. 622
- 1084 Berat, Government of, Yanina. 620
a Maize. 620
b Tobacco. 623
- 1085 Cherishor, Government of, Bagdad.—Rice. 620
- 1086 Damascus, Government of, Syria. 620
a Wheat, maize, barley, white sorghum, etc. 620
b Vetch and gray peas. 621
c Anise and coriander seed. 623
d Beet root, fennel, and hemp seed. 624
- 1087 Diarbekir, Government of.—Wheat. 620
- 1088 Erzeroum, Government of. 620
a Wheat, rye, and barley. 620
b Flaxseed. 624
- 1089 Houran, Government of, Syria.—Sesame. 620
- 1090 Kara-Hissar, Government of, Sivas. 620
a Wheat and barley. 620
b Gray peas, kidney beans, lentils. 621
- 1091 Kerbella, Government of, Bagdad. 620
a Rice, millet, sesame, barley, wheat, white sorghum. 620
b Lentils, beans, masch (vegetable). 621
c Dolique seed. 624
- 1092 Medina, Government of, Hidjaz.—Wheat and barley. 620
- 1093 Mentefek, Government of, Bagdad. 620
a Wheat, millet, and rice. 620
b Beans, masch. 621
c Dolique seed. 624
- 1094 Mosul, Government of, Bagdad. 620
a Maize. 620
b Peas. 621
c Coriander. 623
d Flaxseed. 624
- 1095 Serfiché, Government of, Monastir.—Wheat, rye, barley, and maize. 620
- 1096 Smyrna, Government of, Aydin. 620
a Wheat, maize, cvrier, millet, sesame, white sorghum. 620
b Peas and beans. 621
c Fennel, cumin. 624
- 1097 Suleimaneeyah, Government of, Bagdad. 620
a Barley, millet, and rice. 620
b Vetch and beans. 621
- 1098 Tahif, Government of, Hidjaz.—White and red sorghum, millet, wheat, and barley. 620
- 1099 Tootchana, Government of, Monastir.—Rice. 620
- 1100 Toutous, Government of, Sivas. 620
a Cereals. 620
b Chick-peas. 621
c Radish and flaxseed. 624
- 1101 Uskup, Government of, Monastir. 620
a Wheat and rye. 620
b Leaf tobacco. 623
- 1102 Volonia, Government of, Yanina.—Maize. 620
- 1103 Ali Agha, Hadji, Koniah, Koniah.—Wheat. 620
- 1104 Ali Agha, Hadji, Kangre, Castamouni. 620
a Millet. 620
b Cumin. 623
- 1105 Ali, Hadji, Koniah, Koniah.—Wheat. 620
- 1106 Ali Bou Allia, Hadji, Tripoli, Tripoli. 620
a Wheat, barley, maize. 620
b Lentils and beans. 621
c Coriander and cumin. 623
- 1107 Ali Bougali, Hadji, Tripoli, Tripoli. 620
a Millet. 620
b Sorghum seed. 624
- 1108 Bekir Effendi, Hadji, Adana, Adana.—Barley and millet. 620
- 1109 Esseid Effendi, Hadji, Koniah, Koniah.—Wheat. 620
- 1110 Ismail, Hadji, Koniah, Koniah.—Wheat. 620
- 1111 Ismaila, Hadji, Cus-Kuri, Dardanelles.—Barley. 620
- 1112 Moustapha Agha, Hadji, Adana, Adana.—Gray peas. 621
- 1113 Sali, Hadji, Anabon, Monastir.—Wheat and maize. 620
- 1114 Weisser, Hadji, Dardanelles, Dardanelles.—Evrier, a cereal. 620
- 1115 Hassan Agha, Koniah, Koniah.—Wheat. 620
- 1116 Hussein, Aleppo.—Maize. 620
- 1117 Ismail Agha, Abdi Tolli, Koniah. 620
a Black barley. 620
b Radish seed. 624
- 1118 Ismail, Tchataldja, Yanina.—Wheat. 620
- 1119 Ismail Effendi, Candia, Crete.—Barley. 620
- 1120 Kavilian, Stépan, Sivas.—Wheat. 620
- 1121 Kutchuk Ali Agha, Dardanelles, Dardanelles.—Wheat. 620
- 1122 Manoli, Boyadjaki, Candia, Crete.—Barley. 620
- 1123 Mehemed Effendi, Dardanelles, Dardanelles.—Indian corn, sesame. 620
- 1124 Mehemedá, Cus-Kuri, Dardanelles.—Rye. 620
- 1125 Merdik, Mardin, Diarbekir.—Sesame. 620
- 1126 Moussin Oglou Seid, Koniah, Koniah. 620
a Barley. 620
b Gray peas. 621
- 1127 Mourazédé, Aleppo.—Unhulled rice. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural Products.

- 1128 Moussa Oglou Veli, Alada, Koniah.—Rye. 620
- 1129 Moussin Effendi, Koniah, Koniah.—Evrir, a cereal. 620
- 1130 Moustapha Effendi, Cherkech, Castamouni.—Wheat and barley. 620
- 1131 Moustapha, Agha, Canea, Crete.—Barley. 620
- 1132 Nougai Baitimour, Adana, Adana.—Millet. 620
- 1133 Ohannes, Aleppo.—Wheat and barley. 620
- 1134 Olah Artin, Adana, Adana.—Oats. 620
- 1135 Oudjou Christo, Yanina, Yanina.—White sorghum. 620
- 1136 Pachistizzi, Volonia, Yanina.—Maize. 620
- 1137 Petro, Bérat, Yanina.—Rice and oats. 620
- 1138 Portocalaki, Moustapha Agha, Candia, Crete.—Wheat. 620
- 1139 Salbé, Diarbekir.—Rice, hulled and unhulled. 620
- 1140 Salih, Ichkodra, Monastir.
a Barley, rye, oats, wheat, and maize. 620
b Beans. 621
c Flaxseed. 624
- 1141 Salomon, Salonica.—Wheat, rye, oats, barley. 620
- 1142 Seid Chaban, Zubei, Yiemen.
a Maize, millet, and red, white, and yellow sorghum. 620
b Lentils. 621
c Dolique and indigo-plant seeds. 624
- 1143 Seid Mehemed Agha, Angora.
a Wheat, barley, etc. 620
b Beans, peas, lentils. 621
c Coriander. 623
- 1144 Théophani, Nicoforaki, Canea, Crete.
a Wheat, barley, Indian corn, oats. 620
b Gray peas, vetch, beans, parsnip, celery, mihlie. 621
c Leaf tobacco, mustard. 623
- 1145 Houllé, Government of, Bagdad.—Lentils, vetch, and beans. 621
- 1146 Kara Issalé, Government of, Adana.
a Vetch. 621
b Sage. 623
- 1147 Samos, Government of.
a Vetch. 621
b Anise seed. 624
- 1148 Saroukhan, Government of, Aydin.
a Lentils. 621
b Madder root. 622
c Mustard seed. 624
- 1149 Mehemed, Hadji, Diarbekir.—Roast peas. 621
- 1150 Isaac, Hodja, Aleppo.—Lentils, peas, and masch. 621
- 1151 Ismail Agha, Koniah, Koniah.—Vetch. 621
- 1152 Mehemed Ali Agha, Saradjik, Dardanelles.—Beans, gray peas. 621
- 1153 Ahmed, Erzeroum.—Lentils, kidney beans, and peas. 621
- 1154 Aghoba, Kingnessa, Adana.—Lentils. 621
- 1155 Ali Ousta, Koniah, Koniah.—Kidney beans. 621
- 1156 Charchou Akassi, Diarbekir.—Lentils. 621
- 1157 Christo, Palatnos, Yanina.—Beans. 621
- 1158 Kachomla, Christo, Tdomane, Yanina.—Kidney beans. 621
- 1159 Diaba, Heudeurlé, Adana.—Kidney beans. 621
- 1160 Giorki, Aleppo.
a Vetch. 621
b Kuchené seed. 624
- 1161 Mehemed Seid, Angora.
a Kidney beans. 621
b Cumin. 623
- 1162 Molah Ahmed, Adana, Adana.—Beans. 621
- 1163 Sidmaki, Sfakia, Crete.—Dried beans. 621
- 1164 Fetou, Aleppo.—Kidney beans. 621
- 1165 Yorghanodhaki, Sfakia, Crete.—Vetch. 621
- 1166 Valah, Vandiria, Sfakia, Crete.—Lentils. 621
- 1167 Youssouf Mamor, Diarbekir.—Kidney beans. 621
- 1168 Youssouf Manoc, Aleppo.—Beans. 621
- 1169 Akhati, Giorki, Aleppo.—Soapwort root. 622
- 1170 Moustapha, Hadji, Marach, Aleppo.—Scammony. 622
- 1171 Hazrou, Aleppo.—Coriander seed. 623
- 1172 Imperial Administration, Constantinople.—Tobacco. 623
- 1173 Kandí Bros., Erguiré, Yanina.—Snuff. 623
- 1174 Mehemed, Koniah, Koniah.—Cumin. 623
- 1175 Nassou Tarrouchan, Ichkodra, Monastir.—Leaf tobacco. 623
- 1176 Omer Oglou Kassan, Tchan, Dardanelles.—Leaf tobacco. 623
- 1177 Rahimin David, Tripoli, Tripoli.—Cumin. 623
- 1178 Ramazan, Effendi, Smyrna, Aydin.—Tobacco. 623
- 1179 Abil, Aleppo.—Snuff. 623
- 1180 Djourbachi, Antolu, Dardanelles, Dardanelles.—Cumin and anise. 623
- 1181 Bedros, Antoine, Philadelphia, Pa.—Turkish tobacco. 623
- 1182 Bekir Bey, Marach, Aleppo.—Scammony root. 623
- 1183 Costanti, Aydonat, Yanina.—Snuff. 623
- 1184 Aleppo, Government of.—Tobacco. 623
- 1185 Amassia, Government of, Sivas.—Tobacco. 623
- 1186 Kenidje, Government of, Salonica.—Tobacco. 623
- 1187 Haskanorich Ali, Korimdja, Bosnia.—Tobacco. 623
- 1188 Manoli Calergui, Papa, Canea, Crete.—Leaf tobacco. 623
- 1189 Taksim Effendi, Tchataldja, Yanina.—Tobacco. 623
- 1190 Tokatlou, Trebizond.—Leaf tobacco. 623

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Agricultural, Animal, and Vegetable Products.

- 1191 Yani, Oglou Andin, Angora, Angora.—Tobacco. 623
- 1192 Yousseuf, Chaouch, Nardat, Yanina.—Tobacco. 623
- 1193 Yousseuf, Chaouch, Tchataldja, Yanina.—Tobacco. 623
- 1194 Manouk, Yousseuf, Aleppo.—Tobacco. 623
- 1195 Kayod, Hussein, Mardin, Diarbekir.—Fennel seed. 624
- 1196 Moustapha Effendi, Koniah, Koniah.—Hemp seed. 624
- 1197 Kouyoun Oglou, Andonie.—Seed. 624
- 1198 Yousseuf, Hadji, Diarbekir.—Palma-christi seeds. 624
- 1199 Kazikli, Government of, Aydin.—Anise seed. 624
- 1200 Cus-Kuri, Government of, Dardanelles.—Dolique seed. 624
- 1201 Djbra Gaza, Aleppo.—Fennel seed and cumin. 624
- 1202 Ali Bin Mehemed, Tripoli, Tripoli.—Lucern seed. 624
- 1203 Yousseuf, Aleppo.—Hemp, palma-christi, mckineche, melon, and watermelon seeds. 624
- 1204 Tarai, Djemetré, Bokeva, Monastir.—Flax and hemp seed. 624
- 1205 Maneza, Government of, Aydin.—Flaxseed. 624
- 1206 Adana, Government of.—Dolique seed. 624
- Land Animals.**
- 1207 Mazloum Aghiah, Constantinople.—Insects. 638
- Water Animals, Fish Culture and Apparatus.**
- 1208 Ali Zotte, Volonia, Yanina.—Coral. 645
- Animal and Vegetable Products.**
- 1209 Lachite, Government of, Crete.—Sponges. 650
- 1210 Themeli, N., New York, N. Y.—Sponges. 650
- 1211 Mansour, Hadji, Tripoli, Tripoli.—Sponges. 650
- 1212 Djidé, Government of, Hidjaz.—Sponges. 650
- 1213 Gallinos, Rhodes, Dardanelles.—Sponges. 650
- 1214 Théophani, Nicoforaki, Canea, Crete.
- a Cheese. 651
- b Leather and skins. 652
- c Honey. 654
- d Dried cherries. 656
- 1215 Minassian Miguerdji, Tokat, Sivas.—Cheese. 651
- 1216 Markora, Salonica.—Cheese. 651
- 1217 Mikahl Agha, Adrianople.—Lamb skins. 652
- 1218 Mikael, Kotchissar, Castamouni.—Beaver skin. 652
- 1219 Mehemed, Dardanelles.—Morocco. 652
- 1220 Starri, Oglou, Kotchissar, Castamouni.—Marten skin. 652
- 1221 Nichan, Sivas, Sivas.—Skins. 652
- 1222 Nely, Ali, Marach, Aleppo.—Morocco. 652
- 1223 Moustapha, Ourpha, Aleppo.—Leather. 652
- 1224 Moustapha, Erzeroum.—Leather, Morocco, etc. 652
- 1225 Mohadjeri Nahe, Adana, Adana.—Gazelle skin. 652
- 1226 Abdul Medjid, Vesalomon.—Goat skin. 652
- 1227 Abdoulah, Aroubirje, Zoubeï, Bagdad.—Morocco. 652
- 1228 Seyfoullah, Roostchook, Danube.—Leather. 652
- 1229 Sari Faki Moustapha, Marach, Aleppo.—Morocco. 652
- 1230 Safran Bolu, Zaferemboli, Castamouni.—Morocco. 652
- 1231 Panoucha, Yanina.—Leather. 652
- 1232 Osman Agha, Koniah.—Leather. 652
- 1233 Mehemed, Ousta, Boschir, Koniah.—Leather. 652
- 1234 Omer, Ousta, Piseren, Monastir.—Morocco. 652
- 1235 Ohannés Agha, Angora.—Angora goat skins. 652
- 1236 Ahmed Agha, Koniah.—Leather and Morocco. 652
- 1237 Yanaki Kalviro, Yanina.—Goat skin. 652
- 1238 Yousseuf, Caraman, Koniah.—Morocco. 652
- 1239 Vasali Borbo, Yanina.—Morocco. 652
- 1240 Tosty, Galota, Chio, Dardanelles.—Leather. 652
- 1241 Chinopli, Thomas, Teralu, Yanina.—Sheep skin. 652
- 1242 Sirkié, Olan Andin, Angora.—Weasel skin. 652
- 1243 Sirch, Oglou, Andon, Angora.—Wolf, weasel, and fox skin. 652
- 1244 Atanach, Dardanelles, Dardanelles.—Sheep skin. 652
- 1245 Andria, Trebizond.—Grebe skins. 652
- 1246 Andon, Chio, Dardanelles.—Morocco. 652
- 1247 Anastach, Kangre, Castamouni.—Goat skin. 652
- 1248 Ali, Omer, Bigha, Dardanelles.—Deer skin. 652
- 1249 Ali, Salonica.—Leather. 652
- 1250 Ali, Mosul, Bagdad.—Beaver, fox, and wolf skin. 652
- 1251 Ahmed, Ousta, Castamouni, Castamouni.—Angora goat skin. 652
- 1252 Zelo, Christo, Yanina.—Red Morocco. 652
- 1253 Cherbedji Mehemed, Marach, Aleppo.—Goat and sheep skin. 652
- 1254 Moussa Agha, Cheik, Diarbekir.—Goat and sheep skin. 652
- 1255 Chaban Oglou Mehemed, Koniah, Koniah.—Cat skin. 652

Animal and Vegetable Products.

- 1256 Cassal, Adana, Adana.—Goat and sheep skin. 652
- 1257 Cafak, Abdoullah, Marach, Aleppo.—Morocco. 652
- 1258 Bekir Agha, Sivas, Sivas.—Leather, morocco, and skins. 652
- 1259 Balto Oglou Youssouf, Guengnek, Castamouni.—Morocco. 652
- 1260 Glano, Giorki, Yanina.—Skin. 652
- 1261 Eyoup, Ourpha, Aleppo.—Goat and sheep skin. 652
- 1262 Echef Effendi, Trebizond.—Morocco. 652
- 1263 Ebouker, Chérif, Tripoli, Tripoli.—Sheep skin. 652
- 1264 Dchoban Oglou Mehemed, Koniah.—Fox skin. 652
- 1265 Corporation of Curriers, Smyrna.—Leathers, skins, and morocco. 652
- 1266 Dauli, Christo, Yanina.—Morocco. 652
- 1266_a Corporation of Curriers, Damascus.—Leather and morocco. 652
- 1267 Calman, Government of, Syria.—Goat skin. 652
- 1268 Cherishor, Government of, Bagdad.—Lamb skin. 652
- 1269 Bourd, Government of, Bagdad.—Morocco. 652
- 1270 Ohanés Agha, Marach, Aleppo.—Ounce and weasel skins. 652
- 1271 Bagdad, Government of.—Buffalo skin and morocco. 652
- 1272 Moustapha, Hadji, Marach, Aleppo.—Skins. 652
- 1273 Adana, Government of.—Roebuck and calf skins. 652
- 1274 Godchè, Erondi, Prévèzè, Yanina.—Leather, morocco. 652
- 1275 Gulbin, Oglou Mehemed, Koniah, Koniah.—Jackal skin. 652
- 1276 Tahif, Government of, Hidjaz.
a Sheep and goat skin. 652
b Honey. 654
- 1277 Kara Issali, Government of, Adana.—Deer skin. 625
- 1278 Feulgehete, Government of, Syria.—Deer skin. 652
- 1279 Erzeroum, Government of.
a Goat skin, morocco. 652
b Down. 653
- 1280 Diarbekir, Government of.—Leather and morocco. 652
- 1281 Dardanelles, Government of.—Goat skin. 652
- 1282 Damascus, Government of, Syria.
a Sheep skin. 652
b Honey and wax. 654
- 1283 Constantinople, Government of.—Morocco and other leathers. 652
- 1284 Manik, Hadji, Erzeroum.—Fox skin. 652
- 1285 Ismail Effendi, Hadji, Koniah, Koniah.—Otter skin, etc. 652
- 1286 Ismail, Hadji, Aintab.—Calf skin, leather, and morocco. 652
- 1287 Ibrahim, Hadji, Angora.—Leather and morocco. 652
- 1288 Damiano, Hadji, Bosnia.—Bear, fox, weasel, badger, and marten skins. 652
- 1289 Amparson, Hadji, Trebizond.—Jackal, fox, weasel, lamb, and sable skins. 652
- 1290 Ahmed, Hadji, Angora.—Goat and sheep skin. 652
- 1291 Achmet Agha, Hadji, Angora.—Lamb skin. 652
- 1292 Rafoul, Hodja, Marach, Aleppo.—Wildcat, fox, otter, and jackal skins. 652
- 1293 Hassan Oglou Ahmed, Dardanelles, Dardanelles.—Wildcat, fox, beaver, weasel, and jackal skins. 652
- 1294 Hassan, Ousta, Castamouni.—Morocco. 652
- 1295 Harani Oglou, Castamouni, Castamouni.—Ounce skin. 652
- 1296 Haho, Babanoun Hamed Agha, Koniah.—Morocco. 652
- 1297 Yassin, Hadji, Saret, Diarbekir.—Leather. 652
- 1298 Rouchen, Hadji, Trebizond.—Goat and calf skins. 652
- 1299 Omer Agha, Hadji, Diarbekir.—Morocco. 652
- 1300 Moustapha Ahmoud, Hadji, Tripoli, Tripoli.—Morocco, tanned skins, etc. 652
- 1301 Kurdju, Hadji, Diarbekir.—Beaver skin. 652
- 1302 Karabet Agha, Erzeroum.—Weasel and wolf skins. 652
- 1303 Kara, Poutamo, Prévèzè, Yanina.—Goat and sheep skin. 652
- 1304 Ismail, Agha, Boschir, Koniah.—Leather. 652
- 1305 Ismail, Hadji, Marach, Aleppo.—Leather. 652
- 1306 Isaac, Aleppo, Aleppo.—Lamb skin. 652
- 1307 Ipsilanki & Co., Samos, Castamouni.—Leather. 652
- 1308 Ibrahim, Uskup, Monastir.—Morocco. 652
- 1309 Hussein Effendi, Salonica.—Tanned hides and morocco. 652
- 1310 Mehemed Emin, Mosul, Bagdad.—Morocco. 652
- 1311 Mehemed Effendi, Adrianople.—Leather, morocco, goat, and calf skins. 652
- 1312 Mehemed, Koniah, Koniah.—Wolf skin. 652
- 1313 Masloum Agha, Candia, Crete.—Goat skins and morocco. 652
- 1314 Salomon, Salonica.
a Goat and lamb skins. 652
b Virgin wax. 654
c Cherry, orange, apricot, prune, verjuice, and gourd marmalade. 660
d Brandy, wine, and vinegar. 660
- 1315 Marouquin, Dardanelles.—Morocco. 652
- 1316 Kurjut Casmat, Diarbekir.—Fox and weasel skins. 652
- 1317 Piseren, Government of, Monastir.—Morocco. 652
- 1318 Abdoullah Ousta, Angora.—Leather. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Animal and Vegetable Products.

- 1319 Ana Bini, Tanasse, Sarret, Diarbekir.—Wax. 654
- 1320 Yeni Ahmed, Chiir, Yanina.—Wax. 654
- 1321 Ahmed Agha, Lapseki, Dardanelles.—Yellow wax. 654
- 1322 Sahalim Bacbac, Tripoli, Tripoli.—Honey. 654
- 1323 Derbabian, Pedros, Sivas, Sivas.—Yellow wax 654
- 1324 Ohannés, Son of Varcha, Angora.—Honey. 654
- 1325 Moussin Effendi, Koniah, Koniah.—Yellow wax. 654
- 1326 Ahmed, Aintab, Aleppo.—Honey and wax. 654
- 1327 Samos, Government of.
a Honey. 654
b Wine and brandy. 660
- 1328 Medina, Government of, Hidjaz.—Honey. 654
- 1329 Cherif Effendi, Trebizond.
a Honey. 654
b Gourd, pear, and rose marmalade. 656
c Mulberry vinegar. 660
- 1330 Arpadji Mahmoud Agha, Adana, Adana.—Wax. 654
- 1331 Lefterimo, Aposthol, Tirala, Yanina.—Honey. 654
- 1332 Andonaki, Angora.—Wax. 654
- 1333 Pisereken, Government of, Monastir.—Crude wax. 654
- 1334 Ali Zotte, Golos, Yanina.—Yellow wax. 654
- 1335 Mahmoud Agha, Adana, Adana.—Honey. 654
- 1336 Keranche, Oglou, Kotchissar, Castamouni.—Wax. 654
- 1337 Hussein Dédé, Kilid-Bahar, Dardanelles.—Honey. 654
- 1338 Haktar Mehemed, Aleppo.—Yellow wax. 654
- 1339 Osman, Hadji, Sarret, Diarbekir.—Honey. 654
- 1340 Volonia, Government of, Yanina.—Honey and wax. 654
- 1341 Suleimanceyah, Government of, Bagdad.—Wax. 654
- 1342 Smyrna, Government of, Aydin.
a Honey and wax. 654
b Dried grapes, raisins. 656
c Wine. 660
- 1343 Abdourahman, Erzeroum.—Yellow wax. 654
- 1344 Abdourahman, Zubei, Yiemen.—Wax. 654
- 1345 Catari, Giorki, Golos, Yanina.—Olives. 656
- 1346 Ali Oglou Moussa.—Dried morrellas. 656
- 1347 Ahmed Agha, Aleppo.—Raisins. 656
- 1348 Yussuf Sarret, Diarbekir.—Raisins. 656
- 1349 Tetoullah Effendi, Darendé, Sivas.—Prunes. 656
- 1350 Serdar, Hassan Oglou Hussein, Canea, Crete.—White and black raisins. 656
- 1351 Seid, Mehemed Agha, Angora.—Dried apples, prunes, cherries, apricots. 656
- 1352 Pembedje, Oglou Moustapha, Mardin, Diarbekir.—Prunes. 656
- 1353 Koyoun, Andonik, Angora.
a Dried and salt beef, sausages. 656
b Brandy, wine, and vinegar. 660
- 1354 Kirkor, Avakir, Diarbekir.—Mulberry paste. 656
- 1355 Hussein, Gaat, Mardin, Diarbekir.—Prunes. 656
- 1356 Haskanorich, Ali, Korimdja, Bosnia.—Prunes. 656
- 1357 Osman, Hadji, Koniah, Koniah.—Raisins. 656
- 1358 Ali, Hadji, Aleppo.—Dried prunes, quinces, cherries, and apricots. 656
- 1359 Zaferampolo, Government of, Castamouni.—Dried prunes. 656
- 1360 Nitch, Government of, Danube.—Prunes. 656
- 1361 Nasli, Government of, Aydin.—Dried figs. 656
- 1362 Mikali, Nicolaidi, Canea, Crete.—Orange, apple, orange blossom, cherry, and pear marmalade. 656
- 1363 Mikail, Aleppo.
a Dried prunes, cherries, apricots, raisins, and apples. 656
b Mastic. 660
- 1364 Merkioss, Mamor, Diarbekir.—Dried mulberries. 656
- 1365 Mehemed Aiché, Tripoli, Tripoli.—Soup and vegetable paste, vermicelli. 656
- 1366 Mehemed, Malatia, Diarbekir.—Mulberry paste. 656
- 1367 Mazloum, Aghiah, Constantinople.—Trehala and trehalose pastes. 656
- 1368 Maki Yani, Chio, Dardanelles.—Mastic, orange, rose, and lemon-blossom comfitures. 656
- 1369 Mark, Samos, Samos.—Muscat raisins. 656
- 1370 Kournik Ali Agha, Kangre, Castamouni.—Dried apricots. 656
- 1371 Pedros, Mihalgazi, Castamouni.—Raisins. 656
- 1372 Over Agha, Malatia, Diarbekir.—Raisins. 656
- 1373 Osman Bin Mohamed, Korimdja, Bosnia.—Prunes. 656
- 1374 Omer Djerbali, Tripoli, Tripoli.—Vermicelli and soup paste. 656
- 1375 Moustapha, Malatio, Diarbekir.—Dried peaches. 656
- 1376 Ateuf Dédé, Broussa, Broussa.—Angelica-root marmalade 656
- 1378 Widin, Government of, Danube.
a Sausages and smoked beef tongues. 656
b Raspberry wine. 660
- 1379 Moustapha Agha, Adana, Adana.—Raisins. 656
- 1380 Ahmed, Erzeroum.—Dried prunes. 656
- 1381 Mehemed Djebali, Tripoli, Tripoli.—Semoulet flour. 657
- 1382 Koudour Hadji, Aleppo.—Grenade syrup. 659

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Vegetable Products, Wines, Textile Substances.

- 1383 Ohannes, Diarbekir.—Grape syrup. 659
- 1384 Central Drug Store, Constantinople.—Fruit syrups, etc. 659
- 1385 Ispiro, Salonica.—Orange, cherry, and grenade syrups. 659
- 1386 Raftopoulos, Nicolas.—Mint, sage, and almond liquors. 660
- 1387 Kirkor Effendi, Erzeroum.—Alcohol. 660
- 1388 Karabet, Diarbekir.—Orange, rose, juniper, and other brandies. 660
- 1389 Ychrapalaki, Hadji, Nicolas, Retimo, Crete.—Mulberry brandy. 660
- 1390 Gulbing Oglou Kakout, Koniah, Koniah.—Wine and brandy. 660
- 1391 Salomon, Gumuldjin, Salonica.—Wine. 660
- 1392 Retimo, Government of, Crete.—Wine and brandy. 660
- 1393 Monastir, Government of.—Wines. 660
- 1394 Gostcho Djivaré, Prévèzè, Yanina.—Wine. 660
- 1395 Vafiadi Giorki, Salonica.—Wine. 660
- 1396 Distillery of Zahari, Piseren, Monastir.—Brandy. 660
- 1397 TountchaLitchè, Tirnova, Yanina.—Wine. 660
- 1398 Tomochordo, Piseren, Monastir.—Wine. 660
- 1399 Tletora, Theodore, Samos.—Muscat wine. 660
- 1400 Théophasaki Ysiako, Canea, Crete.—White wine. 660
- 1401 Stamadi Marneraki, Lachite, Crete.—Red wines. 660
- 1402 Pereno Papa, Adana, Adana.—Brandy. 660
- 1403 Pefkiades, John, Samos.—Muscat wine. 660
- 1403^a Yussep, Tokat, Sivas.—Rose mastic. 660
- 1404 Papaz Oglou, Salonica.—White wine. 660
- 1405 Nicoloreuzi Bros., Samos.—Muscat wine. 660
- 1406 Yanaki, Nicolas, Ile of Bousdja, Dardanelles.—Wine and vinegar. 660
- 1407 Manoli Muzé, Tirnova, Yanina.—Vinegar. 660
- 1408 Direction of the Vineyards Pacha Liman, Broussa.—Red and white wines, cognac. 660
- 1409 Leonisaki, Dimitri, Canea, Crete.—Brandy. 660
- 1410 Cafejedaki, John, Samos.—Alcohol and wines. 660
- 1411 Bodou Agha, Diarbekir.—Wine. 660
- 1412 Bano, Adana, Adana.—Wine. 660
- 1413 Bedrè, Anton, Aleppo.—Vinegar. 660
- 1414 Andin Chako, Narda, Yanina.—Mulberry brandy. 660
- 1415 Yussep, Tokat, Sivas.—Rose vinegar and brandy. 660
- 1416 Yani, Lachite, Crete.—Mulberry brandy. 660
- 1417 Yani, Pappa Antoanaki, Lachite, Crete.—Grape brandy. 660
- 1418 Mehanedji, Foly, Candia, Crete.—Rose brandy and wine. 660
- 1419 Manoli Prizi, Candia, Crete.—Wine and white brandy. 660
- 1420 Ipsamarki Yani, Ile of Bousdja, Dardanelles.—Brandy. 660
- 1421 Mark, G. L., Samos.—Brandy and wine. 660
- 1422 Missir, Joseph, Samos.—Muscat wine. 660
- 1423 Tousseano, Diarbekir.
a Vinegar. 660
b Mint oil. 662
- 1424 Moustapha, Dardanelles.—Coffee biscuits. 661
- 1425 Ipsamarki Yani, Chio, Dardanelles.—Vine-branch oil. 662
- 1426 Ahmed, Antakia, Aleppo.—Almond and palma-christi oils. 662
- 1427 Cherif Oglou Mehemed, Philippopolis, Adrianople.—Wild thyme and mint oil. 662
- 1428 Hetoulat, Diarbekir.—Batom oil. 662

Textile Substances of Vegetable or Animal Origin.

- 1429 Hussein Agha, Adana, Adana.—Cotton. 665
- 1430 Bekir, Hadji, Adana, Adana.—Cotton, cotton bolls. 665
- 1431 Uskup, Government of, Monastir.
a Cotton. 665
b Spun hemp. 666
c Cocoons. 668
- 1432 Saroukhan, Government of, Aydin.—Cotton. 665
- 1433 Mosul, Government of, Bagdad.
a Cotton. 665
b Cocoons. 668
- 1434 Kerbella, Government of, Bagdad.
a Cotton. 665
b Indian hemp. 666
c Wool. 667
- 1435 Feulgehete, Government of, Syria.
a Cotton. 665
b Wool. 667
- 1436 Etlép, Government of, Aleppo.—Cotton and cotton bolls. 665
- 1437 Théophani, Nicoforaki, Canea, Crete.
a Cotton seed. 665
b Spun flax. 666
c Wool. 667
d Blue and yellow cocoons. 668
- 1438 Salomon, Salonica.
a Cotton. 665
b Tow. 666
c Wool. 667
- 1439 Pano Mamatti, Prévèzè, Yanina.—Cotton. 665
- 1440 Moussa, Palatnos, Yanina.—Cotton bolls. 665
- 1441 Mardili, Oustidi, Diarbekir.—Crude cotton. 665
- 1442 Laz Osman, Kangre, Castamouni.—Cotton. 665
- 1442^a Kozon, Andonaki, Angora.—Cotton. 665

For classes of exhibits, indicated by numbers at end of entries, see Classification pp. 27-45.

Textile Substances of Animal and Vegetable Origin.

- 1443 Ismail Effendi, Sullé, Koniah.—Cotton. 665
- 1444 Ibrahim Effendi, Gueugnek, Castamouni.—Cotton. 665
- 1445 Amassia, Government of, Sivas.
a Cotton. 665
b Indian hemp. 666
- 1446 Dimitri, Giorgaki, Prévésé, Yanina.—Cotton. 665
- 1447 Dimitri, Constanti, Tirala, Yanina.—Cotton. 665
- 1448 Cazi, Agha, Caraman, Koniah.—Cotton bolls. 665
- 1449 Astadji, Narcisse, Aleppo.—Cotton. 665
- 1450 Djourbachi, Antolu, Maidos, Dardanelles.—Cotton. 665
- 1451 Andon, Constanti, Palatnos, Yanina.—Cotton. 666
- 1452 Tarako, Uskup, Monastir.—Spun flax. 666
- 1453 Mehemed, Marach, Aleppo.—Hemp. 666
- 1454 Damascus, Government of, Syria.—Hemp. 666
- 1455 Maimoun, Tripoli, Tripoli.—Wool. 667
- 1456 Kiyork, Dellale Oglou, Esiné, Dardanelles.—Wool. 667
- 1457 Kirkora, Adana, Adana.—Wool. 667
- 1458 Khalil Agha, Ourpha, Aleppo.—Wool. 667
- 1459 Hadji, Koniah, Koniah.—Wool. 667
- 1460 Volonia, Government of, Yanina.—Wool. 667
- 1461 Suleimanceeyah, Government of, Bagdad.
a Wool. 667
b Goat and other hair. 669
- 1462 Smyrna, Government of, Aydin.
a Wool. 667
b Cocoons. 668
- 1463 Youssouf, Aleppo, Aleppo.—Wool. 667
- 1464 Tigour Ahmed, Kangre, Castamouni.—Wool. 667
- 1465 Teftif Oglou Moussa, Koniah, Koniah.—Wool. 667
- 1466 Starri, Kangre, Castamouni.—Wool. 667
- 1467 Selim Kohi, Ichkodra, Monastir.—Wool. 667
- 1468 Panor Mamatti, Volonia, Yanina.—Wool. 667
- 1469 Moustapha, Hadji, Painbé Zadé, Esiné, Dardanelles.—Black wool. 667
- 1470 Mehemed Agha, Koniah, Koniah.—Wool. 667
- 1471 Couyoun Oglou Andon, Angora.—Wool. 667
- 1472 Cherif Agha, Ezeroum.—Wool. 667
- 1473 Zadé Moustapha, Cheik, Kangre, Castamouni.—Wool. 667
- 1474 Avadjan, Sivas, Sivas.—Sheeps' wool. 667
- 1475 Arabe Mehemed, Mardin, Diarbekir.—Wool. 667
- 1476 Anagnosti, Pappadlaki, Lachite, Crete.—Wool. 667
- 1477 Ahgme Agha, Kangre, Castamouni.—Wool. 667
- 1478 Kochaf Ajediz, Antakia, Aleppo.—Cocoons. 668
- 1479 Karabet, Salonica.—Cocoons. 668
- 1480 Ibrahim Effendi, Hadji, Mihalgazi, Castamouni.—Cocoons. 668
- 1481 Samos, Government of.—Yellow and white cocoons. 668
- 1482 Berat, Government of, Yanina.—Cocoons. 668
- 1483 Estur Oglou Estur, Tias, Adana.—Cocoons. 668
- 1484 Banouch, Son, Kiranié, Yanina.—Cocoons. 668
- 1485 Avram, Adrianople.—Japanese cocoons. 668
- 1486 Yanaki, Tdomane, Yanina.—Cocoons. 668
- 1487 Yanaki, Thomas, Volonia, Yanina.—Cocoons. 668
- 1488 Yanak, Arap, Tdomane, Yanina.—Cocoons. 668
- 1489 Sukiasian, Adrianople.—Cocoons. 668
- 1490 Pemno Petcha, Tirala, Yanina.—Cocoons. 668
- 1491 Nakach, David, Diarbekir.—Cocoons. 668
- 1492 Mihali, Sullé, Koniah.—Cocoons. 668
- 1493 Makiani, Ipsser, Bigha, Dardanelles.—Cocoons. 668
- 1494 Anguel, Ichkodra, Monastir.—Cocoons. 668
- 1495 Anastassi, Antonafaki, Canea, Crete.—Blue and yellow cocoons. 668
- 1496 Ali Zotte, Caza, Yanina.—Cocoons. 668
- 1497 Mahmoud, Marach, Aleppo.—Goat hair. 669
- 1498 Hussein, Hadji, Koniah, Koniah.—Camel hair. 669
- 1499 Mohamed, Hadji, Koniah, Koniah.—Goat hair. 669
- 1500 Ali Effendi, Angora.—Angora goat wool. 669

Machines, Implements, and Processes of Manufacture.

1501 Christo, Yanina, Yanina.—Harrow. 570

Ornamental Trees, Shrubs, and Flowers.

1502 Théophani, Nicoforaki, Canea, Crete.—White lupine. 709

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

RUSSIA.

(South of Nave, Columns 19 to 23.)

Chemicals, Ceramics, Furniture.

Chemical Manufactures.

- 1 Koroleff, A., Vologda.—Ferrocyanate of potassa. 200
- 2 Lepeshkin, Nicolas, Moscow.
a Chemical products. 200
b Dyes, pigments of vegetable and animal extraction. 202
- 3 Ooshkoff, Peter, Elaboog, Government of Viatka.—Yellow chrome, blue copperas, and alum. 200
- 4 Poel, Alexander, St. Petersburg.—Oils, volatile extracts from the wild rosemary (*sedum polustre*). 200
- 5 Philosofoff, Basil, & Co., Kineshma, Government of Kostroma.—Chemicals. 200
- 6 Rastergaëff, Gregory, St. Petersburg.—Chemicals. 200
- 7 Matteiszen, Nicolas, Moscow.—Potash. 200
- 8 Shlippe, Moscow.—Chemicals. 200
- 9 Bett, Theodore, Cronstadt.—Oil, refined lubricating. 201
- 10 Calcined Bone Manufacturing Co., St. Petersburg.—Burnt bone, bone grease, ammoniac, etc. 201
- 11 Calix, John, St. Petersburg.—Oil, lubricating. 201
- 12 Hartman, W., Riga.
a Oils, refined and drying. 201
b Oil varnish. 202
- 13 Yssakovitch, J. & M., Odessa.—Soap. 201
- 14 Krestovnikoff Bros., Kazan.—Stearine candles and glycerine. 201
- 15 Schmidt, C., Riga.—Oil, refined, linseed, oil cakes. 201
- 16 Tahlheim, George, Riga.—Lubricating grease. 201
- 18 Lankovski & Likop, Mitau.—Inks, writing, copying, and fluids. 202
- 20 Potteling, Peter, St. Petersburg.—Varnish and lacker. 202
- 21 Wulf, Nicetas, Sokolovo, Government of Twer, District of Staritza.—Mineral paint, ochre. 202
- 22 Kramsta von Sosnowee Zinc Works, Piotrkoff, District of Bendzin.—White zinc. 202
- 23 Reichel, Julius, Warsaw.—Permanent marking colors. 202
- 24 Serdukoff, Basil, Borovitchi, Government of Novgorod.—Cosmetics. 203
- 25 Schmidt, Frederic, St. Petersburg.—Cosmetic soap. 203

- 26 Linde, F., St. Petersburg.—Glycerine, soap, and cosmetics. 203
- 27 Winner, St. Petersburg.—Black powder, exhibitor's system. 204
- 28 Okhta Gunpowder Mills, near St. Petersburg.—Black powder and its compounds. 204
- 29 Haase, J., Mitau.—Matches. 204
- Ceramics—Pottery, Porcelain, Glass, etc.

- 30 Krishtafowlch, P. C., Gorodishtche, Government of Penza.—Refractory bricks. 206
- 31 Kharlamoff, M., St. Petersburg.—Ceramic statuary. 206
- 32 Rasterjaëff, Gregory, St. Petersburg.—Bricks. 206
- 33 Perm Gun Foundry, Perm.—Graphite crucibles. 207
- 34 Demidoff, Paul, Prince of Donato, Nigni Tagil, Ural Mountains, Government of Perm.—Clay stones; refractory furnace materials. 207
- 35 Museum of Fine Arts applied to Industry, Moscow.—Ornamental tiles. 208
- 36 Bonafede, Leopold, St. Petersburg.
a Enameled ornamental tiles. 208
b Enameled ornamental vases and plates. 211
- 37 Moltchanoff, Wladimir, Nigni Novgorod and Gyl, Government of Moscow, District of Bagorodsk.—Faience and earthenware. 210
- 38 Krasnostchekoff, Paul, Moscow.—Painted faience ware. 210
- 39 Cibulski, Cassimir Smeloff, Government of Rodom, District of Opatoff.—Stoneware. 210
- 40 Ter-Davydoff, St. Petersburg.—Earthenware jugs. 210
- 41 Museum of Fine Arts applied to Industry (attached to the Strogonoff School of Design).—Painted porcelain and stoneware. 211
- 43 Zaitzevski, St. Petersburg.—Ornamental pottery. 211
- 45 Korniloff Bros., St. Petersburg.—China cups and plates. 213

Furniture and Objects of General Use in Construction and in Dwellings.

- 47 Akimoff, Spiridonius Zagarzi, Government of Moscow, District of Bogorodsk.—Articles of church decoration. 217
- 48 Wunsh, Adolphus, St. Petersburg.—Writing-table and arm-chair. 217
- 49 Shrader, St. Petersburg.—Writing-table and arm-chair. 217

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Furniture, Woven Goods.

- 50 Shootoff, St. Petersburg.—Arm-chair, fancy. 217
- 51 Leontieff, St. Petersburg.—Japanned furniture. 217
- 52 Jgoomnoff, St. Petersburg.—Artistic furniture. 217
- 53 Briggen, Charles, St. Petersburg.—Billiard tables. 217
- 54 Stroem, Augustus, St. Petersburg.—Table furniture, in bronze. 218
- 55 Semenoff, Moscow.—Silver plate, gilt and enameled. 218
- 56 Morand, Adolphus, St. Petersburg.—Bronze samovar and bowl. 218
- 57 Ivanoff, N., St. Petersburg.—Silver plate, gilt and enameled. 218
- 58 Glookhoff, N. G.—Japanned ware. 218
- 60 Dutkevicz, X., Warsaw.—Melchior tea-pots, tray, and samovar (heated by a mineral oil lamp). 218
- 61 Bryzgaloff, St. Petersburg.—Silver-gilt jugs, cups, etc. 218
- 62 Botasheff, Basil, Toola.—Bronze and brass samovars. 218
- 63 Beliajeff, George, Fastavo, near Moscow.—Japanned trays, with pictures. 218
- 63^a Hessrich & Woerffel, St. Petersburg.—Decorative articles of furniture, malachite, lapis, jasper, rhodonite, nephrite, labrador, with bronze fittings. 219
- 64 Jevleff, Andrew, Moscow.—Gilt frames. 220
- 65 Khrenoff, Pantelei, Egorievsk, Government of Riazan.—Carved frame, gilt. 220
- 66 Glinka, Paul, St. Petersburg.—Leather frames and decorative objects. 220
- 67 Goroshkoff, P., Yaroslav.—Tin household utensils. 224
- 68 Beltzikewicz, Henry.—Portable cooking apparatus, heated by petroleum, with kitchen utensils. 224
- 69 Jvanitzki, L., Jarow, Government of Minsk, District of Retchitza.—Inlaid flooring. 227
- Yarns and Woven Goods, of Vegetable and Mineral Materials.**
- 70 Neuman, Hugo, Warsaw.—Endless copper-wire cloth, for paper-making machines. 228
- 71 Pashkoff, Basil, Bogojavlensk & Verkhatorie Copper Works, Government of Oafa.—Copper-wire cloth. 228
- 72 Beliajeff, Theodore, Moscow.—Mats and bags of lime-tree bark. 229
- 72^a Loth, Edward, Warsaw.—Straw and bast goods. 229
- 73 Garelin, John, Yvanovo Voznessensk, Government of Wladimir.
a White calico and long cloth. 230
b Red cotton stuffs. 231
c Printed calico. 232
- 74 Garelin, Nikon, & Sons, Yvanovo Voznessensk, Government of Moscow.—Cotton yarn. 230
- 75 Konshin, John, Serpookhoff, Government of Moscow.—Cotton yarn. 230
- 76 Pale, T. Ch., St. Petersburg.
a Long cloths and twills. 230
b Cotton fabrics dyed. 231
c Cotton prints and calico. 232
- 77 Zimin, J. M. P. & F., Zooievo, Government of Moscow, District of Dogorodvsk.
a Cotton goods, plain and twilled. 230
b Red cotton stuff and Adrianople dye. 231
c Printed calico. 232
- 82 Reichel, Julius, Warsaw.—Cotton stuffs, printed from stone, wood, and metal. 232
- 83 Possilin, Alexis, Yvanovo Voznessensk.—Cotton stuffs. 232
- 84 Polooshin, Nicolas, Yvanovo Voznessensk, Government of Wladimir.—Printed calico. 232
- 86 Lopatin, Paul, Yvanovo, Voznessensk.—Printed calico. 232
- 87 Menshikoff's, W., Sons, Yvanovo Voznessensk.—Printed calico. 232
- 88 Koovajeff, Catherine, Yvanovo, Voznessensk.—Printed goods. 232
- 89 Garelin, Nikon, & Sons, Yvanovo Voznessensk.—Printed calico and kerchief. 232
- 91 Borissoff, Stephen, & Sons, Yvanovo Voznessensk, Government of Wladimir.—Printed calico. 232
- 93 Stieglitz, Baron Alexander, near Narva.—Sail cloth. 233
- 94 Mindovsky, Brukhanoff, & Babakin, Yoorjevietz, Government of Kostroma.—Flat yarn and thread. 233
- 95 Hille & Dietrich, Girardovo, Government of Warsaw.—Linen cloth, table linen, Turkish towels, etc. 233
- 96 Gribanoff, James, Sons, Oostioog, Government of Vologda.—Linen and linen yarns. 233
- 97 Alofozoff & Alexandroff, Kazan.—Linen fabrics and yarns. 233
- Woolen and Felted Goods of Wool, etc.**
- 98 Stieglitz, Baron Alexander, near Narva.—Woolen cloths. 235
- 99 Seliverstoff, Nicolas, Roomiantzero, Government of Simbirsk, District of Karsoon.—Woolen cloths. 235
- 100 Sooviroff, V. N., Tooshino, Government and District of Moscow.—Woolen cloths and satins. 235
- 101 Kažejeff, Stephen, Kerensk, Government of Pensa.—Gray army cloth. 235
- 102 Gootchkoff, Efim, Moscow, Woolen cloth goods. 235
- 103 Possilin, Alexis, Yvanovo, Voznessensk, Government of Wladimir.—Woolen shawls. 237
- 104 Kommichau, Germanius, Belostok, Government of Grodno.—Woolen goods and blankets. 237
- 105 Gratcheff, John, Moscow.—Woolen shawls and scarfs. 237
- 106 Ooskoff, Peter, Moscow.—Dress goods (ladies' wear).

Woven Goods, Silk, Clothing.

- 107 Bagdanoff, W T., St. Petersburg.—Cushions. 238
- 108 Zolotareff's Widow & Ribakoff, Moscow.—Silk and mixed goods. 238
- 109 Shrader, Augustus, Moscow.—Woolen goods. 238
- 110 Poliakoff, N., & A., Bros., near Moscow.—Woolen and mixed fabrics. 238
- 111 Nikitin, Gorjaieff, & Co., Moscow.—Woolen and mixed goods. 238
- 112 Mikhailoff, Theodore, & Son, Moscow.—Woolen and mixed goods. 258
- 113 Ganeshin W. & N. Bros., & Co., Moscow.—Woolen yarn. 238
- 114 Borodin, Michael, Moscow.—Mixed silk fabrics, with cotton and wool. 238
- 115 Armand, Eugene, & Sons, Moscow.—Woolen and worsted goods. 238
- 116 Durkman, Bragestadt, Finland.—Embroidered carpet. 239
- 117 Voyekoff, Demetrius, Sisran, Government of Simbirsk.—Camel's hair cloth. 240
- 118 Petroff & Medvedeff, St. Petersburg.—Woven goat-hair shawls. 240
- 120 Seliverstoff, Nicholas, Roomiantzevo, Government of Simbirsk, District of Karsoon.—Camels' and goats' hair. 240
- 122 Komaroff, Mercury, St. Petersburg.—Table covers. 241
- Silk and Silk Fabrics.
- 123 Ganeshin, W. & N. Bros., & Co., Moscow.—Silk yarns. 244
- 124 Brashnin Bros., Nicolas & Nicetas, Orekhovo, Zooevo, Government of Moscow.—Silk stuff. 245
- 125 Timasheff, Alexander, Moscow.—Silk and mixed goods. 245
- 126 Emilianoff & Rochefort, Moscow.—Silk and mixed goods. 245
- 127 Zoobkoff, Sergius, Khomootovo, Government of Moscow, District of Bogorodsk.—Plain silk goods. 245
- 128 Shelajiff, S. & G., Bros., Moscow.—Plain silk goods, satin, and faille. 245
- 129 Perepelkin, John, St. Petersburg.—Silk stuffs for umbrellas. 245
- 130 Kondrasheff Bros., Grebenevo, Government of Moscow, District of Bogorodsk.—Silk goods, plain. 245
- 131 Sapojnikoff, A. & W., Moscow.—Figured silk goods and brocades. 246
- 132 Mozjookhin's, Theodore, Sons, Moscow.—Figured silk goods (upholstery). 246
- 133 Fomitcheff, Alexis, Moscow.—Silk goods, plain and figured. 246
- 134 Sytoff, John, Moscow.—Gold and silver cloth brocade. 247
- 135 Reichel, Julius, Warsaw.—Silk ties. 247
- 136 Boonin, John, Moscow.—Hosiery silk. 247
- 137 Lange & Co., Moscow.—Silk ribbons and wool ribbons. 248
- 138 Sytoff, John, Moscow.—Galloons and trimmings. 249

- 139 Zinserling, Charlotte, St. Petersburg.—Tape, cord, and bindings. 249
- Clothing, Jewelry, and Ornaments;
Traveling Equipments.
- 140 Reichel, Julius, Warsaw.—Shirt fronts. 250
- 141 Boonin, John, Moscow.—Hosiery cotton. 250
- 142 Florand, Jules, St. Petersburg.—Shirt fronts, embroidered. 250
- 143 Vinogradova, Anne, Nijni-Novgorod.—Fancy articles in ladies' dress, swan's down. 250
- 144 Wekmann, Malvina, Helsingfors.—Hosiery. 250
- 145 Shereshevsky, Nicolas, Moscow.—Shirts, chemises, and jackets. 250
- 146 Chief Intendency of War, St. Petersburg.—Articles of army equipments; illustrations of army dress. 250
- 147 Hooving, Walter, Wiborg, Finland.—Articles of ladies' dress, pellerines. 250
- 148 Sacken, Boetticher, Schmidt, & Ooss, Riga.—Millinery. 251
- 149 Popp, J., Riga.—Hats. 251
- 150 Sossoolnikoff, John, Nijni-Novgorod.—Felt boots and caps. 251
- 151 Bagdanoff, W. T., St. Petersburg.
a Boots, shoes, and slippers. 251
b Gold and silver embroidery. 252
- 152 Til, Charles, Moscow.—Boots, and felt caps. 251
- 153 Sitnoff, Gregory, Moscow.—Boots. 251
- 154 Laude, Peter, St. Petersburg.—Boots. 251
- 155 Szeibeiff, Theodore, St. Petersburg.—Boots and shoes. 251
- 156 Sorokin, Tichon, Moscow.—Gloves. 251
- 157 Kudelsky, Helen, Warsaw.—Kid gloves. 251
- 158 Szczepansky, F., Warsaw.—Boots, shoes, and slippers. 251
- 159 Strelnikoff, Basil, Yaransk, Government of Viatka.—Felt, boots, and shoes. 251
- 160 Smirnof, N., Nijni-Novgorod.—Boots and shoes, felt. 251
- 161 Kitaizteff, W., Moscow.—Boots and galoshes. 251
- 162 Hubner, Nicolas, St. Petersburg.—Boots and shoes. 251
- 163 Fominsky, Basil, Kongoor, Government of Perm.—Boots. 251
- 164 Filimonoff, Alexander, St. Petersburg.—Military caps. 251
- 165 Wilkin, Leon, Moscow.—Hats and caps. 251
- 166 Weigt, Theodore, Warsaw.—Hats. 251
- 167 Shubert, Levis, Riga.—Hats. 251
- 168 Miakotin, John, St. Petersburg.—Hats and caps. 251
- 170 Tchistiakoff, Basil, Schawkin, St. Petersburg.—Hats and caps. 215

Clothing, Embroidery, Jewelry, Fancy Articles, Stationery.

- 171 Nazareff, E., St. Petersburg.—Helmet (horse guards). 251
- 172 Ribe, Frederic, Riga.—Hats. 251
- 174 Kamaroff, Mercury, St. Petersburg.—Embroideries. 252
- 175 Stchelkoff, Sergieffsky - Possad, near Moscow.—Embroidered articles of church furniture. 252
- 176 Moltchanoff, Wladimlr, Vologda.—Russian lace and embroidery. 252
- 177 Koroleff, Basil, Toryok, Government of Twer.—Embroidered articles. 252
- 178 Koroleff, L., Moscow.—Embroidered and inlaid leather cushions. 252
- 179 Karelin, Toryok, Government of Twer.—Embroidered sashes, etc. 252
- 180 Kamenstchikoff, Toryok, Government of Twer.—Embroidered cushions, sashes, etc. 252
- 181 Arsenjeff, F., Vologda.—Russian ce laand embroidered eltwos. 252
- 182 Tikhomandritzky, Nadin, St. Petersburg.—Embroideries, table cloths, etc., and articles of national costume. 252
- 183 Shadrin, Elias, Moscow.—Embroideries for uniforms, etc. 252
- 184 Sovetoff, Mary, St. Petersburg.—Embroidered shirt. 252
- 185 Society for the Encouragement of Women's Labor, Moscow.—Embroideries, towels, handkerchiefs. 252
- 186 Reichel, Julius, Warsaw.—Embroideries, handkerchiefs. 252
- 187 Nevossiltzeff, M., St. Petersburg.—Embroideries, lace. 252
- 188 Nadporosky, M., Belozersk, Government of Novgorod.—Embroideries, laces. 252
- 189 Hodjaieff, Karapet, St. Petersburg.—Silk and gold embroideries. 252
- 190 Gorodetzki, Alexander, Moscow.—Embroideries. 252
- 191 Hodjaieff, Karapet, St. Petersburg.—Brooch and earrings (Caucasian style). 253
- 192 Adler, W., Moscow.—Jewelry. 253
- 193 Alexeieff, A., Krasnoe & Sidorofskoe, Government of Kostroma.—Silver chains and earrings. 253
- 194 Krumbügel, Otto, Moscow.—Jewelry. 253
- 195 Tchitcheleff, John, Moscow, Jewelry, diadems, bracelets, earrings, etc. 253
- 196 Grikooroff, St. Petersburg.—Silver ornaments, bracelets, brooches, belts, and studs. 253
- 197 Hessrich & Woerffel, St. Petersburg.—Jewelry, personal adornments in malachite, rhodorite, jasper, lapis, lazuli, and other Siberian hard stones. 253
- 198 Bach, St. Petersburg.—Silver bracelets in Niello and enamel. 253
- 199 Glinkin Bros., Government of Vologda, District of Kadnikoff.—Horn articles. 254
- 200 Aksehoff, Paul, Moscow.—Toys. 254
- 201 Perepelkin, John, Petersburg.—Umbrellas. 254
- 202 Minheimer, L., Warsaw.—Metallic buttons. 254
- 203 Maass, T., Mitau.—Wigs. 254
- 204 Loth, Edward, Warsaw.—Basket artificial flowers. 254
- 205 Kotzmann, E., Reval.—Umbrellas. 254
- 206 Hodjaieff, Karapet, St. Petersburg.—Cigar holders; Niello, with silver. 254
- 207 Bernstein Bros., H. & B., Ostrolenko, Government of Loenza.—Fancy articles in amber. 254
- 208 Pravotoroff, George, Moscow.—Umbrellas. 254
- 209 Fogt, St. Petersburg.—Pictures, made from dried plants and insects. 254
- 210 Vishniakoff, Joseph, & Sons, Ostashkovo, near Moscow.—Lacquered papier-maché articles, and japanned trays. 254
- 211 Nissen, William, St. Petersburg.—Leather goods, valises, trunks, bags, leather cushions. 255
- 212 Kleeberg, St. Petersburg.—Russia leather blotting case and pocket book. 255
- 213 Zimmerman, Roman, Moscow.—Portmanteau and traveling-bags. 255
- 214 Mikhailoff, Alexis, Moscow.—Fur goods, carpet, costume. 256
- 215 Grünwald, M., Riga.—Furs; mo-saic fur carpet. 256
- 216 Petroff & Medvedeff, St. Petersburg.—Furs, articles of winter dress for ladies. 256
- 217 Odnooshefsky, M., & Sons, St. Petersburg.—Muffs, collars, and gorgette; sable and stone. 256
- 218 Soorin, Paul, St. Petersburg.—Mosaic fur carpet of three thousand pieces. 256
- 219 Komaroff, Nicetas, Moscow.—Articles of dress in sheepskin. 256
- 220 Litoff, K., Vologda.—National costumes of the Tyrians. 257
- 221 Hoving, Walter, Viborg, Finland.—Dolls, in national costumes. 257
- 222 Aristoff, Alexis, Moscow.—Cotton and woolen scarfs, used as sashes by the Russian peasantry. 257
- 223 Vedernikoff & Mikailoff, St. Petersburg.—National costumes and articles of clothing. 257
- 224 Sidoroff, Mikhael, St. Petersburg.—National costumes of Samoieds and Ostiaks, from extreme north of Russia. 257
- Paper, Blank Books, Stationery.
- 225 Tahlheim, George, Riga.—Sealing wax. 258
- 226 Mirkovski Paper Mill Co., Weruzsen, Government of Calisz, District of Velun.—Writing-paper. 256
- 227 Epstein, John, Soczevka, Warsaw, District of Gostyn.—Writing-paper, drawing and blotting paper. 259
- 228 Sergeieff, P. W., Pensa.—Writing-paper. 259
- 229 Frenkel, J. K., & Son, Tammerfors, Government of Tavastgus, Finland.—Writing-paper. 259

Stationery, Weapons, Surgical Instruments, Hardware.

- 230 Vagoonin Bros., St. Petersburg.
a Writing-paper. 259
b Printing-paper. 260
- 231 Koomanin, Nicolas, Moscow.—
 Account books. 261
- 232 Kleeberg, Henry, Riga.—Account
 books. 261
- 233 Franaszek, T., Warsaw.—Paper-
 hangings. 264

Weapons, etc.

- 234 Kniaz Mikhaeloff's Crown Copper
 Works.—Gun barrels. 265
- 235 Koozmin, G., Toola.
a Guns. 265
b Dirks. 268
- 236 Griaznoff, Alexis, Toola.
a Pistols. 265
b Double-barreled guns. 269
- 237 Hahn, Baron, St. Petersburg.—
 Fortress rifle cartridges. 265
- 238 Imperial Rifle Manufactory, Toola.
 —Infantry rifles with bayonets; section
 of a gun-barrel. 265
- 239 Metallic Cartridge Manufactory,
 St. Petersburg.—Specimens of illustra-
 tions, metallic cartridges, distance fuses,
 and percussion. 265
- 240 Sestroretzk Rifle Manufactory,
 near St. Petersburg.—Calvary car-
 abines, Cossack muskets. 265
- 241 Tenner, St. Petersburg.—Ap-
 paratus for wrapping bullets with paper.
 265
- 242 Pootiloff Iron Works Co.—
 St. Petersburg.—Eleven-inch projectiles.
 267
- 243 Raskazoff, St. Petersburg.—Model
 of a double stand for two forty-ton guns.
 267
- 244 Ordnance Department, St. Peters-
 burg.—Mortar and gun carriage (Semenaf's
 and Engelhardt's system). 267
- 245 Obookhoff Steel Foundry, near St.
 Petersburg.—Heavy ordnance gun car-
 riages and platforms (wedge mechanism
 for breech loading). 267
- 246 Naval Artillery, Workshop of the
 port of Cronstadt.—Gun carriages and
 platforms, general, Pestrich's system. 267
- 247 Administration of the Olonetz Min-
 ing District.—Six-inch projectile with zinc
 covering. 267
- 248 Zlatoust Crown Armor Factory,
 Government of Orenburg.—Damascus
 swords, blades, daggers, and knives. 268
- 249 Hodjaieff, Karapet, St. Petersburg.
 —Asiatic dagger. 268
- 250 Yachimek, John, & Sosnovski, Ja-
 cob, Warsaw.—Double-barreled gun. 269

Medicine, Surgery, Prothesis.

- 251 Shmidt, Dr. von, St. Petersburg.
 —Guaco plaster. 272
- 252 Matteissen, Nicolas, Moscow.—
 Vegetable and animal products used in
 medicine. 272
- 253 Pik, Jacob, Warsaw.—Surgical in-
 struments. 276
- 254 Ebermann, Alexander, St. Peters-
 burg.—Urethrotome (exhibitor's system).
 276

- 255 Crown Surgical Instrument Manu-
 factory, St. Petersburg.—Set of surgical
 instruments (special purpose). 276
- 256 Wywodzeff, St. Petersburg.—Ap-
 paratus for embalming. 276
- 257 Bauch, Charles, St. Petersburg.—
 Artificial jaws, teeth, and palate. 277
- 258 Finkheim, William, Revel.—Arti-
 ficial teeth, appliances for deformities of
 teeth and palate; apparatus for stammer-
 ers. 277
- 259 Majeviski, T., Warsaw.—Odontal-
 gic drops. 277
- 260 Bernardo, Berkmeier, Dr. L., Mos-
 cow.—Collection of artificial teeth and
 jaws. 277
- 261 Ivanoff, Timothy, Moscow.—Port-
 able hospital couch (photographic copy).
 278
- 262 Lilpop, Rau, & Loevenstein, War-
 saw.—Steps for hospital wagon and
 springs for litter. 278

Hardware, Edge Tools, Cutlery, and
Metallic Products.

- 263 Zavialoff, Alexis, Vorsma Govern-
 ment of Nijni-Novgorod.—Knives, pen-
 knives, and scissors. 281
- 264 Russian Rail Manufacturing Co.,
 Government of Riason, District of
 Pronsk.—Iron and steel sewing and knit-
 ting needles. 281
- 265 Kondratoff, Demetrius, Vatcha,
 Government of Vladimir, District of
 Moorom.—Knives and penknives. 281
- 266 Kaliakin, John, & Sons, Pavlovo,
 Government of Nijni-Novgorod.—Knives
 and penknives. 281
- 267 Koozmin, T., Toola.—Cutlery,
 knives, and scissors. 281
- 268 Benkofski, Albert, Warsaw.—Cut-
 lery (knives, penknives, scissors, etc.). 281
- 269 Tarassoff, John, Novaiá, Govern-
 ment of Moscow, District of Bogorodsk.
 —Embossed brass images (irons) and
 crosses. 283
- 270 Sossoolnikoff, John, Nijni-Nov-
 gorod.—Brass crosses. 283
- 271 Fedoroff, John, Zagarje Govern-
 ment of Moscow, District of Egorodsk.
 —Silvered tureens and brass hand-wash
 basin. 283
- 272 Kataloff, Basil, Kroopino, Govern-
 ment of Moscow, District of Bogorodsk.
 —Brassware. 283
- 273 Elaghin, Constantine, Moscow.—
 Bronze ornamental castings. 283
- 274 Salobanoff, D. A., Nijnii-Novgorod.
 —Embossed brass images and crosses. 283
- 275 Naomoff, Basil, Kroopino, Govern-
 ment of Moscow, District of Bogo-
 rodsk.—Bronze candlesticks. 283
- 276 Yoffrio, St. Petersburg.—Gasalier
 of forged iron. 284
- 277 Bessonoff Bros., Moscow.—Brass
 and iron hardware, bolts, etc. 284
- 278 Starr & Co., Riga.—Wire tack
 and square nails. 284
- 279 Hantke, Bernard, Warsaw.—Hard-
 ware, wire tack, railway ties, telegraphic
 fittings, chains, etc. 284

Rubber, Wooden, Basket, Paper Ware, Harness.

- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 280 Russian American India-Rubber Co., St. Petersburg.—India-rubber goods, golashees, waterproofs, fire-engine hose, belts, etc. 285
- 281 Nemiloff, Clement, Ryeff, Government of Twer.—Hemp yarn. 287
- 282 Herczinski, W. Opolye, Government of Lublin, District of Nova Alexandria.—Cordage. 287
- 283 Nemiloff, Clement, Ryeff, Government of Twer.—Hemp, rope, and bolt rope yarns. 287
- 284 Fedoroff, John, Moscow.—Lime-tree bast hampers, samples of same material. 289
- 285 Booroff, S., Moscow.—Articles turned in wood. 289
- 286 Skorniakoff, E., Yaroslaw.—Articles turned in wood. 289
- 287 Serebrenikoff, Sergius, Nijni-Novgorod.—Painted wooden tureens and utensils for house. 289
- 288 Moltchanoff, Wladimir, Nijni-Novgorod, Vologda and Sergievski, Passad, near Moscow.—Wooden tureens and household articles. 289
- 289 Beliaieff, George, Fastavo, near Moscow.—Albums, papier-maché. 289
- 290 Safonoff, S. A., Sergievsky, Passad, Government of Moscow.—Toys carved in wood. 289
- 292 Mikhaeloff, Mrs., St. Petersburg.—Ornamental wooden tureens and spoons. 289
- 293 Mikhaeloff, Basil, Kretzky, Government of Novgorod.—Painted wooden household utensils. 289
- 294 Lookootin, Alexander, & Son, Moscow.—Lacquered and painted papier-maché articles. 289
- 295 Alexeieff, A., Oostug Veliki, Government of Vologda.—Basket, secret locks. 289
- 296 Serebrenikoff, Sergius, Nijni-Novgorod.—Chests. 289
- 297 Mneff, John, Moscow.—Chests and caskets. 289
- 298 Solomonoff, P. Z., Moscow.—Chests. 289
- Carriages, Vehicles, and Accessories.**
- 299 Schmidt, Edward, St. Petersburg.—Patent carriage axles. 292
- 300 Chief Intendency of War, St. Petersburg.—War train-wagons and vehicles. 294
- 301 Shiloff, Athanasius, Moscow.—Harness, gilt fittings and trimmings. 296
- 302 St. Petersburg Arsenal.—Artillery harness. 296
- 303 Mück, William, Warsaw.—Hemp carriage trimming, bridles, girth for harness. 296
- 304 Lange & Co., Moscow.—Reins and saddle girths. 296
- 305 Roozin, Theodore, Pestovo, Government of Moscow, District of Bogorodsk.—Harness. 296
- 306 Sossoolnikoff, John, Nijni-Novgorod.—Harness. 296
- 307 Hodjaeff, Karapet, St. Petersburg.—Harness and saddlery. 296
- 308 Herczinski, W., Warsaw.—Harness articles—reins, traces, saddles, etc. 296
- 309 Antonoff, Moscow.—Harness-bow (dooga) painted and gilt. 296

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

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WEEK ENDING	COPIES PRINTED.	WEEK ENDING	COPIES PRINTED.
March 20.....	849,382	September 18.....	860,358
27.....	845,802	25.....	858,778
April 3.....	857,956	October 2.....	863,935
10.....	863,556	9.....	870,820
17.....	855,076	16.....	878,082
24.....	858,270	23.....	874,625
May 1.....	869,542	30.....	876,160
8.....	867,550	November 6.....	908,580
15.....	877,450	13.....	852,372
22.....	874,946	20.....	847,815
29.....	866,276	27.....	836,248
June 5.....	873,782	December 4.....	845,378
12.....	869,769	11.....	1,042,716
19.....	880,348	18.....	956,294
26.....	883,846	25.....	933,864
July 3.....	898,862	January 1.....	933,987
10.....	867,574	8.....	952,201
17.....	877,400	15.....	953,019
24.....	876,282	22.....	969,910
31.....	874,216	29.....	967,850
August 7.....	865,558	February 5.....	993,030
14.....	875,982	12.....	1,024,647
21.....	880,488	19.....	1,027,209
28.....	870,502	26.....	1,014,766
September 4.....	872,211	March 4.....	1,014,993
11.....	860,755	11.....	1,028,951
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- 10^c Excelsior School Furniture Manufacturing Co., Cincinnati, O.—School furniture and apparatus, geographical models. T 52. 300
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- 11 Cowperthwait & Co., Philadelphia, Pa.—T 73.
- a Text books and wall maps for schools. 300
- b Illustrated works. 306
- 11^a Adams, S. C., Cincinnati, O.—Illustrated map of the world's history. T 73. 300
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- a Outline wall maps. 300
- b Normal school books. 301
- c Publications of five generations of Sower family. 306
- 13 Ditson, J. E., & Co., Philadelphia, Pa.—Sheet music. T 73 to 78. 302

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

School Text Books, Apparatus, Statistics, etc.

- 13^a Massachusetts Institute of Technology, Boston, Mass.—Students' work, drawings, designs, note-books, theses, published memoirs, models, apparatus, inventions, metallurgical products, etc. (*East Gallery*). 302
- 14 Stevens Institute of Technology, Hoboken, N. J.—A school of mechanical engineering. Course, four years in mathematics, physics, chemistry, mechanical drawing, mechanical engineering, French, German, and belles-lettres, with extensive laboratories, workshops, drawing-rooms, etc. Exhibit consists of instruments of measurement and for illustration, exhibiting methods of instruction. Designs of machinery made by students, and finished machines and instruments actually constructed by students; these illustrating the results of instruction. Lastly, results of original investigations carried out by members of the faculty. Illustrated catalogues sent on application. T 67. 302
- 14^a Cooper Union Evening School of Science and Art, New York, N. Y.—Collection of drawings. T 46. 302
- 15 Hampton Normal & Agricultural Institute, Hampton, Va.—Views, oil paintings, ground plan of building and of experimental farm; photographs of building and of students, examination papers. (*South Gallery*). 302
- 15^a Meyer, Louis, Philadelphia, Pa.—Sheet music and music books. T 73 to 78. 302
- 15^b American Printing House for the Blind, Louisville, Ky.—Books and apparatus for the blind, reports. (*South Gallery*). 303
- 16 State of Indiana Educational Department (by S. H. Smart, Indianapolis).—Bound volumes of examination manuscripts, by pupils of schools at Indianapolis, Evansville, Terre Haute, Fort Wayne, Logansport, Richmond, Goshen, Plymouth, Bedford, Huntington, Elkhart, Lawrenceburg, Mishawaka, Kokomo, Vevay, Delphi, Franklin, Bartholomew county, Martinville, Salem, Vanderburg county, and Wayne county.
Reports and works of Indiana authors.
Drawings from schools.
"Indiana School Journal," plans of buildings, maps of cities, school blanks, etc.
Herbariums and botanical specimens prepared by pupils of schools at Bedford and Indianapolis.
School apparatus from Terre Haute.
Specimens from Owen cabinet.
Mineral collection by pupils of Huntington schools.
Electrical apparatus for weighing under glass, invented by Prof. H. W. Wiley, Purdue University.
Chemical products by pupils of Purdue University.
Indiana fishes, prepared by Prof. Copeland, of Indianapolis High School.
Zoological specimens, prepared by pupils of Indianapolis High School.
Native woods of Huntington county, by pupils of Huntington city schools.
Drawings from Fort Wayne, Indianapolis, and La Fayette schools.
Photographed blackboard work, specimens of penmanship and written music from Indianapolis schools.
School law of the State, condensed.
- Photographed blackboard work from La Fayette, Fort Wayne, and Terre Haute schools.
Photographs of prominent educators.
Primary work of Indianapolis and Fort Wayne schools.
Models of Ward and High School buildings at Indianapolis, Fort Wayne, Evansville, Muncie, Terre Haute, and La Fayette.
Model of log school house, the first built in Delaware county, Indiana.
Charts, exhibiting school system and its growth, and the college system of the State.
Banners, exhibiting school system, statistics, distribution of school houses, and the growth of the system in twenty years by semi-decades.
Banners showing Purdue, Asbury, and State Universities, Wabash, Union, Christian, and Eastham Colleges.
Banners showing State and Northern Indiana normal schools, and Indianapolis and Huntington city systems. (*South Gallery*). 304
- 17 State of Michigan (F. W. Noble, Secretary, Detroit, Mich.).—Michigan school system, its history, statistics, plans, elevations, interior views, and students' work in public, primary, graded, and high schools, universities, and colleges. Rare birds and marine and land animals from museum of Michigan University. (*South Gallery*). 304
- 18 State of Wisconsin Educational Department (by Edward Searing, Superintendent of Public Instruction).—Students' work, photographs of school buildings, educational map, books, etc. (*South Gallery*). 304
- 19 Educational Exhibit of Ohio (by Charles S. Smart, State Commissioner of Common Schools).—History of educational effort and progress in Ohio; local histories of colleges, universities, private and technical schools; city, town, and village schools, giving rise and development of graded school system, etc.; manuscripts of students' work, including drawing, penmanship, arithmetic, English grammar, English composition, geography, natural sciences, music, high school branches, etc.; graphic illustrations of school statistics and progress; photographs and lithographs of school and college grounds and buildings; reports of city schools for year ending 1875, and of State Commissioner of Common Schools from 1837 to 1875 inclusive; catalogues of colleges and technical schools; reports of benevolent institutions; centennial contribution from the pioneer association of Athens county, Ohio. (*South Gallery*). 304
- 19^a University of Nebraska.—Photographs of building, etc. (*South Gallery*). 304
- 20 State of Rhode Island Board of Education, Providence, R. I. (by T. B. Stockwell, Commissioner of Public Schools).—General history of education in the State; full set of State school reports; common school manual; annual reports for 1875 from the various cities and towns; documents relating to Brown University; history of Rhode Island Institute of Instruction; catalogues of State Normal School and Mowry & Goff's School; set of State and Newport school blanks; file

School Statistics, Students' Work.

of the Rhode Island "Schoolmaster;" statistical chart; school map of State and cities of Providence and Newport; course of study for State Normal School.

Providence public schools—Examinations from grammar and high schools, map and free hand drawing, design from flat copy, industrial drawings and crayon portraits. Warner's Commercial College—Drawings and penmanship; written examinations from primary, intermediate, grammar, and high schools, with map and free hand drawing and designs from Newport, Westerly, Woonsocket, Coventry, Warwick, Richmond, and Smithfield public schools.

Perspective views of new library of Brown University and Woonsocket new high school, with plans and specifications; plans of some of the school buildings in Providence; views of Rhode Island State Normal School (study hall), Friends' Boarding School, and intermediate school of Providence; views of school houses of Tiverton, Bristol, Newport, and Woonsocket.

Class volume of photographs, Brown University, 1876; school furniture from E. M. Thurston, Providence; blackboard from H. H. Burrington, Providence; book holders from I. S. & C. N. Brown, Providence. (*South Gallery.*) 304

21 State of New Hampshire, Department of Public Instruction (by John W. Simonds, State Superintendent, Franklin, N.H.).—Kindergarten school—Specimens of kindergarten work. Public schools—Slates covered with work of primary pupils; specimens of scholars' written work, and examinations, compositions, drawings, penmanship; maps and plans; photographs and plans of school buildings and rooms; photographs of school superintendents and teachers; illustrated school register; wooden model of school-house.

Academies, seminaries, and high schools—Photographs and plans of buildings and rooms; photographs of teachers and students; students' written work, drawings, etc.

Dartmouth College—Bound catalogues and pamphlets, students' examination papers, drawings, illustrated programme, map of grounds, portraits of faculty and class of 1876; plans and views of buildings and rooms; relief map of the White Mountains.

State Normal School—Reports; students' written work.

Thayer School of Engineering—Model Pratt truss railroad bridge.

Chandler Scientific School—Drawings, surveying papers, railroad map, models in plaster, examination papers and abstracts; essays.

Agricultural College—Geological map. State school laws, reports, and registers; town school reports, history and catalogue of academies, etc.; records of normal school; Bouton's provincial papers.

Educational publications; histories of towns; text books used 100 years ago; text books in present use; publications of E. C. Eastman. (*South Gallery.*) 304

22 State of Connecticut Educational Department (by B. G. Northrop, Secretary, Hartford, Conn.).—Work by scholars and Chinese students; photographs of school-

houses; works by former members of Yale College. (*South Gallery.*) 304

23 State of Illinois, Department of Public Instruction (by S. M. Etter, Superintendent).—Reports of the department, and history of education in the State.

Public schools—Pupils' work, school apparatus, drawings, books, maps, etc.

Chicago public schools—Portfolios of examination papers, photographs, drawings, etc.

Colleges and Seminaries—Work of students, museums, etc.

Industrial University, Champaign, Ill.—Books, portfolios, and charts, containing work of students.

Illinois Normal Universities—Work of students, museums, etc. (*East Gallery.*) 304

24 State of Maine, Educational Department (by Warren Johnson, State Superintendent, Augusta, Me.).

Kindergarten school, Lewiston; public schools in Portland, Bangor, Bath, Lewiston, Calais, Augusta, and various other cities and towns; private schools; Johnson Home School for Boys; Abbott School for Boys; St. Catharine's School for Girls, and others. School furniture from Doyle Bros., Bangor.

Bowdoin College, Colby University, Bates College.

Maine Wesleyan Seminary and Female College, Westbrook Seminary, Waterville Classical Institute, Maine Central Institute, Hallowell Classical Institute, and others; Western Normal School; Farmington and Eastern Normal School, Castine.

State collection of agriculture and mechanic arts. (*South Gallery.*) 304

25 State of Iowa, Educational Department (by Alonzo Abernethy, Des Moines).—Collective exhibit of the public schools of Davenport, Des Moines, Atlantic, Muscatine, Ottumwa, Marengo, Boone, Sigourney, Winterset, Lyons, Indianola, Wheatland, Clarence, Friends' Academy, Le Grand, and Osceola, Mt. Pleasant, Jefferson, West Liberty, Mason City, Wilton, Burlington, Sioux City, Denison, Kellogg, and of Oskaloosa, Amity, and Western Colleges, Iowa. Reports, charts, drawings, and examination manuscripts.

Iowa School Furniture Co.—School desks and seats. (*South Gallery.*) 304

25a State of Missouri, Educational Department (by Wm. T. Harris, St. Louis, Mo.).—Volumes of school furniture and photographs of schools. (*South Gallery.*) 304

26a State of Maryland Educational Exhibit. (T 38 and *South Gallery.*)

26 State of Tennessee Educational Department, collective exhibit.

Trousdale, Leon, State Superintendent of Schools, Nashville, Tenn.—Reports and school banner.

Dean, John R., County Superintendent, Shelbyville, Tenn.—Manuscripts of pupils of the schools, and school banner.

Presnell, H., County Superintendent of Schools, Jonesboro, Tenn.—Photographs of Colored Training School and South Normal School buildings.

Pickett, A., City Superintendent of Schools, Memphis, Tenn.—Examination manuscripts and principles of instruction; geographical drawings.

Caldwell, S. Y., City Superintendent,

School Statistics, Students' Work.

Nashville, Tenn.—Examination manuscripts, drawings, school banner, and annual reports.

Perkins, W. H., Principal Peabody Graded School, Powell's Station, Tenn.—Examination manuscripts of classes D and C, second grade.

Tennessee Medical Society, Nashville, Tenn.—Transactions of the session 1845.

Lindsley, J. Berrian, Nashville, Tenn.—Life and works of Philip Lindsley.

Giers, C. C., Nashville, Tenn.—Photographs of educators. (*South Gallery.*) 304

- 17 **Commonwealth of Massachusetts,** Department of Education and Science.
- DRAWING AND MODELING.**—Industrial, mechanical, and free hand, from the public day, evening, and Normal Art School; from the Massachusetts Institute of Technology, the Worcester Free Institute, and Boston Art Academy, nearly one thousand exhibits.

The Massachusetts System of Art Instruction for industrial, free hand, mechanical, and other drawing, designs of various kinds, models, and text books for schools and advanced study in drawing, designing, and modeling. Prepared by Butler Smith, published by L. Prang & Co.; exhibited in twenty-eight text books, one hundred and thirty-eight studies, forty-seven models, and fifty-seven casts.

PHOTOGRAPHS.—*Universities, Colleges, and Technical Schools:* Howard University, Bussey Institute, Williams College, Amherst College, Tuft's College, Boston College, College of the Holy Cross, Museum of Comparative Zoology, Massachusetts Institute of Technology, and Worcester Free Institute.

Women's Colleges: Mt. Holyoke, Wellesley, and Smith, Clarke's Articulating School for the Deaf.

Normal Schools: Bridgewater, Framingham, Westfield, Salem, and Worcester (interiors and exteriors).

School houses: Primary, grammar, high, and private schools of Boston, New Bedford, Greenfield, Salem, and other towns.

Harvard University, represented by photographs, catalogues, and courses of study.

Williams College, by photographs, catalogues, text books, and publications of its presidents and professors.

Amherst College, by photographs, catalogues, text books, history, and student life at Amherst.

Tuft's College, by photographs, text books, and catalogues; from the scientific department, instruments for the projection of Lissajou's curves, and the opeidoscope, by Prof. Dolbear.

Boston University, by year-books.

Boston College, by photographs and catalogues.

College of the Holy Cross: Photograph and historical sketch.

Mt. Holyoke Seminary: Photographs, water colors, catalogues, reports, documents, and history, memoir of Miss Lyon, first principal.

Wellesley College: Photographs, water colors, and drawings of buildings and interiors, circulars, pamphlet of history, and sketch.

Smith's College: Photographs, water colors, ground and other plans, history, and pamphlets.

Museum of Comparative Zoology:

drawings, illustrated catalogues, bulletins, and reports, bust of Prof. Agassiz, contributions to natural history of the United States.

Massachusetts Institute of Technology: Photographs, documents, and students' works, as follows: drawings and original designs in civil and mechanical engineering and architecture; physical, metallurgical, mining, and surveying apparatus; results of physical experiments; models of engineering structures; silver and lead extracted from the ore; tablet of the metric system; theses by graduates in civil, mechanical, and mining engineering, architecture, chemistry, metallurgy, natural history, physics, science, and literature and philosophy; designs for various textile fabrics, oil-cloths, porcelain decorations, etc., by students of the Lowell Free Course of Practical Design.

Worcester Free Institute: Drawings and photographs, plan of study and discipline, students' work exhibited in examination papers, drawings, designs, physical apparatus and models.

Theological Seminary, Andover: Memorial catalogues, etc.

Theological Institution, Newton: Photographs, catalogues, etc.

Clarke's Institution for the Deaf, Northampton: Photographs, history, and system of teaching by articulation and lip-reading, annual reports; system of visible speech, by A. Graham Bell.

Perkins's Institution for the Blind: Specimens of books printed at the asylum; work of pupils; Dr. Howe's reports.

Nathaniel Bowditch: Bust and works.

Horace Mann: Portrait, life, lectures, and reports.

Collective Exhibits: From Boston, New Bedford, and Greenfield, illustrating the system of public instruction in the large and small cities and towns, including text books, reference books, and apparatus: text books used in Tuft's College, Williams, and Amherst, in the public schools of Boston, New Bedford, Greenfield; text books used in different cities and towns of the State.

PUPILS' WORK.—From primary, grammar, and high schools, in two hundred and ninety bound volumes and on seventy-two slates; specimens of sewing from grammar schools, in six portfolios; desk-mat, primary department, Grafton.

PUBLIC LIBRARIES.—*Boston Public Library:* Seventeen bound volumes, history, catalogues, administration, annual and quarterly reports.

Catalogues and photographs of libraries in Salem, Springfield, Lynn, Concord, and other towns.

REPORTS.—Complete set of reports of State Board of Education, from 1837 to 1876, bound in twenty-nine volumes.

Complete set of annual school reports for 1875, from eighteen cities and three hundred and twenty-four towns, in twelve volumes.

ANNUAL STATE REPORTS FOR 1875.—Board of Education, Board of State Charities, Board of Health, Bureau of Labor Statistics, Registration of Births and Deaths, State Librarian, Board of Agriculture, Treasurer, Adjutant-General, Auditor, Annual Returns of Corporations, Trustees of the Perkins Institution for the Blind, Trustees of the School for Idiotic and Feeble-Minded Children, Commission-

Educational Publications, Statistics, Apparatus.

ers of Railroads, Commissioners of Harbors, Commissioners of Insurance, Commissioners of Taxes, Commissioners of Savings Banks, Commissioners of State Prison, Inspectors of State Prison, Inspectors of State Workhouse, Bridgewater; Inspectors of State Almshouse, Tewksbury; Inspectors of State Primary School, Mouser; Inspectors of State Gas; Trustees Industrial School for Girls; Trustees State Reform School, Westboro'; Trustees Lunatic Asylum, Taunton; Trustees Lunatic Asylum, Northampton; Trustees Lunatic Asylum, Worcester; Trustees Lunatic Asylum, Danvers; Census of the State for 1865; Acts and Resolves for 1875; Public Documents, 1862 to 1874; Plymouth Colony and Massachusetts Bay Records; Decisions of Supreme Judicial Courts; Directories, city and county, from Sampson, Davenport & Co., Greenough & Co., D. Dudley & Briggs; Publications and Text books, from Brewer & Tileston, G. & C. Merriam, Thompson, Brown & Co., Schoenhof & Moeller, R. S. Davis & Co., W. F. Draper, Grim Bros., Oliver Ditson.

Publications of Societies: Natural History, Numismatic, Historic, Genealogical, Medical Improvement.

Reports of associations, organizations, towns, public libraries, etc.; Psyche Advertiser of Entomology.

Periodical Literature: A copy of every newspaper and periodical published in Massachusetts in 1876, bound in eleven volumes; New England Journal of Education for 1875 and 1876.

American Academy of Arts and Sciences: Proceedings, memoirs, and other works, thirty-four volumes

Essex Institute: Full set of works; American Naturalist, nine volumes.

Peabody Academy of Science: Two volumes; complete set of Asa Gray's works; scientific, educational, and miscellaneous publications by Massachusetts authors; photographs and autographs of some of the living authors of Massachusetts; a series of astronomical drawings (thirty-four), from the physical observations of L. Trouvelot; Cambridge pastel drawings, from actual telescopic observations requiring ten years for their preparation, representing most interesting objects in astronomy, as comets, clusters, nebulae, meteors, solar spots and protuberances, eclipses, moon craters, planets, zodiacal light, aurora borealis, etc.

REPORTS SPECIALLY PREPARED FOR THIS EXHIBIT.—American Board of Commissioners for Foreign Missions; College of the Holy Cross; Boston College, 1874-1876; Clarke Institution for the Deaf; Mount Holyoke Seminary; Wellesley College; Smith College; Worcester Free Institute; Worcester Academy; Worcester Lyceum; Worcester Public Library; State Normal School, Bridgewater; State Normal School, Westfield; Publications Williams College, 1793-1876; Public Charities of Massachusetts, 1776-1876; Statistics of Schools, Greenfield; Statistics of High School, Pittsfield; Report of Grammar School, Pittsfield; Questions for Written Examinations, Worcester; Worcester Truant School; Worcester Productive Union; Worcester County Musical Association; Worcester Choral Union; Worcester Young Men's Christian Association; Worcester Home for Aged Females; Worcester Children's Friend Society; Massachusetts

Temperance Alliance; New England Hospital for Women and Children; Temporary Home for Discharged Female Prisoners; Home for Little Wanderers; School for Pauper Boys; Industrial School for Girls, Dorchester; Washingtonian Home.

MAPS.—Educational, representing the universities, colleges, professional and technical institutions, academies, normal, high, grammar, primary, and ungraded schools and public libraries in the State; geological, hypsometric, density of population, proportion of foreigners to native population, trades and occupations, land under cultivation, wealth, railroads, births, deaths, and marriages; Nantucket historical and geographical map; Hoosac tunnel, large profile, twenty-three feet in length, with fifty-eight photographs; illustrated missionary map of the world, showing every station of the A. B. C. F. M.; globe, by E. C. Fitz.

Architectural Illustrations of Insane Asylums at Danvers, Worcester, and Northampton; New England Hospital for Women and Children, in Boston; Washingtonian Home, at Boston; Reformatory Prison for Women, at Sherborn; School for Neglected Children, at Deer Island (private); Institution for Feeble Minded Youth, at Barre; Warren Street Chapel, Boston; Abattoir, at Brighton.

MISCELLANEOUS.—Carving of wood from Washington's elm, Cambridge; illustration and description of Mastodon giganteus; astronomical lantern, from J. F. Clark; system of tachygraphy, by D. P. Linsley; specimen penmanship, by K. O. Herline; arithmetical cards, by Misses Faxon & Walcutt; tablet of metric system, J. P. Putnam, with pamphlet; natural history series and aids to object teaching, L. Prang & Co.; case containing two thousand crayons, Parmenter & Walker, Waltham; reversible blackboard, by Zollinger; health-lift, by W. A. Knight; method of teaching music, by Mrs. J. B. Paige and H. M. Tappan; stereoscope and stereoscopic views of public buildings of historical interest; insurance tables, by Elizur Wright; school furniture, from A. G. Whitcomb and W. O. Haskell & Son; combination desk and organ, George Woods & Co.

Kindergarten: Inventions of children from four to six years of age; material for instruction, by Milton, Bradley, & Co.

Micro-photographs by Dr. E. Cutter. Photographs of cities, libraries, high and other schools.

Exhibit illustrating the interest, progress, and condition, by the Essex Institute, four tables and one hundred and twenty-eight photographs, charts, models, and books, from S. E. Warren.

Society for the "Prevention of Cruelty to Dumb Animals," with improved methods for their treatment, books, newspaper, tracts, etc.

Photographs of specimens from Brown High School, Newburyport. (*East Gallery.*)

27a State of Minnesota, Educational Department.—Bound volumes of examination papers, maps, drawings, etc., from the public schools of St. Paul. L. M. Burlington, Superintendent of Public Schools; bound volumes of examination papers, maps, drawings, etc., from the public

Students' Work, Educational and General Publications.

- schools of Minneapolis and Winona, O. V. Tousley, Superintendent; designs and plans for school buildings, exhibited by A. Langdon, Winona. (*South Gallery*.)
304
- 28 State of New Jersey, Department of Public Instruction (by Ellis A. Apgar, Trenton, N. J.).—Work by school children, viz.: maps drawn from memory; mathematical operations; analysis and parsing; compositions; spelling; primary and miscellaneous work; artistic drawing in crayon, indian ink, and lead pencil; mineral and natural history collections; mechanical contrivances; photographic views, exterior and interior of school-houses, and decennial exhibit of their improvements, showing condition in 1866 and 1876; kindergarten work; penmanship; history of schools in New Jersey; works written by alumni of Princeton and Rutgers Colleges, and photographic views of the same. (*South Gallery*.)
304
- 29 State of Pennsylvania.—Educational exhibit shown in Pennsylvania Educational Hall.
304
- 29a Peirce's Union Business College.—Exhibit noticed under special buildings. (*Pennsylvania Educational Hall*.)
304
- 30 Bartlett, John R., Providence, R. I.—Catalogue of the library of the late John Carter Brown, relating to America.
T 75. 305
- 31 Lippincott, J. B., & Co., Philadelphia, Pa.—Selected publications printed and bound in their establishment. T 72.
306
- 31a Lockwood, George R., New York, N. Y.—Audubon's Birds of America and Birds and Quadrupeds of America. T 75.
306
- 32 Porter & Coates, Philadelphia, Pa.—Books. T 73 to 78.
306
- 32a Merriam, G. & C., Springfield, Mass.—Copies of Dr. Noah Webster's works. T 73 to 78.
306
- 33 Davis, Chas. H., & Co., Philadelphia, Pa.—Zell's Encyclopedia, Hand Atlas, Cyclopaedia of American Literature, and United States Business Directory; Centennial map of one hundred and thirty-six miles around Philadelphia. A specimen of Zell's Encyclopedia with map will be sent to any address on receipt of twenty cents. T 73 to 78.
306
- 33a Methodist Book Concern, New York, N. Y.—Miscellaneous books, Bibles, and hymn-books, Sunday-school libraries, teachers' helps. T 76.
306
- 34 Burley, S. W., Philadelphia, Pa.—Historical, descriptive, and statistical books. T 73.
306
- 34a Marshall, B. F. jr., Mobile, Ala.—The accountant's vade mecum. T 73 to 78.
306
- 35 Holman, A. J., & Co., Philadelphia, Pa.—Bibles. T 74.
306
- 35a Clark & Maynard, New York, N. Y.—Educational, Masonic, and miscellaneous works. T 73 to 78.
306
- 36 Presbyterian Board of Publication, Philadelphia, Pa.—Theological, practical, and Sabbath-school books and periodicals. T 74.
306
- 36a Miller, James, New York, N. Y.—Books. T 77.
306
- 37 Kohler, Ignatius, Philadelphia, Pa.—Publisher of German family Bibles, theological, classical, and miscellaneous works, viz., Schiller's Works, German, two editions, two volumes, and twelve volumes; Schiller's Works, English, complete in two volumes; Schiller's Poems, German-English, on opposite pages; German-English dictionaries, etc., etc. German classical, theological, and miscellaneous books. T 73 to 78.
306
- 37a Gevin Bros., Boston, Mass.—Educational and other works. T 77.
306
- 38 Allen, Henry S., New York, N. Y.—History of America. T 77.
306
- 38a Peters, J. L., New York, N. Y.—Musical magazines, sheet music, etc. T 73 to 78.
306
- 39 Wilson, Hinkle, & Co., Cincinnati, O.—Educational books. T 74.
306
- 39a Hoyt, Henry, Boston, Mass.—Books. T 77.
306
- 40 Calmann, Chas., Philadelphia, Pa.—Book of business firms in the United States. T 73.
306
- 40a McLoughlin Bros., New York, N. Y.—Toy books, games, etc. T 73 to 78.
308
- 41 Ivison, Blakeman, Taylor, & Co., New York, N. Y.—School and college text books; Spencerian system of penmanship. T 77.
306
- 41a Estes & Lauriat, Boston, Mass.—Books. T 77.
306
- 42 Graham, Andrew J., New York, N. Y.—Phonographic works. T 73.
306
- 42a Blodgett, Lorin, Philadelphia, Pa.—Meteorological works and charts. T 73.
306
- 42b Putnam, G. P., & Sons, New York, N. Y.—Books. T 73.
306
- 43 Butler, J. H., & Co., Philadelphia, Pa.—Educational text books and outline maps. T 73.
306
- 43a Cook, E. A., & Co., Chicago, Ill.—Expositions of Freemasonry, etc. T 73.
306
- 44 Wood, Wm., & Co., New York, N. Y.—Medical books. T 77.
306
- 44a Harper & Bros., New York, N. Y.—Miscellaneous books, and complete sets of periodicals. T 77.
306
- 45 National Temperance Society, New York, N. Y.—Temperance books, tracts, pamphlets, papers, diagrams, etc. T 76.
306
- 45a Harding, W. W., Philadelphia, Pa.—Bibles, Testaments, and photograph albums. T 73.
306
- 46 Bicknell, A. J., & Co., New York, N. Y.—Books for builders. T 70.
306
- 46a Sherwood, George, & Co., Chicago, Ill.—Educational books. T 73 to 78.
306
- 47 Anglim, James, Washington, D. C.—Biographical annals of the civil government of the United States during its first century, by Charles Lanman. T 76.
306
- 47a Still, William, Philadelphia, Pa.—Book—The Underground Railroad. P 73.
306

Books, Publications.

- 48 Claxton, Remsen & Haffelfinger, Philadelphia, Pa.—Books, games historical charts, Centennial Guide and map of Philadelphia. T 73 to 78. 306
- 48^a Swasey, J. N., Yonkers, N. Y.—Iconographic chart. T 52. 306
- 49 Kelly, Thomas, New York, N. Y.—Catholic prayer books and Bibles. T 77. 306
- 49^a Atwood, John M., Philadelphia, Pa.—Map of North America. T 73. 306
- 50 Sheldon & Co., New York, N. Y.—School and college text-books; theological, religious, miscellaneous, and juvenile books; "Galaxy" magazine. T 77. 306
- 50^a Dewey, D. M., Rochester, N. Y.—Plates of ornamental trees, fruits, and flowers of America. T 73 to 78. 306
- 51 Burlock, Saml. D., & Co., Philadelphia, Pa.—Photograph albums, Bibles. T 73. 306
- 51^a Townsend, G. W., Philadelphia, Pa.—Napoleon question slips, for cultivating habits of thought, intended for educational uses, and the greatest good to the greatest number. For sale by Claxton, Remsen & Haffelfinger, Philadelphia, Pa., in packages, fifty cents and one dollar. T 73. 306
- 52 Potter, John E., & Co., Philadelphia, Pa.—Bible Encyclopedia, Bibles, Testaments, and standard miscellaneous books. T 76. 30
- 52^a Virtue & Yorston, New York, N. Y.—T 73. 306
^a Books, bound and in parts. 306
^b Steel engraving. 421
- 53 Baird, Henry Carey, & Co., Philadelphia, Pa.—Practical, scientific, and economic books. T 75. 306
- 53^a United States Publishing Co., New York, N. Y.—Our First Hundred Years, and other books. T 73. 306
- 54 Orange Judd Co., New York, N. Y.—"American Agriculturist" and rural books. T 73. 306
- 55 American Sunday-School Union, Philadelphia, Pa.—Evangelical publications for Sunday-schools and families. T 73. 306
- 55^a Goodrich, D. W., New York, N. Y.—Books and calendars. T 73. 306
- 56 Appleton, D., & Co., Philadelphia, Pa.—Books. T 73 to 78. 306
- 57 Gebbie & Barrie, Philadelphia, Pa.—Fine art publications. N 71. 306
- 58 Roberts, Rev. H. Floy, Williamsburgh, N. Y.—Manuscript interlinear New Testament; the original Greek text, verbally translated, compared with our English version. T 73. 306
- 59 Asher & Adams, New York, N. Y.—Pictorial album, atlases, maps, and specimens of printing. T 73. 306
- 60 American Bible Society, New York.—Bibles in ancient and modern languages and various bindings. T 75. 306
- 61 Potter, Ainsworth, & Co., New York, N. Y.—School books. T 76. 306
- 62 Griffiths, John W., New York, N. Y.—Works on ship building. T 76. 306
- 62^a Michels, Ivan C., New York, N. Y.—Book containing the Lord's Prayer in five hundred languages; work of great research, comprising the labor of twenty-three years. T 75. 306
- 63 Johnson, T. & J. W., & Co., Philadelphia, Pa.—American and English law text books and reports. T 75. 306
- 64 Peterson, T. B., & Bros., 306 Chestnut street, Philadelphia, Pa.—Booksellers and publishers of American and foreign novelists. Call or send for illustrated catalogue. Books. T 77. 306
- 65 Stoddart, J. M., & Co., Philadelphia.—General literature; American edition of the "Encyclopedia Britannica." T 74. 306
- 66 Rice, D., & Co., Philadelphia, Pa.—McKenney's Indian Tribes of North America, one hundred and twenty illustrations (government edition), folio, three volumes; Michaux & Nuttall's *Sylva*, two hundred and seventy-seven illustrations, five volumes; National Portrait Gallery of Distinguished Americans, one hundred and fifty illustrations, three volumes. T 75. 306
- 67 Brewer & Tileston, Boston, Mass.—Worcester's dictionaries, arithmetics, histories. T 76. 306
- 68 University Publishing Co., New York, N. Y.—School books; Maury's geographies and wall maps; Venable's mathematics; Holmes's readers, United States history and grammars; Gilderleeve's Latin books; Carter's general history, etc. T 77. 306
- 69 Houghton, H. O., & Co., Riverside Press, Cambridge, Mass.; Hurd & Houghton, New York, N. Y.—Specimens of fine book printing, selected from their own publications and books printed for others; among them, Lord Bacon's Works, five copies only, printed on India paper; Notes on Columbus; and the Bibliotheca Americana, being the catalogue of the library of the late John Carter Brown, of Providence. Also framed specimens of plain and colored lithographic printing, designed and printed at the Riverside Press,—among them Longfellow's portrait, drawn by Baker, issued only with the *Atlantic Monthly*. T 73. (*On the Pavilion of the American Book Trade Association.*) 306
- 70 Masonic Publishing Co., New York, N. Y.—Masonic books and publications. T 73. 306
- 71 Wells, S. R., & Co., New York, N. Y.—Phrenological books and specimens, including busts and paintings, miscellaneous publications. T 77. 306
- 72 Scribner, Armstrong & Co., New York, N. Y.—Books, maps, etc. T 77. 306
- 73 American Tract Society, New York, N. Y.—Books, tracts, periodicals, wood engravings, teachers' Bibles, etc. T 76. 306
- 74 Sabin, J., & Sons, New York, N. Y.—Dictionary of books relating to America. T 75. 306
- 75 Leypoldt, F., New York, N. Y.—Publishers' Weekly, Trade List Annual, and other trade publications. T 75. 306

Books, Publications, Archæological Collections.

- 76 Kehoe, Lawrence, The Catholic Publication Society, New York, N. Y.—Catholic books of history, devotion, controversy, and general literature. T 77. 306
- 77 Lindsay & Blakiston, Philadelphia, Pa.—Medical, dental, and scientific books; physicians' visiting list. T 73. 306
- 78 Kay & Bro., Philadelphia, Pa.—American and English law books. T 74. 306
- 79 Lee & Shepard, Boston, Mass.—Books. T 73 to 78. 306
- 80 Osgood, James R., & Co., Boston, Mass.—Books. T 73 to 78. 306
- 82 Seventh Day Adventist Publishing Association, Battle Creek, Mich.—Periodicals, books, and tracts. T 73. 306
- 83 Knapp, Albert E., Poultney, Vt.—Pictorial family Bible and continuous genealogical family record, for photographs and autographs of heads of families for successive generations. T 73. 306
- 84 American News Co., New York, N. Y.—American Bookseller's Guide and American Bookseller. T 75. 306
- 85 Miller's Bible & Publishing House, Philadelphia, Pa.—Bound Bibles and other books. T 73. 306
- 86 Dick & Fitzgerald, New York, N. Y.—Dick's Encyclopedia, books of popular information, etc. T 77. 306
- 87 The Centennial Guide Book Co. (limited), Philadelphia, Pa.—Visitors' Guide to the Centennial Exhibition and Philadelphia. H 72 and N 5. 306
- 88 American Baptist Publication Society, Philadelphia, Pa.—Books and periodicals. T 76. 306
- 89 Allen, Lane & Scott & Jas. W. Lauderbach, publishers, Philadelphia, Pa.—An elegant illustrated quarto, entitled "A Century After;" picturesque glimpses of Philadelphia and Pennsylvania, including Fairmount, the Wissahickon, the cities and landscapes of the State, and the Centennial Buildings. T 73 to 78. 306
- 90 Gill, Wm. F., & Co., Boston, Mass.—Monument device of books, in the form of Bunker Hill monument. T 74. 306
- 91^g Fireland Historical Society, Norwalk, O.—Stone and flint implements and ornaments, pottery, etc. V 63. 312
- 91^h Agricultural College of Ohio, Columbus, O.—Copper and stone implements, etc. V 63. 312
- 91ⁱ Archæological Society of Ohio, Columbus, O.—Map showing the location of ancient earthworks in the State. V 63. 312
- 91^j Western Reserve College, Hudson, O.—Copper implements, stone pipes, hammers, etc. V 63. 312
- 91^k Force, W. F., Cincinnati, O.—Copper implements of the mound builders. V 63. 312
- 91^l Neff, Peter, Gambier, O.—Implements of stone and flint. V 63. 312
- 91^m Buchtel College, Akron, O.—Stone and flint ornaments and implements. V 61. 312
- 91ⁿ Mt. Union College, Alliance, O.—Flint implements and weapons, pestles and mortars, slingstones, pipes. V 61. 312
- 91^o Matson, John S. B., Shelby, O.—Mound implements, ornaments, etc. V 63. 312
- 91^p Whittlesey, Charles, O.—Archæological collection. V 61. 312
- 92 Gabriel, Peter J., Perry, Me.—Implements, ornaments, and utensils used by the Passamaquoddy Indians; weapons, costumes, house implements, and books. P. 65. 312
- 92^a Kenney, T. Mc., Portsmouth, O.—Stone relics, hammers, rollers, pestles, chisels, plates, pendants and other ornaments. V 63. 312
- 92^b Henderson, J. P., Newville, O.—Stone, flint, and copper implements and ornaments. V 63. 312
- 92^c Judge, J. F., Cincinnati, O.—Stone and flint implements and ornaments. V 63. 312
- 92^d Morgan, M. C., Urbana, O.—Stone and flint implements. V 63. 312
- 92^e Bartlett, C. L., Ravenna, O.—Stone and flint implements and ornaments. V 63. 312
- 92^f Munday, Gilbert, Montezuma, O.—Stone implements. V 63. 312
- 92^g Ashtabula County Historical Society, Ashtabula, O.—Stone and flint implements and ornaments. V 63. 312
- 92^h Peet, S. D., Ashtabula, O.—Flint and stone implements and ornaments. V 63. 312
- 92ⁱ Beard, John, Attica, O.—Flint and stone implements and ornaments. V 63. 312
- 92^j Bennett, H., Putnam, O.—Stone and flint implements and ornaments. V 63. 312
- 92^k Hawkins, A. W., Twinsburg, O.—Stone and flint implements and ornaments. V 63. 312
- 92^l Schroyer, J. C., Cincinnati, O.—Stone and flint implements and ornaments. V 63. 312
- 92^m Byrnes, L. M., Cincinnati, O.—Stone and flint implements and ornaments. V 63. 312

Institutions and Organizations.

- 91 Burleigh, J. B., Philadelphia, Pa.—Indian relics, illustrating the pre-historic age of the western continent. T 57. 312
- 91^a Allen, Geo. W., St. Louis, Mo.—Archæological specimens from the ancient mounds of Missouri. T 63. 312
- 91^b Sloan, W. B., Port Clinton, O.—Flint and stone implements and ornaments. V 63. 312
- 91^c Read, A. N., Norwalk, O.—Stone implements. V 63. 312
- 91^d Cutler, C., Hudson, O.—Flint, stone, and iron implements. V 63. 312
- 91^e Kelley, Gustavus, Kelley's Island, O.—Flint and stone implements and ornaments. V 63. 312
- 91^f Paul, Daniel, Martinsburg, O.—Flint and stone implements. V 63. 312

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Archæological Collections, Scientific Instruments.

- 92ⁿ Cleaney, Thomas, Cincinnati, O.—Stone implements and pottery. V 63. 312
- 92^o Giaouque, Florian, Cincinnati, O.—Flint, stone, shell, and bone implements and ornaments. V 63. 312
- 92^p Mercer, R. W., Cincinnati, O.—Pottery from mounds of Ohio. V 63. 312
- 92^q Hill, H. H., Cincinnati, O.—Flint, stone, bone, and copper implements and ornaments, pottery, etc. V 63. 312
- 92^r Hosea, L. M., Cincinnati, O.—Flint and stone implements and ornaments, pottery, etc. V 63. 312
- 92^s Simerell, C. B., Cincinnati, O.—Flint, stone, shell, and bone implements and ornaments. V 63. 312
- 92^t Hawley, R. E., Cleveland, O.—Flint and stone implements and ornaments. V 63. 312
- 92^u Freeman, L. R., Cincinnati, O.—Pottery, stone, and flint implements and ornaments. V 63. 312
- 92^v Johnson, J. M., Mt. Union, O.—Stone implements. V 63. 312
- 92^w Larkins, John F., West Mansfield, O.—Stone implements. V 63. 312
- 92^x Smucker, Isaac, Newark, O.—Flint and stone implements and ornaments, casts and photographs. V 63. 312
- 92^y Read, M. C., Hudson, O.—Flint and stone implements and ornaments, casts and photographs. V 63. 312
- 92^z Chase, G. W., Newark, O.—Photographs and drawings of mounds, stone images and implements. V 63. 312
- 92^{a b} Zane, Carbon, Mifflin, O.—Stone and flint implements. V 63. 312
- 93 State Archæological Association of Ohio.—Relics of pre-historic races and Indians of Ohio. V 63. 312
- 93^a Dickeson, M. W., Philadelphia, Pa.—Mound relics. T 63. 312
- 93^b Western Reserve Historical Society, Cleveland, O.—Relics of Indians and pre-historic races of Ohio. V 61. 312
- 93^c Anderson, Marshall, Circleville, O.—Flint and stone implements, etc. V 63. 312

Scientific and Philosophical Instruments and Methods.

- 94 Kuebler, Wm., Philadelphia, Pa.—Surveyors' and engineers' instruments; mining transit. N 60. 320
- 94^a Wilder, Charles, Peterborough, N. H.—Thermometers and portable barometers. N 78. 320
- 95 Kuhnelt, Paul, New York, N. Y.—Terrestrial and celestial planisphere globe. N 56. 320
- 96 Ritchie, E. S., & Sons, Boston, Mass.—Philosophical and nautical instruments. N 57. 320
- 96^a Blanck, G., New York, N. Y.—Parallel rule. N 54. 320
- 97 Keuffel & Esser, New York, N. Y.—Drawing instruments, models, and machinery for scientific schools. N 57. 320
- 98 Rogers, Wm. A., Assistant, Harvard College Observatory, Cambridge, Mass.—Automatic machines for ruling microscopic lines on glass or metals; for grinding and polishing ruling diamonds; for polishing parallel surfaces on glass;

- for dividing any unit into equal parts; microscope, specimens of diamond and etched rulings on glass, and water motor. N 55. 320
- 98^a Allen, Horatio, South Orange, N. J.—Astronomical instruments. P 78. 320
- 99 Clum, H. A., Elmira, New York, N. Y.—Ællograph or storm writer for pre-determining storms. N 60. 320
- 99^a Leete, Isaac P., Branford, Conn.—Atomizer and vaporizer. N 70. 320
- 100 Muller's Sons, Nicholas, New York, N. Y.—Thermometers. P 76. 320
- 101 Benjamin, E. B., New York, N. Y.—Chemical glass and porcelain wares; rare chemical and assaying implements; tools for blowpiping; students' sets; Geissler tubes and physical apparatus. N 57. 320
- 103 Gurley, W. & L. E., Troy, N. Y.—Civil engineers', land surveyors', and mining engineers' instruments and apparatus. N 56. 320
- 104 Lowe, N. M., Boston, Mass.—Terrestrial orrery, graphic hygrometer. N 55. 320
- 105 Prentice, James, New York, N. Y.—Engineers' and surveyors' instruments. N 58. 320
- 106 Heller & Brightley, Philadelphia, Pa.—Surveying, engineering, mathematical, optical, and astronomical instruments. N 59. 320
- 107 Altenecker, Theodore, Philadelphia, Pa.—Joint draughting instruments, protractors, triangles, and drawing scales. N 58. 320
- 108 Fauth, C., & Co., Washington, D. C.—Astronomic, geodetic, and scientific instruments; equatorial-universal alt-azimuth, theodolites, levels, etc. N 57. 320
- 109 Tarr, Henry S., & Son, Philadelphia, Pa.—Dry level; plumb and level combined. N 57. 320
- 110 Bahmann Bros., New York, N. Y.—Hydrometers, thermometers, and chemical glass instruments. N 58. 320
- 111 Schlotterbeck, A. S., Portland, Me.—Thermometer. N 58. 320
- 112 Tagliabue, Giuseppe, New York, N. Y.—Recording barometer, thermometer, and rain gauge; pyrometers, milk tester, hydrometers. N 58. 320
- 113 Kroedel, Franz, New York, N. Y.—Chorometer for surveying. (*West Gallery*.) N 59. 320
- 114 Knox & Shain, Philadelphia, Pa.—N 57. 320
^a Engineering instruments. 320
^b Telegraph instruments. 326
- 115 Young's, Wm. J., Sons, Philadelphia, Pa.—N 59. 320
^a Astronomical circle, equatorial sextant, transits. 320
^b Telescopes. 324
- 116 Riggs & Bro., Philadelphia, Pa.—N 58. 320
^a Ships' binnacles and logs. 320
^b Watchmen's clocks, balance springs for chronometers and watches. 323
- 117 Queen, Jas. W., & Co., Philadelphia, Pa.—N 55. 320
^a Mathematical and drawing instruments and accessories for students and professional men. 320
^b Microscopes. 324

Scientific and Philosophical Instruments.

- 118 Bliss, John, & Co., 110 Wall street, New York, N. Y.—N 52.
- a Ships' logs, register fastened to taffrail; rotator attached and towed astern. 320
 - b Marine chronometers, entirely American manufacture, with auxiliary compensation; watchmakers' portable transit instruments, for obtaining correct time. 323
- 119 Deakin, Robt. T., Philadelphia, Pa.—N 58.
- a Philosophical instruments, mandrel-drawn tubes. 320
 - b Green-house syringes; portable fire engine and garden pump. 720
- 120 Watts & Co., Baltimore, Md.—N 61.
- a Scientific apparatus. 320
 - b Electrical apparatus. 325
 - c Telegraphic apparatus. 326
- 121 Stewart, A., Philadelphia, Pa.—Fare controller and indicator; mechanical instruments. N 56. 321
- 121^a Pottin Register Manufacturing Co., Philadelphia, Pa.—Registers for cars, ferries, billiards, and money drawers. P 57. 321
- 122 Darling, Brown, & Sharpe, Providence, R. I.—Rules, try squares, wire gauges, and tools for accurate measurements. P 70. 322
- 123 Eddy, Geo. M., & Co., Brooklyn, N. Y.—Measuring tapes of cotton, linen, and steel. N 57. 322
- 124 Mains Manufacturing Co., New York, N. Y.—Petroleum tester. N 65. 322
- 125 Weaver, Henry M., Mansfield, O.—Automatic balance scales. N 56. 322
- 126 Juvet, L. P., Glen's Falls, N. Y.—Time globe. N 55. 323
- 127 Tiffany & Co., New York, N. Y.—Watches. N 41. 323
- 127^a Hietel Bros., Philadelphia, Pa.—Spring lever for watch escapement. N 58. 323
- 128 Elgin National Watch Co., Elgin, Ill.—Watch movements and materials. P 67. 323
- 128^a Galena Oil Works (limited), Franklin, Pa.—Oil well clock. P 47. 323
- 129 Seth Thomas Clock Co., Thomaston, Conn.—Clocks. N 65. 323
- 130 Hagstoz & Thorpe, Philadelphia, Pa.—Stiffened gold watch cases. P 43. 323
- 131 American Watch Co., Waltham, Mass.—Watches and watch movements, gold and silver watch cases, watch materials. P 67. 323
- 132 Mehr, Geo., 1218 Hutchinson street, Philadelphia, Pa.—Patent sun dials made of marble, showing time of day, and distance of nineteen cities from Philadelphia. (*Outside*.) 323
- 134 Ithaca Calendar Clock Co., Ithaca, N. Y.—Perpetual calendar clock. N 66. 323
- 135 Teske, Charles, Saratoga Springs, N. Y.—Watch regulator. N 56. 323
- 136 Ansonia Brass & Copper Co., Ansonia, Conn.—Brass and nickel movement clocks. N 57. 323
- 137 Spellier, Louis H., Doylestown, Pa.—Regulator, with new mode of hanging the pendulum, and anchor pin escapement. N 55. 323
- 138 Empire City Watch Co., Jersey City, N. J.—Watches, watch movements, and watch materials. N 55. 323
- 139 Fasoldt, Charles, Albany, N. Y.—Astronomical tower clock. N 56. 323
- 140 Elson, Julius, Boston, Mass.—Safety attachments and regulators for watches. N 56. 323
- 141 Lapp, Ferd., Detroit, Mich.—Carved black walnut clock case. N 56. 323
- 142 Fortenbach & Sons, Carlstadt, N. J.—Silver watch cases. N 55. 323
- 143 Paulus, E., Philadelphia, Pa.—Watches and clocks. N 55. 323
- 144 Hummel, Alois, Baltimore, Md.—Musical clock. N 66. 323
- 145 Robbins, Clark & Biddle, Philadelphia, Pa.—Watches, clocks. N 43. 323
- 146 Gropengiesser, Jno. L., Philadelphia, Pa.—Astronomical clock. N 56. 323
- 148 E. N. Welch Manufacturing Co., Forestville, Conn.—Clocks. N 65. 323
- 149 New Haven Clock Co., New Haven, Conn.—Clocks. N 65. 323
- 150 Imhauser & Co., New York, N. Y.—Watchman's time detector. This watch clock, which is fastened at the watchman's beat, is supplied with twelve keys. In making his rounds, the watchman inserts the keys in the watch, which will perfectly show his movements. N 56. 323
- 151 Bacon, B. H., Philadelphia, Pa.—Lunar clock. N 56. 323
- 152 Mitchell, Vance, & Co., New York, N. Y.—Clocks. N 49. 323
- 153 Pequignot, C. & A., Philadelphia, Pa.—Watches and watch cases. N 63. 323
- 154 Hahl, A., & Co., Baltimore, Md.—Electric clocks, bells, indicators, burglar alarms, tower clocks. N 63. 323
- 155 Wheeler, Marshall, Big Rapids, Mich.—Solar chronometer. N 52. 323
- 156 Schenck, John H., New York, N. Y.—Illuminated clock, "phantasmagoria." N 66. 323
- 157 Hill, J. W., Waterville, Kansas.—Clock that will run 100 years without winding, with a new escapement. With this escapement clocks can be made that will run the longest time, and with least machinery, and be perfectly accurate. (*Kansas Building*.) 323
- 158 Wilson, T. A., & Co., Reading, Pa.—Steel spectacle and eyeglass frames; lenses for optical purposes. N 58. 324
- 158^a Black, L., & Co., Detroit, Mich.—Spectacles and eye glasses. N 64. 324
- 159 Zentmayer, Joseph, Philadelphia, Pa.—Microscopes and accessories. N 58. 324
- 159^a Beatty, George D., Baltimore, Md.—Microscopical slides, showing vegetable tissue. T 50. 324
- 160 Bausch & Lomb Optical Co., Rochester, N. Y.—Optical instruments, lenses, etc. N 55. 324
- 161 Wales, W., Fort Lee, N. J.—Microscope object glasses, with back for photographing; photomicrographs. N 58. 324

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Scientific and Philosophical Instruments.

- 162 Weiskopf, E., New York, N. Y.—Lenses for solar printing, lenses for magic lanterns, lenses and laryngoscopes and ophthalmoscopes; mirrors for eye, ear, and throat; instruments for dentists, and microscopes. N 57. 324
- 163 Spencer Optical Manufacturing Co., New York, N. Y.—Optical lenses, spectacles, and eyeglasses. N 59. 324
- 164 Edgerton, N. H., Philadelphia, Pa.—Philosophical instruments, stereopticons and slides; self-condensing gas cylinders. N 58. 324
- 165 Diamond, J., Pittsburg, Pa.—Spectacles and eyeglasses; Russian pebbles. N 56. 324
- 165^a Miller Bros., New York, N. Y.—Microscope and specimens. P 47. 324
- 166 Walmsley, W. H., Philadelphia, Pa.—Microscopic preparations. N 55. 324
- 167 American Optical Co., Southbridge, Mass.—Spectacles and eyeglasses. N 57. 324
- 168 Yale Lock Manufacturing Co., Stamford, Conn.—Anodes for nickel-plating. P 72. 325
- 168^a Pulvermacher Galvanic Co., Cincinnati, O.—Electro-galvanic appliances, etc., for medical purposes. N 55. 325
- 169 Bryan, Jas. C., Philadelphia, Pa.—Magnetic and magneto-electrical lightning rods. N 63. 325
- 169^a Gardiner, Samuel, Washington, D. C.—Electrical gas lighting apparatus. T 64. 325
- 170 Reyburn, Hunter, & Co., Philadelphia, Pa.—Lightning rods, points, and fixtures. N 62. 325
- 170^a Garratt, Alfred, Boston, Mass.—Electric disc. N 55. 325
- 171 Kidder, Jerome, New York, N. Y.—Electro-medical apparatus. A gold medal of progress was awarded to Dr. Kidder at the fair of the American Institute, in the fall of 1875, for the "best electro-magnetic machine." For illustrated catalogue, address Dr. Jerome Kidder, northeast corner of 17th street and 4th avenue, New York. N 56. 325
- 172 Patrick & Carter, Philadelphia, Pa.—Telegraph sounders, learners' apparatus, hotel annunciators, Philadelphia relay, electric bells, and burglar alarms. N 64. 325
- 173 Fleming & Talbot, Philadelphia, Pa.—Electrical instruments and batteries for physicians and surgeons. N 63. 325
- 175 Cornish, Thos. E., Philadelphia, Pa.—Electric burglar alarm, annunciators, bell calls, clocks, batteries, gongs, wire, etc. N 64. 325
- 177 Munson, David, Indianapolis, Ind.—Lightning rods. N 59. 325
- 178 Western Electric Manufacturing Co., Chicago, Ill.—Electrical apparatus, electro-physical, medical, and harmonic instruments, annunciators, railway signals, etc. N 60. 325
- 179 Laffin & Rand Powder Co., New York, N. Y.—Electrical blasting apparatus. H. Julius Smith's patents. Novel and perfect adaptation. N 62. 325
- 180 Brittain, R. J., Hedenberg Works, Newark, N. J.—Electro-medical instruments. N 65. 325
- 181 Paoli Belt Co., New York, N. Y.—Electro-voltaic chain belt. N 61. 325
- 181^a Buckman, Ira, Brooklyn, N. Y.—Annunciators. N 68. 325
- 182 Galvano-Faradic Manufacturing Co., New York, N. Y.—Electrical instruments for medicinal use. N 57. 325
- 183 Launert & Decker, Cleveland, O.—N 60.
- ^a Indicating annunciators and burglar alarm. 325
- ^b Alphabetical telegraph instruments. 326
- 183^a Finger, Hare, & Co., Boston, Mass.—Electro-magnetic annunciator. N 78. 325
- 184 McCormick, James, Philadelphia, Pa.—Burglar alarm and door fastener. H 72. 325
- 185 National Fire Alarm Telegraph Co., Richmond, Ind.—System of fire alarm and police telegraph. N 65. 326
- 186 Holmes Burglar Alarm Telegraph Co., New York, N. Y.—Bank vault and safe protector, burglar alarm telegraph, electric hotel and house annunciator, electrical bells. N 64. 326
- 187 Brooks, David, Philadelphia, Pa.—Underground cables for telegraph lines. (*Nave.*) 326
- 188 Edison, Thos. A., Newark, N. J.—Roman letter, etheric, domestic, automatic, and quadruplex telegraph; electromotograph, doubler, and electric pen. N 63. 326
- 188^a Cleveland Lightning Rod Co., Garrettsville, O.—Lightning rods, vanes, and ornaments. (*Ohio Building.*) 326
- 189 Dowden, Geo. A., Newark, N. J.—Burglar alarm and automatic annunciator. N 65. 326
- 189^a American District Telegraph Co., Philadelphia, Pa.—Telegraph signal boxes. (*Nave.*) 326
- 190 Henry, D. F., Chief Engineer Water Works, Detroit, Mich.—Model of subaqueous tunnel; telegraphic current meter; flexible jointed water pipe. P 65. 326
- 190^a Gamewell, John N., New York, N. Y.—Fire alarm telegraph signal boxes. (*Nave.*) 326
- 191 Rice, Jas. D., Philadelphia, Pa.—Lightning rods and points. N 66. 326
- 191^a Gray & Barton Western Electric Telegraph Co., Chicago, Ill.—Printing telegraph instrument. (*Nave.*) 326
- 192 Atlantic & Pacific Telegraph Co., Philadelphia, Pa.—Automatic and duplex telegraphic apparatus. (*Nave.*) 326
- 193 Phillips, Eugene F., Providence, R. I.—Patent flexible gas-tight tubing; patent insulated telegraph wires. N 51. 326
- 193^a Philips, W. J., Philadelphia, Pa.—Printing telegraph instruments. (*Nave.*) 326
- 194 Vigneron, Charles, Providence, R. I.—Piano insulator. N 58. 326
- 194^a Lockwood, Brooks, & Co., Boston, Mass.—Computing telegraph. P 47. 326
- 195 Welch & Andres, Boston, Mass.—Magneto-printing and dial telegraph instruments; watchman's time recorders. N 61. 326

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific, Philosophical, Musical Instruments.

- 195^a Gray, Elisha, Chicago, Ill.—Electro-harmonic telegraph. (*Nave.*) 326
- 196 Watkins, Wm. B., New York, N. Y.—Automatic fire and burglar telegraph and fire extinguisher; electric thermostats, fire signal boxes, duplex telegraph. N 59. 326
- 196^a Bell, A. Graham, Boston, Mass.—Electro-harmonic telegraph. N 64. 326
- 197 Western Union Telegraph Co., New York, N. Y.—Telegraphic apparatus. N 63. 326
- 197^a Frost & Hanline, Philadelphia, Pa.—Automatic thermostat for fire alarm telegraph. (*Nave.*) 326
- 198 Day, Austin G., office, 120 Broadway, New York, N. Y.—Kerite insulated telegraph wire and cables; Kerite battery cups; electrical battery. Manufacturer of Kerite insulated telegraph wire and cables. Do not require protection from long exposure in hot climates in the air, earth, or water, or from the corrosive action of acids, alkalies, oils, or gases. Can be kept on storage for a long term of years without deterioration. N 63. 326
- 199 White, Samuel S., Philadelphia, Pa.—Electro-harmonic telegraph. N 65. 326
- 200 Coston, Wm. F., Philadelphia, Pa.—Application of Coston night signal to the International and N. Y. Yacht Club codes. H 68. 326
- 201 Colton, Martha J., Philadelphia, Pa.—Telegraphic night signal for use on land and sea. H 68. 326
- 202 Hale, B. S., & Co., Lawrence, Mass.—Electric wire. N 75. 326
- 203 Otto, John William, St. Louis, Mo.—Piano. P 60. 327
- 203^a Siebenhüner, Anton, New York, N. Y.—Violins and bows. P 64. 327
- 204 Pfaff, John, Philadelphia, Pa.—Clarionets, ivory flute, tail piece for violin, tuning pipe. P 66. 327
- 204^a Greiner, Geo., Philadelphia, Pa.—Piano. N 64. 327
- 205 Martin, C. F., & Co., Nazareth, Pa.—Guitars. P 59. 327
- 206 Pratt, Read, & Co., Deep River, Conn.—Ivory combs, piano forte and organ keys, ivory veneers, and other ivory goods. P 62. 327
- 206^a Monroe Organ Reed Co., Worcester, Mass.—Organ reeds and organ material. P 59. 327
- 207 Burdett Organ Co., Erie, Pa.—Burdett organs. P 64. 327
- 207^a Boulanger, Louis, St. Louis, Mo.—Violin. T 60. 327
- 208 Meyer, Conrad, & Sons, Philadelphia, Pa.—Square piano fortes, original iron-plate frame piano, Conrad Meyer inventor, 1833. P 65. 327
- 209 Schomacker Piano Co., Philadelphia, Pa.—Square and concert grand, square, and upright pianos. N 67. 327
- 210 Hallet, Davis, & Co., Boston, Mass.—Orchestral, concert, and parlor grand, upright, and square grand pianos. N 61. 327
- 211 Miller, Henry F., Boston, Mass.—Piano fortes. N 65. 327
- 212 Zimmermann, C. F., Philadelphia, Pa.—Musical instruments. N 63. 327
- 213 Albert, Chas. F., Philadelphia, Pa.—String quartet, violins, chin and cello rests, wrapped strings, guitars, a Stradivarius and a Guarnerius violin. P 62. 327
- 214 Mason & Hamlin Organ Co., Boston, Mass.—Cabinet organs. P 66. 327
- 215 Albert, John, Philadelphia, Pa.—String quintet, violins made by Albert's machine. P 62. 327
- 216 Seefeldt, Wm. F., Philadelphia, Pa.—Brass and German silver musical instruments. P 59. 327
- 217 Ingalls, W. G., & Co., Worcester, Mass.—Reeds, reed boards, and valves for organs. P 58. 327
- 218 Estey, J., & Co., Brattleboro', Vt.—Organs. Call special attention to,—1st, elegance and solidity of their structure; 2d, durability of manufacture throughout; 3d, richness, sweetness, and pipe-like quality of tone; 4th, number of organs manufactured and sold; 5th, reputation throughout the world, highest endorsement by such artists as Rubinstein, Wilhelmj, Abt, Lucca, Joachim, Freyer, Kucken, Czerny, Ole Bull, Saint-Saëns, Tinel, and many others. P 63. 327
- 219 Dolge, Alfred, New York, N. Y.—Piano forte and polishing felts; spruce sounding-board material. P 66. 327
- 220 Faas, Anthony, Philadelphia, Pa.—Pianos. P 64. 327
- 221 Waters, Horace, & Sons, New York, N. Y.—Organs. P 64. 327
- 222 Roosevelt, H. F., New York, N. Y.—Organs, hydraulic engines, and other blowing apparatus. (*North gallery.*) 327
- 223 Calender, Vaupel, & Co., New York, N. Y.—Piano fortes. P 64. 327
- 224 Hazleton Bros., New York, N. Y.—Grand, cabinet grand, upright, and square pianos. N 64. 327
- 224^a Eisel, M., St. Louis, Mo.—Piano movement. V 60. 327
- 225 Albrecht & Co., 610 Arch street, Philadelphia, Pa. (Charles Albrecht, Frederick Riekes, Edmund Wolsieffer)—Piano manufacturers of first-class, grand, square, and upright pianos. Prices low, for cash, and five years' guarantee. P 68. 327
- 225^a Hamlin, Emmons, Boston, Mass.—Violins. T 66. 327
- 226 Woods, Geo., & Co., Cambridgeport, Mass.—Organs. P 61. 327
- 227 Gemunder, Geo., Astoria, N. Y.—Stradivarius quartet, one Stradivarius, and one Guarnerius violin. P 59. 327
- 228 Dürner, Chas. F., Quakertown, Pa.—Church organ. P 61. 327
- 229 Shoninger, B., Organ Co., New Haven, Conn.—Reed organs. Manufacturers of reed organs for churches and families, with all improvements, embracing a stool, a chime of bells, which make the instrument very complete. N 68. 327
- 230 Steinway & Sons, New York, N. Y.—Grand, upright, and square piano fortes. P 66. 327
- 231 Decker Bros., New York, N. Y.—Concert and parlor grand, upright, and square piano fortes. P 67. 327

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Musical Instruments.

- 232 Lehnert, Henry G., Philadelphia, Pa.—Improved brass instruments, for bands and orchestras. P 64. 327
- 233 Goldsmith, Jonas G., New York, N. Y.—Square piano forte. P 64. 327
- 234 Bacon & Karr, New York, N. Y.—Square and upright pianos. P 62. 327
- 235 Neff, James, Philadelphia, Pa.—Quartette of musical stringed instruments. P 64. 327
- 236 United Piano Makers, Brooklyn, N. Y.—Grand, upright, and square pianos. P 64. 327
- 237 Hoeppe, C. J., Philadelphia, Pa.—Grand, square, and upright pianos, and parlor organs. P 64. 327
- 238 Manhattan Piano Forte Co., New York, N. Y.—Piano fortes. This company, composed of practical mechanics, was established 1863. Their pianos are admired by every one for their sweet and powerful tone, as well as the pleasing touch they possess. P 63. 327
- 239 Emerson Piano Co., Boston, Mass.—Upright and square pianos. P 63. 327
- 240 Oldendorf, Henry, New York.—N. Y.—Bass and snare drums. P 59. 327
- 241 Quaker City Organ Co., Philadelphia, Pa.—Cabinet organs. P 63. 327
- 242 Newman, Edward G., New York, N. Y.—Square grand pianos. N 63. 327
- 243 Peloubet, Pelton, & Co., New York, N. Y.—Reed organs. The standard organs here shown are exhibited as specimens of the daily work of the manufacturers. P 65. 327
- 244 Ivers, W. H., Dedham, Mass.—Piano. P 65. 327
- 244a Jennison, Wm. A., Camden, Miss.—Violin. P 62. 327
- 245 Nicholis, Reuben, Philadelphia, Pa.—Church organ, with pneumatic action. Composition, balance swell, crescendo and diminuendo pedals, never before introduced. P 66. 327
- 246 Lehnert, Carl, Boston, Mass.—Cymbals and gongs, Turkish and Chinese combination of metals. P 62. 327
- 247 Ohio Valley Piano Co., Ripley, Ohio.—Pianos. P 63. 327
- 248 Cummins, Henry, New York, N. Y.—Violin. P 62. 327
- 249 Robbins & Appleton, New York, N. Y.—Gold and silver watch cases. P 67. 327
- 251 Hinds & Sons, Newark, N. J.—Piano fortes. N 63. 327
- 252 Wing, F. L., & Hill, F. M., New York, N. Y.—Dolce piano forte, without strings; organ. T 59. 327
- 253 McFadden, George, Syracuse, N. Y.—Cornets and trombones. P 63. 327
- 254 Moeller, A., Hartford, Conn.—Upright piano. P 63. 327
- 255 Simpson & Co., New York, N. Y.—Square and upright piano fortes. P 64. 327
- 256 Gemunder, August, New York, N. Y.—Four-stringed double bass. P 59. 327
- 257 Sohmer & Co., New York, N. Y.—Upright and square piano fortes. P 62. 327
- 258 McDonald, Jas., Williamsport, Pa.—Square grand piano fortes. P 63. 327
- 259 Dobson, Mrs. Louisa, New York, N. Y.—Banjo. P 65. 327
- 260 Haines Bros., New York, N. Y.—Grand, square, and upright piano fortes. P 62. 327
- 261 Steck, George, & Co., New York, N. Y.—Grand, square, and upright pianos. N 60. 327
- 262 Hardman, Hugh, New York, N. Y.—Grand, square, and upright piano fortes. N 62. 327
- 263 Weber, Albert, New York, N. Y.—Concert and parlor grand, upright, and square pianos. N 66. 327
- 264 Wildman, L. P., Danbury, Conn.—Violins. P 59. 327
- 265 United States Piano Co., New York, N. Y.—Piano forte. P 62. 327
- 266 Knabe, Wm., & Co., Baltimore, Md.—Grand, square, and upright pianos; a harpsichord made by Tschudi & Broadwood for Chas. Carroll of Carrollton. P 60. 327
- 267 Berry, James B., Boston, Mass.—Square and grand piano fortes. P 62. 327
- 268 Stieff, Chas. M., Baltimore, Md.—Grand, square, and upright pianos. N 64. 327
- 269 New Haven Organ Co., New Haven, Conn.—Organs. P 64. 327
- 270 Hook, E. & G. G., & Hastings, Boston, Mass.—Grand concert, chapel, and church organs. (*East Gallery.*) 327
- 271 Knauff, Theodore O., Philadelphia, Pa.—Mechanical and pipe organs. (*Outside.*) 327
- 272 Hinzen & Rosen, Louisville, Ky.—Piano. P 64. 327
- 273 Wessell, Nickel & Gross, New York, N. Y.—Piano. P 64. 327
- 274 Perry, J. R., Wilkesbarre, Pa.—Organs; testing and toning box for reed organs. P 64. 327
- 275 Rogers Upright Piano Co., Boston, Mass.—Upright pianos. The mechanical principles employed secure claims for this instrument of the greatest utility and practical importance to musicians and amateurs. P 65. 327
- 276 Perrot, Auguste, Philadelphia, Pa.—Tonognome, a portable melodeon. P 59. 327
- 277 Watson, J. Jay, New York, N. Y.—Violin and violin strings. P 59. 327
- 278 Chickering & Sons, Boston, Mass.—Piano fortes. P 61. 327
- 279 Wellenberger, Jos., & Ganter, New York, N. Y.—Orchestrion or self-acting organ. P 65. 327
- 280 Mortimer, John R., New York, N. Y.—Pneumatic exhaust palate for organs. P 63. 327
- 281 Behning & Diehl, New York, N. Y.—Grand square pianos. N 63. 327
- 282 Benham Organ Co., Indianapolis, Ind.—Cabinet organs. T 62. 327

Musical Instruments, Engineering Designs.

- 283 Mathushek Piano Manufacturing Co., New Haven, Conn.—Pianos. P 59. 327
- 284 Smith, B. N., & Co., New York, N. Y.—Carved piano legs and lyres. P 59. 327
- 285 Secor, Jerome B., Bridgeport, Conn.—Automaton singing birds in cages and vases. T 43. 327
- 286 Kranich & Bach, New York, N. Y.—Grand, upright, and square piano fortes. N 63. 327
- 287 Clough & Warren Organ Co., Detroit, Mich.—Parlor organ. P 63. 327
- 288 Missenharter, Chas., New York, N. Y.—Excelsior musical instruments. P 64. 327
- 289 Kompff, Ph., New York, N. Y.—Military drums, banjos, and tambourines. P 62. 327
- 290 Lighte & Ernst, New York, N. Y.—Grand square piano fortes. P 65. 327
- 291 Willis, Aug. L., Philadelphia, Pa.—Octave coupler for piano fortes. H 71. 327
- 292 Browne & Buskewell, New York, N. Y.—Grand concert double action harp and music desk. P 63. 327
- 293 Conn & Dupont, Elkhart, Ind.—Musical instruments for bands; improved mouthpieces for band instruments. P 61. 327
- 294 Boston Musical Instrument Manufactory, Boston, Mass.—Brass band musical instruments. P 64. 327
- 295 Schindler, C. A., New York, N. Y.—Piano stools. P 63. 327
- 296 Taylor & Farley Organ Co., Worcester, Mass.—Cabinet and church reed organs. P 58. 327
- Engineering, Architecture, Charts, Maps, and Graphic Representations.**
- 297 Lowthorp, Francis C., Trenton, N. J.—Photographs of iron bridges erected, plans of wrought iron bridge and turn tables. T 67. 330
- 297^a Barnum, Richardson, & Co., Lime Rock, Conn.—Drawings relating to various works. (*West Gallery*.) 330
- 298 American Bridge Co., Chicago, Ill.—Model of rigid suspension bridge, details of construction, photographs and drawings. T 67. 330
- 298^a Carroll, Francis, New Orleans, La.—Model of automatic damper for gas furnaces. (*West Gallery*.) 330
- 299 Clarke, Reeves, & Co., Phoenixville Bridge Works, Philadelphia, Pa.—Photographs and models of bridges, viaducts, and other iron structures actually executed. (*West Gallery*.) 330
- 299^a Philadelphia & Reading R.R. Co., Philadelphia, Pa.—Bridge models, etc. V 53. 330
- 300 Pettit, Henry, & Wilson, Jos. M., Engineers and Architects, Philadelphia, Pa.—The Main Exhibition building, Machinery Hall and adjacent boiler houses for the International Exhibition, 1876. (*In Park*.) 330
- 300^a Thomas Iron Co., Hokendaquia, Pa.—Drawings relating to iron works. (*West Gallery*.) 330
- 301 King Iron Bridge & Manufacturing Co., Cleveland, O.—Wrought iron highway bridge between Horticultural Hall and Art Gallery. 330
- 301^a North Chicago Rolling Mill Co., Chicago, Ill.—Drawings relating to various works. (*West Gallery*.) 330
- 302 Pearsons, G. W., Ogdensburg, N. Y.—Model of standpipe and turbine wheel. (*West Gallery*.) 330
- 303 Pettit, Henry, Philadelphia, Pa.—Bridges and bridge construction. (*West Gallery*.) 330
- 304 Wilson, Jos. M., Philadelphia, Pa.—Bridge and bridge construction. (*West Gallery*.) 330
- 305 Centennial Commission of the American Society of Civil Engineers of the United States.—Papers, drawings, photographs, and models of engineering in America. (*West Gallery*.) 330
- 306 Chanute, Octave, New York, N. Y.—Engineering exhibits relating to bridges and bridge construction. (*West Gallery*.) 330
- 306^a Morrison, E. H., Boonton, N. J.—Model and drawings relating to various works. (*West Gallery*.) 330
- 307 Croes, J. James R., Yonkers, N. Y.—Engineering exhibits relating to water works. (*West Gallery*.) 330
- 307^a Morris, R. C., Nashville, Tenn.—Plans of early and late bridges in the Southern States. (*West Gallery*.) 330
- 308 Herring, Rudolph, Philadelphia, Pa.—Plans of bridges, with photographs showing progress; section of sewers of Philadelphia. (*West Gallery*.) 330
- 308^a McDonald, Charles, New York, N. Y.—Drawings and photographs of various iron bridges. (*West Gallery*.) 330
- 309 Chester, Stephen, New York, N. Y.—Exhibit relating to electrical engineering. (*West Gallery*.) 330
- 309^a Pearse, J. B., Philadelphia, Pa.—Drawings relating to various works. (*West Gallery*.) 330
- 310 Linville, J. H., Philadelphia, Pa.—Bridges and bridge construction. (*West Gallery*.) 330
- 310^a Phoenix Iron Co., Philadelphia, Pa.—Drawings relating to various works. (*West Gallery*.) 330
- 311 Clark, Reeves, & Co., Philadelphia, Pa.—Bridges and bridge construction. (*West Gallery*.) 330
- 311^a Johnson, J., La Salle, Ill.—Drawings relating to various works. (*West Gallery*.) 330
- 312 Rockwood, Geo. F., New York, N. Y.—Photographs showing successive stages of engineering construction. (*West Gallery*.) 330
- 312^a Fowler, Charles E., New Haven, Conn.—Plans, sections, and details of the sewerage and drainage system of New Haven and other public works. (*West Gallery*.) 330
- 313 Crezier, D. W. C., Chicago, Ill.—Model of hydrant and stopcock. (*West Gallery*.) 330
- 313^a Bethlehem Iron Co., Bethlehem, Pa.—Drawings relating to various works. (*West Gallery*.) 330

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Engineering Designs.

- 314 Jervis, John B., Rome, N. Y.—Engineering drawings, relating to construction of canals; Carbondale railroad and Croton aqueduct. (*West Gallery.*) 330
- 314^a Severt, Wm. A., Syracuse, N. Y.—Drawings relating to various works. (*West Gallery.*) 330
- 314^b Cox, E. T., Indianapolis, Ind.—Drawings relating to various works. (*West Gallery.*) 330
- 314^c Dudley, P. H., Cleveland, O.—Drawings relating to various works. (*West Gallery.*) 330
- 314^d Drinker, Henry S., Philadelphia, Pa.—Drawings relative to tunnel excavation and timbering. (*West Gallery.*) 330
- 315 Foster, Wilbur F., Nashville, Tenn.—Model of Howe truss bridge. (*West Gallery.*) 330
- 316 Armington, James H., Brooklyn, N. Y.—Exhibit relating to gas engineering. (*West Gallery.*) 330
- 316^a Smedley, Samuel L., Philadelphia, Pa.—Drawings of Public Works in the City of Philadelphia. (*West Gallery.*) 330
- 316^b Davis, E. T. C., Pottsville, Pa.—Drawings and photographs relating to various works. (*West Gallery.*) 330
- 316^c Darrach, S. A., East Orange, N. J.—Drawings relating to the Water Works of Philadelphia. N 58. 330
- 316^d Canfield, Frederic A., Dover, N. J.—Drawings relating to various works. (*West Gallery.*) 330
- 316^e Grant, Wm. A., New York, N. Y.—Topographical map of recent additions to New York City, with proposed street and avenue plans. (*West Gallery.*) 330
- 317 Thurston, Robert M., Hoboken, N. J.—Exhibit relating to mechanical engineering; detail drawings of machinery, etc., by Robert Fulton. (*West Gallery.*) 330
- 317^a Tarr, H. G. H., Orbesonia, Pa.—Stove plates cast in 1763 and 1792. (*West Gallery.*) 330
- 317^b Stanley, I. N., Brooklyn, N. Y.—Improved setting of retorts. (*West Gallery.*) 330
- 318 Ellis, Theo. G., Hartford, Conn.—Engineering exhibit relating to river and harbor improvement. (*West Gallery.*) 330
- 319 McAlpine, Wm. J., Albany, N. Y.—Engineering exhibits relating to canals and inland navigation. (*West Gallery.*) 330
- 320 Bowden, J. H., Wilkesbarre, Pa.—Drawings relating to various works. (*West Gallery.*) 330
- 321 Smith, Wm. Sooy, Maywood, Ill.—Engineering exhibit relating to foundations and masonry. (*West Gallery.*) 330
- 322 Shedd, J. Herbert, Providence, R. I.—Engineering exhibits relating to sewerage and sanitary purposes. (*West Gallery.*) 330
- 323 Briggs, Robert, Philadelphia, Pa.—Exhibits of illustrations and diagrams of ventilating fans. (*West Gallery.*) 331
- 323^a Thompson, D. M., Providence, R. I.—Pictures of cotton mill with description. (*West Gallery.*) 331
- 323^b Union Iron Co., Buffalo, N. Y.—Model relating to iron works. (*West Gallery.*) 331
- 323^c Wren, W. C., Brooklyn, N. Y.—Model of gas machinery. (*West Gallery.*) 331
- 323^d Witherbee, J. F., Port Henry, N. Y.—Drawings and models relating to iron works. (*West Gallery.*) 331
- 323^e Oxford Iron Co., Oxford, N. Y.—Drawings and photographs relating to iron works. (*West Gallery.*) 331
- 323^f Smith & Sayre, New York, N. Y.—Drawings of exhaustor engine, shafting, and other machinery for gas works. (*West Gallery.*) 331
- 323^g Paulding, Kemble, & Co., Cold Spring, N. Y.—Drawings relating to iron works. (*West Gallery.*) 331
- 323^h Prindle, F. C., Philadelphia, Pa.—Drawings of dredging machinery, and gunpowder pile driver. (*West Gallery.*) 331
- 323ⁱ Patton, J. D., Norristown, Pa.—Drawings of machinery for burning petroleum gas on cars. (*West Gallery.*) 331
- 323^j Risdon Iron & Locomotive Works.—Drawings of hydraulic machinery. (*West Gallery.*) 331
- 323^k School of Mines of Columbia College, New York, N. Y.—Selected metallurgical drawings. (*West Gallery.*) 331
- 323^l Glendon Iron Co., Easton, Pa.—Drawings relating to iron works. (*West Gallery.*) 331
- 323^m Cambria Iron Co., Johnstown, Pa.—Drawings relating to iron works. (*West Gallery.*) 331
- 323ⁿ Birkenbine, H. P. M., Philadelphia, Pa.—Drawings of combined high and low pressure pumping engine, portfolio of details and drawings. (*West Gallery.*) 331
- 323^o Hornig, Julius, Chicago, Ill.—Model of improved method of canal boat propulsion, with track and traction chain. (*West Gallery.*) 331
- 324 Shinn, Wm. P., Pittsburg, Pa.—Engineering exhibit relating to railroads and rolling stock. (*West Gallery.*) 332
- 324^a Nichols, H. K., Pottsville, Pa.—Model of rail splice. (*West Gallery.*) 332
- 324^b Bishop, D. E., New York, N. Y.—Models of special rail joint. (*West Gallery.*) 332
- 324^c Sandberg, C. P., London, England.—Drawings of standard rail sections. (*West Gallery.*) 332
- 325 Emery, Chas. E., New York, N. Y.—Drawings of marine engines and boilers; connected arch boiler; compound engine for Phoenix Iron Company. (*West Gallery.*) 334
- 325^a Gaujot, E., Philadelphia, Pa.—Geological maps, sections, and pamphlets of the State of Michigan. V 67 to 69. 335
- 326 Hanging Rock Iron Region, Iron-ton, O.—Geological map of the Ohio portions of the Hanging Rock iron regions. (Presented by Mr. John Campbell.) T 68. 335

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Engineering Designs, Gymnastic Apparatus, Benevolent Societies.

- 327 Earnshaw, Henry, Cincinnati, O.—Photographs of parks and cemetery, water works machinery, reservoirs, and drawing of tunnel. (*West Gallery.*) 335
- 328 Cleveland, H. W. S., Chicago, Ill.—Design (adopted) for improvement of South Park, Chicago. (*West Gallery.*) 335
- 329 Bowditch, Ernest W., Boston, Mass.—Plans of proposed chain of parks for Boston; a cemetery, and a country estate. (*West Gallery.*) 335
- 330 Krause, H., New York, N. Y.—Topographical maps. (*West Gallery.*) 335
- 331 Sibeth, Otto, New York, N. Y.—Construction map New York Central Park. (*West Gallery.*) 335
- 332 Walling, H. T., Boston, Mass.—Topographical maps and atlases. (*West Gallery.*) 335
- 333 Bogart, John, New York, N. Y.—Engineering exhibit relating to park work, surveying, and geodesy. (*West Gallery.*) 335
- Physical, Social, and Moral Condition of Man.**
- 334 Health Lift Co. of New York, N. Y.—Reactionary lift apparatus. P 62. 340
- 334a Lawrence, John N., New York, N. Y.—Ten pin balls and sample pin. H 72. 340
- 335 Shibe, J. D., Philadelphia, Pa.—Base balls. B 77. 340
- 335a Automatic Swing Co., St. Louis, Mo.—Automatic swings. (*Outside space.*) 340
- 336 Reach & Johnston, Philadelphia, Pa.—Base balls and sporting goods. B 75. 340
- 336a Wood, William, New York, N. Y.—Model of gymnasium with apparatus. T 55. 340
- 337 Marsh, Jas. P., & Co., Chicago, Ill.—Improved health lift. N 52. 340
- 337a Carr, W. B., & Co., Brooklyn, N. Y.—Base balls. F 71. 340
- 338 Rice, S. W., & Co., New York, N. Y.—Base and dead balls, uniforms, and sporting goods. B 75. 340
- 338a Knight, W. A., Worcester, Mass.—Health lifts. B 74. 340
- 339 Hiester, Chas. Edward, Harrisburg, Pa.—Exercising clubs of adjustable weight. N 50. 340
- 340 Leeds, Louis M., New York, N. Y.—Diagrams and charts on ventilation. B 78. 342
- 341 Derrom, Andrew, Passaic, N. J.—Workman's cottage. (*In Park.*) 342
- 342 Kasson, W. M., Department of Public Comfort. (*North, South, and West Entrances.*) 342
- 343 Department of Public Comfort.—Stationery, newspapers, periodicals, and photographs for sale. H 70 and N 6. 342
- 344 Rudolph & Walter, Camden, N. J.—Buffet. T 41 to 47. 342
- 345 Department of Public Comfort.—Café, Leland's. T 33 to 36. 342
- 345a Hinvest, Robert, New York, N. Y.—Clamp and band for scouring masonry, hollow brick for ventilation, chimney top. (*Outside.*) 342
- 347 Centennial Safe Deposit Co., Philadelphia, Pa.—Safes for the protection of valuables. N 65. 343
- 348 Scott, J. W., & Co., New York, N. Y.—Foreign stamp albums. P 73. 344
- 349 Mayer, Moses, New York, N. Y.—Collection of coins. T 72. 344
- 349a New York Catholic Protectory, New York, N. Y.—Photographic views of the Protectory buildings. V 53. 346
- 350 Inventors' Protective & Benevolent Association of the United States, Pittsburg, Pa.—Working models of inventions of members of the Association. (*West Gallery.*) 346
- 350a American Society for the Prevention of Cruelty to Animals, New York, N. Y.—Deodands, or instruments used in torturing dumb animals, taken from offenders; banners and illustrations. D 79. 346
- 350b American Missionary Association, New York, N. Y.—Map, showing location of institutions and mission stations in the United States, photographs of buildings, examination papers, catalogues. (*South Gallery.*) 348
- 351 Young Men's Christian Association of North America, Executive Committee, Richard C. Morse, Secretary, New York, N. Y.—Map, pictures, and plans of Association buildings; reports, circulars, and other literature. (*South Gallery.*) 348
- 351a Dod, S. B., Hoboken, N. J.—Bust of Col. John Sterns. (*West Gallery.*) 400
- 351b Shippen, W. W., Hoboken, N. J.—Portraits of the Messrs. Stevens. (*West Gallery.*) 410
- 351c Miller, William J., Philadelphia, Pa.—Engravings on whitening. 421
- 351d Camp, J. H., Philadelphia, Pa.—Photographs of the drawing of Main Building and Machinery Hall. P 65. 430
- 351e Sweeney, Thomas S., Cleveland, O.—Transparent photographic views in Ohio. (*Vestibule windows, Ohio State Building.*) 430
- 352 Heard & Sons, Cleveland, O.—Architectural design of the Ohio State Building. 441
- 353 Pfeiffer, Carl, New York, N. Y.—Design of New Jersey State Building. 441
- 354 Schwarzmann, H. J., Philadelphia, Pa.—Designs of Memorial Hall, Horticultural Hall, Judges' Pavilion, and Women's Pavilion. 441
- 355 Buzby, Albert G., Philadelphia, Pa.—Water motor for blowing organ bellows, etc. P 66. 562
- 356 Stokes & Parrish, Philadelphia, Pa.—Passenger elevator. (*S. E. Central Tower.*) 563
- 357 Boston Hydraulic Motor Co., Boston, Mass.—Hydraulic motors for blowing Hook & Hastings' organ in gallery at east end of nave. L 79 and K 79. 563
- 358 Byrns & Bryan, New York, N. Y.—Ale pump. P 59. 565

For location of objects, indicated by letter and figure, see Key to Notation, p. 25; ground plan, p. 26.

Railroad Cars, Vessels, Agricultural Products.

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| <p>359 Pullman's Palace Car Co., Chicago, Ill.—Gold and silver model of a Pullman palace sleeping car. N 63. 571</p> <p>360 Woodruff, Jonah, Philadelphia, Pa.—Silver model of sleeping car. N 61. 571</p> <p>361 Snow, J. H., Bucksport, Me.—Model ship. H 70. 594</p> <p>362 Neilson, George, Philadelphia, Pa.—Model of the ship "Independence," of Philadelphia. (<i>Centre Aisle.</i>) 594</p> <p>363 State of New Jersey (by Geo. H. Cook, State geologist, New Brunswick, N. J.).
 <i>a</i> Specimens of wood growing in New Jersey. T 70. 600
 <i>b</i> Fertilizers and soils. 681</p> <p>364 Philadelphia & Reading R. R. Co., Philadelphia, Pa.—Cereals. T 72. 620</p> | <p>365 Judy, W. W., St. Louis, Mo.—Game birds of Missouri, stuffed. T 60. 635</p> <p>366 Bene, Creighton, & Co., New York, N. Y.—Feathers. H 76. 653</p> <p>367 Campbell, S. S., Cadiz, O.—Samples of wool. V 61 to 65. 667</p> <p>368 Baylis, H., Cadiz, O.—Samples of wool. V 61 to 65. 666</p> <p>369 Birney, M. L., Bowerstown, O.—Samples of wool. V 61 to 65. 667</p> <p>370 Quigley, Albert, Cadiz, O.—Wool. V 61 to 64. 667</p> <p>371 Jamison, W. W., Cadiz, O.—Wool. V 61 to 64. 667</p> <p>372 Faxon & Wright, Philadelphia, Pa.—Samples of wool extracted from rags composed of cotton and wool, by a new process. P 43. 667</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GREAT BRITAIN.

(South of Nave, Columns 23 to 38.)

Educational Books and Appliances.

Educational Systems, Methods, and Libraries.

- 1 Sunday-School Union, London.—Works for Sunday-schools.—Books, magazines, cards, reward tickets, illuminations, and large type texts, Sunday-school registers, roll books, librarian and minute books; Sunday-school newspaper. 300
- 3 Bartholomew, John, Edinburgh.—Maps. 300
- 7 Adams, Walter Marsham, London.—The problem of Pythagoras; cælometer for illustrating elementary astronomy; mensurator for solving triangles, etc. 302
- 8 Augener, George, & Co., London.—Editions of the classics and other printed music books. 302
- 8^a Boosey & Co., London.—Band, choral, and household music. 302
- 9 Clark, Edward Podmore, Bath.—Military model apparatus for illustrating drill movements. 302
- 10 The British & Foreign Blind Association, for Promoting the Education and Employment of the Blind, London.—Writing frames, embossed books, and maps for the blind. 303
- 11 Dickinson & Higham, London.—The hexaglot Bible. 306
- 12 Dicks, William, London.—Chromo-lithography, engraving and photographic engraving, and photographic engraving and printing; framed oleographs, chromographs from stone and surface printing, wood engraving, photographic engraving, etc. 306
- 13 Scott, Robson John, London.—Blocks used for wood engravings; compound and bolted blocks of box and other woods. 306
- 14 Stephenson, Blake, & Co., Sheffield.—Specimens of printing types, book of specimens. 306
- 15 Ravenstein, Ernest George, Geographical Institute, London.—General and geological maps of New Zealand; physical and statistical atlas of United Kingdom; relief map of the United States; geographical and statistical works. 306
- 15^a Johnston, W. & A. K., Edinburgh, Scotland.—Maps; illustrations of human anatomy, astronomy, botany, and mechanical powers. 306
- 16 Palmer, Samuel, London.—Index to the "Times" newspaper, a quarterly publication. 306
- 16^a Warner, Robert, London.—Works on "Select Orchidaceous Plants." 306
- 17 Loth, John Thomas, Edinburgh.—Educational books and illustrations of the thirty-three degrees of the ancient and accepted Scottish rite. 306
- 17^a Audsley & Bowes, Liverpool.—Works on "Ceramic Art in Japan." 306
- 18 Lockwood, Crosby, & Co., London.—Books, rudimentary, scientific, educational, and classical series. 306
- 19 Cassell, Petter, & Galpin, London.—Illustrated books, publications, serials; educational books and appliances; electrotypes of engravings on wood. 306
- 20 Smith, David, Halifax, Yorkshire.—The "Dyer's Instructor." 306
- 21 Dowson, Sutherland, & Co. (limited), London.—Complete file of "Iron," a weekly newspaper. 306
- 21^a Price & Co., London.—Fac-similes from ancient manuscripts and printed books. 306
- 22 Potts, Roberts, M.A., Trinity College, Cambridge.—Educational books. 306
- 23 Murray, Andrew, London.—Illustrations and specimens of galls produced by mites, aphides, flies (cecidomyia), sand-flies, cypidæ. 306
- 23^a Bradbury, Agnew, & Co., London.—Books and engravings. 306
- 24 Proprietors of the "Illustrated London News," London.—Specimens illustrating the art department of the "Illustrated London News." 306
- 25 Rola, Vincent, Bayswater.—Method for the piano, with diagrams and specimens of music. 306
- 26 Proprietors of the "Graphic," London.—Process of producing an illustrated newspaper, from the receipt of sketches to the final issue of printed sheets to the public. 306
- 27 Holdsworth, Edmund William Hunt, London.—Work on deep sea fishing and fishing boats. 306
- 28 Johnson, J. M., & Sons (limited), London.—Printing in color, show tablets. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Maps, Statistics, Scientific and Musical Instruments.

- 30 Rundell, Joseph Benjamin, South Kensington Museum, London.—Short-hand alphabet; maps, plans, etc., for educational atlases and other purposes; lithographic printing as applied to maps. 306
- 31 Paul, William, Waltham Cross, Herts.—Works on horticulture. 306
- Institutions and Organizations.**
- 31^a South Kensington Museum.—Objects exhibited by order of the Lords of the Committee of Council on Education. 310
- 31^b Ordnance Survey of the United Kingdom of Great Britain and Ireland.—Ordnance maps. 311
- 31^c Geological Survey of the United Kingdom of Great Britain and Ireland.—Maps. 311
- 31^d Johnson, Edmund, London.—Catalogues and other works having reference to international exhibitions. 312
- Scientific and Philosophical Instruments and Methods.**
- 31^e Hicks, James Joseph, London.—Meteorological and scientific instruments. 320
- 32 Siemens, Charles William, London.—Pyrometers. (*In Machinery Hall.*) 320
- 32^a Clay, Randolph, London.
^a Instrument for tracing ellipses and other curves. 320
^b Model of a deck seat with life-raft and of a boat distinguishing hook. 594
- 32^b Negretti & Zambra, London.—Meteorological and scientific instruments. 302
- 33 Lyon, Washington, London.—Calculating table for rapidly multiplying numbers above 12. 321
- 33^a Zimdars, C. E., London.—Pneumatic signal and communication apparatus; pneumatic railway signals, indicating and registering apparatus. 321
- 34 Wier, M. A., & Co., London.—Hydro-gyrometer or revolution indicator. 321
- 35 Morton, George, London.—Chronometer and watch balance springs, wire, and gauge. 323
- 35^a Gibson, William, Belfast.—Watches. 323
- 36 Smith, Borthwick, London.—Watches and chronometers, cases, dials, and movements. 323
- 36^a Goggin, Jeremiah, Dublin.—Time-pieces. 323
- 36^b Neal, John, London.—Gold and silver watches, chronometers, and time-pieces. 323
- 37 Sewill, J., Liverpool.—Marine chronometers and watches. 323
- 38 Mercer, Thomas, London.—Marine chronometers. 323
- 39 Kullberg, Victor, London.—Marine chronometers, watches, chronographs, repeaters, etc. 323
- 40 Dent, M. F., London.—Marine chronometers, watches, chronometer clocks, etc. 323
- 41 Whittaker, Richard, London.—Key-less watches. 323
- 42 Poole, James, & Co., London.—Marine chronometers and watches. 323
- 43 Nicole, Nielson, & Co., London.—Watches, chronometers, complicated watches, and chronographs. 323
- 44 Claxton, Robert, London.—Chronometer jewelings in all stages. 323
- 45 Frodsham, Charles, & Co., London.—Watches, clocks, and chronometers for astronomical purposes; pocket and marine chronometers. 323
- 46 Swift, James, London.—Microscopes and apparatus. 324
- 47 Middleton, Thomas John, London.—Magic lanterns, dissolving view apparatus, dissolving top for the oxyhydrogen lime light, lantern slides, etc. 324
- 48 Beck, R. & J., London.—Microscopes, telescopes, race glasses, surveying and meteorological instruments and tools. 324
- 49 Wheeler, Edmund, London.—Specimens for the microscope. 324
- 50 Dallmeyer, John Henry, London.—Astronomical and terrestrial telescopes, microscopes, photographic lenses, cameras, and apparatus. 324
- 51 Ross & Co., London.—Microscopes, monocular and binocular apparatus, object glasses, telescopes, and photographic lenses. 324
- 52 Crouch, Henry, London.—Microscopes, binocular, and with complete accessories for every class of scientific investigation; cabinets, lamps. 324
- 52^a Rein, Frederick Charles, & Son, London.
^a Magneto-electric machines. 325
^b Acoustic instruments, speaking tubes and trumpets; acoustical contrivances for churches, public buildings, etc.; anti-acoustic protector. 327
- 53 India-Rubber, Gutta-Percha, and Telegraph Works Co. (limited), Silver-town, Essex.—Telegraph cables, insulated telegraph wires. 325
- 53^a Mayer & Meltzer, London.—Galvanic batteries. 325
- 54 Siemens Bros., London.—Cable samples, and gutta-percha as applied to the manufacture of cables. 325
- 54^a Lacey, Richard George, Coast Guard Station, Leigh, Essex.
^a Alarm signal box for ships. 326
^b Fisherman's block. 647
- 54^b Kimpton, Thomas, London.—Pneumatic sound communicator. 326
- 54^c Telegraph Construction & Maintenance Co. (limited), London.—Submarine telegraph cables. 326
- 55 Heaps, John Knowles, Holbeck, Leeds.—Violin and violoncello. 327
- 56 Smith, George, South Hackney.—Portable finger organ. 327
- 57 Boosey & Co., London.—Musical wind instruments, percussion instruments for bands. 327
- 58 Brinsmead, John, & Sons, London.—Grand, semi-grand, upright, and studio pianos; check repeater action for upright and grand pianos. 327
- 59 Collmann, Leonard W., London.—Cottage piano. 327
- 60 Besson, F., & Co., London.—Brass musical instruments. 327

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Musical Instruments, Sports, Construction of Buildings.

- 61 Browne, H. Justin, London.—Up-right cottage piano fortes. 327
- Physical, Social, and Moral Condition of Man.
- 62 Nicholson, Hamlet, Rochdale.—Cricket and playing balls. 340
- 62^a Lewis, J., Edinburgh.—Curling stone. 340
- 63 Cochrane, Robert C. E., Athlone, Ireland.—Drawings illustrating the application of concrete to the erection of an improved construction of dwellings. 342
- 63^a Greenway, Henry, Plymouth.—Drawings of hospital construction. 346

(N.B.—Certain exhibits in this department from Great Britain are installed in Agricultural Hall, and catalogued in Part IV.)

NEW SOUTH WALES.

(North of Nave, Columns 10 to 17.)

Educational Publications, Statistics, Maps, Photographs, etc.

- Educational Systems, Methods, and Libraries.
- 1 Mechanics' School of Arts, Sydney.—Wax seal impression of corporate seal. 302
- 2 Government Printing Office, Sydney, New South Wales.
- a Meteorological results, and report on education. 305
- b Government gazettes, statutes, statute index, specifications of patents, parliamentary hand book, blue book and statistical register, census reports on railways, Rae's poems, newspapers, Australian languages. 306
- Institutions and Organizations.
- 3 New South Wales Commissioners, Sydney.—Birds of Australia, prepared by Thorpe. 312
- 4 Trustees of the Australian Museum, Sydney.—Specimens of natural history of Australia. 312
- Scientific and Philosophical Instruments and Methods.
- 5 Parrot, T. S., Sydney.—Semaphore, an instrument designed for army signaling purposes. 326
- For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.
- Engineering, Architecture, Maps, etc.
- 6 New South Wales Commissioners, Sydney.—Topographical and geological maps and sections of New South Wales. 335
- Physical, Social, and Moral Condition of Man.
- 7 Government Printing Office, Sydney.—Industrial Progress of New South Wales; Transactions of Royal Society. 347
- Photography.
- 1 The Commission.—Photographic views of public buildings, scenery, etc., in and around Sydney, N. S. W. 430
- 2 Richards, T., Sydney.—Photographic views of buildings, etc., in and around Sydney; photographic views of Blue Mountains and valley of the Grose; photographic views of entomological collection of New South Wales. 430
- 3 Degotardi, John, Sydney.—Photo-mechanical printing. 431
- 4 Richards, T., Sydney.—Photo-lithographs. 432
- Hydraulic and Pneumatic Apparatus.
- 1 Postle, Sydney.—Ice machine. 568

VICTORIA.

(North of Nave, Columns 10 to 17.)

Publications, Statistics, etc.

Educational Systems, Methods, and Libraries.

- 1 Educational Department of Victoria, Melbourne.—Photographic views of state schools in Victoria. 300
- 2 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Portfolios of music by W. H. Glen. 302
- 3 Victorian Asylum & School for the Blind, Melbourne.—Baskets, perambulators, portmanteaus, trunks, mats, fancy wool-work, etc., made by the pupils. 303
- 3^a Victorian Asylum for Deaf & Dumb.—Photographs. 303
- 4 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Official records, catalogues, lectures, reports, medical works, school books, sermons, and general literature. 304
- 5 Ferres, John, Government Printer, Melbourne.—Reports and statistics from the principal government institutions of Melbourne; Victorian newspapers. 305
- 6 Warrnambool, Borough Council for.—Statistics of the borough. 305

Scientific and Philosophical Instruments and Methods.

- 7 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Bell and stand. 327
- 8 Kilner, Joseph, Richmond.—Piano fortes. 327

Engineering, Architecture, Maps, etc.

- 9 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.—Miscellaneous maps, etc. 330
- 10 Surveyor-General of Victoria, Melbourne.—Maps and plans of the colony of Victoria. 330

Physical, Social, and Moral Condition of Man.

- 11 Commissioners for Victoria, for the Philadelphia Exhibition, Melbourne.
 - a Patent ceiling ventilator; model of Victorian bush residence, with huts and various kinds of fencing. 342
 - b Sovereigns and half-sovereigns from Royal Victorian mint, Melbourne. 344
 - c Baskets, mats, etc., made at Coranderk aboriginal mission station; vocabulary of Victorian aboriginal dialects, bluestone tomahawk, photographs of Victorian aborigines. 348
- 12 Bank of Victoria, Melbourne.—Bank notes and statistics of the bank. 344
- 13 Commercial Bank of Australia, Melbourne.—Bank notes, photographs, and statistics of the bank. 344
- 14 National Bank of Australasia, Melbourne.—Bank notes and statistics of the bank. 344
- 15 Penal Department, Inspector-General of Melbourne.—Warder's uniform, prisoners' clothing, hats, boots, shoes, mats, etc. 345

CANADA.

(North of Nave, Columns 16 to 23.)

Educational Collections.

Educational Systems, Methods, and Libraries.

- 1 Merritt, J. P., St. Catherine's, Ont.—Metric and chronological tables, chronotable of Canada. 300
- 2 Tennant & McLachlan, Hamilton, Ont.—Penmanship. 300
- 3 Pearse, James, Chatham, Ont.—Penmanship. 300
- 4 Browne, James, Toronto, Ont.—Chart stand and illustrator. 300

- 5 Educational Department, Toronto, Ont.—This is a department of State of the Province of Ontario, constituted by a committee of the Executive Councils, and is presided over by a member thereof, who is directly responsible to the Legislature. Minister of Education, Hon. Adam Crook, LL.D.; Deputy Minister of Education, John George Hodgins, LL.D.; Secretary, Abraham Marling, LL.D. 300
- 6 Beatty, L. J., Belleville, Ont.—Penmanship. 300

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Educational Appliances, Scientific and Musical Instruments, etc.

- 7 Hector, Thos., Ottawa, Ont.—Rotary polar map of the world. 300
- 8 Genest, P. M. A., Quebec, Q.—Map of "La Nouvelle France." 300
- 9 Tackabury, J. N., Montreal, Q.—Dominion atlas, maps of Ontario and Quebec. 300
- 10 May, John P., Canada School Apparatus Co., Toronto, Ont.—Chemical laboratories, anatomical models, object-lesson cabinets, etc. 300
- 12 English, Ch., St. John, N. B.—Composition blackboard. 300
- 13 Hill, C. P., Halifax, N. S.—Photograph Halifax Industrial School. 300
- 15 McGill University, Montreal, Q.—Calendars, medals, photographs of universities. 301
- 16 Université Laval, Quebec, Q. 303
- 17 Collège Nicolet, Nicolet, Q. 303
- 18 Maitrise St. Pierre, Montreal, Q. 303
- 19 Ecole du Plateau, Montreal, Q. 303
- 20 Collège Ste. Hyacinthe, Ste. Hyacinthe, Q. 303
- 21 Séminaire Ste. Thérèse, Ste. Thérèse, Q. 303
- 22 Collège Joliette, Joliette, Q. 303
- 29 Providence, Montreal, Q. 303
- 30 Bon Pasteur, Montreal, Q. 303
- 33 Hôpital Général, Quebec, Q. 303
- 34 Hôpital Général, Montreal, Q. 303
- 35 Frères de la Charité, Montreal, Q. 303
- 36 Hôpital du Sacré-Cœur, Montreal, Q. 303
- 39 Convent de Sillery, Quebec, Q. 303
- 40 Campbell, James, Toronto, Ont.—Books. 306
- 41 Weld, W., London, Ont.—Farmer's Advocate. 306
- 42 Lovell Printing & Publishing Co., Montreal, Q.—School and other books. 306
- 43 Webster, Geo., Hamilton, Ont.—Bible, printed. 306
- 44 Sheppard, W., Quebec, Q.—Bible (1855). 306
- 45 MacKinlay, A. & W., & Co., Halifax, N. S.—Map of the United States; series of school books. 306
- Institutions and Organizations.**
- 46 Bell, Robert, Montreal, Q.—Indian curiosities and manufactures. 312
- 47 St. Amand, A., Loretto, Q.—Indian curiosities. 312
- 48 Advisory Board, Victoria, Br. Col.—Indian goods and manufactures. 312
- Scientific and Philosophical Instruments and Methods.**
- 49 Cornell, S., Widden Stantio, Ont.—Marine compass. 320
- 50 Meyer, Aleert, F. W., Montreal, Q.—Apparatus for determining inaccurate points. 320
- 51 Hearne & Harrison, Montreal, Q.—Surveying and other instruments. 320
- 52 Ross, Alex., Montreal, Q.
a Odonometer. 320
b Indicating and registering apparatus. 321
- 53 Landham, F., Ottawa, Ont.—Lumbermen's measuring rule. 322
- 54 Sabis, B., Point Levis, Q.—Sliding foot rule. 322
- 56 Morris, J. W., Hamilton, Ont.—Universal clock. 323
- 57 Duquet, C., Quebec, Q.—Watchman detector. 323
- 58 Lefort & Chapleau, Montreal, Q.—Watchman detector. 323
- 62 Marrin Bros., Parkhill, Ont.—Parlor organ. 327
- 63 Bell, W., & Co., Guelph, Ont.—Cabinet organs. 327
- 65 Delamere, J. H., Toronto, Ont.—Organs. 327
- 66 Mee, C., & Co., Kingston, Ont.—Melodeon, parlor organ, and organ keys. 527
- 68 Dominion Organ Co., Bowmanville, Ont.—Organs. 327
- 70 Knott, John, & Son, Hamilton, Ont.—Upright piano. 327
- 71 Heintzman & Co., Toronto, Ont.—Square piano. 327
- 72 Kater, Th., Hamilton, Ont.—Pianos, parts of pianos, etc. 327
- 73 Weber & Co., Kingston, Ont.—Pianos. 327
- 74 Rainer & Son, Guelph, Ont.—Piano. 327
- 75 Draper, E., London, Ont.—Harmonic instructor and musical game. 327
- 77 Lyonnais, T., Quebec, Q.—Violin. 327
- 79 Sheppard, W. G., Quebec, Q.—Violoncello, 1772. 327
- 80 New Dominion Organ Co., St. John, N. B.—Cabinet organs. 327
- 81 Gates, E. E., Halifax, N. S.—Cabinet organs. 327
- 82 Brockley & Co., Halifax, N. S.—Upright piano and stool. 327
- Engineering, Architecture, Maps, etc.**
- 83 Gray, F. Wood, Quebec, Q.—Engineering drawings. 330
- 84 Cousin, Paul, Quebec, Q.—Map of city of Quebec, etc. 330
- 86 Trout, W. H., Peterborough, Ont.—Mechanical drawings. 330
- 87 Johnstone, J., Ottawa, Ont.—Geographical drawing. 335
- 88 Burpee, M., Upper Sheffield, N. B.—Mechanical drawing. 335
- 89 Honeyman, Dr., Halifax, N. S.—Geological map of Nova Scotia. 335
- 90 Anderson, A. T., Br. Col.—Physical map of British Columbia. 335
- Physical, Social, and Moral Condition of Man.**
- 92 The Corporation of Toronto, Toronto, Ont.—Photographic views of buildings in Toronto. 345

FRANCE.

(South of Nave, Columns 39 to 53.)

Educational Publications, School Apparatus.

Educational Systems, Methods, and Libraries.

- | | |
|--|---|
| 1 Godchaux, Aug., & Co., Paris.—Copy books for schools. 300 | 28 Ducrocq, P., Paris.—Children's books. 306 |
| 2 Rives, Paris.
a School furniture. 300
b School materials. 301 | 29 Deucher & Co., Paris.—Works on art and architecture; chromo-lithographs, engravings and photographs. 306 |
| 3 Bapterosses, F., Paris.—School materials. 300 | 30 Didier & Co., Paris.—Academical books. 206 |
| 4 Desbarolles, Paris.—Works on penmanship. 300 | 31 "Gazette des Beaux Arts," Paris.—Specimens of the paper and its engravings. 306 |
| 5 Delalain, J., & Son, Paris.—School books in different languages. 300 | 32 Gauthier-Villars, Paris.—Scientific books. 306 |
| 7 Le Brun, Paris.—Elementary dictionaries. 300 | 33 Furne, Jouvot, & Co., Paris.—General literature. 306 |
| 8 Lagout, Nogent-sur Seine (Aube).—School materials. 300 | 34 Firmin Didot & Co., Paris.—Illustrated literary works. 306 |
| 9 Leroy, P., Brides-les-Bains, near Moutiers (Savoie).—Educational system. 300 | 35 Laboulaye, Ch., Paris.—Dictionary of arts and manufactures, and works concerning industrial art. 306 |
| 10 Maitrepierre, Paris.—Copy books. 300 | 36 Jouaust, D., Paris.—Literary works. 306 |
| 11 Raybaud, Draguignan (Var).—Reading method. 300 | 37 Jacquemin, Paris.—Historical costumes. 306 |
| 12 Touron, Emile, Bois de Colombes (Seine).—Geometrical problems. 300 | 38 Hetzel, J., & Co., Paris.—Books. 306 |
| 13 Taulard, Principal of Menelou-Salon School, Menelou-Salon (Cher).—Pupils' work. 300 | 39 Hennuyer, Paris.—Books. 306 |
| 15 Mouret, Paris.—Globe. 301 | 40 Hachette & Co., Paris.—Educational, literary, and illustrated works. 306 |
| 16 Levesque, Villeneuve St. Denis (Seine and Marne).—Metrical system. 301 | 41 Guillaumin & Co., Paris.—Works on political economy and finance; "Journal des Economistes." 306 |
| 17 Eloffe & Co., Paris.—Works on natural history; terrestrial globes. 301 | 42 Guérin, L., & Co., Paris.—Works on science and art. 306 |
| 18 Level, Paris.—Medical and graphic systems. 301 | 43 Lemerre, Alphonse, Paris.—Classical work. 306 |
| 19 La Cointe, Evreux (Eure).—Arithmetical problems. 302 | 44 Desteract, A., Paris.—Account books. 306 |
| 20 National School of Engineering, Paris.—Documents and reports of the school. 302 | 45 Leroy, André, Angers (Maine and Loire).—Pomological dictionary. 306 |
| 21 National School of Mines, Paris.—Documents and reports of the school. 302 | 46 Leroy, P. N., Paris.—Illustrated historical works. 306 |
| 22 Méilot, A., Paris.—Music method. 302 | 47 Maisonneuve & Co., Paris.—Books. 306 |
| 23 Dauphin, Lunéville (Meurthe and Moselle).—Printing in relief for the blind. 303 | 48 Loones, Paris.—History of painters. 306 |
| 24 Dupont, Paul, Paris.—Works on government and education. 306 | 49 Maison Rustique, Agricultural Library, Paris.—Works on agriculture and horticulture. 306 |
| 25 Duployé Bros., Paris.—System of stenography. 306 | 50 Mariel, H. de, New York.—Work on the commerce and industry of the United States. 306 |
| 26 Dunod, Paris.—Scientific and mechanical works. 306 | 51 Mame, A., & Son, Tours.—Classical works. 306 |
| 27 Dumaine, J., Paris.—Military books. 306 | 52 Masson, G., Paris.—Works on medicine, natural history, etc. 306 |
| | 53 Morel, Mrs. A., & Co., Paris.—Works on architecture. 306 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Educational Publications, Statistics, Scientific Instruments.

- 54 Plon & Co., Paris.—Illustrated works on history, jurisprudence, etc. 306
- 55 Delahaye, V. A., & Co., Paris.—Works of the Biological Society and the Anatomical Society of Paris. 306
- 56 Delagrave, Ch., Paris.—Geographical and classical books. 306
- 57 Ballue, A., Paris.—Illustrated publications. 306
- 58 Balny, A., Espaubourg (Oise).—Work on agriculture. 306
- 59 Baudry, T., Paris.—Works on engineering, mechanics, mining, metallurgy, and railroads. 306
- 60 Beckensteimer, Lyons.—Works on electricity. 306
- 61 Belin, Mrs., Paris.—Classical books; maps in relief. 306
- 62 Belleville, Col., Toulouse.—Report on hydrophobia; physiological reports. 306
- 63 Boulanger, Mrs., Paris.—Books. 306
- 64 Calman, Lévy, Paris.—Literature, history, and modern drama. 306
- 65 Charpentier & Co., Paris.—Various publications. 306
- 66 Colin & Co., Paris.—Classical books. 306
- 67 Reinwald, E., & Co., Paris.—Books. 306
- 68 Rothschild, J., Paris.—Books. 306
- 69 Rudy, Charles, Paris.—The Chinese mandarin language. 306
- 70 Staaff, Paris.—Work on military tactics. 306
- 71 Tanera, Paris.—Topographical maps and plans of battles; military books. 306
- 72 Thirion, Ch., Paris.—Inventors' and patentees' tablets. 306
- 73 Central Union of Fine Arts, Paris.—Albums and publications. 306
- 74 Chervin, Paris.—Method of curing stammering. 306
- 75 Dron, Paris.—Commercial books. 306
- 76 City of Paris.—Statistics, regulations, models, programmes, reports, books, and scholars' work of the schools of Paris; report on primary instruction by Mr. Gréard. 306
- Institutions and Organizations.**
- 77 Department of Public Education, Paris.—Regulations of the French Institute, the College of France, and the National Library; books and catalogues; report on primary education at the Vienna Exposition. 310
- 78 Chaix, A., & Co., Paris.—Scientific books. 311
- 79 Industrial School, St. Quentin and Aisne.—Albums, cartoons, etc. 311
- 80 Elementary Education Society, Paris.—Pupils' works and report. 311
- 81 Publishers', Printers', and Stationers' Club, Paris.—Publishing, printing, and stationery. 311
- 82 City of Paris.—Catalogue of the French section of the London Exhibition. 312
- 83 Bouvier, A., Paris.—Skeletons of gorillas; catalogue of the birds of Central Africa; map. 312
- 84 Department of Agriculture & Commerce, Paris.—Prizes awarded to agriculturists by various fairs. 312
- Scientific and Philosophical Instruments and Methods.**
- 85 Alvergnyat Bros., Paris.—Scientific instruments. 320
- 86 Grivolat L., Paris.—Solar clock. 320
- 87 Lion & Guichard, Paris.—Barometers, thermometers, and pyrometers. 320
- 88 Louvet, A., Pont l'Évêque (Calvados).—Support for instruments. 320
- 89 Optical Society, Paris.
a Mathematical instruments. 320
b Optical instruments. 324
- 90 Malligand, Ed., jr., Paris.—Alcohol tester. 320
- 91 Nauudet & Co., Paris.—Barometers. 320
- 92 Perreux, L. G., Paris.
a Instruments of precision. 320
b Indicating apparatus. 321
- 93 Colange, Leo de, Philadelphia.—Automatic indicator. 321
- 94 Haas, E., jr., & Co., Paris.
a Carriage controllers. 321
b Clocks, watches, musical boxes, and singing birds. 323
- 95 Nicolas & Chamon, Paris.—Water meters. 321
- 96 Rigollot, Paris.—Water meter. 321
- 97 Rubolli, Cesar, Grenoble.—Spigot meter. 321
- 98 Deschiens, Paris.—Calculating machines. 321
- 99 Fialont, Mrs., Paris.—Measuring tapes. 322
- 100 Chameroy & Co., Paris.—Scales. 322
- 101 Deleuil, Paris.—Photometer, scales, and pneumatic machines. 322
- 102 Panier, Ernest, Paris.—Mathematical instruments. 322
- 103 Paupier, Leonard, Paris.—Scales for railroads. 322
- 104 Trayvou, B., Paris.—Scales. 322
- 105 Savary & Rondeleux, Paris.—Gold and silver watches. 323
- 106 Boucher-Gravet, Paris.—Clocks. 323
- 107 Cressier, E., Besançon.—Watches and clocks. 323
- 108 Bréguet & Co., Paris.—Chronometers. 323
- 108a Hangard, Paris.—Springs for watches. 323
- 109 Farcot, Eugène, Paris.—Clocks. 323
- 110 Gondy, J. B., & Co., Pontarlier (Doubs).—Watches. 323
- 111 Malfait, F., & Co., Paris.—Clocks. 323
- 111a Moat, Eugène, Paris.—Springs for watches. 323
- 112 Marrel, J. E., Paris.—Clocks. 323
- 113 Mayet-Tissot, Morez (Jura).—Regulators. 323

Scientific and Musical Instruments, Engineering Designs.

- 114 Rodanet, A. H., Paris.—Marine and pocket chronometers, watches, and chains; clocks, registers. 323
- 115 Süßfeld, Lorsch, & Co., Paris.—Marble clocks. 323
- 116 Vignon, A., Paris.—Clocks. 323
- 117 Lachenal, Favre, & Co., Paris.—Stereoscopes with views on glass. 324
- 118 Bardou & Sons, Paris.—Optical instruments. 324
- 119 Darlot, Paris.—Photographic apparatus and photographs. 324
- 120 Derogy, Paris.—Optical instruments. 324
- 121 Duboscq, J., Paris.—Optical instruments. 324
- 122 Feil, Charles, Paris.—Optical goods. 324
- 123 Henry-Lepaute, Paris.—Lenses for lighthouses. 324
- 124 Hoel, J., Paris.—Spectacles and eyeglasses. 324
- 125 Lacombe, Paris.—Opera glasses. 324
- 126 Nachet, A., Paris.—Microscopes. 324
- 127 Secrétan, Paris.—Astronomical and scientific instruments. 324
- 128 Radiguet, Paris.—Mirrors. 324
- 128^a Lemaire, Paris.—Eyeglasses, opera glasses, etc. 324
- 129 Loiseau, A., Son, Paris.—Electrical apparatus. 325
- 130 Bréguet, Paris.—Models of magneto-electric machines for laboratories. 325
- 131 Carré, E., Paris.—Pneumatic pumps, electrical machines, and light regulators. 325
- 132 Janin, Paris.—Magnets. 325
- 133 Gramme's Magneto-Electric Machine Co., Paris.—Galvano-plastic machine, etc. 325
- 134 Walcker, A. G., Paris.—Pneumatic and telegraph bells applied to the navy and railways. 326
- 135 Alexandre & Son, Paris.—Church and parlor organs. 327
- 136 Angot & Dubreuil, Ivry-la-Bataille (Eure).—Wooden musical instruments. 327
- 137 Beunon, Paris.—Upright piano. 327
- 138 Baudet, Paris.—Pianos. 327
- 139 Bontems, B.—Singing and moving birds. 327
- 140 Brunning, Otto, Paris.—Upright pianos. 327
- 141 Debain & Co., Paris.—Mechanical piano. 327
- 142 Focké & Son, Paris.—Pianos. 327
- 143 Fortin Bros., Paris.—Felts for pianos. 327
- 144 Gavioli, C., jr., Paris.—Pianos and organs; automatic musical instruments. 327
- 145 Gavioli & Co., Paris.—Organs, pianos, flutes, and band instruments. 327
- 146 Gehrling, Ch., jr., Paris.—Piano movements. 327
- 147 Goumas, P., & Co.—Wind musical instruments and saxophone. 327
- 148 Koenig, Rudolph, Paris.—Acoustic apparatus. 327
- 149 Kriegelstein & Co., Paris.—Pianos. 327
- 150 Lecomte, A., & Co., Paris.—Musical instruments. 327
- 152 Mennesson, Emil, Reims.—Violins, altos, bass, and double bass. 327
- 153 Morand & Tournour, Paris.—Mechanical harmoniums. 327
- 154 Thibouville, Lamy, Paris.—Musical instruments. 327
- 155 Zimmermann, Henry, Paris.—Organ pipes. 327

Engineering, Architecture, Maps, etc.

- 156 Suez Canal Co., Paris.—Maps and plans of the Suez Canal. 330
- 157 Caligny, A. de, Versailles.—Report on hydraulics. 330
- 158 Blanchet, A. P., Henrichemont (Cher).—Projected channel through Nicaragua. 330
- 159 Chanudet, L., Neuilly-sur-Seine.—Model of wooden pavement. 330
- 160 Le Mounier, Paris.—Sample of pavement. 330
- 161 Department of Public Works, Paris.
- a* Roads, bridges, viaducts, dams, hydraulic press, docks, embankments, aqueducts, and reservoirs. 330
- b* Railroads; steel rails, depots, rolling stock, etc. 332
- c* Navigation; lighthouses, buoys, and beacons, with apparatus for lighting; life-saving apparatus from the Life-Saving Society. 334
- d* Geological and agricultural maps, etc., of France; reports and documents from the National School of Mines. 335
- 162 Monteil & Cassaynes, Paris.—Technical report upon the Suez Canal. 330
- 163 City of Paris.—Reports of the various departments of the city of Paris, maps, plans, etc.; projected and completed bridges by Mr. Legrand; promenades by Mr. Alphand; architectural reports of public buildings by Messrs. Ballu, Baltard, Duc, Davioud, Magne, and Fenique; portfolio of engravings of monuments; historical works; plan of Paris by Quesnal; archaeological reports by Vacquer; photographs; reports and plans of the sewers of Paris. 330
- 164 Edoux, Leon, Paris.—Special system for mountain railroads. 332
- 165 Transatlantic Steamship Co., Paris.—Model of the steamship "Pereire." 334
- 166 Beaumarchey, Louis, Aix (Provence).—Astronomical maps and pictures, astronomical indicator, cosmographic apparatus. 335
- 167 Fay, de, War Department, Paris.—Relief plans. 335
- 168 Erhard, Paris.—Geographical maps. 335
- 169 Furne, Jouvot, & Co., Paris.—Geographical military atlas adopted by the military school of St. Cyr. 335

Engineering Designs, Physical Apparatus, Benevolence.

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| <p>170 D'Italo, Enrico F., Paris.—Geographical works, atlas, and maps. 335</p> <p>171 Thomas, Paris.—Chronometric and cosmographic instruments. 335</p> <p>172 Wührer, L., Paris.—Geographical maps. 335</p> <p>173 Lienard, F.—Plans in relief, of Paris and Jerusalem. (<i>In Park.</i>) 335</p> <p>Physical, Social, and Moral Condition of Man.</p> <p>174 Brière, Jules, Alençon (Orne).—Nursing-nipples. 340</p> <p>175 Carue, Paris.—Gymnastic apparatus. 340</p> | <p>176 Paz, E., Paris.—Gymnastic apparatus. 340</p> <p>177 Regnier, Paris.—Economic wooden roofing. 342</p> <p>178 Thirion, Ch., Paris.—Writing tablets. 343</p> <p>178^a Society of Comparative Legislation, Paris.—Legislative works. 345</p> <p>179 Marbeau, Paris.—Plans, documents, etc., of a foundling hospital. 346</p> <p>180 City of Paris.
 ^a Reports of the municipal authorities. 345
 ^b Reports of the municipal lying-in asylum, by Dr. Tarnier. 346</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

GERMANY.

(South of Nave, Columns 28 to 38.)

Books, Maps, Engravings, Type.

Educational Systems, Methods, and Libraries.

COLLECTIVE EXHIBIT OF THE BOOK TRADE AND PRINTING INDUSTRIES OF GERMANY.—BOOKS, LITHOGRAPHIC PRINTS, COPPER-PLATE AND XYLOGRAPHIC WORK, MAPS, PHOTOGRAPHS, GRAPHIC, AND OTHER METHODS OF INSTRUCTION, TYPE FOUNDERS' WORK. 300-306

- 1 Ackermann, Theodore, Munich.—Books with engravings.
- 2 Amelang, C. F., Leipsic.—Books.
- 3 André, Joh., Offenbach-on-Main.—Musical publications.
- 4 Anton, Ed., Halle-on-Saale.—Books.
- 5 Bach, I. G., Leipsic.—Lithographs.
- 6 Baedeker, G. D., Essen.—Books.
- 6^a Baedeker, J., Iserlohn.—Illustrated books.
- 7 Baedeker, Carl, Leipsic.—Books.
- 8 Bauer's Type Foundry, Frankfort-on-Main.—Type, etc.
- 8^a Bazar Publishing Co., Leipsic.—Books.
- 9 Beck, C. H., Nördlingen.—Books, plates, and designs.
- 10 Bomsdorf, Oscar von, Leipsic.—Maps.
- 10^a Brend'amour & Co., Dusseldorf.—Albums.
- 11 Brandstetter, Friedrich, Leipsic.—Illustrated and other books.
- 12 Breidenbach & Baumann, Dusseldorf.—Art publications.
- 13 Breitkopf & Härtel, Leipsic.—Musical classics, catalogue, etc.
- 14 Brockhaus, F. A., Leipsic.—Books and maps.
- 15 Back, Leipsic.—Publications.
- 16 Publishing & Printing House of the Orphan Asylum, Halle-on-Saale.—Books and Bibles.
- 17 Cohen & Risch, Hanover.—Books on gardening, etc.
- 18 Costenoble, Hermann, Jena.—Books and maps.
- 19 Cotta, I. G., Stuttgart.—German classics.
- 19^a Official Gazette of the German & Prussian Governments, Berlin.—Volume for 1875.
- 20 Drugulin, W., Leipsic.—Type and printing.
- 21 Duncker & Humblot, Leipsic.—Books.
- 22 Dürr, Alphonse, Leipsic.—Illustrated books.
- 23 Engelhorn, I., Stuttgart.—Illustrated work on Italy, etc.
- 24 Engelmann, Wilh., Leipsic.—Books.
- 25 Ernst & Korn, Berlin.—Plates from architectural works.
- 26 Eschebach & Schaefer, Leipsic.—Lithographs.
- 27 Fritzsche & Zschiesche, Leipsic.—Illustrated postage-stamp albums.
- 28 Hennes, A., Berlin.—Piano forte method.
- 31 Fischer, Theodore, Cassel.—Publications, plates, and maps.
- 32 Fleischer, Ernst, Leipsic.—Scientific and school books.
- 33 Flemming, Carl, Glogau.—Maps, atlases, books, etc.
- 34 Flinsch Type Foundry, Frankfort-on-Main.—Specimens of printing.
- 35 Friderichs, R. L., Elberfeld.—Publications.
- 36 Fries, Hermann, Leipsic.—Books.
- 37 Fritzsche, Gustav, Leipsic.—Books.
- 38 Furstenau, Oscar, Leipsic.—Lithographs.
- 39 Gebhardt, I. M., Leipsic.—Manuals of arts and sciences, etc.
- 40 Hauboldt, Otto, Leipsic.—Publications.
- 41 Photographic Association, Berlin.—Picture books.
- 42 Grunow, F. W., Leipsic.—Publications.
- 43 Habel, Carl, Berlin.—Publications.
- 44 Glaser, Louis, Leipsic.—Lithographs in imitation of photography.
- 45 Grote, G., Berlin.—Illustrated classics and photographs.
- 46 Grumbach, C., Leipsic.—Illustrated books, pictures, and engravings.
- 47 Hans, L., Berlin.—Prints and plates.
- 48 Hartknoch, Joh. Fr., Leipsic.—Books.
- 49 Hartung, H., & Son, Leipsic.—Books.
- 50 Haessel, H., Leipsic.—Dictionaries.
- 52 Hermann, Bernhard, Leipsic.—Lexicon of dates.
- 53 Heymann, Carl, Berlin.—Books.
- 54 Hinrichs, I. C., Leipsic.—Publications.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Books, Printing, Engravings, etc.

- 54^a Hirschman, I. M., Offenbach-on-Main.—Labels and signs.
- 55 Hirt, Ferdinand, Breslau.—School books.
- 56 Hirt & Son, Leipsic.—Geographical publications.
- 57 Hirzel, Solomon, Leipsic.—Dictionary and books.
- 58 Hofmeister, Fr., Leipsic.—Musical publications.
- 58^a Hoppe, E., & Co., Berlin.—Chromos.
- 59 Hunderstund & Pries, Leipsic.—Engravings and prints.
- 60 Bibliographic Institute, Leipsic.—Classics, books of travel, and maps.
- 61 Geographical Institute, Weimar.—Atlases, maps, and globes.
- 62 Photo-lithographic Institute, Weimar.—Maps.
- 63 Issleib & Rietzschel, Gera.—Atlases, maps, and books.
- 65 Kaeseberg, Hugo, Leipsic.—Wood cuts.
- 66 Kafemann, A. W., Dantzig.—Books, etc.
- 67 Kern, I. U., Breslau.—Books.
- 68 Kirmayer, Max, Munich.—Map.
- 69 Klिंगenberg Bros., Detmold.—Scientific publications.
- 71 Koehler, Carl, Darmstadt.—Chromolithographic views, etc.
- 72 Kortkamp, Fr., Berlin.—Legal and political books.
- 72^a Kressner, L., Wurtzburg.—Surgico-pathological tables.
- 73 Kratzschmar, Fr., Leipsic.—Lithographs.
- 74 Langenscheid Publishing House, Berlin.—Dictionaries and school books.
- 74^a Leipsic Gazette, Leipsic.—“Leipsic Gazette.”
- 75 Lesimple, Adolf, Mayence.—Books.
- 76 Leukart, Breslau.—Medical works.
- 77 Lorck, Carl B., Leipsic.—Books.
- 78 Lüderitz, C. G., Berlin.—Books.
- 78^a Mauke, W., Leipsic.—Housebook.
- 79 Mayer, Edward Heinrich, Cologne.—Books.
- 80 Meinhold, C. C., & Sons, Dresden.—Anatomical atlas.
- 81 Meissner, Otto, Hamburg.—Books.
- 82 Meissner & Buch, Leipsic.—Lithographs, etc.
- 82^a Mentzel, A., Leipsic.—Books.
- 83 Mey & Widmayer, Munich.—Art publications.
- 84 Müller, C. Ed., Bremen.—Books.
- 85 Naumann, C. G., Leipsic.—Job printing.
- 86 Naumann, Justus, Leipsic.—Biblical pictures.
- 87 Nicolai's Publishing House, Berlin.—Books.
- 89 Nitzschke, Wilhelm, Stuttgart.—Atlases.
- 89^a Oehmigke's Publishing House, Leipsic.—School books, etc.
- 90 Paetel Bros., Berlin.—Books.
- 91 Perthes, Justus, Gotha.—Atlases, etc.
- 92 Peters, C. F., Bureau de Musique, Leipsic.—Music.
- 92^a Polz, E., Leipsic.—Leipsic “Tageblatt.”
- 93 Reimer, Dietrich, Berlin.—Maps, etc.
- 94 Röder, C. G., Leipsic.—Prints, etc.
- 95 Rommel, Wilhelm, Frankfurt-on-Main.—Illustrated heraldic works.
- 96 Römmler & Jonas, Dresden.—Prints.
- 97 Schlegel, Ernst, Aschersleben.—Art plates.
- 98 Schmidt, H. W., Halle-on-Saale.—Books.
- 98^a Schmidt, Heinr., & Günther, Carl, Leipsic.—Books.
- 99 Schönfeld, G., Dresden.—Books.
- 101 Schotte & Co., Ernst, Berlin.—Globes, maps, etc.
- 102 Schreiber, I. F., Esslingen.—Picture books.
- 103 Schubert & Co., Leipsic.—Music.
- 104 Seemann, E. A., Leipsic.—Books.
- 105 Schulz, O. A., Leipsic.—Directory of German book trade.
- 105^a Schwann, L., Neuss.—Publications.
- 105^b Schulze, Oldenburg.—Books.
- 106 Siegmund & Volkering, Leipsic.—Educational literature.
- 108 Soenneken, Fr., Remscheid.—Writing books.
- 109 Spamer, Otto, Leipsic.—Books.
- 110 Spemann, W., Stuttgart.—Art works.
- 110^a Spiller, Ph., Berlin.—Books.
- 111 Springer, Julius, Berlin.—Books.
- 112 Steinhaus, J. F., Bremen.—Bibles.
- 113 Storch & Kramer, Berlin.—Chromos.
- 115 Strumper & Co., Hamburg.—Prints.
- 117 Tauchnitz, Bernhard, Leipsic.—Publications.
- 118 Tegetmeyer, Ferd., Leipsic.—Wood engravings.
- 119 Trewendt, Eduard, Breslau.—Books and maps.
- 120 Velhagen & Clasing, Leipsic.—Illustrated journals, religious works, etc.
- 121 Veith, J., Karlsruhe.—Art publications.
- 122 Vogel, F. C. W., Leipsic.—Books.
- 123 Voss, Leopold, Leipsic.—Books.
- 123^a Wachsmuth, F. E., Leipsic.—Animal pictures.
- 123^b Waldow, A., Leipsic.—Books and periodicals.
- 124 Wagner, R., Berlin.—Plates.
- 125 Wagner, H., & Debes, C., Leipsic.—Plates and maps.
- 126 Weber, J. J., Leipsic.—Diaries, etc.
- 128 Weigel, T. O., Leipsic.—German and Latin works.

Educational Appliances, Scientific and Musical Instruments, Clocks.

- 129 Westermann, George, Brunswick.—School books.
- 130 Wiegandt, Hempel, & Parey, Berlin.—Books on agriculture, etc.
- 131 Wigand, George, Leipsic.—Religious books, atlas, etc.
- 132 Wigand, Otto, Leipsic.—Dictionaries, year books.
- 133 Winter, C. F., Leipsic.—Illustrated works.
- 134 Wolf, Adolph, Dresden.—Illustrated journals and chronos.
- 135 Zahn, R. von, Dresden.—Books.
- 136 Zernin, Eduard, Darmstadt.—Works on military science.
- 137 Hermes, Wilhelm, Berlin.—Drawing instructor and studies. 300
- 139 Grothe, Hermann, Berlin.—Apparatus for instruction in technical schools. 302
- 140 Loeff, Paul, Berlin.—Books on furnaces, ovens, kilns, etc. 302
- 141 Raumer, C. V., Warmbrunn, Silesia.—Instruction book for the manufacture of bricks. 302
- 142 Blankenhorn, A., Carlsruhe.
a Instruction books for wine growing and agriculture. 302
b Encyclopal reviews. 306
- 143 Keller, Heinrich, Son, Darmstadt.—Herbarium of forest and field grasses. 302
- 144 Schröder, J., Polytechnic Industrial Institute, Darmstadt.—Models for teaching purposes, drawing appliances. 302
- 145 Lette Association, Commercial and Trades School, Berlin.—Placard relating to the labors of the Association. 302
- 146 Stenographibal Society of Stolze, Berlin.—Books, reports, etc. 306
- 147 Moeser, W., Berlin.—Sundry literary works. 306
- 148 Bavarian Museum of Arts, Nuremberg.—Publications, communications, etc. 306
- Scientific and Philosophical Instruments and Methods.
- 151 Riefler, Clem., Maria-Rhein, near Kempten.—Mathematical instruments. 320
- COLLECTIVE EXHIBIT OF NUREMBERG MATHEMATICAL INSTRUMENT MANUFACTURERS. 320
- 152 Schoenner, Georg, Nuremberg.
- 153 Bayer, Jean, Nuremberg.
- 154 Heisinger, Ludwig, Nuremberg.
- 155 Schultze, G. A., Berlin.—Philosophical apparatus. 321
- 155a Schäffer & Budenberg, Buckan.—Water gauges. 321
- 156 Sartorius, F., Göttingen.—Analytical scales. 322
- COLLECTIVE EXHIBIT OF THE BLACK FOREST CLOCK MANUFACTURERS. 323
- 157 Lenzkirch Joint Stock Co., Lenzkirch.
- 158 Schwer, Benedict, jr., Triberg.
- 159 Haas, Ph., & Sons, St. Georgen.
- 160 Wehrle, Em., & Co., Furtwangen.
- 161 Kaltenbach, Leo, Furtwangen.
- 162 Ketterer, B., Sons, Furtwangen.
- 163 Bob, Lorenz, Furtwangen.
- 164 Beha, J. Bapt., & Sons, Eisenbach.
- 165 Weishaupt & Fleig, Villingen.
- 166 Feser, Paul, Villingen.
- 167 Maurer & Höfler, Eisenbach.
- 168 Zimmer, J., Furtwangen.
- 169 United Clockmakers of Glashütte, Saxony.—Clock parts. 323
- 170 Becker, Gustav, Freiburg, Silesia.—Regulators. 323
- 171 Felsing, Conrad, Berlin.
a Regulators, etc. 323
b Music boxes, melodeons. 327
- 172 Hadank & Son, Hoyerswerda, Upper Lausitz.—Sleeple clock and bell. 323
- 173 Lange, A., & Sons, Glashütte, Saxony.—Watches and watch parts. 323
- 174 Voigtlaender & Son, Brunswick.—Photographic objectives, opera glasses, field glasses, and telescopes. 324
- 174a Hirschmann, W. A., Berlin.—Electrical apparatus for medical use. 325
- 175 Joint Stock Co. for Telegraph Supplies, Berlin.—Materials for insulators. 326
- COLLECTIVE EXHIBIT OF MUSICAL INSTRUMENTS AND STRINGS. 327
- 176 Pfretzschner, G. A., Markneukirchen, Saxony.
- 177 Bauer, Albin, jr., Markneukirchen, Saxony.
- 178 Paulus & Schuster, Markneukirchen, Saxony.
- 181 Glier, K. A., jr., Markneukirchen, Saxony.
- 182 Adler, Richard, Markneukirchen, Saxony.
- 183 Kämpffe, Gustav, Markneukirchen, Saxony.
- 184 Paulus, Ernst, Markneukirchen, Saxony.
- 185 Paulus, August, Markneukirchen, Saxony.
- COLLECTIVE EXHIBIT OF MOUTH HARMONICAS. 327
- 187 Bilger, Chr., Trossingen.
- 188 Hohner, Math., Trossingen.
- 189 Koch, Andreas, Trossingen.
- 190 Messner & Co., Trossingen.
- 191 Hotz, Fr., jr., Knittlingen.
- 192 Jäger, Gottlob, Knittlingen.
- 193 Jäger, Joshua, Knittlingen.
- 194 Müller, C. A., Unterwiesenthal.—Guitstrings. 327
- 193 Euler, A. A., Frankfort-on-Main.—Clarionets, flutes, etc. 327
- 197 Pfaff, F., Kaiserslautern.—Brass and wood instruments. 327

Musical Instruments, Statistics, Coins.

- 198 Stratton, John F., & Co., Gohlis,
near Leipsic.—Violins, etc. 327
- 199 Altenburg & Graue, Bremen.—
Piano. 327
- 200 Blüthner, Julius, Leipsic.—Concert
grand piano and pianino. 327
- 202 Ibach, Rudolphe, & Son, Barmen.—
Concert grand piano and piano. 327
- 203 Kaps, Ernst, Dresden.—Concert
grand piano. 327
- 204 Neumann, F. L., Hamburg.—Pi-
ano. 327
- 206 Schiedmayer, J., Stuttgart.—Con-
cert grand piano and harmoniums. 327
- 209 Schwechten, G., Berlin.—Pianos.
327
- 210 Seiler, Edward, Liegnitz.—Piano.
327
- 210^a Stahlecker, C. F., Stuttgart.—Met-
al piano. 327
- 211 Gläsel, Moritz, Marknenkirchen.—
Guitars, citherns, violins, etc. 327
- 212 Haslwanter, J., Munich.—Cith-
erns. 327
- 213 Tiefenbrunner, Georg, Munich.—
Citherns. 327
- 214 Walcker, E. F., & Co., Ludwigs-
burg.—Church organ. 327
- 215 Welte, M., & Sons, Freiburg.—Or-
chestrion. 327
- 216 Trayser, Ph. I., & Co., Stuttgart.—
Cabinet organs. 327
- 217 Geyer, W. & Ed., Bros., Eisenberg.
—Buckskin for piano manufacturers' use.
327
- 217^a Schlessinger & Lummer, Gera.—
Leather for piano manufacturers' use. 327

- 217^b Pohlmann, Moritz, Nuremberg.—
Piano strings. 327
- 217^c Huber Bros., Pirmasens.—Hand
organ. 327

Engineering, Architecture, Maps, etc.

- 217^d Royal Prussian Ministry of Com-
merce, Trade, and Public Works, Berlin.
—Books, statistical tables, and geological
maps. 335

Physical, Social, and Moral Condition
of Man.

- 218 Jungfer, A., Berlin.—Coins and
commemorative medals. 344
- 219 Central Committee of the German
Associations for the Aid of Wounded and
Sick Soldiers in War, Berlin.—Reports,
and album of objects exhibited at Vienna
in 1873 by the "Red Cross." 346
- 220 Central Committee of the Bavarian
Association for nursing and aiding
Wounded and Sick Soldiers in time of
War.—Model of a fully-dressed and
equipped member of the corps. 346
- 221 Directors of the Badish National
Aiding Association, Karlsruhe.—Photo-
graphs of scenes in hospitals; magazines,
etc. 346
- 222 Association of the Circuit and
Town of Altona for nursing Sick and
Wounded Soldiers, Altona.—Model of a
hospital. 346
- 223 Zuelzer, Dr., Berlin.—Model of a
hospital and ventilating apparatus, and
sanitary statistics of Germany for 1872-
74, etc. 346

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

AUSTRIA.

(South of Nave, Columns 23 to 28.)

Educational and Engineering Appliances, Scientific Instruments.

Educational Systems, Methods, and Libraries.

- 1 Municipality of Vienna.—Photographs of objects pertaining to education. 300
- 2 Fuchs, John Bapt., Emmerich, Gaining.—Artistic penmanship. 300
- 2^a Delhez, Constantine, Vienna.—Gymnastics of the senses. 300
- 3 Brunn, Dr., Vienna.—Plaster cast of the human face. 302
- 5 Politzer, Adam, Vienna.—Anatomical, pathological preparations of the organs of hearing. 302
- 8 Pechar, John, Teplitz, & A. Peez, Vienna.—Statistics of the import, export, and consumption of cotton in Austria in 1871. 305
- 9 Lehmann, Adolf, Vienna.—Residence and business directory. 306

Institutions and Organizations.

- 11 Schmitt, Hans, Vienna.—Piano study and compositions. 313

Scientific and Philosophical Instruments and Methods.

- 13 Kraft, E., & Son, Vienna.—Mathematical instruments. 320
- 14 Kreidl, Alois, Prague.—Chemical and physical apparatus for schools. 320
- 15 Kreuter, Franz, Brunn.—Tachometer, distance poles, leveling poles. 320
- 16 Lenoir & Forster, Vienna.—Chemical, physical, and mineralogical apparatus. 320
- 17 Paugger, F., Trieste.—Nautical instruments. 320
- 18 Florenz, Joseph, Vienna.—Scales and balances, gold and silver precision balances, balance scales, table balances. 322
- 19 Schmidt, John, Vienna.—Measuring and regulating apparatus for petroleum. 322
- 22 Richter, C. W., Oedenburg.—Optical instruments, spectacles. 324
- 23 Plossl, S., & Co., Vienna.—Mechanical and optical instruments. 324
- 24 Kiendl, A., Vienna.—Ciherns. 327
- 25 Cervény, V. F., Koniggratz.—Musical instruments of wood and metal. 327
- 26 Bohland & Fuchs, Graslitz.—Metal instruments. 327
- 27 Fuchs, Daniel, Vienna.—Metal instruments. 327
- 29 Farsky, John F., Pardubitz.—Wind instruments. 327

- 31 Lausmann, John W., Linz.—Wood and metal wind instruments. 327
- 34 Placht Bros., Vienna.—Musical instruments. 327
- 37 Stecher, Karl, Vienna.—Musical wind instruments. 327
- 38 Thie, William, Vienna.—Mouth musical instruments. 329
- 40 Kirchner Bros., Vienna.—Guitar and violin strings. 327
- 41 Robitsek, H., Vienna.—Mouth musical instruments. 327

Engineering, Architecture, Maps, etc.

COLLECTIVE EXHIBIT OF ENGINEERING AND ARCHITECTURAL PHOTOGRAPHS, MODELS, DESIGNS, REPORTS, AND PLANS. 330 to 335

- 42 Vienna Building Association, Vienna.
- 43 Battig, Anton, Chief Engineer of the State Railroad Co., Vienna.
- 44 Bayer, Rudolph, Vienna.
- 45 Bomches, Fred., Trieste.
- 46 Claus, Heinrich & Gross, Vienna.
- 47 Fellner, Fred., & Hermann Helmer, Vienna.
- 47^a Friedmann, Alex., Vienna.
- 48 Doderer, Wilh., Vienna.
- 49 Danube Regulation Commission, Vienna.
- 49^a Helmer, Hermann, Vienna.
- 50 Dorfel, Julius, Vienna.
- 51 Hornig, Dr. Emil J. R., Vienna.
- 51^a Rziha, Franz, Vienna.
- 52 Ferstel, Heinr. Ritter von, Vienna.
- 53 Flattich, Wilh., & Wilhelm Franz, Vienna.
- 54 Schmidt, Heinrich, Inspector-General of the State Railroad Co., Vienna
- 55 Forster, Emil Ritter von, Vienna.
- 56 Fraenkel, Wilh., Vienna.
- 57 Gaertner, Ernst, Vienna.
- 58 Gross, E., Vienna.
- 59 Hansen, Theopil Ritter von, Vienna.
- 60 Hintrager, Moritz, Vienna.
- 61 Hlubek, Peter, Vienna.
- 62 Holder, Alfred, Vienna.
- 63 Schmoranz, Franz, Vienna.
- 64 Klein Bros., Vienna.
- 65 Klunzinger, Paul, in Belinzona.
- 66 Delhez, Constantine, Vienna.
- 67 Lazar, Adolph, Vienna.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 27-45.

Engineering Designs, Commercial and Industrial Statistics.

- | | |
|---|---|
| <p>68 Lehmann & Wentzel, Vienna.
 69 Loh, August Ritter von, Vienna.
 70 Frankl, Ludvig August, Vienna.
 71 Morawitz, Moriz, Vienna.
 73 Obach, Theodore, Vienna.
 74 Paradeiser, W., Pola.
 75 Neitsche, R., Olmütz.
 76 Popovits, Lazar, Marchegg.
 77 Schachner, Friedrich, Vienna.
 78 Rumpelmayer, Victor, Vienna.
 79 Schlimp, Carl, Vienna.
 80 Schmidt, Friedr., Vienna.
 81 Schmidt, Heinrich, Vienna.
 82 Schmoll, Adolph von, Eisenwerth.
 83 Schon, John George, Brunn.
 84 Schrabetz, Emil, Vienna.
 85 Serres, August de, Vienna.
 86 "Stadtbauamt of Vienna."
 87 Tilp, Emil, Vienna.
 88 Pechar, Johann, Teplitz.</p> | <p>90 Waldheim, R. von, Vienna.
 91 Wentzel, Vienna.
 93 Wilhelm, Franz, Vienna.
 94 Winkler, Dr. Emil, Vienna.</p> <hr/> <p>95 Bader, F. W., Vienna.—Design of
 the city of Vienna. 335</p> <p>Physical, Social, and Moral Condition
 of Man.</p> <p>96 Commission in Vienna for the Phila-
 delphia Exhibition, Vienna.—Graphical
 representation of the productions and
 foreign commerce of Austria, of its savings
 banks, etc. 343</p> <p>96^a Frankl, Lewis A., Vienna.—Plans
 and descriptions of the Institute for the
 Blind in Vienna. 346</p> <p>97 First Ordinary Civil Social Union
 of the Austro-Hungarian Monarchy,
 Vienna.—Representation of the activity
 and development of co-operative union of
 the Austro-Hungarian monarchy. 347</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SWITZERLAND.

(North of Nave, Columns 52 to 55.)

Books, Educational Appliances, Statistics.

- Educational Systems, Methods, and Libraries.**
- 1 Board of Education of the Canton of Appenzell Ausserrhoden.—Laws and regulations, books, maps, and plans. 300
 - 2 Board of Education of the Canton of Basle City.—Annual accounts of the department of public instruction, reports and prospectus of the schools, school-books, plans of the Bernoullianum, special schools. 300
 - 3 Board of Education of the Canton of Berne.—Obligatory and facultative text books and apparatus used in elementary and higher schools, laws and regulations, reports and plans. 300
 - 4 Board of Education of the Canton of Fribourg.—Laws and regulations, books, maps, and plans. 300
 - 5 Board of Education of the Canton of Geneva.—Obligatory and facultative text books and apparatus used in elementary and higher schools, laws and regulations, reports and plans. 300
 - 6 Board of Education of the Canton of Lucerne.—Laws and regulations, books, maps, and plans. 300
 - 7 Board of Education of the Canton of Neuchâtel.—Laws and regulations, books, maps, and plans. 300
 - 8 Board of Education of the Canton of Solothurn.—Laws and regulations, books, maps, and plans. 300
 - 9 Board of Education of the Canton of Zurich.—Obligatory and facultative series of books and apparatus used in elementary and higher schools, models and maps for instruction in drawing, laws and regulations, reports and plans. 300
 - 10 Kindergarten, St. Gallen.—Collection of work and employments for children; "the education of children according to Fröbel's principles," by J. Wellauer, director of the orphan asylum St. Gallen, 1872, annual reports, statutes, and prospectus. 300
 - 11 Beust, F., Hottingen, near Zurich.—Educational system, constructive method, for children of five to twelve years, text books, maps, models, apparatus, and pupils' work in mathematics, geography, and natural history. 300
 - 12 Zollikofer Female Seminary, Romanshorn, Ct. Thurgau.—Publications, manuscripts, album of works executed by pupils. 300
 - 13 Bachmann, Franz., Winikon, Ct. Lucerne.—Intuitive principle of instruction, tables and appliances. 300
 - 14 Ferri, Felix, Lugano, Ct. Tessin.—Tables and album for the drawing of architectural ornaments. 300
 - 15 Ganz, J., Zurich.—Photographs of microscopic preparations for instruction in natural sciences. 300
 - 16 Hindermann & Siebenmann, Zurich.—Illustrations for little children, M. Staub's method. 300
 - 17 Götzinger, Dr. E., St. Gallen.—Systematic course of topographical drawing. 300
 - 18 Hofer, J. J., Zurich.—Korrodii's copy writing-books. 300
 - 19 Kaiser, Dr., St. Gallen.—Table for instruction in chemistry. 300
 - 20 Keller, Heinrich, Zurich.—Large school map of Switzerland. 300
 - 20a Lussy, Mathis, Stanz, Ct. Unterwalden.—Systematical course for musical studies. 300
 - 21 Unterstrass Modeling School, near Zurich.—Pupils' work in modeling. 300
 - 22 Paroz, J., Peseux, Ct. de Neuchâtel.—History of pedagogy, elementary instruction, intuitive multiplication table, table for the learning of fractions. 300
 - 23 Rikli, Carl, Wangen, Ct. Berne.—Historical and chronographical tables. 300
 - 24 Stierlin, Dr. R., Lucerne.—Model of the glacier garden at Lucerne. 300
 - 25 Steidinger, J., Thierwyl, Ct. Basle-Land.—Writing-copies for the French ronde. 300
 - 26 Zwicky-Laager, C., Mollis, Ct. Glarus.—Atlas of drawings for elementary schools. 300
 - 27 Largiadèr, Rorschach, Ct. St. Gallen.—School-bench with movable reading-desk. 300
 - 28 Saint George, W. H., de Nyon, Ct. de Vaud.—Treatise on the construction and hygiene of school-houses. 300
 - 29 Agricultural & Professional Colony of Suisse romande, Serix, near Oron. Ct. de Vaud.—Statutes. 300
 - 30 Free School for Apprentices, St. Gallen.—Report of the institution, selection of pupils' work. 300
 - 31 Industrial School Association, Zurich and vicinity.—First report, 1875. 300
 - 32 Asylum for Girls, B. Rittmeyer & Co., St. Gallen.—Reports, 1869-1873. 300
 - 33 Dairy Station, Lausanne, Mont Riond, Canton de Vaud.—Collection of writings on dairying and on Alpine cultivation. 300
- For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Educational Appliances, Statistics, Reports, Scientific Instruments.

- 34 Drawing School of the Board of Trade, St. Gallen.—Competition works of pupils, album of drawings by pupils, school report. 302
- 35 Blind Asylum, Lausanne, Ct. Vaud.—General regulations, Lausanne, 1864; reports, 1873-1874. 302
- 36 Private Blind Asylum, Berne.—Statutes, Berne, 1874; constitutional report, 1862; annual reports, 1861 to 1874. 303
- 37 Deaf & Dumb Asylum, Canton Vaud, Moudon.—Regulations, 1874. 303
- 38 Institution for Deaf Mutes, Aarau, Ct. Aargau.—Report, 1874. 303
- 39 Institution for Deaf Mutes, Riehen, near Basle.—Prospectus, reports, and accounts, 1874; list of lessons, 1875-1876; view of the establishment; travels, by G. Jörgensen; courses of study and appliances of instruction. 303
- 40 Institution for Deaf Mutes, St. Gallen.—Statutes of the Society for the Education of Deaf and Dumb Children, annual reports, 1873-1875. 303
- 41 Institution for Feeble-minded Children, Weissenheim, near Berne.—Annual reports, Berne, 1869 and 1872. 303
- 42 Federal Statistical Office.—Statistics of public instruction in Switzerland, by H. Kinkelin. 304
- 43 Federal Polytechnical School, Zurich.—Report on the organization, laws, and regulations, plans of the localities. 304
- 44 Christen, J. J., Aarau.—Manuals for instruction, school books. 306
- 45 Dalp, J., Berne.—Manuals for instruction, school books. 306
- 46 Hitz, Chur, Ct. Graubünden.—Manuals for instruction, school books. 306
- 47 Huber, Jacques, Frauenfeld.—Pedagogical reviews, school books, drawing, musical works, agricultural instruction. 306
- 48 Meisel, C. J., Herisau, Ct. Appenzel, Inner Rhodes.—Manuals for instruction, school books. 306
- 49 Orell, Füssli, & Co., Zurich.—Manuals for instruction, school books. 306
- 50 Sauerländer, H. R., Aarau, Ct. Aargau.—Manuals for instruction, school books. 306
- 51 Scheitlin & Zollikofer, St. Gallen.—Collection of manuals, books of instruction, maps. 306
- 52 Shulthess, Friedr., Zurich.—Manuals for instruction, school books. 306
- 52^a Sonderegger, Y. Y., St. Gallen.—Manuals for instruction. 306
- Institutions and Organizations.**
- 53 Federal Statistical Office.—The savings banks of Switzerland, by J. L. Spyri, statistics of the newspapers in Switzerland, by Kinkelin; history of the schools of the Canton of Berne, by J. J. Kummer. 311
- 54 Swiss Geodetical Commission.—Determination of longitudes, determination of pendulum-lengths, leveling of Switzerland. 311
- 55 Swiss Geological Commission.—Geology and geological maps of Switzerland. 311
- 56 Swiss Meteorological Commission.—Meteorological observations. 311
- 57 Swiss Statistical Society.—The mutual relief societies of Switzerland in 1865, by H. Kinkelin; the public libraries in Switzerland in 1868, by E. Heitz. 311
- 58 Swiss Society for the Advancement of Natural Philosophy.—New memoirs, minutes, and reports history of the society, statutes, list of members. 311
- 59 Swiss Historical Society.—List of documents on Swiss history, archives of Swiss history, indicator for Swiss history (informer). 311
- 60 Swiss Alpine Club.—Annual reports, itineraries, maps. 311
- 61 Association of the Canton of Aargau for the Advancement of Natural Philosophy.—The scarcity of water in the Canton of Aargau, paper read at the 50th session, map of erratic blocks. 311
- 62 Historical Society, St. Gallen.—Reports, annual papers. 311
- 63 Society for the Advancement of Natural Philosophy, Basle.—Proceedings 1867-1873, paper read at the 50th anniversary. 311
- 64 Society for the Advancement of Natural Philosophy, Berne.—Proceedings 1843-1874. 311
- 65 Society for the Advancement of Natural Philosophy of the Canton of Graubünden.—Annual reports, statutes, papers on natural sciences. 311
- 66 Society for the Advancement of Natural Philosophy of the Canton of St. Gallen.—Reports and proceedings 1858-1874, and speech at the 50th anniversary by Dr. Wartmann. 311
- 67 Observatory, Neuchâtel.—Reports and divers papers, photographs of astronomical instruments. 311
- Scientific and Philosophical Instruments and Methods.**
- 68 Gysi, Fr., Aarau, Ct. Aargau.—Complete collection of mathematical drawing instruments. 320
- 69 Herman & Pfister, Berne.—Polaristrometers, hair-hygrometers, metallic thermometer. 320
- 70 Hipp, M., Neuchâtel.
a Chronoscope and chronograph with auxiliary apparatus. 320
b Registering apparatus. 321
c Regulators, tower, double dial, and electric clocks. 323
d Telegraph apparatus, Morse's system. 326
- 71 Kern, J., Aarau, Ct. Aargau.—Swiss drawing instruments, transits, theodolites, leveling instruments. 320
- 72 Amsler-Laffon, J., Schaffhausen.—Planimeters, integrators, Woltmann's current meter with electrical indication. 321
- 73 Aebi & Landry, Madretsch, near Bienne, Ct. de Berne.—Watches and pieces showing the successive phases of the fabrication. 323
- 74 Watch-makers' Union (J. B. Gondy & Co.), Chaux-de-Fonds, Ct. Neuchâtel.—Gold and silver watches. 323

Watches, Jewelry, Musical Instruments, Engineering Designs.

- 75 Antony-Bovy, J. E., Chaux-de-Fonds, Ct. Neuchâtel.—Watch-haubs, stems, rings, detached parts for stem-winders, steel cogwheels. 323
- 76 Aubert Bros., Savagnier, Ct. Neuchâtel.—Springs for watches. 323
- 77 Audemars, Ls., Brassus, Ct. Vaud.—Watches and chronometers. 323
- 78 Badollet, J. M., & Co., Geneva.—Watches and pocket chronometers. 323
- 79 Bähni Broj., Bienne, Ct. Berne.—Hairsprings of steel, tempered. 323
- 80 Berlie, Edouard, Geneva.—Lamina of hardened steel for lithographic pens and springs of watches. 323
- 81 Besanct-Blanc, Eug., Travers, Ct. Neuchâtel.—Ruby jewels for watches, cap jewels, jeweling of a repeating watch, two bridges with jewels set in gold, duplex rollers, English style; impulse jewels for chronometer escapements, cylinders and plugs. 323
- 82 Bitterlin-Schmidt, J. B., Locle, Ct. Neuchâtel.—Precious stones and jewels for jewelers and watch manufacturers, diamant powder. 323
- 83 Borel & Courvoisier, Neuchâtel.—Chronometers, watches, and movements of watches. 323
- 84 Breting Bros., Locle, Ct. Neuchâtel.—Pocket chronometers, lever escapement, spring, with Philipp's system of double-curve. 323
- 85 Fleischmann, Fritz, Piguët, & Co., Geneva.—Tempered steel for spirals. 323
- 86 Huguenin, A., & Son, Locle, Ct. Neuchâtel.—Watches, chronometers, and detached pieces. 323
- 87 Colliot Désiré, St. Imier, Ct. Berne.—Silver watches. 323
- 88 Corcelle, J., & Co., Geneva.—Enamel watch-dials. 323
- 89 Didisheim, Gabriel, St. Imier, Ct. Berne.—Watches. 323
- 90 Ducommun, D., Gorgier, Ct. Neuchâtel.—Movements of watches, stem-winders and key-winders. 323
- 91 Dufaux, Lutz, & Son, Geneva.—Watch spirals. 323
- 92 Ekegrén, Hr., Geneva.—Chronometers. 323
- 93 Favre Bros., Neuveville, Ct. Berne.—Watches of silver and German silver. 323
- 94 Francillon, Ernest, & Co., St. Imier, Ct. Berne (Longines Watch Co.).—Watches, watch movements, detached pieces for key and stem-winders. 323
- 95 Frankfeld, Louis, & Co., Geneva.—Chronographs, star-watches, movements, patent stem-winders. 323
- 96 Grandjean, Hry., & Co., Locle, Ct. Neuchâtel.—Marine and pocket chronometers, watches. 323
- 97 Grandjean-Perrenoud, Henry, Chaux-de-Fonds, Ct. Neuchâtel.—Engravings for watches. 323
- 98 Honegger, G., Bienne, Ct. Berne.—Movements of platina, nickel, and parts of watches. 323
- 99 Humbert, Ernest, Locle, Ct. Neuchâtel.—Watches. 323
- 100 Jacot Bros., Locle, Ct. Neuchâtel.—Pocket chronometers. 323
- 101 Jeanjaquet, Chs., Neuchâtel.—Springs for watches, steel for lithographic pens. 323
- 102 Klein, E., Geneva.—Springs for watches. 323
- 103 Ingold, P. F., Chaux-de-Fonds, Neuchâtel.—Cutters for giving the teeth of watch wheels the true form. 323
- 104 Martin, Ch., & Co., Geneva.—Geneva watches, stem-winders. 323
- 105 Matile, H. Ls., Locle, Ct. Neuchâtel.—Precision watches. 323
- 106 Leuenberger & Son, Summiswald, Ct. Berne.—Clocks and regulator. 323
- 107 Montandon, C., Gentil-Lutz, Servette, near Geneva.—Tempered steel for spirals. 323
- 108 Nardin, James, Locle, Ct. Neuchâtel.—Pocket chronometers, precision watches. 323
- 110 Patek, Philippe, & Co., Geneva.—Pocket chronometers and watches. 323
- 111 Perrenoud, Aimé, Terreaux, Geneva.—A constant force escapement for chronometers, assortment of spirals of gold and tempered steel. 323
- 112 Perret's, D., Son, Neuchâtel.—Watches. 323
- 113 Rauss, Ami, Geneva.—Enameled dials for watches. 323
- 114 Rigtrup, R. S., Locle, Ct. Neuchâtel.—New mechanism for Lepine watches without fusee. 323
- 117 Stahl, Maurice, Chaux-de-Fonds, Ct. Neuchâtel.—Chronometers and watches. 323
- 118 Taglieb, Carl, Zurich.—Watch in a finger-ring. 323
- 119 Jaques, Adank J., & Co., Ste. Croix, Ct. Vaud.—A musical box, mandoline, with zither. 327
- 120 Brémont, B. A., Geneva.—Musical boxes. 327
- 121 Karrer & Co., Teufenthal, Ct. Aargau.—Musical boxes and fancy articles. 327
- 122 Karrer, S., Teufenthal, Ct. Aargau.—Musical boxes. 327
- 123 Paillard, C., & Co., Ste. Croix, Ct. Vaud.—Musical boxes with vocal attachments. 27
- 125 Trost, J., & Co., Zurich.—Upright piano forte. 327

(Machines and tools pertaining to watch-making are also exhibited in this department, but classified under Class 535.)

Engineering, Architecture, Charts, Maps, etc.

- 127 Building Department of the Canton of Basle-Stadt.—Plans for the enlargement of the city of Basle. 330
- 128 Building Direction of the Canton of Aargau.—System of roads, wooden bridges, canals, water-power. 330
- 129 Building Inspection of the Canton of Graubünden.—Correction of the Rhine in the Grisons. 330

Engineering and Architectural Designs.

- 130 Department of the Interior, Swiss Confederation, Berne.—Measures taken to correct and regulate the rivers and waters of Switzerland. 330
- 131 Department of Public Works, Canton of Vaud.—Public works, cost of various roads, drawings of objects of art. 330
- 132 Department of Public Works of the Canton of Berne.—Plans, maps, atlases, literary works, bridges for public roads, correction of rivers of the Jura mountains. 330
- 133 Swiss Society of Engineers & Architects.—The Swiss system of roads, iron bridges, water supply and canalization in Swiss towns. 330
- 134 Municipality of Chaux-de-Fonds, Ct. Neuchâtel.—Plans of the town of La Chaux-de-Fonds, 1794-1841, and for its enlargement. 330
- 135 Government of the Canton of St. Gallen.—System of roads and highway bridges, correction of the Rhine. 330
- 136 Rothenbach, Director of the City Gas and Water Works, Berne.—Gas works of Berne. 330
- 137 Rieter, Joh. Jacob, & Co., Winterthur, Ct. Zurich.—Photographs of turbines, with accessories, and of wire-rope transmissions. 331
- 138 Weissenbach, W. C. E., Zurich.—The water-powers of Switzerland. 331
- 139 Department of Railroads & Commerce, Swiss Confederation, Berne, Bureau of Statistics.—Statistics of Swiss railways. 332
- 140 Department of Railroads & Commerce, Swiss Confederation, Berne, Scientific Bureau.—Standard drawings, forming part of the government regulations for Swiss railways. 332
- 141 Department of Railroads & Commerce, Swiss Confederation, Berne, Gothard Inspection.—Report of the Gothard railway, geological tables and sections. 332
- 142 Railroads of Jura-bernoise.—Photographs of railway works, general plan and longitudinal sections, railway construction, Zimmegg tunnel. 332
- 143 Gothard Railway Co.—Longitudinal sections of the line and tunnel, plans, collection of specimens of the most important rocks found in the great tunnel. 332
- 144 Swiss Society of Engineers & Architects.—Development and longitudinal sections of the Swiss railways. 332
- 145 Swiss National Railway Co., Winterthur, Ct. Zurich.—Drawings of bridges. 332
- 146 Swiss Northeast Railway Co., Zurich.—Plans, photographs, etc., of railway construction, its lines, rolling stock, etc. 332
- 147 Swiss Locomotive & Machine Works, Winterthur, Ct. Zurich.—Photographs of locomotives. 332
- 48 Tobler, Chief Engineer of the Utliberg Railway, Zurich.—Description and drawings of the Utliberg railway and its rolling stock. 332
- 149 Tössthal Railway, Winterthur Ct. Zurich.—Surveys and plans, sections bridges, carriages with two stories etc. 332
- 149^a United Railroads of Switzerland.—Plans for railroads across the Splügen and the Lukmanier passes. 334
- 150 Würthenau, Von, Chief Engineer of the Swiss Central Railway, Basle.—Plans and drawings for the construction of the new lines. 332
- 151 Department of Forests & Streams, Canton Berne.—Plans of the new military buildings at Berne. 332
- 152 Federal Topographical Bureau.—Maps and atlases of Switzerland. 335
- 152^a Beck, Edward, Bern.—Relief map of Switzerland and the Jura. 335
- 153 Leuzinger, R., Berne.—Section of "Grono," from the topographical atlases of Switzerland. 335
- 154 Wurster, Randegger, & Co., Winterthur, Ct. Zurich.—Atlases and maps, scientific works on geography and natural history. 335

Physical, Social, and Moral Condition of Man.

- 156 Brunner, Ad. & Fr., Zurich.—Centralhof at Zurich (reconstruction of the old post-office sketches and photographs of Swiss villas). 342
- 159 Department of Public Works, Canton Berne.—Plans of new, and photographs of existing public buildings. 342
- 161 Gladbach, Professor at the Federal Polytechnic School, Zurich.—Wood architecture of Switzerland. 342
- 162 Goss, J. E., Geneva.—Plans of the theatre in Geneva. 342
- 163 Guyer, Eduard, Zurich.—Modern hotels, their architecture, arrangement, and management. 342
- 164 Hartmann, Nicolaus, St. Moritz, Ct. Graubünden.—Plans of the villa Schickler in St. Moritz (Engadin), plans of Hof St. Moritz and of the hotels du Lac and Victoria. 342
- 166 Jeuch, Caspr., Baden, Ct. Aargau.—Plans of the barracks in Aarau. 342
- 167 Jung, E., Winterthur, Ct. Zurich.—Photographs and ground plans of existing dwellings. 342
- 168 Koch, Alex., Zurich.—Plans for private residences and a school-house. 342
- 169 Maring, Basle.—Plans of the hall for the federal singing festival, 1875. 342
- 171 Moser, Robert, Baden, Ct. Aargau.
a Churches. 342
b Houses of correction. 345
- 172 Municipality of Geneva.—Gallery Rath, school-house at Geneva. 342
- 173 Parquetry Factory, Interlaxen, Ct. Berne.—Plans of Swiss cottages. 342
- 175 Town Council of Winterthur.—Plans of the town hall. 342
- 176 Stehelin, Basle.—Plans of the theatre and Bernoullianum in Basle. 342
- 178 Zurich Joint Stock Co. (Benevolent society for cheap dwellings).—Plans of cheap dwellings. 342

Architectural Designs, Reports, Statistics.

- 179 Kunz, Heinrich, Zurich (Cotton Manufactories).—Workmen's dwellings at his cotton mill at Windish. 342
- 180 Rieter, Joh, Jacob, & Co., Winterthur, Ct. Zurich.—Workmen's dwellings. 342
- 181 Rittmeyer, B., & Co., St. Gallen.—Workmen's dwellings. 342
- 182 Sarasin & Co., Basle.—Workmen's dwellings. 342
- 183 Sulzer, Bros., Winterthur, Ct. Zurich.—Workmen's dwellings. 342
- 184 Direction of the Zoological Gardens at Basle.—Plans of the zoological garden in Basle. 342
- 185 Swiss Society for Penitentiary Reform.—Plans and views of the principal houses of correction in Switzerland, regulations of organization, documents upon the management of prisons. 345
- 186 Swiss Society for Promoting the Public Welfare.—History, Swiss periodical for public utility. 346
- 186^a Society for the Education of the Poor, Lenzburg, Ct. Aargau.—Reports and statutes. 346
- 187 Society for Promoting the Public Welfare, Ct. Appenzell, Inner Rhodes.—Annual reports. 346
- 187^a Ernst, Heinrich, Zurich.—Plans of the children's hospital at Zurich. 346
- 188 Society for Promoting the Public Welfare, Basle.—Historical reports, statutes, and pamphlets. 346
- 188^a Evangelic Missionary Association, Basle.—Annual report. 346
- 189 Society for Promoting the Public Welfare, Ct. Glarus.—Reports. 346
- 190 Society for Promoting the Public Welfare, Ct. St. Gallen.—Proceedings. 346
- 190^a Aid Society, Herisau, Ct. Appenzell.—Reports and statutes. 346
- 191 Society for Promoting the Public Welfare, Canton Zurich.—Statutes, reports, catalogue of popular works. 346
- 192 Geneva Society for Public Utility.—Proceedings, reports. 346
- 192^a Richter-Linder's Institute, Schoren, near Basle.—Report on the house of refuge. 346
- 193 Vaudoise Society for Public Utility.—Reports. 346
- 193^a Swiss Reformatory Institute for boys, Bächtelen, near Berne.—General report. 346
- 194 Department of the Interior, Swiss Confederation, Federal Statistical Office.—Statistics of the Swiss establishments for the education of orphans and abandoned children, also for the deaf, dumb, and blind, by J. Wellauer and J. Müller. 346
- 195 Swiss Society for Instructing the Poor.—Descriptions of the asylums for the poor, minutes, report of the Society of Teachers for the Poor. 346
- 196 Society for Instructing the Poor, District of Aarau, Ct. Aargau.—Statutes, programmes, contracts, annual reports. 346
- 196^a Building Direction, Canton Aargau.—Plans of the lunatic asylum at Königsfelden. 346
- 197 Institution for Instructing the Poor, Canton Basle-Land.—General report. 346
- 197^a Department of Public Works of the Canton Vaud.—Plans of the lunatic asylum at Lausanne. 346
- 197^b Department of Public Works, Canton Zurich.—Plans of the lying-in hospital at Zurich. 346
- 198 Institution for Instructing the Poor, Zurzach District, Ct. Aargau.—Statutes, annual reports. 346
- 199 Home Industry Society for Zurich and Vicinity.—Report, statutes, regulations. 346
- 200 Aid Society, St. Gallen.—Annual reports. 346
- 201 Aid Society, Zurich.—Reports, etc. 346
- 202 Mutual Aid Society, Val de Travers, Ct. de Neuchâtel.—Statutes, regulations, general report. 346
- 203 Wellauer, J., St. Gallen.—Report of the Society for the Education of the Poor, Swiss schools for the poor, by J. C. Zellweger. 346
- 204 Blösch, Eduard, Berne.—Reports of his orphan asylum in Klein-Wabern, Berne. 346
- 205 Orphan Asylum, Neuchâtel.—Reports, contracts, formulas; notes about Belmont. 346
- 206 Orphan Asylum, Dailens-Cossonay-Penthaz, Ct. Vaud.—Regulations and reports. 346
- 207 French Orphan Asylum, Wabern, Ct. Berne.—Report. 346
- 208 Orphan Asylum, Basle.—Description and history, annual reports, publications, plans, and views. 346
- 209 Orphan Asylum, St. Gallen.—The orphan asylum in St. Gall by F. von Tschudi, reports, statutes, plans of buildings, etc. 346
- 210 City Orphan Asylum, Zurich.—Reports, statutes, regulations, photographs, samples of pupils' clothing. 346
- 211 Aargau Reformatory, Olsberg, Ct. Aargau.—Reports. 346
- 212 Grube Institution for Instructing the Poor, Ct. Berne.—Specimens of pupils' work. 346
- 213 Institution for Instructing Poor Girls, Steinhölzli, near Berne.—Report, 1874. 346
- 214 Hosang Foundation, School for the Poor, near Chur.—Regulations for the admission of pupils into the establishment. 346
- 215 Bundner Reformatory, Foral, near Chur, Ct. Graubünden.—Annual reports of the orphan asylum. 346
- 216 Friedeck Reformatory Home, Buch, Hegau, Ct. Schaffhausen.—Historical report, specimens of pupils' work. 346
- 217 Swiss Reformatory, Sonnenberg, near Lucerne.—Statutes, circulars, reports, specimens of pupils' work, etc. 346
- 218 Toggenburg Reformatory, Hochsteig, near Wattwil, Ct. St. Gallen.—Statutes, annual reports. 346

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Art, Watch-making Machinery.

- 219 Victoria Institute for Poor Girls of the Canton of Berne, Klein-Wabern, near Berne.—Regulations for admission, organization, report. 346
- 219^a Young Merchants Union of Switzerland.—General report of proceedings. 347
- Sculpture.**
- 220 Abegglen-Perrin, Iseltwald, Ct. Berne.—Chalets, with and without music and clocks. 405
- 221 Abplanalp, J., Brienz, Ct. Berne.—Wood-carvings. 405
- 222 Baumann, A., Vater & Son, Brienz, Ct. Berne.—Wood-carvings. 405
- 223 Bergen, C., von, & Co., Interlaken, Ct. Berne.—Wood-carvings. 405
- 224 Egger, Jakob, Brienz-Oberdorf, Ct. Berne.—Wood-carvings. 405
- 225 Egger, Johann, Brienz, Ct. Berne.—Wood-carvings. 405
- 226 Flück, J., Fluhberg, near Brienz, Ct. Berne.—Wood-carvings. 405
- 227 Germann & Egger, Brienz, Ct. Berne.—Wood-carvings. 405
- 228 Grossmann, Joh., Ringgenberg, near Interlaken, Ct. Berne.—Wood-carvings. 405
- 229 Jäger, Jb., & Co. Brienz, Ct. Berne.—Wood-carvings. 405
- 230 Imboden Bros., Ringgenberg, near Interlaken, Ct. Berne.—Wood-carvings. 405
- 231 Klein, J. F., & Son, Meiringen, Ct. Berne.—Wood-carvings. 405
- 232 Sterchi, Fritz, Interlaken, Ct. Berne.—Wood-carvings. 405
- 234 Zumbrunn, Schmoker, & Co., Ringgenberg, Interlaken, Ct. Berne.—Wood-carvings. 405
- Painting.**
- 235 Glardon, C. L., Geneva.—"The Morning" (after Greuze); enamel for a watch, of Badollet's exhibition. (See No. 78, p. 355.)
- Engraving and Lithography.**
- 236 Rieter-Biedermann, J., Winterthur, Ct. Zurich.—Printed music and engravings. 421
- 237 Bonnet, Charles, & Co., Geneva.—Types, borderings, ornaments cut in wood, for printers and lithographers. 422
- 238 Bonfantini, G. A., Basle.—Typographical album, dedicated to the printers of Philadelphia. 422
- 239 Meyer, Theodor, Schaffhausen.—Wood-cuts. 422
- 240 Westfelling, J., Winterthur, Ct. Zurich.—Catalogue, Swiss section. 422
- 241 Orell, Füssli, & Co., Zurich.—Letterpress plates, chemical engraving, wood engravings reduced, plates for paper money, sample sheets and books. 423
- 242 Hindermann & Siebenmann, Zurich.—Chromo-lithographs. 424
- 243 Knüsli, Caspar, Zurich.—Chromo-lithographs. 424
- Photography.**
- 244 Charnaux, F., Geneva.—Photographs of the glaciers of Switzerland. 430
- 245 Ganz, J., Zurich.—Photographs. 430
- 246 Gut, Jean, & Co., Zurich.—Photographs. 430
- 247 Linck, J., Winterthur, Ct. Zurich.—Photographs. 430
- 248 Nicola-Karlen, Emil, Berne.—Swiss photographs. 430
- 249 Richard, T., Son, Männedorf, Ct. Zurich.—Album of photographs, Swiss costumes, Swiss myths and traditions, Swiss landscapes. 430
- 250 Simona, Giorgio, Locarno, Ct. Tessin.—Photographs. 430
- 251 Tæschler Bros., St. Fiden, near St. Gallen.—Photographs. 430
- 252 Zacher, C., Zurich.—Photographs. 430
- Machines for Making Watches.**
- 253 Servet, J. Marc, Son, Geneva.—Tools and instruments for watchmakers and jewelers. 535
- 254 Borel-Petitpierre, Ls., Couvet, Ct. Neuchâtel.—Tools and instruments for watch manufacturing. 535
- 255 Grobet, François Louis, Vallorbes, Ct. Vaud.—Tools and instruments for watch manufacturing. 535
- 256 Keigel, Auguste, Couvet, Ct. Neuchâtel.—Equalizing machine, lathes, tool for forging wheels, deepening tool. 535
- 257 Leresche-Golay, Jules, & Co., Vaulion, Ct. Vaud.—Files, tools, and instruments for watch manufacturing. 535
- 258 Vautier, Sl., & Sons, Carouge, near Geneva.—Tools and instruments for watch manufacturing and for jewelers. 535
- 259 Berlie, Edouard, Geneva.—Tools and gravers. 535

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

BELGIUM.

(North of Nave, Columns 54 to 59.)

Educational Books and Appliances, Scientific Instruments.

Educational Systems, Methods, and Libraries.

- 1 Arens, Antoine, Namur.—School books. 300
- 2 Creveœur, Henri Stanislas Joseph, Orp-le-Grand (Brabant).—Statistical lists for school teachers. 300
- 3 Genonceaux, Louis, Bruges.—School books. 300
- 4 Belgian Government Educational Department.—Type of school furniture approved by the Belgian government. 300
- 5 Happel, J., Antwerp.—Adjustable desk, perambulators. 300
- 6 Landrien, Bernardin, Mechlin.—School books. 300
- 7 Licot, Feuillien, Nivelles (Brabant).—Work on drawing. 300
- 8 Lory-Delaet, Pierre, Brussels.—Writing method adopted by the Belgian government. 300
- 9 Petry, Adolphe, Mons (Hainaut).—Arithmometer. 300
- 10 Stebert, Pierre, Tongres, Limbourg.—Essay on education, etc. 300
- 11 Van Havermaet, Henry, Brussels.—Furniture used in orphan asylums. 300
- 12 Claesen, Ch., Liège.—Works on art. 302
- 13 Colinet, Ed., Brussels.—Work on art. 302
- 14 Stroesser, Jean-Pierre, Brussels.—Solids represented in profile by metallic wire. 302
- 15 Van der Molen, A., & Co., Brussels.—Works on architecture and sculpture. 302
- 16 Lebon, Leon, Brussels.—Educational works. 306
- 17 Dessain, H., Mechlin, Province of Antwerp.—Prayer, liturgy, and other books. 306
- 18 Du Fief, J., Brussels.—School books on geography. 306
- 19 Callewaert Bros., Brussels.—School books, Callewaert's dictionaries. 306
- 20 De Cuyper, C., & Noblet, A., Liège.—Works on mining, etc. 306
- 21 De Koninck, Laurence Wm., Liège.—Works on paleontology. 306
- 22 Destexhe, A. M. T. J., Modave, Province of Liège.—Works on instruction. 306
- 23 Dujoux, J. B. C., Brussels.—Special collection of patents. 306
- 24 Landrien, Bernardine, Mechlin.—School books. 306

- 25 Mancaux, Hector, Mons (Hainaut).—School books. 306
- 25^a St. Nicolas, Ch., East Flanders.—School books. 306
- 26 Meeus, Jules, Brussels.—Belgian "Industrial Monitor" (newspaper). 306
- 27 Van Holsbeek, Henry, Brussels.—Works on hygiene. 306

Institutions and Organizations.

- 28 Educational Union, Brussels.—Works on instruction. 310
- 29 Doings of Popular Evening Parties of Verviers, Verviers.—Publications, etc. 310
- 30 Toekomst Society, Antwerp.—Reports, etc. 310
- 31 Maelen, Joseph van der, Molenbeek St. Jean, near Brussels.—Geographical works. 310
- 32 Namur Artistic Literary Club, Namur.—Annals of the Club. 311
- 33 Entomological Society of the Royal Museum of Natural History of Belgium, Brussels.—Reports, etc. 311
- 34 Limbourg Scientific & Literary Society, Limbourg.—Publications. 311
- 35 Artists' Union, International Club of Fine Arts, Liège.—Statutes, etc. 311
- 36 Morning Star Royal Society, Brussels.—Dramatic, literary, and choral works. 313
- 37 Meerens, Charles, Brussels.—Music and musical works. 313

Scientific and Philosophical Instruments and Methods.

- 39 Le Boulengé, Paul Emile, Liège.—Telemeter for the battle-field. 321
- 40 Lingiin, Edward, Charleroi.—Centrifugal power regulator. 321
- 41 Majolini, Francis, La Louvière (Hainaut).—Platform scale for railroads. 322
- 42 Carette Dobbels, D., Meulebeke, near Courtrai, West Flanders.—Lightning rod without joints. 336
- 44 Mahillon, C., Brussels.—Wind instruments. 327

Engineering, Architecture, Maps, etc.

- 47 Tellier, Adolphus Le, Saint Gilles, near Brussels.—Filters. 330
- 51 Malaise, C. H. G. L., Gembloux.—Agricultural chart. 335

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Physical Development, Benevolent and Industrial Associations.

Physical, Social, and Moral Condition of Man.

- 52 Dries, Lois Francis, Saint Gilles, near Brussels.—Gymnastics at primary and ward schools, etc. 340
- 53 Schmitz, Peter, Liège.—Treatises on gymnastics. 340
- 54 Brussels Gymnastic Association, Brussels.—Statutes. 340
- 56 Relief Association for the Needy.—Statutes and annual reports. 346
- 57 Boniotti, Peter, Brussels.—Document relating to the association for free medical assistance. 346
- 58 Royal Society for the Prevention of Cruelty to Animals, Brussels.—Publications, etc. 346
- 59 Warlomont, Dr., Brussels.—Vaccine and its distribution to physicians. 346
- 59a Manufacturers' Joint Stock Co., St. Nicholas, East Flanders.—Statutes. 347
- 60 Permanent Commission of Mutual Relief Associations, Belgium.—Reports, etc. 347
- 61 Laurent, Francis, Ghent.—Works on the improvement of the working classes. 347
- 62 Mechlin Savings Bank, Mechlin.—Reports, etc. 347
- 63 Schoenfeld, H., Brussels.—Reports, etc., of the Belgian Medical Profession Pension Fund. 347
- 64 Grivegnée Co-operative Expenditure Society, Grivegnée, near Liège.—Reports, etc. 347
- 65 Mutual Commercial Co., Brussels.—Reports, etc. 347
- 66 Commercial & Industrial Mutual Co., Ghent.—Reports, etc. 347
- 67 Mutual Benefit Association, Xhendremael, near Liège.—Reports, etc. 347
- 68 Roelens, Désiré, Ghent.—Plan of a hot-house heating apparatus, with thermosyphon. 715
- 69 Smits, Constantine, Forest, near Brussels.—Model of a park, bird's-eye view, leveling, etc. 730

NETHERLANDS.

(North of Nave, Columns 60 to 65.)

Educational Books and Appliances, Statistics.

Educational Systems, Methods, and Libraries.

- 1 Tjeenk-Willink, H. A., Arnhem.—Earth globes with zinc balls. 300
- 2 The Book Trade, Amsterdam.—Books, school books, newspapers, and periodicals. 300
- 3 Deutgen, L., Groningen.—Paper blackboard. 300
- 4 Artisans' School, Rotterdam.—Drawings and designs. 300
- 5 Kolkow, F. J. von, Groningen.—Photographs on glass. 300
- 6 Workmen's Artisans' School, Amsterdam.—Drawings. 302
- 7 Verhaar, A. T., Utrecht.—Plaster casts of cattle that died of murrain in 1865. 302
- 8 Workmen's Society, Amsterdam.—Drawings by pupils. 302
- 9 Deaf & Dumb Institute, Groningen.—Reports, 1790-1875. 303
- 10 Blind Institute, Amsterdam.—Means of instruction for the blind, and articles made by pupils. 303
- 11 Serraris, P. A., jr., Geertruidenberg.—Writing apparatus for weak-sighted. 303
- 12 Mulder, L., Arnhem.—Periodicals. 306
- Institutions and Organizations.
- 13 Dutch Scientific Society, Haarlem.—Treatise on natural science; archives of the Netherlands. 310
- 14 Teyler's Foundation, Haarlem.—Archives of the Teyler von der Halst Museum. 310
- 15 Society for the Promotion of Architecture, Amsterdam.—Works on architecture. 311
- 16 Dutch Association for the Encouragement of Industry, Haarlem.—Periodicals published by the Association. 311
- 18 Krelage, J. H., Amsterdam.—Pamphlets. 312
- 19 Dutch Horticultural & Botanical Association, Amsterdam.—Pamphlets. 312
- 20 Amersfoort, Mrs. H. M., Badhoeve.—Oratorio—"God's Ubiquity." 313
- 21 Gelder, G. M. van, Schaerbeek.—Piano forte method. 313
- 22 North Netherlands Musical & Historical Association, Amsterdam.—Publications. 313

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

Scientific Instruments, Engineering, Benevolence, Machinery.

23 Roothaan, L., Amsterdam.—Municipal. 313

Scientific and Philosophical Instruments and Methods.

24 Harting-Bank, H. J., Utrecht.—Scientific instruments. 320

25 Ministry of Finance, Hague.—Scientific instruments. 320

26 Olland, H., Utrecht.—Meteorological instruments. 320

27 Kerbel, G. H., Amsterdam.—Model of a steam engine. 320

28 Wetteren, M. van, Haarlem.—Magnets. 320

30 Muller, J. A., Amsterdam.—Water gauge. 321

31 Betou, P. J. in de, Delft.—Instrument measuring tooth part of a millimetre. 321

32 Hohwü, A. & T., Amsterdam.—Chronometers and astronomical clock work. 323

33 Casseres, A. de, Amsterdam.—Chronometers and astronomical clocks. 323

34 Cuypers, J. F., Hague.—Piano. 327

Engineering, Architecture, Maps, etc.

35 Ministry of the Interior.—Collection of public works of the Netherlands. 330

36 Amsterdam Canal Co., Amsterdam.—Chart of the channel to the North Sea. 330

37 Chambers of Commerce & Industry, Middleburg & Flushing.—Relief chart of harbor. 330

38 Polytechnic School, Delft.—Models of lock gates. 330

39 Morre, G. J., Delft.—Drawings. 330

40 Simon, M., Flushing.—Copper model of lock gates. 330

41 Stang, T., Hague.—Drawings of aqueduct. 330

42 Dutch Railroad Co., Amsterdam.—Model of railroad bridge, and drawings. 332

43 Nierstrasz, N. H., Bois-le-Duc.—Plans and drawings. 332

44 Zimmerman, G. P. H., Gouda.—Chart of Suriname river. 335

Physical, Social, and Moral Condition of Man.

45 Boer, F. N., Rotterdam.—Model of cheap boarding-house. 342

46 Tjeenk Willink, W. E. J. Zwolle.—Drawings and statutes of Workmen's Association. 342

47 Association for Improvement of Workmen's Buildings, Leuwarden.—Drawings and statutes. 342

48 Association for Improvement of Workmen's Buildings, Hague.—Model of lodgings for workmen. 352

50 Help Yourself Association, Leuwarden.—Statutes, plans, etc. 342

51 Beneficial Association.—Models, drawings, writings, and photographs. 346

52 Gori, M. W. C., Amsterdam.—Work on hospitals. 346

The "Red Cross."

53 Dutch Association for Assisting Sick and Wounded Soldiers in War Time.—Publications. 346

Machines and Tools for Working Metal, Wood, and Stone.

54 Haverkamp, Begemann E., Helmond.—Gutter bore machines. 551

Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.

55 Rennes, D. W. van, Utrecht.—Sewing machine. 531

Motors, Power Generators, etc.

56 Prakke, J. E. & H., Eibergen.—Leather straps; belting. 553

57 Naeff, G. & M., Lochem.—Leather straps; belting. 553

Hydraulic and Pneumatic Apparatus.

58 Rennes, D. W. van, Utrecht.—Machine for moving liquids by heat. 560

59 Rietschoten, van, & Houwens, Rotterdam.—Model of engine for deepening rivers, etc. 563

60 Bidders & Son, Rotterdam.—Fire extinguishers. 564

61 Burger, H., Deventer.—Velocipedes. 571

62 Heshuijsen, W. F., Sandpoort.—Railroad switch. 572

63 Bens, A., Deventer.—Coffee and bean mills. 585

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 27-45.

SWEDEN.

(North of Nave, Columns 6 to 11.)

Educational Publications and Appliances.

Educational Systems, Methods, and Libraries.

- 1 Abrahamson, Aug., Nääs, Floda.—Work by pupils of Nääs School of Home Industry for Boys and Girls. 300
- 2 Alard, A. F., Simtuna.—Musical staff table. 300
- 2a Anderson, N. J., Stockholm.—Animals, plants, and minerals. 200
- 3 Bagge, G. B., Paris, France.—Geographical maps. 300
- 4 Berggren, A. N., Stockholm.—Method of penmanship. 300
- 4a Brunell, J. E., Stockholm.—Penholders. 300
- 5 Cervin, C. G., Hesselby, Stockholm.—Model of a school-house. 300
- 6 Glömsta Manufactory, Huddinge.—Universal school form. 300
- 7 Royal Swedish Commission, Stockholm.
- a A primary school house, with accessories of furniture, books, maps, and apparatus for instruction. (*In the Park, Building No. 107.*) 300
- b Newspapers at present published in Sweden. 306
- 8 Erdman, Edward, Stockholm.—Geographical diagrams. 300
- 8a Lewenhaupt, Count C. M., Clacstorp.—Toys, split shavings for mats, etc. 300
- 9 Lindblad, M. A., Stockholm.—Dried plants and cryptogamic types. 300
- 10 Winslow, A. P., Göteborg.—Herbarium for schools. 300
- 11 Nordlund, K., Gefle.—Apparatus for instruction in arithmetic. 300
- 11a Technical Elementary Schools (collective exhibit).—Work of pupils. 300
- 11b Hennings, R. T., Orebro.—Methods and means of instruction. 300
- 11c Svensson, A., Stockholm.—Stuffed mammals, birds, and fishes. 300
- 11d Wiman & Co., Stockholm.—School stoves. 300
- 11e Zanders, H., Nowköping.—Drawings of gymnastical apparatus. 300
- 14 Fries, Th. M., Stockholm.—Spitzbergen herbarium. 301
- 15 Ramsay, Ebba, Mrs., Göteborg.—Drawings of Spitzbergen plants. 301
- 16 Windrufva, Sven, Stockholm.—Scandinavian herbarium. 301
- 16a Vrana National High School, Vrana.—Samples of pupils' work. 301
- 17 Alnarp Agricultural Institute, Alnarp.—Maps and drawings of the farm buildings of the agricultural high school, photographs of its domestic animals, and a collection of plants grown on the farm of the school; works by pupils. 302
- 19 Royal War Department, Stockholm.—Works and drawings by pupils at the military school of Carlberg and military high school of Marieberg. 302
- 26 Staaf, P. O., Stockholm.—Agricultural and sylvicultural text books. 302
- 27 Wulff, H. A., Applerum, Kalmar.—Scheme of the agricultural school, drawings of farm buildings and implements, with specimens of soil and agricultural products. 302
- 28 Borg, O. E., Manilla, Stockholm.—Combined apparatus for speaking and hearing, for half deaf and dumb; symbolical vocabulary, used for the instruction of deaf and dumb. 303
- 29 Holm, F. J. W., Stockholm.—Model of the gymnastic hall at the institute for deaf and dumb of Manilla, in Stockholm. 304
- 30 Working Home for the Blind Stockholm.—Basket work by blind pupils. 303
- 31 Public Institute for the Deaf, Dumb, & Blind, Stockholm.—Pupils' works. 303
- 32 Olsson, Magnus (blind, deaf, & dumb), Malung, Lima.—Willow furniture. 303
- 33 Klemmings Antiquarian Stock Co., Stockholm.—Books printed in Sweden in the 16th, 17th, and 18th centuries, with accounts of the earliest Swedish settlements in America. 306
- 33a Brunius, A. W., Stockholm.—Books. 306
- 33b Royal Statistical Central Bureau, Stockholm.—Statistical diagrams. 306
- 33c Sidenbladh, Elis, Stockholm.—Statistical accounts of Sweden. 306
- 34 Central Printing Stock Co., Stockholm.—Typographical productions. 306
- 35 Gumaelius Arvid, Orebro.—The newspaper "Allehanda för Folket." 306
- 36 Key, Axel, Stockholm.—Anatomical treatise, periodical papers upon medicine and popular science. 306
- 38 Key, A. & Retzius G., Stockholm.—Studies in anatomy; periodical devoted to popular science. 306

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific Instruments, Engineering Designs.

Institutions and Organizations.

- 39 Hammer's Museum, Stockholm.—
Photographs, catalogues, etc. 312
- 40 Royal Economical Society, Lulea.
—Laplanders' costumes and utensils. 312
- 40^a Schlyter, G. R., Stockholm.—
Roman costumes. 312
- 40^b Nordenskiöld, A. E., Stockholm.—
Meteorite from Greenland. 312

Scientific and Philosophical Instruments and Methods.

- 41 Royal Agricultural Society of the
Lan of Goteborg & Bohus.—Apparatus
for deep-sea soundings and marine evapor-
imeters. 320
- 42 Gundberg, J. W. L., Stockholm.—
Copper vessels for preserving zoological
specimens; zoological sieves. 320
- 43 Leja, Joseph, Stockholm.—Ther-
mometer. 320
- 44 Lindahl, Jos., Lund.—Appara-
tus for deep-sea soundings and dredgings.
320
- 45 Ljungström, J. P., Stockholm.—Geo-
detic and surveying instruments. 320
- 47 Rose, J. L., Upsala.—Magnet and
needle-compasses for mines. 320
- 48 Theorell, A. G., & Sörensen, P.,
Stockholm.—Meteorograph. 320
- 49 Wiberg, Martin, Stockholm.
^a "Bull-dog apparatus" for deep-sea sound-
ings. 320
^b Logarithmetical tables, calculated and
printed by a counting machine; controll-
ing apparatus for railway trains. 321
- 50 Brehmer, E. F. A., Stockholm.—
Railway ticket registering apparatus, pag-
ing machine, etc. 321
- 54 Petterson, C. J., Carlshamn.—Cal-
culating machine. 321
- 55 Linderoth, G. W., Stockholm.—
Clocks. 323
- 57 Unge, V. T., Stockholm.—Appara-
tus for measuring distances for military
purposes. 323

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

- 58 Otter, Baron C. G. von, Stockholm.
—Signal lantern. 324
- 59 Kuntze & Co., Stockholm.—Air tele-
graphs. 326
- 61 Ahlberg & Ohlsson, Stockholm.—
Wind instrument of metal. 327
- 63 Lundholm, C. A. V., Stockholm.—
School organs and harmoniums. 327
- 64 Malmsjö, J. G., Göteborg.—Pia-
nos. 327

Engineering, Architecture, Maps, etc

- 66 Norrman, C. G. V., Stockholm.—
Model of a pontoon bridge. 333
- 67 Bagge, G. P., Paris, France.—Geo-
graphical maps. 335
- 68 Erdmann, Edward, Stockholm.—
Geological maps and models. 335
- 69 Royal Swedish Staff General, Stock-
holm.—Topographical maps. 335
- 69^a Nordenskiöld, A. E., Stockholm.—
Maps. 335
- 69^b Roth, M., Stockholm.—Geographi-
cal maps. 335
- 69^c Sahlbom, W., Stockholm.—Maps.
335
- 73 Economical Survey of Sweden,
Stockholm.—Economical and agronomical
maps. 335
- 74 Geological Survey of Sweden, Stock-
holm.—Geological maps, collections of
minerals, rocks, and soils. 335

Physical, Social, and Moral Condition of Man.

- 74^a Zander, G., Stockholm.—Apparatus
for mechanical gymnastics. 340
- 75 Royal Swedish Commission, Stock-
holm.—Collection of current coins and
bank notes in Sweden. 344
- 75^a Lindhen, H. A. W., Stockholm.—
Letter box. 345

*Other educational exhibits from Sweden
are installed in the Swedish School House,
No. 107, and are enumerated on page 362.*

NORWAY.

(North of Nave, Columns 4 to 7.)

Educational Books and Appliances, Scientific Instruments, Statistics.

Educational Systems, Methods, and Libraries.

- 1 Bergen Common School Board, Bergen.—Collection of materials for a free school. 300
- 2 Sandberg, Andreas, Christiania.—Models of handwriting. 300
- 3 Boeck, W., & Danielsen, D. C., Christiania and Bergen.—Treatises on skin diseases and elephantiasis. 360
- 4 Bentzen, B. M., Christiania.—Books and other specimens of printing. 306
- 5 Norwegian Association of Tourists, Christiania.—Books, maps, photographs, etc. 306
- 6 Jensen, H. J., Christiania.—“The Illustrated News,” and other illustrated works. 306

Scientific and Philosophical Instruments and Methods.

- 7 Wedel-Jarlsberg, Ferd., Commodore of the Norwegian Navy, Christiania.
- a Patent control compasses, log machine. 320
- b System of night signals. 326
- 8 Petersson, A. J., Christiania.—Calculating machine. 321
- 9 Mostue, Thv., & Co., Christiania.—Scales. 322
- 13 Aarestrup, J., Bergen.—Piano. 327

- 14 Brantzeg, P., Christiania.—Pianos. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

- 16 The Director of the Public Roads of Norway, Christiania.—Maps, drawings, books. 330
- 18 Geographical Institute of Norway, Director of, Christiania.—Maps and topographical sections. 335
- 20 Collett, Robert, Assistant of the Zoological Museum, Christiania.—Zoo-geographical map of Norway, containing a complete list of the vertebrate animals of the country. 335
- 21 Schubeler, F. C., Professor of Botany at the University of Christiania.
- a Botanical-geographical map of Norway. 335
- b Plants of Norway. 701
- 21a Pettersen, Karl, Tromsø.—Geological map with descriptions. 335

Physical, Social, and Moral Condition of Man.

- 22 Statistical Bureau, Christiania.—Collection of official statistical publications relating to Norway; collection of cartographical representations. 345
- 23 Hagen, J., Christiania.—Leather and skins. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ITALY.

(North of Nave, Columns 1 to 5.)

Educational Books and Publications, Scientific Instruments.

Educational Systems, Methods, and Libraries.

- 1 Angelini, Prof. Rodolfo, Rome.—Specimens of penmanship. 300
- 2 Maineri, Carlo, Milan.—Geographical map in relief. 300
- 3 Ben, Michelangiolo, Verona.—Mathematical maps. 300
- 4 Villa, Cav. Prof. Ignazio, Milan.—Geographical maps. 300
- 5 Palizzolo Gravina, Baron Vincent, Palermo.—Scientific books. 301
- 6 Filopanti, Dr. Prof. Quirico, Bologna.—Book on philosophy. 301
- 7 D'Italo, Enrico F. T., Milan.—Map of the world in the form of a globe, and objects for the study of geography and other sciences. 301
- 8 Giordano, Prof. Scipione, Turin.—Materia medica. 302
- 9 Perelli, Prof. Luigi, Milan.—Album, with specimens of stenography. 302
- 10 Vigano, Francesco, Milan.—Scientific books. 302
- 11 Claus, Cav. Prof. Niccolo, Milan.—Didactic and linguistical treatises. 302
- 12 Volante, Alessandro, Turin.—Pamphlet on mechanics. 302
- 13 Strazza, Giannina, widow Lucca, Milan.—Collection of music. 302
- 14 Tito di G., Ricordi, Milan.—Collection of music. 302
- 15 Bratti, Seiatilli, & Co., Florence.—Collection of music. 302
- 16 Crotta, Giannina, Milan.—Album of music. 302
- 17 C. Cam. Theophilus, Florence.—School books. 306
- 18 Brigola, Gaetano, Milan.—Scientific and miscellaneous books. 306
- 19 Maino, Antonio, Piacenza.—Books and maps. 306
- 20 Morandi, Feliesta, Milan.—Educational books. 306
- 21 Maltese, Dr. Felice, Vittorio, Sicily.—Book on philosophy. 306
- 22 Guida, Prof. Francesco, Naples.—Book on night signals. 306
- 23 Beccari, Gualberta Alaide, Bologna.—Newspaper, "La Donna." 306
- 24 Barra, Prof. Luigi, Ottajano, Naples.—Didactic book. 306

- 25 Gargiulo, Francesco, Naples.—Descriptive book. 306
- 26 Gravina, Domenico, Palermo.—Illustrated books. 306

Institutions and Organizations.

- 27 Director of the Anatomical & Pathological Museum of Florence.—Microscopic, normal, and pathological anatomical preparations. 311
- 28 Scaraviglia, Torquato, Gualdo Tadino, Umbria.—Album and pictures. 312

Scientific and Philosophical Instruments and Methods.

- 29 Sollima, Giacomo, Messina.—Mill scales. 322
- 29^a Gasparini, Giacomo, Rome.—Meter for measuring grain. 322
- 30 Villa, Cav. Prof. Ignazio, Milan.—Universal clock. 323
- 32 Gennari, Cav. Dr. Enrico, Milan.—Optical instruments. 324
- 33 Ponti, Carlo, Venice.—Camaziale and megalithoscope (optical instruments). 324
- 34 Figatner, Enrico, Milan.—Electric batteries. 325
- 35 Gerosa, Edoardo & Emilio, Milan.—Telegraphic instrument. 326
- 36 De Lorenzi, Cav. G. Batta, Venice.—Violins, Stradivarius style. 327
- 37 Bedini, Giuseppe & Sons, Venice.—Harmonic strings. 327
- 38 Venturini, Luigi, Padua.—Harmonic strings. 327
- 39 Giuliano, Ditta, Naples.—Cylindrical piano. 327

Engineering, Architecture, Maps, etc.

- 40 Linari, Eng. Antonio, Rome.—Plan for a tunnel. 330

Physical, Social, and Moral Condition of Man.

- 41 Acquadro, Paolo, Turin.—Postal box. 345
- 42 Aurineta, Cav. Marco Aurelio, Naples.—New system of disinfection. 346

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

BRAZIL.

(North of Nave, Columns 58 to 61.)

Educational Books and Publications, Scientific Instruments.

Educational Systems, Methods, and Libraries.

- 1 Municipal School Boards, Rio de Janeiro.—Text books, specimens of writing, drawing, and needle work. 300
- 2 Santa Candida School for Girls, Rio de Janeiro.—Specimens of penmanship. 300
- 3 Faculty of Medicine, Rio de Janeiro.—Text books and theses on medical and chirurgical subjects. 302
- 4 Naval School, Rio de Janeiro.—Educational books, specimens of drawings, models, etc., made by the cadets; maps, charts, etc. 302
- 5 Commercial Institute, Rio de Janeiro.—Specimens of drawing, writing, and book-keeping. 302
- 6 Academy of Fine Arts, Rio de Janeiro.—Specimens of drawing and pupils' work. 302
- 7 Public Instruction Board, Rio de Janeiro.—Educational books, specimens of writing and needle work. 302
- 8 Arts & Trades Lyceums, Rio de Janeiro.—Drawing and pupils' works. 302
- 9 Artistical Institute, Rio de Janeiro.—Chromo-lithographic engravings, printed books, maps and charts, specimens of book-binding. 302
- 10 Military Archives, Rio de Janeiro.—Maps and charts. 302
- 11 Faculty of Medicine, S. Salvador da Bahia.—Collection of theses on medical subjects. 302
- 12 Institute for Deaf & Dumb, Rio de Janeiro.—Educational books, specimens of drawing and dactylographical painting; shoes made by pupils. 303
- 13 Imperial Institute for Blind Boys & Girls, Rio de Janeiro.—Apparatus used in teaching; books, geometrical figures, musical compositions; specimens of needle work. 303
- 14 Home Department, Rio de Janeiro.—Educational reports, laws, regulations, statistics, and catalogues. 304
- 15 Gaveao, Coronel J. M., & Paes de Barros, San Paulo.—Newspapers. 306
- 15^a Laemmert, Edward & Henry, Rio de Janeiro.—Books. 306
- 16 Leuzinger & Sons.—Specimens of printing. 306
- 17 Moreira, Nicolau J., Rio de Janeiro.—“The National Industry Guide Review,” treatise on colonization. 306
- 18 National Printing Office, Rio de Janeiro.—Various typographical objects. 306

- 19 Commission-General for the National Exhibitions, Rio de Janeiro.—Collection of Brazilian newspapers. 306
- 20 Silva, Pessanha da, Rio de Janeiro.—Brazilian medical annals. 306
- 22 Villeneuve, J., & Co., Rio de Janeiro.—“Journal of Commerce.” 306
- 23 Roxo, Monteiro, & Lemos, Rio de Janeiro.—“Direito Mercantil.” 306
- 24 Possolo, E. Germack, Rio de Janeiro.—Books. 306
- 25 Alves, S. José, Rio de Janeiro.—Books. 306
- 26 d'Azevedo, J. G., Rio de Janeiro.—Books. 306

Institutions and Organizations.

- 27 Leuzinger & Sons, Rio de Janeiro.—Collection of articles for museums. 312
- 28 Brant, J. Ferreira d'A., Minas Geraes.—Collection of insects. 312
- 29 Napoleao, Narciso & Arthur, Rio de Janeiro.—Music printing and engraving. 313
- 30 Santos, & Quintino dos, Rio de Janeiro.—Musical compositions. 313
- 31 Silva, Francisco Manuel da, Rio de Janeiro.—Musical compositions. 313
- 32 d'Araujo, Gomes, Rio de Janeiro.—Musical compositions. 313
- 33 Lago, Emilio do, Rio de Janeiro.—Musical compositions. 313
- 34 Goyano, J. J., Rio de Janeiro.—Musical compositions. 313
- 35 Silva Callado, J. A. da, Rio de Janeiro.—Musical compositions. 313
- 36 Amat, José, Rio de Janeiro.—Musical compositions. 313
- 37 Menezes, Cardoso de, Rio de Janeiro.—Musical compositions. 313
- 38 Campos, A., Rio de Janeiro.—Musical compositions. 313
- 39 Ribes, Edward, Rio de Janeiro.—Musical compositions. 313

Scientific and Philosophical Instruments and Methods.

- 40 Army Arsenal of Rio Grande do Sul.—Metal meridian. 320
- 41 Saldanha, Luiz de, Brazilian Navy.—Nautical repeating compass. 320
- 41^a Pinheiro, A. Pereira, Brazilian Navy.—Sandagraph or automatic deep-sea sounding apparatus. 320
- 42 Garrid.—Apothecaries' scale. 322

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Musical Instruments, Engineering Designs, Coins.

- 43 General Commission from Rio de Janeiro.—Piano; large guitar (viola), and small guitars (machetes). 327
- 44 Lins, Lamenha, Sancta Candida.—Guitars 327
- 45 Couceiro, J. do Santos, Rio de Janeiro.—Violin and bow. 327
- 46 General Commission for Brazil.—Piano. 327

Engineering, Architecture, Charts, Maps, and Graphic Representations.

- 47 The Board of Directors of the "Pedro II. Dock Works" Co.—Drawings showing the "Pedro II. Dock Works" at Rio de Janeiro, and samples of the wood employed in the works, submarine constructions, wharves, and warehouses. 330
- 48 Rebouças, André & Castro, Borja, Rio de Janeiro.—Photographs of custom-house dock works, plans containing details of work, etc. 330
- 49 Public Works Office, Rio de Janeiro.—Project to improve the harbors of Brazil, by Sir John Hawkshaw. 330
- 50 Liais, E., Rio de Janeiro.—Surveys and profiles of the rivers Das Velhas and San Francisco, with reports. 330
- 51 Hydrographic Department, Rio de Janeiro.
a Surveys of the Amazonas river for 2240 miles. 332
b Charts of the coast and harbors of Brazil. 335
- 52 Speir, W., Province of San Paulo.—Drawings of the railroad from Santos to Jundiahy, San Paulo. 332
- 53 Fox, Engineer, Province of San Paulo.—Plans and drawings. 332
- 54 Public Works Office, Rio de Janeiro.
a Drawings, showing the bridges of the Pedro II. railway. 332

- b* Charts and topographical maps of the various provinces, etc. 335
- 55 Penna, Ferreira, S. Pedro du Sul.—Plans, estimates, and reports on the projected railway from Porto Alegre to Uruguayana. 332
- 56 Loyd, Engineer, Rio de Janeiro.—Project of a railway to the Province of Matto Grasso, with plans, estimates, etc. 332
- 57 Bulhoes, Engineer, Rio de Janeiro.—Railway plans, illustrations, estimates, etc. 332
- 58 Coutinho, Silva, Rio de Janeiro.—Project to lengthen the railway line to the Province of Pernambuco, with plans, etc. 332
- 59 Garceix, Prof.—Geological map of the province of Minas-Geraes. 335
- 60 Commission-General for the National Exhibitions.—Maps of the Province of San Paulo; elements for the organization of a physical chart of Brazil, by Homen de Mello. 335
- 61 Mendes, C., Rio de Janeiro.—Atlas of the Brazilian empire. 335
- 62 Rohan, General de Beaurepaire, Rio de Janeiro.—General chart of the Brazilian empire. 335

Physical, Social, and Moral Condition of Man.

- 63 National Mint, Rio de Janeiro.—Collection of medals stamped by the mint; collection of Brazilian coins. 344
- 64 Suplicy, J. F., Province of Paraná.—Collection of medals obtained by galvanoplastic method, galvanoplastic pile. 344

(For Naval Engineering, see Machinery Hall.)

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45

ARGENTINE REPUBLIC.

(*South of Nave, Columns 2 to 5.*)

Books, Maps, Statistics.

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| <p>Educational Systems, Methods, and Libraries.</p> <p>1 Gonzalez, Meliton, Province of Entre-Rios.—Map of the province. 300</p> <p>2 Chapeaurouge, C. de, Province of Santa Fé.—Map of the province. 300</p> <p>3 Grousae, Paul, Province of Tucumen.—Map of the province. 300</p> <p>4 Monguillot, E., Province of Buenos Ayres.—Sheet music. 302</p> <p>5 Scapatura, A., Province of Buenos Ayres.—Sheet music. 302</p> <p>6 Yorge, Faustino, Province of Buenos Ayres.—Statistical register of the province. 305</p> <p>7 Rosseli, Peter, Province of Buenos Ayres.—Periodical—"Correo Argentino." 306</p> <p>8 Bridma, Martin, Province of Buenos Ayres.—Books of typographical samples. 306</p> | <p>9 Costa, Angel F., Province of Buenos Ayres.—Work on finance. 306</p> <p>10 Navarro, Samuel, Province of Buenos Ayres.—Work on immigration. 306</p> <p>11 Navarro, Mardoguelo, Province of Buenos Ayres.—Statistics of the epidemic of 1871. 306</p> <p>12 Zuiny, Antonio, Province of Buenos Ayres.—Books. 306</p> <p>13 Espineyro, Mariano T., Province of Buenos Ayres.—"The Judicial Periodical." 306</p> <p>14 Chucco, Manuel C., Province of Buenos Ayres.—Books. 306</p> <p>15 Ledesmo, Justiniano A., Province of Buenos Ayres.—Books. 306</p> <p>16 Minister of the Interior.—"Memoirs of the Governor of Chaco." 306</p> <p>17 Gelderen, A. van, Province of Buenos Ayres.—Encyclopedia. 306</p> <p>18 Argentine Rural Society.—Annals of the Society; official bulletin of the National Exhibition of Córdoba. 306</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

SPAIN.

[*The exhibit of Spain in the Department of Education and Science is installed in the Spanish Pavilion, and catalogued in Part III., pages 132 to 141.*]

PORTUGAL.

(*South of South Avenue, Columns 13 to 17.*)

Publications, Statistics, Scientific Instruments, Engineering Designs.

Educational Systems, Methods, and Libraries.

- 1 Brito Aranha, Pedro W. de, Lisbon.—Elementary books. 300
- 2 Perry, Gerardo A., Lisbon.—Atlas with statistics of Portugal and colonies. 305
- 3 Association for the Encouragement of Manufactures, Lisbon.—A frame with diplomas, statutes and elementary books. 306
- 4 Direction of the Public Works of Mondego, Figueira.—“Memoir on the River Mondego;” “Catalogue of Plants in the Forest of Choupal.” 306
- 5 Ferraz, José L. M., Ega.—Work on pharmacy. 306
- 6 Infante Dom Luiz Observatory, Lisbon.—Scientific publications. 306
- 7 Magalhaes & Moniz, Oporto.—Text books and other works. 306
- 8 Mengo, Francisco da Silva, Oporto.—Books. 306
- 9 Nepomuceno, Manuel, Oporto.—Books. 306
- 10 Silva, Joaquim Possidonio Narcizo da, Lisbon.—Memoirs on archaeological and architectural subjects. 306
- 11 National Printing Office, Lisbon.—Printed works. 306
- 12 Portuguese Civil Engineers' Society, Lisbon.—Copies of the “Revista d'Obras Publicas e minas.” 306
- 13 Sarmiento, Anselmo Evaristo de Moraes, Oporto.—Copies of the “Actualidade” journal. 306
- 14 Department of Finance, Lisbon.—Commercial statistics of Portugal. 306
- 14^a Queiroz, G. J. de, Lisbon.—Commercial statistics of Portugal, graphically arranged. 306
- 15 Prostès, H., Lisbon.—Bound copies of Portuguese newspapers and journals. 306
- 16 Costa, Godolphim, Lisbon.—Literary work. 306
- 17 Chardron, Ernest, Oporto.—Dictionary of the Portuguese language. 306
- 17^a Lallement Bros., Lisbon.—Typographical works, printing on satin. 306

Institutions and Organizations.

- 18 Industrial Institute of Oporto.—History, organization, and course of studies. 310

Scientific and Philosophical Instruments and Methods.

- 19 Board of Public Forests, Lisbon.—Maps. 320

20 Industrial Institute of Lisbon.

- a* Levels and planimeter. 320
- b* Pantometers. 322
- c* Pendulum. 323
- d* Topo-photographic camera. 324

- 21 Infante Dom Luiz Observatory, Lisbon.—Meteorological and magnetic registers. 320

- 22 Bastos, Antonio Pinto, Lisbon.—Hydrometer. 320

- 23 Continho, D. Martinho da Franca, Lisbon.—Goniometric, goniographic and telemetric compass, pyramidal compass. 321

- 24 Pereira, Verissimo Alves.—Hydrometer. 321

- 27 Oliveira, Justino Gomes de, Villa Nova de Gaia.—Gold watches. 323

- 29 Motta, José Maria, Lisbon.—Electric bells. 326

- 30 Cabral, Affonso do Valle Coelho, Oporto.—Violin. 327

- 31 Araujo, Joaquim G., Braga.—Stringed instruments, guitars. 327

- 32 Ribeiro, Domingos Candido d'Almeida, Oporto.—Violin. 327

- 33 Pereira, Custodio Cardozo, Oporto.—Musical instruments. 327

- 34 Sanhudo, José Ferreira, Oporto.—Stringed instruments. 327

Engineering, Architecture, Maps, etc.

- 35 Silva, Silverio Augusto Pereira da, Aveiro.—Bridge model. 330

- 36 Administrative Board of Works for the artificial port of Ponta Delgada.—Plan of artificial port at Ponta Delgada, with description and views of same. 330

- 37 Lecrenier, Nicolas Joseph, Lisbon.—Model of rail. 332

- 38 Bayao, F. A. P., Lisbon.—Plan of a portable railway. 332

- 39 Perry, Gerardo A., Lisbon.—Geographical, physical, and orographical maps of Portugal. 334

- 40 Industrial Institute of Oporto, Oporto.—Topographical charts of the river Douro, and of the wine producing district. 335

- 41 Geodetical Department, Lisbon.—Geographic, geological, trigonometrical, and hydrographic maps and charts, and other graphic representations, books, atlases, matrices, etc. 335

- 42 Infante Dom Luiz Observatory, Lisbon.—Marine charts, etc. 33.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Art, Machinery.

Physical, Social, and Moral Condition
of Man.

- 42^a General Direction of the Mint &
Stamped Paper, Lisbon.—Coins and med-
als. 344

Sculpture.

- 43 Rio Junior, J. do, Oporto.—Statu-
ettes. 400
- 44 Campolini, Miguel, Oporto.—Clay
statuettes representing the costumes worn
in the vicinity of Oporto. 400
- 45 Almeida, José J. d'A., Lisbon.—
Stone figure. 400
- 46 Silva & Santos, Oporto.—Clay statu-
ettes, representing national costumes. 400
- 47 National Printing Office, Lisbon.—
Medals and plates. 402
- 48 Industrial Institute of Oporto, Opor-
to.—Specimens of Guillocher work in
wood. 405
- 49 Oporto Commercial Association,
Oporto.—Wood carvings. 405

Engraving and Lithography.

- 51 National Printing Office, Lisbon.—
a Ornamental engravings, plates, etc. 421
b Lithographs. 423
- 52 General Direction of the Mint and
Stamped Paper, Lisbon.
a Copies from engravings. 421
b Copies from lithographs. 423

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

- 52^a Oporto Commercial Association,
Oporto.—Lithography. 423

- 53 Reis & Monteiro, Oporto.—Litho-
graphs. 423

- 54 Mendes, Malaquias José, Lisbon.—
Impressions from seals. 423

Photography.

- 55 Infante Dom Luiz Observatory, Lis-
bon.—Photographs of the sun. 430

- 56 General Direction of the Mint and
Stamped Paper, Lisbon.—Copies from
photographs. 430

- 57 Department of Mines, Lisbon.—Pho-
tographs. 430

- 58 Superintendency of Live Stock of
the District of Beja.—Photographs show-
ing races of live stock. 430

- 58^a Industrial Institute of Oporto,
Oporto.—Guillocher turning lathe. 510

- 59 Guerra, Joaquim Baptista da Silva,
Oporto.—Jacquard weaving machine. 520

- 60 National Printing Office, Lisboa.—
Type. 542

- 61 Continho, Antonio R. da S., Ponta
Delgada.—Model of a propeller. 554

- 62 Cruz, Luiz F. de S., Oporto.—Hy-
draulic machine. 560

- 63 Castro, Joao V. az Pacheco, Ponta
Delgada.—Stone hand mill. 585

TURKEY.

(South of Nave, Columns 14 to 17.)

Publications, Scientific Instruments, Art.

Educational Systems, Methods, and Libraries.

- 1 School of Medicine, Constantinople.—Books, treatises, etc., on medicine and natural sciences. 306
- 2 Herzmainka de Slupno, Madame, Constantinople.—Turkish sheet music, bound and unbound. 306

Scientific and Philosophical Instruments and Methods.

- 3 Kiamil Effendi, Koniah, Koniah.—Wooden sextant. 320
- 4 Moustapha, Constantinople.—Scale and weights. 322
- 5 Sulleiman, Constantinople.—Steelyards. 322
- 6 Boch Kirkor, Aleppo.—Flute. 327
- 7 Casmani, David, Damascus.—Musical instrument. 327
- 8 Dimitri, Yanina, Yanina.—Shepherd's flute, etc. 327
- 9 Giorgi, Antaki, Aleppo.—Flute. 327
- 10 Giorgi, Kara-Keni, Aleppo.—Mandoline, drum, and kettle drum. 327
- 11 Giorki Rizzo, Yanina, Yanina.—Guitar. 327
- 12 Moustapha Agha, Constantinople.—Flutes and haut-boys. 327
- 13 Manoli (shepherd), Lachite, Crete.—Bag pipe. 327
- 14 Mehemed Nablus, Damascus.—Kettle drum. 327
- 15 Thèophani, Nicoforaki, Canea, Crete.—Violin. 327
- 16 Thèophani, Nicolaki, Canea, Crete.—Shepherd's flute. 327
- Physical, Social, and Moral Condition of Man.
- 18 Constantinople, Government of.—Turkish gold, silver, and metal coins, commemorative silver medals. 344

- 19 Terzibalion, Hadji Agop, Constantinople.—Collection of Greek, Roman, Byzantine, and Arabian coins, in gold, silver, copper, lead, and stone. 344

Paintings.

- 20 Ludovic & Vallauri, Constantinople.—Portrait of the late Sultan of Turkey. 410
- 21 Ottoman Commission.—Oil paintings. 410
- a Scutari.
- b The Bosphorus.
- c Turkish lady.
- d Landscape.

Engraving and Lithography.

- 22 Mazloun Aghiah, Constantinople.—Design. 420

Photography.

- 23 Granda, Canea, Crete.—Album containing views. 430
- 24 Mikahilidès, Adrianople.—Photographic view of Adrianople, the Imperial palace, mosque of Selim, etc. 430
- 25 Sebah, Constantinople.—Photographic views of Athens and the interior of the mosque of St. Sophia. 430

Industrial and Architectural Designs.

- 26 Constantinople, Government of.—Ottoman architecture. 441

Ceramic Decorations, Mosaics, etc.

- 27 Vaisse, Martin, & Co., Constantinople.—Brick and tile. 451
- 28 Ana Sebat, Jerusalem.—Tomb and sepulchre of Christ, in mother-of-pearl. 454
- 29 Riza Effendi, Constantinople.—Imitation fruits in wax, etc. 453

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

RUSSIA.

(South of Nave, Columns 19 to 23.)

Educational Publications and Appliances, Scientific Instruments.

Educational Systems, Methods, and Libraries.

- 1 Strookoff, St. Petersburg.
a School furniture and other educational appliances. 300
b Apparatus for mathematical studies. 301
- 1*a* Laus, Theodore, Revel.—Practical apparatus for setting arithmetical problems. 300
- 3 Strembitzki's Laboratory, St. Petersburg.—Appliances illustrating different branches of natural philosophy for school and scientific museums. 301
- 4 Shinhelm, St. Petersburg.—Ethnographical and zoological models. 301
- 5 Sihieldknecht, St. Petersburg.—Apparatus for mathematical studies. 301
- 6 St. Petersburg Workshop for Educational Appliances and Games.—Articles adapted for school instruction, gymnastics, and games. 301
- 7 Reinbot, St. Petersburg.—Technical collections for schools. 301
- 8 Pik, Jacob, Warsaw.
a Working model of Bramah's hydrostatic press; model of a steam engine. 301
b Mineralogical collection.
- 9 Pedagogic Museum, St. Petersburg.—Collection of educational appliances. 301
- 10 Lapshenko & Mickhaeloff, St. Petersburg.—Collection of educational appliances and apparatus. 301
- 11 Kressten, St. Petersburg.—Apparatus for physical experiments. 301
- 13 Kowalski, St. Petersburg.—Appliances for the study of geography. 301
- 14 Kochowski, St. Petersburg.—Appliances illustrating geography. 301
- 15 Givotovski, St. Petersburg.—Apparatus, illustrating botany. 301
- 16 Fenoult & Co., St. Petersburg.—Text books and appliances for the study of different branches of knowledge. 301
- 17 Female Workshop of Educational Appliances, St. Petersburg.—Ethnographical models. 301
- 18 Brucher & Bauler, St. Petersburg.—Apparatus for physical experiments. 301
- 19 Practical Technological Institute, St. Petersburg.—Systematical collection for practical instruction in working metal. 302
- 20 Karlowicz, John, Warsaw.—New method of writing music. 302
- 21 Strogonoff Central School of Technical Drawing, Moscow.—General and ornamental drawings executed by the pupils; text books. 302
- 22 Krasinski, Dr. Hubert Novo, Mir-garod, Government of Kherson.—Microscopic preparations of human tissues in sound and pathological state. 302
- 23 Kotomin, Anthony, St. Petersburg.—Models for teaching comparative anatomy. 302
- 24 Imperial Technical School, Moscow.—Collection of furniture, apparatus, instruments, and models for technical instruction, specimens of pupils' work. 302
- 24*a* Grigorieff, St. Petersburg.—Apparatus for teaching the blind. 303
- 25 Helsingfors Stenographic Society, Finland.—Treatises and periodicals on stenography. 306
- 26 Krassoski, Alexander, Viatka.—Books. 306
- 27 Khitroff, Jrbit, Government of Perm.—Typographical work. 306
- 28 Wolf, Morice, St. Petersburg.—Text books, illustrated books, and other editions. 306
- 29 Unger, Gracian, Warsaw.—"Tygodnic illustrowang" (illustrated periodical). 306
- 31 Marks, A. F., St. Petersburg.—"Nieva" (illustrated periodical). 306
- 31*a* Jurgenson, Peter, Moscow.—Music, exhibitor's edition. 306

Scientific and Philosophical Instruments and Methods.

- 33 Pik, Jacob, Warsaw.
a Double-barreled air-pump, Cagniard Lator's sine with clockwork. 320
b Pyrhometer for measuring the linear expansion of various metals: Wallaston's camera-lucida spectroscope. 324
- 34 Milewski, Joseph, St. Petersburg.—Telemeter instrument for measuring distances without chains or rods. 320
- 35 Imperial Technical School, Moscow.—Apparatus for drawing parabolic lines, and scale for finding the radius of a given arc. 320
- 36 Jagn, Nicolas, St. Petersburg.—Pulse-pump apparatus adapted for accelerating the filtering process. 320
- 37 Zevecki, C., St. Petersburg.—Self-registering nautical instruments. 320
- 38 Ezerski, E., St. Petersburg.—Counting apparatus for multiplication and division. 321
- 39 Diakoff, George, St. Petersburg.—Arithmometer, new system. 321
- 40 Alexandroff.—Apparatus for verifying cartridges, exhibitor's system. 322

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Scientific Instruments, Engineering Designs, Maps.

- 41 Gootkooski, St. Petersburg.—Mechanical scales for verifying cartridges, exhibitor's system (photographs). 322
- 42 Chief Intendancy of War, St. Petersburg.—Method of testing flour, also apparatus for testing the quality and strength of cloth. 322
- 44 Palenoff, Constantine, Niji Tagil, Government of Perm.—Photometer, specially adapted for thermatics. 324
- 45 Martisheff, Wladimir, St. Petersburg.—Optical indicator. 324
- 46 Workshop of the Direction of the Baltic Lighthouses, Revel.—Lamps for lighthouses. 324
- 47 Workshop for Making and Repairing Nautical Instruments, Yermolin, St. Petersburg.—Fresnel's lamp for lighthouses; slides for the magic lantern. 324
- 48 Tabulevitch, T. R. N., St. Petersburg.—Naval signal light. 324
- 49 Starkoff, Eugene, St. Petersburg.—Albumen paper specially prepared for photography. 324
- 50 Koolikoff, Nicolas, Moscow.—Russian national musical instruments. 327
- Engineering, Architecture, Maps, etc.**
- 51 Municipality of the City of St. Petersburg.—Plans of various town institutions and buildings. 330
- 52 Municipality of the City of Warsaw.—Cast iron plate for street pavement. 330
- 53 Paszepny, Charles, Warsaw.—Album containing plans of breweries and distilleries. 331
- 54 Dinaburg Arsenal.—Sapping instruments, and model of pontoon bridge. 333
- 55 Blach, John, Warsaw.—Statistical essay on the construction, management, and revenue of Russia; railways and graphic chart. 333
- 56 Military Engineering Department, St. Petersburg.—Armor plate, plans, and special editions. 333
- 57 Antonoff, Philip, St. Petersburg.—Plan in relief of Sebastopol during siege. 335
- 58 Hydrographical Bureau, St. Petersburg.—Marine charts and coast maps. 335
- 59 Department of Agricultural & Rural Industry, Statistical Bureau of St. Petersburg.—Statistical maps, showing the soil, climate, produce of crops, and cattle breeding in Russia. 335
- 60 Vassilieff, John, Pskoff.—Maps of Russia. 335
- 61 Topographical Bureau of the General Staff, St. Petersburg.—Maps and charts; photo, helio, lithographic works, and electrotype plates. 335
- 62 Timiriaseff, Demetrius, St. Petersburg.—Statistical atlas. 335
- 63 Municipality of the City of St. Petersburg.—Orographic plan of St. Petersburg. 335
- 64 Kittarg, Modest, St. Petersburg.—Statistical charts. 335
- 65 Flyin, Alexis, St. Petersburg.—Maps, charts, etc. 335
- Physical, Social, and Moral Condition of Man.**
- 66 Anikyeff, James, Moscow.—Swimming apparatus. 340
- 67 Kittarg, Modest, Garetooka, Government and District of Moscow.—Disinfecting fluid and powder for dwellings and stables. 342
- 68 Menard, St. Petersburg.—Appliances for stopping up the chinks of window-frames in cold climates. 342

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

ANNEX TO MAIN BUILDING.

No. 106.—ANNEX TO MAIN BUILDING. (CARRIAGE ANNEX.)

Architect, H. J. SCHWARZMANN.

(SIZE, 346 x 231.)

This structure is built of corrugated iron, wood, and glass; a one-story building, with sky-lights, situated on Avenue of the Republic, immediately north of the Main Building, and east of the Department of Public Comfort.

Chemical Manufactures, Furniture.

Chemical Manufactures.

- 1 Rogers, Duck & Lewis, Fort Wayne, Ind.—Miller's, elastic surfacing liquid, applied to the bare wood of carriage and car bodies. 202
- 1a Rosenberg, D. & Son, New York, N. Y.—Varnishes. 202

Furniture, etc.

- 1b Mason, John L., Camden, N. J.
a Soap cup. 213
b Fruit jars and nursing bottles. 215
- 2 Stewart, S. N., Philadelphia, Pa.
a Models of relief chair and mattress. 217
b Movable partition and balcony; stair rail. 227
- 2a Lawrence, Lewis P., Philadelphia, Pa.—Swing and nursery chair. 217
- 3 Pennsylvania Working Home for Blind Men, Philadelphia, Pa.—Mattresses. 217
- 3a Covert, Lewis B., New York, N. Y.—Extension step-ladder. 217
- 4 Wunderlich, John N., Philadelphia, Pa.—Adjustable table. 217
- 4a Wagner Drug Milling Co., Philadelphia, Pa.—Refrigerators. 217
- 4b Williams & Co., Nashua, N. H.
a Soapstone slabs, table tops, and shelves. 217
b Soapstone stoves, register frames, and foot warmers. 222
c Soapstone wash trays, sinks, griddles, etc. 224
- 5 Clark, I. D. & Co., Gloversville, N. Y.—Cradle, and baby's walking-table. 221
- 6 Thomas, Roberts, Stevenson, & Co., Philadelphia, Pa.—Coal and wood stoves, hot-air furnaces, cooking ranges. 222
- 6a Simonds' Manufacturing Co., New York, N. Y.—Furnace, ranges, registers, and apparatus for ventilating buildings. 222

- 7 Burnham, Chas., & Co., Philadelphia, Pa.
a Gas cooking and heating stoves. 222
b Weather strips. 227
- 7a Bissell & Co., Pittsburg, Pa.—Grates, ranges, and car heaters. 222
- 8 Cooley, J. G., Hyde Park, Mass.—Lamp cooking apparatus. 222
- 8a United States Soapstone Furnace Co., Boston, Mass.—Soapstone furnace. 222
- 9 Stuart, D. W., Philadelphia, Pa.—Stove. 222
- 10 Orr, Painter, & Co., Reading, Pa.—Ranges, heaters, stoves. 222
- 10a Westland, C. O., Troy, N. Y.—Parlor stove. 222
- 11 Spear, James, & Co., Philadelphia, Pa.—Stoves, heaters, ranges, low-down grates, etc. 222
- 11a Thatcher Heating Co., New York, N. Y.—Furnaces. 222
- 12 Reid & Cooper, Elmira, N. Y.—Cooking stove. Direct draft six-hole cooking stoves and ranges, constructed by new application of principles; warranted to give satisfaction in every instance. 222
- 12a Sheeler, Buckwalter, & Co., Royer's Ford, Pa.
a Parlor and cooking stoves, ranges, and heaters. 222
c Cherry seeder. 224
- 13 Swett, Quimby, & Perry, Troy, N. Y.—Parlor stove, cooking and heating ranges. 222
- 13a Richardson, Boynton & Co., New York, N. Y.—Furnaces, ranges, heaters, stoves, etc. 222
- 14 Thomas & Joerns, New York, N. Y.—Base-feeding parlor coal vases, movable base-feeding coal bins. 222
- 14a Rand, A. W., Philadelphia, Pa.—Heater and range. 222

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Heaters, Ranges, Household Utensils.

- 15 McDougall, S. T., New York, N. Y.—Gas stoves and cabinets, petroleum stoves, cooking apparatus, oil lamps and fixtures, gas burners. 222
- 15^a Open Stove Ventilating Co., New York, N. Y.—Open grate, close stove, and warm air furnace combined. 222
- 16 Monitor Oil Stove Co., Cleveland, O.—Cook stove. 222
- 17 Henis, Chas. F., Philadelphia, Pa.—Adjustable elbow for stovepipes. 222
- 18 Leibrandt & McDowell Stove Co., Philadelphia, Pa.—Stoves, etc. 222
- 18^b Florence Sewing Machine Co., Florence, Mass.—Stoves. 222
- 19 Bentley, Jeffrey O., Philadelphia, Pa.—Hollow metallic steam-radiating base-board for heating rooms. 222
- 19^a Langstrath, Thomas, Philadelphia, Pa.—Furnaces. 222
- 20 Dripps, Isaac, Philadelphia, Pa.—Safety ventilating heaters for railroad passenger cars. 222
- 21 Stuart, Peterson & Co., Philadelphia, Pa.—Stoves, hollow ware, and hardware goods. 222
- 22 Perkins & McFarland, Philadelphia, Pa.—Heaters and ranges. 222
- 23 Reynolds, J., & Son, Philadelphia, Pa.—Wood and coal furnaces, cooking range. 222
- 25 Morris & Haines, Philadelphia, Pa.—Heaters and range. 222
- 27 Hayes, Coulter & Co., Philadelphia, Pa.—Hot-air furnace, cooking range. 222
- 28 Grossius, John, Cincinnati, O.—Stove for school-houses, etc. 222
- 29 Barry & Lane, New York, N. Y.—Oven range and cast-iron setting. 222
- 30 Creamer, Wm. G., & Co., New York, N. Y.—Railway car ventilators, lamps, and car trimmings; house registers. 222
- 31 Nixon, George, & Son, Philadelphia, Pa.—Hotel range and boiler. 222
- 32 Bartlett, Job, & Sons, Philadelphia, Pa.—Furnaces, kitcheners, low grates. 222
- 33 Gale, D. A. T., Syracuse, N. Y.—Metallic bed bottom. 222
- 33^a Weare Bros. & Co., Cincinnati, O.—Stove. 222
- 34 Barstow Stove Co., Providence, R. I., New York, N. Y., and Boston, Mass.—Stoves, ranges, furnaces, heaters, hollow ware, etc. Awarded Grand Medal of Merit at Vienna Exposition, 1873. 222
- 35 Hopkin, William, jr., Philadelphia, Pa.—Furnace, range, and boilers. 222
- 37 Sheppard, Isaac A., & Co., Philadelphia, Pa.—Stoves, ranges, furnaces, hollow ware. 222
- 39 Tuttle & Bailey Manufacturing Co., New York, N. Y.—Hot-air registers, ventilators, ornamental screens for steam coils, etc. 222
- 40 Resor, Wm., & Co., Cincinnati, O.—Cooking stoves. 222
- 41 Caldwell & Mather, Philadelphia, Pa.—Cooking ranges and heating furnace. 222
- 42 J. L. Mott Iron Works, New York, N. Y.—Ranges, heaters, stoves, and grates. 222
- 43 McCoy & Roberts, Philadelphia, Pa.—Portable hot-air furnaces. 222
- 44 Barker, Geo. R., Philadelphia, Pa.—Combined heating and ventilating flue apparatus and double register. 222
- 45 Gold's Heater Co., 47 Cliff street, New York, N. Y.—Heaters. Constructed on the principle of extensive radiating surfaces, which has the effect of reducing the temperature, so as not to injure the quality of the air warmed. Produces same result as heat made by steam or hot water—a pure and healthful atmosphere. 222
- 46 Williams, Charles, & Co., Philadelphia, Pa.—Heaters, ranges, ventilators. 222
- 47 Rathbone, Sard & Co., Albany, N. Y.—Stoves and ranges for coal or wood. 222
- 48 Abendroth Bros., New York, N. Y.—Stoves, ranges, plumbers' ironware, vases, fountains, hot-house and stable fittings. 222
- 50 Giles, H. G., & Son, Troy, N. Y.—Portable furnace and range, and parlor stoves. 222
- 51 Myers, George, Philadelphia, Pa.—Bath boilers and tanks. 222
- 52 Whitehead, Thomas J., South Paris, Me.—Combined cooking stove and hot-air furnace. 222
- 53 Chatain, Henry, Washington, D. C.—Baking oven. Patent for sale. One in operation at 713 Eleventh street, Washington, D. C. 222
- 54 National Stove Works, New York, N. Y.—Heaters and ranges. 222
- 55 Doyle, William, Albany, N. Y.—Stoves, furnaces, and ranges. 222
- 56 Comstock, Castle, & Co., Quincy, Ill.—Heating stove. 222
- 57 Keystone Hardware Manufacturing Co., Reading, Pa.
^a Hot-air registers, and ventilators. 222
^b Hardware, apple parers, fruit presses. 224
- 58 Detroit Stove Works, Detroit, Mich.—Cooking and coal and wood heating stoves. Manufacturers of the celebrated Crown Jewel Base Burner, Tefft's Wood Cook, and a full assortment of wood and coal cooking and heating stoves. 222
- 59 Johnson, Black, & Co., Erie, Pa.—Stoves, furnaces, and heaters. 222
- 60 Mitchell, Stevenson, & Co., Pittsburg, Pa.—Stoves. 222
- 61 Hessenbruch, Theophilus, Philadelphia, Pa.—Combination damper and ventilator. 222
- 62 Michigan Stove Co., Detroit, Mich.—Stoves, hollow ware, stove furniture, etc. Manufacturers of cooking, parlor, and heating stoves, from a mixture of Lake Superior and other first-class brands of iron. Our motto: "Everything made first-class, and to sell at reasonable prices." 222
- 63 Lesley, Alex. M., New York, N. Y.
^a Gothic furnace. 222
^b Refrigerators and coolers. 224
- 64 March, Brownback & Co., Lime-riek Station P. O., Pa.—Heaters, ranges, and hollow ware. 222

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Heaters, Ranges, Household Utensils.

- 65 Boyd, David, New York, N. Y.—Flue radiator, flue and diaphragm attachment. 222
- 66 New Haven Steam-Heating Co., New Haven, Conn.—Radiators and screens for low-pressure steam-heating. 222
- 67 Miller, William, Cincinnati, O.—Ranges. 222
- 68 Corey, Jas. H., New York, N. Y.—Culinary boiler and steam and exhaust valve combined. 222
- 69 Duparquet, L. F., & Huot, New York, N. Y.
a Ranges, broilers. 222
b Coffee and tea urns, cooking utensils. 224
- 71 Shepherd, Chas. H., Philadelphia, Pa.—Refuse of cork prepared for kindling fires. 222
- 72 Belson, R. W., Philadelphia, Pa.—Warm-air furnace. 222
- 73 Williams & Co., Nashua, N. H.—Stoves, washtrays, sinks, griddles, etc., of Francetown soapstone. 222
- 76 Ferris, Geo. H., New York, N. Y.—Domestic boiler, coffee still. 222
- 77 Gardner, M. W., Green Island, N. Y.—Combination knobs for stoves, ranges, etc. 222
- 78 Birkey, John Q., & Co., Philadelphia, Pa.—Gas heaters. 222
- 80 Masser, H. B., Sunbury, Pa.—Coffee roaster. 222
- 81 Garrison, W. S., Volga City, Iowa.—Tubular heating stove. This stove will warm from five to twenty rooms without extra fuel. Send for engraving and circular to Tubular Stove Co., Clear Lake, Iowa. 222
- 82 Magee Furnace Co., Boston, Mass.—Furnace, ranges, parlor stoves. Magee's Standard Hot-air furnace, cased with a patent non-conducting material. Same furnace for sheet iron casing. Same furnace for setting in masonry. The radiators of these furnaces are manufactured of heavy plate iron, and all warranted gas-and-dust-tight. Their durability, economy, and successful operation have been fully demonstrated, and are guaranteed. Three samples of Magee's Standard Portable Ranges. Magee's Standard Brick Range (also exhibited in operation at the New England log cabin). Two samples of Magee's Standard Parlor Stove. Two samples of Magee's Standard Base Burner. Two samples of Standard Portable Low Down Grate. Magee's Standard Hall Stove. Magee's Standard Dining-Room Heater. Magee's Standard Cook Stove. Magee's Advance Cook Stoves. Magee's goods are eminently popular wherever used, and are warranted in every particular by the manufacturers. 222
- 83 Read, Josiah M., Boston, Mass.—Cooking range, stove dampers, lifters, and broilers. 222
- 83a Croll, Benj. P., 639 Arch street, Philadelphia, Pa.—Rhind's Patent Safety Lamp. Rhind's Patent Kerosene Safety Lamp has been placed upon the market, and the public is invited to test it. Its qualities are: First, it extinguishes itself when overturned; second, it extinguishes itself when dropped from the hand; it cannot be filled when lighted, and can be carried about at pleasure. It is so constructed that blowing down the chimney or turning down the wick to extinguish the light is unnecessary. The New York board of underwriters have endorsed and recommended its use. Sample price, \$1.25, sent free upon receipt of P. O. order. Merchants supplied at reasonable prices. 222
- 83b Beam, A. F., Philadelphia, Pa.—Oil tanks and cans. 214
- 84 Barrows, Savery & Co., Philadelphia, Pa.—Hollow ware, irons, porcelain refrigerator, etc. 224
- 84a Dungleison, Richard J., Philadelphia, Pa.—Corn grater. 224
- 85 Farson, E. S., & Co., Philadelphia, Pa.—Refrigerators and coolers. 224
- 85a Reidle, E. G., & Co., Philadelphia, Pa.—Seamless tin boxes. 224
- 86 Gravenstine, John, Philadelphia, Pa.—Sideboard, refrigerator, and water-cooler combined. 224
- 86a Perkins, Eliab, Sterling, Ill.
a Refrigerator. 224
b Shutter. 227
- 87 Soggs, C. W., Carbondale, Pa.
a Fruit and vegetable parer and slicer. 224
b Folding adjustable ironing table and skirt-board. 225
- 88 Lacy, Walter, Milwaukee, Wis.—Steamless cooking shell. 224
- 90 Kimball, Wm. S., Philadelphia, Pa.—Refrigerator, filter, and cooler. 224
- 91 Parker, Chas., Meriden, Conn.—Coffee mills. 224
- 92 Berney, Alfred, Boston, Mass.—Teakettle, boiler, and steamer; dry, wet, and weighing measure combined; coffee cone. 224
- 93 Patent Keg Co., Philadelphia, Pa.—Paint and other cans. 224
- 94 Keller Manufacturing Co., Harrisburg, Pa.—Graduated quart measure. 224
- 95 Hess, Abram, Philadelphia, Pa.—Cooking apparatus. 224
- 97 Shepard, Sidney & Co., Buffalo, N. Y.—Japanned and stamped tinware, coal vases, stove boards, ice cream freezers, spice caddies. 224
- 98 Stites & Co., Cincinnati, O.—Iron measures, buckets, and paint pails. 224
- 99 Broch, Isidor, Philadelphia, Pa.—Water filter. 224
- 100 Acquackanonk Manufacturing Co., Passaic, N. J.—House furnishing woodenware; stepladders, hat racks, knifeboards, etc. 224
- 101 Rohrer, Jeremiah, Lancaster, Pa.—Refrigerator and water cooler combined. 224
- 101a Beach, E. R., New York, N. Y.—Match safe base for lamps. 224
- 103 Ford, F. G., Philadelphia, Pa.—Flour and ash pails and sieves combined; toys. 224
- 105 Polhemus, J. H., New York, N. Y.—Refrigerating cupboard, upright and chest refrigerator. 224
- 106 Newark Tea Tray Co., Newark, N. J.—Tea trays, children's trays, stove platforms, dustpans, and brushes. 224
- 107 Dowst, Frank, Manchester, N. H.—Refrigerator. 224

Household Utensils.

- 108 Allegretti Refrigerator Co., New York, N. Y.—Refrigerators, railroad refrigerator car, undertakers' preserving casket. 224
- 110 Olmsted, S., jr., Galesburg, Ill.—Sifter, cullender, and strainer combined. 224
- 111 Silver, W. H., New York, N. Y.—Egg beater, tin churns, and ice cream freezers. 224
- 112 Consolidated Fruit Jar Co., New Brunswick, N. J.—Fruit in Mason's glass jars. Manufacturers of Mason's fruit jars, oilers, can screws, and sheet metal wares. 224
- 112^a Ketcham, E., & Co., New York, N. Y.—Tin ware, kitchen goods. 224
- 113 Scheider, J., & Co., Portland, Conn.—Stamped and japanned ware; house furnishing goods. 224
- 114 Cull, Henry, Philadelphia, Pa.—Combination sink and dish cupboard and toilet stand; kitchen and dining room furniture. 224
- 115 Missouri Valley Novelty Works, St. Joseph, Mo.—Combination kitchen safe. A money saving, labor saving, household convenience. With this safe a person need not move one step in making bread, cakes, or pastry, for all the necessary machinery and ingredients are centered within reach. 224
- 116 Simes & Tate, Philadelphia, Pa.—Water filter. 224
- 117 Randle, Wm. H., Baltimore, Md.—Water coolers and refrigerators. 224
- 120 Shaw, Charles A., 110 Tremont street, Boston, Mass.—Spice box. 224
- 121 Wilson Manufacturing Co., Philadelphia, Pa.—Clothes dryer, rack, nursery cup. 224
- 122 Rasin, William J., Philadelphia, Pa.—Water coolers, restaurant coolers. 224
- 124 Union Manufacturing Co., Toledo, O.—Washboards, churns, lawn hose carts, kitchen woodenware. 224
- 125 Vignal, Carl, New York, N. Y.—Ice cream refrigerator. 224
- 127 Schaum, John P., Lancaster, Pa.—Copper kettles and copper ware. 224
- 128 St. Louis Stamping Co., St. Louis, Mo.—Granite iron cooking and household utensils. 224
- 130 Bollenbacher, Geo. W., Bloomington, Ind.—Kneading table, with flour and meal chest combined. 224
- 132 Gem Soldering Iron Co., Philadelphia, Pa.
^a Soldering casket. 224
^b Portable shower bath. 226
- 133 McDonald, T. E., New Brunswick, N. J.—Washing machine and wringer. 225
- 134 Moore, Henry, & Son, Philadelphia, Pa.—Washing machine. 225
- 134^a Caldwell, M. A., North East, Pa.—Combination brush and rollers for washboard. 225
- 135 Dugdale, Jas. K., White Waters, Ind.—Clothes wringers and washers, garden cultivators. 225
- 135^a Gilbert, A. C., Philadelphia, Pa.—Ironing board. 225
- 136 American Machine Co., 430 Walnut street, Philadelphia, Pa.—Crown clothes wringers, frames of galvanized malleable iron, self-adjusting, pressure released from rolls, automatically, when out of use; efficient, practical, and durable. "Crown Fluters and Star Fluters," latest improved construction, celebrated for variety and perfection of work and ease of operation. 225
- 137 Chalfant Manufacturing Co., 507 North street, Philadelphia, Pa.—Proprietor and manufacturers of Mrs. Potts's patent cold-handle sad irons, polishing, laundry, and tailors' irons. 225
- 138 Vant, Aremas B., & Cheney, Henry O., Hopkinton, Mass.—Washer and wringer combined. 225
- 139 American Lever Wringer Co., Springfield, O.—Clothes wringer. 225
- 140 Applegate, Robert O., Philadelphia, Pa.—Ironing table. 225
- 141 Duncan, W. A., Syracuse, N. Y.—Washing machine. 225
- 142 Worden, A. E., Smyrna, Del.—Washing machine. 225
- 143 Colby Wringer Co., Waterbury, Vt.—Clothes wringer, little washer. 225
- 144 Bless & Drake, Newark, N. J.—Self-heating smoothing irons, tailors' geese, sad, laundry, and polishing irons. 225
- 146 Calver, Dr. G. W. H., Columbus, N. J.—Household ironing machine, heated by gas or cook stoves. Patent for sale. 225
- 147 Bailey Wringing Machine Co., New York, N. Y.—Clothes wringers. 225
- 149 Jennings, A. W., Bedford, O.—Clothes washers. 225
- 150 Gove, John C., Cleveland, O.—Fruit and provision preserving house, washing machine, adjustable index writer. 225
- 151 Lash, J. S., & Co., Philadelphia, Pa.—Washing machine, bench wringers. 225
- 154 Lamb, Geo. D., New Haven, Conn.—Little washer, iron holder. 225
- 155 Metropolitan Washing Machine Co., New York, N. Y.—Clothes wringers, washing machine, mangle. 225
- 157 Myers, A. G., New York, N. Y.—Water closets and plumbers' material. 226
- 157^a Eisenmann, E., New York, N. Y.—Back and head support for the bathtub. 226
- 158 Blessing, C. A., 44 North Fifth street, Philadelphia, Pa., dealer in bath tubs, copper boilers, and plumbers' copper and cabinet ware in general.—Bath tubs, washstand, bidet. 226
- 158^a Blakemore & Sherman, Philadelphia, Pa.—Washstand. 226
- 159 Carr, Wm. S., & Co., New York, N. Y.—Water closets, brass pumps, cabinet woodwork, and bathroom. 226
- 159^a Pease, Charles A., Boston, Mass.—Washstand. 226
- 160 Wakefield Earth Closet Co., New York, N. Y.—Earth closets, combined commode and slop pail. 226
- 161 Carrigan, Peter, Philadelphia, Pa.—Tinned and nickel-plated copper bathtubs, bidet, footbath, pantry and bar sinks, drainer, and liquor cooler. 226

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Parts of Buildings, Hardware, etc.

- 162 Weaver & Pennock, Philadelphia, Pa.—Marble lavatory. 226
- 162a Landis, S. M., Philadelphia, Pa.—Turkish bath. 226
- 163 Vinton, C., Hartford, Conn.—Babies' bathtub, sitz bath. 226
- 164 Bacharach, M., New York, N. Y.—Street urinal. 226
- 165 Travis, Jos. L., Philadelphia, Pa.—Water closets, brass and plated work for plumbers and steam fitters. 226
- 166 Steeger, Henry, New York, N. Y.—Copper boilers, bathtubs, etc. 226
- 166a Barth, Gottlieb M., Philadelphia, Pa.—Improvement in window frames. 227
- 166b Ballentine, G. H., Philadelphia, Pa.—Cottage. 227
- 166c Ross, William J., West Boylston, Mass.—House building improvements, etc. 227
- 166d Perry, Jos. R., Wilkesbarre, Pa.—Wooden house. 227
- 166e Patterson, J. E., & Co., Pittston, Pa.—Doors, shutters, newel posts, etc. 227
- 166f Winans, Geo. G., Scranton, Pa.—Wainscoting. 227
- 166g Wilson, Jas. G., New York, N. Y.—Rolling wood shutters and venetian blinds. 227
- 166h Wight, Spencer A., Philadelphia, Pa.—Dust trap for ventilating bulk windows. 227
- 166i Comstock, C. C., Grand Rapids, Mich.—Doors, blinds, mouldings, etc. 227
- 166j Wilt, A., & Son, Philadelphia, Pa.—Sash, blinds, doors, mouldings, etc. 227
- 166k Huginin Manufacturing Co., New York, N. Y.—Automatic window supports. 227
- 166l Bradford, H., Philadelphia, Pa.—Window fastener. This is the only window fastener that locks automatically at any point, by side pressure, without defacing the frame. For sale by H. Bradford, room 26, Merchants' Exchange, corner Third and Walnut streets, Philadelphia. 227
- 166m Champion Fence Co., Kenton, O.—Iron fencing. 227
- 166n Manly, M. M., & Son, Philadelphia, Pa.—Iron railing, wirework, etc. 227
- 166o Clark & Co., New York, N. Y.—Brass and iron store fronts and self-coiling shutters. 227
- 166p Lake Champlain Manufacturing Co., Ticonderoga, N. Y.—Doors, etc. 227
- 166q Ford, W. A., Greensburg, Ill.—Window fastener. 227
- 166r Hayes, Geo. S., New York, N. Y.—Roofing. 227
- 167 Dayton, G. E., New York, N. Y.—Iron gutters, sashes, etc. 227
- 167a Crowell, S., Philadelphia, Pa.—Iron fence. 227
- 167b Hough & Co., Indianapolis, Ind.—Cast iron griffins. 227
- 167c Darby, E., & Son, Philadelphia, Pa.—Wire work. 227
- 167d Lynex, Richard, Philadelphia, Pa.—Wire work. 227
- 167e New York Slate Roofing Co. (limited), New York, N. Y.—Paints and roofing materials. 227
- 167f Garry Iron Roofing Co., Cleveland, O.—Roofing, window shutters, etc. 227
- 167g Augustine & Stuart, Philadelphia, Pa.—Metallic roofing and spouting. 227
- 167h Belts' Roofing Co., Cincinnati, O.—Roofing. 227
- 167i Martin, W. H., & Co., Philadelphia, Pa.—Roofing. 227
- 167j Fairbanks, A. G., Manchester, N. H.—Soapstone roofing. 227
- 167k Kensett, Jas. W., New York, N. Y.—Fireproof appliance for the security of buildings. 227
- 167l Swift, Charles N., New York, N. Y.—Adjustable ventilators. 227
- 167m Bates, J. C., Philadelphia, Pa.—Ventilating apparatus. 227
- 167n Bracher, T. W., New York, N. Y.—Ventilators. 227
- 167o Wallace, S. J., Keokuk, Ia.—Fire-proof floors and roofs. 227
- 167p Penn Roofing Co., Philadelphia, Pa.—Roofing felt, etc. 227
- 167q Humboldt Iron Works, New York, N. Y.—Illuminating tiles. 227

Clothing, Jewelry, and Ornaments;
Traveling Equipments.

- 167r Watts, Ethelber, Philadelphia, Pa.—Portable bath trunk. 255

Medicine, Surgery, Prosthesis.

- 167s Crandall, Chas. J., New York, N. Y.—Crutches. 276

Hardware, Edge Tools, Cutlery, and
Metallic Products.

- 167t Wickersham & Bro., Philadelphia, Pa.—Brass and gold pipe, etc. 283
- 167u Eckel, Herman, Cincinnati, O.—Enamelled iron hollow ware. 283
- 167v Musgrove & Son, New York, N. Y.—Fancy articles for tin wedding presents, tin, japanned and copper ware. 283
- 167w Lalance & Grosjean Manufacturing Co., New York, N. Y.—Granite ware, etc. 283
- 168 Rowland, William, & Harvey, Philadelphia, Pa.—Carriage, locomotive, and car springs; tire, sheet, cast, machinery, and blister steel. Re-rolled Norway iron, rolled and slit Norway nail rods. 284
- 168a Mott, J. L., Iron Works, New York, N. Y.—Plumbers' cast iron ware, plain, galvanized, and enameled. 284
- 169 Burwell, William, & Bro., Philadelphia, Pa.—Carriage mountings in silver, oreide, and gold plated. 284
- 169a Anderson, W. W., Philadelphia, Pa.—Models for carriage shackle. 284
- 170 The Philadelphia Axle Co., Philadelphia, Pa.—Iron and steel axles, improved wheels. 284

Hardware, Parts of Carriages.

- 171 Hoopes, Bro., & Darlington, West Chester, Pa., & at 27 James street, Long-Acre, London, England.—Vehicle wheels of hickory and oak, fine quality and workmanship, thoroughly seasoned. Particular attention given to special styles for builders of private coaches; also Dorman patent wheels with wood hub and iron flanges, spokes secured in hub by wedges, and warranted not to become loose in service. Wheel material and shafts of all kinds to order. 284
- 172 Topliff & Ely, Elyria, O.—Tubular bow, shaft, and pole sockets for carriages; side-spring equalizers. 284
- 173 Kent, D. H., & Co., Wilmington, Del.—Iron hardware and coach material. 284
- 174 Benezet & Co., Philadelphia, Pa.—Carriage and wagon springs. 284
- 175 Dann, Bros., & Co., New Haven, Conn.—Carriage woodwork. 284
- 176 Shields, Thomas, Philadelphia, Pa.—Carriage bolts and clips, nuts, washers, etc. 284
- 177 Kunzig, Christian, Philadelphia, Pa.—Gold and silver carriage mountings. 284
- 178 Metal Stamping Co., New York, N. Y.—Carriage curtain loops and buckles, knob fasteners, etc. 284
- 179 Brown, S. N., & Co., Dayton, O.—Sulky, buggy, and coach wheels, hubs, spokes, bows, shafts, poles, and yokes. 284
- 180 Dexter Spring Co., Hulton, Pa.—Vehicle springs. 284
- 181 Seidler, Fred., Mechanicsburg, Pa.—Spokes, felloes, hubs, shafts, poles, bows, wheels. 284
- 182 Sheldon & Co., Auburn, N. Y.—Carriage and wagon axles. 284
- 183 McKnight & Rohrer, Charlestown, W. Va.—Carriage rims; axe, pick, sledge, hammer, and hatchet handles. 284
- 184 Advena & Heald, Philadelphia, Pa.—Carriage and wagon axles; steel boxes. 284
- 185 Shields, Wm., Philadelphia, Pa.—Carriage bolts. 284
- 186 Cowles, C., & Co., New Haven, Conn.—Carriage trimmings and hardware. 284
- 187 New Haven Wheel Co., New Haven, Conn.—Wheels for vehicles. All the usual styles and qualities of unpatented wheels. Original manufacturers of the celebrated "Sarven" patent wheel. 284
- 188 Davis, John G., & Son, Philadelphia, Pa.—Spokes, hubs, rims, wheels, and plow handles. 284
- 189 Sandusky Wheel Co., Sandusky, O.—Carriage woodwork. 284
- 190 Woolworth, James, Sandusky, O.—Tool handles. 284
- 191 Smith, H. D., & Co., Plantsville, Conn.—Carriage and coachmakers' forged hardware. 284
- 192 Urnston, John, Rahway, N. J.—Hubs. 284
- 193 Crane, Samuel O., Newark, N. J.—Carriage wheels. 284
- 194 Jones, Phineas, & Co., Newark, N. J.—Coach and carriage wheels, spokes, hubs, rims, etc. 284
- 195 Kilburn, Isaac B., Newark, N. J.—Bent carriage woodwork and materials. 284
- 196 Smith, Alfred E., Brownville, N. Y.—Carriage axles. 284
- 197 Searls, Anson, Newark, N. J.—Carriage specialties. Whip sockets adapted to all kinds of carriages, with improved fasteners; style, finish, and durability. The "Centennial" top props for carriages, perfected; any joint will fit; no rattle, and no nuts lost. 284
- 198 Union County Manufacturing Co., Elizabeth, N. J.—Wheels and wheel stock. 284
- 199 Skelly, Thomas, Philadelphia, Pa.—Carriage bolts, axle clips, nuts, etc. 284
- 200 Lockwood, C. N., & Co., Newark, N. J.—Carriage lamps and plated carriage ware. 284
- 201 Silas, Rogers, & Co., Stanfordsville, N. Y.—Carriage and truck axles. 284
- 202 Springer, Morley, & Gause, Wilmington, Del.—Coach and carriage wheels, hubs, spokes, and felloes. 284
- 203 Baker & Co., Waller, O.—Wheels, hubs, spokes, felloes, gearing, wood in rough, etc. 284
- 204 Sippel, Chr., Newark, N. J.—Fancy turning for carriage trimmings. 284
- 204^a Rubber Step Manufacturing Co., Boston, Mass.—Carriage steps, etc. 284
- 205 Dalzell, D., & Sons, South Egremont, Mass.—Carriage axles, axle boxes. 284
- 205^a Seward, M., & Son, New Haven, Conn.—Carriage hardware. 284
- 206 Sammes, J. B., & Co., New York, N. Y.—Hubs. 284
- 207 Olds, N. G., & Sons, Fort Wayne, Ind.—Wheels, hubs, buggy seats, and plow handles. 284
- 208 Leippe, Jacob A., Anchor Bending Works, Lancaster, Pa.—Shafts and rims. 281
- 209 Wrigglesworth, W. J., Darlington, Wis.—Wheels for carriages, buggies, wagons, etc. 284
- 210 Logansport Manufacturing Co., Logansport, Ind.—Wagon and carriage spokes, bent felloes, shafts, and soles. 284
- 211 Cunningham, Portz, & Co., Fostoria, O.—Spokes, felloes, neck yokes, whiffletrees, pick and hammer handles, etc. 284
- 212 Strahorn, Pierson, & Co., Toughkenamon, Pa.—Carriage wheels. 284
- 213 Lebzelter, Philip, Lancaster, Pa.—Spokes, felloes, shafts. 284
- 214 Paine Bros., New York, N. Y.—Hickory and ash handles, carriage and wagon woodwork, hardwood lumber. 284
- 215 Stockton Spoke Works (W. V. Case, Bro., & Co.), Stockton, N. J.—Spokes, whiffletrees, neck yokes, handles, and carriage woodwork. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Wooden and Basket Ware, Carriages.

- 216 Woodburn Sarven Wheel Co., Indianapolis, Ind.—Sarven and common wood hub wheels. Manufacturers of the celebrated "Sarven Patent Wheel," used for all kinds of vehicles; also, common wood hub wheels. Send for our Price List. 284
- 217 Frohock, Wm. Thompson, Philadelphia, Pa.—Suspension steel buggy wheels, nickel-plated spokes, etc. 284
- 218 Hayden & Smith, Auburn, N. Y.—Saddlery, and carriage hardware; finished forgings for carriages; slot fifth wheels, Saunders' patent shaft shackles, patent iron-clad hames, Scotch hames, Concord hames, Kinne's patent trace buckles; all wrought, guaranteed, Braddon bits. 284
- 219 Mosier, John L. H., New York, N. Y.—Ironwork for pleasure carriages and tools for carriage smiths. 284
- 219^a Welsh & Lea, Philadelphia, Pa.—Carriage and tire bolts, nuts, axle clips, etc. 284
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 220 Gould, C. H., Philadelphia, Pa.—Rubber steps, etc. 285
- 220^a Jones, H. C., & Co., Philadelphia, Pa.—Brush stocks and handles. 286
- 220^b Robinson, Fowler, & Co., San Francisco, Cal.—Brooms with metallic socket. 286
- 220^c Merick, E. J., Rochester, N. Y.—Brooms. 286
- 220^d Meinecke, Adolph, Milwaukee, Wis.—Ladies' baskets and willow ware. 289
- 220^e French Paper Ware Co., Springfield, N. J.—Pails, tubs, etc. 289
- 220^f Tower, Wm. F., & Bro., Hinsdale, Mass.—Ash baskets, for use in mills. 289
- 220^g Dempsey Wicker-covered Glass-ware Co., Philadelphia, Pa.—Wicker-covered bottles. 289
- 220^h Dodson & Roberts' Manufacturing Co., Philadelphia, Pa.—Rattan and wire goods. 289
- 220ⁱ Eberhardt, F., Philadelphia, Pa.—Baskets, cradles, workstands, etc. 289
- 220^j Zinn, Chas., & Co., New York, N. Y.—Baskets, willow ware, etc. 289
- 220^k Crane Bros., Westfield, Mass.—Paper baskets, buckets, cans, etc. 289
- 220^l Hapgood & Smith, Athol, Mass.—Match sticks. 289
- Carriages, Vehicles, and Accessories.**
- 221 Rogers, Wm. D., & Co., Philadelphia, Pa.—Pleasure carriages. 292
- 222 Beckhaus, Jos., Philadelphia, Pa.—Coach, landaulet, phaeton, coupé. 292
- 223 McLear & Kendall, Wilmington, Del.—Phaetons, rockaway, family, park, and seaside carriages. 292
- 224 Petry, Geissel, Bayha, & Co., Philadelphia, Pa.—Finished and unfinished landaus. 292
- 225 Jacobs, S. W., & Son, Philadelphia, Pa.—Pleasure carriages. 292
- 226 Childs, Geo. K., Philadelphia, Pa.—Shifting top buggy, track sulky. 292
- 227 Lane, D. M., & Son, Philadelphia, Pa.—Extension top brett, phaeton, falling top buggy. 292
- 228 Haskell Bros., Philadelphia, Pa.—Road top wagon. 292
- 229 Brewster & Co., of Broome street, New York, N. Y.—Town and park carriages, road wagons, and sleighs. 292
- 230 Wood Bros., New York, N. Y.—Brougham, vis-a-vis, top wagon, landau, T and dog cart. 292
- 230^a Hill, J. W. R., Brentwood, N. Y.—Carriage, with pedal driving attachment. 292
- 231 Stone & Kaighn, Philadelphia, Pa.—Doll carriage, boys' wagon, and wheelbarrow. 292
- 232 Caffrey, Chas. S., Camden, N. J.—Skeleton sulky, shifting top buggy, phaetons. 292
- 232^a Oppenheim, Fred., San Francisco, Cal.—Buggies. 292
- 233 Townsend, Chas. T., New Haven, Conn.—Phaeton and wagon bodies. 292
- 234 Brewster, J. B., & Co., 25th street, New York, N. Y.—Landau town coach, demi-landau, coupé, victoria, windsor wagons. Established by our Mr. J. B. Brewster, in 1838. Sole makers of "The Windsor Wagon," with vertical steel plates in axle beds. A visit to the factory at Twenty-fifth street, New York, will repay any one. Warerooms, Fifth Avenue and Twenty-first street, N. Y. 292
- 235 Doland & Scherb, San Francisco, Cal.—Light carriages. 292
- 236 Stivers, Rufus M., New York, N. Y.—Pleasure carriages or buggies. 292
- 237 Bailey & Wilson, Oxford, Pa.—Trotting wagon. 292
- 238 Studebaker Bros. Manufacturing Co., South Bend, Ind.—Top buggy. 292
- 240 Hetfield & Jackson, Rahway, N. J.—Light pleasure carriages. 292
- 241 Cadwallader, Fitz Gibbon, & Co., Trenton, N. J.—Road wagon, top buggy. 292
- 242 Rech, Jacob, Philadelphia, Pa.—Phaetons, top buggy, Jenny Lind. 292
- 243 Scranton, L. S., Grand Rapids, Mich.—Track sulky, buggy. 292
- 244 Clymer, F. T., Wilmington, Del.—Hearses, phaeton, and buggy body. 292
- 245 Colyer, J., & Co., Newark, N. J.—Westchester, rockaway, top buggy, road wagon. 292
- 245^a Crosby, Gilsinger, & Co., Rondout, N. Y.
^a Light carriages. 292
^b Velocipede. 293
- 246 Randall, Jas. V., Newtown, Pa.—Extension phaetons. 292
- 247 Guthrie, Jones, & Co., Wilmington, Del.—Buggies. 292
- 248 Cunningham, James, & Son, Rochester, N. Y.
^a Landaus, landaulet, top buggy. 292
^b Hearses. 293
- 249 Gosling, J. W., Cincinnati, O.—Brett carriage, top buggies, side bar wagon. 292

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

Carriages, Cars.

- 250 Renick, Curtis, & Co., Greencastle, Ind.—Combined carriage and buggy; combined carriage and buggy bodies. 292
- 251 Wright, W. H., & Co., Wilmington, Del.—Double jump seat carriage. 292
- 252 Mellinger Jump Seat Co., Harrisburg, Pa.—Jump-seat bodies. 292
- 253 Hall, James, & Son, Boston, Mass.—Berlin coach; top and shifting top buggies. 292
- 254 Enders, J., & Co., Louisville, Ky.—Top buggy with side bar attachment. 292
- 255 Sargent & Ham, Boston, Mass.—Extension top park phaeton. 292
- 256 Scovill, S. S., & Co., Coldwater, Mich.—Box buggy and track sulkies. 292
- 257 McDermott, John, & Bros., Washington, D. C.—Shifting top buggy. 292
- 258 Green, John, Wilmington, Del.—Jump seat and doctors' rockaways. 292
- 259 McLear, Alfred, West Chester, Pa.—Shifting seat carriage and shifting top buggy. 292
- 260 Gilman, F. C., Montpelier, Vt.—Track sulky, open wagon. 292
- 261 Rodgers, S. C., Philadelphia, Pa.—Shifting top, side bar wagon; one-man wagon. 292
- 263 Behlen, Charles, Cincinnati, O.
a Barouche, physician's phaeton. 292
b Hearse. 293
- 264 Tonsend, Chas. T., New Haven, Conn.—Phaeton, road wagon, and willow shell bodies. 292
- 265 Killam, H., & Co., New Haven, Conn.—Pleasure carriages. 292
- 266 Manville, B., & Co., New Haven, Conn.—Rockaways, cabriolet, T cart. 292
- 267 Hub Publishing Co., New York, N. Y.—Hand drawings of carriages. 292
- 268 Grube, Chas., New York, N. Y.—Park phaeton, top buggy. 292
- 269 Goold, James, & Co., Albany, N. Y.
a Drawing-room coach, buggy. 292
b Sleighs, cutter. 295
- 270 Stone, Frank P., Chicago, Ill.—Porter buggy. 292
- 271 Pray Bros., Boston, Mass.—Goddard buggy, track sulky. 292
- 272 Packard, C. F., & Co., West Farmington, Me.—Side spring platform wagon, and track wagon. Given first mention and silver medal at the Maine State Fair, 1874. 292
- 273 Sargent, William P., & Co., Boston, Mass.
a Buggies, carriages. 292
b Sleighs. 295
- 274 Smith, J. T., & Co., Boston, Mass.
a Top buggies. 292
b Sleighs. 295
- 275 Durham & Wooster, New Haven, Conn.—Landaulet couplet, London phaeton. 292
- 276 Dibble, C. F., & Co., Philadelphia, Pa.—Doctors' gig, pony phaeton. 292
- 277 St. James, C., Pittsfield, Mass.—Single carriage, thill and pole. 292
- 279 Jones, Phineas, & Co., Newark, N. J.—Track sulky. 292
- 280 Tibbals, Lewis P., New York, N. Y.—Baby carriage. 293
- 280^a New Haven Folding Chair Co., New Haven, Conn.—Child's carriage. 293
- 281 Abbott, Downing & Co., Concord, N. H.—Concord coaches. 293
- 281^a Dare, C. W. F., New York, N. Y.—Child's carriage. 293
- 282 Conover, J. A., & Son, New York, N. Y.—Spring leaping-horses, baby carriages. 293
- 282^a Oppenheimer, Solomon, Newark, N. Y.—Improvement in children's carriages. 293
- 283 Yost, T. A., Philadelphia, Pa.—Children's carriages and velocipedes. 293
- 283^a Wentworth, Chas. H., Eddystone, Pa.—Child's folding carriage. 293
- 284 Richardson, McKee & Co., Boston, Mass.—Child's carriage. 293
- 285 Montpelier Manufacturing Co., Montpelier, Vt.—Children's carriages. 293
- 285^a Jury, F. Hermann, New York, N. Y.—Child's folding carriage. 293
- 286 McIntire, J. Frank, Boston, Mass.—Children's carriages. 293
- 287 Cole & Ballard, Newark, N. J.—Baby carriages, velocipede, sled, and wagon. 293
- 288 Newgeon & Shelton Carriage Co., Birmingham, Conn.—Children's carriages. 293
- 289 Steinbach, Geo. P., Baltimore, Md.—Children's convertible sleeping coaches and walking and nursery chair and vehicle. 293
- 290 Fraley, G. W., & Co., Philadelphia, Pa.—Baby's canopy-top coach, velocipede. 293
- 291 Crandall & Co., New York, N. Y.—Children's carriage. 293
- 292 McIntire, Samuel, New York, N. Y.—Baby carriages. 293
- 293 Crandall, J. A., Brooklyn, N. Y.—Child's carriage and cradle combined, play goods, etc. 293
- 294 Youle, William, Norwalk, Conn.—Hearse. 293
- 295 Paris Hill Manufacturing Co., Paris Hill, Me.—Children's carriages and sleds. 293
- 296 Hunt, Wm., Camden, N. J.—Passenger vehicles. 293
- 297 Pickering, Thos. R., Portland, Conn.—Velocipede. 293
- 298 Smith, John, & Son, South Gray, Me.—Sleigh. 295
- 298^a Mayer, John W., Rondout, N. Y.—Albany cutter. 295
- 299 Smith, Hugh, Gray, Me.—Double and single sleighs. 295
- 299^a Wagner, Geo. W., Roxborough, Pa.—Sleigh. 295
- 300 Russell, Joseph, cor. Congress & Oak streets, Portland, Me.—Fine carriages and sleighs. 295
- 300^a Dann Bros. & Co., New Haven, Conn.—Carriage wood work, bodies, seat backs, gearings, bows, shafts, etc. 296
- 300^b Hill, J. R., & Co., Concord, N. H.—Harness. 296

Scientific Instruments, Railway Cars and Appliances.

- 301 Pennsylvania Working Home for Blind Men, Philadelphia, Pa.—Harness. 296
- 301^a Phillips, Samuel R., Philadelphia, Pa.—Four-in-hand harness on wooden horses. 296
- 301^b White Manufacturing Co., Bridgeport, Conn.—Carriage trimmings and lamps. 296
- 302 Dohan, J. F., & Co., Binghamton, N. Y.—Carriage curtain-lights and other stamped carriage goods. 296
- 303 Baldwin, Jos., & Co., Newark, N. J.—Saddlery hardware, hand forged and malleable; bits. 296
- 304 Hayden & Smith, Auburn, N. Y.—Hames and trimmings for harness. 296
- Institutions and Organizations.**
- 304^a Barry, Peter, New York, N. Y.—The arms of the Revolutionary patriots. 312
- Scientific and Philosophical Instruments and Methods.**
- 304^b Keller Manufacturing Co., Harrisburg, Pa.—Graduated measure. 322
- 304^c Fournier, Stanislas, New Orleans, La.—Tell-tale clock and starter. 323
- Physical, Social, and Moral Condition of Man.**
- 304^d Curtis, Albert W., Williamsport, Pa.—Centennial swing. 340
- Motors and Apparatus for the Generation and Transmission of Power.**
- 304^e Miller, Joseph A., Providence, R. I.—Models for locomotive boilers. 550
- Hydraulic and Pneumatic Apparatus, Pumping, Hoisting, and Lifting.**
- 304^f Miller, A. R., & Son, Attica, N. Y.—Automatic carriage jack. 503
- 304^g Miller, Joseph A., Providence, R. I.—Hose carriage. 504
- Railway Plant, Rolling Stock, and Apparatus.**
- 305 Jackson & Sharp Co., Wilmington, Del.—Ordinary and narrow gauge passenger cars. 571
- 306 Harlan & Hollingsworth Co., Wilmington, Del.—Parlor car, narrow gauge passenger car. 571
- 306^a Clark, Geo. P., Boston, Mass.—Combined locomotive, baggage, and passenger car. 571
- 307 Haase, John A., Philadelphia, Pa.—Model freight car, hose shield, floor and door clamps, ratchet drills. 571
- 308 Pullman's Palace Car Co., Chicago, Ill.—Drawing-room car, hotel car. 571
- 309 Wason Manufacturing Co., Springfield, Mass.—Railway passenger car. Established 1845. Railway car builders. Particular facilities for doing foreign work. 571
- 311 Hayden, James, Philadelphia, Pa.—Car model, showing improvement in bumper springs, platform and draw heads. 571
- 312 Ustick, Stephen, Philadelphia, Pa.—Car model, showing improved coupling and journal lubricators. 571
- 313 Stephenson, John, & Co., New York, N. Y.—One and two horse street cars. 571
- 314 Towle Manufacturing Co., New York, N. Y.—Bell punches and fare registers. 571
- 314^a Crosby & Hecker, Rondout, N. Y.—Car coupler. 572
- 314^b Russell, H. G., Lincoln, Ill.—Car coupler. 572
- 314^c World's Champion Car Coupler Co., Tiffin, O.—Car coupler. 572
- 315 Darling, Samuel, Providence, R. I.—Improved ventilating car window. Manufacturer of a great variety of new patent inkstands, on new principles, being so arranged that the writer can regulate, with great accuracy, the quantity of ink to be taken upon the pen. They are made in styles and at prices to suit all classes of writers. One (non-spilling) is especially adapted for home use. Pen-cleaners, on a new principle, an indispensable article. A new glass for church windows, which will keep out the sun, and let in more light than any before produced. A standard medicine-dropper, by which medicine can be dropped with facility in drops of the exact standard size. 573
- 315^a Hindman, Thos., Pittsburg, Pa.—Whiffletree and shaft-coupling. 573
- 315^b Blaisdell, Geo. P., North Easton, Mass.—Self-lubricating carriage axles. 573
- 315^c Locke, John, Philadelphia, Pa.—Hubs for wheels. 573
- 315^d Hunter, G. W., Philadelphia, Pa.—Railroad tie lifter. 573
- 316 Brill, J. G., & Co., Philadelphia, Pa.—Street railway car. 577
- 317 Morgan, Richard Price, jr., Bloomington, Ill.—Elevated railway for cities, adopted by the Rapid Transit Commission of New York, Oct. 4, 1875. This structure is designed to sustain a double track steam railway, over the centre of streets, at such height as not to interfere with their ordinary traffic. The transverse supports that carry the longitudinal trusses, which directly uphold the tracks, spring from the sidewalks, opposite each other, near the curb, meeting over the centre of the street, forming an effective pointed gothic arch. 577
- 317^a Crozier, H. P., Brooklyn, N. Y.—Horse car starter. (*Outside.*) 577
- 318 Jones, J. M., & Co., West Troy, N. Y.—Street and excursion street cars. 577
- 319 Williams, R. L., Middle Granville, N. Y.—Self-coupler for cars. 577
- 320 Schopp, Phil. J., Louisville, Ky.—Pneumatic screw ventilator. 577
- 321 Crocker, L. O., East Braintree, Mass.—Conductors' railway ticket punches. 577
- 322 Stewart, S. N., Philadelphia, Pa.—Model of an ice boat. 594

Vehicles, Harness.

GREAT BRITAIN.

- 323 McNaught & Smith, London.—
Landau, barouche, coupé, and brougham. 292
- 324 Peters & Sons, London.—Park and
road drags, landau, broughams, phaetons,
and Whitechapel cart. 292
- 325 Hooper & Co., London.—Four-in-
hand drag, phaetons, barouche, brougham,
and landau. 292
- 326 Thorn, C., Norwich.—Phaetons,
brougham, gig, charabanc, shooting cart,
landau, and wagonette. 292
- 327 Roberts, John, Manchester.—Pony
phaeton. 292
- 328 Mulliner, Henry, Leamington.—
Brougham, Whitechapel cart, landau, and
dog-cart phaeton. 292
- 329 Windover, C. S., London.—
Brougham, phaetons, and landau. 292
- 330 Thompson, Chas., London.—
Child's perambulator. 293
- 330^a Haynes & Jeffries, Coventry.—
Bicycles. 293
- 330^b Roberts, C. D., Coventry.—Bicy-
cles. 293

NEW SOUTH WALES.

- 331 Robertson, John, Sydney.—Con-
cord buggy with canoe front; wood work
and iron work entirely of New South
Wales material. 292

CANADA.

- 332 Legaie, J. B., Quebec.—Cariole. 292
- 333 Ashley, Chas., Foxboro'.—Phae-
ton. 292
- 334 Knox & Wrothwell, Goderich.—
Buggy. 292
- 335 De Wolfe, J. M., Halifax.—Phae-
tons. 292
- 336 Ledoux, B., Montreal.
^a Landaulet. 292
^b Double sleigh. 295

- 337 Kew, Wm., & Son, Beamsville.
^a Top buggy. 292
^b Sleigh. 295
- 338 Wood & Lyons, Brantford.
^a Buggies. 292
^b Cutter. 295
- 339 Conboy, Daniel, Uxbridge.—Ad-
justable-back sleigh. 295

GERMANY.

- 340 Dick & Kirschten, Offenbach-on-
Main.—Axles, springs, fifth wheels, etc. 284

AUSTRIA.

- 341 Armbruster, S., Vienna.
^a Landau. 292
^b Harnesses and saddlery. 296

ITALY.

- 342 Locati, Alessandro, Torino.—
Street cabs. 294

RUSSIA.

- 343 Schmidt, Edward, St. Petersburg.
—Spring tester. 280
- 344 Nellis, Charles, St. Petersburg.—
Victoria. 292
- 345 Wemick, Joseph, Warsaw.—
Drosky. 292
- 346 Arbatsky, Nicholas, Moscow.
^a Trotting wagon. 292
^b Sledge, with robe. 295
- 347 Zimmerman, Roman, Moscow.—
Saddlery and harnesses. 296
- 348 E Levin, Michael, Moscow.—Har-
nesses. 296
- 349 Brandstetler, Frederick, Warsaw.
—Harnesses. 296
- 350 Shishkin, Stephen, Moscow.—Har-
nesses. 296
- 351 Koorikoff, P., St. Petersburg.—
Harnesses. 295

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 27-45.

7100

1944

1944

1944

INDEX OF EXHIBITORS, COMMISSIONERS, ETC.

DEPARTMENTS I., II., III.

A.

Aalborg Chemical Works, Soda, 223; Artificial manure, 224.
 Aalborg Syrup & Spirit Factory, Liquor, 224.
 Aarestrup, J., Piano, 364.
 Aargau, Ass'n of the Canton of, Map, 354.
 Aargau, Building Direction of, Works, 355.
 Aargau Reformatory, Reports, 357.
 Abad Bros., Cloth, 273.
 Abad, Jeronimo, Pyrolusite, 87.
 Abadji, Molagha, Divan stuff, 294.
 Abas Ousta, P., Vest, etc., 300.
 Abass Agha, Horseshoes, 97.
 Abazar, Ketour, Ebony crutches, 305.
 Abbas Riza, Silk, 298.
 Abbey, C., & Sons, Foil, 136.
 Abbott, Downing, & Co., Coaches, 381.
 Abbott, H. L., Judge, Gr. XVI., 17.
 Abbott Pavement Co., Pavement, 54.
 Abdi Agha, Dishes, 292; Oats, 307.
 Abdi Azadé Ali Bey, Embroidery, 302.
 Abdi Bey, Chrome, 97.
 Abdi Effendi, Carpet, 297.
 Abdoulah, A., Morocco, 310.
 Abdoulah Keire, Z., Calico, 294.
 Abdoullah, Almonds, 307.
 Abdoullah Arouniyé, Clogs, 301.
 Abdoullah Bey, Antimony, 97.
 Abdoullah Chili, Cushion cover, 304.
 Abdoullah Effendi, Carpet, 297.
 Abdoullah, O., Leather, 311.
 Abdoullah Oglou, Hassan, Shawl, 296.
 Abdoullah, T., Essence, 292.
 Abdourahman, Aman, Whip, 305.
 Abdourahman Effendi, Gall nuts, 306.
 Abdourahman, M. O., Dinner sets, 293.
 Abdourahman, T., Jacket, 300; Boots, 301; Sumac berries, 304; Peas, 307; Wax, 312.
 Abdul Hahat, Towels, 294.
 Abdul Hamad, Foulard, 298.
 Abdul Kader, Cloth, 295.
 Abdul Kader Ousta, Jacket, 300.
 Abdul Keri, Boots, 301.
 Abdul Medjid, Skin, 310.
 Abegglen-Perrin, Chalets, 358.
 Abello y Boada, P., Alabaster, 89.
 Abendroth Bros., Stoves, 375.
 Aberdare Mine, Coal, 67.
 Abernethy, A. S., Alternate, 9.
 Abhou, A., Boots, 301.
 Abhou Oglou Avediz, Boots, 301.
 Abil, Saucers, 292; Jewelry, 302; Cover, 303; Snuff, 309.
 Abir Tarip, Cotton, 294; Silk, 298.
 Aboriginal Mission Station, Hops, 163.
 Abplanalp, J., Wood carvings, 358.
 Abrahams Bros., Books, 221.
 Abrahamson, A., Pupils' work, 362.
 Abren e Lima, J. A., Cloth, 286; Work, 288.
 Academy of Fine Arts, Work, 366.
 Acadia Catherine Gold Mining Co., Ore, 65.
 Accarisi, G., Jewelry, 234.
 Accino y Vazquez de Araujo, E., Galena, 88.

Acebal y Menendez, B., Ore, 89; Stone, 91.
 Acero, A., Iron, 271.
 Acero, J., & Son, Hats, 276.
 Achmet Agha, Skin, 311.
 Achon, J., Prints, 273.
 Ackens, Grand, Ry, & Co., Cloths, 203.
 Ackerly, James, Dogtooth spar, 71.
 Ackermann, T., Books, 347.
 Acosta de Quirolo, Josefa, Crystal rock, 83.
 Acquackanauk Mfg. Co., Woodenware, 376.
 Acquadro, Paolo, Postal box, 365.
 Adams & Co., Glassware, 108; Silks, 150.
 Adams, Dan, Hat rack and chairs, 109.
 Adams, J., Wheat, 163.
 Adams, J. H., Ore, 47.
 Adams, J. S., & Co., Jewelry, 128.
 Adams, R., Hinges, 153.
 Adams, R. T., Filters, 160.
 Adams, S. C., Map, 321.
 Adams, S. J., Texas, 14.
 Adams, Walter, Books, etc., 338.
 Adams White Lead Co., White lead, 105.
 Adams, W. R. M., Bolt, 140.
 Adana, Government of, Galena, 96; Gall nuts, 306, 310; Skins, 311.
 Addis, J. B., & Sons, Tools, 153.
 Addy, M., Judge, Group I., 15.
 Adelaide Museum, Birds, 167.
 Adelsvärd, Baron Th., Ore, 78; Copper, 79.
 Adjustable Folding Chair Co., Chair, 109.
 Adler, Geo., Cardboard work, 205.
 Adler, R., Musical instruments, 349.
 Adler, W., Jewelry, 318.
 Adlischweil Silk Goods Factory, Silks, 212.
 Admiralty, Lords of the, Model, 174.
 Admiralty Tyora Works, Boiler plates, 98.
 Adret, A., Carpets, 297.
 Adrianople, Gov't of, Ores, 96; Nuts, 306.
 Advena & Heald, Axles, 379.
 Adver, M., Carpet, 297.
 Advisory Board, Bricks, 188; Yarn, 189.
 Aebi & Landry, Watches, 354.
 Afong & Achuck, Sugars, 251.
 Aghoba, K., Lentils, 309.
 Aghop, Erzeroum, Fox furs, 304.
 Aghop, Hodja, Cord, 293; Ribbons, 298; Bonnet, 301.
 Aghop, Miss, Lace, 302.
 Aghop, S., Calicoes, 294.
 Agosti, Agnes, Embroideries, 234.
 Agosti Brothers, Olive oil, 232.
 Agostina Della Seta, A., Olive oil, 231.
 Agregado, A., Shirting, 280.
 Agricultural and Prof'l Colony, Statutes, 353.
 Agricultural and Rural Industry, Department of, Maps, 373.
 Agriculture and Commerce, Dep't of, Prizes, 344.
 Agriculture, Industry, and Commerce, Board of, Coal, 89.
 Agriculture, Provincial Board of, Ores, 88.
 Aguir, J. C. da Costa, Bookstand, 253.
 Agudo, A., Handkerchief, 277.
 Agudo, G., Soap, 271.

- Aguilar, B., Treatise, 266.
 Aguilar Calvo, A., Flannel, 275.
 Aguilar, Francisco D., Minerals, 83; Lime, 84.
 Ahern & Walsh, Tools, 190.
 Ahgme Agha, Wool, 314.
 Ahido, Yataghan, 304.
 Ahl, D., Splints, 135.
 Ahlberg & Ohlsson, Instruments, 363.
 Ahmed Agha, Thread, 294; Wool, 296; Yataghan, 304; Resin, 307; Leather, 310; Wax, raisins, 312.
 Ahmed, Aintab, Honey, 312.
 Ahmed, Ana, Chair, 292.
 Ahmed, Antakia, Oils, 313.
 Ahmed, C. C. K., Oats, 308.
 Ahmed Cherif, Cartridge box, 304.
 Ahmed Chibre, Inkstand, 304.
 Ahmed, E., Beans, 309; Prunes, 312.
 Ahmed Effendi, Towels, 295; Carpet, 297; Silk, 298.
 Ahmed, Hadji, Belt, 300; Saffron, 306.
 Ahmed Mehמודdik, Silk, 297.
 Ahmed Moussa, Pipes, 303.
 Ahmed, O., Calico, 294; Cloth, 296; Box, 303; Lock, 305; Skins, 310.
 Ahmed, Tchataldja, Barley, 307.
 Ahren, J. H., Clay, 73; Pottery, 188.
 Ahrens, George, Extension table, 111.
 Aiacha, Madame, Linen, 295, 302.
 Aiché, K., Shirting, 294, 300.
 Aiken, Lambert, & Co., Toothpicks, 128; Gold pens, 130.
 Ainsworth, Thomas, Linen threads, 149.
 Aintab, Gov't of, Mat, 293; Curtains, 294.
 Aire & Calder Glass Bottle Co., 147.
 Aitchison, J., Jewelry, 151.
 Aiye, P., Calculus, 266.
 Akerman, R., Judge, Gr. I., 15.
 Akhati, Giorli, Gum, 306; Root, 309.
 Ak-Hissar, Government of, Iron, 97.
 Akimoff, S., Decoration, 315.
 Aksenoff, P., Toys, 318.
 Alabama & Georgia Mfg. Co., Sheeting, 116.
 Aladdin Oil Co., Oils, 103.
 Alard, A. F., Musical staff table, 362.
 Albany & Rensselaer Iron & Steel Co., Bessemer steel, etc., 57.
 Albay, Provincial Board of, Fabric, 281.
 Alberga & Mitchell, Wine, 172.
 Albergotti, Geo., & Agostino Bros., Oil, 231.
 Albert, C. F., Instruments, 332.
 Albert, J., Violins, 332.
 Albert, J. S., Bureau of Machinery, 10.
 Albert Manufacturing Co., Alabaster, 73.
 Albert Toilet Soap Co., Soaps, 187.
 Albertson, J. M., Window glass, 109.
 Albertson, J. W., Alternate, 9.
 Albion Coal Co., Coal from Ngakauau, 63.
 Albion Print Works, Prints, 119.
 Albrecht & Co., Pianos, 332.
 Albuquerque, C. de A., Rags, 285.
 Alcaccer do Sal, Viscount d', Salt, 283.
 Alcarar, V., Arithmetic, 266.
 Alcaraz Angulo, J., Ink, 271.
 Alcobia, J. T., Tinware, 284.
 Alcocer, Miss Antonia, Wax work, 267.
 Alcock & Co., Billiard table, 163.
 Aider Bros., Embroideries, 213.
 Alder & Meyer, Trimmings, 213.
 Alderson & Sons, Leather, 158.
 Alegre, J., Earthenware, 256; Work box, 258.
 Alen, Pedro & Manuel, Tin, 92.
 Aleppo, Governor of, Waters, 292; Cotton, 298; Seed, 307.
 Alessi & Bonaventura, Essences, 232.
 Alessi, G., Essences, 232.
 Alessio Bros., Calico, 233.
 Alexander, J. P., Fire brick, 106.
 Alexander, J. S., Minerals, 47; Spade, 56.
 Alexander, S. T., Sugars, 251.
 Alexander, W. D., Map, 251.
 Alexander, W. R., Coal, 67; Coffee, 180.
 Alexandre, Fans, 138.
 Alexandre & Son, Organs, 345.
 Alexandroff, Apparatus, 372.
 Alexieeff, A., Jewelry, 318; Basket, 320.
 Alexia, Miss B., Hose, 300.
 Ali, Vest, 300; Receivers, 303.
 Ali, A., Pots, 292.
 Ali Agha Bachkin, Essences, 292.
 Ali Agha, R., Service, 293; Carpet, 297; Pipes, 303; Inkstands, 304; Sorbus, 306.
 Ali Agha Hadji, Grain, 308.
 Ali-Ani, Carpet, 297.
 Ali Ani, Sullé, Seed, 307.
 Ali Baba, Seeds, 307.
 Ali Bachakar, Clogs, 301.
 Ali Bekir, Apples, nuts, 307.
 Ali bin Chaban, Boots, 301.
 Ali Bin Mehemed, Seeds, 310.
 Ali bin Nazif, Boots, 301.
 Ali Bouali, Hadji, Millet, 308.
 Ali Bou Allia, Hadji, Wheat, 308.
 Ali Effendi, Argil, 97; Salt, 291; Madder, 306; Wool, 314.
 Ali Hadji, Diarbeker, Brimstone, 96.
 Ali Hadji, Emery, 97; Calico, 294; Box, 303; Wheat, 308; Apricots, 312.
 Ali Imi, Madame, Towels, 295.
 Ali Marach, Straw brooms, 305.
 Ali Mehemed, E., Essence, 292.
 Ali Nazif, Boots, 301.
 Ali Oglou Mehemed, Gall nuts, 306.
 Aii Oglou Moussa, Morellas, 312.
 Ali Oglou, Velz, Courier's bag, 304.
 Ali Omer, Skin, 310.
 Ali Osman, Knives, 304.
 Ali Ousta, Pitchers, 293; Beans, 309.
 Ali, S., Leather, 310.
 Ali Zotte, Coral, 310; Wax, 312; Cocoons, 314.
 Alia y Lopez, M., Serge, 274; Quilt, 275.
 Alibalas, C., Mats, 280.
 Alice Furnace, Ores, 50; Pig iron, etc., 57.
 Alidjé, Madame, Clogs, 301; Baskets, 305.
 Alier, P., Rods, 278.
 Alil Fakildin, Silk, 298.
 Alipio, D. J., Writing desk, 253.
 Aljama Moreno, M., Pitchers, 272.
 Allah, Tozula, Salt, 291.
 Allard, Furniture, 194.
 Allatorini, P., Carpet, 296.
 Allegretti Refrigerator Co., 377.
 Allen & Bro., Decorations, 109.
 Allen Cement Co., Cement, 54.
 Allen, G. W., Specimens, 328.
 Allen, H., Judge, Gr. XX., 18; Instruments, 329.
 Allen & Hanburys, Medicines, 144, 152.
 Allen, H. S., History, 326.
 Allen, J., Wool, 159.
 Allen, J., & Son, Dentures, 136.
 Allen, James T., & Co., Marble, 52; Rockers, 136.
 Allen & Johnson, Crutches, etc., 136.
 Allen, Lane, & Scott & J. W. Lauderbach, Book, 328.
 Allen, Oliver, Petrifications, 48.
 Allen, Thos., Missouri, 13.
 Allendale Company, Sheetings, 118.
 Allentown Iron Co., Pig iron, 57.
 Allentown Rolling Mill Co., Ores, 49; Iron, 57.
 Allentown Slate Mantel Co., 52.
 Alli Maccarani Claudio, Olive oil, 231.
 Allora Mine, Coal, 67.
 Almaden, Mines of, Ores, 83; Plans, 92.
 Almazan, P., Treatise, 266.
 Almeida, A. L., Reins, 254.
 Almeida, A. R. de, Cordage, 254.
 Almeida da Costa, A. d', & Co., Pottery, 284.
 Almeida, Germano, Boots, 288.
 Almeida, J. J. d' A., Sculpture, 370.
 Almeida, J. P., Linen fabrics, 285.
 Almeida & Silva, Mats, 286.
 Almen, von, & Kopp, Absinthe, 214.
 Almgren, K. A., Silks, 226.
 Almonacid & Parchappe, Minerals, 83.
 Alnarp Agricultural Institute, Maps, etc., 362.

- Allofozoff & Alexandroff, Linen fabrics, 316.
 Alonso, Casimiro, Iron ore, 88.
 Alonzo Cortés, Manuel, Salt, 91.
 Alric, A., Soap, 255.
 Alsina, J., Velvets, 275.
 Altemus & Co., Scrap books, 131.
 Altenburg & Graue, Pianos, etc., 350.
 Altneder, T., Instruments, 329.
 Althans, E. F., Judge, Group I., 15.
 Althof, Bergmann, & Co., Toys, 128.
 Altona, Association of, Model, 350.
 Alvarez Otin Bros., Cloaks, 275.
 Alvergniat Bros., Instruments, 344.
 Alves, Antonio, jr., Pruning knives, 289.
 Alves Cunha, J. & M., Ceramics, 284.
 Alves, Pereira, & Co., Soap, 252.
 Alves, S. José, Books, 366.
 Amado Salazar, Enrique, Galena, 88.
 Amassia, Government of, Fabrics, 298; Pouch, 303; Nuts, 307; Cotton, 314.
 Amat, G., Matting, 273.
 Amat, J., Music, 366.
 Amazon, Department of the, Silk, 263; Coffee, 264.
 Amazonas, Province of, Wreath, 254.
 Amberg, Wm. A., File, 129.
 Amblot & Poncet, Oil, 212.
 Ambrosiussen, O. P., Model, 224.
 Ambruster, John, Pressed brick work, 107.
 Amelang, C. F., Books, 347.
 America Hosiery Co., Underwear, 125.
 American Arms Co., Shotguns, 133.
 American Baptist Pub. Society, Books, 328.
 American Bible Society, Bibles, 327.
 American Bridge Co., Model, 334.
 American Bronze Powder Manufactory, 105.
 American Calcium Light Co., 115.
 American Crockery Co., Tableware, etc., 103.
 American District Telegraph Co., Boxes, 331.
 American Gas Screen Mfg. Co., 114.
 American Kaolin Co., Kaolin, 54; Brick, 107.
 American Lead Pencil Co., Lead pencils, 130.
 American Lever Wringer Co., 377.
 American Linen Co., Printing cloths, 118.
 American Linen Thread Co., Thread, 119.
 American Linoleum Mfg. Co., 119.
 American Machine Co., Wringers, 377.
 American Mechanical Toy Co., Toys, 128.
 American Missionary Ass'n, Maps, 321, 336.
 American Moulded Collar Co., Collars, 125.
 American News Co., Books, 328.
 American Optical Co., Spectacles, 331.
 American Paper Box Co., Paper boxes, 132.
 American Print Works, Calicoes, 119.
 American Printing House for the Blind, Books, etc., 322.
 American Reflector Co., Reflectors, 114.
 American Screw Co., Screws, 141.
 American Shade Roller Co., Shades, 114.
 American Sheet & Boiler Plate Co., Iron, 56, 115.
 American Shovel Co., Shovels, 137.
 American Silk Label Mfg. Co., 123.
 American Society for the Prevention of Cruelty to Animals, Deodands, 336.
 American Stair Rod Co., Rods, 140.
 American Sunday School Union, Books, 327.
 American Suspender Co., Suspenders, 125.
 American Tract Society, Book binding, 132; Books, 327.
 American Watch Co., Watches, 330.
 American Wire & Screw Nail Co., Nails, 142.
 Amersfoort, Mrs. H. M., Oratorio, 360.
 Ames, A., jr., Judge, Gr. XIV., 17.
 Ames Manufacturing Co., Swords, 134.
 Ameye Berte, R., Chicory, 218.
 Amherst Stone Co., Sandstones, 53.
 Amidon's, T. H., Son, Hats, 126.
 Ammirati, D., Chairs, 233.
 Amores, M., Cloth, 271.
 Amoskeag Mfg. Co., Shirtings, etc., 117.
 Amparson, H., Skins, 311.
 Amsberg, Adolphe, Door knobs, 206.
 Amsler-Laffon, J., Planimeters, 354.
 Amsterdam Canal Co., Chart, 361.
 Ana Bini, T., Wax, 312.
 Ana, Madame, Case, 295; Lace, 299.
 Ana Micó, Widow of Ferrandis, Mineral waters, 92.
 Ana Sebat, Pearl work, 371.
 Ana, Yania, Cotton, 298.
 Anaghosti, Dascalo Paolo, Oils, 291.
 Anagnosti, Fabric, 298.
 Anagnosti, P., Wool, 314.
 Añana, Community of Heirs of, Salt, 270.
 Anastach, K., Skin, 310.
 Anastasio, Giuseppe, Cigars, 214.
 Anastassi, Shirting, 298.
 Anastassi, A., Cocoons, 314.
 Anastassi, H., Chemise, 300.
 Anastassiades, G., Soaps, 292.
 Ancaster Knitting Co., Fancy goods, 189.
 Anchuelo, Q., Iron, 93.
 Andalgala, Sub-Commission of, Soapstone, 84; Artificial flowers, 259.
 Andangala, Comm. of, Salt, 255; Harness, 260.
 Anderson, A. T., Map, 342.
 Anderson, David, & Son, Roofing, 149.
 Anderson, J., Pins, wire cloth, 226.
 Anderson, J. A., Judge, Gr. XXI., 18.
 Anderson, John, Judge, Gr. XXI., 18.
 Anderson, M., Implements, 329.
 Anderson & Murison, Wines, 171.
 Anderson, N. J., Minerals, etc., 362.
 Anderson, T., Clay, 73.
 Anderson, W. W., Models, 378.
 Anderssen, J., Judge, Gr. V., 16.
 Andrés & Son, Varnish, 207.
 Andin Chako, N., Brandy, 313.
 Andon, C., Morocco, 300; Cotton, 314.
 Andon, Mitchré, Wooden casks, 305.
 Andonafake, A., Silk, 297.
 Andonaki, Wax, 312.
 Audonaki, K., Amethyst, 302.
 Andover Iron Co., Iron, 55.
 Andrade, A. R. L., Bituminous coal, 82.
 Andrade, Antonio P. S. de G., Wool, 286.
 Andrade, J., Baskets, 254.
 Andrade, J. F. de, Colored clay, 82.
 Andradi, A. A. de, Instruments, 289.
 André, J., Musical publications, 347.
 André, L. A. F., Coals, 184.
 Andrews, A. H., & Co., Furniture, 112; Globes, 321.
 Andrews Brothers, Pig iron, 56.
 Andrews, C. B., Ferns, 251.
 Andrews, Henry, & Co., Coatings, 149.
 Andrews, Hitchcock, & Co., Ores, 50; Iron, 58, 59.
 Andrews & Hitchcock, Coal, 51.
 Andria, T., Skins, 310.
 Andrion, Heirs of, Silk, 275.
 Andris, Lambert, & Co., Glass, 215.
 Androscoggin Mills, Sheeting, 116.
 Andújar, Potters of, Pots, 272.
 Angas, G. H., Photographs, 167.
 Angas, J. H., Wool, 168.
 Angeli, Candido R., Straw, 234.
 Angelini, Prof. Rodolfo, Penmanship, 365.
 Angelucci, G., Shoes, 234.
 Anglada & Co., Carbonate of zinc, 87.
 Angleur Steel Manfg. Co., Steel, 77.
 Anglim, J., Annals, 326.
 Anglo Australian Guano Co., Guano, 183.
 Angot & Dubreuil, Instruments, 345.
 Angstrom, C. A., Judge, Gr. XXI., 18.
 Anguel, I., Cocoons, 314.
 Anguel, Ichkodra, Leaves, 304.
 Anhaia & Angelo, Cotton goods, 253.
 Anikeyeff, J., Apparatus, 373.
 Aniline Mfg. Co., Chemicals, 201.
 Anjos & Co., Cotton prints, 285.
 Anjos, Cunha, Ferreira, & Co., Prints, 285.
 Ankarsum Works, Iron, 79.
 Annawam Manufactory, Printing cloths, 118.
 Anon, Flowers, 174.
 Anselmi & Marassi, Oils, 232.

- Ansley, Fred. W., Jewelry, 129.
 Ansonia Brass & Copper Co., Kettles, 140;
 Clocks, 330.
 Antaki, G., Belt, 300.
 Antakia Caimakan, A., Silk, 297.
 Anthoni, G., Axles, 199.
 Anthony, F., Brandies, 224.
 Anthony, G. G., Kansas, 12.
 Anthracite Fuel Co., Coal, 51.
 Antigua, Provincial Board of, Baskets, 280.
 Antimony Mining Co., Ore, 94.
 Antoine's, L., Son, Inks, 192.
 Antoli, Miss M., Cotton, 294.
 Anton, E., Books, 347.
 Antonelli, Cav. A., Essences, 232.
 Antonio, Martins, Henriques, & Co., Ore, 94.
 Antonoff, Harness, 320.
 Antonoff, P., Plan, 373.
 Antony-Bovy, J. E., Watch works, 355.
 Anzotegui, E. S. de, Embroidery, 258.
 Aparicio, J., Cloak, 275.
 Aplin, D., Ores, 67.
 Apollinaré's Co., Mineral waters, 75.
 Apollo Stearine Candle Co., Candles, 160.
 Appert, Lengele, & Co., Glass, 193.
 Applegate, R. O., Table, 377.
 Appleton Co., Cotton goods, 117.
 Appleton, D., & Co., Binding, 132; Books, 327.
 Arabe Mehemed, M., Wool, 314.
 Aragonese, Corp. of., Stone, 90.
 Arai, H., Furniture, 245; Canes, 246; Vase,
 248.
 Araiyo, José Antonio, Basket work, 290.
 Aranda & Co., Covers, 279.
 Aranjó, J. A. Vicrya de, Oligistic iron, 82.
 Arañó, E., Yarns, 274.
 Ararat Flour Mill Co., Wheat, 163.
 Ararat, Shire Council of, Photographs, 162.
 Araujo, J. G., Guitars, etc., 369.
 Arbatsky, N., Wagon, 383.
 Arbo, P. N., Judge, Gr. XXVII., 19.
 Arboledas, Martin, Sulphate of lead, 88.
 Archaeological Society of Ohio, Map, 328.
 Archer & Pancoast Manfg. Co., Gasoliers, 114.
 Archer, W. H. D., Wheat, 183.
 Archibald, T. D., Coal, 71.
 Architecture, Society for the Promotion of,
 Works, 360.
 Ardavissa, Madame, Thread baskets, 304.
 Ardizzone, Francesco, Sulphur, 81.
 Aren & Blumenheim, Embroideries, 204.
 Aren, Manuel J. da S., Boots, 288.
 Arens, A., Books, 359.
 Ares, R., Clogs, 276.
 Argandar, A., Arithmetic, 266.
 Argentine Manufactory, Porcelain, 223.
 Argentine Republic, Minister of the Interior
 of, Memoirs, 368.
 Argentine Rural Society, Annals, 368.
 Arguello, David, Ores, 84.
 Arguello, E., Mats, 258.
 Arguin, E., Webs, 281.
 Arias, Hilarion, Lime, 84.
 Aristide, Count, Mineral waters, 81.
 Aristoff, A., Scarfs, 318.
 Arles, Dufour, Raw silk, 195.
 Arlington Mills, Alpacas, 121.
 Armada, J. A. de, Hats, etc., 253.
 Armand, E., & Sons, Wool, 317.
 Armbrister, J. A., Canes, 173.
 Armbruster, J. H., Weights, 140.
 Armbruster, S., Coach, 211; Harness, etc., 383.
 Armesto Vinuesa, F., Peat, 270.
 Armington, J. H., Gas engineering, 335.
 Armitage, Leather, 156.
 Armitage Bros., Woods, etc., 176.
 Arms, Bell, & Co., Nuts, 141.
 Arms Manufacturing Co., Leather goods, 129.
 Armstrong, A., Wools, 164.
 Armstrong, F., Garters, 128.
 Armstrong, J. B., Seeds, 156.
 Arnaus, M., Elixir, 278.
 Arnberg, C., Judge, Gr. IX., 16.
 Arnold, E., Letters, 200.
 Arnold, Geo., & Co., Wools, 164.
 Arnold, L. B., Judge, Gr. IV., 16.
 Arnot, S., Leather, 183.
 Arntzenius, Jannink, & Co., Yarn, 220.
 Arny, W. F. M., New Mexico, 13.
 Arola, A., & Domenech, F., Chemicals, 270.
 Arouca & Co., Cotton fabrics, 253.
 Arpadji Mahmond Agha, Wax, 312.
 Arriago, J., Book, 266.
 Arrivillaga, Augustin, Galena, 87.
 Arroniz, M., Biography, 266.
 Arrosto, G., Medicines, etc., 235.
 Arroyo, G., Mantas, 275.
 Arroyo, Juan, Iron, 92.
 Arsenjeff, F., Embroidery, 318.
 Arteaga, J., Studies, 266.
 Arteaga & Jáuregui, Phosphorus, 271.
 Arteche, A. M., Carbonate of iron, 270.
 Arthur & Dougherty, Stone, 65.
 Arthur, F., Cabinet work, 147.
 Artillery Corps, Gun, 278.
 Artin Effendi, Madder, 306.
 Artisans' School, Drawings, 360.
 Artist's Union, Statutes, 359.
 Artiz Antonio, M., Phosphorus, 271.
 Arzalaya, R. de, Basket, 273.
 Asakura, M., Toys, 246.
 Asano, T., Vases, 245.
 Asch, Myer, Assistant Secretary, 10.
 Aschenbach & Miller, Perfumery, etc., 106.
 Asco, G., Vest, 300.
 Aseptin Amykos Stock Co., Aseptin, 225.
 Asevedo, D. J. Santós, Diamonds, 82.
 Ash & Lacy, Iron sheets, 62.
 Asher & Adams, Album, 327.
 Ashland Furnace, Ores, 50.
 Ashley, C., Phaeton, 383.
 Ashtabula Co. Historical Soc'y, Relics, 328.
 Ashworth, Edmund, & Sons, Yarns, 149.
 Asphaltum Co. of Maestu, Asphaltum, 89.
 Assam, H. M., Pipes, 223.
 Assetto di Graziani Bros., Cottons, etc., 233.
 Assi Agha, Plate, 293.
 Assibi, Madame, Lace, 299; Belt, 302.
 Association for the Encouragement of Manfs.,
 Books, 369.
 Association for Women's Work, Rugs, 246.
 Assungin, Colony of, Saponaceous clay, 82.
 Astadji, N., Cotton, 314.
 Astadji Oglou, N., Belt, 300.
 Astardji Narssés, A., Cotton, 294.
 Astbury & Maddock, Earthenware, 107.
 Astolfi, C., Soap, 271.
 Astor, Socks, 300.
 Astudillo, J. M., Boots and shoes, 261.
 Astwood, Mrs., Woods, 174.
 Asylum for Girls, Reports, 353.
 Asylum for the Poor, Cigars, 268.
 Asylum of Mendicity, Handkerchief, 277.
 Atanach, D., Skins, 310.
 Atanach, Miss, Silk, 298; Shppers, 301.
 Ateuf Dédé, Marmalade, 312.
 Athayde, M. E. de S., Mica, 82.
 Atidgé, Madame, Cotton, 294; Hosc, 300.
 Atkinson, E., Judge, Gr. VIII., 16.
 Atkinson, Henry, Shirts, 125.
 Atkinson, J. & E., Perfumery, 145.
 Atkinson, W., Teazles, 164.
 Atlantic and Pacific Telegraph Co., Appa-
 ratus, 331.
 Atlihuayan Hacienda, Sugar, 268.
 Atterbury & Co., Glassware, 108; Lamps, 114.
 Atwell, Misses, Shells, 173.
 Atwood, D., U. S. Commissioner, 9.
 Atwood, H. W., Cologne, 106.
 Atwood, J. M., Map, 327.
 Atwood & Richmond, Silk thread, 123.
 Aub, Hackenbunrg, & Co., Silk, 122.
 Aubé, H., Napkin ring, 198.
 Aubert Bros., Watchsprings, 355.
 Aubry, J., Faience, 193.
 Aubry, T., Stoves, 194.
 Auckland Patent Steam Rope Co., Rope, 155.
 Audemars, L., Chronometers, 355.

Audibert, Monin, & Co., Silks, 196.
 Audibrán, Elixir, 102.
 Audsley & Bowes, Books, 338.
 Audy, Mrs., Imitation pearls, 197.
 Aue, F. v. d., & Kollmann, Gloves, 209.
 Augener, George, & Co., Music books, 338.
 Augusta, Maria da P., Toothpicks, 288.
 Augustine & Stuart, Roofing, 378.
 Auld, P., Wines, 168.
 Auld, W., Cue, 250.
 Auret, W. H., Vegetable drugs, 169.
 Aurineta, Cav. M. A., Disinfection, 365.
 Aurora Factory, Cottons, 265.
 Ausonia Brass & Copper Co., Brass, 59.
 Austagan, Fruit, 307.
 Austin, S. L., Sugars, 251.
 Australasia, National Bank of, Notes, 341.
 Australia, Commercial Bank of, Photos., 341.
 Australian Museum, Birds, animals, 157, 340.
 Austrian Glass Foundry Ass'n, Bottles, 207.
 Automatic Swing Co., Swings, 336.
 Antunes, Jeronimo J., Elastic braids, 287.
 Auvray, P. E., Odontine, 171.
 Auvray, P. E., Wax, 172.
 Avadiz, Miss, Lace, 299; Purse, 304.
 Avadjan, Wool, 314.
 Avadjan, Savas, Aloe wood, 306.
 Avanza, Miss T., Cover, 302.
 Avaujo, Antonio J. B. de, Silk, 287.
 Avedis Papazogla, T., Pitchers, 293.
 Avellaneda, Nicolas, Marble, 84.
 Avellaneda, Nicomeden, Embroidery, 258.
 Avellar & Miranda, Toothpicks, 288.
 Avesta Garpenbergs Stock Co., Iron ore, 78;
 Iron, 79.
 Avilés y Merino, F., Syrup, 271.
 Avram, Cocoons, 314.
 Awo, P., Vases, 245.
 Awoumi, G., Jewel cases, 247.
 Awoumi, G., Utensils, 245, 247.
 Ax, H., Cotton and mixed goods, 203.
 Axtell, S. B., Judge, Group 1., 15.
 Ayacucho, Dept. of, Clothing, 263; Coffee, 264.
 Ayala, Antonio, Steatite, 87.
 Ayamonte, Corp. of, Lime, 90.
 Ayaza Oglon Ahmed, Cotton, 294.
 Aydin, Government of, Ores, 96; Juice, 292;
 Wheat, 308.
 Ayer, J. C., & Co., Medicines, 134.
 Ayliff, Mrs., Skeletonized flowers, 169.
 Ayliff, Reuben, Photographs, 170.
 Ayliffe, I. H., Quartz, 166.
 Ayvadjik, Government of, Salt, 291.
 Azar Oglu, Linen, 295.
 Azevedo, J. G., Books, 366.
 Azevedo Miguelinia, Julia de J., Silk, 287.
 Aziz Anelê, Manganese, 97.
 Azmoos Weaving Mills, Figured goods, 212.
 Azzimonte, L., Drinking cup, 256.

B.

Baanante, Juan, Cantharides powder, 270.
 Baare, Fred., Silk, 123.
 Baba Chika, Boots, 301.
 Babani Azerê, Ear rings, 302.
 Babey, Ch., Tullies, 197.
 Babi, S., Canes, 303.
 Babin, Victor, & Lepooshinsky, Well, 99.
 Bablot, A. y., Books, 266.
 Baccilieri, L., Gloves, 234.
 Bach, Bracelets, 318.
 Bach, I. G., Lithographs, 347.
 Bacharach, M., Urinal, 378.
 Bachiller, Guillermo, Galena, 87.
 Bachman, S., Shawls, 121.
 Bachmann, F., Table, 353.
 Back, Publications, 347.
 Backman, J. F., Safe, 225.
 Bacon, B. H., Clock, 330.
 Bacon, C. N., Felts, 119.
 Bacon, George W., Transfers, 127.
 Bacon & Karr, Pianos, 333.

Bacquet & Co., Laces, 197.
 Bader, F. W., View, 211; Design, 352.
 Badger, B. F., Razor strops, 138.
 Badia, J., Yarns, 274.
 Badiole, H., Medicines, 199.
 Badish National Aiding Ass'n, Views, 350.
 Badollet, J. M., & Co., Chronometers, 355.
 Badon, B., Embroidery, 281.
 Baedeker, J., Books, 347.
 Baedeker, Carl, Books, 347.
 Baedeker, G. D., Books, 347.
 Baeder, Adamson, & Co., Whips, 127; Emery,
 139.
 Bahni Bros., Hair springs, 355.
 Baerlocher-Custer, Embroidery, 213.
 Baertsoen, A. & Buysse, A., Cottons, 216.
 Bagdad, Government of, Cup, 292; Mats, 293;
 Textiles, 295, 297; Garments, etc., 300; Bas-
 kets, 305; Tomahawks, 305; Reins, 305;
 Morocco, 311.
 Bagdanoff, W. T., Cushions, etc., 317.
 Bagge, G. B., Maps, etc., 362, 363.
 Baggott, S. & W., Rockingham ware, 108.
 Bagley, John J., Michigan, 13.
 Bagot, E. M., Meat, 167.
 Bagwell, E. R., Alternate, 9.
 Bahamas, Cent. Com. of, Fans, 173.
 Bahia, Antonio José R., Hats, 288.
 Bahia Blanca, Justice of, Salt, 255.
 Bahia, Custodio J. R., Hats, 288.
 Bahia & Genro, Cotton fabrics, 285.
 Bahia, House of Correction of, Furniture, 252.
 Bahmann Bros., Instruments, 329.
 Bahse & Haendel, School furniture, 202.
 Bailey, A., Tullies, 197.
 Bailey & Co., Silverware, 113; Jewelry, 126.
 Bailey, E., Paintings, 251.
 Bailey, Edward H., Linings, 122.
 Bailey, F. M., Ferns, 179; Flowers, 180.
 Bailey, G., Coal, 71.
 Bailey, H. H., Photographs, 182.
 Bailey, J. T., & Co., Bags, 115; Rope, 142.
 Bailey, Leonard, & Co., Planes, 138.
 Bailey, W. H., Sugars, 251.
 Bailey, W. & J. A., Teapots, 147; Glass, 148.
 Bailey & Wilson, Wagon, 380.
 Bailey Wringing Machine Co., 138, 377.
 Bain, G., Finance, 11.
 Bain, J., Judge, Gr. XV., 17.
 Baird, H. C., & Co., Books, 327.
 Baird, S. F., Judge, Gr. V., 16.
 Baker, Arnold, & Co., Fixtures, 114.
 Baker, C., & Sons, Furniture, 153.
 Baker & Co., Jewelry, 204; Wheels, 379.
 Baker, E. D., New Hampshire, 13.
 Baker, G. O., Judge, Gr. VIII., 16.
 Baker, H. J., & Bro., Drugs, etc., 102.
 Baker, Isabella, Wines, 168.
 Baker, J., Safety steps, 160.
 Baker, John C., & Co., Cod liver oil, 103.
 Baker Mine, Mica in plates, 71.
 Baker, W., Lime, 72, 73; Awls, 153.
 Bakewell, Pears, & Co., Glassware, 108.
 Baktiar, Bez, Clay, 97.
 Balbê, Juan C., Pen drawing, 262.
 Baldrez, S., Slates, 90.
 Baldwin, A. H., Magnetite, 71.
 Baldwin, E. P. & W., Sheet iron plates, 62.
 Baldwin, J., & Co., Saddlery hardware, 382.
 Balhannah Mining Co., Ores, 166.
 Balisa, Corp. of, Granite, 97.
 Ballantyne, Mrs., Lime and limestone, 72.
 Ballard Woolen Co., Shawls, etc., 161.
 Ballard & Galloway, Limestone, 52.
 Ballard Vale Mills, Flannels, 121.
 Ballentine, G. H., Cottage, 378.
 Ballou, Geo. C., & Son, Cotton goods, 117.
 Ballue, A., Publications, 344.
 Bally & Schmitter, Elastic webs, 214.
 Balny, A., Book, 344.
 Balthazar, Miss, Chemises, 300.
 Baltic Woolen Mills, Woolen goods, 120.
 Balto Oglou Yousouf, Morocco, 311.
 Balugera, A., Embroidery, 258.

- Balvidares, V., Horse-hair whip, 259.
 Balza Bros., Cigars, 263.
 Bamble Nickel Mines, Ores, 80.
 Bambula, J., Bronzes, 238, 210.
 Banante, Juan, Argil, 91.
 Bancroft, E. P., Kansas, 12.
 Bancroft, J. S., & Co., Hats, 126.
 Bandeira, A. S. B. M., Salt, 283.
 Bandoux & Co., Glass, 215.
 Bandoux, E., & Jonet, Glass, 215.
 Banks, E. H., Cereals, 156.
 Bannerman, R., Clay, 73.
 Bano, A., Wine, 313.
 Banouch Agha, Wheat, 307.
 Banouch, Son, Cocoons, 314.
 Banquells & Rascon, Mineral water, 91.
 Bapterosses, F., Buttons, 198; Materials, 343.
 Baptista, J. G., Linen yarns, 285; Spoons, 290.
 Baras-Navaux, Woolen stuff, 216.
 Barau & Colas, Jars, 194.
 Barbacena, Viscount of, Coal, 82.
 Barbarulo, A., Cloths, 233.
 Barbarulo Bros., Cloths, 233.
 Barber Match Co., Matches, 106.
 Barbieri, J., Tennessee, 14.
 Barbizet, Son, Faience, 193.
 Barboda, Oligistic iron, 82.
 Barbour Flax Spinning Co., Thread, 119.
 Barbour, J. S., Finance, 10.
 Barboza, Antonio José, Twines, 289.
 Barboza & Costa, Desk, 284.
 Barboza Marinho, V., Oil cloths, 286.
 Barcena, M. J. R., Treatise, 266.
 Barcena, Mariano, Rocks, 86; Livingstonite, 88; Works, 266; Maps, 267, 269.
 Barclay & Morrison, Ores, 72.
 Bardet, F., Wire cloths, 253.
 Bardou & Ritton, Silks, 106.
 Bardou, J. P., Paper, 198.
 Bardou & Sons, Instruments, 345.
 Barella, J., Ceramics, 272.
 Barelli, F., & Son, Hats, 257.
 Bargioni, F., Ropes, 235.
 Bari, Chamber of Commerce of, Oil, 232.
 Barinaga de Oteiza, A., Tapestry, 277.
 Barker, G. R., Flue, 375.
 Barker, H., & Bro., Granite pedestal, 52.
 Barker, H., & Sons, Granite, 53.
 Barker Mills, Sheetings, 116.
 Barker, Moore, & Mein, White lead, 104.
 Barkly, Sir H., Bitter barks, 169.
 Barlow & Jones, Covers, 148.
 Barlow, W. H., Judge, Gr. XX., 18.
 Barnard, B., Furniture, 147; Baskets, 153.
 Barnard, Bishop, & Barnards, Stoves, 147.
 Barnard, F. A. P., Judge, Gr. XXV., 19.
 Barnard, G. L., Oil, 166; Wines, 168.
 Barnard Manfg. Co., Printing cloths, 118.
 Barnard, S. B., Photographs, 170.
 Barnes, A. S., & Co., Books, 321.
 Barnes, Lewis, Iron ore, 49.
 Barnes, W. E., Kansas, 12.
 Barnett, J., Photographs, 157.
 Barney, E. H., Skates, 138.
 Barnhurst & Robinson, Stretchers, 128.
 Barnum, Richardson, & Co., Drawings, 334.
 Baroncelli, Baldassare, Sodium, 231.
 Barra, Prof. Luigi, Book, 365.
 Barran, Leoncio, Lime, 90.
 Barraya, M. S., Counterpane, 285.
 Barreda, C., Alcohol, 268.
 Barreiros, Francisco I., Boots and shoes, 288.
 Barrenechea, Paulino, Coat of arms, 263.
 Barreto, Antonio Tavares, Limestone, 94.
 Barrett, Arnold, & Kimball, Paper, 133.
 Barrett & Co., Cordials, 157.
 Barrett, Jos. W., Designs, 126.
 Barriga, Antonio F., Quartz, 94.
 Barrios, D., Wines, 264.
 Barrios, J. M., Wines, 264.
 Barrios, J. P., Brandy, 264.
 Barrios, S., Wines, 264.
 Barros, A. A., Canes, 254.
 Barros, A. A., & Gaveao, B. A., Whips, 254.
 Barros, Diogo A. de, Cotton goods, 253.
 Barros, J. de A., Reins, 254.
 Barros, José, Bricks, 85.
 Barros, Lauro, Wool, 262.
 Barrows, H. F., & Co., Jewelry, 126.
 Barrows, Savery, & Co., Hollow ware, 376.
 Barry, Arnold, & Co., Wheat, 170; Wool, 171.
 Barry & Herdon, Aloes, 170.
 Barry & Lane, Range, 375.
 Barry & Nephews, Aloes, 170; Brandy, 171.
 Barry, P., Revolutionary arms, 382.
 Barstow Stove Co., Stoves, 375.
 Bartels & Kroyemann, Chemicals, 201.
 Barth, G. M., Frames, 378.
 Barth & Wagner, Mechanical toys, 205.
 Bartholomew, John, Maps, 338.
 Bartlett, Butman, & Packer, Trusses, 136.
 Bartlett, C. L., Ornaments, 328.
 Bartlett, J. R., R. I., 14; Catalogue, 326.
 Bartlett, J., & Sons, Grates, 375.
 Bartlett, J. W., Lamps, 114.
 Bartolini dotté Cesare, Fossil flour, 81.
 Barton, C., Ores, 47.
 Barton, C. C., Nebraska, 13.
 Barton, W. E., Bells, 142.
 Barwon Woolen Mill Co., Tweeds, 161.
 Bas y Verdera, J. B., Canvas, 273.
 Bascuñan, Francisco, Minerals, 63.
 Bashkoff, Basil, Ores, 98.
 Basle Orphan Asylum, Annual reports, 357.
 Basle Stadt, Canton of, Plans, 355.
 Basquin, Hector, & Schweizer, Embroidery, 213.
 Bass River Steam Saw Mills, Timber, 162.
 Basra, Government of, Mats, 293.
 Bassardji Maktés, Cotton, 294.
 Bassett, Geo. A., Laundry glose, 103.
 Bassolini, V., Colors, 232.
 Bastos, A. P., Hydrometer, 369.
 Bastos, J. X., Canes, 254.
 Batangas, Provincial Board of, Balsam, 280; Handkerchief, 281; Garments, 282.
 Batchelder & Co., Photographs, 162.
 Batenburg & Co., Lamps, 220.
 Bates, J. C., Ventilators, 378.
 Bates M'fg Co., Shirts, 119; Woolens, 121.
 Bates, Walker, & Co., Teaware, 146.
 Batka, Franz, Glassware, 207.
 Batley, J., Cradle, 114.
 Batlle y Hernandez, J. P., Blanket, 280; Embroidery, 281.
 Batllo Bros., Thread, etc., 273.
 Battig, A., Engineer, 351.
 Baucells & Co., Moleskins, 274.
 Bauch, C., Teeth, 319.
 Baudenbacher, C., Toys, 205.
 Baudet, Pianos, 345.
 Baudissin, Countess P., Artificial flowers, 203.
 Baudon, Wine of antimony, 192.
 Baudry, T., Works, 344.
 Bauer, A., Cloth, 208.
 Bauer, A., jr., Musical instruments, 349.
 Bauer & Pokorny, Pipes, 210.
 Bauer's Type Foundry, Type, 347.
 Baumiet, T., & Co., Blood, 218.
 Baumann, A., Vater, & Son, Carvings, 358.
 Baumann, Senior, & Co., Silks, 212.
 Baumann & Streuli, Silks, 212.
 Baumgardner, Woodward, & Co., Yarns, 142.
 Baumgarten, J., Egg box, 253.
 Bausch & Lomb Optical Co., Lenses, 330.
 Bavarian Association, Central Committee of the, for Nursing and Aiding Sick and Wounded Soldiers, Model, 350.
 Bavarian Museum of Arts, Books, 349.
 Baxter, B., Dolomite, 72.
 Bay of Fundy Red Granite Co., Granite, 72.
 Bay State Iron Co., Iron boiler plates, etc., 57.
 Bayao, F. A. P., Pian, 369.
 Bayer, F., & Co., Chemicals, 201.
 Bayer, J., Musical instruments, 349.
 Bayer, R., Designs, 351.
 Bayet Bros., Fine weapons, 218.
 Baylis, H., Samples of wool, 337.

- Baynes Sound Mining Co., Coal, 71.
 Bayview Quarry Co., Sandstones, etc., 72.
 Bazan, Abel, Bricks, 85.
 Bazar Publishing Co., Books, 347.
 Bazzantie, F., Sculpture, 235.
 Beach, E. R., Match safe, 376.
 Beale, Horace A., Iron, 56.
 Beall, C. N., West Virginia, 14.
 Beam, A. F., Oil tanks, 376.
 Bean & Jardine, Vases, 241.
 Bean, Lewis U., Drugs, 102.
 Bear & Ford, Wine, 164.
 Beard & Bro., Burglar-proof safe, 111.
 Beard, J., Ornaments, 328.
 Beasten, C., Delaware, 12.
 Beatty, G. D., Slides, 330.
 Beatty Hosiery Mills, Hosiery, 125.
 Beatty, L. J., Penmanship, 341.
 Beatty & Thorne, Ornamental printing, 126.
 Beaudet, H. J., Cradle, 114; Scroll work, 143.
 Beaumarchey, L., Maps, 345.
 Beaver Falls Cutlery Co., Cutlery, 138.
 Beccari, Gnalberta Alaide, Newspaper, 365.
 Becerra & Gomez, Dress, 277.
 Beckmann, A. F., Bronze ware, 210.
 Beck, C., Cards, 132.
 Beck, C. H., Books, 347.
 Beck, Dr., Dressings, 205.
 Beck, E., Shirt fronts, 233.
 Beck, Edward, Map, 356.
 Beck, Fr., & Co., Wall papers, 133.
 Beck, R. & J., Microscopes, 339.
 Beckel, A., & Son, Crutches, 135.
 Beckensteimer, Books, 344.
 Becker, C., Jewelry, 204.
 Becker, F., Jewelry, 204.
 Becker, G., Regulators, 349.
 Becker, I., Quartz, 106.
 Beckett & Cervi, Bookbinding, 132.
 Beckh, G. A., Chemicals, 202.
 Beckhaus, J., Coach, 380.
 Beckley, F. W., Kapa, 250.
 Beckwith, A., Judge, Gr. II., 15.
 Beckwith, N. M., U. S. Commissioner, 9.
 Becoulet & Co., Papers, 199.
 Bedichimer, Isaac, Jewels, 126.
 Bedini, Giuseppe, & Sons, Strings, 365.
 Bedoya, Segundo, Ore, 83.
 Bedré, A., Vinegar, 313.
 Bedros, A., Tobacco, 309.
 Bee Culture, Society for, Honey, 214.
 Been, C. A., Liquors, 224.
 Beest, J. E. van Heemskerck van, Judge, Gr. XXVII., 19.
 Begasse, C., Felt, 217.
 Begerem, R., Lace, 217.
 Beha, J. Bapt., & Sons, Clocks, 349.
 Behlen, C., Phaeton, 381.
 Behmer, A., Judge, Gr. IX., 16.
 Beidler, G. A., Burners, 114.
 Beihl, F., Bronze ware, 210.
 Beirollas, Manuel A., Horse shoes, 95.
 Beja, Sup. of Live Stock of, Photos., 370.
 Beker, Hadji, Salt, 291.
 Bekir Agha, Pipes, 303; Inkstands, 304; Morocco, 311.
 Bekir Bey, Root, 309.
 Bekir Effendi, Hadji, Barley and millet, 308.
 Bekir, H., Cotton, 313.
 Bel Air Manufacturing Co., Cassimeres, 120.^m
 Bel Air Plantation, Sugar, 175.
 Belanger, Vinet, & Dupart, Axles, 190.
 Belding Bros. & Co., Thread, etc., 122.
 Belfast Mills, Dress goods, 119, 120.
 Belfont Furnace, Ores, 50.
 Belfont Iron Works, Iron, 58.
 Belgian Gov't. Educational Dept., Furniture, 359.
 Beliaieff, G., Albums, 320.
 Beliaieff, G., Japanned ware, 316.
 Beliaieff, T., Mats, 316.
 Belilla Medina, Corporation of, Ochre, 271.
 Belin, Mrs., Books, 344.
 Belknap, J., Judge, Gr. XX., 18.
 Bell, A. G., Telegraph, 332.
 Bell, August, Crinoline braids, 213.
 Bell, C. R., Horse shoes, 191.
 Bell, D., Tile, 73; Drain tiles, 188.
 Bell, H., Oil, 158; Bone dust, 159.
 Bell, I. L., Judge, Group I., 15.
 Bell, Robert, Indian curiosities, 342.
 Bell, R. W., & Co., Soaps, 106.
 Bell, W., & Co., Cabinet organs, 342.
 Bell, W. & D., Tobacco pipes, 188.
 Bella Vista, Sub-commission of, Stone, 85; Salt, 255; Thread, 256; Yarns, 257; Seed, 259.
 Bellefonte Furnace, Ores, 49; Iron, 59.
 Belles, James, Iron, 89, 92.
 Bellest, E., & Co., Cloth, 195.
 Belleville, Col., Report, 344.
 Bellezza, N. A., Jewelry, 234.
 Belliveau Albertite Oil Co., Oil, 71.
 Belson, R. W., Warm air furnace, 376.
 Beltran & Lopez, Sandals, 276.
 Beltran y Lopez, J., Bags, twine, 273.
 Belts' Roofing Co., Roofing, 378.
 Beltzikewicz, H., Cooking apparatus, 316.
 Belvidere Woolen Manufacturing Co., Flannels, 121.
 Bemis & Call Hardware and Tool Co., 138.
 Ben, Michaelgiolo, Maps, 365.
 Ben Saude, Jacob, Nails, 289.
 Benas, J. P., Instruments, 199, 200.
 Benavides, Mariano, Magnesian earth, 91.
 Bencker, I. U., Gloves, 209.
 Bencker, M., & Son, Gloves, 208.
 Bender & Phillips, Wax, 130.
 Bendigo Pottery Co., Worm for still, 160.
 Bendissa, Government of, Mineral water, 97.
 Bene, Creighton, & Co., Feathers, 127.
 Benedict & Bernham Manfg. Co., Brass, 59.
 Beneficial Association, Models, 361.
 Benelische, F., Blank books, 259.
 Benezet & Co., Springs, 379.
 Benfield, Paper, 266.
 Bengtsson, B., Chemicals, 225.
 Benham Organ Co., Organs, 333.
 Benites, D., Cottons, 265.
 Benito, Santiago de, Lock, 279.
 Benjamin, E. B., Chemicals, 102; Glass, 329.
 Benjamin, H., & Co., Marble, 72.
 Benkofski, A., Cutlery, 319.
 Bennett & Bivort, Window glass, 215.
 Bennett, E., Shirts, 125.
 Bennett, H., Ornaments, 328.
 Bennett, J. M., Judge, Gr. VI., 16.
 Bennett, Jas., Newspaper files, 188.
 Bennett, T., Cutlery, 230.
 Bennett, T. K., Preserved meats, 163.
 Bennett, Wm., Coal, 71.
 Benningfield & Son, Elephant tusks, 170.
 Bens, A., Mills, 361.
 Bensusan, Antonio J., Salt, 270.
 Bentley, Jeff. O., Stamps, 126; Board, 375.
 Bento, C. C., Ores, 47.
 Bento, Dr., Lime, 82.
 Benton, Lewis F., Ore, 48.
 Bentzen, B. M., Books, 364.
 Benucci & Latti, Vases, 233.
 Beram, A., Cane, 303.
 Berat, Government of, Silk, 297; Maize, 308; Cocoons, 314.
 Berdie, M., Medicinal water, 259.
 Berea Stone Co., Stone, 53.
 Berg, Axel, Iron ores, 78.
 Berg, Chr. Lud., Mineral waters, 78.
 Berg, F. J., Wigs, 226.
 Berg, Gottfried, Porphyry, zinc, etc., 78; Gunpowder, 225.
 Berg, J. T., Yarns, 226.
 Berg, S., Albumen, 259.
 Bergaré, Dr., Peanut oil, 255.
 Bergen, C. von, & Co., Wood carvings, 358.
 Bergen Common School Board, Ores 364.
 Bergen Gas Works, Ammonia, 229.
 Bergen's Commercial Association, Oil, 229.
 Bergen's Glass Works, Floaters, 229.

- Berger, C. F., Absinthe, 214.
 Berggren, A. N., Cork, 226; Method, 362.
 Bergh, Van den, & Co., Gin, 219.
 Berghammer, F. R., Artificial teeth, 210.
 Bergmann & Co., Zephyr wool, 203.
 Bergmann, F., Bronzes and gems, 209.
 Bergner, Theo., Drawing boards, 130.
 Bergsbro Stock Co., Fabrics, 226.
 Bergslag Iron Works, Iron, 79.
 Bergström, P. N., Furs, 226.
 Berguillo, C., Balsam, 271.
 Berkeley Co., Cambrics, 116.
 Berkey & Gay Furniture Co., 111.
 Berkley & Taylor, Oil, 179.
 Berlie, Edouard, Springs, 355; Tools, 358.
 Berlin, J. W., Looking glasses, 202.
 Bermeillo, Pio, Silver, 86.
 Bermejillo, P., Cottons, 265.
 Bermuda, Government of, Stalagmite, 66; Tables, 174.
 Bernabei, A., Syringes, 235.
 Bernard, J., & Co., Papers, 198.
 Bernard, J. T., Alternate, 9.
 Bernardo, Daupias, & Co., Woolen fabrics, 286.
 Bernardo, L., Teeth, 319.
 Bernardo, M., Quartz, 166.
 Bernardy, Mrs. L., Geography, 266.
 Bernbal, M., Hampers, 277.
 Berne, Dept. of Public Works, Plans, 356.
 Bernclot, Moens, J. C., Herbarium, 222.
 Berney, A., Tea kettle, etc., 376.
 Bernhard, S., Perfume, 214.
 Bernhardt, J., Chemicals, 201.
 Bernstein Bros., H. & B., Amber, 318.
 Berr, Eugene, Gloves, 197.
 Berry, J. B., Pianos, 333.
 Berry, J. S., Oil, 158; Bone dust, 159.
 Berthon, Shoes, 253.
 Berthoud & Co., Blacking, 192.
 Bertini, E., Crockery, 233.
 Bertram & Co., Gold, 85.
 Bertram, J. T., Arrowroot, 174.
 Bertrand, Boulla, Imitation tapestries, 195.
 Bertrand, Casimiro, Iron, 88.
 Besancet-Blanc, Ruby jewels, 355.
 Beslier, A., Pharmaceutical preparations, 192.
 Bessbrook Granite Works, Granites, 61.
 Besson, F., & Co., Musical instruments, 339.
 Bessoni, Viscount de, Marbles, 95.
 Bessonoff Bros., Bolts, 319.
 Best, J., Wine, 164.
 Bethell, J. P., Apparatus, 136.
 Bethlehem Iron Co., Iron, 57; Drawings, 334.
 Betou, J. P. de, Rifle, 221.
 Betou, P. J., Instrument, 361.
 Bett, T., Oil, 315.
 Bettington, J. B., Wool, 159.
 Bettle, E., New Jersey, 13.
 Betman & Kupfer, Toys, 205.
 Bettonville, C., Woolens, 216.
 Beunon, Piano, 345.
 Beust, F., Books, 353.
 Beutel, F., Wicker work, 208; Shoes, 209.
 Bevan, Eduardo A., Ores, 83.
 Bevan & Sons, Cord, 155.
 Bevan, Thomas, jr., Rope, 155.
 Bevin Bros. Manufacturing Co., Bells, 140.
 Bevis, H., Banner, 153.
 Bewley, J. H., Delaware, 12.
 Beyer, E., Inks, 202.
 Beyron, F., Shell, 181.
 Beyroot, Government of, Cotton, 294; Fabrics, 298; Trimmings, 302.
 Beysens & Beckers, Religious articles, 194.
 Bezaz Effendi, Silk, 298.
 Bianchi & Mellado, Laces, 277.
 Bianchi & Molinari, Floor, 233.
 Bibiano, Antonio Alves, Broadcloth, 286.
 Bibliographic Institute, Leipsic, Maps, 348.
 Bickel, August, & Son, Canes, 128.
 Bickford, A. M., & Sons, Bitters, 168.
 Bickford, Dana, Knitted articles, 125.
 Bickford, Smith, & Co., Safety fuses, 145.
 Bicknell, A. J., & Co., Books, 326.
 Biqué & Dupressoir, Feathers, 198.
 Biddell Bros., Lemons, 158.
 Biddle, C. M., Finance, 11.
 Bidencope, J., Hats, etc., 182.
 Bie, C., Arithmometer, 224.
 Bierrrenback & Bros., Hats, etc., 253.
 Bierrengard, W., Harness, 254.
 Bigdè, Government of, Salt, 291; Hemp, 295; Gum, 306.
 Bigler, W., Finance, 11.
 Biglow Carpet Co., Carpets, 122.
 Bihn & Co., Lampblack, etc., 104.
 Bikè, Madame, Carpet, 297.
 Bickers & Son, Extinguisher, 361.
 Bilbao Iron Ore Co., Iron ore, 89.
 Bilger, C., Harmonica, 349.
 Billar, S., Oil, 255.
 Billerlic, Juan, Varnished woods, 262.
 Billeter, C. G., Threads, 212.
 Billings, Clapp, & Co., Chemicals, etc., 102.
 Billings & Spencer Co., Arms, 133; Tools, 137.
 Bin Cachi Mehemed, Mineral water, 97.
 Binder Bros., Carriages, 200.
 Binder, W., Jewelry, 204.
 Bindschedler & Busch, Artificial alizarine, 212.
 Bingera Mine, Coal, 67.
 Biolley Bros. & Co., Woolen stuff, 217.
 Biolley, F., & Son, Woolen stuff, 217.
 Bion & Tschumper, Embroideries, 213.
 Birch, F., Millstones, 80.
 Birch, John S., Watch key, 128.
 Birch Kirkor, Inkstand, 304.
 Birchall, J. D., & Co., Woolen goods, 149.
 Bird, Geo., Cheese, 163.
 Bird, J. T., New Jersey, 13.
 Birdsall & Son, Binding, 152.
 Birgè & Berg, Flowers, 127.
 Birindelli, Carlo, Water, 81.
 Birkenbine, H. P. M., Drawings, 335.
 Birkey, J. Q., & Co., Gas heaters, 376.
 Birkor, Tissues, 298.
 Birmingham & Lacy, Bricks, 160.
 Birney, J., U. S. Commissioner, 9.
 Birney, M. L., Samples of wool, 337.
 Bishop, A., Magnetite, 71.
 Bishop, D. E., Models, 335.
 Bishop, Henry, Building sandstones, 72, 73.
 Bishop, J., Crucibles, 135.
 Bishop & Northrup, Robes, 121, 124.
 Bisier, B., Clay, 272.
 Bisreshorn Mineral Spring Co., Waters, 75.
 Bissell & Co., Grates, 374.
 Bissinger, C., Sons, Jewelry, 204.
 Bithincourt, J., Lasts, 253.
 Bitterlin, P., jr., Glassware, 194.
 Bitterlin-Schmidt, Precious stones, 355.
 Bitterlin, Son, Glassware, 194.
 Bivar, J. d'A. C. de, Salt, 283.
 Bivar, Manuel d'A. C. de, Lace, 288.
 Bivort Raymond, Henri, Kettles, 77.
 Bizer Bros., Jewelry, 204.
 Björk, J. O., Iron, 226.
 Björneborgs Iron & Steel Works, Iron, 78, 79.
 Blabon, G. W., & Co., Upholstery, 119.
 Blach, J., Essay, 373.
 Black Band Iron Co., Ores, 47.
 Black Forest Clock Manufacturers, 349.
 Black, L., & Co., Glasses, 350.
 Black, Messrs., Sugar, 180.
 Black River Stone Co., Stone, 53.
 Black, W. B., Wood, 156.
 Blackfellows' Creek Mine, Coal, 67.
 Blackie & Charles, Hydrant, 115.
 Blacklock, W., & Co., Wool shirts, 189.
 Blackstone Mfg. Co., Shirts, 116.
 Blackwood, J., & Co., Inks, 145; Wax, 152.
 Blackwood, R., Amethyst, 71.
 Blain, C. R., Maize, 158.
 Blair's, H. C., Sons, Toilet articles, 106; Food, 135.
 Blaisdell, G. P., Axles, 382.
 Blake Bros., Hardware, 141; Trucks, 143.
 Blake, C. H. & F. D., Alpacas, 122.
 Blake & Johnson, Pins, 129.

- Blake, W. P., Alternate, 9.
 Blakemore & Sherman, Washstand, 377.
 Blanche Furnace, Ores, 48; Iron, 57.
 Blanchet, A. P., Plan, 345.
 Blanchet Bros. & Kleber, Paper, 198.
 Blanck, Carlos Frederico, Ore, 94.
 Blanck, G., Rule, 329.
 Blanck, W., & Son, Limbs, 135.
 Blanco, B., Saddlebag, 274.
 Blanco, E., Trimmings, 276.
 Blanco, Prudencio, Calamine, 87.
 Bland & Wright, Coal, 67.
 Blandin y Carrese, Manuel, Iron ores, 83.
 Blanes Bros., Paper, 277.
 Blankenhorn, A., Reviews, 349.
 Blanquer, Ronda, Marble, 89.
 Blauvelt, J. C., Coal, 51.
 Blaylock & Co., Hats, 126.
 Blazincic & Sons, J., Haberdashery, 210.
 Bleasdale, J. I., Precious stones, 65.
 Blelock, G. H., Judge, Gr. XXI., 18.
 Bless & Drake, Irons, 377.
 Blessing, C. A., Tubs, 377.
 Bleyberg es Montzen Stock Co., Ores, 77.
 Blin & Bloch, Cloth, 195.
 Blind Asylum, Lausanne, Regulations, 354.
 Blind Institue, Amsterdam, Articles, 360.
 Bliss, J., & Co., Chronometers, 330.
 Bliss, William, & Son, Woolens, 149.
 Bloch, E., & Sons, Boots, 209; Cloths, 211.
 Blodget, L., Charts, 326.
 Bloedner's, J. C., Son, Chemicals, 201.
 Blombacka Stock Co., Matches, 225.
 Bloodgood, Miss A. De Etta, Flowers, 127.
 Bloodgood, Mrs. I. S., Afghans, 121.
 Bloom Furnace, Iron ores, 48; Pig iron, 58.
 Bösch, Eduard, Reports, 357.
 Blot, Eugene, Pipes, 198.
 Blot, Paul, China, 193; Glassware, 194.
 Blumenau, Colony of, Cotton fabrics, 253.
 Blumer & Wild, Hosiery, 213.
 Blunck, C., Pumps, 230.
 Bluthner, J., Piano, etc., 350.
 Boada, G., & Travessa, 270.
 Boada, Jeronimo Mataró, Artificial stone, 90.
 Bob, L., Clocks, 349.
 Bocanegra, S., Marbles, 86.
 Boch Kirkor, Spoons, 293; Stirrups, 305;
 Flute, 371.
 Bochner, T., Judge, Gr. IX., 16.
 Bock, H., Photographs, 162.
 Bodart, E., Sheepskins, 218.
 Boddy, E., Flour, 164.
 Bodington, R., Support, 165.
 Bodou Agha, Wine, 313.
 Bodwell Granite Co., Granite samples, 52.
 Boeck, W., Jewelry, 204.
 Boeck, W., & Danielssen, D. C., Books, 364.
 Boeddinghaus, F., & Son, Cloth, 203.
 Boeddinghaus, W., & Co., Cloth, 203.
 Boehm, P., Polished stones, 204.
 Boer, F. N., Model, 361.
 Boericke & Tafel, Medical preparations, 134.
 Boeza, Simon, Wines, 268.
 Bofors Stock Co., Iron ore, 78.
 Bogart, John, Engineering exhibit, 336.
 Boghend, Luzzena, Benzine, 304.
 Bogle, A., & Co., Shoe machines, 160.
 Bohannan, Wilson, Locks, 141.
 Bohland & Fuchs, Instruments, 351.
 Bohm, A., Bronze ware, 210.
 Bohm, L., Bronze ware, 210.
 Bohol, Provincial Board of, Bags, 280.
 Boim & Co., Pottery, 284.
 Boissiere, E. V. de, Silk, 122.
 Boiven y Senty, Adolfo, Asphaltum, 89.
 Boivin & Co., Tools, 190.
 Böker, H., & Co., Cutlery, 206.
 Bolad, N., Cotton fabrics, 293; Silk, 298.
 Boland, F., Mirrors, 113.
 Bolari & Yellow Earth Co., Earth, 81.
 Bolan & Byrne, Waters, 55.
 Bolesse, Diarbekir, Seeds, 307.
 Bolinders, J. & C. G., Stove, 226.
 Bolle, L. A., Son, Absinthe, 214.
 Bollenbacher, G. W., Table, 377.
 Bolzani & Fussl, Chains, 209.
 Bolzani, Jean, Son, Chains, 197.
 Bomches, F., Designs, 351.
 Bomsdorf, Oscar von, Maps, 347.
 Bon Pasteur, College work, 342.
 Bon Regina, Laces, 234.
 Bonacina, C., Varnishes, etc., 232.
 Bonafede, L., Tiles, 315.
 Bonaplata, Eduardo, Galena, 88.
 Bondier, Ulbrich, & Co., Pipes, paper, 198.
 Bonehill Bros., Iron, 77.
 Bonei, Casuccinio, Olive oil, 231.
 Bonel & Sons, Cloths, 274.
 Bonfantini, G. A., Album, 358.
 Bonhomme, Uncle & Nephew, Doors, 195.
 Bonilla, R., Cloth, 275.
 Bonino, E. P., Zinc goods, 235.
 Boniotti, P., Document, 362.
 Bonnet, Charles, & Co., Types, 358.
 Bonnet & Co., Silk, 196.
 Bontems, B., Birds, 198, 345.
 Bonwill, W. G. A., Instruments, 136.
 Bonzano, H., Louisiana, 12.
 Book Trade, Amsterdam, Books, 360.
 Boolak, Mechanical Inst. of, Tools, 237.
 Boon, B., Miniature field artillery, 134.
 Boonin, J., Silk, 317.
 Booroff, S., Wood, 320.
 Boorum & Pease, Books, 132.
 Boos, F., & Bro., Furs, 129.
 Boosey & Co., Music, 338; Instruments, 339.
 Boot Manufactory, Luxemburg, Boots, 240.
 Booth, G., Wrench, 199.
 Booth, J., & Son, Tools, 137.
 Booth, W., Painting on glass, 188.
 Boothby, C. W., Drawings, 321.
 Boott Cotton Mills, Cotton goods, 117.
 Boquet, J., & Co., Velvet, 195.
 Borbridge, S. & H., Trunks, 189; Harness,
 191.
 Borddal, J., Tables, etc., 253.
 Borden, William W., Fossils, 49.
 Border City Mills, Printing cloths, 118.
 Bordewick & Co., Cod-liver oil, 229.
 Boreham, J. H., Spices, 180.
 Borel & Courvoisier, Chronometers, 355.
 Borel-Petivier, Ls., Tools, 358.
 Borelli, Luigi, late Tommaso, Acids, 231.
 Borg, O. E., Apparatus, 362.
 Borges, J. A., Earthenware, 284.
 Borges, M. da Cunha, Gross mats, 284.
 Borge Sesia, Woolen Manufactory of, 233.
 Borrisoff, S., & Sons, Printed calico, 316.
 Borm, L., Dress suit, 125.
 Bornet, P., Leather letters, 200.
 Borodin, M., Silk, wool, 317.
 Boronas Soler, A., Cloth, 274.
 Borrás, E., Shawls, 273.
 Borregan del Blanco, Mineral water, 91.
 Borsig, A., Iron, 75.
 Borst & Roggenkamp, Stones, 77.
 Bortfeld, C., Hats, 204.
 Borthen, J., Cod-liver oil, 229.
 Borthwick, Alex., Varnishes, 160.
 Bortolotti, P., Perfumery, 232.
 Bosisto, J., Chemical preparations, 160.
 Bosler, Marcus, Limestone, 52; Building
 stones, 54.
 Bossard, H., Slide rest, 137.
 Bossel, H., Hats, 253.
 Bosset, Jewelry, 197.
 Bossi, E., Gloves, 234.
 Bossi, Gaetano L., Locks, 214.
 Boston Comfort Corset Co., Corset, 125.
 Boston Hydraulic Motor Co., Motors, 336.
 Boston Manufacturing Co., Cotton goods, 117.
 Boston Musical Instrument Manufactory, 334.
 Boston & Sandwich Glass Co., Glassware, 108.
 Botanic Gardens, Melbourne, Director of,
 Woolen cloth, paper, 161; Carpological col-
 lection, 162; Jam, 163.
 Botasheff, B., Samovars, 316.

- Botelberge, Gustave, & Co., Ultramarine, 215.
 Boteler, A. R., U. S. Commissioner, 9.
 Bothamley, A. T., Photographs, 156.
 Bothwell, W., Harness, 161.
 Botten, W., Wine, 164.
 Bottenheim, D. & S., Yarns, 220.
 Botterling & Schultz, Cotton goods, 203.
 Botti, A., Olive oil, 232.
 Botti, P., Gun, 235.
 Boucher-Gravet, Clocks, 344.
 Boucheron, Jewelry, 197.
 Bouchinet, Dress goods, 196.
 Boucneau, L., Marble work, 216.
 Boude & Son, Sulphur, 192.
 Boudon, L., Raw silk, 195.
 Boudvillain, J., Flags, 200.
 Bougali, Hadju Ali, Henna leaves, 306.
 Bougard, A., Le Brun, H., & Co., Glass, 215.
 Bougard, A. M., Crystals, 216.
 Boughton, J. W., Screens, 115.
 Bouhon & Co., Bronze, 194.
 Bouhon, François, Wooden shoes, 217.
 Boulanger, L., Violin, 332.
 Boulanger, Mrs., Books, 344.
 Boulenger, senior, Pavement, 193.
 Boulonikon Floor Cloth Man'g Co., 149.
 Boulet, L. & I., Hats, 257.
 Boulton, L., Medicinal plants, 173.
 Bouquet, Miss, Tea cups, 181.
 Bourcier, Ch., Imitation jewelry, 197.
 Bourd, Government of, Carpet, 296; Stock-
 ings, 300; Morocco, 311.
 Bourgeois & Co., Machine oils, 192.
 Bourgeois, Martin, jr., Paintings, 199.
 Bourgeois, N., Picture, 259.
 Bourgeois, senior, Colors, 193, 198.
 Bourquin, C. F., Hosiery, 213.
 Bourson, Miguel, Iron ore, 89.
 Boussu, Familleureux, & Blanc Misseron Glass
 Works Joint Stock Co., Crystals, 216.
 Boutenjeun, Laces, 197.
 Bouton, H. & E., Coffee, 178.
 Bouvier, A., Skeletons, 344.
 Bouvy, J. J. B. J., Glassware, 220.
 Bowden, J. H., Drawings, 335.
 Bowden, J. H., Kentucky, 12.
 Bowditch, Earnest W., Plans, 336.
 Bowen, Mrs. S. B., Montana, 13.
 Bowen, T., Casting, 135.
 Bower, Henry, Acids, etc., 102.
 Bowers, James, & Co., Corsets, 125.
 Bowman, C. A., & Pro., Brushes, 142.
 Bowman, Charles, Stencil plates, 145.
 Bowman, E. & A., Wool, 159.
 Bowman, J. S., Crayons, 160; Engravings,
 161.
 Bowman, O. O., & Co., Terra cotta, 106.
 Boyachipolani, M., Cover, 302.
 Boyd, A., Tobacco, 173.
 Boyd & Chase, Oilstone, 55, 139.
 Boyd, D., Flue radiator, 376.
 Boyd, Miss E., Ferns, 250.
 Boyd, W. S., Florida, 12.
 Boyden, A., Judge, Gr. VII., 16.
 Boyé, M. H., & Lewis, George T., Oil, 103.
 Boynton, C. W., & Co., Tile, etc., 107.
 Boys' B'd'g School, Coal, 250; Woods, 251.
 Boza, J., Wines, 264.
 Bozzalla, A., & Bro., Woolen goods, 233.
 Bozzalla, G., & Son, Woolen goods, 233.
 Bracher, T. W., Ventilators, 378.
 Bradbury, Agnew, & Co., Books, 338.
 Bradford, A., Fastener, 378.
 Bradford, H., Maryland quartz, 54.
 Bradford, J., Judge, Gr. IV., 16.
 Bradley & Gilbert, Blank books, 132.
 Bradley & Hubbard Manufacturing Co., Chan-
 deliers, 114; Bronzes, 128.
 Bradshaw, J. D., Ship models, 191.
 Bradshaw, T. H., Ship models, 191.
 Erady, E. W., Window shades, 109.
 Erady, Edward, Collars, 126; Models, 139.
 Braff, P., & Co., Paper stock, 217.
 Braga, A. J. F., Feather articles, 254.
 Braga, A. P. da S., Armorial bearings, 289.
 Braga, Dir. of Public Works of, Stone, 94.
 Braga, Fernandes, & Co., Hats, etc., 253.
 Braga, Manuel J. V., Silk trimmings, 287.
 Brahim Agha, H., Bellows, 293.
 Brainard, Armstrong, & Co., Silks, 122.
 Brambilla, Fortunato, Stocks, 263.
 Bramford Lock Works, Locks, 141.
 Branca, A. D., Salt, 283.
 Brandao, José Marçal, Sewing silks, 286.
 Brandeis, L., & Co., Bronze powders, 104.
 Brandstetler, F., Books, 347; Harness, 383.
 Brandt, C., Furs, 230.
 Brandt, J. de, Lincen, 216.
 Brann & Reich, Looking glasses, 202.
 Brant, J. Ferreira d'A., Insects, 366.
 Brantzeg, P., Pianos, 364.
 Braquenie Bros., Carpets, 195; Tapestry, 217.
 Brasche, C., Wine, 164.
 Brasher, W. M., & Co., Oil cloths, 119.
 Brashnin Bros., Silk, 317.
 Brass, John, & Son, Harness, 172.
 Brasseur, R., Syrup, 192.
 Bratti, Seiatilli, & Co., Music, 365.
 Braunek, E., Gloves, 209.
 Bravais, Rouol, & Co., Pharmacies, 192.
 Bravo, A., Handkerchief, 281.
 Bravo, F., Tapestry, 280.
 Bravo, Simon, Carvings, 262.
 Bray, E. L., Fixtures, 140.
 Brazil, Commission General of, Straw, 253;
 Knives, etc., 254; Piano, 367.
 Brazil Ind. Cotton Mill Co., Cottons, 253.
 Brearley Bros., Leather, 163.
 Brecht, C. J. P., Wines, 159.
 Preenen & Neike, Shears, 139.
 Bréguet, Machines, 345.
 Breguet & Co., Chronometers, 344.
 Brehmer, E. F. A., Apparatus, 363.
 Breidenbach & Baumann, Publications, 147.
 Breitkopf & Hartel, Catalogues, etc., 347.
 Brémond, B. A., Musical boxes, 355.
 Brend'amour & Co., Albums, 347.
 Bresca & Co., Merinoes, 274.
 Bresse & Starke, Quartz, 166.
 Bressen-Agnés & Co., Silks, 196.
 Breting Bros., Chronometers, 355.
 Brewer & Tileston, Books, 327.
 Brewer, W. H., Judge, Gr. VI., 16.
 Brewster Bros. & Co., Corsets, 125.
 Brewster & Co., Wagons, 380.
 Brewster, J. B., & Co., Landau, 380.
 Breysacher, A. L., Arkansas, 11.
 Brian, H. T., Judge, Gr. XIII., 17.
 Brianchon, J., Faience, 193.
 Briar Hill Iron & Coal Co., Pig iron, etc., 57.
 Briard, Nuts, cotton, 181.
 Brice, D. A., Cotton, 173.
 Brick Enameling Co., Bricks, 107.
 Bridge, Andrew, Pails, 191.
 Bridge Mill Cotton Man'g Co., Cottons, 117.
 Bridma, M., Books, 368.
 Bridore, Government of, Lignite, 97.
 Eriens, Jewelry, 197.
 Briere, J., Nipples, 346.
 Brigg, J. F., & Co., Drills, coatings, 149.
 Brigg, M., & Son, Safes, 109.
 Briggs, Charles, Tables, 316.
 Briggs, J., Piano stools, 111.
 Briggs, J. F., New Hampshire, 13.
 Briggs, Robert, Ventilating fan, 335.
 Brigham, W. T., Books, 250; Photos., 251.
 Bright Bros. & Co., Ingots, 65.
 Bright, H. C. R., Copper ores, 169.
 Brigola, Gaetano, Books, 365.
 Brill, J. G., & Co., Car, 382.
 Brinkerhoff, Turner, & Co., Canvas, 117.
 Brinsmead, John, & Sons, Pianos, 339.
 Brinton, Joseph H., Stone, 52.
 Brionde, St. Etienne, Ribbons, 196.
 Brisbane Tin Co., Model, 179.
 Brisbane Tin Mining Co., Ores, 67.
 Bristley, W., Hook, 190.
 Bristow, G. F., Judge, Gr. XXV., 19.

- Brites, Augusto Pereira, Stone, 94.
 Brites, Rose e M. G. do S., Lace, 287.
 British & Foreign Ass'n, Blind maps, 338.
 British & Tasmanian Charcoal Iron Co., 68.
 Brito Aranha, Pedro W. de, Books, 369.
 Brito, J., Works, 266.
 Brito & Sierra, Ore, 89.
 Brittain, R. J., Instruments, 331.
 Britton, B. F., Judge, Gr. X., 17.
 Broad Brook Co., Cassimeres, 120.
 Broad, E., Axes, 130.
 Broadhead, G. C., Judge, Gr. I., 15.
 Brocard, P. J., Mirrors, 193.
 Brocard, P. T., Glass, 194.
 Broch, I., Water filter, 376.
 Brochi, J., Cans, 272.
 Brochocki, C. D., & Co., Javelle water, 193.
 Brock, J., Wool, 183.
 Brockhaus, F. A., Books, 347.
 Brockleman, Biscuit, 180.
 Brockley & Co., Piano, 342.
 Brodin, jr., Aerostatic articles, 198.
 Brodrigg, W. A., Wool, 159.
 Brodure, M., Wooden work, 216.
 Brohme & Co., Chemicals, 201.
 Bromley, John, & Sons, Carpets, 122.
 Brøndum, A., Liquor, 224.
 Bronfort Bros., Wooden boxes, 216.
 Bronze Foundry, Shot, 278.
 Brook, J., & Bros., Cotton, 148.
 Brooke, E. & G., Ores, 59; Iron, 58; Nails, 142.
 Brooke, Edward, & Sons, 145.
 Brookes & Crookes, Knives, 152.
 Brooklyn White Lead Co., White lead, 104.
 Brooks, D., Cables, 331.
 Brooks & Dupuy, Cotton, 181.
 Brooks, Henry, & Co., Perfumery, 145; Stop-
 pers, 153.
 Brooks, Mrs. G., Doilies, 171.
 Brooks, W. B., & Son., Coal, 52.
 Brookside Hosiery Mills, Shirts, 125.
 Brosset, Heckel, & Co., Satins, 196.
 Brot, L., Mirrors, 194.
 Broussa, Government of, Opium, 304.
 Brousse, Government of, Silk, 297.
 Brousson, J., & Son, Nails, 236.
 Brower Bros., Inkstands, 130.
 Brown, A., Gypsum, 73.
 Brown, A. H., Sugar, 180.
 Brown & Bliss, Dining-room furniture, 110.
 Brown, Bonnett, & Co., Bar iron, 56.
 Brown Bros., Bookbinding, 189.
 Brown & Claggett, Dresses, 189.
 Brown & Co., Ores, 47; Blooms, 56.
 Brown, D. S., & Co., Shirts, 119.
 Brown, E. F., Stone, 53.
 Brown, E. P., Implements, 136.
 Brown, Emma, Hats, 126.
 Brown, Frederick, Jamaica ginger, 102.
 Brown, G. W., Table, 250.
 Brown, H. J., Wine, 164.
 Brown, J., Pyrolusite, 71.
 Brown, J. B., & Co., Netting, 143.
 Brown, J. T., Frames, 188.
 Brown, John, & Co., Armor plates, 62.
 Brown, John S., & Sons, Sheetings, yarns, 149.
 Brown, L. L., Paper Co., Paper, 131.
 Brown, L. P., Idaho, 12.
 Brown & Owen, Iron work, 143.
 Brown, R. H., Coal, 71.
 Brown, R. T., Judge, Gr. IV., 16.
 Brown, Robert B., & Co., Castor oil, 103.
 Brown, S. C., New Jersey, 13.
 Brown, S. N., & Co., Sulky, 377.
 Brown, T., & Co., Wool, 159.
 Brown, Westhead, T. C. Moore, & Co., Tiles,
 146.
 Browne & Buskewell, Harp, 334.
 Browne, H. Justin, Pianos, 342.
 Browne, J., Chart, 341.
 Browne, T., Sandstone, 64.
 Browne, W. J., Wool, 168.
 Brownfield, Wm., & Son, Earthenware, 146.
 Brownhills Pottery Co., Terra cotta, 146.
 Browning & Brothers, Chemicals, 102.
 Browning, George, Minerals, 223.
 Bruce, J., Judge, Gr. XXIII., 18.
 Brucher & Bauler, Apparatus, 372.
 Brückner, Lampe, & Co., Chemicals, 201.
 Bruffel, K., Cotton, 294.
 Brugada, L. de, & Boucherville, E. de, Ramie,
 178.
 Brugsch Bey, Porcelain, 236.
 Brugsch, E., Judge, Gr. XX., 18.
 Bruhn, A., Wines, 164.
 Brum, C. de, Linen duck, 285.
 Bruna, E., Ashes, 255.
 Brunell, J. E., Reed, 226; Penholders, 362.
 Brunet, Jos., Marble monument, 72.
 Brunet, P., Bronze, 194.
 Brunfant, Jules de, Glassware, 207.
 Brunius, A. W., Books, 362.
 Brunn, Dr., Cast, 351.
 Brunner, A., Bed covers, 212.
 Brunner, Ad. & Fr., Sketches, 356.
 Brunner, Mond, & Co., Soda, 144.
 Brunning, O., Pianos, 345.
 Brunnschweiler & Son, Inks, 212.
 Brunnschweiler, Traugott, Caseum, 212.
 Brunswick Bros., Billiard table, 139.
 Brunswick, J. M., & Balke Co., Billiard tables,
 112.
 Brunt, Bloor, Martin, & Co., China, 108.
 Brusa, G., Album, 234.
 Brusewitz, Fr., Glassware, 225.
 Brussels Gymnastic Ass'n, Statutes, 360.
 Bruton, C. I., Photographs, 170.
 Bruyneel, Lace, 217.
 Bruzewitz, F., Glass, 226.
 Bruzzesi, G., Shoes, 234.
 Bryan, J. C., Rods, 331.
 Bryant & May, Safety matches, 145.
 Bryzgaloff, Jugs, 316.
 Buasso, L., Boots and shoes, 257.
 Bubb & Co., Woolen cloths, 149.
 Buchanan, J., Fish hooks, 152.
 Buchanan Mineral Co., Cement, 72; Paint, 187.
 Buchsbaum, Max, Ornaments, 208.
 Buchtel College, Ornaments, 328.
 Buck Bros., Chisels, 137.
 Buck, C., Tools, 137.
 Buck, T. S., & Co., Rubber type forms, 130.
 Buckeye Furnace Co., Iron ores, 48; Iron, 58.
 Buckhora Furnace, Ores, 48; Iron, 58.
 Buckingham Mining Co., Lime, 74.
 Buckley, E., Wheat, 163.
 Buckley, J. E. & G. F., Shawls, 150.
 Buckley, Joseph, & Co., Shawls, 150.
 Buckman, Ira, Locks, 142; Annunciators, 331.
 Budan, J., Gloves, 208.
 Buen Deseo Mining Society, Ores, 89.
 Buena Vista Furnace, Ores, 49; Iron, 59.
 Bueno, R., Earthenware, 272.
 Buenos Ayres Benevolent Soc'y, Mat, 256.
 Buenos Ayres Prov. Com'n, Fabrics, 257;
 Herbs, spurs, 259.
 Buenos Ayres Water Works Com'n, Shells, 84.
 Buoso Fabrègad, V., Tiles, 272.
 Buoso Herrando, J., Sandals, 276.
 Buffalo Decorating Co., Leaves, 128.
 Buffalo Furnace, Ores, 49; Iron, 59.
 Buffeti & Maya, Hats, 257.
 Buftam, M., Counterpane, 295.
 Bühler, Emile, Hair regenerator, 212.
 Building Direction, Canton Aargau, Plans, 357.
 Buison, J., Mats, 280.
 Buison, N., Tintarron, 280.
 Bujalance, Corporation of, Mantas, 275;
 Jacket, 276; Gimlets, 279.
 Bulacan, Provincial Board of, Knives, 282.
 Bulhoes, Plans, 367.
 Bulimba Tin Smelting Co., Tin, 67.
 Bull & West, Cuprous pyrites, 88.
 Bullivant, T., Window, 148.
 Bullock, Chas., China ware, 108.
 Bullock & Crenshaw, Drugs, chemicals, 102.
 Bullock, G. & J. M., Warp, 118; Doeskins,
 120.

Bullot, C., Stockings, 196; Millinery, 196, 197.
 Bundner Reformatory, Reports, 357.
 Burbach Works, Iron, etc., 75.
 Burbank, J. A., U. S. Commissioner, 9.
 Burchardt, C. A., Jewelry, 204.
 Burdett Organ Co., Organs, 332.
 Bureau of Education, Map, 263.
 Burger, H., Velocipedes, 361.
 Burgess, Andrew, Rifles, 133.
 Bürgin Bros., Bronze, 76; Nails, 214.
 Burgos, J., Table cloth, 256.
 Bürgos, Provincial Commission of, Pottery, 272; Towels, 273; Woolens, 274.
 Buringer Bros., Iron, 143.
 Burkhardt, C. P., Oregon, 13.
 Burkitt, F., Mississippi, 13.
 Burleigh, J. B., Relics, 328.
 Burleigh, W. A., Dakota, 12.
 Burley, S. W., Books, 326.
 Burlington Mfg. Co., Tiling, 53, 107.
 Burlington Woolen Co., Doeskins, etc., 120.
 Burlock, Saml. D., & Co., Bookbinding, 132; Bibles, 327.
 Burnand, J., & Co., Cutlery, 153.
 Burnay, Constant, Blankets, 266.
 Burnay, V. de J. B. B., Oils, 283.
 Burnett, J., & Co., Extracts, etc., 106.
 Burnett, W. H. & R., Furs, 129.
 Burnham, C., & Co., Stoves, 374.
 Burns, B., Ohio, 13.
 Burns, R., & Co., Masonry, 106.
 Burpee, M., Drawing, 342.
 Burton, B., Rifles, etc., 134.
 Burton Bros., Views, 156.
 Burton, J. P., Coal, 51; Iron, 57.
 Burwell, W., & Bro., Mountings, 378.
 Bury, J. A., Canes, 181.
 Buscarlet, Widow, & Malo, Gloves, 197.
 Busch Bros., Cotton and mixed goods, 203.
 Buschor, Chas., Furniture, 111.
 Busse, G., & Co., Cement, 61.
 Bussey, G. G., & Co., Trunks, 151; Guns, 152.
 Bussy, C. de, Judge, Gr. II., 15.
 Bustamente, Abdon, Blanket, 257.
 Bustos, M., Embroidery, 258.
 Butchart, J. H., Tin ore, 64.
 Butler, G. P., & Sons, Books, 326.
 Butterick, E., & Co., Patterns, 123.
 Büttner, Ed., & Co., Fancy papers, 205.
 Buxeda Bros., Fabrics, 274.
 Buxton, Geo., Lime and limestone, 72.
 Buys, L., Car, 218.
 Buzby, Albert G., Water motor, 336.
 Buzzi, G., Furniture, 233.
 Byron, W., Paper, 131.

C.

Caba Oglou Mehemed, Calico, 294.
 Caballero, E., Graphite, 85.
 Caballi, C., Embroidery, 258.
 Cabello, G., Wines, 264.
 Cabeza, A., Hammers, 279.
 Cabezas Sarabia, J., Cloak, 275.
 Cable, Bayard, & Co., Clothes rack, 188; Razor strop, 190; Halter clasps, 191.
 Cabo, J. de Villa, Strings, 269.
 Cabo Mondego Mining Industrial Co., Glass work, 284.
 Cabot Manufacturing Co., Cotton goods, 117.
 Cabra, Corporation of, Marbles, 90.
 Cabra del Santo Cristo, Whetstones, 91.
 Cabral, A. do V., Violin, 369.
 Cabral, Frederico A. de V. P., Coal, 94.
 Cabral, J. T., Tidies, 258.
 Cabral y Melo, José Maria, Crystal rock, 83.
 Cabrera, M., Horse medicine, 255.
 Caddell, A., Tin ore, 64.
 Cadelniño, P., Head-dress, 281.
 Cadi Kazi Agha, Sumac berries, 306.
 Cadir, S., Sheets, 295.
 Cadiz, José, Gypsum ornaments, 261.

Cadiz, José Gabriel, Artificial marble, 85.
 Cadwallader, Fitz Gibbon, & Co., Wagon, 380.
 Caesar, L., Polished stones, 204.
 Caetani, Vicente, Marble, 84.
 Cafak, A., Morocco, 311.
 Cafak Mahmoud, Boots, 301.
 Cafak Mehemeda, Shoes, 301.
 Cafejedaki, J., Wines, 313.
 Caffrey, C. S., Sulky, 380.
 Cagliani, L., Velvets, 234.
 Caguire, Frank, Antique vase, 52.
 Cahy, Baron of, Brides, etc., 254.
 Caille, Miss Fanny, Faience, 193.
 Caine, J. T., Utah, 14.
 Cainzo, Antonio, Tobacco, 268.
 Calacao, A., Fabric, 281.
 Calamari, P., Soaps, 232.
 Calatorao, Corp. of, Black marble, 90.
 Calcedon Bone Manufacturing Co., Bone, 315.
 Caldara, S., Cloths, 233.
 Calderera & Bankmann, Perfumery, 207.
 Calderon, Pedro, Vegetable clay, 85.
 Calderon Revuelta, F., Mineral water, 92.
 Caldwell, J. E., & Co., Silverware, 113; Jewelry, 127.
 Caldwell & Mather, Ranges, 375.
 Caldwell & Tod, Building stone, 54.
 Caledonia Free Stone Co., Sandstone, 72.
 Caledonia New Amalgamated Co., Quartz, 166.
 Calender, Vaupel, & Co., Pianos, 332.
 Calheta, Maria Pereira da, Woolen caps, 288.
 California Distilling Co., Oils, etc., 106.
 Caligny, A. de, Report, 345.
 Calise, T., Hats, 234.
 Calix, J., Oil, 315.
 Calle Bernardo, M. de la, Salt, 270.
 Callewaert Bros., Books, 359.
 Calman, Government of, Skin, 311.
 Calman, L., Literature, 344.
 Calmann, C., Book, 326.
 Calvados Lace Manufacturers, Lace, 197.
 Calver, G. W. H., Stoves, 377.
 Calvert, F. C., & Co., Carbolic soaps, 144.
 Camacho, J., Music, 267.
 Camara, Antonio da, Nails, 289.
 Camara, F. T., Gold dust, 82.
 Camara, J. E. P., Hats, 253.
 Camara, J. Ewbank da, Stones, 82.
 Camara, M. da, Table cloth, 285; Cotton lace, 288.
 Camarines Norte, Prov. Com. of, Ores, 93.
 Cambria Furnace, Iron ores, 48; Iron, 58.
 Cambria Iron Co., Drawings, 335.
 Cambria Iron & Steel Co., Ores, 47; Iron, 55.
 Camden Woolen Mills, Dress goods, 121.
 Cameron, A., Alternate, 9.
 Cameron, Hon. D., Wool, 183.
 Cameron, Wm., & Son, Embroidering, 125.
 Cameta, City Council of, Hats, 253.
 Caminero, José, Ores, 88.
 Cammell, Chas., & Co., Iron armor plates, 62.
 Camp, J. H., Photographs, 356.
 Campasero Board of Public Works, Calcareous stones, 90.
 Campbell Brick & Tile Co., Stoneware, 146.
 Campbell, C. J., Coal, 71.
 Campbell, D. H., Wool, 159.
 Campbell, F., New York, 13.
 Campbell & Fowler, Springs, 191.
 Campbell, G., Shutters, 193.
 Campbell, Hall, & Co., Paper, 131.
 Campbell, Hugh, & Son, Granite, 61.
 Campbell, J., Books, 342.
 Campbell, J. L., Commissioner and Sec'y, 9.
 Campbell, O. R., Painting, 161.
 Campbell, S. S., Samples of wool, 337.
 Campbell, Sanil., Extracts, etc., 101.
 Campbell & Turton, Sugars, 251.
 Campbell, Wm., Window curtains, 109.
 Campeche, State Gov. of, Salts, 265; Woods, 267; Caoutchouc, 268; Cotton, 269.
 Campo Grande, Woolen fabrics, 286.
 Campo de Mata, Mrs. J., Cushion, 266.

- Campolini, M., Earthenware, 284; Statuettes, 370.
 Campora Brothers, Olive oil, 261; Wines, 262.
 Campos, A., Music, 366.
 Campos, Fernande, Liqueur, 268.
 Campos, Francisco, Galena, 87.
 Campos, J., Pampa girdle, 257.
 Campos, Mello, & Co., Kerseymeres, 286.
 Canada Cotton Mfg. Co., Domestic, 188.
 Canada, Educational Dept. of, 341.
 Canada Paper Co., Envelopes, 189.
 Canada Plumbago Co., Plumbago, 73.
 Canada Truss Factory, Limbs, etc., 190.
 Canadian Titanic Co., Iron, 74.
 Canales, Juan Bautista, Acid, 270.
 Canas, Eduardo, Olive oil, 268.
 Candela, M., Cloth, 274.
 Candiani & Biffi, Acids, 231.
 Cane, G., Umbrella tools, 235.
 Canea, Gov't of, Salt, 291; Laudanum, 304.
 Canedo, Señor, Cigars, 268.
 Canfield, Frederic A., Drawings, 335.
 Canopy Frame Co., Canopy frames, 115.
 Canson & Montgolfier, Paper, 199.
 Cantalucia, Corp. of, Marbles, 90.
 Canterbury Flax Association, Cordage, 155.
 Canterbury Museum, Plans, 155.
 Cantlie, Ewan, & Co., Flannels, 189.
 Canto, A. A., Linen yarns, 285.
 Cantó, Tomás, & Sons, Cloth, 274.
 Capdevila & Co., Paper, 277.
 Cape Copper Mining Co., Ores, 169.
 Cape Rouge Pottery Co., Crockery ware, 188.
 Capponi, Conti Bros., Olive oil, 231.
 Capra, J., Jewelry, 197.
 Carballino, Corp. of, Medicinal waters, 92.
 Carbon Iron Co., Iron ore, 49; Pig iron, 57.
 Carbonneaux, F., Jewelry, 197.
 Cardalda, I., Glycerine, 255.
 Cardona Baldrich, J., Corsets, 276.
 Cardoso, A. Nunes, Lime, 82.
 Cardoso & Gonsalves, Soap, 252.
 Cardozo, J. P., jr., Gold leaf, 95; Shot, 289.
 Cardozo, Manuel Joaquin, Webs, 289.
 Cardwell, R., Trepan, 167.
 Carezzo, Nicholas, Kaolin, 84.
 Carette Dobbels, D., Rod, 359.
 Carey, J. M., U. S. Commissioner, 9.
 Carey, J. W., Box, 180.
 Carling, T., Wheat, 167.
 Carlisle, Henry, & Son, Shell combs, 128.
 Carlsen, P. O., Ivory, etc., 182.
 Carmant, A., Jewelry, 193.
 Carmara, D. H. G. da, Linen fabrics, 285.
 Carmen, T. D., Oil, 255.
 Carmichael, G. L. & J. B., Wines, 159.
 Carmoy, C., Nails, 139.
 Carné & Moreno, Soaps, 271.
 Carnegie Bros. & Co., Iron, 56.
 Carneiro, A. P., Counterpane, 285.
 Carneiro, Francisco dos Santos, Tissue, 288.
 Carneiro, S. A., Hats, 257.
 Carney, Bernard L., Hats, 126.
 Carnic Ali, Agha, Grapes, 307.
 Carol & Co., Soap, 271.
 Carominas, Salas, & Co., Fabrics, 275.
 Caron, L., Cement, 193.
 Carpenter, Charles, Geological rocks, 48.
 Carpenter & Raymond, Monuments, 52.
 Carpi, V., jr., Sandals, 276.
 Carr, Crawley, & Devlin, Hardware, 141.
 Carr, Isaac, & Co., Woolen cloths, 149.
 Carr, James, Majolica, 107.
 Carr, W. B., & Co., Base balls, 336.
 Carr, W. S., & Co., Pumps, 377.
 Carr & Sons, Window blinds, 160.
 Carral, Widow of I., Tiles, 272.
 Carranza, A. E., Counterpane, 257.
 Carratraca, Corp. of, Mineral waters, 91.
 Carré, E., Pumps, 345.
 Carreras, R. C. de, Mat, 256; Bristle ware, 257.
 Carrigan, P., Cooler, 377.
 Carrillo, Blas, & Co., Silk, 275.
 Carrington, De Zouche, & Co., Interior decorations, 110.
 Carrol, R. E., Rope, 173.
 Carroll, Francis, Model, 334.
 Carson & Brown Co., Writing paper, 131.
 Carson, E. J., Ebony, 170.
 Carter, A. A., Screens, 113.
 Carter, Dinsmore, & Co., Inks, etc., 104.
 Carter, E., Planes, 137.
 Carter, H., Tools, 137.
 Cartiera Italiana, Paper, 234.
 Cartwright, McCurdy, & Co., Iron, 57.
 Carne, Ropes, 200; Gymnastic apparatus, 346.
 Carvajal, A., Galloon, 266.
 Carvalho, Anna C. L. da C., Embroideries, 288.
 Carvalho, A. P. S., Bituminous schist, 82.
 Carvalho, Antonio Raymundo, Brushes, 289.
 Carvalho, D. Maria da C., Fibre articles, 284.
 Carvalho, Ferreira de, & Bro., Soap, 252.
 Carvalho, I. C. A., Linen fabrics, 285.
 Carvalho, Joaquin José, Shoes, 288.
 Carvalho, Manuel, Spurs, 290.
 Carvalho e Mello, Fowling piece, 289.
 Carvalho, Venceslau M. de, Marbles, 94.
 Casademont, M., Pills, 278.
 Casademunt, M., Bottles, 272.
 Casado, M., Tiles, 272.
 Casanovas, J., & Sons, Cloths, 275.
 Casaramona, J., Blankets, 274.
 Casariego, Cayetano, Ferruginous water, 92.
 Casarir, A., & Co., Porcelain, 265.
 Casas, D., Organzine, 296.
 Casas, J., Hair work, 277.
 Casas & Jover, J., Prints, 273.
 Case Bros., Paper boards, 132.
 Case, J. I., Wisconsin, 14.
 Casella, G., Shoes, 234.
 Casgrain, Stoneham, Tripoli, 73.
 Cashmore, T., Clay, 73.
 Casmani, D., Instrument, 371.
 Cassal, A., Skin, 311.
 Cassegrain, F. P., Arms, 237.
 Cassell, Petter, & Galpin, Books, 338.
 Casseres, A. de, Clocks, 361.
 Cassim Bakar, Blankets, 296.
 Cassinara, E., Billheads, 234.
 Castamouni, Gov't of, Carpet, 296.
 Castell de Pons, A., Tapestry, 275.
 Castellani, A., Silver, 234.
 Castellani, T., Crockery, 233.
 Castello Branco, J. da S. F., Salt, 283.
 Castello de Vide, Sulphur Baths of, Waters, 95.
 Castellon Prov. Board of Agri., Marble, 90.
 Castelo, G., Medicinal herbs, 259.
 Castelvédere, L., Candelabra, 233.
 Castilia, Mines of, Coal, 89.
 Castilla, A. y, Book, 266.
 Castillo de Locubín, Corp. of, Jasper, 90.
 Castillo, V., Book, 266.
 Castner, A., Castings, 206.
 Castorena, Miss M., Embroidery, 265.
 Castre, L., Idaho, 12.
 Castro, J. V. P., Thread, 285.
 Castro, João Vaz Pacheco, Rope, 289.
 Catalano, A., Furniture, 233.
 Catamarca Provincial Commission, Quartz, 84; Rock salt, 255; Table cloths, 256; Woolen articles, 257; Crochet work, 258; Herbs, 259; Leather caparisons, 260.
 Catanzaro, Giuseppe, Liqueur paste, 231.
 Catara, Government of, Salep, 304.
 Catasaqua Iron Co., Rolled iron, etc., 57.
 Caterson, Wm. M., Bottles for poisons, 108.
 Catherine, Fabrics, 302; Collars, 303.
 Cathiard, C. F., Boots, etc., 253.
 Cathrineholms Iron Works, Stoves, 80.
 Catlin, J., Wheat, 163.
 Cattaneo, A., & Bro., Paper, 234.
 Cattari, Giorki, Olives, 307, 312.
 Caughey, S. M., Wool, 159.
 Caulier, F., Bedstead, 111.
 Causey, J. W., Delaware, 12.
 Cauvin's Distillery, Rum, 181.
 Cavalcanti, J. S. H., Umbrella, 254.

- Cavaleri, A., Album, 234.
 Cavalho, José Baptista Valhe, Spun silk, 287.
 Cavallaro, L. & G., Beds, 233.
 Cavalry, Direction of, Equipment, 276.
 Cavalry, Dir. General of, Mounting, 279.
 Cavanillas, Juan, Galena, 87.
 Cavaquinha, J. A., Earthen water vessel, 284.
 Caveira Mining Co., Ore, 94.
 Cavelles y Ferré, J., Serges, etc., 273.
 Cavern & Button, Hinges, 190.
 Cawood, S., Table cloth, 169; Cotton, 171.
 Cayol, Mrs. T., Flowers, 181.
 Cazas Abdoullah, Belts, 299.
 Cazas Ahmed, Belt, 299.
 Cazas, D., Silk, 297.
 Cazas, D. I., Hosiery, 300.
 Cazas Said, Belts, 299, 300; Garters, 303.
 Cazas, T., Thread, 295; Silk goods, 297, 305.
 Cazaubon, D., Pumps, 200.
 Cazi, A., Cotton, 314.
 Cazin & Noyon, Laces, 107.
 Cedar Hollow Lime Co., Lime, etc., 54.
 Celedonia, Diaz de la Vega, Perfumes, 261.
 Celluloid Manufacturing Co., Brushes, 128.
 Celluloid Novelty Co., Jewelry, 126.
 Cenami, Count Bartolomeo, Olive oil, 231.
 Centennial Commission of the American Society of Civil Engineers, Drawings, 334.
 Centennial Guide Book Co., Guide, 328.
 Centennial Rolling Chair Co., Chairs, 111.
 Centennial Safe Deposit Co., Safes, 336.
 Centeno, L., Teeth, 279.
 Center Furnace, Ores, 43, 49; Iron, 58, 59.
 Central Drug Store, Mineral water, 97; Resin, 307; Syrups, 313.
 Central Glass Co., Pressed glassware, 109.
 Central Ohio Salt Co., Salt, 101.
 Central Union of Fine Arts, Albums, 344.
 Cerezanilo Society, Soda, 91.
 Cerezuelo, Gonzalo, Galena, 87.
 Cerna, D., Music, 266.
 Cerquinho, Francisco A. V., Jewelry, 288.
 Cervény, V. F., Instruments, 351.
 Cervera & Co., Tiles and bricks, 256.
 Cervera, Luis, Lime, 99.
 Cervin, C. G., Model, 362.
 Cesar, José Maria, Model, 267.
 Cesena Sulphur Co., Sulphur, 81.
 Ceva y Llorens, E., Sandals, 276.
 Chaban Assiani, Belt, 303.
 Chaban Hadji, Wooden cups, 305.
 Chaban Hussein, Calico, 294.
 Chaban Oglou, Carpet, 297; Skin, 310.
 Chabin, H., Stained windows, 194.
 Chace Mills, Printing cloths, 118.
 Chaco, Commission of, Embroidery, 258.
 Chacun, M., Teeth, 266.
 Chadwick, J. T., Massachusetts, 12.
 Chaffin, Staples, & Co., Ores, 48.
 Chagir, Agha, Almonds, 307.
 Chaigneau, Julie, Newspapers, 261.
 Chaix, A., & Co., Books, 344.
 Chaki-sho-sha Co., Jars, 244; Service, 245; Embroidery, 246; Bronzes, 248; Box, 249.
 Chakir, Agha, Olive oil, 291; Carpets, 296; Acorn cups, 306.
 Chakir, Elké, Soap, 291.
 Chakir, T., Carpets, 296.
 Chalamcl, Alf., & Co., Fabrics, 195.
 Chalfant Manufacturing Co., Irons, 377.
 Chamber of Commerce, Reims, Fabrics, 195.
 Chamber of Commerce & Arts, Sienna, Marble, 81; Olive oil, 231.
 Chamberlin, Whitmore, & Co., Stationery, 130.
 Chambers & Co., Umbrellas, 127.
 Chambers, T. F., Black varnish, 145.
 Chamdelon, O., Carpet, 296.
 Chamerooy & Co., Pipes, 200; Scales, 344.
 Chamlotte, Malatia, Oil, 291.
 Champion Fence Co., Fence, 140, 378.
 Champion, G., Arrowroot, 158.
 Champion Spouting Spring, Waters, 55.
 Champromy, J. B., Foulards, 196.
 Chaná, B., Cotton goods, 253.
 Chance Bros., Chemical products, 144.
 Chance Bros. & Co., Glass, 147.
 Chandler, C. F., Judge, Gr. III., 15.
 Chandler, C. H., Roofing slate, 52.
 Chandier, W. H., Judge, Gr. X., 17.
 Chanudet, L., Model, 345.
 Chanute, Octave, Engineering, 334.
 Chaouch, I., Chisels, 305.
 Chaouch, M., Olives, 307.
 Chaouch Mahmoud Agha, Boots, 301.
 Chapeaurouge, C. de, Map, 368.
 Chapelle & Co., Blankets, 233.
 Chapin, C. O., Judge, Gr. XIII., 17.
 Chapleau, Godfroi, Safes, 188; Tools, 190.
 Chapman & Bros., Dry goods, 122.
 Chapman, J. W., Teeth, 136.
 Chapman, Mrs. H. M., Skirt supporter, 123.
 Chapman Slate Co., Roofing slate, 52.
 Chappée, A., Iron pipe, 194, 200.
 Chapsal, A., Shoes, 197.
 Charade, Hadji Ali, Maddra, 306.
 Charageat, E., Umbrella, 198.
 Charbonne-Thuilliere, J., Cutlery, 199.
 Charchou Akissa, Lentils, 309.
 Chardin, E., Silks, 196.
 Chardon, F., Dictionary, 369.
 Charleroi Iron Manfg. Co., Iron, 77.
 Charles, A., & Co., Gloves, 240.
 Charleston Mining & Manufacturing Co., Nodules, 55; Model, 60.
 Charlier, J. B., Beer, 218.
 Charlotte Furnace Co., Ores, 49; Iron, 59.
 Charnaux, F., Photographs, 318.
 Charpentier & Co., Publications, 344.
 Chase, F. & P. F., Boilers, 143.
 Chase, G. W., Photographs, 329.
 Chase, H., Alternate, 9.
 Chase, H. M., Washington Ter., 14.
 Chase, John S., Paste, 130.
 Chase, M. K., Granite pedestal, 52.
 Chastel & Co., Hats, 253.
 Chatain, H., Oven, 375.
 Chateau, L. A., Paper, 199.
 Chatel, Mr., Judge, Gr. IX., 16.
 Chattanooga Mineral Co., Ores, 50.
 Chatten, M., & Co., Woolen stuff, 217.
 Chatwood, S., Safes, 147.
 Chaul Kepka, Olive oil, 291.
 Chavero, A., Essays, 266.
 Chaves, A. P. dos S., Iron furniture, 284.
 Chavirdi, H., Vests, 300.
 Chawshaw French Toilet Powder Co., 105.
 Cheavin, G., Filters, 148.
 Chebert, J., & Co., Raw silk, 195.
 Cheik, M., Garment, 300.
 Chemical Joint Stock Co., Chemicals, 201.
 Chemical Laboratory, Chemicals, 252.
 Chemical Technical Manfy, Porcelain, 207.
 Cheney Brothers, Silks, etc., 123.
 Cherbedji Mehemed, Skin, 310.
 Cheri Oglou Ahemed Agha, Yarn, 296.
 Cherif Agha, Wool, 314.
 Cherif Effendi, Mat, 293; Honey, 312.
 Cherif Oglou Mehemed, Oil, 313.
 Cherifé, Madame, Blanket, 296.
 Cherisor, Government of, Linen, 295.
 Cherishor, Government of, Gum, 306; Rice, 308; Skin, 311.
 Cherkis Berké, Lockets, 302.
 Chervin, Book, 344.
 Chesebrough Manfg. Co., Perfumes, 105.
 Cheshire Manufacturing Co., Buttons, 129.
 Chessman, W. H., Lime, 102.
 Chester Iron Co., Iron ore, 49.
 Chester, Stephen, Engineering, 334.
 Chevrier, Pharmaceutical preparations, 192.
 Chew, J. C., Alternate, 9.
 Chia & Ganga, Shoes, 276.
 Chiavari, Agrarian Committee of, Soap, 232.
 Chicho Zeka, Fabric, 298.
 Chicho Zeko, Quilts, 294; Carpets, 296.
 Chickering & Sons, Pianos, 333.
 Chiclana, Corp. of, Jasper, 90; Pottery, 272.
 Chicopee Manufacturing Co., Flannels, 116.

- Chief Engineer of Highways, Granite, 89.
 Chief Intendency of War, Equipments, 317;
 Wagons, 320; Tester, 373.
 Chiericoni, U., Cocoons, 233.
 Chiesa Bros., Braids, 213.
 Chiffroy, A., Fabrics, 195; Silk, 196.
 Chikumaken Local Gov't., Bamboo, 247.
 Childs, G. K., Buggy, 380.
 Chili, Government of, Silver, etc., 85; Map,
 261; Amalgamating machine, 262.
 Chimalpopoca, F., Book, 266.
 Ching, J., Calf, 180.
 Ching, John, Oil, 179.
 Chinic, Eugene, Steel, 74.
 Chinoply, T., Skins, 310.
 Chipman, David, Magnetite, 71.
 Chipman, Geo. W., & Co., Linings, 122.
 Chiroux, L., Blacking, 192.
 Chris, A., Perfumery, 193.
 Chisholm, W., Ladies' trunks, 189.
 Chiuji, K., Tea pots, 245.
 Chivot, N., Machine oils, 192.
 Chormann, E. G., Easels, 111.
 Chouet & Co., Dentifrice water, 193.
 Chovet, L., Pictures, 194.
 Chowne, E. G., Sugars, 158.
 Chrignan, Inkstands, 304.
 Christen, J. J., Manuals, 354.
 Christensen, Chr., Antique sleigh, 230.
 Christesen, V., Table, 223.
 Christiania Millstones Man'g Co., 80.
 Christiania Sail Cloth Man'f'y, Yarns, 229.
 Christo, Bonandji, Garments, 300.
 Christo, Miss Bonandji, Waterproof, 300.
 Christo, P., Beans, 309.
 Christo, P., Waters, 292.
 Christo, Polita, Pistol, 304.
 Christo, Prevézé, Barley, 307.
 Christo, Volonia, Barley, 307.
 Christo, Yanina, Wheat, 307; Harrow, 314.
 Christofle & Co., Goldsmiths' ware, 199.
 Christy, Wm., Iowa, 12.
 Chrome Steel Co., Steel, 57.
 Chubb, C. F., Silk, 179.
 Chubb, F. E., Beans, 180.
 Chucco, M. C., Books, 368.
 Chuck, T. F., Photographs, 162.
 Chulan & Co., Rice, 251.
 Churadé, Hadji Ali, Raisins, 307.
 Church Hill Coal Co., Coal, 51.
 Cibulski, C., Stoneware, 315.
 Cirilo, Mingo, Coffee, 268.
 Claes & Co., Show case, 109.
 Claesen, C. H., Books, 359.
 Claghorn, J. L., Judge, Gr. XXVII., 19.
 Clara Santa Hacienda, Sugar, 268.
 Clarborg, T. A., Case, 226.
 Claremont, J. H., Massachusetts, 12.
 Clariano Ciaró, Angé, & Co., Tarleton, 273;
 Fabrics, 274.
 Clark, C. W., Fixtures, 113.
 Clark & Co., Hardware, 141; Shutters, 378.
 Clark & Crompton, Wines, 168.
 Clark, Edward P., Model apparatus, 338.
 Clark, F., & Sons, Ores, 166.
 Clark, G. P., Car, 382.
 Clark, I. D., & Co., Cradle, 374.
 Clark, J., jr., & Co., Cotton, 148.
 Clark, J., & Sons, Bark, 162; Leather, 163.
 Clark, L. W., New Hampshire, 13.
 Clark & Maynard, Books, 326.
 Clark & Snieder, Shot guns, 133.
 Clark Thread Co., Spool cotton, 116.
 Clark, W. A., Montana, 13.
 Clark, William, & Co., Scroll iron, 56.
 Clarke Combination Lock Co., Locks, 142.
 Clarke, David, Medicinal preparations, 179.
 Clarke, F. L., Curiosities, 250.
 Clarke, G. E., Wool, 180.
 Clarke, R., Silver rings, 258.
 Clarke, R., & Co., Lasts, 191.
 Clarke, Reeves, & Co., Models, 334.
 Clarke, U. E., & Co., Valises, trunks, 189.
 Clarkson, C. F., Alternate, 9.
 Clarós, Pablo, Jet, 91.
 Claus, Cav. Prof. Niccolo, Treatises, 365.
 Claus, Heinrich, & Gross, Models, 351.
 Clauseau, Father & Son, Madder, 192.
 Claxton, Remsen, & Haffelfinger, Hooks, 327.
 Claxton, Robert, Chronometer jewelings, 339.
 Clay, R., Tubing, 148; Converter, 152.
 Clay, Randolfe, & Co., Tray, 153.
 Clay, Randolph, Model, instrument, 339.
 Clear, E., Wheat flour, 170.
 Cleaver, C., Cocoa, 184.
 Cleghorn, W., Minerals, 64.
 Clément & Co., Pearls, 197.
 Clement, R., Limbs, 135.
 Clemons, C. H., Limestone, 53.
 Cleney, T., Implements, 329.
 Cléray, E., Jewelry, 198.
 Clerke & Co., Lasts, 191.
 Clery, H., Pharmaceutical preparations, 192.
 Cleveland, F. L., Kentucky, 12.
 Cleveland, H. W. S., Design, 336.
 Cleveland Lightning Rod Co., Rods, 331.
 Cleveland Malleable Iron Co., Iron, 59.
 Cleveland Non Explosive Lamp Co., 115.
 Cleveland, O., U. S. Commissioner, 9.
 Cleveland R'g Mill Co., Ores, 47; Steel, 56.
 Cleveland Steel Horseshoe Co., 140.
 Clever, J., Chemicals, 201.
 Clickerman, L. M., Embroidery, 126.
 Cliff, John, Fire brick, 146.
 Clifton Mine, Fossils, 67.
 Climent, Hernandez, Artificial stone, 90.
 Clinton, E., & Co., Brushes, 142.
 Clinton Furnace, Iron ores, 48; Pig iron, 58.
 Clinton M'g. Co., Cotton goods, 116.
 Clinton Mills Co., Blankets, etc., 120.
 Clinton Wire Cloth Co., Wire goods, 115.
 Clipp, G. W., Pair of horns, 179.
 Clive & Hamilton, Wool, 150.
 Cloete Brothers, Wines, 171.
 Cloete, H., Wines, 171.
 Cloete, J. P., Wines, 171.
 Cloncurry Mine, Manganese, 67.
 Clonetz Mining District, Iron ore, 98.
 Close, Thos. J., Settees, 112.
 Cloth Manufacturers' Association, Cloths, 208.
 Clough Stone Co., Stone, 53.
 Clough & Warren Organ Co., Organ, 334.
 Cloutier, George, Shooting boots, 189.
 Clum, H. A., Storm writer, 329.
 Clymer, F. T., Phaeton, 380.
 Coahuila, State Gov. of, Zarapes, 265; Fruits,
 268; Cotton, 269.
 Coahuistla Hacienda, Wheat, 268.
 Coates, H. C., King penguin, 170.
 Coates, Laning, Ferns, 156.
 Cobeta, Corporation of, Iron and iron ore, 92.
 Cobourg & Petersboro' Iron Co., Ore, 71.
 Coburn Mfg. Co., Canopy wardrobe, etc., 112.
 Cocey, J. G., Apparatus, 374.
 Cochran, J. M., & Co., Coal, 51.
 Cochran, T., Finance, 10.
 Cochrane, Robert C. E., Drawings, 340.
 Cockburn, D., Carved frame, 188.
 Coco & Bro., Soaps, 271.
 Coco, S., Furniture, 233.
 Codelia, Juan, Vermicelli, 262.
 Codman & Shurtleff, Instruments, 136.
 Coe, L. W., Connecticut, 11.
 Coelhof, F., Bricks, 284.
 Coelhof, Francisco, Clay, 95.
 Coelhof, José de Sorna, Gallons, 287.
 Coenen & Wolter, Mixed fabrics, 203.
 Coez, E., & Co., Paints, 192.
 Coffani, M., Parasols, 210.
 Coffee Surrogate Factory, Coffee, 214.
 Coffin, Redington, & Co., Silica, 55.
 Cohansey Glass Mfg. Co., Glass, 108, 115.
 Cohen, Chas. J., Stationery, 131.
 Cohen & Levy, Flour, 158.
 Cohen & Risch, Books, 347.
 Cohille, Guillermo B., Antiquities, 263.
 Cohn, M., & Co., Corsets, 124.
 Cohné, S., Soaps, 144; Bearings, 154.

- Cohumer & Collet, Furniture, 198.
 Coignet, Father & Son, Chemicals, 192.
 Coimbra, C., Earthenware, 284.
 Colac, Shire Council of, Photography, 162.
 Colange, L. de, Indicator, 344.
 Colas, E., & Christoff, C., Extract, 193.
 Colby Wringer Co., Wringers, 377.
 Coldwell, M. A., Brush, 377.
 Coldwell, T. H., U. S. Commissioner, 9.
 Cole, Alexander, Bedsteads, 109.
 Cole & Ballard, Carriages, 381.
 Cole, Rufus, Copper glance, 70.
 Cole, W., & Son, Arrowroot, 158.
 Coleman Eagle Bolt Works, Bolts, 141.
 Coleman, J., Judge, Gr. XXII., 18.
 Coleman, W., Gypsum, 73.
 Coleraine Iron Co., Coal, 50; Pig iron, 57.
 Colgate & Co., Soaps, etc., 106.
 Colima, State Government of, Indigo, 268.
 Colima, State Government of, Woods, 265.
 Colima Workingmen's Club, Cottons, 267.
 Colin & Co., Books, 344.
 Colinet, E., Work, 319.
 Collaço, M. M., Linen fabrics, 285.
 Collaço, Manuel Matheus, Woolen fabrics, 286.
 College of the Immaculate Conception, Ham-
 mocks, 253.
 College of Superior Works of Art in Silk, 275.
 Collender, H. W., Billiard tables, 109.
 Collera, Prov. Board of Agri. of, Spar, 91.
 Collett, R., Map, 364.
 Collignon Bros., Chairs, 109.
 Collin, Ch., Watch glasses, 212.
 Collins & Co., Swords, etc., 134; Sledges, 136.
 Collins & Sturgeon, Reclining chair, 112.
 Collins, T. E., Montana, 13.
 Collinson & Lock, Furniture, 147.
 Colliot, Désiré, Watches, 355.
 Collison, H. C., Wines, 171.
 Collmann, L. W., Pianos, 147, 339.
 Colodrero, M. C. de, Table cloth, 258.
 Colodrero y Pedra, M. del T., Palm, 258.
 Cologne Müsen Mining Co., Iron, 75.
 Colonial Co.'s Agency, Sugar, 184.
 Colonial Museum, Minerals, 63; Ornaments,
 155; Tan barks, 156.
 Colonial Sugar Refining Co., Sugars, 158.
 Colthurst, Symons, & Co., Bricks, 146.
 Colton, A. J., Planes, 137.
 Colton, F., Illinois, 12.
 Colton, J. W., Extracts, 106.
 Colton, Martha J., Signals, 332.
 Colt's Patent Fire Arms Mfg. Co., Arms, 133.
 Columbia Plantation, Sugar, 175.
 Columbia Slate Co., Slate, 53.
 Columbia Spring Co., Flannels, 121.
 Columbian Marble Co., Tiling, 52.
 Colunga, Corporation of, Marble, 90.
 Colvin, C., Oil, 182.
 Colwell, F. E., & Co., Mouldings, 113;
 Gloves, 126.
 Colyer, J., & Co., Buggy, 380.
 Comas Delgado, R., Paper, 278.
 Comegys, J. P., Delaware, 12.
 Comellini & Buratti, Corsets, 234.
 Commercial & Ind. Mutual Co., Reports, 360.
 Comminasi Bros., Gun barrels, 235.
 Commission General, Brazil, Ores, 81; Per-
 fumery, 252.
 Companhia das Lezirias, Salt, 283.
 Comport, H., Sauce, 164.
 Comstock, C. C., Doors, 378.
 Comstock, Castle, & Co., Stove, 375.
 Comstock Dickinson Ivory Co., Combs, 129.
 Comte, M., Cottons, 265.
 Conard, A. & I., Implements, 137.
 Conboy, D., Sleigh, 383.
 Conceição, Umbelina da, Saddlebags, 289.
 Concord Granite Co., Pedestal, 53.
 Conde Puerto & Co., Shirts, 276.
 Condell, J., & Son, Limbs, 135.
 Condiot, N. W., New Jersey, 13.
 Condit, Hauson, & Co., Salts, etc., 102.
 Condon, T., Oregon, 13.
 Conkling, F. A., New York, 13.
 Conly, E., Judge, Gr. XIII., 17.
 Conn & Dupont, Musical instruments, 334.
 Connecticut, Educational Dept. of, 323.
 Conner, Thos., & Sons, Cords, 191.
 Connor, J., Oats, 163.
 Connor, Mrs., Quilt, 150.
 Conover, A. V., Florida, 12.
 Conover, J. A., & Son, Horses, 381.
 Conquis, M., Earthenware, 284.
 Conrad Bros., Shirts, 124.
 Conrad, Wm. C., Cane, 129.
 Conradi Bors., Soap, 271.
 Conradi, Sons of J. B., Soap, 271.
 Consolidated Fruit Jar Co., Jars, 377.
 Constancia Society, Sulphate of soda, 91.
 Constant, E., Iron, 77; Bolts, etc., 218.
 Constanti Giorki, Fabrics, 298.
 Constanti, Miss S., Socks, 300.
 Constantinople, Adm'n of Mines, Ore, 97.
 Constantinople, Government of, Cottons, 294;
 Woolens, 295; Silks, 298; Caps, 301; Rifles,
 304; Saddle, 305; Morocco, 311; Coins, 371.
 Conti, E., & Sons, Soaps, 232.
 Conti, J., Cottons, 273; Woolens, 274.
 Continental Man'g Co., Inks, etc., 105.
 Continental Mills, Sheetings, 116.
 Conto, Antonio Guilherme, Jewelry, 288.
 Contucci, Eustachio, Olive oil, 231.
 Con-ui, Isaac, Charcoal, 93.
 Converse, John A., Gypsum, 73.
 Conway, Wm., Laundry soap, 103.
 Cook, Caleb, Oil, 104.
 Cook, E. A., & Co., Books, 326.
 Cook, I., Ores, 47.
 Cook, J. F., Missouri, 13.
 Cook, James Nelson, Matting, 155.
 Cooke Bros., Pins, 151.
 Cooke & Co., Salt, 283.
 Cooke, G. K., & Co., Stamps, 130.
 Cool, G. T., Mantels, 220.
 Coon & Van Volkenburgh, Collars, 125.
 Cooper, C. W., Finance, 11.
 Cooper & Co., Inks, 145.
 Cooper, Henry Prouse, Clothing, 123.
 Cooper, Hewitt, & Co., Ores, 49; Iron, 56.
 Cooper & Holt, Furniture, 147.
 Cooper, J. L., Alternate, 9.
 Cooper, J. W., & Bro., Cabinet ware, 110.
 Cooper, Robert, Washing crystals, 187.
 Cooper Union Evening School of Science &
 Art, Drawings, 322.
 Co-operative Iron & Steel Works, Iron, 57.
 Cooppal & Co., Charcoal, 215.
 Coozong Oil & Coal Co., Coozongik, 166.
 Cope, C. W., Judge, Gr. XXVII., 19.
 Copeland, Geo., Cordage, 191.
 Copeland & McLaren, Clay, 73.
 Copenhagen Leather Man'fy, Soles, 224.
 Copland, McLaren, & Co., Wire brushes, 191.
 Copley Cement Co., Cements, 54.
 Copp Bros., Stoves, 188; Enamelled ware, 190.
 Copper, F., Water colors, 170.
 Copper Miners in England, Tin plates, etc., 62.
 Corady, Julia de, Millinery, 197.
 Coral, Joanna Maria Dias, Embroideries, 288.
 Corbett, John, Salt, 144.
 Corbin, P. & F., Hardware, 140.
 Corbon, Lamps, 194.
 Corcelle, J., & Co., Watch dials, 355.
 Corcho, D., Nails, 279.
 Corcuera, Manuel, Iron ores, 86.
 Cordera, Manuel, Oil, 268.
 Cordes & Ellgass, Corks, 206.
 Cordoba, Province of, Prov. Com., Lead, 83;
 Oil, 255; Counterpanes, 256; Shoes, etc.,
 257; Herbs, 259; Harness, 260.
 Cordoba University, Minerals, 83.
 Corestone, J., & Co., Hats, 189.
 Corey, J. H., Boiler, 376.
 Corica, A., Shot, 235.
 Coritiba Museum, Slates, 82.
 Corliss, G. H., U. S. Commissioner, 9.
 Corliss Safe Co., Safes, 112.

- Cornejo, Melchora T., Lime, 84; Water, 256.
 Cornelius & Sons, Bronzes, 114.
 Cornell, A. B., New York, 13.
 Cornell, J. B. & J. M., Iron work, 143.
 Cornell, S. W., Compass, 342.
 Cornell & Shelton, Paper boxes, 132.
 Corner, Wm. H., Maryland, 12.
 Cornish & Co., Life saving apparatus, 162.
 Cornish, T. E., Clocks, 331.
 Cornu, E., & Co., Bronze, 199.
 Coromina & Antiga, Paper, 278.
 Corporation of Carriers, Morocco, 311.
 Corps of Mining Engineers, Ores, 88; Asphaltum, 89.
 Corral, Francisco, Horseshoes, 92.
 Correa, G., Clay, 82.
 Correa, J. S., Tiles, 252.
 Correia, J. S., Calcareous rocks, 82.
 Corrello, Rafael, Galena, 87.
 Corrientes, Prov. Com., Stones, 84; Delf, 256; Yarns, 257.
 Corsini, Prince Tommaso, Olive oil, 231.
 Corta, Basto, & Co., Stoves, 284, 289.
 Corta, Braja, & Son, Hats, 288.
 Cortazar, D. de, Judge, Gr. I., 15.
 Cortes Pereira Antimony Exp. Co., Ore, 94.
 Cortez, Agapito, Wines, 268.
 Cortez, P. de Siqueira, Amethysts, 82.
 Corticine Patent Floor Covering Co., 149.
 Cortines, Augustin de, Sulphurous water, 92.
 Coryn, J., Chignons, 217.
 Cosentini & Caruso, Liquorice, 232.
 Cosgriff, A., Iron ore, 48.
 Coshocton Stone Co., Stone, 54.
 Cossard, Laces, 197.
 Costa, A. F., Book, 363.
 Costa, C. J. da, Woolen fabrics, 286.
 Costa, Eymael, & Co., Hides, 254.
 Costa, G., Books, 369.
 Costa, J. F. da, Pictures, 254.
 Costa, J. S. da, Oils, 233.
 Costa, José Antonio, Webs for shoes, 289.
 Costa, M. F. da, jr., Artificial teeth, 254.
 Costa, Netto J. da, Fossils, 82.
 Costa, Prévêze, Soap, 291.
 Costa, R. de C., Ink, 283.
 Costantini, A., Snuff, 39.
 Costas & Carvalho, Shawls, 286.
 Costenoble, C., Judge, Gr. XXVII., 19.
 Costenoble, Hermann, Books, etc., 347.
 Costerfield Gold & Antimony M'g Co., Ore, 65.
 Costermans, C., Trunks, 222.
 Costermans, J., Hearth, 216.
 Coston, W. F., Signals, 332.
 Costro, J. V. az P., Mill, 370.
 Cotta, I. G., Classics, 347.
 Cottier, C., & Son, Fancy stones, 127.
 Couceiro, J. do Santos, Violin and bow, 367.
 Couldrey, W. H., Sugar, 180.
 Coullant, Aimé, Horse collars, 254.
 Coulter, E., Iron ore, 64.
 Coulter, J., Clay, 73.
 Court, P. W., Wool, 171.
 Cousin, P., Map, 342.
 Coutinho, A. R. da S., Model, 370.
 Coutinho, A., & Titho, Jewelry, 288.
 Coutinho, D. M. da Franca, Compass, 369.
 Coutinho, José M. da C., Caps, 288.
 Coutinho, Si va, Plans, 367.
 Couvreur Sisters, Dresses, 217; Confections, 219.
 Couvreur, W., Cutlery, 199.
 Coux, Roseaux, Oils, 192.
 Couyoung Oglou Andon, Wool, 314.
 Covarrietas, F., Books, 266.
 Cove, Jas. A., Gypsum, 73.
 Coverdale, J., Clay, 68; Ochre, 182; Seaweed, 183.
 Covert, L. B., Step ladder, 374.
 Cowan, A., Ore, 71; Salt, 187.
 Cowan, T., & Co., Flour, 167.
 Cowdin, E. C., Judge, Gr. IX., 16.
 Cowell, J. J., & Co., Hardware, 141.
 Cowles, C., & Co., Hardware, 379.
 Cowperthwait & Co., Books, 321.
 Cox Bros., Twines, 148.
 Cox, C. C., Judge, Gr. XIV., 17.
 Cox, E. K., Wool, 159.
 Cox, E. T., Judge, Gr. II., 15; Drawings, 335.
 Cox, F. & A., Wool, 159.
 Cox, G. H., Wool, 159.
 Cox, Justice, jr., & Co., Iron, 57.
 Cox & Sons, Furniture, 147.
 Cox, W. O., Cut tobacco, 262.
 Coxen & Co., Earthenware, 107.
 Coyne, Geo. S., Acids, etc., 102.
 Crab Orchard Iron Co., Ore, 47; Steel, 56.
 Crabb, R. S., Malachite, 166.
 Cragin, I. L., & Co., Soap, 103.
 Craig & Rose, Paints, 144.
 Cramer, H. G. D., Pasteboard, 221.
 Cramer, J. W., Chemicals, 202.
 Crandall, C. J., Crutches, 378.
 Crandall & Co., Carriages, 381.
 Crandall, J. A., Carriage, 381.
 Crane Bros., Paper, 131.
 Crane & Co., Paper, 131.
 Crane Iron Co., Ore, 50; Iron, 56.
 Crane, L., jr., Paper, 131.
 Crane, S. O., Wheels, 379.
 Cranz, Joao, & Pinto, Harness, 254.
 Crassier & Co., Laces, 197.
 Craven, Derrill, & Co., Tiles, 146.
 Crawford, G. A., Alternate, 9.
 Crawford, J. D., & Co., Hematite, 71.
 Creamer, W. G., & Co., Lamps, 375.
 Creigh, J. D., U. S. Commissioner, 9.
 Crescent Mills, Writing paper, 131.
 Cresspo, Melchor, Hats, 276.
 Cressier, E., Watches, 344.
 Cresswell, C. F., Seeds, 182; Wheat, 183.
 Crest, M., & Co., Pack saddle, 260.
 Crestuma Weaving Co., Yarns, 285.
 Creswell & Co., Salt, 283.
 Creswick, Council of, Photographs, 162.
 Crevecoeur, H. S. J., Statistics, 359.
 Crew, Moore, & Levick, Oils, 103.
 Crippa, F., Wine, 164.
 Crispo, Moncada Carlo, Limestone, 81.
 Croaker, Scott, & Co., Star antimony, 65.
 Crocker Bros. & Co., Copper, 59.
 Crocker, L. O., Punches, 382.
 Croes, J. J. R., Engineering, 334.
 Croll, Benj. P., Saety lamp, 376.
 Crommelinck, Lace, 217.
 Crompton, J., & Co., Boxes, 132.
 Croon Bros., Cotton and mixed goods, 203.
 Crosby, Gilsinger, & Co., Velocipede, 380.
 Crosby & Hecker, Car coupler, 382.
 Crossley, John, & Sons, Carpets, 150.
 Crossman, A. W., & Son, Tools, 138.
 Crotta, Giannina, Album, 365.
 Crouch, Henry, Microscopes, 339.
 Crowell, S., Fence, 378.
 Crown Perfumery Co., Perfumes, 145.
 Crown Surgical Instrument Manufactory, 319.
 Crowther, Bishop, Mats, 177.
 Crowther, D. W., Dentistry, 136.
 Crozier, D. W. C., Model, 334.
 Crozier, H. P., Car starter, 382.
 Crozier, W., Wool, 168.
 Cruickshank, J. D., Red pine, 156.
 Cruz, B. A. da, Magnetic iron, 82.
 Cruz, João Maria, Ropes, 289.
 Cruz, L. F. de S., Escutcheons, 289; Machine, 372.
 Crystal Glass Co., Glass table ware, 109.
 Csank & Co., Wood work, 28.
 Cuantecomatan Co., Coffee, 268.
 Cuchi y Deixens, T., Arsenic, 271.
 Cucurny, P., Earthenware, 272.
 Cuevas Bros., Wheat, 268.
 Culbert, W. H., Harness, 191.
 Cull, H., Furniture, 377.
 Culmer, W., & Sons, Brushes, 153.
 Cumberland Nail & Iron Co., Pipe, 57.
 Cumming, A., & Co., Cocoanuts, 184.
 Cumming, T. F., Wools, 165.

Cummings, J., Finance, 10; Judge, Gr. XII., 17.
 Cummings, J. S., & Co., Neck wear, 125.
 Cummins, H., Violin, 333.
 Cuña, Americo, Agate, 83.
 Cunha, Augusto Mendes da, Combs, 288; Knives, 289; Snaffles, 290.
 Cunha Bettercourt, M. J. da, Minerals, 81.
 Cunningham, A., Alabama, 11.
 Cunningham, J., & Son, Landaus, 380.
 Cunningham, P., & Co., Wheat, 156.
 Cunningham, Peter B., Coal table, 111.
 Cunningham, Portz, & Co., Spokes, 379.
 Curtin, A. G., Pennsylvania, 14.
 Curtis, A. A., Nevada, 13.
 Curtis, A. W., Swing, 382.
 Curtis, J. W., Painting, 161.
 Cus-Kuri, Government of, Seed, 310.
 Cusset, N., Gloves, 265.
 Custodio & Silva, Woolen fabrics, 286.
 Cutler, A., & Son, Business desks, 110.
 Cutler, C., Flint, 328.
 Cutler Manufacturing Co., Yarns, 116.
 Cutter, Ephraim, Chair, 110, 136.
 Cuyppers, J. F., Piano, 361.
 Cyrette, Ambrose, Silver ores, 70.
 Czeiger, S., Chromos, 211.
 Czerminska, I., Embroidery, 209.

D.

D'Abadie, St. L., Cotoa, 184.
 Dabert & Co., Fabrics, 195.
 Dabney, R. L., Straw mat, 284; Hat, 288.
 Dabney, S. W., Shawl, 287; Eagle, 288.
 Da Costa, D. R., Tooth wash, 105.
 Dagand, E., Coffee pots, 194.
 Dahlerup, V., Judge, Gr. XXVII., 19.
 Dahll, J., Apatite ore, 80.
 Daillens Cossonay Orphan Asylum, Regulations, 357.
 Daintree, R., Fossils, 67; Photographs, essences, 179; Oils, 180.
 Dairy Station, Books, 353.
 Dale, Dr., Wax, 170.
 Dale Mfg. Co., Trimming braids, 123.
 Dale, T. H., New Jersey, 13.
 Dalgety, Moore, & Co., Wheat, etc., 182.
 Dalinau, J. M., Flannels, 274.
 Dalla Pozza, Silk, 233.
 Dallmeyer, John Henry, Telescopes, 339.
 Dalp, J., Manuals, 354.
 Dalton Bros., Flour, 158.
 Dalwood, W. F., Guano, 168.
 Dalzell, D., & Sons, Boxes, 379.
 Damascus, Government of, Linen, 295; Hoisiery, 300; Seeds, 304; Gum, 306; Wheat, 308; Wax, 311; Hemp, 314.
 Damian Garcia, José, Waters, 91.
 Damiano, H., Skins, 311.
 Damman, Edm., Ship biscuit, 219.
 Damon, S. C., Book, 250.
 Dana, E. A., Projectiles, 133.
 Danberger, G., Bronze ware, 210.
 Danby, G., & Co., Railings, 143.
 D'Andria, Lombard, & Co., Carpets, 296.
 D'Andrian & Wegelin, Chemicals, 201.
 Daniell, A. B., & Son, Ornamental vases, 146.
 Daninos, A., Judge, Gr. VIII., 16.
 Danish Preserved Butter Co., Butter, 224.
 Danks, J., Valves, 161.
 Dann Bros. & Co., Wood work, 381.
 Danube Regulation Com'n, Models, 351.
 Danville Iron Co., Railroad iron, 57.
 Danville School Slate Co., Slate panel, 72.
 Danville Slate Co., School slates, 72.
 D'Araujo, Gomes, Music, 366.
 Darby, E., & Son, Wire, 378.
 Dardalah, Mouradile, Pyrites, 97.
 Dardanelles, Government of, Skin, 311.
 Dardel, F. L., Judge, Gr. XXVII., 19.
 Dare, C. W. F., Carriage, 381.
 Darebin Shire, Council of, Photography, 162.
 Darling, Brown, & Sharpe, Rules, 330.
 Darling, S., Car window, 382.
 Darlot, Photographs, 345.
 Darnius, Count of, Waters, 91.
 Darrach, S. A., Crutch, 135; Drawing, 335.
 Dartmouth Ropework Co., Cordage, 191.
 Dash, O., Hats, 151.
 Dassi, G., Judge, Gr. VIII., 16.
 Dassonville, de St. Hubert, Cements, 219.
 Dassonville, Lacc, 217.
 Date, John, Diving apparatus, 191.
 Dates Patent Steel Co., Edge tools, 190.
 Daubin & Co., Fly paper, 192.
 Dauli, C., Morocco, 311.
 Dauphin, L., Printing, 343.
 Davenière, E., jr., Lace, 197.
 Davenport, G. H., Wool, 180.
 Davenport, S., Oil, 166; Woods, 167; Wines, 168.
 Davey & Gooding, Sugar, 180.
 Davey, W. O., & Sons, Oakum, 132.
 David-Damoiseau, & Co., Chains, 199.
 David, Ilias, Cotton thread, 294.
 David, J. B., Ribbons, 196.
 David, José de A., Portmanteau, 289.
 Davids, Thad., & Co., Inks, etc., 104.
 Davidson, H. A., Gypsum, 73.
 Davidson, J. E., Sugar, 180.
 Davidson, T., jr., & Co., Pipes, 146.
 Davidson, W., Copper glance, 70.
 Davies, John, Crivo work, 288.
 Davies, R. H., Shells, 183.
 Davies, Robert S., & Sons, Cloths, 149.
 Davila, H., Cottons, 265.
 Davila é higos, Brandies, 264.
 Davila é hyos, Plans, 263.
 Dávila, Teodora, Embroidery, 281.
 Davis, C. H., & Co., Books, 326.
 Davis & Chaddock, Fire bricks, 106.
 Davis, E. T. C., Photographs, 335.
 Davis, F. C., Bitters, 168.
 Davis, I. J., Sandstone, 53.
 Davis, Isaac, Crockery ware, 107.
 Davis, J., Window sash, 160.
 Davis, J. G., & Son, Hubs, 379.
 Davis, J. T., Artificial eyes, 136.
 Davis Level & Tool Co., Tools, 137.
 Davis, O. W., jr., Ores, 47; Iron, etc., 57.
 Davis & Wilson, Cables, 151.
 Davison, Mrs., Coffee, 177.
 Davoll Mills, Sheeting, etc., 118.
 Dawson Bros., Books, 190.
 Dawson, S. J., Silver ores, 70.
 Day, A. G., Cables, 332.
 Day & Frick, Soaps, 103.
 Day, G., Splints, 135.
 Day, H. H., Nevada, 13.
 Day, J. M., Wax, 262.
 Daye, F., & Co., Pressed leather, 218.
 Dayton, G. E., Sashes, 378.
 Daza, Francisco, Marble, 89.
 Daza y Ruiz, Francisco, Minerals, 87, 91.
 Daza y Ruiz, Lucar, Cobalt, 87.
 Daza y Ruiz, Seron, Iron ore, 87.
 Dchoban Oglou Mehemed, Skin, 311.
 Deady, M. P., Oregon, 13.
 Deaf & Dumb Asylum, Regulations, 354; Reports, 360.
 Deakin, R. T., Syringes, 330.
 Dean, Henry, Stoneware, 146.
 Dean, W., Wheat, 182.
 Debain & Co., Piano, 345.
 Debenham & Freebody, Gloves, 151.
 De Beukelaer, F. X., Antwerp elixir, 218.
 De Bock, M., Cabinet, etc., 112.
 Debré, Government of, Sulphate of chalk, 96.
 Debrus, Leclair (Widow), Wooden boxes, 216.
 Debrus, W., Wooden boxes, 216.
 De Camp, Essie, Panel, 110.
 Decatur, Stephen, Colorado, 11.
 Decaux, Son, Cloth, 195.
 Decew, Wm., Building stones, 72.
 Decker Bros., Pianos, 332.

- Decker, L. & Co., Billiard tables, 112.
 Declercq, C., Thread, 216; Lace, 217.
 Decol, M., Medicine, 235.
 De Cuyper, C., & Noblet, A., Works, 359.
 Dee, José Antonio, Wood mosaic, 362.
 Deeth, Jacob, California, 11.
 Deetz, E., Sleeping apartment, 111.
 Degerfors Stock Co., Iron ores, 78; Iron, 79.
 Degotardi, John, Mechanical printing, 340.
 Degraives, C. & J., Wool, 165.
 Degraives, J., Malt, 183.
 Dehors, A., Toys, 198.
 Dejonge, L., & Co., Paper, 133.
 De Koniinck, L. W., Works, 359.
 Delagrave, C., Books, 344.
 Delahaye, V. A., & Co., Books, 344.
 Delal, M., Cloak, 300.
 Delalain, J., & Son, Books, 343.
 Delamere, J. H., Organs, 342.
 Delamotte-Mongrenier, Merinos, 195.
 De Lange, A. G., Rugs, 220.
 Delannoy, N., Chocolate, 218.
 Delaware Chair Co., Chairs, 109.
 Delaware, State of, Ores, 51.
 Delaye, Hypolite, Kid gloves, 288.
 Delegny Bros., Chemicals, 283.
 Delepné, Stockings, 300.
 Delettrez, Adolphe, Perfumery, 193.
 Deleuil, Scales, 344.
 Delf Factory of Sargadelos, Peat, 270.
 Delgado & Co., Waistbands, 274.
 Delgado, J., Syrups, 271.
 Delgado, R., Counterpane, 277.
 Delhez Bros., Woolen stuff, 217.
 Delhez, C., Gymnastics, 351.
 Deli Mourad, Fabrics, 296, 298.
 Deligny, Ernest, Ore, 94.
 Delimé, Suleimanceyah, Saddle cloth, 305.
 Delius, C., Cloths, 203.
 Delivré, L., Flowers, 198.
 Dell, Aquila A., Table tops, 261, 262.
 Della, C. N., Cornice, 233.
 Dellachi, A., Matches, 272.
 Delmotte, Hippolitus, White bristles, 219.
 De Lorenzi, Cav. G. Batta, Violins, 365.
 Demauct, A., Forged nails, 218.
 Demar, L., Dress goods, 195.
 Demarest, Joyce, & Co., Opera chairs, 111.
 Demartini, I., Toilet soap, 207.
 Demerdji, Constantin, Silk, 297.
 De Mesmaecker, Fr., Bindery work, 218.
 Demestre, E., Maize, 158.
 Demeuter, L., Son, Furniture, etc., 216.
 Demidoff, Paul, Iron ores, 98; Maps, 99; Bricks, 315.
 Demitraki, Silk, 297.
 Demorest, Mme., Patterns, 124.
 Dempsey Wicker Covered Glassware Co., 380.
 Demuth, Wm., & Co., Pipes, etc., 128, 139.
 De Nava, G. di P., Essences, 232.
 Denet, E., Moulds, 194.
 Denham, T. M., & Bro., Shirt bosoms, 125.
 Denizet, Langres, Cutlery, 199.
 Dennison & Brown, Paper boxes, 132.
 Dennison & Co., Paper boxes, 132.
 De Notaris, S., Shoes, 234.
 Denshin-riyo, Telegraphic Dep., Map, 248.
 Dent, M. F., Watches, 339.
 Denton, Drake W., Slate roofing, 52.
 Deny, L., Construction materials, 199.
 Deplanque, senior, Whetstone, 199.
 De Poli Bros., Church bell, 235.
 Deppeler, J., Wine, 164.
 Deputy, B., Pharmaceutical preparations, 218.
 Derbabian, Pedros, Wax, 312.
 Derby, Philander, Cane-seat chairs, 112.
 Derby Silver Co., Cutlery, 113.
 Derepas, R., Gum, 158.
 Derepas, W., Timber, 158.
 De Richelieu, Madam F., Ornaments, 161.
 Derogy, Instruments, 345.
 Derron, Andrew, Cottage, 336.
 Dervich Effendi, Handkerchiefs, 302.
 Dervich, O., Linen, 295; Mohair, 296.
 Dervich Oglou Kokas, Gauzes, 299; Neckties, 302.
 Dervich Oglou Nacif, Writing materials, 304.
 Dervich Osman, Cigarette cases, 303.
 Dervich Yaya, Bowls, 303.
 Dervichian, Shirt, etc., 300; Cushions, 3-3.
 Desbarolles, Works, 345.
 Deschamps, Maurey, & Co., Brushes, 198, 200.
 Deschiens, Machines, 344.
 Des Cressonnières & Son, Toilet soap, 215.
 Desfeux, Ph., Roofing, 199.
 De Sieto Bros., Essences, 232.
 Design, Collective Exhibit of School of, 110.
 De Silvestri, S., Silk, 234.
 Des Mares, P. T., Lace, 217.
 Desmet Bros., Textile fabrics, 216.
 Desnoes, P., & Son, Cordials, 172.
 Desoto Alkali Co., Soda, 144.
 Desoucies, Carriages, 200.
 Despot, Y., Hosiery, 300.
 Dessain, H., Books, 359.
 Dessauer, Alois, Fancy colored papers, 205.
 Dessent, J., & Bros., Glass, 215.
 Desteract, A., Books, 343.
 Destexhe, A. M. T. J., Books, 359.
 Détémerman, P., Porcelain, 193, 198.
 De Tournay, Catala, Printing, etc., 218.
 Detroit Stove Works, Stoves, 375.
 Deucher & Co., Works, 343.
 Deut, J. R. de, & Co., Cotton canvas, 285.
 Deutgen, L., Blackboard, 360.
 Deutsch, A., Machine oils, 192.
 Devenish, S., Woods, etc., 184.
 Devesa, Dominguez J., Boots, 276.
 Devine, Thomas, Galena, 71.
 Devlin & Co., Clothing, 124.
 Devoe Manufacturing Co., Oils, 103.
 Devold, L. C., Cod-liver oil, 229.
 Devos, C., & Bro., Cloth, 216.
 Devosse, Blaise, Woolen stuff, 217.
 Devotee, A., Ponchos, 257.
 Dewidels, S., Gloves, 209.
 Dewey, D. M., Plates, 327.
 Dewey, O. C., West Virginia, 14.
 Dewhurst, Arthur, Minerals, 64.
 Dewhurst, J., & Sons, Cotton, 148.
 De Wilde, F., Judge, Gr. III., 15.
 Dewitt, F. J., Dakota, 12.
 De Witt, Morrison, & Kelley, Augers, 137.
 De Witt Wire Cloth Co., Wire work, 115.
 De Wolfe, J. M., Phaetons, 383.
 Dexter & Co., Mica, 48.
 Dexter, J. E., U. S. Commissioner, 9.
 Dexter, Lambert, & Co., Silks, 123.
 Dexter Spring Co., Springs, 140, 379.
 Deyhle Bros., Jewelry, 204.
 D. Francisca, Colony of, Bricks, 252.
 Diaba, H., Beans, 309.
 Diakoff, G., Arithmometer, 372.
 Diamante, Sub-commission of, Stones, 84.
 Diamond Glass Co., Glass, 108.
 Diamond, J., Spectacles, 331.
 Diarbekir, Gov't of, Wheat, 308; Morocco, 311.
 Dias, Antonio, Shoes, 288.
 Dias, B., Code, 266.
 Dias, D., Oils, 252.
 Dias, L. F. de, Printing, 266.
 Diaz, A., Harness, 279.
 Diaz & Acebedo, Preservative, 271.
 Diaz, Corrales, Slippers, 276.
 Diaz, J., Counterpane, 257.
 Diaz, J. C., Instruction, 266.
 Diaz, R. A. F., Cotton fabrics, 285.
 Diaz Varela, C., Silk, 275.
 Diaz y Gomez de Cadiz, E., Manganese, 88.
 Dibble, C. F., & Co., Gig, 381.
 Dibbs, T. F., Chart, 182.
 Dibra Gaza, Rice, 308.
 Dick, Dundas, Tasteless medicines, 134.
 Dick & Fitzgerald, Books, 328.
 Dick & Kirschten, Axles, 206, 383.
 Dickes, William, Engraving, 338.
 Dickson, M. W., Relics, 329.

- Dickinson, A. S., Shades, 113.
 Dickinson & Higham, Bible, 338.
 Dickinson, Mrs. C. J., Flowers, 128.
 Dickson, J. B., Corals, 250.
 Dickson, J., & Co., Woodwork, 226.
 Dickson, M., Photographs, 251.
 Dickson, W. W., Manganese, 169; Skins, 170.
 Dicksons, Ferguson, & Co., Linens, 149.
 Didier & Co., Books, 343.
 Didisheim, Gabriel, Watches, 355.
 Didout, H., Clasps, 198.
 Diefenbach, Mr., Judge, Gr. XV., 17.
 Diego, Vicente de, Iron ores, 89.
 Diena, M. G., Silk, 233.
 Dienheim, Brochocks, Disinfecter, 194.
 Diez & Diets, Skins, 170; Wool, 171.
 Diestro y Lastra, Antonio del, Ores, 89.
 Dietz-Monnin, Mr., Judge, Gr. X., 17.
 Dientegard, E. & E., Trimmings, 197.
 Diez Bros., Sulphurous waters, 91.
 Diez Cataluña, S., Tiles, 272.
 Diggles, S., Ornithology of Australia, 179.
 Dillmann, I., & Fisher, L., Furniture, 208.
 Dily, Edoardo, Sulphur, 81.
 Di Mauro, Francisco, Cream of tartar, 231.
 Dimitri, Boots, 301; Flute, 371.
 Dimitri, C., Cotton, 314.
 Dimitri, G., Cotton, 314.
 Dimitri, Shirting, 295; Inkstand, 304; Wood-
 en dish, 305.
 Dimo, Shoes, 301.
 Dinaburg Arsenal, Instruments, 373.
 Dingeldein Bros., Jewelry, 204.
 Diniz, J. B., Artificial teeth, 254.
 Diogo, Antonio Manuel, Umbrellas, 288.
 Dios de la Quintana, J. de, Wines, 264.
 Dip Notutchu, Woolen bridle, 305.
 Dipton, N., Belt, 300.
 Di Rosalia, A., Shoes, 234.
 Di Salvo, S., Essences, etc., 232.
 Dishman, J., Kentucky, 12.
 Dissoire, N., Instruments, 199.
 D' Italo, E. F., Atlas, etc., 346.
 Ditson, J. E., & Co., Music, 321.
 Ditten, H. S., Pharmacies, 230.
 Dixon, A. H., Show cards, 188.
 Dixon, C. A., & Co., Cards, 132.
 Dixon Crucible Co., Graphite, 54; Paint, 104;
 Crucibles, 107; Pencils, 129.
 Dixon, Frederick, Fuel, 61.
 Dixon, Smith, & Co., Fastener, 190.
 Dixon, Thos. S., & Sons, Grates, 139.
 Djamian, G., Wool, 296.
 Djbra Gaza, Cumin, 310.
 Djebar Oglou Mustapha, Pottery, 292.
 Djemal Ali, Figs, 307.
 Djeza Hirli, M., Fan, 303.
 Djeziré, Diarbekir, Coal, 97.
 Djidé, Government of, Salt, 291; Fan, 303,
 310; Spoons, 305.
 Djorbaji, Chio, Sulphate, 291.
 Djourbachi, A., Cumin, 309; Cotton, 314.
 Djourbachi, Nicolas, Madder root, 306.
 Djudie, Mehemed, Dates, 367.
 Djupafors' Man'g Co., Pasteboard, 227.
 Dobbe, J. P., Painting, 221.
 Dobbins, R. J., Contractor, 115.
 Dobel, Paul, Ozocerite, 207.
 Dobelmann, J. B., Engraved glassware, 108.
 Dobson, Jno. & Jas., Carpets, 121.
 Dobson, Mrs. L., Banjo, 333.
 Docker, F. G. & J. B., Wine, 164.
 Dod, S. B., Bust, 336.
 Dodd, A. W., & Co., Cod-liver oil, 103.
 Doderer, W., Designs, 351.
 Dodge, G. C., Alternate, 9.
 Dodson & Roberts Man'g Co., Rattan, 380.
 Doerffel, C. G., & Sons, Laces, 204.
 Doerr & Sloan, Lacto-phosphate of lime, 101.
 Dofat & Co., Acorn cups, 306.
 Dognin & Co., Laces, 197.
 Dogny, J. B., Balusters, 216.
 Dohan, J. F., & Co., Carriage goods, 382.
 Dol, Ad., & Co., Linen underwear, 253.
 Doland & Scherb, Carriages, 380.
 Dolge, A., Felts, 332.
 Dolne, Lekeux, & Co., Woolen stuff, 217.
 Dolphin Manufacturing Co., Barytes, 71.
 Domingo, J., Matches, 283.
 Dominguez, Celestino, Oil, 270.
 Dominion Organ Co., Organs, 342.
 Dominion Suspender Co., Suspenders, 189.
 Domisguer, J., Geography, 266.
 Domken Bros., Woolen stuff, 217.
 Donadis, Count of, Judge, Gr. XXVII., 19.
 Donaghy, Michael, Ropes and lines, 160.
 Donaldson, J. W., Stamps, 138.
 Donaldson, T., U. S. Commissioner, 9.
 Donaldson, T. B., Gold in quartz, 70.
 Donato, F., Child's suit, 257.
 Donel Aghop, Manganese, 97.
 Donis, Felipe, Syrup, 262.
 Donovan, J. W., Record file covers, 131.
 Dons, Henrik, Matches, 229.
 Dooley & Bro., Baking powder, 102.
 Dopp, Geo., Amethyst, 76.
 Dor. U. Free Stone Co., Sandstones, etc., 72.
 Doremus, P. C., Sofa bed and lounge, 109.
 Dorfel, J., Designs, 351.
 Dorlodot, L. de, & Co., Glass, 215.
 Dorman Mfg. Co., Baskets, 143.
 Dornam, Bros., & Co., Carpets, 122.
 Dornier, E., Laces, 209.
 Dornon, L., Silk, 196.
 Dorsette, T., Dripstone, 173.
 Dossetor Brothers, Flour, 183.
 Doty, H. H., Burner, 115.
 Doucet, E., Writing fluids, 255.
 Dougall, J. D., Rifles, 152.
 Dougherty, A., Cards, 132.
 Dougherty, E. D., Marble, 52.
 Douglas Axe Mfg. Co., Axes, 137.
 Douglas, B. W. B., Salt, 201.
 Douglass, A., Ostrich feathers, 170.
 Douglass, David, Lime, 72; Grindstones, 73.
 Douglass, Dr., Copper ore, 76.
 Douglass Mfg. Co., Tools, 137.
 Douglass, W., Slate, 64.
 Doulton & Co., Stoves, 146.
 Doulton, Hy., & Co., Terra-cotta, 146.
 Doulton & Watts, Stoneware, 146.
 Doux, E., & Co., Silks, 106.
 Dover Fire Brick Co., Clay, 54; Bricks, 107.
 Dow, F. N., Maine, 12.
 Dowden, G. A., Alarm, 331.
 Dowling, Wm., Centre flowers, 162.
 Downey, Jno. G., California, 11.
 Downey, S. W., Wyoming, 14.
 Downs, G., Barley, 180.
 Dowson, Sutherland, & Co., Papers, 338.
 Dowst, F., Refrigerator, 376.
 Doyle Bros., Desk, 321.
 Doyle, J. F., Wines, 159.
 Doyle, W., Ranges, 375.
 Drack, J. da S. F., jr., Pharmacies, 283.
 Drag Stock Co., Fabrics, 226.
 Drake, J. E., Finance, 11.
 Drammen Foundry and Mechanical Works,
 Stoves, 229.
 Draper, E., Musical game, 342.
 Draper, H., Judge, Gr. XXVII., 19.
 Draper, J. W., Coal, 51.
 Draper & Sons, Earth closets, 160.
 Drawing School of the Board of Trade, Em-
 broideries, 213; Album, 354.
 D. R. Barton Tool Co., 137.
 Dreer, Smith, & Dreer, Apparatus, 114.
 Dreier & Heine, Roots, 251.
 Dreka, Louis, Stationery, 130.
 Drescher & Kiefer, Jewelry, 204.
 Dress Reform Co., Clothing, 125.
 Dressel, Cuno, & Otto, Toys, 205.
 Dreydoppel, Wm., Borax soap, 103.
 Dreyfus, J. G., & Co., Chemicals, 102.
 Drezé, H. & J., Woolen stuff, 217.
 Dries, L. F., Gymnastics, 360.
 Drinker, Henry S., Drawings, 335.
 Dripps, I., Heaters, 375.

Drogue & Monnard, Poplins, 195.
 Dron, Books, 344.
 Droste & Siepermann, Cotton goods, 203.
 Drown, W. A., & Co., Umbrellas, 128.
 Droz, Juillet, & Co., Poplins, 195; Silks, 196.
 Druelle, R., Wines, 192.
 Drugulin, W., Type, etc., 347.
 Drum Cabinet Manf'g Co., Furniture, 188.
 Dryfoos, L., & Co., Felt skirts, 120.
 Dubernet, L., Furniture, 112.
 Dubois, C., Chemical preparations, 192.
 Dubois, G., Boots, 197.
 Duboscq, J., Instruments, 345.
 Dubourguet, A., Inkstands, 198.
 Ducloux, Francisco Javier, Ores, 88.
 Ducumun, D., Watch movements, 355.
 Ducro & Co., Meat extract, 192.
 Ducrocq, P., Books, 343.
 Duden Bros., Lace, 217.
 Dudgeon, Arthur, Peat, 61; Papers, 152.
 Dudley, Dana, Gyroscopes, 127.
 Dudley Hosiery Co., Hosiery, 124.
 Dudley, P. H., Drawings, 335.
 Dudley, T. H., Finance, 10.
 Du Faur, E., Timber, 158.
 Dufaux, Lutz, & Son, Watch spirals, 355.
 Duffus, Mr., Judge, Gr. XVII., 18.
 Du Fief, J., Books, 359.
 Dufour & Co., Silk bolting cloth, 212.
 Dufourmantel, Ph., & Co., Warps, 195.
 Dufur, A. J., Alternate, 9.
 Dugdale, J. K., Washers, 377.
 Dugoujon, J., senior, Saws, 199.
 Duhamel, Dr., Iron pyrites, 71.
 Dujardin Bros., Hosiery, 217.
 Dujeaux, J. B. C., Patents, 359.
 Dumaine, J., Books, 343.
 Dumas, F., Mrs., Emery paper, 199.
 Dumayuga, P., Fabrics, 280.
 Dumortier & Caignet, Cloth, 195.
 Dunbar, Geo., Lime and limestone, 72.
 Dunbar, Hobart, & Whidden, Tacks, 140.
 Dunbar, McMaster, & Co., Linen threads, 149.
 Duncan, J. W., Ores, 50; Pig metal, 56.
 Duncan, W. A., Washer, 377.
 Duncker & Humblot, Books, 347.
 Duncleley & McBride, Lines, etc., 163.
 Dundas Cotton Mills Co., Cotton fabrics, 188.
 Dungleison, R. J., Corn grater, 376.
 Dunlap & Co., Hats, 126.
 Dunn, E. I., Map, 170.
 Dunn, J., & Co., Flour, 167.
 Dunn, Robt., & Co., Clay, etc., 61.
 Dunod, Books, 343.
 Dunraven, Countess of, Embroidery, 151.
 Dunton, Jacob & Co., Porous pills, 101.
 Duparquet, L. F. & H., Ranges, 376.
 Duplan, Harmot, & Co., Furniture, 194; Carpets, 195.
 Duployé Bros., Stenography, 343.
 Du Pont de Nemours, E. I., Powder, 106.
 Dupont, A., Brushes, 198, 200.
 Dupont, L., Furniture coverings, 195.
 Dupont, P., Books, 343.
 Dupuch, B., Fruits, 262.
 Dupuch, J., Stone, 66; Trays, 173.
 Duquet, C., Watchman detector, 342.
 Duran Effendi, Cloth, 295.
 Duran, Estéban, Copper, 87.
 Durán, J., & Son, Fabrics, 275.
 Durand, D., Mirror, 113.
 Durand & Huguenin, L., Naphthaline, 212.
 Durango, Government of, Iron ores, 86.
 Duranti, A., Hats, 234.
 Durege, Julio, Views, 92.
 Durfee, W. F., Judge, Gr. XXI., 18.
 Durham Iron Co., Ores, 49; Flux; etc., 57.
 Durham & Wooster, Couplet, 381.
 Duric, Madame, Slippers, 301.
 Durieu, Oetli, & Co., Milk powder, 213.
 Durkman, B., Carpet, 317.
 Durner, C. F., Organ, 332.
 Durr, Alphonse, Books, 347.
 Durrschmidt, Whetstones, 199.

Duryee & Hallett, Furs, 129.
 Dutch Ass'n of Industry, 360.
 Dutch Ass'n for Soldiers, Books, 361.
 Dutch Horticultural & Botanical Association, Pamphlets, 360.
 Dutch Railroad Co. Amsterdam, Model, 361.
 Dutch Scientific Society, Books, 360.
 Dutkevich, X., Tea pots, etc., 316.
 Duval, H. H., Titanic iron ore, 71.
 Dwight Manufacturing Co., Shirtings, 118.
 Dyerville Mfg. Co., Cotton goods, 117.
 Dyott, M. B., Lamps, 114.
 Dysart & Co., Coal, 52.
 Dziedzinski & Hanusch, Bronze articles, 210.

E.

Eads, J. B., Judge, Gr. XXVI., 19.
 Eager, P. B., Tower, & Co., Clothing, 124, 143.
 Eagle Furnace, Ores, 49; Iron, 58.
 Eagle Lock Co., Trunk locks, 141.
 Eagle Pencil Co., Pencils, 130.
 Eagle Square Mfg. Co., Squares, 137.
 Eames, Prof., Silver veinstone, 70.
 Earle, J. E., Connecticut, 11.
 Earle, J. S., & Sons, Gift tables, 112.
 Earnshaw, Henry, Photographs, 336.
 Eastern Kentucky Railway, Coals, 51.
 Easthampton Rubber Thread Co., 142.
 Eastman & Brooke, Soap, etc., 103.
 Easton Lock Works, Locks, 141.
 Eastwood & Co., Cement, 61; Bricks, 146.
 Eavenson, Jones, & Sons, Soaps, etc., 103.
 Eberhardt, Carl, Flowers, 207.
 Eberhardt, F., Baskets, 380.
 Ebermann, A., Urethrotome, 319.
 Ehou Raguul Ana, Table, 292.
 Ebouker, C., Skin, 311.
 Eche, J. D., & Son, Oil cloths, 229.
 Echef Effendi, Morocco, 311.
 Echevarria, Cecilio, Minerals, 84; Cotton, 256.
 Echuca, Council of, Photographs, 162.
 Eckel, H., Iron, 378.
 Ecker, Alexander, Colors, 207.
 Eckstein Bros., Gloves, 28.
 Eckstein & Kahn, Table cloths, 203.
 Ecole du Plateau, College work, 342.
 Económica de Murcia, Silk, 275.
 Economical Survey of Sweden, Maps, 363.
 Eddy, G. M., & Co., Saws, 137; Tapes, 330.
 Eddy's, J., Sons, Woolens, 120.
 Edeline, A. J., Stones, 199.
 Edgar Thomson Steel Co., Steel rails, 56.
 Edge & Sons, Wire ropes, etc., 62.
 Edgerly, M. V. B., Alternate, 9.
 Edgerton, N. H., Instruments, 331.
 Edgett, W., Iron ochre, 188.
 Edgren, Julius, Paper, 227.
 Edile Factory, Cotton, 294.
 Edison, T. A., Telegraph, 331.
 Edoux, L., Plan, 345.
 Edsall, D. A., Hand stamps, etc., 131.
 Education, Board of, Map, 174.
 Education, Dept. of, Photographs, 250.
 Education of the Poor Society, Reports, 357.
 Educational Union, Books, 359.
 Edwards, G., Sashes, 148.
 Edwards, G. W., Gum, etc., 182.
 Edwards, J., China, 147.
 Edwards, J., & Son, White ware, 146.
 Edwards, M., Alternate, 9.
 Effendi, I., Ribbon, 299.
 Effimitaki, Giorgui, Oil, 291.
 Egan, J., Guns, 190.
 Egger, I. B., Veneer, 211.
 Eggins, J., Maize, 158.
 Egger, Jakob, Wood carvings, 358.
 Egger, Johann, Wood carvings, 358.
 Egli, F., Wine, 164.
 Egli & Sennhauser, Silk bolting cloth, 212.
 Eguiazu, L., Iron, 277.
 Egypt, National Museum of, Various exhibits, 236, 237, 238.

- Egyptian Silk Growing Co., Yarns, 287.
 Ehret, M., jr., Roofing, 115.
 Eich & Co., Braids, 213.
 Eichmann & Co., Paper, 210.
 Eichner, G. L., & Son, Toys, 205.
 Eichorn, G., Wines, 240.
 Eiermann & Tabor, Chemicals, 202.
 Eisel, M., Piano movement, 332.
 Eisenfuhr, Wilh., Tools, 206.
 Eisenmann, E., Support, 377.
 Ek, J. A., Equipments, 2.6.
 Ekegrén, Hr., Chronometers, 355.
 Ekman, C., Ores, 78; Iron, 79; Guns, 227.
 Elaghin, C., Castings, 319.
 Elastic Truss Co., Trusses, 135.
 Eldarts, T. E., Arrowroot, 251.
 Elder, W. & N. G., Wools, 165.
 Eldon, Mrs. J., Orange tree, 173.
 Eldridge, G. M., Stove damper, 114.
 Elementary Education Society, 344.
 Elevelin, M., Harness, 383.
 Eley Bros., Percussion caps, 152.
 Elfving, C. E., Apparatus, 226.
 Elgin National Watch Co., Tools, 136; Watch movements, 330.
 Eliaers, A. E., Seats, 194; Chairs, 199.
 Elias, D. & C., Cotton, 264.
 Elias Hatti, Satins, 298.
 Elias, J., Napkins, 220.
 Elliott, G., & Ferreira Castello, J. H., Ores, 94.
 Elliott, George, Ores, 94.
 Elkins, Stephen B., Alternate, 9; New Mexico, 13.
 Elkins, W. L., Oils, 103.
 Elkinston & Co., Plate, 148.
 El Labrador Factory, Cottons, 265.
 Ellbo Gütöberg Match Factory, Matches, 225.
 Elli, L., Seats, 233.
 Ellin, Robert, & Co., Eagle lecturn, 112.
 Elliot, J. W., Stoves, 188.
 Elliott, T. C., Washing machine, 188.
 Ellis, C. J., Judge, Gr. IX., 16.
 Ellis, Knapp, & Co., Umbrellas, 128.
 Ellis Manufacturing Co., Supporters, 125.
 Ellis, Theo. G., Engineering exhibit, 335.
 Ellissi, Madame, Laces, 302.
 Ellstätter & Urlino, Gloves, 204.
 Elmira Nobles' Mfg. Co., Tools, 137.
 Eloffe & Co., Books, 343.
 Elordi, Louis, Copper ore, 84.
 El Porvenir Mining Society, Tin, 92.
 Elrick, C. G., Combs, 151.
 Elson, J., Regulators, 330.
 Elvadji, Y., Vest, 300.
 El Veterano Mineral Society, Coal, 89.
 Emaré, Gov. of, Saucer, 303.
 Emaus Iron Co., Iron ore, 49; Flux, etc., 57.
 Emerald Hill, Borough of, Photographs, 162.
 Emerson Piano Co., Pianos, 333.
 Emery, C. E., Judge, Gr. XX., 18.
 Emery, Chas. E., Drawings, 335.
 Emilianoff & Rochefort, Silks, 317.
 Emin, A., Wheat, 308.
 Emina, Madame, Handkerchief, 303.
 Eminé, Tissue, 298; Shirt, 300.
 Eminé, K., Shirting, 294.
 Emma, Queen, Hats, 250; Implements, 251.
 Emmanuele, Francesco, Cream of tartar, 231.
 Empey, M. P., Judge, Gr. X., 17.
 Empire China Works, Porcelain, etc., 107.
 Empire City Watch Co., Watches, 330.
 Empire Iron Works, Iron, 59.
 Emsley, R., Lime and limestone, 72.
 Emzia, I. N., Gauze, 299.
 Encarnacion Company, Iron, 86.
 Enderitch, H., Wheat, 180.
 Enders, J., & Co., Buggy, 381.
 End Ulmi Ali, Under garments, 213.
 Engelbrecht, C., Skates, 223.
 Engelhorn, I., Books, 347.
 Engelmueller, F., Gloves, 208.
 Engert, A. C., & Co., Frames, 148.
 Engert & Rolfe, Felts, 148.
 Engineers, School of, Minerals, 86.
 Englemann, W., Books, 347.
 English, Ch., Blackboard, 342.
 English Heirs of Juan Carlos, Galena, 88.
 English, J., & Co., Needles, 151.
 Engström, Joh., Razors, 227.
 Engological & Agrarian Society of Acireale, Essences, 232.
 Enriquez, A. G. de, Embroidery, 258.
 Enrique, Clasen, & Co., Cigars, 262.
 Ensenada, Justice of Peace, Sarsaparilla, 259.
 Enthoven, H. S., Kitchen utensils, 221.
 Entomological Society, Reports, etc., 359.
 Entz, H., Range, 194.
 Epstein, J., Paper, 318.
 Erasser, Laces, 197.
 Erckens & Co., Cotton and mixed goods, 203.
 Erckens, J., Sons, Cloths, 203.
 Ercklentz, Max, & Co., Mixed fabrics, 203.
 Ercklentz & Reuter, Mixed fabrics, 203.
 Erdman, E., Diagrams, 362; Maps, etc., 363.
 Erdman-Schmidt, J. D., Plates, 221.
 Ereilli, C., Lignite, 97.
 Eretznach, E., Hosiery, 204.
 Erezena, Government of, Bark, 306.
 Ergain, Diarbekir, Copper ore, 97.
 Erhard, Maps, 345.
 Erhard & Sons, Jewelry, 204.
 Erikken, C., Honey, 224.
 Eriksson, G., Doors, 226.
 Erlbeck, A., Laces, 209.
 Ernst & Elterich, Tools, 137.
 Ernst, Ferdinand, Woolen goods, 212.
 Ernst, Heinrich, Plans, 357.
 Ernst & Korn, Plates, 347.
 Errazuriz, M., Strata of coal mine, 85.
 Ersiudjan, Government of, Mineral water, 97.
 Ervin, D. S., Limestone, 54.
 Erwin, H., & Co., Paint, 105.
 Erza, Y., Skirt, 300.
 Erzeroum, Gov't of, Soap, 291; Wool, 295; Pitch, 306; Wheat, 308; Morocco, 311.
 Esberard, F. A. M., Vases, 252.
 Escaler, B., Dress cutting, 276.
 Escales & Hatry, Silk plushes, 204.
 Escandon, Pedro, Instruction in fine arts, 267.
 Escarpizo, Lorenzana Augusto, Elixir, 270.
 Eschebach & Schaefer, Lithographs, 347.
 Escheverria, J. R., Wax, 262.
 Escobar, E., Gold, 85.
 Escobar, J. D., Woodenware, 256.
 Escobar, J. de D., Waters, 85; Salt, 255; Har-ness, 260.
 Escobedo, Grai, Coffee, 268.
 Escobedo, M., Indian goods, 266.
 Escoffier, G. G., Mechanical goods, 235.
 Eschrich, P., Peanut oil, 255.
 Escudero, P., Bricks, 272.
 Escudero, R., Stone, 85; Tiles, 261.
 Esiné, Government of, Gall nuts, 307.
 Eskilstuna Iron Manufacturing Co., Hinges, etc., 227.
 Esmarch, F., Bandages, 205.
 Esmé, A., Sheeting, 294.
 Esmoriz, M., Soaps, 283.
 Espahi, Pestle, 293.
 "España Industrial," Fabrics, 273.
 Espeja, Corp. of, Marbles, 90.
 Espent, W. B., Cigars, 172.
 Esperon, José, Iron, 86.
 Espineyro, M. T., Periodical, 368.
 Epstein, Isidoro, Books, 267.
 Esseid Effendi, Wheat, 308.
 Essen, Baron H. H. von, Woodwork, 226.
 Essers, M., Cotton and mixed goods, 203.
 Estate of the Khedive, Samples, 238.
 Estéban, Cristóbal, Brimstone, 89.
 Esterbrook Steel Pen Co., Pens, 130.
 Estes, E. B., & Son, Smalts, 105.
 Estes & Lauriat, Books, 326.
 Estevez, F. R., Hat, 281.
 Estevez, M. B., Slates, 90.
 Estey, J., & Co., Organs, 332.
 Estivill, A., Water, 271.
 Estruch, A., & Co., Manure, 270.

- Estur Oglou Estur, Cocoons, 314.
 Etchevêre, J., Flowers, 258.
 Etchevêre, G., Embroidery, 258.
 Etêp, Gov. of, Cotton, 313.
 Etna Furnace, Ore, 48; Pig iron, etc., 57.
 Etsenberger, R. Z., Coffee filter, 148.
 Etur, A. F., Cotton prints, 285.
 Euler, A. A., Flutes, etc., 349.
 Eureka Manufacturing Co., Pistols, 129.
 Eureka Mining Co., Silver ores, 79.
 Evangelic Missionary Ass'n, Report, 357.
 Evans, C. B., Mantels, 115.
 Evans, D. S., Needles, 151.
 Evans, E., U. S. Commissioner, 9.
 Evans, Ellen, Basket, 173.
 Evans, F. H., Bolts, 142.
 Evans, H., Wine, 164.
 Evans, Oscar C., Blinds, 188.
 Evans' Rifle Mfg. Co., Rifles, etc., 133.
 Evans, Sons, & Co., Perfume, 145; Drugs, 153.
 Evans, W. D., & Co., Razor strops, 139.
 Evanson, Jones, & Sons, Laundry soap, 103.
 Evansville Cotton Mfg. Co., Drills, 116.
 Everaert, Julie, & Sisters, Lace, 217.
 Everaert-Leclercq, J., Lace, 217.
 Everaert Sisters, Lace, 217.
 Everett, B. C., Trusses, 135.
 Everett Mills, Fancy cottons, 118.
 Everitt, Elisha E., Furniture, 109.
 Everling, Carl, & Co., Mixed fabrics, 203.
 Ewart, William, & Sons, Linen fabrics, 149.
 Ewing & Co., Mirrors, 188.
 Excelsior Coal Mining Co., Coal, 51.
 Excelsior Flint Glass Co., Glass reflectors, 109.
 Excelsior School Furniture Mfg. Co., 321.
 Extremoz Marble Quarrying Co., Marbles, 95.
 Eyhon & Lloyd, Roughing rolls, 56.
 Eyoup, O., Skins, 311.
 Eyries, A., Soda, 271.
 Ezerski, E., Apparatus, 372.
 Ezinchan, Gov't of, Calicoes, 294; Belt, 300.
- F.**
- Faas, A., Pianos, 332.
 Faber, A. W., Water colors, 205.
 Faber, Eberhard, Lead pencils, 139.
 Fablet, B., Preserved blood, 255.
 Fabra, C., Rods, 273.
 Fagersta Iron & Steel Works, Iron ores, 78;
 Saws, 227.
 Fagersta Stock Co., Iron, 78.
 Fagioli, G., Boxes, 234.
 Fairbank, Hawes, & Co., Doors, etc., 188.
 Fairbanks, A. G., Roofing, 378.
 Faivre, Toys, 193.
 Fakari, Nigella, 304.
 Faladji Imssi, M., Thread, 295.
 Falck, J. A. H., Peaches, 179.
 Falck-Yster, Snow shoes, 229; Sledge, 230.
 Falcon, Ruiz, & Llorente, Oil, 271.
 Falkenberg, Johs., Linen, 229.
 Fall River Bleachery, Shirtings, etc., 117.
 Fall River Merino Co., Underwear, 123.
 Faller, Geo. J., Oils, 193.
 Fallon, J. T., Wines, 158.
 Falls Co., Duck tickings, 117.
 Falstrom & Tomqvist, Cornice, 143.
 Fanfarrao, J., Earthenware, 284.
 Farch, J., & Sons, Alcohol, 224.
 Farcot, E., Clocks, 344.
 Farcy & Oppenheim, Corsets, 196.
 Faria, J. B. da, Artificial teeth, 254.
 Farina Crockery Society, Crockery, 233.
 Farina, F. Maria, Eau de Cologne, 202.
 Farina, J. M., Eau de Cologne, 202.
 Farmer & Rogers, Shawls, 150.
 Farniola, M. Paolo, Olive oil, 231.
 Farnum, J., & Co., Tickings, 115.
 Farquhar & Booth, Building sandstone, 72.
 Farquhar, E. & C., Lime and limestone, 72.
 Farr Alpaca Co., Alpacas, 121.
 Farrar, G. H. & L. E., Clay, 73.
 Farrel & Co., Safes, 112.
 Farrington & Kinsey, Wool, 122.
 Farris & Sons, Silk, 275.
 Farris, A., & Co., Glassware, 272.
 Farrugia, Federico, Minerals, 86.
 Farsky, J. F., Instruments, 351.
 Farson, E. S., & Co., Refrigerators, 376.
 Farwell Mills, Cottons, 116.
 Fase, L., Lime, 53.
 Faser, C., Mirrors, 113.
 Fasmer, J. H., & Son, Feldspar, 80.
 Fasoldt, C., Clock, 330.
 Fatma Eminé, Napkins, 302.
 Fatma, Madame, Linen, 295; Hose, etc., 300.
 Fauchere, A. L., & Co., Mantel, 52.
 Fauth, C., & Co., Instruments, 329.
 Fauvety & De Ville Massot, Bricks, 256.
 Fava, A., Furniture, 233.
 Favare, Marchese della, Olive oil, 232.
 Favier, A., Flowers, 198.
 Favre Bros., Watches, 355.
 Faxon, E., & Co., Extract, 143.
 Faxon, W., Judgè, Gr. XIII., 17.
 Faxon & Wright, Samples of wool, 337.
 Fay, C. J., Carpeting, 120.
 Fay, de, Plans, 345.
 Faye & Thevenin, Silks, 196.
 Fayett & Battcher, Pantaloons, 253.
 Fazio, D., Olive oil, 232.
 Feded, J., Fabrics, 281.
 Federal Gov't, Mexico, Books, 267.
 Federal Polytechnical School, Report, 354.
 Federal Statistical Office, Books, 354.
 Federal Topographical Bureau, Maps, 356.
 Fedoroff, J., Turcens, 319; Hampers, 320.
 Feefik, Mamor, Cherries, 307.
 Feetham, Mark, & Co., Stoves, 148.
 Fegan, Wax, 172.
 Fehr, J., Compound talcum, powder, etc., 134.
 Feil, C., Instruments, 345.
 Feizoulah, Perfumery, 292.
 Felge, P., Jewelry, 204.
 Fellner, F., & Hermann Helmer, Models, 351.
 Felsing, C., Castings, 206; Regulators, 349.
 Felton, Rau, & Sibley, Varnishes, 104.
 Felton, S. M., Finance, 10.
 Female Workshop of Educ'l Appliances, 372.
 Fenerty, E. L., & Co., Skates, 190.
 Fennysey, C. D., Photographs, 170.
 Fenouit & Co., Books, 372.
 Fenton, Connor, & Co., White linens, 149.
 Fenton, J., Buttons, 151.
 Fenton, J. H., & Bro., Hats, 126.
 Fenwick & Scott, Wool, 185.
 Ferguson Bros., Satteens, 149.
 Ferguson, T. B., Judge, Gr. V., 16.
 Ferguson & Urie, Stained glass, 160.
 Ferguson & Co., Silks, 241, 242; Hemp, 243.
 Feriyé, Madame, Lace, 302.
 Ferlund, E. F., Clothing, 226.
 Fernandes, Manuel, Cloth, 286.
 Fernandez Castañeda, T., Lignite, 89; Glass,
 tiles, 272.
 Fernandez Bros. & Co., Mats, 273.
 Fernandez, Diego, Galena, 87.
 Fernandez, Francisco, Asphaltum, 89.
 Fernandez, Gertrude, Embroidery, 265.
 Fernandez, Gervasio, Gypsum, 90.
 Fernandez, J., Earthenware, 272.
 Fernandez, Laza M., & Sons, Manta, 275.
 Fernandez & Toscano, Shoe patterns, 276.
 Ferniani, Count A., Crockery, 233.
 Ferrad, K., Cases, 393.
 Ferrad, O., Tumblers, 292; Office furniture,
 394.
 Ferrari, Giuseppe, Cabinet, 109.
 Ferraz, J. L. M., Pharmacies, 283; Book, 369.
 Ferrazas, J. J., Arithmetic, 266.
 Ferré's, General, Widow, Embroidery, 258.
 Ferreira da Silva, A., & Co., Soaps, 283.
 Ferreira, D. F., Diamonds, 82.
 Ferreira, J. J., Toweling, 285.
 Ferreira, Joanna E., Hats, 287.
 Ferreira, José Bento, Boots, 287.

- Ferreira, L. G., Canes, 254.
 Ferreira, M. J., & da Silva, Hardware, 289.
 Ferreira, M. S., Sieves, 284.
 Ferreira & Souza, Gold leaf, 95.
 Ferrer & Battle, Chemical preparations, 270.
 Ferrer & Co., Silk goods, 275.
 Ferrer, E., Flowers, 259.
 Ferrer, Ignacio, Chocolate, 268.
 Ferrer & Roca, Paper, 278.
 Ferrer & Son, Paper, 277.
 Ferrer, V., Medicinal herbs, 259.
 Ferrer y Vidal, J., Cretons, etc., 273.
 Ferrer, J., Reports, 341.
 Ferri, F., Tables, 353.
 Ferrino, C., Nitrate, 231; Sand paper, 235.
 Ferris, G. H., Domestic boiler, 376.
 Ferrouch, M., Slippers, 301.
 Ferslew, C., & Co., Register for cars, lithographs, 224.
 Ferssouz, A., Wheat, 308.
 Ferstel, H. R. von, Designs, 351.
 Feser, P., Clocks, 349.
 Feti, M., Pipe stems, 303.
 Fetou, A., Beans, 309.
 Feu, P., Medals, 279.
 Feu, P., & Sons, Buttons, crosses, 277.
 Feuchtwanger, L., & Co., Chemicals, 101.
 Feulgehete, Gov. of, Skin, 311; Cotton, 313.
 Feuntes & Ponte, Part of coach, 279.
 Feurheerd, F. D., & Cruickshank, W., Ores, 94.
 Feust & Rice, Cabinet ware, 112; Toys, 128.
 Fevfk, E., Woolen yarn, 296.
 Fezli Oglu Samy, Soaps, 291.
 Fialho & Bro., Mineral waters, 95.
 Fialkowski Bros. & Twerdy, Writing paper, 210.
 Fialont, Mrs., Tapes, 344.
 Fiddeman, H. B., Delaware, 12.
 Field, A., & Sons, Buttons, 128; Nails, 142.
 Field & Aydon Patent Smelting Co., Iron, 74.
 Field, F. K., Blue stone, 52; Tiles, 107.
 Field-Haviland, Ch., China, 193, 194.
 Field, J. C. & J., Candles, 144; Lights, 148.
 Field, J. C. & J. F., Gloves, 126.
 Field, W. W., Wisconsin, 14.
 Fierz, Henri, Cotton goods, 212.
 Fifield, J. B. M., Magic bed sofa, 111.
 Figatner, Enrico, Batteries, 365.
 Figueiredo, J., Pharmacies, 283.
 Figueredo & Co., Army boots, etc., 253.
 Figueredo, D. J., Argil, 82.
 Figueroa, Ignacio, Galena, 88; Lead, 92.
 Filimonoff, A., Caps, 317.
 Filopanti, Dr. Prof. Quirico, Book, 365.
 Finance, Ministry of, Instruments, 361.
 Finch, Prunty, & Co., Marble, 52.
 Finger, Hare, & Co., Annunciator, 331.
 Fink, H., Cinchona, 266.
 Fink, M., Skins, 163.
 Finkheim, W., Teeth, 319.
 Finland, Adm'n of Mines, Reports, 99.
 Finlayson, T. A., Asphalt, 184.
 Finnegan, J. H., Building stone, 54.
 Finnigan, M., Buena Vista stone, 52, 54.
 Fiolet, L., Pipes, 193.
 Fireland Historical Society, Pottery, 328.
 Fireproof Building Co., Bricks, etc., 54.
 Firmin Didot & Co., Books, 343.
 First Ordinary Civil Social Union, 352.
 Fisch Bros., Embroideries, 213.
 Fischer, August, Wines, 164.
 Fischer & Co., Tables, 250.
 Fischer, F., Hats, etc., 253.
 Fischer, J. G., Toys, 255.
 Fischer, Samuel, China, 207.
 Fischer & Schmitt, Chemicals, 201.
 Fischer, T., Maps, 347.
 Fish, W., & Co., Stone, 52.
 Fishblatt, Lewis, Furs, 129.
 Fisher & Bird, Mantels, 52, 115.
 Fisher, Concrete, 172.
 Fisher, C. B., Wool, 180.
 Fisher, H., Swing, 114.
 Fisher, Leather, 172.
 Fisher, T. S., Shirts, 189; Yarns, 189.
 Fisher, W., Tripoli, 73.
 Fisse, T., & Co., Clasps, 194.
 Fitch, E. A., Coal, 52.
 Fitts, C., & Son, Oil, 160; Glue, 163.
 Fix, A. J., Nails, etc., 218.
 Fjeldskov, V., Carving, 224.
 Flagstone Creek, Coal, 67.
 Flamant, Mrs. C., Snuff, flour, 184.
 Flattich, W. & W. F., Models, 351.
 Flauraud & Son, Laces, 197.
 Flechoso, G., Key, 279.
 Fleischel, E., Judge, Gr. XXIV., 18.
 Fleischer, E., Books, 347.
 Fleischman, Fritz, Pignet, & Co., Steel, 355.
 Fleisher, S. B. & M., Alpaca braids, 123.
 Fleming, F. N. & J. S., Minerals, 47.
 Fleming & Talbot, Instruments, 331.
 Flemming, Carl, Maps, 347.
 Fletcher, H. L., Arkansas, 11.
 Fletcher, R., & Son, Papers, 152.
 Flinsch Type Foundry, Printing, 347.
 Flint Mills, Printing cloths, 118.
 Flor Carenou & Tur, Liquorice, 271.
 Florand, J., Shirts, 317.
 Flore, Mauricienne, Vanilla, 178.
 Floresse Co., Mirrors, 193; Glass, 215.
 Florence, Agrarian Committee of, Oil, 232.
 Florence, Director of the Anatomical & Pathological Museum of, Preparations, 365.
 Florence Mfg. Co., Mirrors, 113; Brushes, 142.
 Florence Sewing Machine Co., Skates, 139; Stoves, 375.
 Florenz, J., Scales, 351.
 Flores, S., Saya fabric, 281.
 Flick, J., Wood carvings, 358.
 Fluminense Agricultural Inst., Hats, 254.
 Flynn, A., Maps, 373.
 Focke & Son, Pianos, 345.
 Fodolali, N. A., Barley, 308.
 Foering, Geo. W., Ochres, 105.
 Foerster & Kraenter, Tools, 137.
 Fogt, Pictures, 318.
 Foket, Government of, Seed, 307.
 Foley, James, Magnetite, 71.
 Foley, John, Gold pens, 130.
 Foliat, Joseph, Soap, 291.
 Follett, O. S., Chemicals, 102.
 Folsa, M. José, Quicksilver ores, 86.
 Folwell, W. W., Alternate, 9.
 Fominsky, B., Boots, 317.
 Fondu, J. B., Locksmiths' work, 218.
 Fonseca, Manuel da Motta, Serges, 287.
 Font, Chambeyron, & Benoit, Velvets, 196.
 Fontaine, J., Windows, 188.
 Fontana Brothers, Flagstones, 81.
 Fontein, R., Tiles, 220.
 Fontes, V., Medicinal herbs, 259.
 Fontes, V. M., & Negra, S., Clay, 85.
 Fonteyn Bros., Silk goods, 217.
 Fonzo, Domenico, Cream of tartar, 231.
 Foote, A., Ores, 67.
 Foote, A. E., Minerals, 47.
 Foote, H., Wines, 168.
 Forbes, R. W., Gum, 156.
 Force, W. F., Implements, 328.
 Ford Bros., Pith hats, 161.
 Ford, F. G., Pails, etc., 376.
 Ford, O. D., Stone, 53.
 Ford, W. A., Fastener, 378.
 Ford Works Co., Maize, 152.
 Forehand & Wadsworth, Fire arms, 133.
 Forest City Stone Co., Stone flagging, 52.
 Forests & Streams, Dep't of, Plans, 356.
 Forge & Rolling Mill Co., Iron, 77.
 Formiga, District of, Argil, 82.
 Formiguera, G., Syrups, 270.
 Fornara, Gio, & Co., Wire, 81.
 Fornari, A. G. B., Paper, 234.
 Fornasari, R., & Facino, H., Cement, 84.
 Fornier Sales, Domingo, Flower water, 270.
 Fornitcheff, A., Silk, 317.
 Forsell, D., & Co., Furs, 226.

- Forster, E. R. von, Designs, 351.
 Forster, S. R., & Son, Tacks, 190.
 Forsyth, J., & Sons, Leather, 158.
 Forsyth, Robt., Red granite monument, 72.
 Forte, E., Silver work, 234.
 Fortenbach & Sons, Cases, 330.
 Fortin Bros., Felts, 195, 202, 345.
 Fortuny Bros., Oil, 270.
 Foruch, A., Jewelry, 197.
 Forzano Bros., Sideboard, 272.
 Foshier, J., Wyoming, 14.
 Foshick, E., Clay, 73.
 Foster Coal Co., Coal, 51.
 Foster, J. A., Limbs, 136.
 Foster, S. R., & Son, Fire-proof shutters, 188.
 Foster, W. A., Clay, 73.
 Foster, Wilbur F., Model, 335.
 Foubert, A., Dyes, 193.
 Foucaud, Mme. Vve., Slippers, 178.
 Fouchet, sr. & jr., & Hulme, Cloth, 195.
 Fouet, Mrs., Underwear, 196.
 Fountain, John G. B., Iron ore, 64.
 Fourcault-Frison, A., & Co., Glass, 215.
 Fournet, R., Judge, Gr. XXVIII., 19.
 Fournier, Dondel, & Co., Bronze, 199.
 Fournier, J., Cream of tartar, 192.
 Fournier, S., Clock, 382.
 Foustdale Man'g Co., Cottons, 116.
 Fow Loong, Porcelain, furniture, 241.
 Fowler, Charles E., Plans, 334.
 Fowler Fly Fan Co., Fan, 129.
 Fox, Plans, etc., 367.
 Fox, D. M., Finance, 10.
 Fox, H. C., & Sons, Glassware, 108.
 Fox, Henry, & Co., Cassimeres, 120.
 Foy & Harmon, Skirt-supporting corset, 125.
 Fraenkel, W., Designs, 351.
 Fraga, J., Clogs, 276.
 Fraguero, José M., Lead, 83.
 Fraley, F., Sec'y & Treas. Board Finance, 11.
 Fraley, G. W., & Co., Coach, 381.
 Fralick, H., Michigan, 13.
 Frame, P., Delaware, 12.
 Franzaszek, T., Paper, 319.
 Francati & Santamaria, Brooches, 151; Jewelry, 234.
 France, James, Wyoming, 14.
 Frances Bros., Tulle, 197.
 Francillon, Ernest, & Co., Watches, 355.
 Francis, C., Wines, 164.
 Francis & Co., Cements, 61.
 Francis & Loutrel, Inks, 105; Manifold writers, 131.
 Francis, T., & Co., Nails, 153.
 Franck Bros., Woolen stuff, 217.
 Franco, L. A., Cloak, 257.
 Franco, P. A., Pharmacies, 283.
 Frank, J., Bronze ware, 210.
 Frank, Louis, Silk, 122.
 Franke, Carl, Chemists' fixtures, 207.
 Frankfield, Louis, & Co., Chronographs, 355.
 Frankl, J. G. & L., Wood, 211.
 Frankl, L. A., Models, plans, 352.
 Franklin Coal Company, Coal, 52.
 Franklin Manufacturing Co., Cottons, 118.
 Franklin, Mrs. E. P., Stencils, 138.
 Franklin, W. B., Judge, Gr. XXVI., 19.
 Franzheim, G. W., West Virginia, 14.
 Franz Bros., Silk, 233.
 Fraola, J., Bottles, 277.
 Fraser, J. W., Coal, 71.
 Fraternal Association of Weavers & Correlative Trades, Yarns, 235.
 Frazer Lubricator Co., Axle grease, 103.
 Frebitsch, S., & Son, Silk articles, 208.
 Fredriksvorn Rope Manufactory, 230.
 Free, A., Wheat, 180.
 Free, Geo., Wheat, 180.
 Free School for Apprentices, Report, 353.
 Freeman, L. R., Ornaments, 329.
 Frees, C. A., Artificial limbs, 136.
 Freire, O., Essences, 252.
 Freischlag, F., Harness, 254.
 Freitas, Albino José, Mineral waters, 95.
 Freitas, F. G. de, Writing paper, 289.
 Freitas, T. Teixeira de, Lime, 82.
 Freixa, S., Silk, 275.
 Freixa & Son, Gaiters, 276.
 Freixo, Viscount de, Ore, 94.
 Frenais, Armand, Forks, 194.
 Frenay Bros., Hats, 217.
 French, C., Australian longicorns, 163.
 French & Co., Black crepe, 150.
 French, Julia B., Cabinet, 112.
 French, O. C., U. S. Commissioner, 9.
 French Orphan Asylum, Report, 357.
 French Paper Ware Co., Pails, 380.
 Frenkel, J. K., & Son, Paper, 318.
 Frères de la Charité, Books, 342.
 Frese, A., Gloves, 209.
 Fresson, W., Drugs, 175.
 Frey-Feer, J., & Co., Satins, 212.
 Frezon, sr., & Leclerc, sr., Cloth, 195.
 Fricke, A., Perfumery, 106.
 Friderichs, R. L., Publications, 347.
 Friedeck Reformatory Home, Work, 357.
 Friedman & Lanterjing, Razors, 139.
 Friedmann, A., Models, 351.
 Friedrich, H. O., Tin-plated ware, 202.
 Friedrich, O. B., Furniture, 202.
 Friedrichshall Springs, Bitter water, 75.
 Friends of the Country, Society of, Cloth, 275.
 Fries, Alex., & Bros., Chemicals, etc., 101.
 Fries, Hermann, Books, 347.
 Fries, Th. M., Herbarium, 362.
 Friese, C., Statuary, 17.
 Friestedt, A. W., Chemicals, 225.
 Frish & Murphy, Salt, 171.
 Fritsch, Ferdinand, Perfumes, 207.
 Fritsch, J., Laces, 229.
 Fritz, J., Terra-cotta, 106.
 Fritz, John, Julge, Gr. I., 15.
 Fritzsche, Schimmel, & Co., Oils, etc., 105.
 Fritzsche, G., Books, 347.
 Fritzsche & Zschiesche, Lithographs, 347.
 Frizzoni, A. F., Silk, 233.
 Proc, R., Altars, 194.
 Frosham, Charles, & Co., Watches, 339.
 Frohock, W., Spokes, 380.
 Frolich, F. H., & Son, Paper hangings, 230.
 Frolich & Son, Apatite ores, 83.
 Fromage, Lucien, & Co., Braces, etc., 196; Elastic fabrics, 200.
 Froment-Meurice, Goldsmiths' ware, 199.
 Fromherz, Jos., Inks, 104.
 Frost, Geo., & Co., Corsets, 125.
 Frost & Hanline, Thermostat, 332.
 Fry's Bookbinders' Stamp and Tool Manufactory, Stamps and tools, 137.
 Fryar & Strachan, Sugar, 180.
 Fuchs, A., Wines, 164.
 Fuchs, D., Instruments, 351.
 Fuchs, F., Polished stones, 204.
 Fuchs, G. L., & Sons, Metal, 201.
 Fuchs, J. B., Penmanship, 351.
 Fuente Heridos, Corporation of, Marble, 90.
 Fuentes, A., & Bros., Palm leaf, 273.
 Fuentes de Ebro, Corp. of, Alabaster, 90.
 Fuentes, M., Cloth, 275.
 Fuentes, Miss L., Embroidery, 265.
 Fuentes & Ponte, Vases, 272; Sandals, 277.
 Fuentes & Sons, Blister, 270.
 Fuji-Kawa, G., Cloth, 246.
 Fujisawa, H., Trays, 245.
 Fukami, Suminoseke, Porcelain, 249.
 Fukihara, S., Enamel, 244; Plates, 249.
 Fukuda, K., Pictures, 247.
 Fukushima Riho, Picture, 248.
 Fulladosa & Co., Cards, 278.
 Fuller, A., Ale, 164.
 Fulton, C. A., Gypsum, 73.
 Fulton Furnace, Iron ores, 48; Iron, 58.
 Funaki, S., Toys, 247.
 Funke, Leopold, Knife, 139.
 Furnas, R. W., Alternate, 9.
 Furne, Jouvot, & Co., Atlas, etc., 345.
 Furse Bros. & Co., Earth, 81.
 Furstenau, O., Lithographs, 347.

Fusnot, Chas., & Co., Cartridges, 218.
 Fuster, F., Oil, 271.
 Fyler, E. W., Bedstead, 111.
 Fynje, J. G. W., Judge, Gr. XXVI., 19.

G.

Gabler Bros., Jewelry, 204.
 Gabran, R., Arithmetic, 266.
 Gabriel, H., & Sons, Quilts, 116; Hosiery, 125.
 Gabriel, P. J., Ornaments, 328.
 Gabriel, S., Towels, 295.
 Gache, Manuel, Gypsum, 84; Té pampa, 259.
 Gadamer & Jaeger, Matches, 202.
 Gadpaille, Charles, Rum, 172.
 Gaertner, E., Plans, 351.
 Gaffré & Caen, Pens, 198.
 Gagel, Lorenz, Basket goods, 206.
 Gaillard, J., sr. & jr., Laces, 197.
 Gainza, Maitin de, Gold, 85.
 Galapé, J. M. L., Model, 261.
 Galaroza, Corporation of, Marbles, 90.
 Galarraga, E. G. de, Crystal rock, 83.
 Galbraith, Alex., Flowers, 127.
 Gale & Co., Tents, 117.
 Gale, D. A. T., Mattress, 111.
 Galeano, S., Blinds, 256.
 Galena Oil Works, Oil, 103; Baskets, 127; Clock, 330.
 Galiano, M. d' A., Pharmacies, 283.
 Galiano, Manuel da, Cigarette paper, 289.
 Galindez, Clasico, Ores, 83.
 Galindo, R., Hats, 276.
 Gallais, A., Furniture, 194; Nails, 200.
 Gallardo Bastant, L., Apparatus, 272.
 Gallego, T., Hat, 281.
 Galli, C., Olive oil, 232.
 Gallia Furnace, Ores, 49; Iron, 59.
 Gallinos, R., Sponges, 310.
 Gallo, A. M., Wax, 262.
 Gallo, Wine, 262.
 Galloway & Graff, Terra-cotta, 106.
 Galoppe & Traquin, Laces, 197.
 Galton, D., Judge, Gr. XVIII., 18.
 Galvan, Federico, Coal, 84.
 Galvano-Faradic Mfg. Co., Instruments, 331.
 Galway Lead Mining Co., Barytes, 71.
 Galzy, E., Insect products, 192.
 Gama, M., Geometry, 266.
 Gamboa y Calvo, José, Salt, 270.
 Gambrell, Sons, & Co., Cotton duck, 116.
 Gamewell, J. N., Boxes, 331.
 Gamez, Angel, Rock, 90.
 Gandara, A. de la, Judge, Gr. VIII., 16.
 Gandencio, José, Toothpicks, 288.
 Ganeshin, W. & N., Bros., & Co., Yarns, 317.
 Gans & Leonhardt, Chemicals, 201.
 Ganthier, O., Titanic iron ore, 71.
 Gantz, G. F., & Co., Baking powder, 101.
 Ganz, J., Photographs, 353, 358.
 Garabet, T., Calico, 294.
 Garatoela, A., Soap, 292.
 Garau, S., Extracts, 235.
 Garceix, Prof., Map, 367.
 Garces, Vicente, Soap, 263.
 Garcia, A. Antonio, & Co., Cloths, 274.
 Garcia, Antonio, History, 267.
 Garcia, Aranda, & Co., Cloaks, 276.
 Garcia, B., Cable, 273.
 Garcia, C., Picture, 277; Fabrics, 280; Purses, 281.
 Garcia, Cayetano, Marbles, 90.
 Garcia de los Rios, Pit coal, 89.
 Garcia, F., Chairs, 265.
 Garcia, Gabriel, Ferruginous water, 91.
 Garcia & Garcia, Embroidery, 276; Flowers, 277.
 Garcia, Hilario, Skins, 268.
 Garcia, M., Cloth, 275.
 Garcia, M. F., Teeth, 278.
 Garcia, Martin, Paper, 278.
 Garcia Martinez, F., Ether, 271.
 Garcia Montalvan, F., Delft, 272.

Garcia, V., Grammar, 266.
 Garcia, V. J., Linen, 273.
 Garcia y Cubas, A., Geography, 266.
 Gardam, W., & Son, Plates, 137.
 Gardida, Thomas, Tobacco, 268.
 Gardiner, S., Apparatus, 331.
 Gardner & Co., Chairs, 109.
 Gardner, Dorsey, Asst. Secretary, 10.
 Gardner, J., & Sons, Lamps, 148.
 Gardner, M. W., Combination knobs, 376.
 Gardner & McKenzie, Skins, etc., 183.
 Gardner, P., Tea pots, 147.
 Gardner, Wm., Breech-loading cannon, 133.
 Garelin, J., Cloth, 316.
 Garelin, Nikon, & Sons, Cotton yarn, 316.
 Garfias, Miss M., Music, 266.
 Gargiulo, Francesco, Book, 365.
 Garjeanne, A. G., Carpets, 220.
 Garland, Benj., Iron bridge, 139.
 Garlive, N., Stone, 84.
 Garner, Mrs. M. E., Basket, 173.
 Garnier, P., Pharmaceutical preparations, 192.
 Garofoli, O., Sculpture, 235.
 Garratt, A., Disc, 331.
 Garretson, T., Coal, 51.
 Garrid, Scale, 366.
 Garrid, J. F. da S., Scales, 254.
 Garrison, W. S., Stove, 376.
 Garry Iron Roofing Co., Roofing, 115, 378.
 Garsed Bros., Awnings, 115.
 Garvies, C. A., Lime and limestone, 72.
 Garvin, T. E., Indiana, 12.
 Gasau, J. A., Soap, 271.
 Gascandil, Coverlet, 298.
 Gasco, G., Cotton, 294.
 Gascou, L. R., Silk, 196.
 Gaskell, Deacon, & Co., Soda ash, 144.
 Gaskell, J., Animals, 163.
 Gaskell, Mrs., Flowers, 166.
 Gasko, G., Fabrics, 298.
 Gaspar, M. R., Table, 284.
 Gasparini, Giacomo, Meter, 365.
 Gasse, F., Lead foils, 82.
 Gastaldo, Dr. José, Blepharotome, 278.
 Gates, E. E., Organs, 342.
 Gatling Gold Mining Co., Ore, 70.
 Gatling, R. J., Guns, 134.
 Gaudichet, V. C., Carriages, 200.
 Gaujot, E., Maps, 335.
 Gauthier, O., Iron, 74.
 Gauthier, Villars, Books, 343.
 Gautier, Bellon, & Co., Velvets, 196.
 Gauvreau, P., & Co., Cement, etc., 72.
 Gavaarro, M. J., Paper, 278.
 Gavarra & Son, Paper, 278.
 Gaveao, C. J. M., & Paes de Barros, Newspapers, 366.
 Gavioli, C., jr., Pianos, 345.
 Gavioli & Co., Organs, 345.
 Gay, Jean, Watch chains, 213.
 Gaylord Man'g Co., Swords, 134; Locks, 141.
 Gazette des Beaux Arts, Newspapers, 343.
 Geary, E. R., Oregon, 13.
 Gebbie & Barrie, Publications, 327.
 Gebens, E., Chemicals, 201.
 Gebhard & Co., Satins, 203.
 Gebhard, G., Judge, Gr. VIII., 16.
 Gebhart, I. M., Manuals, 347.
 Geddes, J. W., Skylight, 115.
 Gee, J. N., Mineral water, 74.
 Gehrig Brothers, Necklaces, 205.
 Gehring, C., jr., Movements, 345.
 Geissel & Hartung, Jewelry, 204.
 Gelabert, R. y Hermano, Models, 279.
 Gelder, G. M. van, Piano method, 360.
 Gelderen, A. van, Encyclopedia, 368.
 Gell, P. H., Wool, 159.
 Gelos, Martin, Minerals, 83; Salt, 255; Spurge, 259.
 Gely Bros. & Co., Gloves, 276.
 Gem Soldering Iron Co., 377.
 Gemrig, J. H., Instruments, 135.
 Gemunder, A., Bass, 333.
 Gemunder, G., Violin, 332.

- Gener, P., Syrups, 278.
 Generés, José, Alabaster, 90.
 Generois, Felice, & Sons, Soaps, 232.
 Genest, P. M. A., Map, 342.
 Geneva Society, Reports, 357.
 Genkinger, A., Tools, 137.
 Gennari, E., Optical instruments, 365.
 Genonceaux, L., Books, 359.
 Gentesse, C., Head conformateur, 189.
 Genth, F. A., Judge, Gr. III., 15.
 Gentile, Grassini, Cream of tartar, 231.
 Gentiluomi, I. V., & Co., Cotton goods, 233.
 Geodetical Department, Maps, etc., 369.
 Geographical Inst. of Norway, Maps, 364.
 Geographical Institute, Weimar, Maps, 348.
 Geological Commission, Photographs, 82.
 Geological Survey, Great Britain, Maps, 339.
 Geological Survey Dep't., Ores, 70; Plans, 155; Sketches, 156; Salt, 187; Bricks, 188.
 Geological Survey of So. Norway, Stones, 80.
 Geological Survey of Sweden, Minerals, 78; Maps, 363.
 George, J. S., Stone, 66; Woods, 173.
 Geraldini, E., Jewelry, 234.
 Gerber & Co., Condensed milk, 214.
 Gergi Melouk, Fabric, 298.
 German Associations for Soldiers, Berlin, 350.
 German Sewing Mach. Factory, Furniture, 202.
 Germania Mills, Doeskins, 120.
 Germann & Egger, Wood carvings, 358.
 Gerosa, A. E., Embroidery, 234.
 Gerosa, E. & E., Telegraphic instruments, 365.
 Gerrard, A. W., Pharmacies, 144; Plasters, 153.
 Gerth, R. J., Furniture, 252.
 Gervais, A., & Co., Kettles, 194.
 Gerwig, A., Jewelry, 204.
 Gessricouvou, Gov't of, Mineral water, 97.
 Gessler-Zeller, J., Leckerly of Basle, 214.
 Gessrick & Woerfel, Stones, 98.
 Gesswein & Reichhelm, Implements, 139.
 Gest & Atkinson, Oils, etc., 103.
 Gettysburg Katalysine Co., Water, 55.
 Gévelot, Guns, 199.
 Gevers & Schmidt, Carpets, 203.
 Gevin Bros, Books, 326.
 Geyer, W. & Ed., Bros., Buckskin, 350.
 Ghilbellini Bros., Varnish, 232.
 Giacomazzi, Favare Salvatore, Sea salt, 231.
 Giacomazzi, Rocco, Liquorice, 231.
 Giacomini, Luigi, & Co., Brushes, 235.
 Giannotti, G., Silk, 233.
 Gianoli Bros., Soaps, 232.
 Giauque, F., Ornaments, 329.
 Giibb & Co., Rag carpet, 122.
 Gibbon, J. M., Cochineal, 170.
 Gibbs, G., & Co., Nuts, 190.
 Gibert & Soler, Essences, 278.
 Gibson, J., Wool, 183.
 Gibson, P., Minnesota, 13.
 Gibson, Robert L., Building sandstones, 71.
 Gibson & Sons, Sugar, 180.
 Gibson & Tyler, Blankets, 121.
 Gibson, W., Wheat, 183.
 Gibson, W. H., Wool, 183.
 Gibson, W., & Son, Wool, 183.
 Gibson, William, Jewelry, 151; Watches, 339.
 Gien Pottery Mfg. Co., Faience, 193.
 Giers, C. C., Tennessee, 14.
 Gifford, Señor, Silver ore, 83.
 Gifuken Local Government, Paper, 247.
 Gigena, J., Horse cloth, 260.
 Gil, R., Brooms, 280.
 Gilbert, A. A., Saddlebags, 135.
 Gilbert, A. C., Ironing board, 377.
 Gilbert, A. N., Wools, 159, 165.
 Gilbert, F. A., Table, 108.
 Gilbert, G. H., Mfg. Co., Blankets, 121.
 Gilbert, J., Wine, 167.
 Gilbert, L. N., Massachusetts, 12.
 Gil de Muro, Isidoro, Soaps, 271.
 Giles, H. G., & Son, Stoves, 375.
 Gilkinet, C. J., Ink, 215.
 Gill, J., Engraving, 148.
 Gill, W. F., & Co., Books, 328.
 Gillard, J., Wines, 168.
 Gillet & Son, Chemicals, 193; Silk, 196.
 Gillmore, Q. A., Judge, Gr. II., 15.
 Gillon-Steyaert, Lace, 217.
 Gilman, D. C., Judge, Gr. XXVIII., 19.
 Gilman, F. C., Wagon, 381.
 Gilman, J. H., Lava, 250.
 Gilman, J. N., Fibre, 251.
 Gilmour, A., Oats, 163.
 Gilmour, G., Augers, 190.
 Gilmour, John, Hams, 156.
 Gilpin, Edwin, Sandstone, 72.
 Gilroy & Hurst, Powders, 157.
 Gimenez, J., Embroidery, 258; Box, 277.
 Gimenez, L., Writing desk, 256.
 Gioiuzza, G., Jewelry, 234.
 Giordano, Prof. Scipione, *Materia medica*, 365.
 Giordano, S., Legal blank, 234.
 Giorgi, A., Flute, 371.
 Giorgi, Kara-Keni, Drums, 371.
 Giorki, Seeds, 309.
 Giorki, A., Sesame, 308.
 Giorki, B., Pitchers, 293.
 Giorki, Miss B., Hosiery, 300.
 Giorki, Rizzo, Guitar, 371.
 Giorki, V., Rice, 308.
 Giovan, Siros, Gold dust, 97.
 Giralt, Nicolas, Lime, 91.
 Girard, C., Cutlery, 199.
 Girart, N., Chemicals, 271.
 Giraud, Alex., Silks, 106.
 Giraud & Josserrand, Muslins, 197.
 Giron, D. José, Ore, 94.
 Girona y Mato, R., Delft, 272.
 Girondeau, F., Bronzes, 198.
 Girou Bros., Ribbons, 196.
 Gisbert Pascual, C., Cloth, 274.
 Gisbert & Soler, Powder, 271.
 Gisbert y Pujals, Manuel, Mineral coal, 89.
 Giuffrida, L. G., Almond oil, 232.
 Giuliano, Ditta, Piano, 365.
 Giulivo, B., & Co., Knives, etc., 235.
 Givotovski, Botanical apparatus, 372.
 Gladbach Joint Stock Spinning & Weaving Mills, Cotton and mixed goods, 203.
 Gladbach, Prof., Architecture, 356.
 Gladwin, J. P., Ivory earrings, 169.
 Glano, G., Skin, 311.
 Glardon, C. L., Enamel, 358.
 Gläsel, Moritz, Violins, etc., 350.
 Glaser, L., Lithographs, 347.
 Glasgow Apothecaries Co., Dressings, 153.
 Glasgow Company, Shirtings, etc., 118.
 Glasgow & Port Washington Iron & Coal Co., Ores, 50.
 Glasgow & Port Washington Iron & Steel Co., Iron, 55.
 Glasgow Pottery Co., Decorated ware, 108.
 Glashütte United Clockmakers, Clocks, 349.
 Glass Works Joint Stock Co., Glass, 215.
 Glassware & Plate Glass Manfg. Co., 216.
 Glazier, J. J., Bro., & Co., Hose, 123.
 Gleason, W. B., & Co., Ornaments, 113.
 Gledhill, Bottles, 160.
 Glendale, A., Montana, 13.
 Glendale Elastic Fabrics Co., Fabrics, 142.
 Glendenning & Truitt, Whips, 127.
 Glendon Iron Co., Iron ores, 49; Flux, etc., 57; Drawings, 335.
 Glenister, W. A., Axles, 161.
 Glenn, Frank, American buffet, 112.
 Glick, G. W., Kansas, 12.
 Glier, K. A., jr., Instruments, 349.
 Glinka, P., Frames, 316.
 Glinkin Bros., Horn, 318.
 Globe Furnace, Iron ores, 48.
 Globe Iron Co., Iron, 58.
 Globe Nail Co., Nails, 140.
 Globe Rolling Mill Co., Iron, 57.
 Globe Woolen Co., Cassimeres, 120.
 Glömsta Manfg. Co., Furniture, 225; Form, 362.
 Glookhoff, N. G., Japanned ware, 316.
 Glorud Nickel Co., Ores, 80.

- Gloucester Gingham Mills, Shirtings, 118.
 Gnocchi, G., Inks, 232.
 Gobert, A., Son, Judge, Gr. XXI., 18.
 Gobetsky, Josef, Quinine, 207.
 Gobright, L. A., Alternate, 9.
 Godchaux, A., & Co., Books, 343.
 Godché, E. P., Leather, 311.
 Goddard, Thos., Judge, Gr. XVII., 18.
 Goddard, Wm., Rhode Island, 14.
 Gödecke, Carl, Plans, 75.
 Godfredsen, R., Drling, 224.
 Godfrey, B. J., Fibres, 175.
 Godfrey, C. J., & Son, Thimbles, 129.
 Godfrey, F. R., Animals, 163.
 Goebel, J., & Co., Clay, 107.
 Goedecke & Co., Chemicals, 201.
 Goedwaagen, P., Stoves, 220.
 Goertz & Kirch, Cotton and mixed goods, 203.
 Goes, J. T., Minerals, 82.
 Goff, D., & Son, Skirt braid, 123.
 Goggin, Jeremiah, Mirrors, 147; Jewelry, 151; Time pieces, 339.
 Goggin, Jas., Jewelry, 127.
 Gogly, A., Flowers, 198.
 Gois, Francisca Emilia de, Lace, 288.
 Golaksiz Oglou Nicolas, Buttons, 302.
 Gold Coast, Colonial Govt. of, Woods, 177.
 Gold Coast, Colonial School of, Knitting, 177.
 Gold Working Co. of Oporto, Plate, 284; Jewelry, 288.
 Golden Stream Claim, Quartz, 166.
 Goldmark, J., Percussion caps, 133.
 Gold's Heater Co., Heaters, 375.
 Goldsborough, John, Machine, 130.
 Goldsbrough, R., & Co., Wools, 165.
 Goldschmidt, H., Razor strops, 138.
 Goldschmidt, Louis A., Opals, 76, 209.
 Goldschmidt's Sons, Ornaments, 209.
 Goldsmith, J. G., Piano, 333.
 Goldsmith, M., U. S. Commissioner, 9.
 Goldsmiths' Stock Co., Silver, 226.
 Goldy, A., Judge, Gr. VIII., 16.
 Göldy, A., & Co., Embroideries, 213.
 Gomes, Alonso, Ores, 94.
 Gomes, M. M., Boots, etc., 253.
 Gomes, T. G. C., Argil, 82.
 Gomez, A. A., Cloth, 275.
 Gomez, Crisanto de, Carbonate of lead, 87.
 Gomez, José M., Pyrites, 89; Alabaster, 90.
 Gomez, N., Cottons, 280; Handkerchiefs, 281.
 Gomez, P. J., Cotton yarn, 265.
 Gomez, Ruiz, Widow & Sons, Lead ore, 88.
 Gomez, S., Earthenware, 272.
 Gomez & Sons, Boots, 287.
 Gomez, Z., Agrometre, 269.
 Gonçalves, A. D., Sculpture, 290.
 Gonçalves, Joao, Card, 287.
 Gonçalves, Manuel Joao, Woolen girdle, 287.
 Gonçalves, Rivas, & Co., Buttons, 288.
 Gondard, Cirlot, & Martel, Foulards, 196.
 Gondy, J. B., & Co., Watches, 344.
 Gong Bell Manufacturing Co., Bells, 141.
 Gonsalves, J., Calcined kaolin, 82.
 Goussan, Government of, Pyrites, 96.
 Gonthier, Dreyfus, & Co., Engravings, 198.
 Gonzaga, E. J., Clays, 82.
 Gonzalez Alegre, José, Thermal waters, 92.
 Gonzalez, B., Cloak, 276.
 Gonzalez, D., Wreath, 258; Horse cloths, 260.
 Gonzalez, Diego Bibiano, Phosphates, 87.
 Gonzalez, Domingo Cecilio, Ammonia, 270.
 Gonzalez, Fermin, Hats, 276.
 Gonzalez, Gabriel, Galena, 87.
 Gonzalez, J., Plants, 259; Handkerchiefs, 281.
 Gonzalez, M., Varnish, 280; Map, 368.
 Gonzalez, M. C., Sunshade, 277.
 Gonzalez, Maceda P., Webs, 273.
 Gonzalez Molada, J., Building materials, 90.
 Gonzalez, R., Tiles, 272.
 Gonzalez Sanz, L., Cloths, 274.
 Gonzalez, Ugalde, Reports, 261.
 Goodall, Backhouse, & Co., Food, 153.
 Goodall, C., & Son, Cards, 152; Printing, 154.
 Goodell Company, Cutlery, 139.
 Goodfellow, Jos., Building sandstones, etc, 72.
 Goodier, J., Trusses, 135.
 Goodrich, D. W., Books, 327.
 Goodspeed, H. C., Utah, 14; Judge, Gr. XIX., 18.
 Goodwin, A. J., Sanitary bedstead, 111.
 Goodwin, W. C., Toys, 127.
 Goold, J., & Co., Buggy, 381.
 Gootchkoff, E., Woolen goods, 316.
 Gootkooski, Scales, 373.
 Gorceix, H., Minerals, 81; Map, 82.
 Gordon, A. D., Felts, 132.
 Gordon, W. J. M., Chemicals, etc., 101.
 Gore & Co., Wool, 180.
 Gorham, J., Finance, 11; Rhode Island Comr., 14.
 Gorham Manfg. Co., Silverware, 113.
 Gori, M. W. C., Conveyances, 221; Book, 361.
 Goribar, Faústino, Sugar, 268.
 Goroblagodati, Administration of, Ores, 98.
 Gorodetzki, A., Embroideries, 318.
 Goroshkoff, P., Household utensils, 316.
 Gorter, D. & S., Soap, 220.
 Goshorn, A. T., Director-General, 9.
 Gosling, J. W., Buggies, 380.
 Goss, J. E., Plans, 356.
 Gosse-Perier, Flowers, 198.
 Gossiaux, F., Hair picture, 217.
 Gossin, F., Terra-cotta, 106.
 Gostcho, Djivaré, P., Wine, 313.
 Göteborgs Mechanical Works Co., Fluc, 79.
 Goth, H. J., Paper, 133.
 Gotha, Shirts, 299; Vest, 300.
 Gothard Railway Co., Plans, 356.
 Gottesleben, P., Judge, Gr. XI., 17.
 Gottland Grindstone Co., Grindstones, 78.
 Gottschalk, I. C., Essences, 224.
 Götzinger, Dr. E., Drawing, 353.
 Goudie, Thomas, Hydraulic cement, 72.
 Goudle, Thomas, Lime and limestone, 72.
 Gough, Edward, Turned rolls, 57.
 Gould, C. H., Steps, 380.
 Gould's, M., Sons, Stair rod, 141.
 Goumas, P., & Co., Instruments, 345.
 Gourd, Croizat, Son, & Dubost, Silks, 196.
 Govaert Bros., Canvas, etc., 216.
 Gove, J. C., Machine, 377.
 Government Arm Mfy., Rifles, 221.
 Government Lithographic Est., Maps, 179.
 Government Penal Est., Coccoons, 180.
 Government Printing Est., Books, 179.
 Government Printing Office, Books, 64, 157, 340.
 Government Survey, Dept. of, Map, 251.
 Goyano, J. J., Music, 366.
 Goyard, F., Crucibles, 193.
 Goybura, J. B., Coffee, 264.
 Goyena, J. Z. de, Flowers, 258.
 Goyers, J. A. & H., Bros., Pulpit, 216.
 Gracian, Andrés, Sulphur, 88.
 Gracie, W., Malt, 183.
 Graf, E., Trunk, 217.
 Gragera, A. M. M., Pharmacies, 283.
 Graham, A. J., Book, 326.
 Graham, P., Judge, Gr. XXVII., 19.
 Graham, T., Wool, 168.
 Gram, Wm., Furniture, 229; Weapons, 230.
 Gramignani, L., Dentals, 235.
 Gramme's Magneto-Electric Machine Co., 345.
 Grand Rapids Brush Co., Brushes, 142.
 Grand Tower Mining, Mfg., & Trans. Co., Ores, 49; Iron ore products, 57.
 Granda, Album, 371.
 Grandaki Ahmed Effendi, Belts, 302.
 Grandaki, Madame A. E., Napkins, 302.
 Grande, R., Gold necklace, 258.
 Grandjean, Hry., & Co., Watches, 355.
 Grandjean-Perrenoud, H., Watch engraving, 355.
 Grandpierre, J., Vermouth, 214.
 Granducontagne, Richard, Argil, 91.
 Granholm, J. P., Rectified amykos, 225.

- Granite Mills, Printing cloths, 118.
 Grant, C., Lime, 171; Beeswax, 172.
 Grant, C. B., Alternate, 9.
 Grant & Co., Cordage, 155.
 Grant Furnace, Iron ores, 48; Pig iron, 58.
 Grant, Misses Julia & Mary, Ornaments, 173.
 Grant, Mrs., Sauce, 164.
 Grant, Wm. A., Map, 335.
 Graphic, Proprietors of the, Process, 338.
 Grappin, G., Model of mine, 92.
 Grappin, G. de, Phosphate of lime, 87.
 Grassi, F., Press, 234.
 Grasso, Giuseppe, Juice of liquorice, 231.
 Gratcheff, J., Woolen shawls, 316.
 Grattarola, C., Frames, 233.
 Grau y Puig, J., Bitumen, 271.
 Graubünden, Building Insp., Plan, 355.
 Grava, Frei L. da, Shirt, 253.
 Gravenstine, J., Sideboard, etc., 376.
 Graves Bros., Stone, 53.
 Graves, J. W., Bread, 183.
 Gravier, Clement, Carpets, 195.
 Gravina, Domenico, Books, 365.
 Gray, A., Kansas, 12.
 Gray, A., & Co., Tweeds, 161.
 Gray & Barton Western Electric Telegraph Co., Instruments, 331.
 Gray, Daniel H., Sulphur, 102.
 Gray, E., Telegraph, 332.
 Gray, F. W., Drawings, 342.
 Gray, Young, & Spalding, Brine, 74.
 Grayling, W. S., Extract, 155; Bark, 156.
 Grays Chalk Quarries Co., Chalk, etc., 61.
 Grazelema, Corporation of, Marble, 90.
 Great Diamond Plantation, Ornaments, 175.
 Great Falls Mfg. Co., Sheetting, 116, 118.
 Great North of Scotland Granite Co., Monumental pedestal, etc., 61.
 Great Western Iron Co., Pig iron, 61.
 Green, C. H., Wool, 180.
 Green & Daniels, Cotton yarns, 117.
 Green, E. C., Guns, 152.
 Green, E. K., Wines, 171.
 Green, F. F., Ohio, 13.
 Green, J., Seat, 381.
 Green, J., & Nephew, Glass, 147.
 Green, R., Cradles, 157.
 Green, S. H., & Sons, Calicoes, 119.
 Green, W. S., Judge, Gr. IV., 16.
 Greenbank Alkali Co., Chemical products, 144.
 Greener, John, Coal, 71.
 Greener, W. W., Guns, 152.
 Greenfield Plantation, Sugar, 175.
 Greenfield & Stewart, Panel door, 155.
 Greening, N., & Sons, Wire, 143.
 Greenmount Spinning Co., Cottons, 148.
 Greenway, Henry, Drawings, 340.
 Greenwood Pottery Co., Ironstone china, 108.
 Greer & Co., Wines, 164.
 Greaves, E. G., Wool, 165.
 Gregory, A. C., Ores, 67.
 Gregory & Co., Cast steel, 56; Carpets, 150.
 Gregory, G. W., Judge, Gr. XXII., 18.
 Gregory, J. M., Judge, Gr. XXVIII., 19.
 Gregory, V. R., & Co., Monument, 73.
 Greiner, E., Enameling colors, 202.
 Greiner, G., Piano, 332.
 Gressard & Co., Silks, 204.
 Grest, M., & Co., Trunk, 259.
 Grewar, John W., Wool, 171.
 Griaznoff, A., Pistols, 319.
 Gribanoff, J., & Sons, Linens, 316.
 Grice, J., & Sons, Wrappers, 132.
 Grieffenhagen, W., Wines, 164.
 Griending, J., Barber's chair, etc., 111.
 Griffin, A. B., Box, 128.
 Griffin, R. A., Peat, 71.
 Griffith, C., Kentucky, 12.
 Griffith & Co., Locks, 190.
 Griffith, J. W., Judge, Gr. XIX., 18.
 Griffith, W. W., Alternate, 9.
 Griffiths, John W., Works, 327.
 Griffiths, W. K., Quartz, 166.
 Grigorieff, Apparatus, 372.
 Grikooroff, Ornaments, 318.
 Grillo, A. D., Vases, 252.
 Grillon, E., Dates, 192.
 Grimaldi, Giovanni, Extract of liquorice, 231.
 Grimes, S. & G., Arrowroot, 180.
 Grimm, B., Coins, 242.
 Grimwood, T., Quail, 163.
 Grinnel, J. S., Judge, Gr. XXIII., 18.
 Grison, T., & Co., Cloth, 195.
 Grissi, J., Plaster, 266.
 Griswold, Catherine A., Corsets, 124.
 Grivegnée Co-operative Soc'y, Reports, 360.
 Grivolat, L., Clock, 344.
 Grobet, François Louis, Tools, 358.
 Grohmann & Kessler, Glass articles, 207.
 Grolman, C. W., Frames, 220.
 Groom, F., Coal, 68.
 Groom, W. H., Book, 179.
 Groote, V. de, Lace, 217.
 Grootes, M., Blueing, 220.
 Gropengiesser, J. L., Clock, 330.
 Gros & Co., Corsets, 204.
 Gross, E., Reports, 351.
 Grosse, F., Wine, 164.
 Grossius, J., Stove, 375.
 Grossmann, Joh., Wood carvings, 358.
 Grote, F., & Co., Ivory goods, 129.
 Grote, G., Photographs, 347.
 Grothe, H., Apparatus, 349.
 Groton Mfg. Co., Bleached goods, 118.
 Grottenhaler, V., Pipes, 128.
 Grousac, P., Map, 368.
 Grove Hill Co., Quartz, 166.
 Groveland Mills, Flannels, 121.
 Grube, C., Buggy, 381.
 Grube Institution for Instructing the Poor, Pupils' work, 357.
 Grumbach, C., Books, 347.
 Grunes & Co., Bricks, 256.
 Grunow, F. W., Publications, 347.
 Grunwald & Klei, Mixed fabrics, 203.
 Grünwald, M., Furs, 318.
 Gruppe, G., Drugs, 280.
 Guadalupe Co., Iron, 86.
 Guarro, W., Paper, 278.
 Gué, G., & Co., Silk, 275.
 Gueiroz, A. G., Cotton prints, 285.
 Gueiroz, J. S. P. de, Oil, 283.
 Guelpa-Piazza Bros., Gimlets, 235.
 Güemes, D., Cup, 256.
 Guerdart, E. von, Painting, 161.
 Guerin, C., Child's carriage, 191.
 Guerin, L., & Co., Books, 343.
 Guerra, Antonio José de Soutra, Hinges, 289.
 Guerra, J. B. da S., Linen, 285; Poplins, 286; Silks, 287; Machine, 370.
 Guerreo, Y., Bricks, 265.
 Guest, T. B., & Co., Biscuits, 164.
 Guesta Match Manufactory, Matches, 225.
 Gueudjehan, O., Fabrics, 298.
 Guevara, S., Fabric, 281.
 Guglielmini, Andrea, Olive oil, 231.
 Guibelalde, C., Embroidery, 277.
 Guibert, jr., Gloves, 197.
 Guida, Prof. Francesco, Book, 365.
 Guiet, Mr., Judge, Gr. XVII., 18.
 Guild, C., Massachusetts, 12.
 Guilherme, Maria, Blankets, 286.
 Guillaumet, A., Sons, Fabrics, 195.
 Guillaumin & Co., Books, 343.
 Guillemain, R., Cutlery, 199.
 Guillery, H., Sanitary report, 218.
 Guimaraes, A. da Costa, Linen fabrics, 285.
 Guimaraes, A. J. A., Soap, 252.
 Guimaraes, B. J. P., Linen woof, 285.
 Guimaraes, J. A. da S., Varnishes, 252.
 Guimaraes, João Carvalho, Spurs, 290.
 Guimaraes, Joaquim M. da S., Scissors, 289.
 Guimaraes, M. M. R., Table cloths, 285.
 Guimaraes, T. T. A., Saddles, 254.
 Guimera Bro., Wool, 275.
 Guimet, L., Blue, 193.
 Guinet, Ant., & Co., Silks, 196.
 Guinon's Son & Co., Chemicals, 193.

Gujer-Brunner, Table cloths, 212.
 Gulberg Stock Co., Sulphuric acid, 225.
 Gulbin, O., Skin, 311.
 Gulbing, O. K., Wine, 313.
 Guldberg, C. Hoegh, Varnish, 223.
 Gulden, H., Gloves, 204.
 Gulland & Co., Coal, 67.
 Gulliver Brothers, Tree seeds, 182.
 Gulmaracs, A. A., Saddle, 254.
 Gumaelius, A., Newspaper, 362.
 Gumuch, Hané, Galena, 96.
 Gun Foundry, Iron, 98.
 Gundberg, J. W. L., Copper vessels, 363.
 Gundlach Bros., Crucibles, 202.
 Gundlach, J., jr., Crucibles, 202.
 Gunn, D., Wool, 180.
 Gunn, J. H., Quartz, 166.
 Gunning, T. B., Plates, 136.
 Guntsche, J., & Schröder, Saddles, 259.
 Gurd, J. R., Broom, 199.
 Gurley, W. & L. E., Instruments, 329.
 Gurney, H. D., Granite, 52.
 Gurney, W., U. S. Commissioner, 9.
 Gustafsberg Mfg. Co., China, 225, 226.
 Gustafson, G., Knives, 227.
 Gut, Jean, & Co., Photographs, 358.
 Guthrie, G. D., Pottery ware, 160.
 Guthrie, Jones, & Co., Buggies, 380.
 Gutierrez de Ceballos, J., Mineral waters, 92.
 Gutierrez, J. Enrique, Fan, 277.
 Gutierrez, Julian, Yellow ochre, 87.
 Gutierrez, Julian, & Co., Marble, 86.
 Gutierrez, Rodriguez, Mineral water, 91.
 Gutierrez, S., Books, 266.
 Gutte, L., Wood carvings, 202.
 Guyaux Bros., Black marble mantelpiece, 216.
 Guyer, Eduard, Hotel architecture, 356.
 Guyot-Lupold, A., Enamels, 212.
 Guyot & Migneaux, Birds, 198.
 Gysae, R., Chemicals, 201.
 Gysi, Fr., Drawing instruments, 354.
 Gysinge Iron Works, Iron, 79.

H.

Haarmann, W., Chemicals, 201.
 Haas, B., jr., & Co., Clocks, 344.
 Haas, Jas. A., & Co., Jewelry, 127.
 Haas, Ph., & Sons, Clocks, 349.
 Haase, J., Matches, 315.
 Haase, J. A., Car, etc., 382.
 Hab Usu, S., Aléanus, 304.
 Hababutskuwan Museum, Animals, 248.
 Habel, C., Publications, 347.
 Haberkorn, G., Gloves, 209.
 Habig, P., & Co., Hats, 208.
 Hache, Ad., & Le Halleur Bros., China, 193, 194.
 Hachette & Co., Books, 343.
 Hachmet, Cartridge box, 304.
 Hackfeld, H., & Co., Coffee, 251.
 Hadank & Son, Bell, etc., 349.
 Hadj, T., Trowsers, 300.
 Hadji, Wool, 314.
 Hadjidli Ousta, Cases, 303.
 Hadley Co., Threads, 117.
 Haenle, L., Metal leaf, 201; Papers, 205.
 Haensel, H., Chemicals, 201.
 Haessel, H., Books, 347.
 Haffner, B., sr., Safes, 194.
 Hagen, J., Skins, etc., 364.
 Hagner Drug Milling Co., Grinding mills, 102.
 Hagstoz & Thorpe, Cases, 330.
 Hague Association for Improvement of Workmen's Buildings, Model, 361.
 Hahl, A., & Co., Clocks, 330.
 Hahn, Baron, Cartridges, 319.
 Hahn, C., Polished stones, 204.
 Hahn, Gottlieb, Toys, 205.
 Hahn, P., Polished stones, 204.
 Haho, B. H. A., Morocco, 311.
 Haibara, N., Paper, 247.
 Haicha Agha, Carpet, 296.
 Haidar, M., Garment, 300.
 Haido, Garment, 300.
 Hailey, J., Idaho, 12.
 Hainaut Glass Mfg. Co., Plate glass, 216.
 Haines Bros., Pianos, 333.
 Haines, J. W., Alternate, 9.
 Hake, Mrs. von, Ladies' underwear, 204.
 Hakim Bros., Silks, 298; Garments, 300.
 Hakim, H., Bros., Cotton, 294.
 Hakin Hadji Bros., Silk, 297.
 Haktar, Mehemed, Wax, 312.
 Haldeman Paper Co., Paper, 131.
 Halderman, L., & Son, Stone, 53.
 Haldji, O., Belts, etc., 300.
 Hale, B. S., & Co., Fish lines, 117; Wire, 332.
 Hale, I. P., West Virginia, 14.
 Hale, Kilburn, & Co., Folding bed, etc., 112.
 Hale & Parshall, Oils, 106.
 Haler, O. H., Hosiery, 300.
 Halkier, P. A., Timber, 224.
 Hall, A., & Sons, Bricks, 107.
 Hall, Elton, & Co., Spoons, 113.
 Hall, F. R., Nevada, 13.
 Hall, G. B., Ochres, 187; Machines, 188.
 Hall, J., & Son, Coach, 381.
 Hall, P. W., Holders, 130; Locks, 141.
 Hall, Wm., Coal, 71.
 Hall's Safe & Lock Co., Safes, 112; Locks, 141.
 Hallet, Davis, & Co., Pianos, 332.
 Halling, A., Knives, 227.
 Halm, Bellows, & Buttler, Furniture, 111.
 Halon, Alphonse, Marble, 72.
 Halsey, W. J., Oregon, 13.
 Hamadaken, Local Government, Paper, 247.
 Hamblet, Joseph, Bricks, 145.
 Hambleton, J., & Son, Toilet articles, 106; Decorated porcelain plates, 108.
 Hamden Furnace, Ores, 49; Pig iron, 58.
 Hamelin, A., Silks, 196.
 Hamerli, J., Gloves, 209; Leather trusses, 210.
 Hamid Moustapha, Boots, 301.
 Hamie & Booth, Silks, 122.
 Hamilton, G. A., Judge, Gr. XVI., 17.
 Hamilton, Homer, Stone, 54.
 Hamilton Mfg. Co., Tickings, 119.
 Hamilton, P., Alabama, 11.
 Hamilton, P. Hunt, Chains, 127.
 Hamilton Woolen Co., Prints, etc., 119, 121.
 Hamlin, E., Violins, 332.
 Hammer's Museum, Catalogues, 363.
 Hammond, W., Eismuth, 68.
 Hamparsoum, Carpets, 296.
 Hampton, C. F., Augers, 137.
 Hampton, Cutter, & Sons, Clays, 54; Fire brick, 107.
 Hana Meti, Calico, 294.
 Hance Bros. & White, Extracts, etc., 101; Drug mill, 135.
 Hance, R. A., Fluid extracts, 101.
 Hanczar, J. H. H., Ore, 65.
 Hancock, E. C., Louisiana, 12.
 Hand, J. C., & Co., Corundum, 55.
 Handy & Boland, Trusses, 136.
 Haneborg, A. O., Wood pulp, 230.
 Hanford, Theodore, Gold strata, 65.
 Hangard, Springs, 344.
 Hanging Rock Iron Region, Ores, 49; Iron, 56, 59; Map, 335.
 Hanhart-Solivo, J., Cambrics, 212.
 Hanke, Reinhold, Pottery, 202.
 Hannibal & St. Joseph Railroad, Minerals, 48.
 Hans, L., Prints, etc., 347.
 Hans, Octave, & Co., Glass, 215.
 Hansen, C., & Co., Extract, 223.
 Hansen, R. M., Tachygraph, 224.
 Hansen, T. R. von, Photographs, 351.
 Hanson, C. B., Furniture, 223.
 Hanson, Carl, & Co., Pasteboard, 223.
 Hanson, G. A., Maryland, 12.
 Hanssen, F., Cod-liver oil, 229.
 Hantke, B., Hardware, 319.
 Hapgood & Smith, Match sticks, 380.

- Hapke, A. B., Knit goods, 123.
 Happel, J., Desk, 359.
 Harani Oglou, Skin, 311.
 Haranlar, Boyorki, Soap, 291.
 Harboe, C., Minerals, 223.
 Harcourt, J., Ores, 68.
 Harder, J., & Son, Guns, 134.
 Hardie, J., Biscuits, 159.
 Harding, J. A., Montana, 13.
 Harding, W. W., Albums, 326.
 Hardman, H., Pianos, 333.
 Hardy, A., Cork, 167.
 Hardy, M., Colors, 193.
 Hardy, T., Wine, 167.
 Hargreaves & Nusseys, Coatings, 149.
 Harkness, A., & Co., Disk, 162.
 Harkness, N. W., Oils, 103.
 Harlan & Hollingsworth Co., Cars, 382.
 Harleigh Coal Co., Coal, 51.
 Harline, Merzifoun, Towels, 295.
 Harling, Mrs., & Field, H. H., Ferns, 158.
 Harman, G., Petrification, 241.
 Harmon, J. C., Checker board, 109.
 Harper & Bros., Books, 326.
 Harper & Moores, Fire clays, 146.
 Harrap, A., Wood, 63; Wheat, 183.
 Harrington, J., & Co., Boxes, 151.
 Harrington & Richardson, Fire arms, 134.
 Harris, H. G., Signals, 106.
 Harris, J., & Co., Iron mantels, 188.
 Harris, J. W., Missouri, 13.
 Harris Manufacturing Co., Shirts, 118.
 Harris, P. S., Minnesota, 13.
 Harris, S., & Sons, Combs, 129.
 Harrison Brothers & Co., Chemicals, etc., 101.
 Harrison, George King, Fire clays, 61.
 Harrison & Kellogg, Wrenches, 138.
 Harrison, W. H., & Bros., Fire grates, 139.
 Hart, A. H., & Co., Yarns, 142.
 Hart, Bliven, & Mead Mfg. Co., Tools, 130,
 138.
 Hart, C. A., Equipments, 109; Banners, 142.
 Hart, Son, Peard, & Co., Fixtures, 147.
 Hartel, Andreas, & Co., Prints, 119.
 Hartell & Letchworth, Glass globes, 108.
 Hartford Carpet Co., Carpets, 122.
 Hartin, Calico, 294.
 Hartine, Scissors, 305.
 Harting-Bank, H. J., Instruments, 361.
 Hartknoch, J. F., Books, 347.
 Hartman, C. H., Fruits, etc., 179.
 Hartman, W., Oils, 315.
 Hartmann, L. & Edam, Pipes, etc., 210.
 Hartmann, Laist, & Co., Glycerine, 103.
 Hartmann, Moritz, Glass pearls, 207.
 Hartmann, Nicolaus, Plans, 356.
 Hartmann, P., Medical dressings, 205.
 Hartshorn, Stewart, Rollers, 112.
 Hartung, H., & Son, Books, 347.
 Haruna, S., Vases, 245.
 Harvey & Adamson, Drain pipe, etc., 106.
 Harvey & Baird, Shirts, 124.
 Harvey & Ford, Umbrellas, 128.
 Harzabel, T., Sword, 278.
 Hasegawa Settei, Water color, 249.
 Hashimoto, S., Stones, 244.
 Haskanorich, Ali, Tobacco, 309; Prunes, 312.
 Haskell Bros., Wagons, 380.
 Haskell, C. H., Alternate, 9.
 Haslwanter, J., Citherns, 350.
 Hassan, Silk, 297.
 Hassan, A., Trowers, 300.
 Hassan Agha, Wheat, 308.
 Hassan Ali, Curtains, 294; Fabrics, 298.
 Hassan, C., Underskirt, 300.
 Hassan Chaban, Cotton, 294.
 Hassan Effendi, Silk, 297; Belts, 300.
 Hassan, H., Carpet, 296.
 Hassan, O., Cotton, 294; Morocco, 311.
 Hassan Oglou Ahmed, Skins, 311.
 Hassan Reiss, Shoes, 301.
 Hassan Sali, Clogs, 301.
 Hassan Usine, Canes, 303.
 Hasebroucq Bros., Thread, 195.
 Hassenforder, C., Safes, 111.
 Hasslauer & de Champeaux, Pipes, 193.
 Hastings & Co., Bronze, 55.
 Hastings, Cunningham, & Co., Wool, 165.
 Hatch, J., Minerals, 47.
 Hatna Gros, Handkerchiefs, 295.
 Hattersley, J., Aerated waters, 65.
 Hutton, Sons, & Co., Charcoal sheet iron, 62.
 Hattori, C., Mortars, 244.
 Hauber, G., Jewelry, 204.
 Hauboldt, O., Publications, 347.
 Hauer, C., Gloves, 209.
 Hauf, Dr., Brandy, 171.
 Hausler, Carl S., Cement, 75.
 Hausmann, W., Cords, 211.
 Havana, Central Com. of, Hats, 276.
 Haverhill Hat Co., Hats, 126.
 Haverkamp, Begemann E., Machines, 361.
 Havermyer, H., New York, 13.
 Haviland & Co., China, 193.
 Havnen's Works, Tiles, 229.
 Havret, Government of, Galena, 96.
 Hawaii, Native of, Idols, 251.
 Hawaiian Museum, Minerals, 250.
 Hawkes, Geo. F., Gold pens, 130.
 Hawkins, A. W., Ornaments, 328.
 Hawkins Bros., Sturups, 154.
 Hawkins, John, & Sons, Calicoes, 149.
 Hawlshaw, Sir J., Judge, Gr. XXVI., 19.
 Hawksworth, Ellison, & Co., Steel, etc., 62.
 Hawley, J. R., U. S. Commissioner, 9.
 Hawley, R. E., Ornaments, 329.
 Haws, A. J., Fire-brick, 107.
 Hawsky, Adalbert, Balloons, 205.
 Hawzeur-Gerard, Son, Thread, 216.
 Hay, G., Salts, 265.
 Hay, R., & Co., Sideboard, 188.
 Haycock, W., Magnetite, 71.
 Hayden, J., Car model, 382.
 Hayden, J. H., & Son, Silk thread, 123.
 Hayden, James, Shirts, 125.
 Hayden, P., Coal, 51.
 Hayden & Smith, Harness, 380, 382.
 Haydon, W., Alternate, 9.
 Hayes, Coulter, & Co., Slate mantels, 52;
 Range, 375.
 Hayes, G. S., Roofing, 378.
 Hayes, J. L., Judge, Gr. IX., 16.
 Hayes, R. B., Ohio, 13.
 Hayes, W. H., Citron, 180.
 Haymann Bros., Papers, 498.
 Haynes & Jeffries, Bicycles, 383.
 Hays, Crossley, & Co., Needles, 151.
 Hays, Daniel, Gloves, 126.
 Hays, Miss Anna, Sketch, 170.
 Hayslip, Jno., Limestone, 72.
 Hayward, Armstrong, & Co., Wool, 168.
 Hayward, J. S., Belts, 153.
 Hazard, R., Rhode Island, 14.
 Hazard Powder Co., Powder, 106.
 Hazeltine, B. P., Nevada, 13.
 Hazleton Bros., Pianos, 332.
 Hazrou, Bastard saffron, 304; Seed, 309.
 Headlam, C., Wool, 183.
 Health Lift Co., Lift apparatus, 336.
 Health, Military Park of, Material, 279.
 Heap, G. H., Judge, Gr. XI., 17.
 Heaps, John Knowles, Violin, 339.
 Heaps & Wheatley, Stoves, 148.
 Heard & Sons, Design, 336.
 Hearne & Harrison, Surveying insts., 342.
 Heathcote, T. S., Painted panels, 162.
 Hebron, J. L., California, 11.
 Hechelmann, H. W., Anatomical models, 135.
 Hecla Iron & Mining Co., Ores, 48; Iron, 57.
 Hector, J., Model, 155; Proceedings, 156.
 Hector, T., Map, 342.
 Hedengren, A. F., & Son, Stove sets, 226.
 Hedlund, J., Metal work, 226.
 Hedlund, Joh., Locks, 227.
 Heering, Peter F., Cherry cordial, 224.
 Heffermehl, L., Carriages, 230.
 Hegal, Fortune, Kid gloves, 126.
 Hegle-Glandines & Corbeau, Gloves, 197.

- Heidegger, W., & Co., Jewelry, 204.
 Heidegger, Wegmann, & Co., Cloth, 212.
 Heilbronn, L., Looking glasses, 202.
 Heinisch's, R., Sons, Shears, 139.
 Heinitz & Seckelson, Fancy papers, 205.
 Heinrichshütte, Iron ore, 75.
 Heintzmann & Co., Piano, 342.
 Heisinger, L., Instruments, 349.
 Heister & Gans, Umbrellas, 128.
 Hekizan, T., Vases, 245.
 Helene, Miss B., Cloak, 300.
 Heleni, Fabric, 298.
 Héleni, Madame, Laces, 302.
 Heleni, P., Hosiery, 300.
 Helguero, Genaro S., Sulphur, 263.
 Heljestrand, Christoffer, Razors, 227.
 Hellendall & Steinberg, Cotton, etc., 203.
 Heller & Brightley, Instruments, 329.
 Heller & Merz, Ultramarine, 104.
 Heller's Sons, Buttons, 209.
 Hellmich, F. A., Glass, etc., 209.
 Helmer, H., Models, 351.
 Help Yourself Association, Plans, 361.
 Helsingfors Stenographic Society, Books, 372.
 Hematite Iron Works, Ores, iron, 68.
 Hémery, Ed., Jewelry, 197.
 Heminé, Madame, Cap, 302.
 Heminway, M., & Sons Silk Co., Thread, 123.
 Hemmings, F. & W., Cocoanut, sea weed, 158;
 Cotton, 159.
 Hemple, J. C., Rubber diaper, 124.
 Hemptinne, A. de, Son, Plan, 215.
 Hems, H., Statue, 147.
 Henderson & Co., Durham axminster, 150.
 Henderson & Farrah, Ale, 156.
 Henderson, J. P., Ornaments, 328.
 Henderson, James, Iron, 56.
 Henelly, J., Ale, 164.
 Henis, Charles F., Elbow, 375.
 Henke Bros., Canes, 254.
 Hennels, Geo. J., Furniture, 109.
 Hennecart & Co., Papers, 198.
 Hennes, A., Method, 347.
 Henninger, D., & Co., Soaps, 252.
 Hennings, R. T., Methods, 362.
 Hennyyer, Books, 343.
 Henny, C. O., Glue, 220.
 Henny & Moullet, Absinthe, 214.
 Henrichs, C. F. A., Lamp, 114.
 Henricksen, H., Sewing machine, 224.
 Henricksen, J. H., Cod-liver oil, 229.
 Henrion, J. J., Woolen stuff, 217.
 Henry, A., Rifles, 152.
 Henry, Captain, Ores, 67.
 Henry, D. F., Meter, 331.
 Henry, J., Judge, Gr. XXV., 19.
 Henry, J. A., Silk, 196.
 Henry, Lepaute, Lenses, 345.
 Henry, T. C., Kansas, 12.
 Henty & Balfour, Wool, 159.
 Henty, E., Wools, 165.
 Hepworth, B., & Sons, Wrappers, 150.
 Hera, V. de la, Mantas, 275.
 Heras, Elena de las, Dress, 277.
 Herbelot & Devaux, Laces, 197.
 Herbert, Franz Paul, White lead, 207.
 Herczinski, W., Harness, 320.
 Herczinski, W. O., Cordage, 320.
 Herder, L., & Son, Shears, 139.
 Heredia, Sons of M. A., Iron, 92.
 Herisau Aid Society, Reports, 357.
 Herman & Pfister, Hygrometers, 354.
 Hermann, Bernhard, Lexicon, 347.
 Hermann, L., Materials for perfumery, 193.
 Hermann, W., Paintings, 170.
 Hermansson, Count C. F., von, Ores, 78;
 Iron, 79.
 Hermant, E., Treatise on ambulances, 218.
 Hermes, W., Drawings, 349.
 Herminghaus & Co., Cloth, 203.
 Hermosa, J., Geography, 266.
 Hernandez, D., Cases, 277.
 Hernandez, Mrs. A., Shirts, 265.
 Hernandez Osa, J., Cloth, 274.
 Hernandez, Secundino, Iron ore, 87.
 Hernandez, T., Fabric, 281.
 Herr, J. C., Ores, 47.
 Herreberg, Otto, Fruit, 224.
 Herrera, Alfonso, Fibres, 269.
 Herrera, M., Cochineal, 255.
 Herrera, Nicolas, Blank, 84.
 Herring & Co., Slate vaults, etc., 112.
 Herring, Rudolph, Plans, 334.
 Herrerger, J., Polished stones, 204.
 Herrmann, G., Judge, Gr. VIII., 16.
 Herrmann, L., Jr., Wire goods, 203.
 Hertel, C., & Son, Jewelry, 204.
 Herth, Henry, Boots, 197.
 Herting, C., Paper hangings, 205.
 Herts & Co., Chamber suite, 110.
 Herve, F., Woolen stuff, 217.
 Herzmainska de Slupno, Madame, Music, 371.
 Heshuijsen, W. F., Railway switch, 361.
 Hess, A., Cooking apparatus, 376.
 Hess, Gebr., Colored shirts, 213.
 Hess, Math., Toys, 205.
 Hesse, George W., Terra-cotta vases, 223.
 Hesselbein, S., Embroideries, 204.
 Hessenbruch, T., Damper, 375.
 Hessenbruch, T., & Co., Cutlery, 206.
 Hessrich & Woerffel, Furniture, 316; Jewelry,
 318.
 Hetfield & Jackson, Carriages, 380.
 Hetley, J., & Co., Glass, 147.
 Hetoulat, Oil, 313.
 Hetsch, Chr., Designs, 224.
 Hetzel, J., & Co., Books, 343.
 Hetzer, Carl, & Sons, Silk ribbon, 208.
 Heully, M., Bonnets, 257.
 Heurlin, G. U., & Co., Clothing, 226.
 Heuse, E., Gun barrels, 218.
 Heustis, R. B., Building sandstones, 72.
 Hevvera, Antonio M., Antiquities, 263.
 Hewitt, A. S., Finance, 10.
 Hewitt, T. G., Oil, 158.
 Hewitt, W., Swing, 114; Gun, 152.
 Hews, A. H., & Co., Earthenware, 107.
 Hewston, G., Judge, Gr. X., 17.
 Heyd, Theodoro, Grindstones, 82.
 Heydenrych, B. G. P., Starch, 170.
 Heydt, F., Polished stones, 204.
 Heyl, J. F., & Co., Chemicals, 201.
 Heymann & Alexander, Nets, 150; Laces, 151.
 Heymann, C., Books, 347.
 Heymann, P. W., Butter, 224.
 Heywood, Brothers, & Co., Chairs, 112.
 Heywood, C. L., & Bruce, J. M., Lamp, 114.
 Hibbard, F., Antimony ore, 71.
 Hickisson, Mrs. M. A., Ink, 145.
 Hickman, James S., Saline water, 74.
 Hickory Coal Co., Coal, 51.
 Hicks, Geo. C., & Co., Terra-cotta pipe, 107.
 Hicks, James Joseph, Instruments, 339.
 Hidalgo, State Government of, Argils, 86;
 Fibres, 265; Woods, 267; Cereals, 268;
 Cotton, 269.
 Hidalgo y Berjano, Eduardo, Salt, 270.
 Hieke, A., Buttons, 209.
 Hiélard, L., & Co., Flowers, 198.
 Hierōnimas, W., Cornices, 148.
 Hiess, F., Turners' articles, 210.
 Hiester, Chas. Edward, Clubs, 336.
 Hietel Bros., Lever, 330.
 Higin, Thomas, & Co., Salt, 144.
 Hildebrand & Wolf, Locks, 140.
 Hilditch, G. & J. B., Silks, 150.
 Hildreth, Milo, & Co., Jewelry, 129.
 Hilgard, J. E., Judge, Gr. XXV., 19.
 Hill, Albert J., Selenite, 72.
 Hill, C. P., Photograph, 342.
 Hill, Edwin P., Folding table, 111.
 Hill, H. H., Ornaments, 329.
 Hill, J. R., & Co., Harness, 381.
 Hill, J. W., Clock, 330.
 Hill, J. W. R., Carriage, 380.
 Hill, M. J., Idaho, 12.
 Hill Mfg. Co., Sheetings, 116.
 Hill, Walter, Bark, 179; Tobacco, 180.

- Hille & Dietrich, Linen cloth, 316.
 Hiller, Otto, Mastic roofing, 75.
 Hilligmann & Bro., Carvings, 110.
 Hillyer, G., U. S. Commissioner, 9.
 Hilversumsche Spinning & Weaving Manu-
 factory, Cottons, 220.
 Hime, H. L., Copper pyrites, 70.
 Hime, L. H., Ores, 71.
 Himrod Furnace Co., Iron, 58.
 Hinderager Mining Co., Copper ore, 80.
 Hindermann & Siebenmann, Method, 353;
 Lithographs, 358.
 Hindman, T., Whiffletree, 382.
 Hinds & Sons, Pianos, 333.
 Hine, Mrs., Cocoons, 180.
 Hinkle & Mayon, Trusses, 135.
 Hinks, Wells, & Co., Pens, 152.
 Hinrichs, I. C., Publications, 347.
 Hinrichsen, W., Toys, 205.
 Hinsdale Bros., Kerseys, 120.
 Hinsdale, Doyle, & Co., Monuments, 52.
 Hinsdill, H. M., Books, 132.
 Hinson, Dr., Yacht model, 174.
 Hinton, David, Limestone, 52.
 Hintrager, M., Plans, 351.
 Hinvest, Robt., Hollow bricks, 107, 336.
 Hinzén & Rosen, Piano, 333.
 Hiogo-ken Local Government, Bamboo, 247.
 Hipp, M., Registering apparatus, 354.
 Hippiisley, A. E., Paintings, 242.
 Hipwood & Sutton, Bells, 179.
 Hirai Ikkan, Coffee sets, 245.
 Hirano, T., Type, 248.
 Hirn, A., & Co., Jewelry, 197.
 Hirsch, Aron, & Son, Brass tubes, 75.
 Hirsch & Merzenich, Chemicals, 231.
 Hirschberg, M., & Co., Embroideries, 204.
 Hirschfeld Bros. & Co., Lace curtains, 213.
 Hirschman, I. M., Labels, etc., 348.
 Hirschmann, W. A., Apparatus, 349.
 Hirsh & Bro., Umbrellas, 127.
 Hirsh, Joseph M., Chemicals, etc., 101.
 Hirt, F., Books, 348.
 Hirt & Son, Publications, 348.
 Hirtzel, S., Books, etc., 348.
 His Highness Sidi Mohammed Essadok, Min-
 erals, 239.
 His Majesty the King of Spain, China, 272;
 Tapestry, 275; Locks, 279.
 Hisern, Joaquin, Hematite of iron, 88.
 Hisgen, G. C., Chemicals, 201.
 Historical Society, St. Gallen, Reports, 354.
 Hitchcock Bros., Sugars, 251.
 Hitchcock, D. H. & E. G., Ferns, 251.
 Hitchcock, H. R., Ores, 250; Fern, 251.
 Hitchcock Lamp Co., Lamps, 114.
 Hitchcock, Williams, & Co., Costumes, 150.
 Hitz, Chur, Manuals, 354.
 Hiyochiyen-sha, Manfy. of porcelain, 245.
 Hlawatsch & Isbary, Shawls, 208.
 Hlubek, P., Designs, 351.
 Ho A Ching, Fans, 242.
 Hó Kan Cheu, China, 241; Silks, 242.
 Hobart Town Cemetery, Chart, 182.
 Hobart Town, Corp of, Photographs, 182.
 Hobbs, J. H., Glassware, 108.
 Hobbs, S. M., Alternate, 9.
 Hobson, E. H., Kentucky, 12.
 Hochstätter, H., Matches, 202.
 Hockanum Co., Cassimeres, 120.
 Hocker, J. H., Tobacco, 180.
 Hockings, A. J., Garden manual, 179.
 Hockings, A. T., Seed catalogue, 179.
 Hodgson Bros., Blinds, 160.
 Hodgson, G., Timber, 18.
 Hodgson, Richard, Lead, 65.
 Hodjaieff, K., Embroideries, 318; Dagger,
 319; Harness, 320.
 Hoe, R., & Sons, Portmanteaus, 151.
 Hoel, J., Spectacles, 345.
 Hoemmighaus & de Greiff, Silk velvets, 204.
 Hoeppe, C. J., Pianos, 333.
 Hofer, J. J., Books, 353.
 Hoff, C., Cotton, 159.
 Hoff, M. C., Indigo, 157; Coffee, 158.
 Hoffman, A. O., Stone, 53.
 Hoffman, J., Gloves, 209.
 Hofmeister, F., Publications, 348.
 Hofors & Hammarby, Blooms, 79.
 Hofors & Hammarby Iron Works, Ores, 78.
 Hofrichter's Son, J., Imitation stones, 209.
 Hofrichter's Sons, Paintings, 211.
 Höganäs Coal, Mineral coal, 78.
 Höganäs Coal Mining Co., Tiles, 225.
 Hogarth, D., Wheat, 183.
 Hogg, S. P., & Co., Curry, 160.
 Hohner, M., Harmonicas, 349.
 Hohwii, A. & T., Chronometers, 361.
 Holbrook, J. D., Wines, 168.
 Holder, A., Models, 351.
 Holdsworth, Edmund W. H., Book, 338.
 Holland, B. H., Timber, 170.
 Holland, J. C., Needles, 129, 137.
 Holland, John, Toothpicks, 128; Pens, 130.
 Holland Manufacturing Co., Silk, 123.
 Holland, William Thomas, Bricks, 146.
 Höller, J. S., & Co., Cutlery, 206.
 Holley, A. L., Judge, Gr. I., 15; Mining, 60.
 Holley Manufacturing Co., Cutlery, 139.
 Hollick & Co., Cement, 61.
 Holliday, F. W. M., U. S. Commissioner, 9.
 Holm, F. F. W., Furniture, 225.
 Holm, F. J. W., Model, 362.
 Holman, A. J., & Co., Binding, 132; Bibles,
 326.
 Holmberg, Eric, Matches, 225.
 Holmblad, L. P., Candles, 223.
 Holmen's, G. R., Technical Works, Blacking,
 229.
 Holmes, Booth, & Haydens, Brass, 59; Silver,
 113.
 Holmes Burglar Alarm Telegraph Co., 331.
 Holroyd, Kennedy, & Co., Jams, etc., 183.
 Holst, Chr., Chairs, 229.
 Holstein, H., Cotton, 251.
 Holt, R., Dusters, 119.
 Holtermann, B. O., Photographs, 157.
 Holton, E. D., Alternate, 9.
 Holyoke Paper Co., Paper, 131.
 Holzer, William, Glassware, 108.
 Homberger Bros., Silk bolting cloth, 212.
 Home Dept., Rio de Janeiro, Reports, 366.
 Home Industry Society, Report, 357.
 Homer, Colladay, & Co., Ladies' wear, 126.
 Honegger, G., Movements of watches, 355.
 Honeyman, Dr., Rocks, 71; Map, 342.
 Honigman, M., & Co., Chemicals, 201.
 Honma Takusai, Vases, 248.
 Honolulu Iron Works, Drafts, 251.
 Hood, A. W., & Son, Soap, 187.
 Hood & Co., Chemical preparations, 160.
 Hood, F. & J., Malt, 164.
 Hook, E. & G. G., & Hastings, Organs, 333.
 Hooper, Charles, & Co., Woolens, 149.
 Hooper & Co., Carriages, etc., 154, 383.
 Hooper & Dodson, Hops, 156.
 Hooper, W. E., & Sons, Duck, 117; Twine,
 142.
 Hoopes, Bro., & Darlington, Wheels, 379.
 Hooricck, G., Chests, 218.
 Hooving, W., Dresses, 317.
 Hope Co., Shirting, 116.
 Hope Furnace, Iron, 58; Ores, 74.
 Hope Plantation, Sugar, 175.
 Hopewell Quarry Co., Sandstones, etc., 72.
 Hôpital de Sacré Cœur, College work, 342.
 Hôpital Général, College work, 342.
 Hopkin, W., jr., Range, 375.
 Hopkins, C., Tools, 138.
 Hopkins, J. N., Arizona, 11.
 Hopkins & Robinson, Pipes, 128.
 Hopkins & Robinson Mfg. Co., Pokes, 143.
 Hopkins, W. T., Corsets, 124.
 Hoppe, E., & Co., Chromos, 348.
 Hopper, C. C., Chamber furniture, 111.
 Hopper, J. A., Calabashes, 250.
 Horler, John, Soap, 155.
 Horn, G., Bandages, 205.

Horn, W. H., & Ero., Trusses, 135.
 Hornabrook, C. A., Wines, 168.
 Hornbostel, C. G., & Co., Silk goods, 208.
 Horne, J., Native woods, 178.
 Horner, A., Laces, 209.
 Hornig, E. J. R., Models, 351.
 Hornig, Julius, Model, 335.
 Horsford, E. N., Judge, Gr. X., 17.
 Horstmann, Wm. H., & Sons, Yarns, 120;
 Upholstery, etc., 123; Military goods, 124.
 Hosang Foundation School, Regulations, 357.
 Hosea, L. M., Ornaments, 129.
 Hosford, H., Massachusetts, 12.
 Hoskins, J. A., Mississippi, 13.
 Hoskins, W. H., Envelopes, 130.
 Hosoda, Z., Silk, 246.
 Hotchkiss, H. G., Essential oils, 105.
 Hotchkiss, L. B., Essential oils, 106.
 Hotchkiss's Sons, Shears, 138.
 Hotham, Town Council of, Photographs, 162.
 Hotta, Z., Bamboo, 247; Tray, 249.
 Hottot, A., Pepsin, 192.
 Hotz, T., jr., Harmonicas, 349.
 Hough & Co., Cast-iron griffins, 378.
 Houghton, E. F., & Co., Oils, etc., 103.
 Houghton, H. O., & Co., Books, 132, 327.
 Houghton, W. D., Wire, etc., 62.
 Houille, Government of, Lentils, 309.
 Houpin, E., Merinos, 195.
 Houran, Govt. of, Seed, 307; Sesame, 308.
 Hourareau, S., Tobacco, 181.
 Houry, T., Furniture, 194.
 House & Davidson, Doors, 115.
 House of Correction, Boots, 287.
 Hover, H. F., Wardrobe, 111.
 Hover, J. E., & Co., Inks, 104.
 Hovey, F. S., Silks, 122.
 Hoving, W., Dolls, 318.
 Howard Furnace, Ores, 48; Iron, 58.
 Howard, J., Cocoons, 165.
 Howard, Jno., Antimony, 64.
 Howard, R., & Son, Yarns, 120.
 Howard & Sons, Furniture, 147.
 Howe, E. C., Florida, 12.
 Howell & Bourke, Paper hangings, 133.
 Howell & Bros., Papers, 133.
 Howell, C. M., Marble monuments, 52.
 Howell, S. J., Tweezers, 137.
 Howells, Anthony, Coal, 52.
 Howes Cave Association, Cement and lime, 54.
 Howlett, Onderdonk, & Co., Paper, 131.
 Howley, James, Sandstones, 72.
 Howry, J., China, 193.
 Hoyem, Andr., Iron ore, 80.
 Hoyer, J., Plates of crystal, 208.
 Hoyt, E. W., & Co., Cologne, 106.
 Hoyt, H., Books, 326.
 Hoyt, J. W., Judge, Gr. XXVIII., 19.
 Hoyt, Jesse, Coal, 71.
 Huard, L., Boots, 197.
 Hub Publishing Co., Drawings, 381.
 Hubbell, J. A., Michigan, 13.
 Huber, Allen, Mirrors, 188.
 Huber Bros., Organ, 350.
 Huber, E., & Co., Silk, 196.
 Huber, Jacques, School books, 354.
 Hübner, B., Chemicals, 221.
 Hubner, N., Boots, 317.
 Huckel Sons, I., Hatters' articles, 208.
 Huddell & Seitzinger, Coal, 51.
 Hudson Bay Co., Furs, 139.
 Hudson Bros., Sashes, 157; Timber, 158.
 Hudson, James, Coal, 71.
 Hudson, R., New Mexico, 13.
 Hudson, S., Buckles, 154.
 Hue & Co., Crystals, 193.
 Huelin & Son, Extract, 271; Baskets, 273;
 Hats, 276.
 Huelva, Mining Engineers of, Copper, 92.
 Hüffer, H., Worsted for weaving, 203.
 Huffman, Wm., Building stones, 54.
 Huggenberger, U., Hosiery, 213.
 Hugh, J. B., Drugs, 174.
 Hughes, J. C., Kentucky, 12.

Hughes, Thos., & Co., Hosiery, 125.
 Huginin Mfg. Co., Supports, 378.
 Hugenin, A., & Son, Chronometers, 355.
 Hu Kwang, China, 241.
 Hu Kwang-Yung, Silks, 242.
 Hull, H. J., Ore, 63.
 Hull, H. M., Woods, 182.
 Hulse, W. W., Judge, Gr. VIII., 16.
 Humbert, Ernest, Watches, 355.
 Humbert, H., Hats, 151.
 Humbert & Heylandt, Jewelry, 204.
 Humboldt Iron Works, Tiles, 378.
 Humboldt Society, Annals, 267.
 Hume, E. B., Wool, 159.
 Hume, W. C., Ores, 67.
 Hummel, A., Clock, 330.
 Humphreys, Ella, Illumination, 110.
 Hunderstund & Pries, Engravings, etc., 348.
 Hunnewell Furnace, Ores, 49; Iron, 59.
 Hunt, A. M., & Co., Powders, 157.
 Hunt, R. M., Judge, Gr. XXVI., 19.
 Hunt, S. B., New Jersey, 13.
 Hunt, T. S., Judge, Gr. I., 15.
 Hunt, W., Vehicles, 381.
 Hunter, G. W., Tie lifter, 382.
 Hunter, James, Monument, 61.
 Hunter, Rose, & Co., Books, 189.
 Huntingdon & Broad Top R.R. Co., Ores,
 50; Iron, 55.
 Hurd Coal & Iron Co., Coal, 51.
 Hurdal Biri, Glassware, 229.
 Huret, N., Carriage, 200.
 Hurbut Paper Co., Paper, 131.
 Hurley, Tomás, Granites, 84; Herbs, 259.
 Hürlimann, J. J., Swiss honey, 214.
 Huron Furnace, Iron ores, 48.
 Huron Iron Co., Iron, 58.
 Hurst, I. R., Stone, 53.
 Hurst, J., Coal, 68.
 Hurtado, H., Lead, 265.
 Husqvarna Arms Mfg. Co., Arms, 227.
 Hussein, Planes, 305; Maize, 308.
 Hussein Agha, Carpet, 296; Cane, 303; Cot-
 ton, 313.
 Hussein Chaban, Z., Jackets, etc., 300.
 Hussein Dédé, Honey, 312.
 Hussein Effendi, Opium, 304; Hides, 311.
 Hussein, Gaat, Prunes, 312.
 Hussein, Hadji, Pipes, 303; Hair, 314.
 Hussein, O., Pitcher, 292; Toys, 303.
 Hussein, Saret, Soap, 201.
 Hussey, C. G., & Co., Kettles, 140.
 Hussey & Howe Mining Co., Ores, 47.
 Hussey, Wells, & Co., Tools, 55.
 Hutching & Co., Mattresses, 188.
 Hutchings, E. W., & Son, Sideboard, 111.
 Hutchinson, A. A., & Bro., Coke, 51.
 Hutchinson, John C., Gloves, 126.
 Hutchinson, John, & Co., Soda ash, 144.
 Hutchison, J. & H., Rugs and mats, 122.
 Hutinet, D., Cards, 199.
 Hveisel, G., School maps, 223.
 Hydrographic Department, Surveys, 367.
 Hydrographic Office, Publications, 261.
 Hydrographical Bureau, Maps, 373.
 Hygienic Products Mfg. Co., Chemicals, 192.
 Hyman Bros., Fibre, 251.

I.

Iakob, A., Woolens, 208.
 Iaruschka, J., Buttons, 209.
 Ibach, R., & Son, Piano, 350.
 Ibañez, P., Lime, 84.
 Ibañez Palenciano, F., Poplins, 275.
 Ibarra & Co., Iron, 92.
 Ibarra, José Maria de, Iron pyrites, 88.
 Ibarzabal de Eibar, Iron, 277.
 Iborna, M., Hats, 276.
 Ibrahim, Cotton, 293.
 Ibrahim Agha, Cotton, 293; Suit, 299.
 Ibrahim Effendi, Carpets, 296.
 Ibrahim Effendi, Hadji, Cocoons, 314.

- Ibrahim, H., Morocco, 311.
 Irbahim Hadji, Pistol holders, 304.
 Ibrahim, Miss, Cotton, 293.
 Ibrahim, Oglou Ali, Knapsack, 305.
 Ibrahim Ousta, Canes, 303.
 Ibrahim Ousta, Gimlets, 305.
 Ibrahim, T., Table, 292; Scraper, 305.
 Ibrahim, U., Morocco, 311.
 Ibrahima, Fabric, 298; Handkerchief, 303.
 Ichdora, Government of, Ore, 96.
 Ichel, Government of, Olives, 307.
 Ichida, R., Crapes, 246.
 Ichkloura, Government of, Brimstone, 96.
 Icahima, C., Wool, 296.
 Ide, Z., Statuettes, 249.
 Iddiers, E., Cotton fabrics, 216.
 Idrissi Agha, H., Cord, 299.
 Iglesias, Angel, Book, 267.
 Iglesias, J., Soaps, 255.
 Iglesias, José Maria, Documents, 267.
 Igualada, F., Saddle bag, 273.
 Igualadina, A., Linens, 273.
 Igualaja, Mining Engineers of, Graphite, 91.
 Iida, T., Vases, 245.
 Ikebe, N., Crapes, 246.
 Ikibe, S., & Ojuyama, K., Paper, 247.
 Iklé Bros., Embroideries, 213.
 Ilagan, G. & L., Feathers, 282.
 Ileuriques, A. A., Elastic webs, 289.
 Ilias Hatti, Tissue, 293.
 Ilias, Hodja, Cottons, 294; Silks, 297.
 Illanes, Manuel I., Minerals, 83.
 Illias, Manou, Poppy heads, 304; Resin, 306.
 Ilias, Téné, Madder, 306.
 Illinois, Educational Dept. of, 323.
 Illustrated London News, Specimens, 338.
 Ilustre, G., Beads, 281.
 Ilustre, T., Flowers, 282.
 Imai Kihei, Images, 249.
 Imboden Bros., Wood carvings, 358.
 Imboden, J. D., Judge, Gr. XV., 17.
 Imhauser & Co., Detector, 330.
 Imperial Administration, Tobacco, 309.
 Imperial Institute for Blind Boys & Girls, Rio de Janeiro, Books, etc., 366.
 Imperial Maritime Customs, Ceramics, 241; Silks, 242; Cereals, 243.
 Imperial Rifle Mfy., Rifles, 319.
 Imperial & Royal Metallurgy Dir., Ores, 76.
 Imperial Technical School, Apparatus, 372.
 Inagaki, T., Crape, 246.
 Incerti Anselmo, Goods, 234.
 Inclán, R., Card-boards, 278.
 Ind, G. F., Wines, 168.
 Independent Comb Co., Combs, 128.
 Indermühle, E. Th., Straw hats, 213.
 India Rubber Comb Co., Combs, 127.
 India Rubber, Gutta Percha, & Telegraph Works Co., Cables, 339.
 Indiana, Educational Dept., State of, 322.
 Indian Museum, Ores, 69; Various articles, 185, 186, 187.
 Indiana, State of, Ores, 51; Iron, 55.
 Industrial Institute of Lisbon, Levels, etc., 369.
 Industrial Institute of Oporto, Tools, 289; Charts, studies, 369; Wood, 370.
 Industrial School, Albums, 344.
 Industrial School Association, Report, 353.
 Industry Asso., Krain, Iron and steel, 76.
 Industrial Union Co., Coal, 94.
 Ineboli, Gov't. of, Yarn, 295; Silk, 297.
 Infante Dom Luez Observatory, Charts, publications, etc., 369; Photographs, 370.
 Infante, Manuel, Whisky, 262.
 Infant School, Knit stockings, 288.
 Ingalls, W. G. & Co., Reeds, 332.
 Ingersoull, C. R., Connecticut, 11.
 Ingham University, Paintings, 321.
 Ingold, P. F., Cutters, 355.
 Ingram, Wm., Red granite, 72.
 Inguoviz, A., Ore, 76.
 Inguaggiato, Baron C., Olive oil, 232.
 Iniguez, D., Medicinal herbs, 259.
 Iniguez, Manuel A., Limestone, 84.
 Innes, J. H., Ore, 68.
 Innes, W. M., Cod-liver oil, 155.
 Innis, G. S., Limestone, 52.
 Inspection General of Woods & Forests, 280.
 Inspection of Mines, Minerals, 93.
 Inspector-General of Penal Dep't., Boots, 161.
 Institute for Deaf & Dumb, Books, etc., 366.
 Institution for Deaf Mutes, Report, 354.
 Institution for Feeble-minded Children, Reports, 354.
 Institution for Instructing Poor, Report, 357.
 Institution for Instructing Poor Girls, Report, 357.
 Interior, Dept. of, Coat of arms, 251.
 Interior, Ministry of the, Public works, 361.
 International Bandage-shiff Factory, Bandages, 214.
 International Works, Brine, 74.
 Inventors' Protective & Benevolent Association of the U. S., Models, 336.
 Iowa, Educational Dept. of, 323.
 Iowa, State of, Ores, etc., 49.
 Ipsamarki, Y., Brandy, oil, 313.
 Ipsilanki & Co., Leather, 311.
 Irmenbach's successor, Gloves, 209.
 Iron Clad Paint Co., Paints, 104.
 Ironton Furnace Iron & Steel Co., Ores, 50; Iron, 58.
 Irving Bros., Paper, 115.
 Irwin Bros., Wine, 180.
 Irygoyen, C. O. de, Mat, 258.
 Isaac, Shoes, 301.
 Isaac, A., Skin, 311.
 Isaac Agha, Curtain, 292; Stand-cover, 302; Saws, 305.
 Isaac, H., Lentils, 309.
 Isaac, M., Garment, 299.
 Isaacs, J. C., Idaho, 12.
 Isaacs, M. C. & Co., Brushes, 142.
 Isaura, F. de Paula, Apparatus, 272.
 Isella, P., Painting, 211.
 Ishioka, S., Trays, 245.
 Iskilechina, Ticking, 294.
 Iskilidjan, Cottons, 293; Towels, 295.
 Iskilidjan, Napkins, 32.
 Isklip, Government of, Scammony, 306.
 Isler, Aloyse, & Co., Hair plats, 213.
 Isler, Jacob, & Co., Straw goods, 213.
 Ismael, A., Vest, 300.
 Ismail, Cup, 303.
 Ismail Agha, Counterpane, 299; Barley, 308; Vetch, 309; Leather, 311.
 Ismail, Cherishor, Gum, 366.
 Ismail, F., Barley, 308; Skin, 311; Cotton, 314.
 Ismail Hadji, Wheat, 308; Leather, 311.
 Ismail Ibrahim, Pipe, 303.
 Ismail Ousta, Goblets, 292; Bowls, 303.
 Ismail, Tchataldja, Wheat, 308.
 Ismaila, Pipe, 303.
 Ismaila Hadji, Barley, 308.
 Ismyrnopola, Héleni, Cloth, 302.
 Isnardi, P., Olive oil, 232.
 Ispahanopola, Aspasia, Cloth, 302.
 Ispiro, Syrups, 313.
 Isleib & Rietzschel, Books, 348.
 Issmayer, J. A., Toys, 205.
 Istiphanidja, Gauze, 209.
 Itabapoana, Baron of, Chair, 252.
 Ith, Cups and saucers, 292.
 Ithaca Calender Clock Co., Clock, 330.
 Ito, T., Silk dress, 246.
 Iturbe, F., Pharmaceutical preparations, 259.
 Ivanhoe Manufacturing Co., Paper, 131.
 Ivanoff, N., Silver plate, 316.
 Ivanoff, T., Photograph, 319.
 Ivers, W. H., Piano, 333.
 Ives, Blakeslee, & Co., Toys, 128; Garters, 129.
 Ives, H. R., Hardware, 190.
 Ives Patent Lamp Co., Lamps, 114.
 Ives, W. A., & Co., Augers, 138.
 Ivins & Bro., Walnut bed, 111.
 Ivins, Dietz, & Magee, Carpets, 122.
 Ivison, Blakeman, Taylor, & Co., Books, 326.
 Iwada, H., Bamboo, 247.

Iwahashi, K., Household ware, 245.
 Iwai, Z., Fans, 246.
 Izu-kura, K., Watch guards, 246.

J.

Jaap, John, Essence, 145.
 Jaccard, Eugène, Engraved plate, 213.
 Jack, J., Wheat, 163.
 Jackfish Lake Gold Mining Co., Quartz, 70.
 Jackson, C., Clay, 73.
 Jackson Co., Cotton goods, 117.
 Jackson Furnace, Ores, 48; Iron, 58.
 Jackson, Samuel C., Silverware, 127.
 Jackson & Sharp Co., Cars, 382.
 Jackson, Wm. H., & Co., Grates, 139.
 Jacobini, Raffé, & Giobbe, Jewels, 234.
 Jacobs, C., Idaho, 12.
 Jacobs, Poelaert, & Co., Blankets, 217.
 Jacobs, S. W., & Son, Carriages, 380.
 Jacobs, Strouse, & Co., Corset clasps, 124.
 Jacobsen's, O., Mech. Works, Mangle, 229.
 Jacobson & Anderson, Gloves, 226.
 Jacoby, M., & Co., Curtains, 151.
 Jacoby, Theo., Hats, 126.
 Jacot Bros., Chronometers, 355.
 Jacquand, Father & Son, Glue, etc., 192.
 Jacquemin, Costumes, 196, 343.
 Jacquot & Co., Blacking, 193.
 Jäenecke Bros. & F. Schneemann, Inks, 202.
 Jaeschke, G., Tobacco, 158.
 Jager, G., Harmonicas, 349.
 Jager, J., Harmonicas, 349.
 Jäger, Jb., & Co., Wood carvings, 358.
 Jagn, N., Apparatus, 372.
 James, J. O., Finance, 10.
 James, Samuel, Color stand, 130.
 Jamison, W. W., Wool, 337.
 Jamme, A., Thread, 217.
 Janentzky & Co., Artists' materials, 130.
 Janeway, H. L., New Jersey, 13.
 Janin, Magnets, 345.
 Jansen, Bodek, & Hertz, Satins, 212.
 Jansen, J. W., Cloths, 203.
 Janson, J. H., & Co., Soda water, 95.
 Jaques, Adank J., & Co., Musical box, 355.
 Jarboe, J. W., Paint composition, 105.
 Jarves & Hooper, Charcoal, 55.
 Jatta, A., Olive oil, 232.
 Jaubert, Audras, & Co., Silks, 196.
 Jaudin & Duval, Foulards, 196.
 Jaumandreu & Co., Prints, 273.
 Jean, E. de, Iron and tools, 218.
 Jeandron-Ferry, Shoes, 197.
 Jeanjaquet, Chs., Watch springs, 355.
 Jeannisson, Lewis, & Son, Gloves, 126.
 Jeantaud & Co., Wheels, 199.
 Jefferson Furnace Co., Ores, 48; Pig iron, 58.
 Jeffords, J. E., & Co., Lava wares, 107.
 Jeffrey & Co., Decorations, 152.
 Jeffreys, C., Mirrors, 147; Cases, 152.
 Jemmapes Forge, Foundry, & Rolling Mill Co., Tramway rails, 77.
 Jenkinson, A., Glass, 147.
 Jennings, A. W., Washers, 377.
 Jennings Bros., Paper, 143.
 Jennings, G., Pipes, 146; Lavatories, 148.
 Jennings, P. A., Rug, 157; Platypus, 158.
 Jennings, T., Calcined magnesia, 144.
 Jennings, Wm., Utah, 14.
 Jennison, W. A., Violin, 333.
 Jenny, Miss, Farina, 184.
 Jensen, H. J., Books, 364.
 Jernberg, S., Latches, 227.
 Jersey City Crucible Mfg. Co., Crucibles, 54.
 Jervis, John B., Engineering drawings, 325.
 Jessop, Wm., & Sons, Steel, etc., 62.
 Jessup & Moore, Paper, 131.
 Jesus, M. V. de, Pharmacies, 283.
 Jeuch, Caspar, Plans, 356.
 Jevleff, A., Frames, 316.
 Jewett, John, & Sons, Oil, lead, 103.
 Joomhoff, Furniture, 316.

Jiami Joyen, Fans, 247.
 Jimenez de Garcia, A., Pitchers, 272.
 Jirnez, Julio, Treatise, 267; Wood, 268.
 Joachimsthal, Metallurgy and Mining Administration, Meteoric specimens, 76.
 Joao, A., Ceramics, 284.
 Jo-Ami Heishiro, Fans, 247.
 Jobst, F., Chemicals, 201.
 Johann, A. F., Chemicals, 201.
 Johansson & Carlander, Calicoes, 226.
 Johns, H. W., Roofing, 115; Tacks, 142.
 Johnson, Black, & Co., Stoves, 375.
 Johnson Bros., Varnishes, 145.
 Johnson, C. J., Galena, 71.
 Johnson, Chas. Eneu, & Co., Inks, 105.
 Johnson & Co., Terra-cotta, 145.
 Johnson, A., & Co., Springs, 227.
 Johnson, E., Twines, 116.
 Johnson, E. S., Toothpicks, 127; Pens, 130.
 Johnson, Edmund, Catalogues, 339.
 Johnson, F. C., Alternate, 9.
 Johnson, Henry M., Kalsomine, 105.
 Johnson, J., Drawings, 334.
 Johnson, J., & Co., Boxes, 151.
 Johnson, J. M., Implements, 229.
 Johnson, J. M., & Sons, Tablets, 338.
 Johnson, J. R., Nevada, 13.
 Johnson, Jabez, & Fildes, Fabrics, 148.
 Johnson & Lund, Teeth, 156.
 Johnson, Matthey, & Co., Platinum, 61.
 Johnson, T. & J. W., & Co., Books, 327.
 Johnson, W., Tools, 137.
 Johnston, E. S., Cornices, 113.
 Johnston, H. J., Painting, 161.
 Johnston, J., Sugar, 180.
 Johnston, J. S., Wines, 164.
 Johnston, W. & A. K., Maps, 338.
 Johnstone Bros., Ore, 63; Umber, 155.
 Johnstone, J., Drawings, 342.
 Johnstone, O'Shannessy, & Co., Photographs, 162.
 Joint Stock Association for Mining, & Lead & Zinc Manufacture, Ores, 75; Iron, 75.
 Joint Stock Association of Looking Glass Manufacturers, Looking-glass plates, 202.
 Joint Stock Co. for Manufacturing Bronze Goods, Bronze chandelier, 202.
 Joint Stock Co. for Telegraph Supplies, 349.
 Joint Stock Playing Card Mfy., Cards, 205.
 Joliette Collège, College work, 342.
 Jolivet, L., Wax tapers, 192; Candles, 194.
 Jolsens, H., Matches, 229.
 Joly, H. G., Judge, Gr. IV., 16.
 Jones, F., Ashes, 255.
 Jones, G. W. C., Fern, 251.
 Jones, H. C., & Co., Handles, 380.
 Jones, J. A., Refrigerator, 115.
 Jones, J. M., & Co., Cars, 382.
 Jones, P., & Co., Wheels, 379; Sulky, 381.
 Jones, Pryce, Shawls, 150.
 Jones, T. R., & Co., Copper ore, 70.
 Jongh, S. J. de, Snuff, 170.
 Jönköping Match Mfg. Co., Matches, 225.
 Jordan, C., Cod-liver oil, 229.
 Jordán, J., & Sons, Cloth, 274.
 Jordana & Morera, Apparel, 282.
 Jorge de la Peña, Peat, 270.
 Jörn, E., Sauces, 164.
 Joseph, V., Oil for burns, 192.
 Joslin, Palmer, & William, Jewelry, 129.
 Joslyn, J. H. L., Roofing, 73.
 Jossa, N., Judge, Group I., 15.
 Jottrand, A., Judge, Group I., 15.
 Jouaust, D., Books, 343.
 Joubert, W. A., Wine, 171.
 Jourvie, J. A., & Co., Waters, 74.
 Jouvin & Co., Gloves, 197.
 Jouvin, Mrs. Xavier, Gloves, 197.
 Jöveneau, A., Cocoa, 218.
 Jovér, Francisco, Building stone, 89.
 Joy, C. A., Judge, Group III., 15.
 Juárez, T., Hemp, 269.
 Juarreña Society, Coal, 89.
 Judd, Hubert L., Hardware, 141.

Judge, J. F., Ornaments, 328.
 Judice, V. A. J., Chemicals, 283.
 Judson Bros., Shirts, 124.
 Judy, W. W., Game birds, 337.
 Jugla, D., Gloves, 197.
 Jujui, Government of Prov. of, Silver ore, 84.
 Jujui, Prov. Commission of, Salt, 255; Wool fabrics, 257; Hats, 253; Harness, 260.
 Juliá y García, Nuñez, Soaps, 271.
 Julien, A., & Co., Chemicals, 192.
 Julien & Son, Dyed stuff, 255.
 Jullien & Gauthy Bros., Cartridges, 199.
 Jumeau, F., Dolls, 198.
 Jung, E., Photographs, 356.
 Jung, O., Wines, 164.
 Jung & Simons, Cloth, 203.
 Junge, A., Spring mattress, 111.
 Jungler, A., Amber, 75; Coins, etc., 350.
 Juparana, Baron of, & Nogueira da Gama, Calcareous specimens, 82.
 Jurgenson, P., Music, 372.
 Juric, A., & Co., Silks, 196.
 Jury, F. H., Carriage, 381.
 Just, T. C., Ores, 63.
 Justi, H. D., Tools, 136.
 Justice of Peace, Patagones, Gypsum, 84.
 Justice of the Peace of Ensenada, Lime made from shells, 84.
 Justice of the Peace of Zarate, Clays, 85.
 Juta, J. C., & Co., Books, 169.
 Juvet, L. P., Globe, 330.
 Jvanitzki, L. J., Flooring, 316.

K.

Kaberg, C. A., Paper, 227.
 Kachoken, A., Vases, 245.
 Kachomla, C., Beans, 309.
 Kachpi, Z., Calicoes, 294.
 Kadir Oglou Abdul Kader, Cover, 298.
 Kaehler, Otto, Skins, 129.
 Kaeseberg, H., Wood cuts, 348.
 Kaeser, P., Engravings, 211.
 Kafemann, A. W., Books, 348.
 Kaffel Bros., Furniture, 194.
 Kaga Association for the Encouragement of Manufactures, China, 245.
 Kahlbaum, C. A. F., Chemicals, 201.
 Kaines, J. H., Wines, 168.
 Kaiser, Dr., Table, 353.
 Kaiser & Herzog, Decorative painting, 110.
 Kaiserslautern Ultramarine Works, Chemicals, 201.
 Kaisparexeko & Co., Cotton, 293.
 Kaitakushi Department, Ores, 244.
 Kalden, Baron of, Linen goods, 253.
 Kaldenberg, Fred. Julius, Pipes, 128.
 Kaliakin, J., & Sons, Knives, 319.
 Kallinge Iron Works, Nails, etc., 228.
 Kaltenbach, L., Clocks, 349.
 Kama Armor Plate Works, Armor plates, 98.
 Kamaipelekane, E. P., Bed, 250.
 Kamaroff, M., Embroideries, 318.
 Kamenstchikoff, T., Embroidery, 318.
 Kamil, Gauze, 299.
 Kamile, Madame, Napkin, 302.
 Kämpffe, G., Musical instruments, 349.
 Kamps, O., Woolen fabric, 295.
 Kanaya Gorosaburo, Vases, 249.
 Kandi Bros., Snuff, 309.
 Kandilaphtaki Mehameda, Silk, 297.
 Kane, J. K., U. S. Commissioner, 9.
 Kanitz, E., Judge, Gr. X., 17.
 Kann & Sons Mfg. Co., Spoons, 113.
 Kanokoshosha, The, Crapes, 246.
 Kanzan Denshichi, Pitchers, 244.
 Kapena, J. M., Sugar cane, 251.
 Kappel & Bro., Furniture, 252.
 Kaps, E., Piano, 350.
 Kara, P., Skin, 311.
 Karabet, Belt, 299; Inkstands, 304; Seeds, 307; Brandies, 313; Cocoons, 314.
 Karabet Agha, Skins, 311.

Karabet, K., Carpet, 296.
 Karabet, M., Thread, 295.
 Kara-Hissar, Government of, Galena, 96; Iron, 97; Alum, 231; Spoons, 293; Belt, 299; Sumac leaves, 306; Wheat, 308.
 Kara Issalé, Govt. of, Plant, 304.
 Kara-Issali, Gov. of, Skin, 311; Leaves, 306.
 Karasch Oglou, Thread, 295.
 Kara-Tach, Government of, Poutargue, 304.
 Karcher's, Dan. M., Sons, Sideboard, 110.
 Karelin, T., Embroidery, 318.
 Karkali, D., Fabrics, 298.
 Karlowicz, J., Method, 372.
 Karlskrona Galvanizing Stock Co., Iron, 228.
 Karlson, Gust., & Martin, Grindstone, 78.
 Karraissalo, Government of, Cotton, 294.
 Karrer & Co., Musical boxes, 355.
 Karrer, S., Musical boxes, 355.
 Karsendi, Govt. of, Galena, 96; Iron, 97.
 Kashiu, S., Vases, 244.
 Kasseudje, G., Pipe, 303.
 Kasson, W. M., 336.
 Kataloff, B., Brassware, 319.
 Katayama, G., Ornaments, 247.
 Kater, Th., Pianos, 342.
 Kato Gosuke, Cups, 244.
 Kaufmann, A. & C., Collars, 204.
 Kauffmann, C., Coverlets, 203.
 Kavilian, Stépan, Wheat, 308.
 Kawaiahao Female Seminary, Necklaces, 250.
 Kawamoto Masukichi, Vases, 245.
 Kawamura, Y., Cloths, 245; Cup, 249.
 Kawanabe Giosai, Picture, 249.
 Kawara-bayashi, Hidekuni, Jug, 249.
 Kay & Bro., Books, 328.
 Kayod, H., Seed, 310.
 Kazeff, S., Army cloth, 316.
 Kazikli, Government of, Anise seed, 310.
 Keach, G. W., Wool, 183.
 Kealoha, Kapa, 250.
 Kearney, E. S., Washington Ter., 14.
 Keasbey & Mattison, Pills, etc., 101.
 Keates, F., Wheat, 180.
 Kees, E., Fans, 198.
 Kehoe, L., Books, 328.
 Keigel, Auguste, Equalizing machine, 358.
 Keizer, C., & Son, Furs, 189.
 Keller, A., Silk, 233.
 Keller & Alt, Clothing, 208.
 Keller, Conrad, Toys, 205.
 Keller, F., Linen goods, 253.
 Keller, H., Jewelry, 204; Map, 353.
 Keller, Heinrich, Son, Herbarium, 349.
 Keller Mfg. Co., Quart measure, 376.
 Kelley, Ezra, Machine oils, 103.
 Kelley, G., Implements, 328.
 Kelly, Dr., Wines, 168.
 Kelly, J., Stones, 73.
 Kelly, M., Wheat, 163.
 Kelly, S. S., Pendants, 114.
 Kelly, T., Bibles, 327.
 Kelsey, J. E., Hops, 167.
 Kelty, G. L., & Co., Gimps, fringes, etc., 123.
 Kemer Kirkor, Almonds, 307.
 Kemp, G., Wheat, 183.
 Kemp, W., Mats, 167.
 Kemperling, H., Turners' articles, 210.
 Kemperling, J., & Sons, Ribbons, 208.
 Kendi Oglou Trantchi, Fabrics, 295, 298.
 Kenidje, Govt. of, Tobacco, 309.
 Kennard, M. P., Judge, Gr. XI., 17.
 Kennedy Bros., Coal, 63; Fire bricks, 155.
 Kennedy, J. M., Alabama, 11.
 Kennedy, Thos., & Bro., Wax figure, 126.
 Kensett, J. W., Fireproof appliance, 378.
 Kent, D. H., & Co., Hardware, 379.
 Kent, G., Knife cleaner, 148.
 Kent, G. B., & Co., Mirrors, 148; Knives, 151; Brushes, 153.
 Kent Woolen Co., Cassimeres, 120.
 Kentucky Geological Survey, Minerals, 48.
 Kenzo, E., Judge, Gr. IV., 16.
 Kenzo, H., Judge, Gr. IX., 16.
 Keppler & Bro., Chairs, etc., 253.

- Keranche Oglou, Wax, 312.
 Kerbel, G. H., Model, 361.
 Kerbella, Government of, Cotton, 294; Fans, 303; Opium, 304; Rice, 308; Cotton, 313.
 Kerénié, Government of, Wool, 296.
 Kerim, S., Carpet, 296.
 Kerkhoven, R., Painting, 221.
 Kerl's, F. A., Hair, Plated ware, 208.
 Kernode, W. A., Freestone, 63; Salt, 182.
 Kern, Clara, & Lang, Chair, 252.
 Kern, H. G., Instruments, 136.
 Kern, I. U., Books, 348.
 Kern, J., Drawing instruments, 354.
 Kerr, Hugh S., Brushes, 142.
 Kerr, N. M., & Co., Paper boxes, 132.
 Kerr, W. C., Judge, Gr. IV., 16.
 Kersch, M., Garnet articles, 209.
 Kerschowe, Government of, Iron, 97.
 Kesban, Madame, Cotton, 293; Holder, 303.
 Kessiar, Pipe, 303.
 Ketcham, E., & Co., Tin, 377.
 Ketchum, E. K., Shale, 71.
 Ketterer, B., Sons, Clocks, 349.
 Keuffel & Esser, Instruments, 329.
 Keur Ali, Pitcher, 293.
 Kew, W., & Son, Buggy, etc., 383.
 Key, A., & Retzius, G., Periodical, 362.
 Key, Alex., Treatise, 362.
 Keyes, W. S., Judge, Gr. I., 15.
 Keyless Padlock Co., Locks, 142.
 Keynes, J., Wool, 168.
 Keys, J., Coal, 51.
 Keystone Bridge Co., Iron columns, 56.
 Keystone Flint Glass Co., Glassware, 108.
 Keystone Furnace Co., Ores, 49; Iron, 58.
 Keystone Hardware Mfg. Co., Hardware, 141.
 Keystone Paint Co., Paint filler, 104.
 Khalil, Agha, Wool, 314.
 Kharlamoff, M., Statuary, 315.
 Khitroff, J., Book, 372.
 Khrenoff, P., Frame, 316.
 Kiamil Effendi, Sextant, 371; Spoons, 305.
 Kicho, Dimitri, Lincn, 295.
 Kidder, J., Apparatus, 331.
 Kiehnle, A., Jewelry, 204.
 Kiendl, A., Citherns, 351.
 Kier Bros., Fire clay, 54; Bricks, 107.
 Kikuchi-Kuhei, Chairs, 245.
 Kikuchi Yosai, Picture, 249.
 Kilburn, I. B., Woodwork, 379.
 Kilby, R. H., Rifle, 190.
 Kilgore, D. Y., Blinds, 113.
 Kilgoren Bros., Paper bags, 189.
 Kilian Bros., Easels, etc., 110.
 Killam, H., & Co., Carriages, 381.
 Killgore, J. L., Bedstead, 111.
 Kilner Bros., Glass, 147.
 Kilner, J., Pianos, 341.
 Kimball, C. P., Alternate, 9.
 Kimball, W. S., Refrigerator, 376.
 Kimbel & Cabus, Decorations, 110.
 Kimbel, M., Furniture, 202.
 Kimes, J. B., & Co., Slate mantels, 52.
 Kimpton, Thomas, Sound communicator, 339.
 Kimura, G., Crapes, 246.
 Kimura, H., Tableware, 245; Tablets, 247.
 Kimura, T., Fans, 247.
 Kindergarten, Reports, 353.
 King, Alexander, & Co., Rum, 172.
 King Bros., Gas retorts, 146.
 King & Brown, Boots and shoes, 189.
 King Iron Bridge & Mfg. Co., Bridge, 334.
 King, J., & Son, Tools, 137.
 King, J. M., & Co., Stock and dies, 142.
 King, P. G., Ores, fossils, 64; Wool, 159.
 King Phillip Mills, Sheetings, 116.
 King, T. H., Stones, 53.
 King, William, Cloths, 149.
 King, Wm., Son, & Co., Petroleums, 102.
 Kingsbury, F. J., Connecticut, 11.
 Kinkozan-Sobei, Vases, 244.
 Kinross & Co., Cordage, 155.
 Kinsley, E. W., Massachusetts, 12.
 Kipling's, R., Sons, Jewelry, 127.
 Kirby, Beard, & Co., Pins, 151.
 Kirchof's, C. F., Sons, Refrigerators, 208.
 Kirchner, Wines, 180.
 Kirchner Bros., Strings, 351.
 Kirio, Buttons, 3-2.
 Kiriu-Kosho-Kuwaisha, Ink, 244; Porcelain, 245; Silk, 246; Brushes, paper, 247; Music, 248; Bronze, 249.
 Kirkman, J., Doekings, 120.
 Kirkor, Pincers, 305.
 Kirkor, A., Terra-cotta, 292.
 Kirkor, Avakir, Mulberry paste, 312.
 Kirkor Effendi, Alcohol, 313.
 Kirkor, M., Fabrics, 298.
 Kirkor, T., Earthenware cup, 292.
 Kirkora, Wool, 314.
 Kirkpatrick Quarry, Limestone, 72.
 Kirkwood, Hon. S., Iowa, 12.
 Kirmayer, M., Map, 348.
 Kirschwasser Company, Liquor, 214.
 Kishi Seppo, Picture, 249.
 Kisin, Government of, Chrome, 292.
 Kitaizteff, W., Boots, 317.
 Kitchen & Sons, Candles, 160.
 Kithil, A., Toys, 205.
 Kittaning Coal Co., Coal, 51.
 Kittang, M., Fluid, 373.
 Kitary, M., Judge, Gr. X., 17.
 Kittelsen, Jens, Valises, 230.
 Kittle, S. P., Spring mattresses, 110.
 Kittedge Cornice & Ornament Co., 143.
 Kiyok, Dellale Oglou, Wool, 314.
 Kiyoto, Chemical Laboratory of, Water, 244.
 Kiyoto-Fu, Paper, 247.
 Kjerulf, T., Judge, Gr. I., 15.
 Klammerth, Alois, Earthenware, 207.
 Klappenbach, S. de, Embroidery, 258.
 Klautsheck, Thomas, & Stewart, Glass, 108.
 Kleeberg, Leather, 318.
 Kleeberg, H., Books, 319.
 Kleeman, C. A., Lamps, 202.
 Klein Bros., Models, 351.
 Klein, E., Watch springs, 355.
 Klein, J. F., & Son, Wood carvings, 358.
 Klein, Logan, & Co., Picks, 138.
 Klemetsen, Chr., Fittings, 229.
 Klemmings Antiquarian Stock Co., Books, 362.
 Klingenberg Bros., Publications, 348.
 Klintberg, J. W., & Co., Jewelry, 226.
 Klippel & Bro., Hides, etc., 254.
 Kluge & Pöritzsch, Chemicals, 201.
 Klunzinger, P., Plans, 351.
 Knabe, W., & Co., Pianos, 333.
 Knapp, A. E., Bible, 328.
 Knautf, T. O., Organs, 333.
 Knell, George, Chairs, etc., 109.
 Knepper, W., Cigarette paper, 210.
 Kniaz Mikhaeloff's Crown Copper Works, 319.
 Kniaz Michailoff Steel Works, Ores, 98.
 Knight, B. B. & R., Cotton goods, 118.
 Knight, E., Maine, 12.
 Knight, E. H., Judge, Gr. XXII., 18.
 Knight, H. G., Massachusetts, 12.
 Knight, J. G., Ornaments, 166; Weapons, 167.
 Knight, Miss M., Bedstead, 147.
 Knight, W. A., Health lifts, 336.
 Knight & Widden, Plaster, 55.
 Knipp, T. F., Album, 205.
 Knodchen, J. A., Clay ware, 202.
 Knops, A., Cloths, 203.
 Knott, J., & Son, Piano, 342.
 Knowles, J. A., Baskets, 173.
 Knox & Shain, Instruments, 329.
 Knox Woolen Co., Feltings, 119.
 Knox & Wrothwell, Buggy, 383.
 Knüsli, Caspar, Lithographs, 358.
 Kobu-sho, Bricks, 244.
 Koch, A., Harmonicas, 349.
 Koch, Alex., Plans, 356.
 Koch & Bein, Castings, 266.
 Koch & Bergfeld, Jewelry, 204.
 Koch, M., Shawls, 208.
 Koch, Sons, & Co., Albums, 128; Cases, 121.
 Koehaf Ajediz, Cocos, 314.

- Kochi-ken, Local Government of, Paper, 247.
 Kochowski, Educational, 372.
 Kochs, Gustav, Rope, 206.
 Kodan, Bed covers, 295.
 Kodja Osman Agha, Knife, 305.
 Koehling, B. H., Chairs, 110.
 Koehler, C., Chromos, 348.
 Koenig, R., Apparatus, 345.
 Koepf, R., & Co., Chemicals, 201.
 Koester, C. F., Kansas, 12.
 Kohl, A., Hose, 211.
 Köhler & Co., Playing cards, 227.
 Kohler, I., Publications, 326.
 Kohler; Ignatius, Bookbinding, 132.
 Kohler, M., Knee rest, 137.
 Kohn, J. & J., Furniture, 208.
 Kohn, Tobias, Braids, 123.
 Kojimo, T., Thread, 246.
 Kokesing Oil Co., Lampblack, 104.
 Kolb, G. F., & Sons, Cases, 129.
 Kolb & Schüle, Fustian, 203.
 Kolbe, D. W., Artificial limbs, 136.
 Koliopoula, Maria, Embroidery, 322.
 Kolkow, F. J. von, Photographs, 360.
 Komaroff, M., Covers, 317.
 Komaroff, N., Dress, 318.
 Kommichau, G., Woolen goods, 316.
 Kompff, Ph., Drums, 334.
 Komura, S., Model, 248.
 Kondour, Hadji, Syrup, 312.
 Kondrasheff Bros., Silk, 317.
 Kondratoff, D., Knives, 319.
 Kongberg Silver Mines, Ores, silver, 83.
 Koniah, Government of, Brimstone, 96; Ink-stands, 324.
 König, J. C., & Ebhardt, Account books, 205.
 Konshin, J., Cotton yarn, 316.
 Koolemans-Beijnen, C. J. L., Pottery, 220.
 Koilikoff, N., Musical instruments, 373.
 Koomanin, N., Books, 319.
 Koorkoff, P., Harness, 383.
 Kooser, B. P., Alternate, 9.
 Koovajeff, C., Printed goods, 316.
 Koozmin, G., Weapons, 319.
 Koozmin, T., Cutlery, 319.
 Kopsch, H., Porcelain, 241.
 Koraczewski, G., Shoes, 204.
 Koran-Sha Porcelain Mfy., Cups, etc., 244.
 Korb, V., Silk laces, 209.
 Körner & Co., Lamps, 202.
 Korniloff Bros., China, 315.
 Koroleff, A., Potassa, 315.
 Koroleff, B., Embroidery, 318.
 Koroleff, L., Embroidery, 318.
 Kortkampfi, F. R., Books, 348.
 Koseki, I., Braids, 246.
 Koshima, J., Oil, 244.
 Kotomin, A., Models, 372.
 Kotmann, J., Cigars, 214.
 Kotzmann, E., Umbrellas, 318.
 Koudour Hadji, Oils, 201; Pipes, 303.
 Koular Oglou Mehemed, Poutargue, 304.
 Kournik Ala Agha, Apricots, 312.
 Koussou Kirkor, Sheeting, 293.
 Kouyoumdjou, Epsso, Box, 303.
 Kouyoun Oglou, Gum, 306; Seeds, 310.
 Kowalski, Educational, 372.
 Koyondja, Govt. of, Marble, 94; Plant, 304.
 Koyoun, Andonik, Brandy, 312.
 Kozan-riyo, Mining Dept., Ores, 244; Report, 248.
 Kozon, A., Cotton, 313.
 Kraft, E., & Son, Instruments, 351.
 Kramer, J. H., Lanterns, 114.
 Kramta von Sosnowee Zinc Works, 315.
 Kranich & Bach, Pianos, 334.
 Krasinski, H. N., Preparations, 372.
 Krasnostchekoff, P., Faience, 315.
 Krassoski, A., Books, 372.
 Kratova, Government of, Coal, 97.
 Kratzschmar, F., Lithographs, 348.
 Kraul & Bier, Jewelry, 204.
 Krauliz, M., Photograph frames, 208.
 Krause, Frederick W., Gothic chairs, 109.
 Krause, H., Maps, 336.
 Krebs, F. E., Gloves, 204.
 Krehan, I., Buttons, 210.
 Kreidl, A., Apparatus, 351.
 Kreischer, B., & Son, Clay, 54; Bricks, 107.
 Kreitzer, M. C., Perfumery, etc., 101.
 Krelage, J. H., Pamphlets, 360.
 Kremer, C., Furniture, 188.
 Kressner, L., Pathological tables, 348.
 Kressten, Apparatus, 372.
 Kresstovnikoff Bros., Candles, 315.
 Kreuger, P. E., & Jennings, Matches, 225.
 Kreuter, F., Tachometer, 351.
 Krider, J., Guns, 134.
 Krider, P. L., Silverware, 117.
 Kriegelstein & Co., Pianos, 345.
 Krins, E., Wood carvings, 216.
 Kristafovich, P. C., Bricks, 315.
 Kroedel, F., Chronometer, 329.
 Krogstad Society, Nails, 230.
 Krol, W., Bandages, 221.
 Kropp, J. B., Cotton and mixed goods, 203.
 Krug, J. M., Jewelry, 204.
 Krull, E., Tallow, 251.
 Krumbügel, O., Jewelry, 318.
 Krupp, Fr., Ores, 75; Cannon, 205.
 Kubik, J., Gloves, 209.
 Kuhl, G. G., Straw, 234.
 Kudelsky, Helen, Gloves, 317.
 Kuebler, W., Instruments, 329.
 Kuehn, F., Wisconsin, 14.
 Kuehn, H., Patterns, 204.
 Kuhlmann, J. F., Judge, Gr. III., 15.
 Kühn's Wire Factory, Metal lead, 202.
 Kuhne, W., Basket ware, 230.
 Kuhnel, P., Globe, 329.
 Kullberg, Victor, Chronometers, 330.
 Kullgren's, C. A., Widow, Granite, 78; Presses, 226.
 Kumagai, K., Halberds, 247; Vases, 249.
 Kunchim & Co., Chemicals, 201.
 Kuntze & Co., Refrigerators, 226; Telegraphs, 363.
 Kunz, Heinrich, Dwellings, 357.
 Kunzig, C., Carriage mountings, 379.
 Kupka, P. F., Judge, Gr. XXV., 19.
 Kurdu, H., Skin, 311.
 Kurjut Casmat, Skins, 311.
 Kurlbaum & Co., Chemicals, 102.
 Kurr, Schuttner, Jewelry, 204.
 Kurschu Casmad, Jacket, 299.
 Kursheedt & Co., Embroideries, 126.
 Kutchuk Ali Agha, Wheat, 308.
 Kuwangiyo-jo, Silk, 246; Fans, 247; Photographs, 249.
 Kuwangiyo-Riyo, Clay, 244; Lanterns, 245; Crystal, 246; Paper, 247.
 Kuwangiyo-Riyo-Shi-ken-jo, Table, 245.
 Kuwappankiyoku Government, Plates, 240.
 Kuzel, J., & Jankowski, C., Turners' articles, 210.
 Kyle Coal Co., Coal, 51.
 Kyshe, J., Mauritius almanac, 178.

L.

- La Belle Glass Co., Glassware, 108.
 La Beneficence Factory, Cottons, 265.
 Labisky, Mrs., Water color, 267.
 Labonia, B. G., Liquorice, 231.
 La Bonne Intention Plantation, Sugar, 175.
 Laboratory of Egypt, Chemicals, 236.
 Laboulaye, C., Dictionary, 343.
 Labriola, L., Tortoise shell, 234.
 La Buena Fé Society, Galena, 88.
 Lacey, R. G., Rocket, 145; Signal, 339.
 Lachard Bros., Silks, 196.
 Lachenal, Favre, & Co., Stereoscopes, 345.
 Lachite, Government of, Sponges, 310.
 La Cierva, Corporation of, Marble, 90.
 Lackawanna Iron & Coal Co., Ores, 48; Steel, 57.
 Lacmann, J., & Sons, Doll bodies, 127.

- La Cointe, E., Problem, 343.
 Lacomb, Glasses, 345.
 Laconia Co., Sheetings, etc., 117.
 Lacoria, F., Essences, 232.
 Lacour, G., Orthopedic apparatus, 259.
 Lacroix, A., Colors, 193.
 Lacroix Bros., Papers, 198.
 Lacy, W., Cooking shell, 376.
 Ladd, S. J., Thimbles, 129.
 Laemmert, E. & H., Books, 366.
 La Familia Society, Galena, 88.
 Laffite & Co., Galena, 87.
 Lafiteau & Kieger, Arms, 199.
 Laffin & Rand Powder Co., Apparatus, 331.
 Lafone Quevedo, S. A., Copper, clay, 85;
 Ashes, 255; Herbs, 259.
 Lafquist, J. A., Irons, 226; Hinges, 227.
 Lagaut, N., School materials, 343.
 Lagerbäck, H., Locks, 227.
 Lago, E. do, Music, 366.
 Lagos, J. M., Sheep wash, 255.
 Lagraña, S., Shawls, 258.
 Laidlaw, A. & Co., Hollow ware, 190.
 Laidlay, J., Wheat, 163.
 La Innocencia Mining Society, Galena, 88.
 Lair, E., Papers, 198.
 Laird, W., & Co., Fabrics, 148.
 Lairitz, C. & L., Oil, 201; Linen fabrics, 203.
 Lake Champlain Mfg. Co., Doors, 378.
 Lake George Antimony Co., Metals, 74.
 Lake Superior Iron Co., Iron ore, 48.
 Lalance & Grosjean, Granite, 378.
 Lalance & Grosjean Mfg. Co., Iron ware, 139.
 La Libertad, Dept. of, Grains, 264.
 Lallement Bros., Printing on satin, etc., 369.
 Lalotte Ahmed, Amethysts, 302.
 La Lys Co., Thread, 216.
 Lamarre, Fancy articles, 198.
 Lamary, Silk watchguards, 196.
 Lamb, G. D., Washer, 377.
 Lamb, J. & R., Church furniture, 110.
 Lamb & Roberts, Wool, 159.
 Lambert, A. de, Files, 218.
 Lambert, Casimir, Son, Glass, 215.
 Lambert, L., & Co., Glass, 215.
 Lambie & Sargent, Table, 108.
 Lamborn, R. H., Alternate, 9.
 Lambron, P., Chemise, 299.
 Lamego, A. da C., Pottery, 284.
 Lamm, A. M., Gynecological apparatus, 227.
 Lamson & Goodnow Mfg. Co., Cutlery, 139.
 Lanca, Francisco P. de, Linen fabrics, 286.
 Lancaster, A., Guns, 152.
 Lancaster, C., Cannon, 152.
 Lancaster Mills, Gingham, 119.
 Lancetti, F., Furniture, 233.
 Lancia di Brolo, Duke Federigo, Salt, 231.
 Lancroft, C. E. & H. B., Sulphates, 59.
 Landa, Sons of Salvador, Linen, 273.
 Landenberger's, M., Sons, Shawls, 121; Ho-
 siery, 125.
 Landham, F., Rule, 342.
 Landis, S. M., Bath, 378.
 Landreth, B., Bureau of Agriculture, 10.
 Landrien, B., Books, 359.
 Landskrona Mfg. Co., Fabrics, 226.
 Lane, D. M., & Son, Buggy, 385.
 Lane, T. G., Washing crystals, 187.
 Lang & Co., Soaps, 252.
 Lang, Ed., Linen handkerchiefs, 203.
 Lang, J., Soaps, 252.
 Lang, J. D., Judge, Gr. IX., 16.
 Lang, J., & Sons, Guns, 152.
 Lange, A., & Sons, Watches, 349.
 Lange & Co., Silk, 317; Girths, 320.
 Lange, Little, & Co., Printing, 132.
 Langen, Kruchen, & Borrenkott, Cottons, 203.
 Langenscheid Publishing House, Books, 348.
 Langdon Manufacturing Co., Shirts, 118.
 Langevin, A. B., Marble, 72.
 Langfeld, J., & Sons, Satchels, 129.
 Langstrath, T., Furnaces, 375.
 Langwisch, B., Chemicals, 201.
 Lanieri, M., Soap, 255.
 Lanin, Nicolas, Mineral water, 98.
 Lankovski & Likop, Inks, 315.
 Lansing, H. S., Auditor Board Finance, 11.
 Lanza Bros., Soap, 231.
 Laos, D., Sugar, 264.
 Laos, M., Sugars, 264.
 Lapaine, C., Bobinets, 209.
 La Peña, Paper, 278.
 Laperche, Chimney pieces, 194.
 La Perla Bergadana Mining Society, Coal,
 89.
 Lapp, C., Food for children, 214.
 Lapp, F., Clock case, 330.
 Lapsaki, Government of, Brimstone, 96.
 Lapsenko & Mickhaeloff, Apparatus, 372.
 Lapworth Bros., Carpets, 150.
 Lardera, A., Perfumery, 232.
 Larenaudiere, F., Inks, 193.
 Largey, P. A., Alternate, 9.
 Largiader, R., School bench, 353.
 La Rioja, Province of, Provincial Commis-
 sion, Minerals, 83; Salt, 255; Shawl, 256;
 Quilt, etc., 257; Crochet work, 258.
 Larkins, J. F., Implements, 329.
 Laroche, A., Cotton, 195; Paste, 199.
 Larry Scientific Association, Reports, 267.
 Larsbo Norn Stock Co., Ores, 76; Iron, 79.
 Larsen, N. F., Gloves, 223.
 Larsson, P. M., Iron ores, 78; Iron, 79.
 Las Conchas Pub. School, Embroidery, 258.
 Las Osman, Gum, 306.
 Las Palmas Society of Friends, Cloth, 273.
 Lasa y Elizondo, D., Tapers, 271.
 Lascurain & Co., Cigars, 268.
 Lash, J. S., & Co., Washer, 377.
 Lastarria, Victorine, Publications, 261.
 Lastborn, Iven, Cupboard, 225.
 Latham, E., Ale, 164.
 Lates, M., Bronzes, 279.
 Latrobe Furnace, Ores, 49; Pig iron, 58.
 Latrobe, J. H. B., U. S. Commissioner, 9.
 Latrop, E., Publications, 261.
 Latzindaki, H. Y., Almonds, 307.
 Laude, P., Boots, 317.
 Laughlin Bros., China ware, 107.
 Laughton, J., Earth, 182.
 Launceston, Corporation of, Photographs, 182.
 Launert & Decker, Annunciators, 331.
 Laurel Furnace, Ores, 49; Iron, 59.
 Laurent, F., Books, 360.
 Lauriano & Lavores, Osier baskets, 289.
 Lauriano & Favores, Pincushion, 288.
 Laurie, W. & L., Arrowroot, 158.
 Laus, T., Apparatus, 372.
 Lausmann, J. W., Instruments, 351.
 Lautier Sons, Pomades, 193.
 Lavaggi, F., Matches, 232.
 Lavallée, N., Lime, 72.
 Lavers, Alfred H., Portland cement, 61.
 Lavoie, M., Hair work, 189.
 Lavoine, Mr., Judge, Gr. XXVI., 19.
 Law, J., Crucible, 73; Lubricator, 190.
 Lawlor & Co., Washing machines, 188.
 Lawrence, A. R., & Co., Waters, 55.
 Lawrence, E., Louisiana, 12.
 Lawrence Furnace Co., Ores, 48; Iron, 58.
 Lawrence, G. W., U. S. Commissioner, 9.
 Lawrence, John N., Ten-pin balls, 336.
 Lawrence, L. P., Chair, 374.
 Lawrence Manfg Co., Cotton goods, 116.
 Lawrence, Waterbury, & Co., Bagging, 116;
 Cordage, 142.
 Lawson, J. S., Washington Ter., 14.
 Lawton, Burnett, & Co., Coal, 51.
 Laxa Iron Works Co., Iron ores, 78; Iron, 79.
 Lay, E., Jewelry, 204.
 Layton, F., Soap, 157; Wax, 158; Oil, 159.
 Laz Oglou Giorki, Penknives, 305.
 Laz Osman, K., Cotton, 313.
 Lazar, A., Designs, 351.
 Leandro, Manuel, Woolen fabrics, 286.
 Leao, A. D., Minerals, 82.
 Leao, A. E. de, Whip, 254.
 Leao & Alves, Perfumery, 252.

- Leao, D. A. E., Bricks, 252.
 Learmonth, L., Wool, 159.
 Learned, E., Connecticut, 11.
 Le Bailly-D'Inghuem, Cereals, 218.
 Lebermuth, J., & Co., Leather, 218.
 Leblanc, J. H., Fancy feathers, 189.
 Lebou, L., Books, 359.
 Le Boulangé, P. E., Telemeter, 359.
 Le Boutillier, C., Judge, Gr. IX., 16.
 Le Brun, Dictionaries, 343.
 Lebzelter, P., Shafts, 379.
 L'Eclair Joint Stock Co., Match tapers, 216.
 Leclercq, Henry, Flax, 219.
 Leclercq, Widow, Lace, 217.
 Lecloux, G. J., Woolen stuff, 217.
 Lecomte, A., & Co., Instruments, 345.
 Le Coultre, J., Razors, 214.
 Lecrenier, N. J., Model, 369.
 Lederer, K., Glass trinkets, 210.
 Ledesmo, J. A., Books, 368.
 Ledig, A., & Son, Silverware, 113.
 Ledo, Agostino E. de, Oligistic iron, 82.
 Ledoux, B., Landaulet, 383.
 Ledward, J., & Son, Cassimeres, 120.
 Ledyard, T. D., Magnetite, 71.
 Lee, B., Spine apparatus, 135.
 Lee Bros., Bricks, 188.
 Lee, R. J., Inhaler, 153.
 Lee & Shepard, Books, 328.
 Leedom, Shaw, & Stewart, Carpetings, 122.
 Leeds, Louis M., Diagrams, 336.
 Leeds Paint Manufacturing Co., Paints, 187.
 Leete, B. F., Nevada, 13.
 Leete, I. P., Atomizer, 329.
 Lefebvre, F., Green water, 192.
 Lefèvre, R., Agricultural works, 261.
 Lefort & Chapleau, Watchman detector, 342.
 Lefterimo, Aposthol, Honey, 312.
 Legaie, J. B., Cariole, 383.
 Legarretta, A., Cereals, 268.
 Legendre, Boots, 197.
 Leguendrij, Miss, Lace, 301.
 Lehigh Iron Co., Iron ore, 49; Flux, etc., 57.
 Lehigh Slate Co., Slate, 52.
 Lehigh Valley Iron Co., Ore, 50; Iron, 57.
 Lehigh Whetstone Co., Whetstones, 55.
 Lehigh Zinc Co., Ore, 47; Zinc, 57.
 Lehmann, A., Directory, 351.
 Lehmann, H., Gloves, 204.
 Lehmann, N., Chromos, 211.
 Lehmann & Wentzel, Designs, 352.
 Lehnert, C., Cymbals, 333.
 Lehnert, H. G., Instruments, 333.
 Leibbrandt & McDowell Stove Co., 375.
 Leidy, Francis D., Soaps, etc., 102.
 Leighton, Chas., Shirt, 124; Buttons, 127.
 Leiner, M., Instruments, 135.
 Leinier, Moritz, Brushes, etc., 128, 142.
 Leippe, J. A., Shafts, 379.
 Leipsic Gazette, Newspapers, 348.
 Leirens-Eliaret, Thread, 216.
 Leitao & Irinao, Jewelry, 288.
 Leite, F. de Paula, Salt, 283.
 Leite, F. J., Yarns, 285.
 Leizirias Co., Salt, 283.
 Leja, J., Thermometer, 363.
 Lejeune, Vincent H. J., Woolen stuff, 217.
 Lellian, Ernesto, Magnetic iron, 82.
 Lemaire, Eye glasses, 345.
 Lemarchand, Mr., Cloves, 181.
 Lemas, J. A. de, Minerals, 82.
 Leme, D. R. P., Canes, 254.
 Lemerre, A., Books, 343.
 Lemes, R. Z., Cotton goods, 253.
 Lemiére, A., Salt, 178.
 Lemos, Abraham, Minerals for paints, 83.
 Lemos & Autmes, Pulley blocks, 290.
 Le Moulmier, Pavement, 345.
 Lendenberg, L. B., Lime, 82; Salt, 252.
 Lenégre, A., Albums, 198.
 Lennon, H., Plow, 165.
 Lennon, T., Ropes, 155.
 Lenoir & Forster, Apparatus, 351.
 Lenoir, P., Corsets, 196.
 Lenzkirch Joint Stock Co., Clocks, 349.
 Leon, Provincial Institute of, Marbles, etc., 90.
 Leon Ternel, José, Salt, 270.
 Leon y Raigon, A., Pitchers, 272.
 Leonard & Ellis, Cylinder oil, 103.
 Leonardo, Q., Silver, 282.
 Leone, F. M., & Lemos, P. L., Minerals, 82.
 Leonhard, Theo., Beeswax, 128.
 Leoni, A., Costumes, 234.
 Leonisaki, D., Brandy, 313.
 Leonora Plantation, Rum, 175.
 Leontieff, Furniture, 316.
 Leopoldshall Chemical Factory, Salts, 201.
 Lepage, F. J., Essences, 252.
 Lepanto, Commission of, Gold dust, 93.
 Lepeshkin, N., Chemicals, 315.
 Lepowski, E., Rolling chairs, 205.
 Leresche-Golay, Jules, & Co., Files, 358.
 Lerl, G., & Sons, Photograph frames, 208.
 Leroux, G., Millstones, 73.
 Leroy, A., Dictionary, 343.
 Leroy, P., System, 343.
 Leroy, P. N., Books, 343.
 Lerra, M. J., Oil, 264.
 Lesar, W., Table, 169.
 Lescanor, Agriculture, 267.
 Lesimple, A., Books, 348.
 Lesjöfors Iron & Steel Co., Ores, 78; Iron, 79.
 Lesley, A. M., Furnace, 375.
 Lesley, A. V., Delaware, 12.
 Leslie, F., New York, 13.
 Leslie, R., Clay, 73.
 Lesne, Capt., Judge, Gr. XVI., 17.
 Lesser, G., & Co., Preparations, 202.
 Letang, T. I. B., Moulds, 194.
 Le Tellier, A., Filters, 359.
 Lethbridge, G. L., Wool, 159.
 Lette Association, Placard, 349.
 Letterstedt & Co., Wheat flour, 170.
 Leutenberger & Son, Clocks, 355.
 Leukart, Books, 348.
 Leur, W., Lead, 22.
 Leurant, Emile, Cylinder, 215.
 Leusinger Sons, Blank books, 254.
 Leuwarden, Association for Improvement of
 Workmen's Buildings, Drawings, 361.
 Leuzinger, R., Atlas, 356.
 Leuzinger & Sons, Articles for museums, 366.
 Levallée, N., Limestone, 72.
 Levasseur, E., Judge, Gr. XXV., 19.
 Level, Leon, Gloves, 217.
 Level, Medical systems, 343.
 Lever Spring Bed Co., Spring bed, 110.
 Levesque, V., Metrical system, 343.
 Levilion, Costumes, 196.
 Levy, I., Imitation jewelry, 197.
 Lewenhaupt, Count C. M., Toys, etc., 362.
 Lewenhaupt, Count Sten., Wood pulp, 227.
 Lewis, A. E., Mississippi, 13.
 Lewis Bros., Wheat, 158.
 Lewis, J., Quartz, 166; Curling stone, 340.
 Lewis, John I., Milton carpets, 150.
 Lewis, John T., & Bros., Acids, paints, 102.
 Lewis, Levi, Lime, limestone, 72.
 Lewis, Magnetite, 71.
 Lewis, Oliver, & Phillips, Iron, 58; Hard-
 ware, 142.
 Lewis & Whitty, Knife polish, 65; Oil, wash-
 ing powder, 160.
 Lewis, Willard, Carpet lining, 122.
 Lewiston Mills, Tickings, 116.
 Lewy, F., Safe, 128.
 Lexington & Carter Co., Mining and Mfg.
 Co., Coal, 51.
 Leykauf, George, Burnishing stones, 206.
 Leynen-Hougaerts, J. A. H., Vestments, 217.
 Leypoldt, F., Publications, 327.
 Leyser, W., Polished stones, 204.
 Leyte, Provincial Board of, Fabrics, 281.
 Liáis, E., Surveys, 367.
 Liardet, H. E., Feathers, 155.
 Libalou, Governor of, Fabric, 281.
 Libe, John C., Yeast powder, 102.
 Liberg, B. & O., Cutlery, 227.

- Lichtenfelder, Seats, 194; Tools, 199.
 Licot, F., Book, 359.
 Lie, P. A., Silver work, 230.
 Lien Shing, Furniture, 241; Jewelry, 242.
 Lienard, F., Plan of Paris, 346.
 Ligerio, M., Stearine, 265.
 Lighte & Ernst, Pianos, 334.
 Ligory E., Ores, 96; Copper, 97; Sulphate, 291.
 Lihue Plantation, Sugars, 251.
 Lising Iron Co., Ores, 48; Iron, 59.
 Likly, McDonald, & Rockett, Gun case, 129.
 Liljeholmen Stearine Mfg. Co., Acid, 225.
 Lilley, M. C., & Co., Masonic goods, 142.
 Lillo, F., Towels, 258.
 Lilpop, Rau, & Loevenstein, Steps, 319.
 Lima, Botanical Garden of, Plants, 264.
 Lima, C., Plaited straw, 284; Straw hats, 287.
 Lima, C. A. de, & Calarans, J. M. de, Artificial flowers, 254.
 Lima, F., Girths, 254.
 Lima, G. A. E., Pharmacies, 283.
 Lima, Municipal School of, Photographs, 263.
 Limbourg Scientific & Literary Society, 359.
 Limet, Laparcillé, & Co., Hats, 199.
 Limousin & Co., Capsules, 192.
 Limousin, Machine, 199.
 Linares, Clemente, Iron ore, 87.
 Linares, Corp. of, Building stones, 90.
 Linari, Eng. Antonio, Plan for a tunnel, 365.
 Linck, J., Photographs, 358.
 Lincoln, Bennett, & Co., Hats, 151.
 Lincoln Furnace, Iron ores, 48; Iron, 58.
 Lindahl, J., Apparatus, 363.
 Lindahl, J. F., Matches, 225.
 Lindberg, Lars, Iron ores, 78.
 Lindblad, M. A., Types, 362.
 Linde, F., Cosmetics, 315.
 Lindemann, Carl, Corks, 266.
 Lindemann, G., & Co., Potash, 201.
 Linden Steam Mills, Velvet, 203.
 Lindenbauer, O., Chemicals, 201.
 Linderman, G. B., Coal, 51.
 Linderroth, G. W., Clocks, 363.
 Lindhen, H. A. W., Letter box, 363.
 Lindley, G. W., Wool, 183.
 Lindley, Robert C., Stones, 61.
 Lindsay & Anderson, Terra-cotta, 146.
 Lindsay & Blakiston, Binding, 132; Books, 328.
 Lindsay, J. A., Gold ores, etc., 70.
 Lines, Mrs., Lace, 174.
 Linglin, E., Regulator, 359.
 Lins, Lemenha, Guitars, 367.
 Lintelo, A., Clocks, marble slabs, 216.
 Linthicum, A. V., Arkansas, 11.
 Linthicum, W. O., Judge, Gr. X., 17.
 Linville, J. H., Bridges, 334.
 Lion & Gutchard, Barometers, 344.
 Lipman, Hyman L., Machines, 130.
 Lippincott, C., & Co., Apparatus, 55.
 Lippincott, J. B., & Co., Blank books, 132; Publications, 326.
 Lippitt, H., Rhode Island, 14.
 Lippitt Woolen Co., Cassimeres, 121.
 Lipscombe, F., Seeds, 182.
 Lisbon, Board of Public Forests, Oils, 283; Maps, 369.
 Lisbon Central Jail, Mats, 284; Brushes, 289.
 Lisbon, Dept. of Finance, Statistics, 369.
 Lisbon, Dept. of Public Works of, Candles, 283; Earthenware, 284; Cottons, 285.
 Lisbon Dyeing & Cotton Printing Co., Lime, 95; Prints, 285.
 Lisbon, House of Correction of, Mats, 284.
 Lisbon National Printing Office, Books, 369.
 Lisbon Spinning & Weaving Co., Yarns, 285.
 Lithgow Valley Iron & Coal Co., Iron, 64.
 Litoff, K., Costumes, 318.
 Litografiska Stock Co., Playing cards, 227.
 Litolu Nakous Oglon, Silk, 297.
 Little, A. R., Finance, 10.
 Little, E. W., U. S. Commissioner, 9.
 Little, T. W., & Co., Cloth, 149.
 Littleton Saranac Buck Glove Co., Gloves, 126.
 Liver Alkali Works Co., Soda, 144.
 Liverpool Spun Oakum Co., Oakum, 153.
 Ljungström, J. P., Instruments, 363.
 Llacer, A., Cloth, 274.
 Llamas, G. de, Balsam, 280.
 Llanos de Pedro, J., Cloth, 275.
 Llanos, J. R. de, Poucho, 256.
 Llanos Moreno, S., Cloth, 275.
 Llanos Nuñez, P., Cloth, 275.
 Llanos, R. P. Fr., A., Minerals, 93.
 Llanos Valle, S., Cloth, 275.
 Lledó y Gomez, Cipriano, Gypsum, 90.
 Llevát & Son, A., Mosaic, 272.
 Lligé & de Planell, Iron ore, 87.
 Llofriú, M., Flour, 271.
 Llopis & Son, Cloth, 274.
 Lloyd Bros., Fixtures, 113.
 Lloyd, E., Maps, 321.
 Lloyd, H. C., Magnetite, 70.
 Lloyd, Supplee, & Walton, Machines, 115; Locks, 138.
 Lobao & Ferreira, Jewelry, 288.
 Lobato, J., Book, 267.
 Lobb, J., Boots, 151.
 Lobmeyer, J. & L., Glass articles, 207.
 Lobo, Tristan, Chalk clay, 85.
 Local Com., Cape Good Hope, Costumes, 169, 170.
 Locati, A., Cabs, 383.
 Locati, Cav. A., Carriages, 235.
 Locher Bros., Embroideries, 213.
 Locke, J., Hubs, 382.
 Lockwood, A. D., Judge, Gr. VIII., 16.
 Lockwood, Brooks, & Co., Inks, 104; Telegraph, 331.
 Lockwood, C. N., & Co., Lamps, 379.
 Lockwood, Crosby, & Co., Books, 338.
 Lockwood, G. R., Books, 326.
 Lockwood, W. P., Model of gold nugget, 70.
 Loder, A., Wool, 159.
 Lodholz, F., Jewelry, 204.
 Lodi, G. B., Gloves, 234.
 Loeber, G., Stationery, 221.
 Loeff, P., Books, 349.
 Loefflund, E., Chemicals, 201.
 Loera, Frenometry, 267.
 Loesch, Z., Work box, 253.
 Loewenberg, H., Imitation leather goods, 203.
 Löfvenskiöld, Salomon, Ores, 78; Iron, 79.
 Logan Furnace Co., Ores, 49; Iron, 58.
 Logan, V. E., Idaho, 12.
 Logansport Mfg. Co., Spokes, 379.
 Lohmann & Söding, Steel, 75.
 Lohner & Co., G., Carriages, 211.
 Lohr, A. R. von, Models, 352.
 Lohse, G., Chemicals, 201.
 Loiseau, A., Paper, Toys, 198; Apparatus, 345.
 Loix, F., Paper, 278.
 Lohstein, Emilio, Galena, 88.
 Lomas, Adam, & Son, Flannels, 189.
 Lombard, Thos. C., Galena, 47.
 Lommen, C. H., Glass, 220.
 Londley, Building sandstone, etc., 72.
 Longaker, H. D., Anatomical specimens, 135.
 Longmire, T., Flax, 164.
 Lonitz, H., Jars, 202.
 Lonsdale Co., Sheetings, 116.
 Lönseth, Fred., Millstones, 80.
 Lontue, Department of, Wood, 262.
 Lookootin, A., & Son, Papier-maché, 320.
 Loomis, B., Connecticut, 11.
 Loonen, F., Brushes, 198, 200.
 Loones, History, 343.
 Looper, de Haiden, & Co., Glass, 215.
 Lopatin, P., Calico, 316.
 Loper & Doughten, Naval stores, 103.
 Lopez de Codes, Tomas, Guano, 270.
 Lopez de Campo, A., Sieves, 284.
 Lopez, F., Rings, 258.
 Lopez, Feliciano, Clay, 84.
 Lopez, F. J., Saltpetre, 252; Cloth, etc., 253.
 Lopez, F. J. A., & Co., Bituminous schist, 82.
 Lopez, J., Matting, 273.
 Lopez, José M., Mineral water, 91; Iron, 92.

- Lopez Losada, A., Ferruginous waters, 91.
 Lopez, Miguel, Cards, 269.
 Lopez, S., Tables, 233.
 Lopez Seoane, Victor, Stones, 90.
 Lopez, Simon, Gypsum, 90.
 Lorck, C. B., Books, 348.
 Lord, J. E., & Co., Spring-bed bottom, 111.
 Lordello Woolen Mfg. Co., Cloths, 286.
 Lorenz Bros., Perfumes, 105.
 Lorenz, Gustav, Basket ware, 206.
 Lorenzen, L., Bitter cordial, 224.
 Loreta, Pupils of Mrs., Engraving, 267.
 Loreto, Department of, Nuts, 264.
 Loreto, Mrs., Embroidery, 266.
 Lorilleux, Ch., Inks, 193.
 Lorin, A., Glass, 194.
 Lörinicz, S., Boots, 208.
 Loring, E., Judge, Gr. IV., 16.
 Loring, G. E., U. S. Commissioner, 9.
 Lortie, Bookbinding, 199.
 Lory-Delaet, P., Writing method, 359.
 Losada, L., Teeth, 278.
 Loser Bros., Mineral water, 76.
 Loth, E., Straw goods, 316; Flowers, 318.
 Loth, Henry, Folding table, 199.
 Loth, John Thomas, Educational books, 338.
 Lott, L., Chromotypographs, 211.
 Loulerbach, E., Shades, 113.
 Louis, J., & Bro., Oilstones, 55.
 Louis, Julius, & Co., Oilstones, 139.
 Louisson, T. B., Iron ore, 63; Paint, 155.
 Lousbergh, V., Colors, 220.
 Lovett, A., Support, 344.
 Lovatt, W. N., Porcelain, 241.
 Lovegrove, W., Maize, 158.
 Lovell, F. H., & Co., Burners, 115.
 Lovell, G. H. & M. F., Ear brush, 142.
 Lovell, J. P., & Sons, Revolvers, 133.
 Lovell Printing & Publishing Co., Books, 342.
 Lover Manufacturing Co., Matches, 225.
 Low, Son, & Haydon, Soaps, 145; Brushes, 153.
 Lowe, A. C., Gilt bouquet tables, 112.
 Lowe, A. H., Wool, 159.
 Lowe, N. M., Hygrometer, 329.
 Lowe, S. B., Tennessee, 14; Ores, 49; Map, 65.
 Lowell Bleachery, Cotton goods, 117.
 Lowell Carpet Co., Carpets, 122.
 Lowell Hosiery Co., Hose, 125.
 Lowell Manufacturing Co., Lastings, 122.
 Lowenstein, A. R., Shoes, 229.
 Lowenrath, P., Goods, 115; Tools, 138.
 Lower Silesian & Markish R. R., Models, 206.
 Lowerre & Tucker, Fluting machines, 115.
 Lowery & Williams, Underwear, 123.
 Lowman, J., Screen, 229.
 Lowry, R., U. S. Commissioner, 9.
 Lowthrop, Francis C., Photographs, 334.
 Loyd, Engineer, Plans, 367.
 Lozano, J. M., Treatise, 267.
 Lucas, B., & Co., Flannels, 121.
 Lucas Bros., Cloth, 203.
 Lucas, John, & Co., Paints, 104; Glass, 108.
 Lucenqui de Pimental, Pictures, 277.
 Lucy Furnace Co., Ores, 47; Pig metal, 56.
 Lüder & Leidlöff, Chemicals, 201.
 Lüderitz, C. G., Books, 343.
 Ludovic & Vallauri, Curtains, 292; Covers, 297; Fabrics, 298; Costumes, 301; Labels, 304; Copper pincers, 305; Portrait, 371.
 Ludwig, Schmidt, & Mohl, Enamel, 136.
 Lugo, Prov. Com., Pottery, 272; Fabrics, 274.
 Lugsden & Barnett, Saddles, 191.
 Lukasch, J., Fancy goods, 210.
 Linkin & Gresley, Newspaper, 173.
 Lummerzheim, M. H., & Co., Roofing, 215.
 Luna, Ramon, Figure, 276.
 Luudholm, C. A. V., Organ, etc., 363.
 Lürssen, Carl, Corks, 266.
 Lusignan Plantation, Rum, 175.
 Lussy, M., Music method, 353.
 Luttringer, Silk, 196.
 Luttesee, George, Stone, 80.
 Lutton, Am., Chasubles, 196.
 Luttringer, Ch., Frames, 194.
 Lux, Cl., Bronze articles, 229.
 Lyell & Gowan, Ore, 68.
 Lyford, S. C., Judge, Gr. XVI., 17.
 Lyman Bros. & Co., Oil, 187.
 Lyman, Clare, & Co., Oil, 187.
 Lyman, F. S., Saddle, 250; Leather, 251.
 Lyman Mills, Flannels, etc., 118.
 Lyman, S. J., Perfumery, 187.
 Lynch & Co., Instruments, 153.
 Lynch, J., U. S. Commissioner, 9.
 Lynex, R., Wire, 378.
 Lyon, G., Soda water, 65; Sauce, 164.
 Lyon, Sylvanus, Locks, 142.
 Lyon, Washington, Calculating table, 339.
 Lyonnais, T., Violin, 342.
 Lyons, Cottier, & Co., Window, 157.
 Lyons, Wm., Writing ink, 145; Wax, 152.
- M.
- Maas en Zonen, A. E., Nets, 220.
 Maass, T., Wigs, 318.
 Mabie, Todd, & Bard, Toothpicks, 128; Pens, 130.
 Mabile, A., Books, 169.
 Mabile, Valere, Manufactured iron, 77.
 MacAndrews & Co., Liquorice, 271.
 Macarthur, Sir W., Woods, 158.
 Maccagnani, Ulisse, Earth, 8r.
 Macdonald, Field, & Co., Monument, 61.
 MacDonald, J. L., Wool, 159.
 MacDowell, N., Minerals, 83.
 Machado, Julio Rodrigues, Braids, 287.
 Machado, M. P., Straw fabrics, 284.
 Machado, R., Hat, 257.
 Machen, W. B., Kentucky, 12.
 Macia & Co., Tin bar, 92.
 Macia & Co., D., Tin ore, 88.
 Maciel, D., Sulphurous water, 82.
 MacIntosh, J., Doors, 147.
 Mack, E., Chemicals, 201.
 Mackay, A., Maize, 180.
 Mackay, Angus, Books, 179.
 Mackay, John, Varnishes, 145; Food, 153.
 Mackenzie, Sugar, 180.
 Mackeown, Bower, Ellis, & Co., Drugs, 102.
 Mackey, T. H., Wood, 175.
 MacKinlay, A. & W., Books, 100.
 MacKinlay, A. & W., & Co., Map, 342.
 MacKinnon, J. C., Iron ores, 71.
 Mackintosh & Oakes, Kaolin, 64.
 Madero, Cirilo, A., Stone, 90.
 Madine, Mr., Cigars, 181.
 Madini, A., & Co., Bags, 233.
 Madrazos & Co., Tobacco, 268.
 Maclen, J. van der, Books, 359.
 Maes, G., Fabrics, 195.
 Maffei, P., Cards, 278.
 Mafra, M. C. G., Ceramics, 284.
 Magalhaes, A. M. Barboza de, Laces, 288.
 Magalhaes, F. T. S., Argil, colored clay, 82.
 Magalhaes, Francisco T., Linen fabric, 286.
 Magalori, H., Grammar, 266.
 Magarey, T., & Co., Flour, 167.
 Mage, senior, Wire, 200.
 Magee Furnace Co., Furnaces, etc., 376.
 Maghlé, Government of, Iron, 66.
 Magnetite Iron Co., Ores, 47; Iron, 56.
 Magnus, G., & Co., Billiard balls, 205.
 Maguet, Stationery, 198.
 Maheiro, L., Judge, Gr. XXVI., 19.
 Mahillon, C., Instruments, 359.
 Mahler, M., Furs, 129.
 Mahmoud Agha, Boots, 301; Honey, 312.
 Mahmoud Agha D'iri, Garments, 299.
 Mahmoud Cozzi, Tissue, 203.
 Mahmoud Deguiz, H., Coverlets, 299.
 Mahmoud, E., Fabric, 293.
 Mahmoud, Hadji, Calicoes, 194; Boots, 301.
 Mahmoud Kabali, Decanter, 305.
 Mahmoud, M., Hair, 314.

- Mahmoud, T., Cap, 301.
 Mahmouda, H., Felts, 295.
 Mahn, L. H., Base balls, 129.
 Mahoning Valley Cent. Assn., Ores, 49; Iron, 55.
 Mahony, Tobacco, 180.
 Mahony, Martin, & Bros., Tweeds, 149.
 Maia, Ferreira, & Co., Pharmacies, 252.
 Maimoun, Wool, 314.
 Maine, Educational Dept. of, 323.
 Maine Red Granite Co., Granite, 53.
 Maine Slate Co., Roofing slate, 52.
 Maineri, Carlo, Geographical map, 365.
 Mainetti, F., Carriage, 235.
 Maino, Antonio, Books, 365.
 Mains Manufacturing Co., Lamps, 115; Dice box, 128; Tester, 330.
 Maiquez y Tomás, T., Fabrics, 275.
 Maires & Reed, Iron chairs, 111.
 Mairlot & Heuse, Gun barrels, 218.
 Maison, Rustique, Books, 343.
 Maisonneuve & Co., Books, 343.
 Maitrepierre, Books, 343.
 Maitrise, St. Pierre, Scholars' work, 342.
 Maize & Schwartz, Uniforms, 123.
 Majalhaes & Moniz, Books, 369.
 Majervsky, T., & Stochelsky, M., Coal, 98.
 Majewski, T., Drops, 319.
 Majira, Mrs. G., Paintings, 267.
 Majolini, F., Scale, 359.
 Major, Dr., Nutmegs, 172.
 Makboubi, Towels, 299.
 Makee, J., Sugars, 251.
 Maki Yani, Confitures, 312.
 Maktés, Bagdo, Sheeting, 293.
 Maktés, Heron, Saddle cloth, 305.
 Maktis, Extracts, 291, 292; Manna, 306.
 Makudsu, Kozan, Porcelain, 249.
 Makudzu, K., Vases, 245.
 Mala Noche Company, Minerals, 86.
 Malaga, Corps of Mining Engineers, Stone, 90; Slag, 92.
 Malaise, C. H. G. L., Chart, 359.
 Malcher, A. J., Straw goods, 253.
 Malcolm, R., Harness, 191.
 Malcom & Stevenson, Fruit extracts, 105.
 Malfait, F., & Co., Clocks, 344.
 Malhada Mining Co., Copper ore, 94.
 Mali, Henry W. T., Fabrics, 195.
 Mallah Ahmed, M., Fabrics, 298.
 Mallet, J. W., Judge, Gr. III., 15.
 Malligand, E. D., jr., Tester, 344.
 Mallory, R., U. S. Commissioner, 9.
 Mallory, Wheeler, & Co., Locks, 141.
 Malmö Porcelain Mfg. Co., Porcelain, 225.
 Malmö Wood Pulp Mfg. Co., Pulp, 227.
 Malmö Woolen Mfg. Co., Yarn, 226.
 Malmsjö, J. G., Pianos, 363.
 Malone, Duny, California, 11.
 Maltby, Curtiss, & Co., Nail puller, 137.
 Maltese, Felice, Book, 365.
 Maltête, Toys, 198.
 Malvehy, B., Silk, 275.
 Mame, A., & Son, Book, 343.
 Manapola, C., Carpet, 296.
 Manceaux, H., Books, 359.
 Manchester Mills, Prints, 119; Fabrics, 121.
 Mandené, Diarbekir, Ore, 96.
 Manderson, C. F., Nebraska, 13.
 Maneza, Government of, Flax seed, 310.
 Mangeri, A., Cloths, 233.
 Manhattan Brass Co., Brass, 59.
 Manhattan Piano Forte Co., Pianos, 333.
 Manik, H., Skin, 311.
 Manila Economical Society, Arms, 282.
 Manila, Provincial Board of, Hats, 281.
 Manilha, F. dos S., Stones, 95; Slates, 289.
 Manly, M. M., & Son, Rails, 139; Railing, 378.
 Mann, Wm., Blank books, 131.
 Manning, Bowman, & Co., Nickel ware, 113.
 Manol Velekidinko, Basket, 303.
 Manoli Boyadjaki, Barley, 308.
 Manoli Calergui, P., Tobacco, 309.
 Manoli, L., Pipe, 371.
 Manoli Musé, Vinegar, 313.
 Manoli Prizi, Brandy, 313.
 Manoli Toraki, Miss C., Crochet, 301.
 Manouk, Plate, 292; Chain, 302.
 Manouk, Y., Tobacco, 310.
 Mansfield Shire Council, Marble, 65.
 Mansilla, Manuel, Quartz, 83.
 Mansour, H., Cotton, 293; Sponges, 310.
 Mansuy-Dotin, J., Enamels, 194.
 Mantero & Asuero, M., Boots, 276.
 Mantilla, C., Counterpane, 256; Shawls, 258.
 Maniilla, F., Embroidery, 258.
 Manuel de la Vega, Wire bust, 263.
 Manuel, Antonio da S., & Sons, Shot, 289.
 Manuel, C., Lessons, 266.
 Manuel, J. de L., & F., Velvet, 287.
 Manuel, Leita P., & Bro., Pottery, 284.
 Manufactory of Arms, Cartridges, 278.
 Manufactory of Side Arms, Arms, 278.
 Manufacturers' Joint Stk. Co., Statutes, 360.
 Manuvilling, J. J., Matches, 188.
 Manville, B., & Co., Rockaways, 381.
 Manville Co., Cotton goods, 117.
 Manzanares, Josefa, Embroideries, 263.
 Manzano, Juan, Charcoal, 93.
 Maorad, Benito, Manganese, 89.
 Maplestone, C., Wines, 164.
 Marabella, District of, Steatite, 91.
 Marach, Government of, Mineral waters, 97.
 Marais, H. H., Brandy, 171.
 Marais & St. Marie Paper Mills, Paper, 198.
 Maralha, P., Pitcher, 284.
 Maranesi, G., & Masetti, B., Ink, 232.
 Maranhao, Prov. of, Pharmacies, 252; Cups, 254.
 Maravedo, S., Military manœuvring, 267.
 Marbaix, Auguste de, Essential oil, 215.
 Marbeau, Plans, etc., 346.
 Marble, Jerome, & Co., Indigo blue, 105.
 Marca, S., Soap, 271.
 Marcal, J. L., Bricks, 284.
 March, Brownback, & Co., Ranges, 375.
 Marchand, I., Furniture, 194.
 Marchand, L. L., Bronzes, 194, 199.
 Marchesini, P., Hats, 234.
 Marchini, C., Straw works, 235.
 Marco, Spoons, 305.
 Marcotte, L., & Co., Furniture, 110.
 Mardili, O., Cotton, 313.
 Marfá, Cayetano, Cotton, 276.
 Marga, Eugene, Chimney piece, 194.
 Margani-Valenti, G., Medicines, 235.
 Margarido, M. d'O., Bottle, matting, 284.
 Margues, José Antonio, Umbrellas, 288.
 Maria, Joaquim, Tree, 288.
 Maria, José, Toothpicks, 288.
 Maria & Silvia, F., & Gonçalves, Hats, 287.
 Marie, François, Arrowroot, 178.
 Marie, G., Woolen coverlet, 296.
 Marie, Gauze, 299.
 Marie, Madame, Ribbon, 295; Carpet, 296; Purses, 303.
 Mariel, H. de, Book, 343.
 Marietta, Pittsburg, & Cleveland Railway, Minerals, etc., 49.
 Marin, J., Judge, Gr. XXVIII., 19.
 Marin, M., Water, 91; Essences, 270.
 Maring, W., Plan, 356.
 Marinha Grande Royal Glass Mfy, 284.
 Marini, Marq. P., Olive oil, 232.
 Marion Blind Co., Window shades, 115.
 Merionga, Counterpane, 298.
 Maripa, Golopo, Cloth, 295.
 Mark, Raisins, 312.
 Mark, G. L., Brandy, 313.
 Markham, A., Pyrolusite, 71.
 Markora, S., Cheese, 310.
 Markowitch & Scheid, Trinkets, 209.
 Marks, Arrowroot, 180.
 Marks, A. A., Limbs, 135.
 Marks, A. F., Periodical, 372.
 Marks, T., & McKellar Bros., Silver ores, 70.
 Marling & Co., Woolens, 149.
 Marlor, T. L., Connecticut, 11.

- Marmolejo, Corporation of, Water, 91.
 Maroli, Crape, 299.
 Maroquin, Morocco, 311.
 Marouli, Mrs. G. S., Gauze, 299.
 Marquar, Apron, 294.
 Marquart, L. C., Chemicals, 201.
 Marques, J. da Rosa, Earthenware, 284.
 Marques, Manuel Martius, jr., Jewelry, 288.
 Marques, P. A., Earthenware, 284.
 Marquise Iron Co., Pipes, 199.
 Marrel, J. E., Clocks, 344.
 Marrin Bros., Parlor organ, 342.
 Marroqui, J. M., Catechism, 266.
 Marsh & Co., Gypsum, 55.
 Marsh, Jas. P., & Co., Health lift, 336.
 Marshall, B. F., jr., Book, 326.
 Marshall Bros. & Co., Iron work, 143.
 Marshall & Co., Sewing threads, 149.
 Marshall, J., Ale, porter, 159.
 Marshall & Slade, Wool, 183.
 Martell, E., Judge, Gr. IV., 16.
 Marter, F. B., Chest, 190.
 Marthaus, A., Felt goods, 203.
 Marti de Detrell, Cushion, 277.
 Martilaro, Mar. C., Olive oil, 232.
 Martin & Bros., Cover, 279.
 Martin, C., Polish, 73.
 Martin, C. F., & Co., Guitars, 332.
 Martin, Ch., & Co., Watches, 355.
 Martin, Charles, Crucibles, 187.
 Martin, D., Cloth, 275.
 Martin, F. O., Granite, 53.
 Martin, G., Sugar, 158.
 Martin, H. F., Slate mantels, 52.
 Martin, J., Wines, 168.
 Martin, J. A., U. S. Commissioner, 9.
 Martin, J. B., Silks, 196.
 Martin, L., Sheet iron, 199.
 Martin, L., & Co., Lampblack, 104.
 Martin, P. J., Malt, ale, 164.
 Martin, R., Cutters, 154.
 Martin, W. H., Whips, 151.
 Martin, W. H., & Co., Roofing, 378.
 Martinelli & Bro., Marble fixtures, 253.
 Martinés, F., Olive oil, 232.
 Martínez, A. S., Cup, 256.
 Martínez, Benito, Trunks, 277.
 Martínez, C., Pharmacies, 278.
 Martínez, D., Bag, 281.
 Martínez de la Forre, Cigars, 268.
 Martínez, Del Rio, Book, 267.
 Martínez de Santa Maria, Iron ore, 87.
 Martínez, F., Silk, 275.
 Martínez, J. M., Wines, 263.
 Martínez, Joaquin, History, 267.
 Martínez la Liana, Work basket, 273.
 Martínez, Lopez F., Paper, 278.
 Martínez, M., Fabrics, 280.
 Martínez, R., Grapes, 277.
 Martínez, R., Silk, 276.
 Martínez, Victor, History, 267.
 Martinotti, L., Furniture, 233.
 Martins, A. C., Pottery, 284.
 Martins, Jeronimo, & Bro., Toothpicks, 288.
 Martins, Jeronimo, & Son, Toothpicks, 288.
 Martisheff, W., Indicator, 373.
 Martins, W., Gloves, 299.
 Martorana, Paladino S., Sea salt, 231.
 Marunaka, M., Vases, 249.
 Marvin Bros. & Bartlett, Cod-liver oil, 103.
 Marvin's Safe Co., Safes, 112; Locks, 141.
 Marx Bros., Scissors, 139.
 Marx, G., Judge, Gr. IV., 16.
 Marx & Rawolle, Glycerine, etc., 103.
 Maryland, Educational Dept. of, 323.
 Marzi Bros., Olive oil, 232.
 Mas, M., & Son, Fabrics, 273.
 Mas, Ramon, Soda, 270.
 Masbate, Provincial Board of, Baskets, 280.
 Masbate, Prov. Com. of, Gold dust, 93.
 Mascarenhas & Bros., Cotton goods, 253.
 Maschado, M. A., Horse-hair goods, 253.
 Maseurand Bros., Pearls, 197.
 Mashimidzu, Zoroku K., Vases, 244.
 Maslin, T., West Virginia, 14.
 Masloum Agha, Morocco, 311.
 Masoliver, Bartolomé, Chalk, clay, 91.
 Masoliver Bros., Silk, 276.
 Mason & Barry, Ores, 94; Gold, silver, plans of mines, 95.
 Mason, C., Illinois, 12.
 Mason, C. F., & Co., Cassimeres, 120.
 Mason & Co., Engraving, 130.
 Mason & Hamlin Organ Co., Organs, 332.
 Mason, J. L., Soap cup, 374.
 Masonic Publishing Co., Books, 327.
 Massachusetts, Commonwealth of, Educational exhibit, 324.
 Massachusetts Cotton Mills, Drillings, 117.
 Massachusetts Institute of Technology, 322.
 Massaguer & Lledó, Fans, 277.
 Masser, H. B., Coffee roaster, 376.
 Massing Bros. & Co., Silk plushes, 204.
 Massmann, F., Gold cornices, 202.
 Masson, G., Books, 343.
 Massoudjou, Ochre, 292; Bark, 306.
 Masury, J. W., & Son, Painting, 104.
 Mata, Mrs. J., Towel, 266.
 Mataix, C., Cloth, 274.
 Mateos y Morato, Sulphate of lead, 87.
 Mather's, Geo., Sons, Inks, 104.
 Matheson & Gilice, Hematite ore, 71.
 Matheu, Antonio, Spanish white, 91.
 Mathijssen, A., Bandages, 221.
 Mathushek Piano Mfg. Co., Pianos, 334.
 Matić, Lady, Fabric, 298.
 Matier, Henry, & Co., Printed linens, 149.
 Matile, H. L., Watches, 355.
 Matlack, H. S., Paper hanging, etc., 111.
 Matlos, Antonio José de, Basket work, 289.
 Matros, E., Blanket, 266.
 Matson, J. S. B., Ornaments, 328.
 Matsumoto, T., Paper, 247.
 Matsuo, I., Bazar, 248.
 Matsuzaki, S., Soap, 244.
 Mattaldi, E., Harness, trunk, 259.
 Matteissen, N., Potash, 315; Medicine, 319.
 Matthes, W. E., Ammonia, 220.
 Matthews, E., & Son, Tiles, 146; Windows, 147.
 Matthews, F. L., U. S. Commissioner, 9.
 Matthews, John, Terra-cotta, 145.
 Matthias, Mrs. C. E., Umbrellas, 128.
 Matthiessen & Hegeler Zinc Co., Zinc, 59.
 Mattmann Bros., C. & J., Pastry, 214.
 Mattos, F. C. Pereira de, Flails, 290.
 Mauch, D., Wine, 180.
 Mauke, W., Book, 348.
 Maurer, Henry, Tiles, 107.
 Maurer & Höller, Instruments, 349.
 Mauser & Haid, Stone, 54.
 Mauvernay & Co., Silks, 196.
 Mavrillis, E. E. G., Silk, 297.
 Maw & Co., Terra-cotta, 146.
 Mawson, Ed. S., & Sons, Skins, 129.
 Máximo, I. & E., Flowers, 282.
 Maxton, R., & Co., Laces, 197.
 May, J. M., Silk, 159.
 May, J. P., Models, etc., 342.
 May, James S., Clothing, 189.
 Mayall, Miles, Linings, 122.
 Mayaud Bros., Ornaments, 194; Medals, 198.
 Maydole, D., & Co., Hammers, 137.
 Mayer & Co., Linen goods, 203.
 Mayer, F. H., Books, 348.
 Mayer, G., Gloves, 240.
 Mayer, J. W., Cutter, 381.
 Mayer, M., Envelopes, 205.
 Mayer & Meltzer, Galvanic batteries, 339; Instruments, cutlery, 153.
 Mayer, Moses, Collection of coins, 336.
 Mayer's Art Institution, Statues, 202.
 Mayet-Tissot, M., Regulators, 344.
 Maylasky, S., Girth, 254.
 Maynard & Noyes, Writing ink, 105.
 Mayo, M. C., Plane, 138.
 Mazalaki, Dimitri, Oil, 291.
 Mazaroz, R., Furniture, 194.

- Mazarrasa, G., Basket, 273.
 Mazloum Aghiah, Pastes, 312; Design, 371.
 Mazullo, Cav. Agostino, Rock salt, 231.
 Mazzullo, Cav. L., Olive oil, 232.
 McAdam, Miss V., Baskets, 184.
 McAlpine, Wm. J., Engineering exhibits, 335.
 McAusland, J., Stained glass, 188.
 McBride, R., & Co., Fabrics, 148.
 McCallum, Iron ore, 64.
 McCallum, Creas, & Sloan, Carpets, 122.
 McClees, J. E., & Son, Chairs, tables, 112.
 McClement Bros., Cards, 132.
 McCloskey, Bro., & Co., Paints, 105.
 McCollough Iron Co., Blooms, 56.
 McCook, G. W., Ohio, 13.
 McCormick, J., Alarm, 331.
 McCormick, R. C., U. S. Commissioner, 9.
 McCoy, Prof., Animals, 163.
 McCoy & Roberts, Ranges, 375.
 McCoy, W. W., U. S. Commissioner, 9.
 McCrae & Co., Knit goods, 189.
 McCrossan & Farr, Linen, 119.
 McDermott, F., Globes, 31.
 McDermott, J., & Bros., Buggy, 381.
 McDermott, J., & Co., Stone, 54.
 McDonald, Alex., Rustic rock work, 52.
 McDonald, Charles, Drawings, 334.
 McDonald, D., Photographs, 162.
 McDonald, Geo. J., Stone, 72, 73.
 McDonald, J., Pianos, 333.
 McDonald, R. A., Coal, 71.
 McDonald, R. N., Gypsum, 73.
 McDonald, T. E., Wringer, 377.
 McDonnell, Kline, & Co., Shirts, 125.
 McDougall, J., & Sons, Sandstone, 73; Iron, 74.
 McDougall, John, Ore, 71; Blooms, 74.
 McDougall, S. T., Stoves, 375.
 McEachem, Daniel, Chain, 141.
 McElroy, P. J., Syringes, 136.
 McEwan, J., Sideboard, 160.
 McEwen, G., Jams, 167.
 McFadden, G., Cornets, 333.
 McFarlane, Peppers, 180.
 McFarlane, A., Wool, 168.
 McGee, J. G., & Co., Shawls, etc., 150.
 McGie, James, & Co., Ore, 65.
 McGill, Geo. W., Fasteners, 129.
 McGill University, Catendars, etc., 342.
 McGregor, D., Clay, 73.
 McGregor, L., Sandstones, 72.
 McHardy, D., Judge, Gr. XV., 17.
 McIlroy, T., Furniture, 135.
 Mellvain Eros., Drugs, 102; Facings, 107.
 Mellwraith, J., Gas pipe, 161.
 McIntire, J. F., Carriages, 381.
 McIntire, S., Carriages, 381.
 McKay, F. C. D., Rollers, 113.
 McKay, William, Cement, 72; Ink, 187.
 McKee, J. D., Woolen goods, 121.
 McKeen, David, Coal, 71.
 McKellar Eros., Ores, 70.
 McKellar, D., Gold in quartz, 70.
 McKenney, T., Relics, 328.
 McKensie, Clothing, 189.
 McKensie, J. F., & Co., Coffee, 163; Oatmeal, 164.
 McKenzie, M., Locks, 190.
 McKeone, Van Haagen, & Co., Soaps, 103.
 McKesson & Robbins, Drugs, etc., 102.
 McKinley, John, Chairs, 109.
 McKnight & Rohrer, Rims, 379.
 McLanachan, J., Wool, 183.
 McLean, G. C., Oils, 251.
 McLearn, A., Carriage, 381.
 McLearn & Kendall, Phaeton, 380.
 McLennan, Jos., Gypsum, 74.
 McLintock, James, & Sons, Quilts, etc., 150.
 McLoughlin Bros., Books, 326.
 McMann, G. N., Clay, 73.
 McMichael, M., Pennsylvania, 14.
 McNally, J., Idaho, 12.
 McNally, W. G., Stone, 53.
 McNaught & Smith, Carriages, 154, 383.
 McNeil, Irving, & Rich, Paper, 131.
 McNeil, J., U. S. Commissioner, 9.
 McPherson, A., Fibres, 180.
 McPherson, T., Corn sacks, 161.
 McPherson, T., & Co., Jute, 164.
 McQuarrie, John, Marble, etc., 72.
 McQueen, William, Coal, 71.
 McTear & Co., Roofing, 148.
 McVicar, George, Amethyst, 71.
 Meadows, J. G., Salt, 173.
 Mechanics' Institute, Platinum, 70.
 Mechanics' Mills, Printing cloths, 118.
 Mechanics' School of Arts, Wax seal, 340.
 Mechlin Savings Bank, Reports, 360.
 Meda, B., Calico, 233.
 Medicine, Faculty of, Theses, 366.
 Medina, Government of, Crystals, 06; Kena, 292; Plants, 304; Basket, 305; Dates, 307; Wheat, 308; Honey, 312.
 Medina, Luis R., Whetstones, 85.
 Medinaceli, Duchess, Sal gemma, 270.
 Medinaceli, Duke of, Ferruginous water, 91.
 Mee, C., & Co., Melodeon, 342.
 Meeker, D. M., & Son, Iron bronzes, 141.
 Meeker, N. C., Alternate, 9.
 Meerens, C., Music, 359.
 Meeus, J., Newspaper, 359.
 Meeus, M. & J., Sulphur, 215.
 Megargee Bros., Paper, 131.
 Megata Kaian, Picture, 249.
 Méhadani, A., Boots, 301.
 Mehamed Bin Adoura, Tissues, 293.
 Mehamed Mousseri, Caps, 301.
 Mehamed Tourmae, Belt, 303.
 Mehamed Dekiz, Silk, 297.
 Mehanedji, F., Brandy, 313.
 Mehemed, Salt, 291.
 Mehemed, A., Wool, 314.
 Mehemed Abdul Hamid, Garments, 299.
 Mehemed Agha, Coal, 97; Fabrics, 294, 295; Carpet, 296.
 Mehemed Aiché, Paste, 312.
 Mehemed Ali, Calicoes, 294; Boots, 301; Smokers' articles, 303.
 Mehemed Ali Agha, Beans, 309.
 Mehemed bin Abdoulah, Spoons, 305.
 Mehemed, Cumin, 309.
 Mehemed Dervich, Fan, 303.
 Mehemed Djebali, Flour, 312.
 Mehemed, E., Skins, 311.
 Mehemed Effendi, Linen, 294, 295; Almonds, 307; Indian corn, 308.
 Mehemed Emin, Fabrics, 298.
 Mehemed Galz Effendi, Marshmallow, 307.
 Mehemed, H., Vases, 292; Fabrics, 295; Carpet, 296; Clogs, 301; Peas, 309.
 Mehemed, K., Skin, 311.
 Mehemed Kirkit, Carpets, 296.
 Mehemed, Larik, Saddle cloth, 305.
 Mehemed, M., Boots, 301.
 Mehemed, M., Hemp, 314.
 Mehemed, M., Towels, 295.
 Mehemed, Malatia, Paste, 312.
 Mehemed, Mosul, Saddle bag, 304.
 Mehemed Nablus, Drum, 371.
 Mehemed, O., Leather, 310.
 Mehemed Oglou Alichan, Carpets, 296.
 Mehemed Ousta Hadji, Cup, 292; Jacket, 299; Ropes, 305; Sheets, 307.
 Mehemed, Piseren, Soap, 291.
 Mehemed Rechio, Pistachio nuts, 307.
 Mehemed Seid, Beans, 309.
 Mehameda, Morocco, 310.
 Mehameda, Cus-Kuri, Rye, 308.
 Mehameda, Marach, Horse shoes, 97.
 Mehameda, N. du T., Fabric, 293.
 Mehemet Agha, Sumac leaves, 306.
 Mehr, G., Dials, 330.
 Mehulourt, S., Coverlet, 296.
 Meidel, F., Safes, 223.
 Meier, J. C., Chemicals, 202.
 Meighen Bros., Phosphate of lime, 74.
 Méilot, A., Music method, 343.
 Meinecke, A., Wisconsin, 14; Baskets, 380.
 Meinhold, C. C., & Sons, Atlas, 348.

- Meirelles, A. M. de, Salt, 283.
 Meisel, C. J., Manuals, 354.
 Meissner & Buch, Lithographs, 348.
 Meissner, C. F., & Son, Papers, 205.
 Meissner, O., Books, 348.
 Mejias Moreno, José, Gypsum, 91.
 Mekon, K., Shawls, 296.
 Melbourne, City of, Photographs, 162.
 Melbourne, Com. for, Boxes, etc., 162; Wheat, etc., 163.
 Melbourne Glass Bottle Works Co., 165.
 Melbourne, Lands & Agri. Dept., Woods, 162.
 Melbourne Meat Preserving Co., Meats, 164.
 Melbourne, Penal Dept., Leather, 163.
 Melendez, Carvajal, & Co., Hats, 276.
 Méliés, L. S., Boots, 197.
 Melillo, G., Jewelry, 234.
 Melindre, J. d'Oliveira, Matting, 284.
 Melissari, G., Essences, 232.
 Melkior, P. J., Liquors, 218.
 Mellin, G., Food, 153.
 Mellinger Jump Seat Co., Seats, 381.
 Mello, A. J. T., Wax candles, 283.
 Mello, Antonio M. de S., Beadwork, 288.
 Mello, G. C. de, Urn, 254.
 Mello Gil Tavares, Yarn, 286.
 Mello, J. C. de, Cotton fabrics, 285.
 Mellon, F. D., Wines, 164.
 Mellor & Rittenhouse, Extracts, etc., 101.
 Melton, W., Starch, 177.
 Melville, James, Wine, 172.
 Memla, Memour, Salt, 291.
 Menard, Weather strips, 373.
 Mender, Railway, 267.
 Mendes, C., Atlas, 367.
 Mendes, J. O., Sulphur, 82.
 Mendes, M. J., Impressions, 370.
 Mendez, B. A., Fabric, 280.
 Mendheim, G., Plans, clay, 202.
 Mendiola & Co., Cloth, 274.
 Mendona, T. A. de, Blue, 283.
 Mendonca, Manuel Fernandez de, Spools, 290.
 Mendoza, P., Cushion, 281.
 Mendoza, Prov. Com. of, Minerals, 83; Mat, 256; Herbarium, 259.
 Menchoz, Priest of Mount Athos, Spoons, 305.
 Meneses, N., Claret, 262.
 Menezes, C. de, Music, 366.
 Mengo, F. da Silva, Books, 363.
 Menici, A., Baths, 233; Appliances, 235.
 Mennesson, E., Instruments, 345.
 Menshikoff's, W., Sons, Calico, 316.
 Menteché, Gov. of, Incense, 292.
 Mentefek, Gov. of, Garment, 300; Wheat, 308.
 Mentzel, A., Books, 348.
 Menzel, W. E., Garnets, 209.
 Menzeurlé, Fathma, Gauze, 299.
 Mer Allah, Shirt, 299.
 Mercer Pottery Co., Earthenware, 108.
 Mercer, R. W., Pottery, 329.
 Mercer, Thomas, Marine chronometers, 339.
 Merchants' M.g. Co., Printing cloths, 118.
 Merchants' Salt Co., Brine, 74.
 Merchants' Shot Tower Co., Shot, 133.
 "Mercurio" Printing Office, Books, 261.
 Merdik, Mardin, Sesame, 308.
 Merick, E. J., Brooms, 380.
 Meriden Britannia Co., Table ware, 113.
 Meriden Curtain Fixture Co., Fixtures, 109.
 Meriden Cutlery Co., Cutlery, 139.
 Meriden Silver Plate Co., Glass, 113.
 Meriden Woolen Co., Cassimeres, 120.
 Merino & Co., Surgical instruments, 254.
 Merkelbach & Wick, Pottery, 202.
 Merkioss, Mamor, Mulberries, 312.
 Merlini, Alfonso, & Enrico Bros., Oil, 231.
 Merlo, Baron V., Olive oil, 232.
 Merriam, G. & C., Books, 326.
 Merrick Thread Co., Bobbins, 116.
 Merrill, S., Panel centre, 110.
 Merrill, A. H., Slate, 53.
 Merrimac Mills, Calicoes, 119.
 Merriman, J., Crayfish, gooseberries, 170.
 Merritt, J. P., Chronotable, 341.
 Mersereau, W. T. & J., Hardware, 141.
 Messine, Government of, Pitch, 306.
 Mervine, S. P., jr., Apparatus, 135.
 Merwe, J. H. van der, Grapes, 170.
 Merwin, Hulbert, & Co., Fire arms, 133.
 Meskout, Serros, Farrings, 302.
 Mesnier, Raul, Cigarette paper, 289.
 Mesquita, P. J. de, Linen fabric, 285.
 Mesrouhout, Bracelets, 302.
 Messner & Co., Harmonicas, 349.
 Mestra, P., Drilling, 273.
 Mestre, A. de, Apparatus for corking, 194.
 Metacommet Mills, Printing cloths, 118.
 Metal Stamping Co., Buckles, etc., 379.
 Metallic Cartridge Mfy., Cartridges, 319.
 Metallurgical Co., Bolts, 279.
 Metallurgical Coal Pit Co., Coal, 89.
 Metcalf, D. H., Sheets, 136.
 Metcalf, J., Clay, 73.
 Met-en-Meerzorg Plantation, Sugar, 175.
 Methodist Book Concern, Books, 326.
 Methuen Mill, Bagging, 118.
 Metropolitan Washing Machine Co., 377.
 Metrouge, B., Tissue, 298.
 Mets & Willse, Bookbinding, 131.
 Metz, F., Metal, 201.
 Metzler, A., Minerals, 83.
 Metzner, B., Laces, 209.
 Meunier & Co., Linen, 195; Curtains, 107.
 Mexican Mining Society, Minerals, 86; Newspapers, 266.
 Mexican Scientific Society, Books, 267.
 Mexico, State Gov. of, Salts, 265; Woods, 267; Coffee, 268; Botanical collection, 269.
 Mey & Widmayer, Art publications, 348.
 Meyenberg, S. M., Satins and silks, 123.
 Meyer, A. F. W., Apparatus, 342.
 Meyer, Behn, & Co., Various products, 176.
 Meyer Bros., Silk bolting cloth, 212.
 Meyer, C., & Sons, Pianos, 332.
 Meyer & Co., Silk, 234.
 Meyer, F. W. A., Gun, 190.
 Meyer, Heinrich, Ivory goods, 205.
 Meyer & Henckel, Butter coloring, 223.
 Meyer, J., Damask goods, 203.
 Meyer, James, jr., & Co., Disinfectant, 102.
 Meyer, Jonasson, & Co., Skirts, 123.
 Meyer, L., Music, 322.
 Meyer, Wäspi, & Co., Undergarments, 213.
 Meyers, Simon S., Stove polish, etc., 104.
 Meylan & Mertens, Ed., Gold chains, 213.
 Meyr's Nephew, A., Glassware, 208.
 Mez. C., & Son, Sewing silks, 203.
 Miakotin, J., Hats, 317.
 Miasky Gov. Gold Mines, Ores, etc., 98.
 Michael, F. M., Limestone and lime, 54.
 Michaelis, F., Vinegar, 240.
 Michaelis & Kaskel, Shirts, 124.
 Michel, L., Decorations, 194.
 Michel, P., Chemicals, 192.
 Michels, I. C., Book, 327.
 Michelsen, John B., Cutlery, 230.
 Michérel, Government of, Lignite, 96.
 Michigan, State of, Minerals, etc., 51; Iron, etc., 59; Educational, 322.
 Michigan Stove Co., Stoves, 375.
 Michon, André, Cotton fabrics, 285.
 Micka, K., Gloves, 208.
 Middleburg & Flushing Chamber of Commerce & Industry, Chart, 361.
 Middlesex Co., Woolen goods, 120.
 Middleton, C. W. & H. W., Iron, steel, 56.
 Middleton, Thomas J., Magic lanterns, 339.
 Middletown Plate Co., Plated ware, 113.
 Middletown, T. D., Laces, 174.
 Middletown Tool Co., Hardware, 141.
 Midgley, Mrs., Flowers, 157.
 Midnight Yarn Co., Yarns, 120.
 Miedel, D., Ventilator for chimneys, 216.
 Mier, A., Salts, 265.
 Migliaccio, R., Paper, 234.
 Miguel, Garcia Manuel de, Salt, 270.
 Mihalgazi, Government of, Leaves, 306.
 Mihali, S., Cocoons, 314.

- Mijas, Corporation of, Marbles, 90.
 Mikael, K., Skin, 310.
 Mikahil, Seboul, Garments, 299.
 Mikahili, H., Garments, 300.
 Mikahilides, Photographs, 371.
 Mikahl Agha, Jacket, 299; Skins, 310.
 Mikail, Lace, 301; Earrings, 302.
 Mikail Antiki, Saucer, 303.
 Mikali, H., Coverlets, 299.
 Mikali, Nicoladi, Oranges, 312.
 Mikali, R., Fabrics, 299; Prunes, 312.
 Mikhaeloff, B., Wood, 320.
 Mikhaeloff, Mrs., Turcens, 320.
 Mikhaeloff, A., Costume, 318.
 Mikhaeloff, T., & Son, Wool, 317.
 Mikiani, I., Cocoons, 314.
 Milaki, N., Gauze, 299.
 Miles, Bros., & Co., Brushes, 142.
 Miles, E. T., Massachusetts, 12.
 Milewski, J., Telemeter, 372.
 Miliani, C., Crockery, 233.
 Military Engineering Dept., Plans, 373.
 Military Pyrotechny, Fuses, 271.
 Militinous, Government of, Yellow earth, 96.
 Millar, J., & Co., Glass, 147.
 Millas, Gimps, 197.
 Miller, A. R., & Son, Carriage jack, 382.
 Miller Bro. Cutlery Co., Cutlery, 139.
 Miller Bros., Microscope, 331.
 Miller, C. H., Bureau of Horticulture, 10.
 Miller, D. K., Lock Co., Locks, 141.
 Miller, E., & Co., Bronzes, 114; Oilers, 138.
 Miller, E. W., Dakota, 12.
 Miller & Eastmead, Lanterns, 114.
 Miller, Geo. F., Hats, 126.
 Milner, H. F., Pianos, 332.
 Miller, Hugh, & Co., Pomade, 188; Tick de-
 stroyer, 190.
 Miller, J. A., Models, 382.
 Miller, J., & Co., Ropes, 161.
 Miller, J. S., Trusses, 136.
 Miller, J. W., Plumbing, 115.
 Miller, Jeremiah, Nevada, 13.
 Miller, James, Books, 326.
 Miller & Krips, Bronze, 139.
 Miller, L. H., Safes, 109.
 Miller, Metcalf, & Parkins, Steel, 55.
 Miller, T., Hats, 204.
 Miller, Thos., Umbrellas, 127.
 Miller, W., Ranges, 376.
 Miller, William J., Engravings, 336.
 Miller, William P., & Co., Lubricants, 103.
 Miller, Wm. D., Fire arms, 133.
 Miller's Bible & Publishing House, 328.
 Miller's Falls Co., Tools, 138.
 Millet, J. G., Graphite, 73.
 Milliani, P., Paper, 234.
 Milliken, Eugene, Polish, 104.
 Million, Guiet, & Co., Carriages, 200.
 Million & Servior, Silks, 196.
 Mills, E., & Co., Braces, 138.
 Mills & Hutchinson, Tweeds, 189.
 Mills, J. D., Birds, 251.
 Mills, J. M., Michigan, 13.
 Mills, M. A., Inks, 220.
 Millville Mfg. Co., Cambrics, 119.
 Millward, H., & Sons, Needles, 151.
 Milner & Herd, Stone, 73.
 Milner, J. F., Alabama, 11.
 Milner, Wm., & Sons, Sewing silks, 150.
 Milton Furnace & Coal Co., Ores, 50; Iron, 58.
 Minassian Miguerdji, Cheese, 310.
 Mindanao, Provincial Board of, Fabrics, 280;
 Arms, 282.
 Mindoro, Provincial Board of, Basket, 283.
 Mindovsky, B. & B., Yarn, 316.
 Miner, J. G., Lamps, 114.
 Mineral Water Stock Co., Mineral water, 78.
 Mines, Dept. of, Ores, etc., 64, 94; Iron,
 plans, 95; Photographs, 370.
 Mineur, C. G., Paper, 227.
 Minglanilla, Corporation of, Sal gemma, 270.
 Mingozi, Vincenzo, Olive oil, 231.
 Minheimer, L., Buttons, 318.
 Mining Department, Periodicals, 99.
 Mining Engineers, Ores, 88.
 Mining Union, Lignite, 89.
 Minnesota, Educational Dept. of, 325.
 Minns, A. C. J., Necklaces, 173.
 Minoda, C., Ornaments, 244; Porcelain, 245;
 Albums, 247; Vases, 248; Pictures, 249.
 Minodoro, S., Wool, 296.
 Minong Mining Co., Copper, 48.
 Minot, Hooper, & Co., Cotton goods, 116.
 Mint and Stamped Paper, General Direction
 of, Engravings, etc., 370.
 Minton China Works, Enameled tiles, 146.
 Minton, Hollins, & Co., Tiles, 146.
 Mintzer, S. J. W., Steel, 57.
 Mira, J. P. de, Bricks, 284.
 Miran Moundjia, Frame, 293.
 Miranda & Sons, Salt, 283.
 Mirkovski Paper Mill Co., Paper, 318.
 Miro Cerdá, Ores, 88.
 Miró y Cerdá, C., Coal, 89.
 Miró & Corominolo, J., Dye, 271.
 Miró, Sons of Gabriel, Cloth, 274.
 Mirrada, José Pedro Meudas, Fabrics, 286.
 Missa Yian, Seeds, 307.
 Missenharter, C., Musical instruments, 334.
 Mission Woolen Mills, Blankets, 121.
 Missir, J., Wine, 313.
 Mississippi Mills, Yarns, etc., 118; Cassi-
 meres, 120.
 Missouri, Educational Dept. of, 323.
 Missouri, State of, Ores, 51.
 Missouri Valley Novelty Works, Safe, 377.
 Mitchell, A., Judge, Gr. IX., 16.
 Mitchell, D. G., Judge, Gr. XXVII., 19.
 Mitchell, F. W., Pennsylvania, 14.
 Mitchell, G. E., Cologne, 106; Plasters, 134.
 Mitchell, Henry L., Coal, 71.
 Mitchell, J. E., Oilstones, 139.
 Mitchell, Mrs. S., Gum, 182.
 Mitchell, R., Judge, Gr. VII., 16.
 Mitchell & Rammelsburg Furniture Co.,
 Furniture, 109.
 Mitchell, S. A., Atlases, 321.
 Mitchell, Stevenson, & Co., Stoves, 375.
 Mitchell, Vance, & Co., Gas fixtures, 114;
 Bronzes, 128; Clocks, 330.
 Mitchell, Wilson, Tiles, etc., 54.
 Mitcheson, Mrs. M. J., Spoon, 113.
 Mitchez, Y., Cotton, 293.
 Mitscheré, Marie, Hose, 299.
 Mitsui, Pictures on silk, 247.
 Mix, G. I., & Co., Spoons, 113.
 Miyagawa, T., Vases, 244.
 Miye-ken, Local Gov't of, Gauze, 245.
 Mneff, J., Chests, 320.
 Moat, E., Springs, 344.
 Moberg Machine Co., Range, 226.
 Mochan, Albert, Clay, 73; Bricks, 188.
 Mockridge, E., & Co., Azumea, 102.
 Moco, S., Photographs, 178.
 Moedas, J., Building materials, 283.
 Moeller, A., Piano, 333.
 Moeller, C. H., Underwear, 123.
 Moeller, P. W., Frame, 321.
 Moerer, W., Books, 349.
 Moestue, Thv., & Co., Slate, 80; Iron safe,
 229; Pasteboard boxes, 230.
 Moffitt, S. J., Virginia, 14.
 Mohadjeri Nahe, Skin, 310.
 Mohamed, Hair, 314.
 Mohammed, H., Thread, 295; Carpet, 296.
 Moir, J., Shot, 182.
 Moiraghi, A., Shoes, 234.
 Moisant, A., Frame, 195.
 Moistic Iron Works, Iron, 74.
 Moitrier, L. B., Baskets, 200.
 Molah Ahemed, Beans, 309.
 Molás & Co., Clay, 272.
 Molfino, Luigi, Lithographic stone, 81.
 Mölier, C., Clothing, 223.
 Molina, A., Medicines, 250.
 Molina & Carranza, Ore, 87.
 Molinari, J., Arm chair, 256.

- Mollah Youssouf, Wooden mortar, 305.
 Mollat Ahmed, Wool, 295.
 Moller, Peter, Cod-liver oil, 229.
 Mollina, Corporation of, Mineral waters, 91.
 Mollins, J., Curtains, 272.
 Molchanoff, W., Faience, 315; Lace, 318;
 Tureens, 320.
 Molto y Sanz, J., Satin, 274.
 Molto y Valor, F., Cloth, 274.
 Mombjian, K., Embroideries, 301.
 Mombusho, Department of Public Education,
 Educational exhibit, 247.
 Mon, C., Soaps, 271.
 Monadnock Mills, Quilts, etc., 117.
 Monastery of the Good Shepherd, Handker-
 chief, 261.
 Monastir, Government of, Wines, 313.
 Moncrieff, J., Wheat, 163.
 Mondego, Direction of the Works of, Salt,
 283; Tools, 289; Mats, 290; Book, 369.
 Mondoñedo, Institute of Secondary In-
 struction of, Marbles, 90.
 Mondron, Leon, Glass, 215.
 Moneo & Mirat, Soap, 271.
 Monge & Sanz, Essences, 271.
 Monges Iron Co., Iron ore, 94.
 Monguillot, E., Music, 368.
 Monitor Furnace Co., Iron ores, 48; Iron, 58.
 Monitor Oil Stove Co., Stove, 375.
 Monk, D. J., Malt liquors, 159.
 Monlor & Sons, M., Cloth, 274.
 Monner, Francisco, Ores, 89.
 Monnoyer, J., & Son, Glass, 215.
 Monouk, Plate, 292.
 Monriz, Gabriel, Horse bit, 92.
 Monroe Furnace, Ores, 49; Iron, 58.
 Monroe Organ Reed Co., Reeds, 332.
 Montagnac, E. de, & Son, Velvet, 195.
 Montagnon, A., Faience, 193.
 Montandon, C., Spirals, 355.
 Montane, R., Claret, 262.
 Monteil & Cassaynes, Report, 345.
 Monteil, Duart, Book, 267.
 Monteiro & Co., Inks, 252.
 Montes de Oca, Miss B., Embroideries, 266.
 Montes, M. A., Glass, 284.
 Montessuy & Chomer, Crapes, 196.
 Montez, R. Oca, Essays, 267.
 Montgomery, R. M., Stone, 54.
 Montiel, José, Boots, 276.
 Montinho, Luiz Pinto, Jewelry, 288.
 Montinho, Souza F. de, Jewelry, 288.
 Montillor Bros., Cloths, 275.
 Montoro, Corp. of, Sulphurous water, 91.
 Montoro, Francisco, Galena, 87.
 Montoux, Emil W., Pictures, 129.
 Montpelier Mfg. Co., Carriages, 381.
 Montreal Plumbago Mining Co., Stove polish,
 73, 137.
 Moodie, D., Oyster shells, 170.
 Moody, H. S., U. S. Commissioner, 9.
 Moody & Nelson, Native copper, 70.
 Mook, John Peter, Extracts, 207.
 Moonta & Wallaroo, Ores, 166.
 Moore, C., Woods, 158; Fibres, 159.
 Moore, C. F., Porcelain, 241; Jewelry, 242.
 Moore, C. W., Alternate, 9.
 Moore & Co., Tin ingots, 64.
 Moore, D., & Co., Tubular lanterns, 188.
 Moore, G., Clay, 73; Neck cutter, 124.
 Moore, H., & Son, Washer, 377.
 Moore, Hon. W., Map, 182.
 Moore, J., Judge, Gr. XX., 18.
 Moore, Jos. H., Earthenware, 107.
 Moore, Leopold, Wrappers, etc., 123.
 Moore, Th., Models, 189; Handles, 190.
 Moore, York, & Howell, Furniture, 109.
 Moorhead Clay Works, Pipes, 106.
 Moorhead & Co., Iron, 56.
 Mora, D., Extract, 232.
 Mora, M., Matting, 273.
 Moraes, J. C. de, Hats, 254.
 Moraes, José Goncalves, Ores, 94.
 Moraes Rozeira, M. G. de, Pyrites, 82.
 Moraes, T. C., Saddle, 254.
 Moragrega & Soldevila, T., Vessel, 272.
 Moral, F., Geography, 266.
 Morales, L., Embroidery, 281.
 Morán, R. S., Cross, 277.
 Morand, A., Bowl, 316.
 Morand & Tourneur, Harmoniums, 345.
 Morandi, Felicita, Books, 365.
 Morandi, G. M., Dress, 234.
 Morandi, P., Ink, 232.
 Moratski, A., Plaster of Paris dressings, 205.
 Moravia Ironware Industry & Trade Co., 211.
 Morawitz, M., Plans, 352.
 Moreira, A. B., & Bro., Cast iron pots, 284.
 Moreira, F. J., & Co., Chairs, 253.
 Moreira, M. J., Counterpane, 285.
 Moreira, N. J., Judge, Gr. IV., 16; Treatise,
 366.
 Moreira, V. de M. Custodia, Damask, 287.
 Morcl, A., Bronze, 194, 199; Glass, 215.
 Morcl, Chas., & Sons, Silks, 122.
 Morel, Mrs. A., & Co., Books, 343.
 Morelos State Gov., Vases, 265; Woods, 268.
 Moreno, Widow of, Flannels, 274.
 Moreno y Sanchez, F. T., Cloth, 274.
 Morewood, E., & Co., Tin plates, etc., 62.
 Morgan & Headley, Jewelry, 127.
 Morgan, M. C., Implements, 328.
 Morgan, R. P., jr., Elevated railway, 382.
 Morgan's, Enoch, Sons, Sapolio, 103.
 Mori, Y., Vases, 244.
 Morita, B., Silks, 246.
 Morley, J. & R., Gloves, 150.
 Morley, V., Mallets, 190.
 Morning Star Royal Society, Books, 359.
 Moron, Corp. of, Stone, 90; Bricks, 272.
 Morre, G. J., Drawings, 361.
 Morreale, E., Medicines, 235.
 Morrell, D. J., U. S. Commissioner, 9.
 Morrill, A., Extracts, 266; Oils, 268.
 Morris, E., & Co., Hats, 126.
 Morris & Haines, Heaters, 375.
 Morris, J. G., Maryland, 12.
 Morris, J. W., Clock, 342.
 Morris, R. C., Plans, 334.
 Morris, T. A., Judge, Gr. XVIII., 18.
 Morris, Tasker, & Co., Iron, 59.
 Morris, Thomas, Saddle, 156.
 Morrison, Arthur B., Solution, etc., 101.
 Morrison, E. H., Model, 334.
 Morrison, L. K., Tube wells, 162.
 Morrison, W. A., Precious stones, 71.
 Morse, B. F., Judge, Gr. XVII., 18.
 Morse Bros., Stove polish, 54.
 Morse, Geo. D., & Co., Soap, 187.
 Morse, Kaley, & Co., Cotton, 116.
 Morse, L., & Son, Folding settee, 112.
 Morson & Son, Chemicals, 144.
 Mortimer, J. R., Organ palate, 333.
 Morton, Geo., Pig lead, 70; Chronometer, 339.
 Morton, J., Gold articles, 131.
 Morton, J. S., Nebraska, 13.
 Morton, Thos., Sash chain, 141.
 Morton, W. Scott, & Co., Furniture, 147.
 Moser, Chas., & Co., Artists' colors, 105.
 Moser, L., Glass articles, 208.
 Moser, Robert, Churches, 356.
 Mosier, J. L. H., Iron work, 380.
 Mosla Mahmoud, Sheet, 296.
 Moss & Co., Stationery, 131.
 Moss, Geo. A., Inks, etc., 105.
 Moss Manufacturing Co., Shirts, 118.
 Mossop & Garland, Barks, 170.
 Most, J. H., Furniture, 111.
 Mostardini, A., Perfumery, 232.
 Mostue, T., & Co., Scales, 364.
 Mosul, Government of, Coal, 97; Shawls, 296;
 Boots, 301; Mint, 304; Madder root, 306;
 Maize, 308; Cotton, 313.
 Mota, C. S. da, Rose-colored argil, 82.
 Motala Mechanical Co., Iron, 79.
 Motala Mechanical Works, Hoops, 227.
 Mott, J. L., Fountains, 139; Iron, 378.
 Motta, Augusto Antonio da, Silk, 287.

- Motta, J. M., Bells, 369.
 Mottett, J., & Co., Chemicals, 193.
 Mottie, L., Tobacco and cigars, 218.
 Mottl Sons, M., Men's clothing, 208.
 Mottura, I. O., Pasteboard, 234.
 Moulton, R., Work box, 169.
 Moundjian Kirkor, Traveling bag, 304.
 Mounouk Ozlou, Fabric, 299.
 Mount Bischoff Tin Mining Co., Tin, 68.
 Mount & Co., Glassware, 163.
 Mount Holly Paper Co., Paper, 131.
 Mount Marley Co., Fire brick, 179.
 Mount Marley Tin Mining Co., Tin, 67.
 Mount Perry Copper Mining Co., Copper, 67.
 Mount Savage Furnace, Ores, 49; Iron, 58.
 Mount Vernon Co., Ducking, etc., 117.
 Mount Vernon Furnace, Ores, 50; Pig iron, 56.
 Mount Washington Glass Wks., Fountain, 108.
 Mountain Engineers, Madrid, Ropes, 273.
 Mountain Engineers, Corps of, Oil, 271.
 Moura, J. C. de, Cassimeres, 253.
 Mourad Agha, Fabrics, 298.
 Mourad Kasson, Carpet, 296.
 Mourad Oglou Ali, Scammony, 304.
 Mourazedé, Aleppo, Rice, 308.
 Mourés & Co., Books, 237.
 Mourret, Globe, 343.
 Mourouk, O., Towels, 294.
 Mourouk Oglou Ohanis, Gauzes, 298.
 Moury, Bey, Madder, 292.
 Moussa Agha, Skin, 310.
 Moussa Chaouch O. I., Shirt, gauzes, 299.
 Moussa Oglou Veli, Rye, 309.
 Moussa, P., Cotton, 313.
 Mousse Kapsal, Woolen, 295.
 Moussin Effendi, Cereal, 309; Wax, 312.
 Moussin Oglou Seid, Barley, 308.
 Moustapha, Salt, 291; Holders, 303; Cocks, 305; Coffee, 313; Scale, 371.
 Moustapha Agha, Garment, 299; Vest, 300; Box, 303; Peas, 308; Barley, 309; Raisins, 312; Flutes, 371.
 Moustapha, Ahmed Oglou, Pitch, 306.
 Moustapha Ahmoud, H., Skins, 311.
 Moustapha Ani, Couriers' bags, 304.
 Moustapha, Bandjak, Seed, 307.
 Moustapha Bey, Sheeting, 293; Napkins, 301.
 Moustapha, Effendi, Chalk, 96; Bravier, 293; Silk, wheat, 297; Organzine, 298; Madder, 306; Leather, 310.
 Moustapha, Hadji, Iron stone, 96; Iron, 97; Slippers, 301; Opium, 304; Gum, 306; Scammony, 309; Skins, 311; Wool, 314.
 Moustapha, Malatio, Peaches, 312.
 Moustapha, Miss, Trousseau, 299.
 Moustapha, Mosul, Pistol cases, 304; Saddle cloths, 305.
 Moustapha, Nevrekop, Casks, 305.
 Moustapha Oglou, Purses, 303.
 Moustapha, Omer, Halter, 305; Leather, 310.
 Moustapha Ousta, Cane, 303.
 Moustapha, S., Coverlet, 296.
 Moustapha, T., Wool, 295.
 Moyle, Edward, Cord, 155.
 Mozjookhin's, T., Sons, Silk, 317.
 Mozoncillo, C., Fan, 277.
 Mt. Union College, Implements, 328.
 Mück, W., Bridles, 320.
 Mucury, Colony of, Precious stones, 82.
 Mueller, J. M., Stone, 53.
 Mühlbacher, Carriages, 200.
 Muhr's, H., Sons, Rings, 126.
 Muir, R., Sugar, 180.
 Muirhead, R., Cigars, 158.
 Mujica, E. S., Guano, 255.
 Mulder, L., Periodicals, 360.
 Mullan, C. da la Elguera, Hair flowers, 259.
 Müllender, S., Wool, 219.
 Müller, C. A., Gutstring, 349.
 Müller, C. E., Books, 348.
 Müller, E., & Co., Enameled tiles, 193.
 Müller, H., Woolens, birds, 223.
 Müller, Hermann, Glass articles, 207.
 Müller, J. A., Gauge, 361.
 Müller, Johs., Playing cards, 213.
 Müller, L., Artificial eyes, 205.
 Müller, N., Meteoric iron, 86.
 Müller, P. A. E., Honey, 224.
 Muller's, Nicholas, Sons, Stationery, 130.
 Muller's Sons, N., Thermometers, 329.
 Mulliner, H., Phaetons, etc., 383.
 Mulliner, H., & Co., Carriages, 154.
 Mutesim Abdoulah, Pyrites, 96.
 Mutesim Oulah, Sediment, 96.
 Mutesim Tireboli, Pyrites, 96.
 Munday, G., Implements, 328.
 Mundy, D. L., Views, 156.
 Muneaki, K., Coffee sets, 245.
 Munger, John W., Soap, 103.
 Munich-Dachau Paper Mill, Papers, 205.
 Municipal Athenæum, Marble, 93.
 Municipal School Boards, Books, 366.
 Municipality of Chaux-de-Fonds, Plans, 356.
 Municipality of Geneva, School house, 356.
 Munire, Lace, 299.
 Muñiz, Ramon, Paintings, 263.
 Munkedal Manufacturing Co., Paper, 227.
 Munksjö Paper Factory, Paper, 227.
 Munktöll, J. H., Paper, 226.
 Munn, A. L., Maizena, 158.
 Munn & Cochner, Clay, 73.
 Muñon, Coal Pit Society of, Coal, 89.
 Munoz, B., Cover, 279.
 Munro, A., Wines, 158.
 Muñoz Bello, Francisco, Phosphate of lime, 87.
 Muñoz Iñigues, J., Rockets, 272.
 Muñoz, Marcelino, Salt, 270.
 Munson, D., Rods, 331.
 Munson Manf'g Co., Undershirts, 123.
 Muntaner & Bermudéz, Shirts, 257.
 Munzinger, Conrad, Felt, 212.
 Murakami, T., Canes, 247.
 Murat & Co., Jewelry, 197.
 Murcia, Province of, Corps of Mining Engineers, Marble, stone, 90; Waters, 92.
 Murcia, Prov. Dep. of, Delft, 272; Esparto work, 273; Shawls, 275; Sandals, 276.
 Murdock, J., New York, 13.
 Murguria, Books, 266.
 Muricy, J. C. da S., Tiles, 252.
 Muricy, J. C. da Silva, Coal, etc., 82.
 Murga, N., Salt, 255.
 Muro, A., Inks, 255.
 Muro, Froilan, Ore, 83.
 Murphy, A. A., Stools, 188.
 Murphy, E., Centre flowers, 162.
 Murphy, P., Missouri, 13.
 Murphy's, W. F., Sons, Blank books, 132.
 Murray, A., Jams, 167.
 Murray, Andrew, Illustrations, 338.
 Murray, Edmund W., Phosphate of lime, 74.
 Murray, J., Wool, 168.
 Murray, Wm., California, 11.
 Murtaza, Hadji, Box, 305.
 Murtazi, H., Secretary, 292.
 Murtro y Turello, Widow of A., Cloaks, 274.
 Muschialli, L., Picr glass, 160.
 Museum of Artillery, Gun, 278.
 Museum of Fine Arts, Porcelain, 315.
 Museum, South Kensington, Objects, 339.
 Musgrave & Son, Tin, 378.
 Muskett, E. B., Galena, 169.
 Muspratt Bros. & Huntley, Soda crystals, 144.
 Muspratt, James, & Sons, Soda, 144.
 Mussa Solciman, Pernécone, 305.
 Musulmé, Madame, Cloth, 204.
 Musumeci, Gulli Gaetano, Liguorice, 231.
 Mutual Aid Society, Statutes, 357.
 Mutual Benefit Assn., Reports, 360.
 Muzet & Co., Hair work, 198.
 Myagawa, C., Fans, 247.
 Myburgh, N., Wheat, 170.
 Myers, A. G., Plumbers' materials, 377.
 Myers, A. J., Ores, 50.
 Myers, G., Tanks, 375.
 Myers, Uhl, & Co., Marble, 53.
 Myring, J., Barley, 163; Malt, 164.
 Myteline, Government of, Graphite, 97.

N.

- Nabeshima, S., Crapes, 246.
 Nabinho, J. da Fonseca, Twine, 285, 286.
 Nacet, A., Microscopes, 345.
 Nachtmann, J., Aquariums, 211.
 Nacken, G. H., Cotton, mixed goods, 203.
 Nadporosky, M., Laces, 318.
 Naeff, G. & M., Belting, 361.
 Næss, H. S., Boots, shoes, 229.
 Nagasaka Suiho, Water color, 249.
 Nagata, Y., Rattan, 247.
 Nagyon, Mr., Oil, 181.
 Nagle, Cook, & Ewing, Paper hangings, 133.
 Nairn, David, Tomato sauce, 156.
 Nairn, Michael, & Co., Oil cloths, 149.
 Nakach, D., Cocoons, 314.
 Nakagawa Joyeki, K., Vase, 249.
 Nakagawa, Y., Silk, 246.
 Nakamura, H., Bowls, 245.
 Nakamura, M., Crapes, 246.
 Nakashima, R., Vases, 244.
 Nakatsu-ji, Braids, 246.
 Nakayama, M., Vases, 244.
 Nakos, M., Silk, 297.
 Namei, G., Metallic goods, 235.
 Namik Effendi, Purse, 303.
 Namikawa, S., Toys, 247.
 Namuwaka, Yasi-u-ki, Vases, 249.
 Namur Artistic Literary Club, Annals, 359.
 Naomoff, B., Candlesticks, 319.
 Naoum Cassam, Argil, 97.
 Naoun, Miltelete, Tissues, 299.
 Naples Mineralogical Society, Sulphur, 231.
 Napoleao, Narciso & Arthur, Engraving, 366.
 Nara, Y., Instruments, 247.
 Nara-ken, Local Government of, Cloth, 246.
 Naranjo y Garza, Felipe, Ores, 88.
 Nardin, James, Chronometer, 358.
 Narragansett Mills, Printing cloths, 118.
 Nash, H., & Co., Tin plates, 62.
 Nash, Mrs., Hats, ornaments, 171.
 Nishawannuch Mfg. Co., Suspenders, 124.
 Nashua Card Glazed Paper Co., Boxes, 132.
 Nashua Manufacturing Co., Cotton goods, 117.
 Nasli, Government of, Figs, 312.
 Nasmi Effendi, Madame, Gauze, 238.
 Nassou Tarrouchan, Tobacco, 309.
 Natanson & Hurwitz, Boots, 204.
 National Button Co., Buttons, 128.
 National Exhibition, Commission-General for the, Gold, etc., 82; Charts, 367.
 National Fire Alarm Telegraph Co., 331.
 National Glass Works, Glass, 215.
 National Manufacturing of Fire Arms, 273.
 National Museum, Minerals, 81, 86; Iron, 82; Garmen s, 155; Skeleton, 156.
 National Printing Office, Playing cards, 287.
 National Rope Yard, Yarn, 286; Ropes, 289.
 National School Furniture Co., 321.
 National School of Engineering, Reports, 343.
 National School of Mines, Reports, 343.
 National Silk Spinning & Weaving Manufactory, Silk, 286.
 National Society of Agriculture, Herbs, 262.
 National Stove Works, Heaters, 375.
 National Surgical Institute, Spints, etc., 135.
 National Suspender Co., Suspenders, 124.
 National Temperance Society, Books, 326.
 National Wire Mattress Co., Mattresses, 111.
 National Wood Mfg. Co., Floors, etc., 115.
 Natté, Miss, Fancy articles, 254.
 Natural History, Society of, Minerals, 81; Plants, 266; Scientific newspaper, 267; Gums, 263; Silk, 267.
 Naudet & Co., Barometers, 344.
 Naumann-Burkhardt, Extract honey, 214.
 Naumann, C. G., Job printing, 348.
 Naumann, Justus, Biblical pictures, 348.
 Naumkeag Steam Cotton Co., Sheetings, 117.
 Navajun, Corporation of, Mineral waters, 91.
 Naval Artillery, Guncarriages, etc., 319.
 Navarro, Antonio, Stone, 90.
 Navarro & Co., Soap, 283.
 Navarro, Pedro, Hats, 263.
 Navarro, S., Book, 368.
 Navassa Phosphate Co., Fertilizers, 55.
 Navvare, J. M. C., Cotton, 264.
 Nawa, S., Silks, 246.
 Nax, Kuhn, & Silberman, Pipes, 128.
 Nazar Kezork, Saucers, 292; Goblet, 303.
 Nazareff, E., Helmet, 318.
 Neal, J., Tableware, 147; Jewelry, 151.
 Neal, J., & Co., Cutlery, 153.
 Neal, John, Chronometers, 339.
 Neall, D. W., Teeth, 136.
 Neame & Co., Sugar, 180.
 Nebraska, University of, Views, 322.
 Neden Bros., Flour, 180.
 Nedjep, Government of, Garments, 300.
 Nedwied & Son, Red chalk, 76.
 Needham, Daniel, Massachusetts, 12.
 Needham, J., Daggers, 152; Knives, 153.
 Needham, J. & G. H., Guns, 152.
 Needham, Sir J., Cocoa, 184.
 Neeschourer, Bellesfrod, & Co., Ores, 89.
 Neeser, J. G., Judge, Gr. IX., 16.
 Neff, J., Instruments, 333.
 Neff, J. R., California, 11.
 Neff, P., Implements, 328.
 Nefssé, Madame, Shirts, 298; Napkins, 301.
 Negishi, Manzo, Furniture, 249.
 Negretti & Zambra, Instruments, 339.
 Neher, Chas., Hair jewelry, 127.
 Neilson, George, Model, 337.
 Neilson, Storer, & Sons, Yarns, 148.
 Neitsche, R., Designs, 352.
 Nekervis, Wm., Parrot gun, 134.
 Nell, Federico, Gold, 85.
 Nellis, C., Carriage, 383.
 Nelson Bros., Wheat, 158.
 Nelson Committee, Iron, etc., 63.
 Nelson, H. A., & Sons, Brooms, 190.
 Nelson, Matter, & Co., Chamber suites, 111.
 Nelson, R. M., U. S. Commissioner, 9.
 Nely, A., Morocco, 310.
 Nemiloff, C., Yarn, 320.
 Nemoz, P., Hats, 107.
 Nenedés, Gov. of, White marble, 97.
 Nepomuceno, M., Books, 369.
 Nersesz, M., Sheetting, 293.
 Nes, Chas. M., Silicon steel, etc., 57.
 Ness, Miss C., Lace, 174.
 Ness, P., Stones, 66.
 Nessibo, Madame, Silk, 297.
 Nestlé, Henry, Farina, 214.
 Netherlands Commission, Minerals, etc., 221; Weapons, etc., 222.
 Nett Chemical Factory, Potash, 201.
 Netto, A. E. B., Woolen fabrics, 286.
 Neuchatel Asphalte Co., Asphalt, 76.
 Neuchatel Orphan Asylum, Reports, 357.
 Neuhausen, J., Billiard table, 202.
 Neukumet, P., Fire bricks, 106.
 Neuman, H., Wire cloth, 316.
 Neumann Bros., Hunting guns, 218.
 Neumann, F. L., Piano, 350.
 Neumann, R., & Co., Trimmings, 141.
 Neustadt, M. H., Garnet jewelry, 209.
 Neuvialle, J. B., Heater, 194.
 Neuville, Louis, Kaolin, 95; Ceramics, 284.
 Neve, E., Teeth, 136.
 Neves, B., Woolens, 286; Saddlebags, 289.
 Neves, Casuniro de Castro, Yarns, 285.
 Nevins Mill, Jute bagging, 118.
 Nevossiltzoff, M., Lace, 318.
 Newark Coal Company, Coal, 52.
 Newark Tea Tray Co., Trays, 376.
 Newbauer, W. G., Medical plaster, 135.
 Newberry, J. S., Judge, Gr. VI., 16.
 Newberry, R., Artificial teeth, 259.
 New Britain Lock Co., Locks, 142.
 Newcastle Chemical Works, Soda, 144.
 New Dominion Organ Co., Organs, 342.
 New England Bunting Co., Bunting, 142.
 New England Co., Wool, 119.
 New England Glass Co., Glassware, 108.
 New File Manufactory, Files, 227.

- New Gellivara Co., Ores, 78; Iron, 79; Nails, 228.
- Newgeon & Shelton, Carriages, 381.
- New Hampshire, State of, Educational, 323.
- New Haven Clock Co., Clocks, 330.
- New Haven Folding Chair Co., 109, 381.
- New Haven Organ Co., Organs, 333.
- New Haven Steam Heating Co., Radiators, 376.
- New Haven Wheel Co., Wheels, 379.
- Newichawanick Co., Blankets, 143.
- New Jersey, Educational Dept. of, 326.
- New Jersey, State of, Minerals, 51; Ores, 56; Maps, 60; Pipe, 107; Wood, 337.
- Newman, E. G., Pianos, 333.
- Newman, G. C., Mirrors, 113.
- Newmann, Joseph, Silks, 122.
- New Marble Works, Marble, 78.
- New Match Manufacturing Co., Matches, 225.
- New River Railroad, Mining, & Manufacturing Co., Minerals, 48.
- New South Wales Com., Copper, 64; Candles, etc., 157; Sugars, 158; Birds, 340.
- New South Wales Shale & Oil Co., Oil, 157.
- New Telegraph Co., Quartz, 166.
- Newton, C. C., Reamers, 138.
- Newton & Co., Fire brick, 107.
- Newton, I., Judge, Gr. XIX., 18.
- Newton, J., Coal, 51.
- New York Button Co., Buttons, 127.
- New York Catholic Protector, Shoes, 126; Printing, 132; Photographs, 336.
- New York Knife Co., Cutlery, 139.
- New York Woven Label Co., Labels, 123.
- N. Y. Institution for the Blind, Maps, 321.
- N. Y. Lamp Co., Lamps, 114.
- N. Y. Silicate Book State Co., 321.
- N. Y. Slate Roofing Co., Paints, 378.
- New Zealand Commissioners, Gold, etc., 63; Garments, 155; Pictures, 156.
- New Zealand, Government of, Gold, etc., 63; Fabrics, 155; Census, etc., 156.
- New Zealand Provision & Produce Company, Preserved meats, 156.
- Nhorinho, J. S. da Silva, Lime, 82.
- Niantic Woolen Mills, Suitings, 120.
- Nibbinger, E., Paste, 55.
- Nicaise, C., Bolts, screws, etc., 218.
- Nicaise, P. & N., Bolts, etc., 218.
- Nich, Government of, Coal, 97; Wool, 295.
- Nichan, S., Skins, 310.
- Nicholls, R., Organ, 333.
- Nichols, G. W., Judge, Gr. XXVII., 19.
- Nichols, H. K., Model, 335.
- Nichols, W., Book rack, 111.
- Nicholsky, L., Judge, Gr. I., 15.
- Nicholson, Hamlet, Cricket balls, 340.
- Nickle, Robt., Toys, 127.
- Nicoforaki, Theophane, Oil, 291; Yellow ware, 292; Belt, 303; Parchment, 304.
- Nicola, Karlen, Photographs, 358.
- Nicolaide, Miss Azulf, Lace, 301.
- Nicolai's Publishing House, Books, 348.
- Nicolaki, J. O., Cement, 97; Resin, 306.
- Nicolaki, V., Organzine, 296.
- Nicolas & Chamon, Meters, 344.
- Nicolas, F., Boots, 257.
- Nicolas, O., Cup holder, 292.
- Nicolas, Prévêzé, Poutargue, 304.
- Nicole, Niclson, & Co., Watches, 339.
- Nicolet, College, Educational, 342.
- Nicoloreuzi Bros., Wine, 313.
- Niera, Gayoso, D., Sulphurous waters, 91.
- Nierstras, Z. N. H., Plans, 361.
- Nieulant, Count of, Bayonet, 278.
- Nieuwenhuizen & Van Stratum, Towels, 220.
- Nievergelt, Joh., Kirschwasser, 214.
- Ni-i-gata-ken, Local Govt., Cloth, 246.
- Nikitin, Gorjaieff, & Co., Wool, 317.
- Nikogos, Cuffs, 371.
- Nimetoulah, Kurelli, Pyrites, 96.
- Nimetoulah, Mouradite, Galena, 96.
- Nims, H. B., & Co., Globes, 321.
- Nin & Mañé, B. & L., Embroidery, 276.
- Nishigori, K., Crapes, 246.
- Nishijin Weavers, Silks, 246.
- Nishimura, S., Embroidery, 246; Pictures, etc., 249.
- Nishimura, S. J., Wood, 249.
- Nissen, W., Leather, 318.
- Nitch, Government of, Prunes, 312.
- Nitedals Match Manufactory, Matches, 229.
- Nitschke, W., Cordials, 168.
- Nitschke, W., Vase, 166.
- Nittinger, Edward, Paste, 139.
- Nitzschke, W., Books, 348.
- Nixon, G., & Son, 375.
- Nixon, G. W. C., Tools, 138.
- Noailles, A., Canes, 277.
- Noble, F. W., Michigan, 13.
- Noble, W. H., Judge, Gr. XV., 17.
- Nobre, J. R. F., Linen yarns, 285.
- Nobrega, Francisco A. da S., Lozenges, 289.
- Nock, G. W., Lock, 140.
- Noel-Winderling Bros., Dentures, 235.
- Nogho, U., Apron, 299.
- Nogueira, Antonio Marques, Jewelry, 288.
- Nogueira, M. A., Cotton canvas, 285.
- Nolan, L., Drain pipes, 160.
- Nolla & Son, M., Flagstones, 272.
- Nolte, E., Tooth powder, 256.
- Nonnenbacher, J., & Co., Mouldings, 113.
- Nonnenberger, C., Tools, 126.
- Nonotuck Silk Co., Silk thread, 123.
- Nooijen, L. J., Furniture, 220.
- Noordendorp, J., Photographs, 222.
- Nord & Son, M. E., Refrigerator, 229.
- Nordahl, Petter N., Boots, 229.
- Nordenskiöld, A. E., Judge, Gr. II., 15; Maps, 363.
- Nordlund, K., Apparatus, 362.
- Nordström, M. S., Stamps, 276.
- Norfolk & New Brunswick Hosiery Co., Underwear, 124.
- Normand, James & Sons, Shoe linings, 149.
- Normann, J. G., Moulds, 202.
- Nörr, Eugene, Drawings, 75; Valve, 201.
- Norris & Co., Silk, 150.
- Norrköping Match Mfg. Co., Matches, 225.
- Norrman, C. G. V., Model, 363.
- Norrman, J., Toys, 205.
- Norrström, C. A. & C. H., Knives, 227.
- North British Australian Co., Wool, 180.
- North Chicago Rolling Mill Co., Drawings, 334.
- North Netherland Musical & Historical Association, Books, 360.
- North Pittsford Marble Co., Monuments, 53.
- North Yelta Mine, Ores, 166.
- Northampton Furnace, Ores, 49; Iron, etc., 57.
- Northeastern Pastoral & Agricultural Society, Wheat, 163.
- Northfield Knife Co., Cutlery, 139.
- Northrup, W. S. & M. S., & Co., Gloves, 126.
- Norton Iron Works, Ores, 50; Iron, 59.
- Norwalk Lock Co., Hardware, 141.
- Norway, Dir. of Public Roads, Maps, 364.
- Norway Plains Co., Blankets, 120; Flannels, 121.
- Norwegian Asso. of Tourists, Books, etc., 364.
- Noske, H., Felts, 119.
- Notomi, K., Judge, Gr. II., 15.
- Nottingham Lace Works, Laces, etc., 123.
- Nougai Baitmour, Millet, 309.
- Noury Bey, Sumac, 376.
- Noury Eddin Ousta, Scissors, 305.
- Nova Petropolis, Colony of, Linen goods, 253.
- Nova Scotia Advisory Board, Gypsum, 73.
- Nowell, E. C., Books, 182.
- Noyes, E. F., Ohio, 13.
- Noyes, W. F., Combs, 127.
- Nuchterlein, F., Metal, 201.
- Nugent, Mr., Arrowroot, 177.
- Nuisho-sha, Embroidery, 246.
- Numado Masa-u-ki, Picture, 249.
- Nunes, Robert, Rum, 172.
- Nunez, Angel, Geography, 267.
- Nuñez, José Maria, Marbles, 90.

Nunez Ramos, F., Cloth, 274.
 Nydalens Co., Sail cloth, 229.
 Nye, J., U. S. Commissioner, 9.
 Nye, Wm. F., Oils, 103.
 Nynäs Pasteboard Factory, Pasteboard, 227.

O.

Oacalco Hacienda, Sugar, 268.
 Oahu College, Shells, 250.
 Oakden, J. J., Coal, 63.
 Oakley, John, & Sons, Emery stone, 61.
 Oakville Co., Pins, 127.
 Oannes, S., Lady's companion, 303.
 Oaskoff, P., Dress goods, 316.
 Oaxaca, State Gov. of, Minerals, 86; Indigo, 263; Vegetable fibres, 269.
 Obach, T., Designs, 352.
 Oberg, C. O., & Co., Files, 227.
 Obookhoff Steel Foundry, Ordnance, 319.
 Observatory, Neuchatel, Reports, 354.
 Ocampo, Miss J., Botanical collection, 269.
 Ocampo, V., Shawl, 257.
 Ocean Mills, Bleached cottons, 117.
 Ochagavia, Silvestre, Claret, 262.
 Ochao, J. M. de, Bricks, 272.
 Ochva, Gasper Sanchez, Sulphur, 86.
 Ocreman, L., & Witdoeck, E., Skins, 218.
 O'Daly, Olimpia Vallcareara, Iron ore, 87.
 Odberg, C. R., Boots, 226.
 Odense Match Factory, Matches, 223.
 Odin Distillery, Brandy, 224.
 Odling, W., Judge, Gr. III., 15.
 Odnooshefsky, M., & Sons, Muffs, 318.
 Odriozola, Corp. of, Stones, 90.
 Oechelhauser, Cotton, mixed goods, 203.
 Oehme, J. D., & Sons, Toys, 205.
 Oehmigke's Publishing House, Books, 348.
 Oetiker, M. R., Table cloths, 212.
 Offergeld Bros., Paint, 215.
 Official Gazette, Publications, 347.
 Ogden, I., Drain pipe, 106.
 Oghan, Sivas, Pitch, 306.
 Ogle Plantation, Sugar, 175.
 Ohan, Thread, 294.
 Ohanés Agha, Skins, 311.
 Ohanna, A., Carpet, 296.
 Ohannés, A., Pillow case, 294; Woollen, 295; Hosiery, etc., 300; Wheat, 309.
 Ohannés Agha, Skins, 310.
 Ohannés, Son of Varcha, Honey, 312.
 Ohannes, Syrup, 313.
 O'Hara, Charles M., Chairs, 109.
 Ohio Agricultural College, Map, 328.
 Ohio Coal Co., Coal, 41.
 Ohio, Educational Exhibit of, 322.
 Ohio Furnace, Ores, 48; Pig iron, 58.
 Ohio River Salt Co., Salt, 101.
 Ohio, State Archæological Assn., Relics, 329.
 Ohio, State of, Minerals, 50.
 Ohio Stone Co., Stone, 54.
 Ohio Tool Co., Tools, 138.
 Ohio Valley Piano Co., Pianos, 333.
 Ohlton Coal Co., Coal, 50.
 Oil Cloth Factory, Sand, 73.
 Ojza Porras, José, Iron, 92.
 O'Keefe, A., Wheat, 163.
 Okurasho, Scales, 248.
 Olago, J., Earthenware, 272.
 Olah, Artin, Oats, 309.
 Oldach & Mergenthaler, Bookbinding, 132.
 Oldendorf, H., Drums, 333.
 Oldendorff, E., Judge, Gr. IV., 16.
 Olds, N. G., & Sons, 379.
 Olea, Segundo of, Cards, 278.
 Oleophine Oil Co., Oils, 193.
 Oliden, T., Medicinal herbs, 259.
 Oliva, S., Soap, 271.
 Olive Furnace, Iron ores, 48; Pig iron, 58.
 Oliveira, A. C. de, Oligistic iron, 82.
 Oliveira, Balthasar, Ropes, 289.
 Oliveira, Bento Rodrigues d', Ore, 94.
 Oliveira & Bro., Soaps, 252.

Oliveira, J. F. de, Caps, 288.
 Oliveira, J. G. de, Watches, 369.
 Oliveira, Joao Correia, Tin ore, 94.
 Oliveira, S. M. de, Bricks, 284.
 Oliver & Co., Shirts, 276.
 Oliver, F., Canvas, 273.
 Oliver, George, Pyrites, 70.
 Oliver, H. K., Judge, Gr. XXV., 19.
 Oliver, Thomas, Measure, 124.
 Oliveros, M., Mats, 280.
 Olivier, J. J., & Son, Woollen stuff, 217.
 Olivieri, L., Fancy articles, 234.
 Olivieri, L., Hardware, 235.
 Olland, H., Instruments, 361.
 Ollive, A., Pavements, 193.
 Olmeda, F., Cloth, 275.
 Olmo, José del, Berja, Galena, 87.
 Olmos, José V., Minerals, 83; Marble, 84.
 Olmsted, S., jr., Strainer, 377.
 Olonetz Mining District, Guns, 98; Projectiles, 310.
 Olsen, Th., Silver ornaments, 230.
 Olsson, M., Stand, 228; Furniture, 362.
 O'Malley, E., Safety cage, 162.
 Omer Agha, Carpets, 296; Chains, 302; Morocco, 311.
 Omer Djerbali, Vermicelli, 312.
 Omer Effendi, Galena, 96.
 Omer, O., Morocco, 310.
 Omer Ogiou Kassar, Tobacco, 309.
 Omer Oglou Osman, Galena, 96.
 Omeraki, I., Gauze, 298.
 Oñate, Sons of, Silk, 275.
 Onderwater, H. F., Stones, 77.
 Oneto, Agostino, & Co., Soap, 231.
 Ono, G., Cloths, 245.
 Onondaga Pottery Co., Decorated ware, 108.
 Ontario Advisory Board, Copper pyrites, 70.
 Ontario Lithographic Stone Co., Stone, 73.
 Ontario Plaster Co., Gypsum, 73.
 Onzy, Types, 237.
 Ooshkoff, P., Chrome, 315.
 Open Stove Ventilating Co., Stoves, 375.
 Ophir Furnace Co., Ores, 50; Iron, 58.
 Opitz & Son, C., Paper, 210.
 Oporto Commercial Association, Wood, 300.
 Oporto Glove Manufacturing Co., Gloves, 287.
 Oporto Industrial Institute, Silverware, 284.
 Oporto Weaving Co., Yarns, 285.
 Oppenheim, F., Buggies, 380.
 Oppenheimer Bros., Gold nugget, 70.
 Oppenheimer, S., Carriages, 381.
 Opsahl, P. J., Iron safes, 229; Locks, 230.
 Optical Society, Instruments, 344.
 Orange Free State, Various products, 240.
 Orange Furnace, Ores, 48.
 Orange Iron Co., Iron, 58.
 Orange Judd Co., Blocks, 128; Books, 337.
 Orasco, Manuel Berra, Geography, 267.
 Orbeton, W. W. S., Hinges, 140.
 Ord, J. L., California, 11.
 Ordnance Dept., Gun carriage, 319.
 Ordnance Survey, Maps, 339.
 Orduna, C., Capsules, 278.
 Oregon, State of, Paints, 105; Woolens, 120.
 O'Reilly, T., Wheat, 163.
 Orell, Füssli, & Co., Books, 354; Plates, 358.
 Orellana, E., Book, 266.
 Oria, Eugenio, Oxide of iron, 87; Coal, 89; Bricks, 91.
 Oriental Powder Mills, Powder, 106.
 Oriol, Son of J., Fans, 277.
 Orive, S., Chemicals, 271.
 Oropera, Guillermo, Sensible scales, 267.
 Orozco, A., Book-keeping, 266.
 Orr, Painter, & Co., Boats, 374.
 Ortiz, Anastacio C., Tobacco, 268.
 Ortner & Houle, Engraving, 152.
 Osaka fu, Rugs, 245.
 Osborn, Bennett, Paper boxes, 132.
 Osborn Mills, Printing cloths, 118.
 Osborn, T. H., U. S. Commissioner, 9.
 Osborn, Wm. J., Arizona, 11.
 Osgood, J. R., & Co., Books, 328.

O'Shausey, P. A., Timbers, 179.
 Osman Agha, Carpets, 296; Leather, 310.
 Osman Bin Mohamed, Emery, 97; Prunes, 312.
 Osman Effendi, Lace, 301; Girth, 305.
 Osman, H., Belt, 300.
 Osman Hadji, Raisins, 312.
 Osmeña, Rita, & Co., Harness, 282.
 Osorio, Fernando, Pistols, 278.
 Osterberg, C. G., Furniture, 226.
 Osterhy & Strömbacka, Iron works, 78, 79.
 Osternack, Chas., Virgin lime, 82.
 Osterritter, J., Leather articles, 210.
 Ostersetzer Bros., Screens, 208; Lace, 210.
 Osthaus, Luis, Cordage, 261.
 Ota, M., Furniture, 245.
 Otamendi, Carlos, Shells, 85.
 Otis Company, Denims, 117; Hosiery, 125.
 Otis Iron & Steel Co., Steel, 56.
 Ott, B., & Co., Jewelry, 204.
 Ott & Brewer, Porcelain, etc., 107.
 Ott, Gebhard, Toys, 205.
 Ottaviani Bros., Essences, 232.
 Ottawa Iron & Steel Co., Iron ore, 71.
 Ottawa Iron & Steel Mfg. Co., Iron, 74.
 Ottenheimer, J. M., & Sons, Corsets, 204.
 Otter, Baron C. G. von, Lantern, 363.
 Otterbourg, Jewelry, 197.
 Otto, F. G., & Sons, Instruments, 136.
 Otto, J. W., Piano, 332.
 Ottoman Commission, Paintings, 371.
 Oudjou Christo, Sorghum, 309.
 Oule, Government of, Carpets, 296.
 Oullrouch, M., Boots, 301.
 Oulmia, H., Wool, 296.
 Ounedji, O., Duck, 293.
 Ousta Ahmed, Coverlet, 296.
 Ousta Bachou, Hose, 299.
 Ousta, H., Vases, 292.
 Ousta, Jacob, Vase, 293.
 Ousta Mehemed, Hemp, 295; Woolens, 296.
 Ousta Mehemed Tournous, Harness, 305.
 Ousta, T., Pots, 292.
 Ousta Yano, Hose, 299.
 Oustour, Cancs, 303.
 Oustour, P., Silk, 297.
 Ovakim, Lantern, 293.
 Ovalle, D. & E., Wines, 262.
 Over Agha, Nuts, 307; Raisins, 312.
 Oviedo, Mining District of, Ores, 89.
 Oviedo, P., Books, 266.
 Ovre, Mrs., Artificial flowers, 223.
 Owen Paper Co., Papers, 131.
 Oxford Iron Co., Drawings, 335.
 Oxford Woolen Mills, Woolen goods, 189.
 Oyama, K., Limestone, 244.
 Oyarzabal, J., Ice cream apparatus, 273.

P.

Paarl Wine & Brandy Co., Wines, 171.
 Pahst, Chas., Sofa bed, 109.
 Pabst, Danl., Walnut sideboard, 111.
 Pabst, G. J., Toys, 205.
 Pacchiani, E., Olive oil, 232.
 Pace, E. M., Virginia, 14.
 Pacheco, A. V., Counterpanes, 285.
 Pacheco, F. J., Linen fabrics, 285; Flannels, 286.
 Pacheco, Francisco Gomez, Nails, 286.
 Pacheco, J. V., Counterpanes, 285; Wool fabrics, 286.
 Pachistizzi, V., Maize, 309.
 Pacific Mills, Calicoes, 119; Alpacas, 12.
 Packard, C. F., & Co., Wagon, 381.
 Packer, Asa, Alternate, 9.
 Padilla, Francisco N., Calamine, 87; Lead, 270.
 Padilla, J., Tincture, 271.
 Padronello Woolen Mfg. Co., Fabrics, 286.
 Paetel Bros., Books, 348.
 Page, Kidder, & Fletcher, Coal tar, 103.
 Page, S., Wool, 183.
 Pages & Co., Linen, 273.
 Paget, F. A., Judge, Gr. XXII., 18.

Pagliacetti, R., Statues, 232.
 Pagliaro, A. M., Gelatines, 235.
 Pagliaro, D., Medicines, 235.
 Paillard, C., & Co., Musical boxes, 355.
 Paine Bros., Wood work, 379.
 Paine's Furniture Manuf., Furniture, 112.
 Paiva, Manuel J. de, Boots, 287.
 Paixao, Antonio Aug. da, jr., Clothing, 287.
 Pajares, J., Earthenware, 272.
 Palacios, F., Wines, 264.
 Palacios, P., Woolen fabrics, 257.
 Palassé, Madame, Gown, 299.
 Pale, T. Ch., Cloths, 316.
 Palenoff, C., Photometer, 373.
 Palizzolo Gravina, Baron V., Books, 365.
 Pallares, Count of, Sabots, 276.
 Pallu, Eug., Fibres, 195.
 Palmcrantz, Mitrailleuse, 227.
 Palme, Elias, Glass lustre, 207.
 Palmer, B. F., Artificial limbs, 136.
 Palmer & Kendall, Nets, 126.
 Palmer Mills, Dress goods, 117.
 Palmer, Samuel, Indx., 338.
 Palmer, Theo. J., Reclining chair, 110.
 Palmer, W. F., Tools, 138.
 Palmer & Williams, Corsets, 125.
 Palme's Son, F. E., Glassware, 207.
 Palomar & Co., Paper, 266.
 Palonka, Government of, Iron nippers, 305.
 Palz, E., Tageblatt, 348.
 Pampanga, Prov. Board of, Tapestry, 281.
 Pampin, C., Cloth, 258.
 Panada, J. L., Woven goods, 284.
 Panaloko, Government of, Coal, 97.
 Panayote, Petron, Oil of flowers, 291.
 Pando, Acha y Garcia, Frame, 279.
 Pandoy, J. Maria, Wines, 264.
 Paniagua, C., Lessons, 266.
 Panier, E., Instruments, 198, 344.
 Pano Mamatti, Salt, 291; Gall nuts, 306; Cotton, 213.
 Panor Mamatti, Wool, 314.
 Panoucha, Y., Belt, 303; Leather, 310.
 Panscin, Y., Silk shirting, 297.
 Pantrepant Estate, Lace bark, 172.
 Paoli Belt Co., Belt, 331.
 Papa Giorki, Carpet, 296.
 Papanhos, B. J., Buicks, 284.
 Papaz, Avediz, Copper, 292.
 Papaz Oglou, Wine, 313.
 Papaz, Oglou Bros., Oil, 292.
 Papazaki, M., Counterpane, 294.
 Papazoupola, Annctta, Cloth, 31.
 Pape Bros. & Kügemann, Mouldings, 113.
 Paper & Chemical Manuactory, Piaster, dressing materials, 205.
 Papini, L., Truss, 235.
 Pappazaki, Dimitri, Argillous talc, 97.
 Pappazaki, Nicola, Lignite, 96.
 Para, Province of, Oils, 252.
 Parabet, Basket, 292.
 Paradeiser, W., Models, 352.
 Paraiso Factory, Whisky, 268.
 Paraná, Benevolent Society of, Spun cotton, 256; Crochet work, 218.
 Parana, Commission of, Stones, 84; Tiles, 256; Ferrous waters, 259.
 Parana, Province of, Ores, 81; Gold veins, 82.
 Paraná, Province of, Soaps, 252; Yarns, 253.
 Parapara Iron & Coal Co., Ore, 63.
 Pardo Montero, R., Sulphurous water, 91.
 Parellada, Flacquer, & Co., Velvet, 273.
 Parfonry & Lemaire, Chimney pieces, 194.
 Paris, City of, Models, 344; Reports, 345, 346.
 Paris Hill Mfg. Co., Carriages, 381.
 Paris, Isaac Joseph, Iron beams, 77.
 Paris, Society of Comparative Legislation, Books, 346.
 Parise, A., Sons, Lock, 235.
 Park, Bro., & Co., Steel, 55.
 Parker, C., Coffee mills, 376.
 Parker, Chas., Shot guns, etc., 134.
 Parker, J., Son, & Co., Paper, 131.
 Parker & Whipple Co., Attachment, 141.

- Parkhurst & Gridley, Strap, 129; Stationers' goods, 130.
- Parkhurst, V. P., Stand, 114.
- Parkinson Bros., Yeast, 144; Vinegar, 154.
- Parkinson, J. B., Wisconsin, 14.
- Parkinson, W. S., Kansas, 12.
- Parks, M., Virginia, 14.
- Parks, W., & Son, Cotton yarns, 189.
- Parma, J., Piquets, 208.
- Parmentier, Gosset, & Co., Mantels, 216.
- Parmentier, Van Hoegarden, & Co., Cotton fabrics, 216.
- Parnell, M., Wine, 159.
- Paroni, Andrés, Cement, 84.
- Paroz, J., History, 353.
- Parquetry Factory, Plans, 356.
- Parr, B. le, Wool, 180.
- Parramore, T., Wool, 183.
- Parras, A. E. de, Embroidery, 258.
- Parrot, T. S., Instrument, 343.
- Parsons, J. H., & Co., Shirts, 125.
- Parsons, John, Inks, etc., 104.
- Parsons Paper Co., Writing paper, 131.
- Parsons, W. H., U. S. Commissioner, 9.
- Partridge & Co., Brackets, 148.
- Parvis, Mr., Furniture, 236.
- Pas, Gerard, Bronzes, etc., 216.
- Pascal Iron Works, Iron work, 58.
- Pascual & Co., Cloth, 274; Velvets, 276.
- Pascual & Co., A., Silk fabrics, 275.
- Pascual, S., Cloth, 274.
- Pascual y Granés, P., Window, 272.
- Pashkoff, B., Wire cloth, 316.
- Pashroff, Basil, Bogoiavlensk & Vennihotoorji Copper Works, Copper, 98.
- Passaic Rolling Mill Co., Iron, etc., 57.
- Passaic Zinc Co., Ingots, 47, 59.
- Passolo, E. Germack, Boots, 366.
- Passos, Augusto Fructuoso, Combs, 288.
- Pastor, Moltó, & Co., Cloth, 274.
- Pastore, Gio, late Filippo, Liquorice, 237.
- Paszepny, C., Albums, 373.
- Patagonas, Justice of the Peace of, Salt, 255.
- Pateguazza Bros., N. & A., Perfumery, 232.
- Patek, Phillipe, & Co., Chronometers, 355.
- Patent Keg Co., Paint cans, 376.
- Patent Nut & Bolt Co., Nuts, etc., 153.
- Patent Pambago Crucible Co., Crucibles, 146.
- Patent Selenitic Cement Co., Cement, 61.
- Paterno, E., Judge, Gr. III., 15.
- Paterno, F., Drawings, 211.
- Patience, J., Wheat, 163.
- Paton Manufacturing Co., Cloths, 189.
- Paton, Robt., & Son, Furniture, 110.
- Patricio, Francisco Antonio, Silk cocoons, 286.
- Patrick & Carter, Bells, 331.
- Patriotismo Factory, Cloths, 265.
- Patron Bros., Mineral waters, 85.
- Patten, F. H., Quartz, 55.
- Patterson Bros., Tablets, 162.
- Patterson, J. E., & Co., Doors, 378.
- Patterson, J. M., Wheat, 163.
- Patterson, J. S., Vermont, 14.
- Patton, J. D., Drawings, 335.
- Patton, R. M., Finance, 11.
- Patory, J. J. S., Clay pots, 252.
- Paugger, F., Instruments, 357.
- Paul, D., Implements, 328.
- Paul, J., & Co., Stone, 53.
- Paul, J. M., U. S. Commissioner, 9.
- Paul, William, Works on horticulture, 339.
- Paula, Antonio José, Cork hats, 287.
- Paulding, Kemble, & Co., Model of gun carriage, 134; Drawings, 335.
- Pauli, F., Essences, 225.
- Paulo Alfonso, District of, Hats, 253.
- Paulsen, J., Wines, 262.
- Paulus, A., Musical instruments, 349.
- Paulus, E., Watches, 330; Musical instrument, 349.
- Paulus & Schuster, Musical instruments, 349.
- Pauly, Boothon, & Co., Vinegar, 240.
- Paupier, L., Scales, 344.
- Pausacker, Evans, & Co., Portmanteaus, 161.
- Pauw, F. de, Trimmings, 197.
- Pawtucket Hair Cloth Co., Cloths, 122.
- Paxon, Comfort, & Co., Zinc monuments, 139; Robes, 143.
- Paxton, W. G., Mississippi, 13.
- Payá & Gisbert, Paper, 277.
- Payne, G., Arrowroot, 158.
- Payno, M., Geography, 266.
- Paz, E., Gymnastic apparatus, 346.
- Peabody Mills, Cotton goods, 117.
- Peace Dale Mfg. Co., Cassimeres, 121.
- Peacock, H. H., Cases, 129.
- Peacock, W., Cricket bats, 191.
- Peak Downs Copper Mfg. Co., Copper, 167.
- Peake, Thomas, Bricks, 145.
- Pears, A. & F., Soap, 144.
- Pearse Bros., Hides, 163.
- Pearse, J., Penmanship, 341.
- Pearse, J. B., Drawings, 334.
- Pearson, Thomas, & Son, Quilts, 149.
- Pearsons, G. W., Model, 334.
- Pease, C. A., Washstand, 377.
- Pease, F. S., Oils, 103.
- Pechar, J., Designs, 352.
- Pechar, J., & A. Peez, Statistics, 351.
- Peck & Greene, Underwear, 125.
- Peck, Henry, Show cases, 111.
- Peck, Kennedy, & Co., Tile, 107; Radiator, 115.
- Peck & Snyder, Skates, 139.
- Peck, W., Montana, 13.
- Peckham Mfg. Co., Jeans, 116; Doeskins, 121.
- Pecora Paint Co., Paints, 104.
- Pedagogic Museum, Educational, 372.
- Peden, M. J., Maize, 158.
- Pedro, Carmen de, Jet, 91.
- Pedro H. Dock Works Co., Plans, 367.
- Pedros, Diarbekir, Oils, 291.
- Pedros, Mihalgazi, Ralsins, 312.
- Pedros Salgadas Mineral Water Co., 95.
- Pedroso Mines & Man'fy, Ores, 89; Iron, 92.
- Pedroza, D. J. L., Salt, 283.
- Pedruncini, Juan, Shell lime, 84; Bricks, 256.
- Peel, T. W., Clay, 73.
- Peet, S. D., Ornaments, 328.
- Pefkiades, J., Wine, 313.
- Peguero, Andrés, Coal, 89; Jet, 91.
- Peine, Edward, Cuff buttons, 205.
- Peirce, C. W. & J., Skirts, etc., 120.
- Peirce, I., Desks, 321.
- Peirce's Union Business College, 326.
- Peixoto, Rodrigo José, Brass nails, 289.
- Pelaez, K., Balsam, 278.
- Pellas, G., Ornaments, 233.
- Pellet, A. P., Silk, 195.
- Pelletier, M. A., Glass, 193; Windows, 194.
- Peloubet, Pelton, & Co., Organs, 333.
- Peltier, E., Labels, 194.
- Peltzer & Son, Thread, 217.
- Pembedge, Oglou Moustapha, Prunes, 312.
- Pemno Petcha, T., Cocoons, 314.
- Peña, P., Hair, 277.
- Penal Dept., Uniform, 341.
- Penal Plantations, Supt. of, Sugar, 180.
- Peñalva, B., Horse belt, 259.
- Penasson, A., Printing, 237.
- Penco, J., Cocoa, 184.
- Penfield, E. C., & Co., Trusses, 135.
- Penington, E., Alternate, 9.
- Peninsula Stone Co., Building stone, 52.
- Peniston, J. T., Arrowroot, 174.
- Penitentiary of Lima, Shoes, 263.
- Penn Gas Coal Co., Coal, 51.
- Penn Roofing Co., Felts, 378.
- Penna, A. G. d'A., Tinctures, 252.
- Penna, Ferreira, Plans, 367.
- Pennini, Baron of Floristallo, Sulphur, 81.
- Pennise, Baron di F., Essences, 232.
- Pennsylvania, Educational Dept. of, 326.
- Pennsylvania Furnace, Ores, 49; Iron, 59.
- Pennsylvania Geological Survey, Ores, 48.
- Pennsylvania Globe Gaslight Co., Lanterns, 114.

- Pennsylvania Lead Co., Lead, 59.
 Pennsylvania Marble Co., Tiles, 53.
 Pennsylvania Salt Mfg. Co., Salts, 102.
 Pennsylvania Working Home for Blind Men,
 Work, 374; Harness, 382.
 Penrose & Richards, Fuel, 61.
 Pensado, Mrs., & Sisters, Flowers, 266.
 Pensel, H., & Co., Slates, 205.
 Penssimo, Laces, 301.
 Penton, Thos., Engine, 188.
 Pen-yr-orssedd Slate Quarry Co., Slates, 61.
 Penzer, J., Timber, 158.
 Peon, José Contreras, Romances, 267.
 Pepper, Geo., Plasterers' models, 162.
 Pepper, W., Medical Director, 10.
 Pepperill Mfg. Co., Sheetings, etc., 117.
 Pequinot, C. & A., Watches, 330.
 Pérachopolani, K., Cover, 301.
 Perafita Gavigola, F., Carbonic water, 91.
 Peralta, Mrs. A., Music, 266.
 Pérard, V., Machines, 199.
 Percussion Cap Factory, Caps, 210.
 Percy, John, Horse shoes, 191.
 Perdigao, D. F. Z., Pharmaceuticals, 252.
 Perdigao, Miguel Salvado, Woolen cloth, 286.
 Perdiguero, G., Mantas, 275.
 Pereda, Blas, Cotton, 269.
 Pereira, Antonio de la Velha, Silk, 286.
 Pereira Bros., Straw hat, 287.
 Pereira, C. C., Instruments, 369.
 Pereira, Luiz Maria, Boots, 287.
 Pereira, V. A., Hydrometer, 369.
 Percire, Isaac, Coal, 89.
 Perelli, Prof. Luigi, Album, 365.
 Pereno Papa, Brandy, 313.
 Perpelkin, J., Silk, 317; Umbrellas, 318.
 Peres, J. M. de Mattos, Soaps, 283; Linen
 fabric, 285; Woolen fabrics, 286.
 Peretti, Santiago, Dressed stone, etc., 84.
 Perez, A. G., Tonic, 255.
 Perez, Bernardo, Ore, 89.
 Perez, E. Juan, Almanacs, 267.
 Perez, Francisco, Calamine, 89.
 Perez, Hernandez, Dictionary, 267.
 Perez, Juan José, Whisky, 262.
 Perez, Luisa, Mineral water, 85.
 Perez, M., Printing, 263; Cloak, 277.
 Perez, Norverto, R. P. Fr., Rock argil, 93.
 Perez, Romero, Varnish, 271.
 Perez & Son, Cloth, 274.
 Perez, Sons of J., Cloth, 274.
 Perez Villamil, J., Soaps, 271.
 Periana, Corporation of, Mineral waters, 91.
 Perichon, F., Embroidery, 258.
 Perier, F., Judge, Gr. XXI., 18.
 Perkins, A. M., & Son, Oven, 148.
 Perkins, E., Refrigerator, 376.
 Perkins & McFarland, Heaters, 375.
 Perks, Samuel, Extract, 145.
 Perl, J., Teeth, 210.
 Perm Gun Foundry, Crucibles, 315.
 Permanent Commission of Mutual Relief
 Association, Reports, 363.
 Pernambuco, Prov. of, Iron, 82; Matches,
 252.
 Pernod, Ed., Absinthe, 214.
 Pero & Baxeda, Textiles, 273.
 Perrault, L., & Co., Account books, 189.
 Perreaux, Velocipede, 200.
 Perreaux, L. G., Model, 195; Instruments, 344.
 Perrenoud, A., Chronometer escapement, 355.
 Perret, E. F., Judge, Gr. XXV., 19.
 Perret's, D., Sons, Watches, 355.
 Perrin Brothers, Gloves, 197.
 Perrin, W., jr., Malt, 164.
 Perrot, A., Melodeon, 333.
 Perrot, Henry, Bronzes, 193, 199.
 Perry, Davis, & Co., Gratings, 162.
 Perry, G. A., Atlas, etc., 369.
 Perry, Hunter, & Co., Safety fuse, 160.
 Perry, J. R., Organs, 333; House, 378.
 Perry, M., Pyrites, 67.
 Perry, Miss C., Embroidery, 265.
 Perry, Mrs., Necklaces, 169.
 Perry, V., Bandages, 135.
 Perseverança Co., Ore, 94; Tin ingot, 95.
 Person, A., Wire cloths, 253.
 Perthes, J., Atlases, 348.
 Peru, Government of, Guano, 264.
 Peru Steel & Iron Co., Ore, 50; Blooms, 56.
 Peruvian Industry Society, Grains, 264.
 Pesquera, A. M., Paper, 278.
 Peters, C. F., Music, 348.
 Peters, Henry S., Building sandstone, 72.
 Peters, J. L., Music, 326.
 Peters, R., jr., Alternate, 9.
 Peters & Sons, Carriages, 383.
 Peters, T., & Sons, Carriages, 154.
 Peterson, A. J., Machine, 364.
 Peterson, C. E., Table, 225; Portrait, 226.
 Peterson, J. A., Cape, 250.
 Peterson, T. B., & Bros., Books, 327.
 Petit, Pierre, & Bryson, Jewelry, 213.
 Petro, B., Almonds, 307; Rice, 309.
 Petro. Volonia, Gall nuts, 306.
 Petroff & Medvedeff, Shawls, 317; Furs, 318.
 Petroff, N., Judge, Gr. XX., 18.
 Petrolli, P., Shoes, 234.
 Petropolitan Co., Cotton goods, 253.
 Petry, A., Arithmometer, 359.
 Petry, Geissel, Bayha, & Co., Landaus, 380.
 Pettersen, Andr., Perfumery, 229.
 Pettersen, C. J., Machine, 363.
 Pettersen, Gunerius, Valises, 229.
 Pettersen, Karl, Granite, 80; Map, etc., 364.
 Pettigrew, William, Axe handles, 179.
 Pettungill & Sawyer, Oil cloths, 126, 143.
 Pettit, Henry, Chief of Bureau of Installation,
 10; Buildings, bridges, 334.
 Pettit, Henry, & Wilson, Jos. M., Exhibition
 buildings, 334.
 Peyton & Peyton, Bedsteads, 147.
 Pfaff, F., Instruments, 349.
 Pfaff, J., Clarionets, 332.
 Pfiffer, Carl, Design, 336.
 Pfizer, Chas., & Co., Chemicals, 102.
 Pfitzschner, G. A., Instruments, 349.
 Pharmaceutical Society, Pharmacopœia, 267.
 Phelps, Doremus, & Corbett, Furniture, 109.
 Philadelphia Architectural Iron Co., 143.
 Philadelphia Axle Co., Axles, etc., 378.
 Philadelphia Galvanizing Co., Railing, 143.
 Philadelphia Iron & Steel Co., Iron, 57.
 Philadelphia Quartz Co., Silicate of soda, 102.
 Philadelphia & Reading Coal & Iron Co.,
 Iron ores, 49; Stone, 53; Rails, 57; Bridge
 models, 334; Cereals, 337.
 Philadelphia Truss Co., Trusses, 136.
 Philadelphia Worsted Spinners' Assn., 119.
 Philippe, C., Cloth, 195.
 Philippe, Emile, Jewelry, 197.
 Phillips, J. jr., Worsted goods, 120.
 Phillips, W. J., Instruments, 331.
 Phillips, C. C., & Co., Varnishes, 104.
 Phillips, E. F., Tubing, 331.
 Phillips, H. M., Massachusetts, 12.
 Phillips & Jacobs, Chemicals, 102.
 Phillips, Nimick, & Co., Iron, 55.
 Phillips, S. F., U. S. Commissioner, 9.
 Phillips, S. R., Harness, 382.
 Philosofoff, Basil, & Co., Chemicals, 315.
 Phinney, S. B., Massachusetts, 12.
 Phipson, Miss E., Sideboard, 147.
 Phoenix Foundry Co., Photograph, 162.
 Phoenix Furniture Co., Bedroom suites, III.
 Phoenix Iron Co., Drawings, 334.
 Phoenix Match Mfg. Co., Matches, 225.
 Phoenix Mfg. Co., Crucibles, 54.
 Phosphor Bronze Co., Tools, 62, 153.
 Photographic Association, Berlin, Books, 347.
 Photo-Lithographic Inst., Weimar, Maps, 348.
 Pi & Solanes, Laces, 277.
 Piacente, F., Olive oil, 232.
 Pichler, H., Table cloths, 203.
 Pichot, E., Labels, 200.
 Pickering, T. R., Connecticut, 11; Veloci-
 pede, 381.
 Pickett, R. O., Alabama, 11.

- Pickman & Co., China, 272.
 Piedrola, J. de D., Silk, 275, 279.
 Piel, A., Jewelry, 197.
 Pierce, G. G., Cheese, 163.
 Pierce, I. Newton, Enamel colors, 105.
 Pierpont, F. H., Judge, Gr. XII., 17.
 Pierson & Herman, Tools, 126.
 Pignatelli, José da Cunha, Blanket, 286.
 Piquou, Wilks, & Lawrence, Powders, 145.
 Pik, J., Instruments, 319; Ores, etc., 372.
 Pike, Wm. J., Clays, 61.
 Pilat, A., Gloves, 208.
 Pile, W. H., & Sons, Hydrometers, 108.
 Pilling, G. P., Jewelry, 127; Instruments, 135.
 Pillow, Hersey, & Co., Nails, 190.
 Piloña, Corporation of, Marbles, 90.
 Pim Bros. & Co., Poplins, 150.
 Pimental, Francisco, Sketch, 267.
 Pimentao, A. A., Pottery, 284.
 Pimentel & Queiroz, Silks, 287.
 Pine Grove Furnace, Ores, 43; Iron, 58.
 Pineda, Corporation of, Iron, 87.
 Pineiro, A., Soap, 255.
 Pinell, Corporation of, Refractory earth, 91.
 Pinet, F., Boots, 197.
 Pingree, L. F., Limbs, 136.
 Pinheiro, A., Apparatus, 366.
 Pinho, Guithermina d'Oliveira, Flowers, 288.
 Pini & Co., Glass cruet stand, 256.
 Pinó, Manuel, Gloves, 263.
 Pinon & Guérin, Cloth, 195.
 Pinson, Ivory, 198.
 Pintado y Morales, L., Hat, 276.
 Piqua Woolen Mills, Felts, 121; Jackets, 124.
 Piquée, F., & Bros., Velvets, 135.
 Piqueras, C., & Co., Boots, 259.
 Piquet, Alonzo Emilio, Ores, 88; Plan, 92.
 Pires, J. de J., Patent medicines, 283.
 Pires, J. L., Salt, 283.
 Pirie, A., & Sons, Papers, 152.
 Pirik Oglou, Tissues, 293.
 Pirrone, Antonino, Liquorice, 231.
 Pisco, Province of, Raisins, 263.
 Pisercken, Government of, Wax, 312.
 Piseren, Govt. of, Cloth, 237; Caps, 297; Belt, etc., 300; Pitcher, 305; Morocco, 311.
 Piteira, Filipe, Blankets, 286.
 Pitet, senior & junior, Brushes, 200.
 Pitkin, P. P., Vermont, 14.
 Piton, C., Trophies, 143.
 Pittanti, Adriano, & Co., Washstand, 253.
 Pitton & Co., Sandstone, 72.
 Pitz, G., Gelatine, 227.
 Placht Bros., Instruments, 351.
 Plajeman & Co., Beer, 262.
 Plambeck, N., Model, 206.
 Planas, Sons of M., Fabrics, 274.
 Planche, Edouard, Son, Writing ink, 215.
 Planche, Melchior, Writing ink, 215.
 Planella Roure, A., Colors, 271.
 Plank, E., Toys, 205.
 Planteijdt, L., Canvas, 220.
 Planteu, H., & Son, Gelatine capsules, 134.
 Plate Glass Mfg. Joint Stock Co., Glass, 216.
 Plateau, E., Inks, 193; Stationery, 198.
 Platt Bros. & Co., Buttons, 129.
 Plaza, Nicanor, Gypsum bust, 261.
 Plaza, S. de la, Pins, 277.
 Pleuer & Co., Jewelry, 204.
 Plimpton, J. L., Parlor skates, 139.
 Pion & Co., Books, 344.
 Ploss, S., & Co., Instruments, 351.
 Plumber, B., Copper pyrites, 70.
 Plumber, McIntyre, & Russ, Silver ores, 70.
 Plunket, G. T., Massachusetts, 12.
 Poblet, A., Cloth, 274.
 Poblete, T., Medicinal seeds, 259.
 Poel, A., Oils, 315.
 Pohl, C., Wines, 162.
 Pohlmann, Moritz, Piano strings, 350.
 Poirer & Son, Soap, 192.
 Poirrier, A., Chemicals, 193.
 Poirrier, Mortier, & Muller, Fabrics, 195.
 Poissonniz, J. B., Jewelers' cases, 218.
 Poiteling, P., Varnish, 315.
 Pokorny, K., Gloves, 208.
 Poland Mining Districts, Ore, etc., 98.
 Polhemus, J. H., Refrigerator, 376.
 Poliakoff, N. & A., Bros., Wool, 317.
 Policard, R., Stands, 200.
 Polidori, Count A., Green weed, 233.
 Politzer, A., Anatomical preparations, 210, 351.
 Pollak, Jacques, Essences, 207; Ether, 210.
 Pollock, S., Apparatus, 154.
 Pollock & Son, Brushes, 142.
 Polo, Leoncio, Iron ore, 88.
 Polo, Miss L., Shirt, 265.
 Polooshin, N., Calico, 316.
 Polson, A., Wheat, 163.
 Polychroite Vencer Co., Wood fibre, 104.
 Polytechnic School, Delft, Models, 361.
 Pomeroy Coal Company, Coal, 52.
 Pommerais, L., Imitation marbles, 253.
 Ponce, D., Table cloth, 256.
 Ponce, Juan, Minerals, 86.
 Poncet, senior & junior, Silks, 196.
 Ponemah Mills, Cotton goods, 116.
 Ponferrada, Bathing Est. of, Waters, 91.
 Pons, Bartolome, Cream of tartar, 270.
 Ponsard & Gigli, Iron, 81.
 Ponta Delgada, Administrative Board, Plan, 369.
 Ponta Delgada, Board of Works, Stone, 95.
 Ponta Delgada, Committee of, Mineral waters, 95; Straw hats, 288; Lock, 289.
 Ponte, José Caetanoda, Woolen fabrics, 286.
 Ponti, Carlo, Optical instruments, 365.
 Ponti, Rovera, & Co., Buttons, 234.
 Pontif. Oeographic Society, Frames, 233.
 Pontoosuc Woolen Mfg. Co., Blankets, 121.
 Pontzen, E., Judge, Gr. XVIII., 18.
 Ponzoni, L., Medicines, 235.
 Poole, H. S., Ores and rocks, 71.
 Poole, James, & Co., Chronometers, 339.
 Poore, L. D. F., Judge, Gr. XXII., 18.
 Pootloff Iron Works Co., Ores, 98; Projectiles, 319.
 Pope, Cole, & Co., Copper, 59.
 Pope Manufacturing Co., Pistols, 127.
 Poplar Creek Mineral R. R. Co., Ores, 49.
 Popovits, L., Models, 352.
 Popp, J., Hats, 317.
 Porcinai, A., Sculpture, 235.
 Pork Packing Co., Lard, 224.
 Poron Bros., Millinery, 197.
 Port, A., Gloves, 209.
 Port, Dr., Dressing for fractures, 205.
 Port Henry Iron Ore Co., Ore, 47.
 Porta, Felix, Stones, 83.
 Portalegre, Army Arsenal of, Secretary, 252.
 Portalegre, Government of, Lime, 95.
 Portalegre National Wool Manufacturing Co., Cloths, 286.
 Porte Delgada, Government of, Building materials, 94.
 Porter & Bainbridge, Cardboard, etc., 132.
 Porter Brothers & Co., Buttons, 129.
 Porter, C. T., Judge, Gr. XX., 18.
 Porter & Coates, Books, 326.
 Porter, R. K., California, 11.
 Portilla de la Sierra, Corp. of, Marbles, 90.
 Portland Brown Stone Quarries, Stoops, 53.
 Portocalaki, M. A., Wheat, 309.
 Pórtugal, F. P. de A., Gold dust, rocks, 82.
 Portuguese Civil Eng. Society, Books, 369.
 Portuguese Copper Mining Co., Ore, 94.
 Portuguese Mining Co., Tin ore, 94.
 Possilin, A., Cotton stuffs, woolen shawls, 316.
 Postawka, L., & Co., Piano taborer, 110.
 Postle, Sydney, Ice machine, 340.
 Postles, J. P., Judge, Gr. XII., 17.
 Poto Yani, K., Woolen, 296.
 Pottecher, B., Covers, 199.
 Potter, Ainsworth, & Co., Books, 327.
 Potter, J. E., & Co., Books, 327.
 Potter, T., Sons, & Co., Oil cloths, 119.
 Potter, W. K., Shell goods, 127.
 Pottier, Enamels, 194.

Pottier & Stymus Mfg. Co., Bedstead, etc., 111.
 Pottin Register Mfg. Co., Parlor billiard table, 109; Registers, 330.
 Poits, Robert, Educational books, 338.
 Pouchan, A., & Co., Cigars, 264.
 Pound, T. C., Wisconsin, 14.
 Pourdier, M., Fountain, 190.
 Poussiéglue, R. P., Decorations, 193; Bronzes, 199.
 Povan, Partraleon, History, 267.
 Powel, R., Hare, & Co., Ores, 50.
 Powell & Bishop, Dinner services, 147.
 Powell, E., Wines, 159.
 Power, J. L., Mississippi, 13.
 Power, T. C., Montana, 13.
 Powers, D., & Sons, Oil cloths, 119.
 Powers & Weightman, Chemicals, 101.
 Powhatten Mills, Muslins, 116.
 Powrie, Gillot, O'Kelly, & Co., Pens, 198.
 Powrie, E., Leaf tobacco, 170.
 Poylebard, St., Silk, 196.
 Pozoblanco, Corporation of, Flannels, 275.
 Pozoritta, Chief Mountain & Mining Administration, Pyrolusite, 76.
 Pozuelo & Canto, F., Apparatus, 278.
 Practical Technological Inst., Collection, 372.
 Prado, M., Towel, 280.
 Prado Paper Manufacturing Co., Paper, 289.
 Pradolueno Prov. Com., Flannels, 274.
 Praechter Bros. & Co., Corkware, 26.
 Prahran, Town Council of, Photographs, 162.
 Prakte, J. E. & H., Belting, 361.
 Prat, A., Dyed wool, 255.
 Prats, Widow & Sons of José, Cards, 278.
 Pratt, C., Clay, 73; Pottery, 188.
 Pratt, Chas., & Co., Petroleum, 103.
 Pratt, D. G., Ivory goods, 127.
 Pratt, J. T., & Co., Tools, 137.
 Pratt, Mrs., Brushes, 250.
 Pratt, Read, & Co., Combs, 332.
 Pravotoroff, G., Umbrellas, 318.
 Pray Bros., Buggy, 381.
 Prentice, J., Instruments, 329.
 Preparatory School, Wax, 268; Botany, 269.
 Presbyterian Board of Publication, Books, 326.
 Prescott, G. S., Utah, 14.
 President of the Women's Catholic Association, Church ornaments, 277.
 Prestoe, H., Woods, 184.
 Preston, J. E., Texas, 14.
 Preston & Merrill, Yeast, 102; Boxes, 143.
 Pretta, Pedro, Extract of coffee, 262.
 Pretty, Grime, & Co., Prints, 119.
 Prévêzé, Government of, Dishes, 293; Carpet, 296; Cedras, 307.
 Price & Browne, Wool, 168.
 Price & Co., Books, 338.
 Price, J. & C., & Bros., Bottles, 146.
 Price, Jennings, Kentucky, 12.
 Price's Patent Candle Co., Candles, 144.
 Priest, W., Wool, 171.
 Prieto, F., Fabric, 281.
 Prieto, Guillermo, Publications, 267.
 Prime, F., jr., Judge, G. I., 15.
 Prince, Franklin, & Bullock, E. L., Model, 60.
 Prince's Metallic Paint Co., Paints, 105.
 Prindle, F. C., Drawings, 335.
 Prindle, G. H., Muffs, 124.
 Prins, M., Carpets, 220.
 Prison, Director of, Rugs, 220.
 Private Blind Asylum, Statutes, 354.
 Probst, Gottfr., Toys, 205.
 Prochoska, F., Pomades, 207.
 Proctor, Wm., jr., & Co., Pepsin, 101.
 Proprietors Queensland Journals, Papers, 179.
 Prosser, W. F., Alternate, 9.
 Prostes, H., Journals, 369.
 Protestant Missionaries, Publications, 242.
 Prouvost, Amédée, & Co., Wools, 195.
 Providence College, Work, 342.
 Providence Forge Co., Iron wheels, 77.
 Providence Franklin Society, Minerals, 47.
 Providence Gas Burner Co., Stoves, 114.
 Providence Tool Co., Rifles, etc., 134.

Provincial Commission, Stalactites, 87; Calcined bone, 270; Basket, 277; Paper, 278.
 Provincial Convent, Cloth, 276.
 Pruckner, D., Toys, 205.
 Prugue, E., Soap, 263.
 Prunier, Pierre, Chemicals, 104.
 Przibram & Co., Adrianople red, 207.
 Public Comfort, Dep't of, Stationery, 336.
 Public Education, Dep't of, Books, 344.
 Public Institute for the Deaf, Dumb, and Blind, Pupils' work, 362.
 Public Instruction Board, Books, 366.
 Public Instruction, Ministry of, Maps, etc., 237.
 Public Welfare, Society for Promoting the, Reports, 357.
 Public Works, Dept. of, Sketch, 267; Yarns, 286; Shoes, 288; Hardware, 289; Plans, 345, 357.
 Public Works Office, Drawings, 367.
 Publishers', Printers', & Stationers' Club, 344.
 Publishing and Printing House of the Orphan Asylum, Books, 347.
 Pucci, Sansedoni Aless., Olive oil, 231.
 Puebla, City of, Silks, 265.
 Puebla, State Government of, Woods, 267; Sugar, skins, 268.
 Puerta, Gabriel de la, Emetic tartar, 270.
 Puertas, L., Medicine, 255.
 Pugh, J. T., Auger bits, 137.
 Puig, Felipe, Salt, 91.
 Puig, J., & Co., Fabrics, 273.
 Puira, Dept. of, Towels, 263; Cigars, 264.
 Pujol, L., Hair flowers, 258.
 Pujol, Nicanor, Iron ore, 83.
 Pullman's Palace Car Co., Model, 327; Car, 382.
 Pullna, Mineral Water Dir., Water, 76.
 Pulvermacher Galvanic Co., Batteries, 331.
 Pulvermacher, I. L., Instruments, 153.
 Purdey, J., Guns, 152.
 Purvis, G. E., Tennessee, 14.
 Purschner, F. A., Buttons, 210.
 Pusey, Jones, & Co., Iron work, 59.
 Pusey, P., Minnesota, 13.
 Putnam, G. P., & Sons, Books, 326.
 Putnam Mfg. Co., Cottons, 116.
 Pyachou, J. H., Wyoming, 14.

Q.

Quaker City Organ Co., Organs, 333.
 Quarré, V., & Co., Shades, 114.
 Quebec Advisory Board, Lime, 72.
 Quebradella Company, Minerals, 86.
 Queen, J. W., & Co., Microscopes, 329.
 Queensland, Commissioners for, Views, 179.
 Queensland, Govt. of, Ores, 67; Saddlery, 179.
 Queensland Smelting & Assaying Co., Tin, 67.
 Queirel, J., Depurative solution, 255.
 Queiroz, G. J. de, Statistics, 369.
 Queiroz, José de Sequeira Pinto, Raw silk, 286.
 Quesada & Garcia, Soap, 271.
 Quesnal, Sheriff, Lime, 72.
 Quiamson, L., Fabric, 281.
 Quick, H. C., Wines, 168.
 Quigley, Albert, Wool, 337.
 Quigley, P., Construction of Mach. Hall, 115.
 Quigley, W. E., Horseshoes, 141.
 Quijano, A., Cotton goods, 265.
 Quinn, H. S., Mats, 163.
 Quinn, P. T., New Jersey, 13.
 Quint, S. H., & Son, Stencils, 137.
 Quintana, Juan de, Sand, 277.

R.

Raccoon Furnace, Ores, 49.
 Raccoon Mining and Mang. Co., Iron, 59.
 Radieri Bros., Flannel, 233.
 Radiguet, Toys, 193; Mirrors, 345.
 Raff, G., Rum, 180.

- Raffin, Mrs. C. M., & Son, Muslins, 197.
 Raffl & Co., Statues, 193.
 Raoul, H., Skins, 311.
 Raopoulos, N., Liqueurs, 313.
 Ragosiosky Crown Copper Works, 99.
 Rahari, Boots, 301.
 Rahimé, Madame, Carpet, 296.
 Rahimin, David, Cumin, 309.
 Railroads of Jura-Vernoise, Photographs, 356.
 Raimondi, Antonio, Map, 263.
 Rainer & Son, Piano, 342.
 Rakinicé, Madame, Carpet, 296.
 Ralero, E., Shoes, 276.
 Ralston, J., Wool, 183.
 Ramalho, José da Cunha, Hats, 287.
 Ramazan, E., Tobacco, 309.
 Rambach, C., Chair, 225.
 Ramires & Ramires, Woven silks, 287.
 Ramirez & Cuataparo, Maps, 267.
 Ramirez, Luis, Cobalt, 87.
 Ramirez, Miss Soledad, Cottage, 267.
 Ramnäs Iron Works Co., Iron ores, 78.
 Ramnäs Stock Co., Iron, 78.
 Ramos, J., Mats, 285.
 Ramos, Joaquin Antonio, Bottles, 289.
 Rampal, J., Mats, etc., 273.
 Rampazzini, Frederico, Chemicals, 231.
 Ramsay, A., & Son, Paints, 187.
 Ramsay, D., Wool, 153; Boots, 189.
 Ramsay, Mrs. Ebba, Drawings, 362.
 Ramsay, T., Paints, 187.
 Ramsden, S., Paper, 161.
 Ramsey Bros., Wine, 180.
 Ramsing, T., Chocolate, 224.
 Ramsing, Th., Linen fabrics, 223.
 Rand, A. W., Heater, 374.
 Randall, A., Chart, 182.
 Randall, J. V., Phaetons, 380.
 Randle, W. H., Medicines, 134; Coolers, 377.
 Rania, T. de la, Fabric, 281.
 Rankin, John, Building stone, etc., 72.
 Runney, T., Idaho, 12.
 Ranniger, J. L., & Sons, Gloves, 204.
 Ranny, R. P., Ohio, 13.
 Ransford, H., Brine, 74.
 Ransom, D. L., & Co., Adjustable desks, 111.
 Rap, Eugenio, Collection of minerals, 84.
 Rapalo, José, Galena, 87.
 Rapate, M., Necklace, 302.
 Raphaelian, G., Collars, 299.
 Raphaelion, Gabriel, Brooches, 302; Tomahawk, 304.
 Rasca Cement Exploring Co., Cement, 95.
 Rasch, Clemens, Glass articles, 207.
 Rasin, W. J., Coolers, 377.
 Raskazoff, Stand, 319.
 Kastergaëff, G., Iron, 99; Chemicals, bricks, 315.
 Rath, Paul, Bay-window curtain, etc., 112.
 Rathbone, Sard. & Co., Stoves, 375.
 Rato, Antonio Moreira, Marbles, 94.
 Raumer, C. V., Book, 349.
 Rauss Ami, Dials, 355.
 Ravenet, senior, Combs, 198.
 Ravenstein, Ernest George, Maps, 338.
 Ravesteijn, H. F., Stone, 220.
 Ravon, H., Names, 237.
 Rawbone, J. L., Guns, 190.
 Rawbone, Thos., Cartridge creaser, 133.
 Rawlins & Son, Smalts, 145.
 Rayband, D., Reading method, 343.
 Raymond, Hipolito, Collection of minerals, 83.
 Raynald, John, Inks, 104.
 Raynor, E., Limestone, 68.
 Raz Oglou Hussein, Coffee pots, 293.
 Razakoula, A., Fabric, 293.
 Razoula, Marble, 97.
 Reach & Johnston, Base balls, 336.
 Read, A. N., Implements, 328.
 Read Carpet Co., Carpets, 122.
 Read, J. C., Mats, 157.
 Read, J. M., Cooking range, 376.
 Read, M. C., Ornaments, 329.
 Read, R. B., Berries, 157.
 Read, Stevenson, & Co., Stone, 73.
 Read, Wm. H., Periumeries, etc., 106.
 Real Del Monte Company, Minerals, 86.
 Real, José, Carbonate of lead, 87.
 Rebello & Co., Cotton fabrics, 253.
 Reboucas, A., & Castro, Photographs, 367.
 Reeh, J., Buggy, 380.
 Rechid Efendi, Lace, 298; Coverlet, 301.
 Rectem, J., Embroidered picture, 217.
 Redding, R. B., California, 11.
 Reed, A., & Co., Bookbinding, 132.
 Reed & Barton, Silverware, 113.
 Reed, G. L., Judge, Gr. XV., 17.
 Reed, H., & Co., Vinegar, 164.
 Reed, S. G., Oregon, 13.
 Reed, Sir C., Judge, Gr. XXVIII., 19.
 Reeston Committee, Quartz, etc., 63.
 Reese, Graff, & Woods, Steel, 56.
 Reeve, R. H. & B. C., Oil cloths, 119.
 Reeves & Eastburn, Furniture, 111.
 Reeves, I. G., Wool, 165.
 Reeves, S. H., & Co., Bed, 109.
 Regad, A., jr., Diamonds, 197.
 Regenhart, Raymann, & Kufferle, Table linen, 208.
 Reggio Brick Manf'g Co., Bricks, 232.
 Regis, Cisneros, Cream of tartar, 270.
 Regnier, Ridge, 194; Gauze, 298; Wooden roofing, 346.
 Rego, A. P., Clothing, 287.
 Regordosa & Co., Cotton, 273.
 Rei, J. J., Pharmaceutical preparations, 283.
 Reich, Federico, Cordage, 261.
 Reich, H. & Chr., Chemicals, 202.
 Reichart, A., Shoes, 208.
 Reichel, J., Colors, 315; Cotton stuffs, 316; Silk, 317; Embroideries, 318.
 Reichert's Sons, F., Silks, 208.
 Reid, A. W., Coal, 63.
 Reil & Cooper, Stove, 374.
 Reid, R., Marble mantelpiece, 188.
 Reid, William, Ornaments, 172.
 Reille, E. G., & Co., Tin boxes, 376.
 Reif, J., Jewelry, 209.
 Reifer, F., Judge, Gr. XXI., 18.
 Reiffenstein & Rösch, Chromos, 211.
 Reiff-Huber, Bolting cloth, 212.
 Reitschneider, F., Frames, 113.
 Reig & Co., Silk, 276.
 Reig, R., Cloth, 274.
 Reilly, E. M., & Co., Rifles, 152.
 Reimandi, Giuseppe, Cream of tartar, 231.
 Reimer, Dietrich, Maps, 348.
 Rein, F. C., & Son, Electric machines, 339.
 Reinbot, Educational, 372.
 Reinhardt, C., Bedstead, 188.
 Reinwald, E., & Co., Books, 344.
 Reis, H. F. dos, Canes, 254.
 Reis, José Antonio, Raw silk, 286.
 Reis, M. J. B., Judge, Gr. IV., 16.
 Reis & Monteiro, Printing, 289; Lithographs, 379.
 Reisinger Manf'g Co., Ink, 104; Locks, 115.
 Reisky, N. C., Furs, 129.
 Reissbarth, G. C., & Son, Brushes, 206.
 Rekanicé, Government of, Carpet, 296.
 Relief Ass'n for the Needy, Reports, 360.
 Remaggi Bros., Linen, 233.
 Remigio, R., Grammar, 266.
 Remington, E., & Sons, Fire arms, 133.
 Remmey, R. C., Chemical apparatus, 106.
 Remy & Co., Starch, 218.
 Renau, A., Soap, 271.
 Renen, S. van, & Co., Wines, 171.
 Renfrew, G. R., & Co., Furs, 189.
 Renfrew Manf'g Co., Gingham, etc., 118.
 Renick, Curtis, & Co., Buggy, 381.
 Renner & Buchler, Jewelry, 204.
 Rennes, D. W. van, Machine, 361.
 Reppetti, Joseph, Model, 179.
 Repper, J., Gloves, 208.
 Resquiao, F. P., Hats, 253.
 Resoagli, Luis, Quartz, 83.
 Resor, W., & Co., Stoves, 375.

- Resse, V., jr., & Bros., Decorations, 254.
 Retchani, Government of, Silk, 297.
 Retimo, Government of, Gall nuts, 306; Olives, 307; Wine, 313.
 Rettig, C. A., Iron ores, 78; Iron, 79.
 Rettig, J., Design, 110.
 Reukauff, G. C., Bouquet tables, 112.
 Reuleaux, Prof., Judge, Gr. XX., 18.
 Reus, N., Brushes, 221.
 Revere Copper Co., Bronze cannon, 59.
 Revillon Bros., Furs, 198.
 Revuelta, Carrillo, & Montes, Uteroscope, 278.
 Rey Gomez, A., Box, 277.
 Rey, senior, Linen fabrics, 216.
 Reyburn, Hunter, & Co., Vanes, 139; Rods, 331.
 Reyes, J., Shirting, 280.
 Reyes, J. de los, Pantaloons, 281.
 Reyes, L., Ornaments, 281.
 Reyhner, F., Silk goods, 253.
 Reymann, O., Essences, 280.
 Reymire Glass Factory, Glassware, 225, 225.
 Reynal, L., Pharmacies, 192; Case, 199.
 Reynante y Cancio, Manuel, Ores, 83.
 Reynaud, Flannel, 195.
 Reynier, F., Cotton goods, 253.
 Reynolds, C. T., & Co., Paints, 104; Brushes, 142.
 Reynolds, J., & Son, Range, 375.
 Reynolds, J. P., Illinois, 12; Judge, Gr. XXIII., 18.
 Reynolds, J. P., & Co., Escutcheons, 142.
 Reynolds, John N., Salt, 171.
 Reynolds & Volkel, Furs, 189.
 Rezende, C. Xavier, Stalactites, 82.
 Rezendes, B., Counterpane, 285.
 Rezendes, Francisco de, Petticoat, 287.
 Rheims, A., Screws, 199.
 Rheingantz & Vater, Woolen goods, 253.
 Rhenish-Nassau Co., Lead ores, 75.
 Rhode Island Board of Education, Books, 322.
 Rhode Island Cardboard Co., Cards, 132.
 Rhodes & Co., Ores, 49; Iron, 56.
 Rhodes, I. M., Chair, 135.
 Rhoner, Frank, & Co., Reclining chairs, 112.
 Riba Bros., Buttons, 277.
 Ribas, E., Music, 366.
 Ribas, Limas, Silk wests, 287.
 Ribas, M. de Sa, Alum, 82.
 Ribe, F., Hats, 318.
 Ribeiro, D. C. d'Almada, Violin, 369.
 Riber & Co., Paper, 278.
 Ribot & Bros., Hcmpps, etc., 273; Sandals, 276; Portmanteau, 277.
 Ricart & Co., Prints, 273.
 Ricasoli, Baron Bettino, Olive oil, 231.
 Ricci, L., & Sons, Hats, 234.
 Ricci, P., Sculpture, 235.
 Rice, D., & Co., Books, 327.
 Rice, H. T., Nevada, 13.
 Rice, J. D., Rods, 331.
 Rice, S. W., & Co., Base balls, 336.
 Rich, F. H., Judge, Gr. XIX., 18.
 Richard, B., Floor, 194.
 Richard Borden Mfg. Co., Printing cloths, 118.
 Richard & Granducontangne, Hematites, 87; Gravel, 90; Soft iron, etc., 92.
 Richard, T., Son, Album, 358.
 Richards, C. H., Delaware, 12.
 Richards & Hartley Flint Glass Co., 108.
 Richards, J. J. & J. M., Jewelry, 127.
 Richards, Kearne, & Gasquoine, Soda, 144.
 Richards, T., Lithographs, 157; Photos., 340.
 Richards, W. S., Coffee, 172.
 Richardson, Boynton, & Co., Furnaces, 374.
 Richardson, C. D., & Co., Tents, 117.
 Richardson, E., Judge, Gr. VIII., 16.
 Richardson, G., Stone, 54; Stone pipe, 107.
 Richardson, J. N., Playing cards, 132.
 Richardson, J. N., Sons, & Owden, Linen goods, 149.
 Richardson, McKee, & Co., Carriage, 381.
 Richey, M. S., Stone, 53.
 Richland Furnace Co., Ores, 48; Iron, 58.
 Richland, G., Butterflies, 180.
 Richlin, J., Leather, 254.
 Richman, J. W., Wines, 168.
 Richmond, Backus, & Co., Ticket case, 111.
 Richmond, Geo. Q., Colorado, 11.
 Richmond Marble Co., Pedestal, 53.
 Richmond Mfg. Co., Calicoes, 119.
 Richter, C. W., Instruments, 351.
 Richter, E. A., Embroidery, 209.
 Richter, F., Ultramarine blue, 192.
 Richter, I., & Sons, Cotton velvets, 208.
 Richter-Linder's Institute, Report, 357.
 Rickards, Charles, & Ayscough, Silks, 150.
 Ricker, R. E., Judge, Gr. XVIII., 18.
 Riela, Corporation of, Marbles, 90.
 Riddle, G. W., New Hampshire, 13.
 Riddle, J., Cheese, 163.
 Riddle, J., Son, & Co., Tickings, 116.
 Riddle, L. F., Delaware, 12.
 Ridgway, J., Heirs of, Revolving battery, 134.
 Riedl von Kidenstein, D. & F., China, 207.
 Riefser, C., Instruments, 349.
 Rieken y Gerdes, George, Sulphur, 88.
 Riera, L. A., & Co., Corks, 272.
 Rieter-Biedermann, J., Music, 358.
 Rieter, J. J., & Co., Photographs, 356; Plans, 357.
 Rietschoten, van, & Houwens, Model, 361.
 Rigand & Dusard, Chemical preparations, 192.
 Rigaud & Co., Soaps, 192.
 Rigby, J., & Co., Guns, 152.
 Riggins, G., Clay, 73.
 Riggs & Bro., Clocks, 329.
 Riggs, J., Wheat, 167.
 Righini Bros., Umbrella, 234.
 Rigl, R., Bed, 208.
 Rigollot, Meters, 344.
 Rigollot & Co., Poulitce, 192.
 Rigrtrup, R. S., Mechanism for watches, 355.
 Riha, Ernst, Water colors, 207.
 Riise, A. H., Bay spirit, 223.
 Rijperman, C. J. F., Painting, 221.
 Rikanié, Government of, Mineral water, 97.
 Rikli, C., Tables, 353.
 Rikogunsho, Imp. War Dept., Litters, 247.
 Riley & Lynch, Trimmings, 128.
 Riley & May, Billiard tables, 188.
 Rimmel, E., Perfumery, 145; Valentines, 152.
 Rina, Chemise, 299.
 Rinaldo, Raffaele, Olive oil, 231.
 Rin-ami Hanzo, Fans, 247.
 Ringerige's Nickel Works, Ores, 80.
 Rinko, P., Hose, 209.
 Rio de Janeiro Artistical Inst., Engravings, 366.
 Rio de Janeiro Arts and Trades Lyceum, Drawings, 366.
 Rio de Janeiro Com. Inst., Drawings, 366.
 Rio de Janeiro Faculty of Med., Books, 366.
 Rio de Janeiro, Gen Com. from, Guitars, 367.
 Rio de Janeiro House of Correction, Boots, 259.
 Rio de Janeiro National Mint, Coins, 367.
 Rio de Janeiro National Printing Office, 366.
 Rio de Janeiro Naval School, Books, 366.
 Rio de la Loza, M., Chemicals, 265.
 Rio de la Plata Indus. Society, Cloth, 277.
 Rio, Eustaquio, Arseniate of cobalt, 87.
 Rio Grande do Norte, Province of, Boxes, 274.
 Rio Grande do Sul, Army Arsenal of, Metal meridian, 366.
 Rio Junior, J. do, Tiles, 284; Statuettes, 370.
 Rio, Rafael del Peñaranda, Bridles, 279.
 Riosa, J., Fabric, 281.
 Rio Tinto Co., Ores, 88.
 Rio Vizella Weaving Co., Yarns, 285.
 Ripka & Elton, Cotton goods, 119.
 Ripley & Co., Glassware, 108.
 Riquieri & Co., Brandy, 262.
 Riscal de Alegre, Marquis of, Clay marl, 91.
 Rischbieter, C., Window shades, 203.
 Risdon Iron & Locomotive Works, Drawings, 335.
 Riso, Isidoro, Soapstone, 84.
 Ritch, W. G., New Mexico, 13.
 Ritchie, E. S., & Sons, Instruments, 329.

- Ritchie, J., Wine, 164.
 Ritchie, J., & Sons, Brass, 190.
 Ritter & Co., Jewelry, 204.
 Rittmeyer, B., & Co., Dwellings, 357.
 Ritze, P., Washington Terr., 14.
 Riu-Kiu-han, Cloths, 245; Paper, 247.
 Rivas & Co., Prints, 273.
 Rivas, José, Book, 267.
 Rivera, T. R., Book, 266.
 Riverside Iron Works, Nails, 142.
 Rives, Furniture, 343.
 Riza Effendi, Candles, 291; Fruits, 371.
 Rizzi, A., Blinds, 233.
 Rizzo Giorki, Frame, 293.
 Rizzuto Carmelo, Essences, 232.
 Roach, J. C., Bedstead, 110.
 Roache, A. L., Indiana, 12.
 Roballo, J. J., Coat, 253.
 Robb, J. M., Finance, 11.
 Robbi & Co., Chocolate, 214.
 Robbins & Appleton, Cases, 333.
 Robbins, Clark, & Biddle, Silverware, 113;
 Jewelry, 127; Cutlery, 139; Clocks, 330.
 Robert, E., Frame, 272.
 Robert, G., Widow & Son, Merinoes, 195.
 Roberts, A. & P., Iron, 59.
 Roberts, C. D., Bicycles, 383.
 Roberts, Ch. W., Maine, 12.
 Roberts & Co., Building sandstones, etc., 72.
 Roberts, D., Bicycle, 154.
 Roberts, Henry, Steel, 58.
 Roberts & Herell, Metal goods, 126.
 Roberts, J., Phaetons, 154, 383.
 Roberts, Rev. H., Manuscripts, 327.
 Robertson, Almanac, 179.
 Robertson Bros., Photographs, 162.
 Robertson, J., Buggies, 157, 383; Fleece, 161.
 Robertson, Mrs. S. E., Epergne, 173.
 Robertson, P., Tools, 190.
 Robertson, Robt., Model of gold fields, 70.
 Robertson, W. W., Birds, 163.
 Robinot, Ch., Gas fixtures, 194.
 Robinson Bros. & Co., Soaps, 103.
 Robinson, Fowler, & Co., Brooms, 380.
 Robinson & Pratt, Inks, 105.
 Robinson, R., Nevada, 13.
 Robinson, Savage, & Co., Books, 132.
 Robinson, Vincent, & Co., Carpets, 150.
 Robion, J., Hair flowers, 259.
 Robitaille, Dr., Limestone, 72.
 Robitsek, H., Instruments, 351.
 Robledo, L. P., Clogs, 276.
 Robles, Miss R., Embroidery, 265.
 Robson, Albert, Spikes, 228.
 Roca Bros., Fishing line, 278.
 Roca, J. E. de, Fabric, 281.
 Rocandio, Jorge, & Sharby, Phosphate, 87.
 Rocco, F., Olive oil, 232.
 Rocha, Francisco José da Silva, Pouches, 289.
 Rocha, J. P. da, Buttons, etc., 254.
 Rocha, Miss A., Music, 266.
 Rocha, Polybio da, Furniture, 253.
 Rochambeau, Le Marquis de, Judge, Gr.
 VII., 16.
 Rochester Tumbler Co., Glass tumblers, 109.
 Rockhill Iron & Coal Co., Ores, 48; Iron, 57.
 Rockhill & Wilson, Clothing, 125.
 Rockland Slate Quarry, Slates, 72.
 Rockville Manufacturing Co., Cassimeres, 120.
 Rockwood, Geo. F., Photographs, 334.
 Rodanet, A. H., Watches, 345.
 Rode, C. N., Ink, 229.
 Rodek Bros., Jewelry, 209; Leather goods, 210.
 Röder, C. G., Prints, 348.
 Rodgers, S. C., Wagon, 381.
 Rodman, R., Doeskins, 120.
 Rodney, J. H., Alternate, 9.
 Rodoreda, F., Indigo, 280.
 Rodrigues de Vasconcellos, M., Judge, Gr.
 VI., 16.
 Rodriguez, A., Cloth, 274; Satin, 275.
 Rodriguez, A. A., Writing desk, 253.
 Rodriguez Bros., Cloths, 274.
 Rodriguez, J., Indigo, 280.
 Rodriguez, L., Tintarron, 280.
 Rodriguez Mambillar, M., Cloth, 275.
 Rodriguez, R., Boots, 276.
 Rodriguez, S., Mustard, 259; Spurs, 260.
 Rodriguez & Sangronis, Boots, 257.
 Rodriguez, V., Flax seed, 259; Harness, 260.
 Rodriguez, Zurdo, Saddles, 279.
 Rodrigues, José Pereira, Pharmacies, 289.
 Roe, W. A., Boots, 151.
 Roelens, D., Plan, 360.
 Roger & Montlouis, Papers, 199.
 Rogers, C., & Bros., Trimmings, 143.
 Rogers, Duck, & Lewis, Liquid, 374.
 Rogers, J. & J., Iron Co., Iron, 57.
 Rogers, Salamanca F., & Co., Claret, 262.
 Rogers Upright Piano Co., Piano, 333.
 Rogers, W. A., Machines, 329.
 Rogers, W. D., & Co., Carriages, 380.
 Rogoslooski Crown Copper Works, Ores, 98.
 Rogul, A., Teeth, 266.
 Rohan, General de Beaurepaire, Chart, 367.
 Rohr, Walter von, A., Combs, 213.
 Rohrbeck & Goebler, Air pump, 135.
 Rohrer, J., Refrigerator, 376.
 Rohrman, J., Hall, & Son, Caddies, 140.
 Roibon, E., Herbarium, 259.
 Roibon, F., Fabric made by Indians, 256.
 Roiz de la Parra, G., Cotton, 273.
 Rojas, J. M., Mats, 280.
 Rojas, J. M. de, Hats, 281.
 Rokopolani, H., Cloth, 301.
 Rola, Vincent, Music method, 338.
 Rolandi, G. B., Crystals, 233.
 Rolando, G., Ink, 232.
 Rolffs & Co., Cotton and mixed goods, 203.
 Rohle, Louis, Knobs, 266.
 Rolin, H., Son, & Co., Shawls, 217.
 Rollins, G. D., Burner, 114.
 Roman, Gabriel, Coal, 84.
 Roman, Medardo, Wild fennel, 259.
 Romani, E., & Wife, Embroidery, 234.
 Romani & Puigdemolas, Paper, 277.
 Romani & Tarres, Sons of, Paper, 278.
 Romano, Gaetano, Sulphur, 81.
 Romay, Gabriel, Ores, 83.
 Romer & Co., Locks, 141.
 Romeu & Barella, Bricks, 272.
 Romier, Cuatafaro T., Book, 267.
 Romirez, S. & C. J., Rocks, 86.
 Rommel, W., Works, 342.
 Römmler & Jonas, Prints, 348.
 Rom Nickel Works, Ores, 80.
 Ronchetti Denti, B., Gloves, 276.
 Rondeau Bros., Instruments, 199, 200.
 Roos, P., Drawings, 321.
 Roosevelt, H. F., Organs, 332.
 Root, R. C., Anthony, & Co., Stationery, 131.
 Roothaan, L., Music, 361.
 Roots, L. H., Arkansas, 11.
 Roozin, T., Harness, 320.
 Rörstrand Stock Co., Feldspar, 78; China, 226.
 Rosa & Carin, Tools, 279.
 Rosa, J., Napkins, 285.
 Rosa, M., Cassimeres, 265.
 Rosa Martinez, J. de la, Syrup, 270.
 Rosa, Vicencia, Woolen fabrics, 286.
 Rosales, G., Hats, 281.
 Rosamond Woolen Co., Cassimeres, 189.
 Rosario Hacienda, Cottons, 265.
 Rosas, J., Books, 266.
 Rose, J. L., Magnet, 363.
 Rose, Katie, Kapas, 250.
 Rose, S. C., Porcelain, 241.
 Rose, W., & Bros., Tools, 137.
 Rosell, P. A., & Co., Wall paper, 227.
 Rosenbach & Co., Shirts, 124.
 Rosenberg & Cohen, Cotton goods, etc., 203.
 Rosenberg, D., & Son, Varnishes, 104, 374.
 Rosenberg, S., Brandy, 171.
 Rosendahl Mfg. Co., Paper pulp, 227.
 Rosengarten & Sons, Chemicals, etc., 101.
 Rosenlunds Spinning Co., Yarns, 226.
 Rosenstein, W., Chemicals, 201.
 Rosetti, C. G., Album, 234.

Rosewood Mine, Coal, 67.
 Rosier, J., Boots and shoes, 161.
 Rosillo, Don F., Judge, Gr. XXIII., 18.
 Rospigliosé, Prince Clemente, Olive oil, 231.
 Rosquellas, J., Medicines, 255.
 Ross, A., Petroleum, 63; Odonometer, 342.
 Ross & Co., Microscopes, 339.
 Ross, John L., Cotton goods, 117.
 Ross, R. D., Wines, 168.
 Ross, W. J., Building, 378.
 Rosselli, P., Periodical, 368.
 Rosselli Del Turcó, Olive oil, 231.
 Rossi, A., Idaho, 12.
 Rossi, L. C. C., Soaps, 232.
 Rossi, T., Wheat, 163.
 Rosso, L. Cav. C., Ropes, 235.
 Röstrand Stock Co., Porcelain, 225.
 Rotali, F., Olive oil, 232.
 Roth, F., Gloves, 209.
 Roth, J., Jewelry, 204.
 Roth, M., Maps, 363.
 Roth, Wm., Judge, Gr. XX., 18.
 Rothenbach, Gas works, 356.
 Rothschild, Bros. & Gutman, Shirts, 125.
 Rothschild, J., Books, 344.
 Rouault, Ch., Syrup, 192.
 Roucheu, Skins, 311.
 Roulleaux du Gage, M., Judge, Gr. XI., 17.
 Roullies & Co., Brushes, 200.
 Roure, B., Son, Materials for perfumery, 193.
 Rous, E., Inkstand, 198.
 Roussel, E., Fabrics, 195.
 Roussio, T., Ochre, 292.
 Routledge, Wm., Coal, 71.
 Roux, Charles, jr., Soaps, 192.
 Roux, L., Heaters, 194.
 Rowand, J. R., Apparatus, 136.
 Rowland, B., & Co., Shovels, 137.
 Rowland, J., & Co., Iron, 55.
 Rowland, Joseph S. C., Ink, 105; Pad, 130.
 Rowland, W. & H., Springs, 378.
 Rowlands & Lewis, Tonics, 65.
 Rowley, Wilson, & Co., Coal, etc., 63.
 Rowney, George, & Co., Varnishes, 145.
 Roxbury Carpet Co., Carpets, 122.
 Roxo, Monteiro, & Lemos, Book, 366.
 Roxo, Viuva de A., Hats, 287.
 Roy & Co., Mechanical chair, 188.
 Roy, J., & Co., Yarns, shawls, 120.
 Royal Agricultural Society, Apparatus, 363.
 Royal Baking Powder Co., Yeast, 101.
 Royal Carpet Manufactory, Hangings, 220.
 Royal Economical Society, Yeast, Costumes, 363.
 Royal Porcelain Manufactory, Bas-relief, 223.
 Royal Porcelain Works, Porcelain, 202.
 Royal Prussian & Ducal Brunswick Smelting Works, Ores, 75; Chemicals, 201.
 Royal Prussian Ministry of Commerce, Trade, & Public Works, Books, 350.
 Royal Salt Works, Salt, etc., 201.
 Royal School of Art Needlework, 147.
 Royal Society for the Prevention of Cruelty to Animals, Publications, etc., 360.
 Royal Society of Tasmania, Tables, 182.
 Royal Staff, Denmark, The, Maps, 224.
 Royal Swedish Commission, Books, 362, 363.
 Royal Swedish Commissioner, Figures, 226.
 Royal Swedish Staff General, Maps, 363.
 Royal War Office, Sweden, Arms, etc., 227.
 Rojo, Remegio, Wines, 268.
 Rubatun, Ges. & Co., Carbonate of soda, 192.
 Rubber Step Manufacturing Co., Steps, 379.
 Rubidge, C., Wool, 171.
 Rubio Perez, Juan, Serpentine, 90; Syrups, 278.
 Ruboliti, C., Meter, 344.
 Ruddenklau, J. G., Wheat, 156.
 Rudder, E. W., Linens, 157; Fibre, 159.
 Rudolph & Walter, Buffet, 336.
 Rudy, C., Book, 344.
 Rue, Mrs. S., Furniture polish, 104.
 Rue, T., Stencils, 138.
 Rueda, Manuel, Iron, 89.

Ruedas y Pedraza, Soap, 271.
 Ruffer & Co., Sheet zinc, 75; Chemicals, 201.
 Ruffin, J. B., Hats, 197.
 Rufus, Fr. Wilh., Account books, 205.
 Rui & Tolon, White metal, 92.
 Ruis & Co., Paper, 238.
 Ruis, D., Book, 266.
 Ruiz, Vincent F., Sandals, 276.
 Rul, Miguel, Photographs, 269.
 Rull, Miguel, Minerals, 86.
 Rumieri, G., Hats, 234.
 Rumpelmayer, V., Models, 352.
 Rumpp, C. F., Leather goods, 129.
 Rumpp, Chas., Leather goods, 129.
 Runcorn Soap & Alkali Co., Soda, 144.
 Rundell, Joseph B., Maps, 339.
 Rupertus, J., Revolvers, 133.
 Rusch, P. O., Furniture, 225.
 Rush & Co., Oils, 103.
 Rush, E. L. G., Texas, 14.
 Rusk, T. J., Swing, 114.
 Rusque, Juan, Claret, 262.
 Russell, Grand Manan, Copper glance, 70.
 Russell, H. G., Car coupler, 382.
 Russell, J., Sleighs, 381.
 Russell, John, Cutlery Co., Knives, 139.
 Russell, S., Clay, 73.
 Russell, T., Wool, 165.
 Russell, W. P., & Co., Show case, 110.
 Russell, W. W., Gold in quartz, 70.
 Russell, Willis, Antimony ore, 71.
 Russian American India Rubber Co., 320.
 Russian Navigation & Trade Co., Coal, 98.
 Russian Rail Mfg. Co., Ore, 98; Needles, 319.
 Russo, C., Olive oil, 232.
 Rustad, A. S., Norwegian furs, 230.
 Rustem Effendi, Judge, Gr. IV., 16.
 Rutherford, A., Wool, 165.
 Rutland Marble Co., Marble, 53.
 Rutledge, W., Fleeces, 165.
 Rüttschi, S., & Co., Silks, 212.
 Ruyter, C. de, Carriages, 218.
 Ryckere, E. de, Brushes and pencils, 218.
 Ryder Bros., Maize, 158; Cotton, 159.
 Ryder, W. H., Tackle, 152; Taps, 153.
 Ryffel & Co., Silks, 212.
 Ryn, J. H. van, Wines, 170.
 Rziha, F., Designs, 351.

S.

S. Joao d' El Rei Commission, Plaster, 82.
 Saal, F. O., Model of larynx, 206.
 Saame & Co., Chemicals, 201.
 Saavedra Ramirez, Alejo, Magnesia, 91.
 Sabacheira, Parochial Board of, Limestone, 95.
 Sabate, Brunet, Instruments, 92.
 Sabato Bros., Belting, 277.
 Sabin, J., & Sons, Dictionary, 327.
 Sabis, B., Foot rule, 342.
 Sabro, I. C., Bitters, 224.
 Sabut, G., Fancy articles, 254.
 Sachs, Joseph, & Co., Umbrellas, 205.
 Sachse, E., & Co., Chemicals, 201.
 Sachse, F., & Son, Dress shirts, 123.
 Sacken, Boetticher, Schmidt, & Ooss, Millinery, 317.
 Sacquelen, F., Samples of stone, 77.
 Sacré, L., Lace, 217.
 Sado, J., Linens and towels, 273.
 Saenz Martinez, J. B., Candles, 271.
 Safarana, J., Candles, 252.
 Safford, J. M., Tennessee, 14; Judge, Gr. I, 15.
 Safonoff, S. A., Toys, 320.
 Safran Bolu, Morocco, 310.
 Sagamore Mills, Printing cloths, 118.
 Sagarminaga, G., Clay, 272.
 Sage, F., Show cases, 147.
 Sagoundjaki, L., Gauze, 298.
 Sahak Ousta, Woolen, 295.
 Sahalim, Bacbac, Honey, 312.
 Sahlbom, W., Maps, 363.
 Said Effendi, Carpets, 296.

- Saint George, W. H., Book, 353.
 Saito, Z., Vase, 249.
 Saiz, J., Armor, 279.
 Sakaguchi, S., Emb'd'y, 246; Pictures, 249.
 Sakai, T., Photographs, 249.
 Sakaiken, Local Government of, Cloth, 245.
 Sako, Bracelets, 302.
 Sak-Volders, J., Bed ticking, 216.
 Sala, Baladia, & Coll, Cotton hosiery, 276.
 Saladrigas Bros., Prints, 273.
 Salamanca Mining Society, Tin ore, 89.
 Salas, Corporation of, Marble, 90.
 Salas de los Infantes, Prov. Com. of, Costumes, 276.
 Salas, Manuel M., Marble, 84.
 Salas & Terry, Rum, 264.
 Salazar, Miss, Photographs, 267.
 Salbé, D., Rice, 309.
 Salcedo, L., Bogota, Oil of wood, 261.
 Salcedo, Uladislis M., Ore, 83.
 Saldanha da Gama, Capt. L. F., Judge, Gr. XVI., 17.
 Saldanha, J. de, Judge, Gr. VI., 16.
 Saldanha, José de, Judge, Gr. XXIII., 18.
 Saldanha, L. de, Compass, 366.
 Saldne, Erzeroum, Salt, 291.
 Salé Agha, Madame, Pillow case, 295.
 Salé, Z., Indigo, 292.
 Salem Shade Roller Co., Rollers, 113.
 Salerno, Special Committee of, Linen, 233.
 Salga, Maria da, Hat, 287.
 Salgado, Rodriguez R., Jackets, etc., 276.
 Salgueiro, N. F. D., Pharmacies, 283.
 Sali Agha, Madame, Bag, 296.
 Sali Djestine, Trimmings, 301.
 Sali Hadji, Wheat, 308.
 Sali Ichkodra, Poutargue, 304.
 Sali Kamber, Silk, 297; Cord, 299.
 Saliaz, J. V., Cosmetic, 271.
 Saliceto, Correction Dept. of, Cloths, 233.
 Saligo, Vandenberghe, Lace, 217.
 Salih, Tissue, 293.
 Salih, I., Barley, 309.
 Saline de Coniah, Salt, 291.
 Salinella, Baron Michele, Rock salt, 231.
 Salisbury & Co., Flags, 142.
 Sallandrouze, S. P., Glass, 108; Mirrors, 113.
 Sallares & Son, Juan, Fabrics, 274.
 Salles, Germano José de, Marbles, 95.
 Salles, Joaquim José de, Marbles, 94.
 Salmon Com. of Tasmania, Trout, 183.
 Salobanoff, D. A., Crosses, 319.
 Salomé & Co., Canvas, 273.
 Salomon, Soap, 291; Olives, 307.
 Salomon, Wheat, 309; Skins, 311; Cotton, 313.
 Salonica, Government of, Oil, 291.
 Salta, Prov. Com. of, Galena, 83; Salt, 255; Goblets, 256; Cuirass, etc., 257; Boots, 258; Medicinal herbs, 259; Harness, 260.
 Salter, J. G., Console tables, 112.
 Salter, Samuel, & Co., Coatings, 149.
 Salter, W., & Son, Wines, 168.
 Saltinski Crown Iron Works, Ores, 98.
 Saludares, W., Hats, 281.
 Salva, de Pelle, Claret, 262.
 Salvi y Don, Antonio, Combs, 277.
 Salvo, C., & Sons, Gold work, 234.
 Samakon Factory, Iron ore, 97.
 Samar, Provincial Board of, Fabric, 281.
 Samarina Yani, Knife, 305.
 Sammes, J. B., & Co., Hubs, 379.
 Samora Correa, Baroness, Salt, 283.
 Samos, Government of, Galena, 96; Zinc, 97; Soap, 291, 297; Resin, almonds, 307; Seeds, 309; Honey, 312; Cocoons, 314.
 Samos, J. Goncalves de, Paper, 289.
 Samuelson, S. H., Peat, 78.
 San Carlos, Sub-commission of, Clay, 85.
 San Juan de Alcaráz Metallurgical Soc'y, Brass articles, 272.
 San Juan, Govt. of the Prov. of, Minerals, 83; Cloaks, 257; Hats, 257; Harness, 259.
 San Juan, Metallurgical Co. of, Cartridges, 278; Metal articles, 579.
 San Juan Provincial Com., Stone, 84.
 San Luis, Ladies' Commission, Cups, 256.
 San Luis, Provincial Commission of, Minerals, Indian articles, 83; Gold from La Carolina mine, 85; Crockery, 256; Mattress, 257; Hats, 258; Herbs, 259; Bristle, horse-cloth, harness, etc., 263.
 San Manuel, Asylum of, Bag, 277.
 San Paulo House of Correction, Bridles, 254.
 San Paulo, Province of, Iron ores, 81.
 San Paulo, Province of, Pharmaceutics, 252; Straw furniture, 253.
 San Pedro do Sul, Province of, Coal, 82.
 San Pedro do Sul, Province of, Bricks, 252.
 San Pedro, Governor of, Fabrics, 280.
 San Rafael Company, Minerals, 86.
 San Roman, P., Wax, 271.
 Sanchez, F., Stone, 85; Trimmings, 276.
 Sanchez, Miguel, Salt, 270.
 Sancta Catherina, Province of, Coal, 82; Furniture, 253.
 Sanctis, G. de, Judge, Gr. XXVII., 19.
 Sand, M., Flowers, 127.
 Sandberg, A., Penmanship, 364.
 Sandberg, A. Cook, Writing chair, 225.
 Sandberg, C. P., Drawings, 335.
 Sande, Olivares G. de, Ore, 88.
 Sandeman, F. S., Yarns, 148.
 Sanders, W., Cotton goods, etc., 203.
 Sandford & Co., Books, 132.
 Sandford Mills, Robes, 121.
 Sandhurst, City of, Photograph, 162.
 Sandrot, José, Stones, 84.
 Sandusky Tool Co., Planes, 138.
 Sandusky Wheel Co., Woodwork, 379.
 Sandvikens Iron Works, Iron, 79.
 Sandy Creek Claim, Quartz, 166.
 Sandy Creek Puddling Co., Quartz, 166.
 Sangalan, M., Towels, 283.
 Sangster & Co., Umbrellas, 151.
 Sanhudo, J. F., Instruments, 369.
 Sanóvikens Stock Co., Iron ores, 78.
 Sans de Mardevall, Fans, 277.
 Santa Candida School for Girls, Penmanship, 366.
 Santa Cruz, Simon de, Sand, 84.
 Santa Ella, Corporation of, Waters, 91.
 Santa Fé, Provincial Commission of, Embroidery, 258; Horse cloths, etc., 260.
 Santa Rosa, House of, Embroideries, 263.
 Santa Teresa, House of, Artificial flowers, 263.
 Santain, E. T., Judge, Gr. XXVII., 19.
 Santander Mining & Foundry Co., Ores, 89.
 Santi, A. A., Perfumery, 232.
 Santiago del Estero Prov. Com., Stones, 84.
 Santiago del Estero, Prov. Com. of, Ashes, 255; Counterpanes, 256, 257; Embroidery, 258; Herbs, 259.
 Santiago Fuentes, I., Acid, 271.
 Santiago, Villa, Coffee, 268.
 Santiagos & Co., Tiles, 272.
 Santillan, J. C., Cuffs, 258.
 Santini Bros., Straw, 234.
 Santo Thirso, Antonio dos Reis, Shoes, 287.
 Santos, A. M., Mats, 285.
 Santos, à Quintino dos, Music, 366.
 Santos & Bro., Mirrors, 284; Hats, 288.
 Santos, Francisco A., de los, Stone, 84.
 Santos, J. A. dos, Marble, 94; Marble bath, 284; Counterpanes, 285; Woolen fabrics, 286; Nails, 286.
 Santos, J. M., Matting, 285.
 Santos, Manuel Moreira, Tools, 289.
 Santos, P. C. dos, Hats, 253.
 Santos, Rocha, & Moreira, Tubes, 289.
 Sanz, Manual, Cloth, 274.
 Sanz, Mariano, Jet, 91; Cloths, 274.
 Sanz & Sons, Cloth, 274.
 Sapojnikoff, A. & W., Silk, 317.
 Saracini, Alessandro, Olive oil, 231.
 Sarak, Salif, Saddles, 305.
 Sarasin & Co., Dwellings, 357.
 Saratoga Victory Mfg. Co., Cambrics, 116.
 Saravin, Pablo, Sulphate of lime, 84.

- Sarchet, J. W. & J. T., Sand, kaolin, 54.
 Saretiere, G., Lamps, 233, 235.
 Sarg, F. A., Son, & Co., Wax candles, 207.
 Sargadelos Foundry & Delft Factory, Clay, 91;
 Ingot, 92.
 Sargent, D., Salt, 173.
 Sargent & Greenleaf, Locks, 142.
 Sargent & Ham, Phaeton, 381.
 Sargent, W. P., & Co., Buggies, 381.
 Sarmiento, A. E. de, Journal, 369.
 Saronkhan, Government of, Ore, 97; Opium,
 304; Gall nuts, 306, 309; Cotton, 313.
 Sarradj Moustapha, Saddle girth, 305.
 Sarral, Lokhia, Pyrites, 96.
 Sarral, Mouradite, Galena, 96.
 Sartain, J., Chief of Bureau of Fine Arts, 10.
 Sarton, G., Hats, 276.
 Sartorius, F., Analytical scales, 349.
 Sassi Nahil, Bracelets, 302.
 Sauberlich, A., Chemicals, 201.
 Saucon Iron Co., Ore, 50; Pig iron, 57.
 Sauders & Co., Soaps, 220.
 Sauerländer, H. R., Manuals, 354.
 Saumillan, M., Cloth, 275.
 Saunders, S., Walking canes, 189.
 Saunders, S. P., Shells, etc., 173.
 Saunders, Wm., Perfumery, 187.
 Sauter, A., Cigars, 214.
 Sauvage & Ruck, Bronzes, 194, 199.
 Savage, A., Idaho, 12; Judge, Group I., 15.
 Savage, Alfred, & Son, Oil, 187.
 Savage, Keyser, & Stovell, Acids, etc., 102.
 Savary & Rondeleux, Jewelry, 197; Watches,
 344.
 Savery, J., Massachusetts, 12.
 Savi Faki, Moustapha, Morocco, 310.
 Savournin, W. H., Toilet powders, etc., 105.
 Sawin, L. H., Cane-seat chairs, 112.
 Sawyer & Buckley, Tables, 109.
 Sawyer, R. H., & Co., Woods, etc., 173.
 Sawyer Woolen Mills, Cassimeres, 120.
 Saxlehner, Andreas, Mineral water, 76.
 Saxon Thuringian Co., Chemicals, 201.
 Sayas Karabetli, Silk, 297.
 Sayo, Veja de la, Oil, 268.
 Says, J., Boots, 276.
 Sbertoli, Giuseppe, Carbonate of lead, 231.
 Scammano, Cav. Michele, Cedrats, 81.
 Scanian Cement Co., Cement, 78.
 Scapatura, A., Music, 368.
 Scaraviglia, Torquato, Album, 365.
 Scarselli, E., Gruma, etc., 232; Hats, 234.
 Scattergood, W. W., Drain tile, 107.
 Scavo Vita Brothers, Sulphur, 81.
 Schaar, E. E. A., Judge, Gr. XVIII., 18.
 Schachner, F., Plans, 352.
 Schadelbauer, V., Buttons, 209.
 Schaefer & Co., Cloth, 203.
 Schaerer, Emil, & Co., Silks, 213.
 Schaetzler, G. E., Metal leaf, 202.
 Schafft, Fridolin, Sideboard, 111.
 Schakal, A., Silk, 297.
 Schalck, H., Buttons, 288; Nails, 289.
 Schaller, J., Looking glasses, 202.
 Schalton, Pierry, & Co., Mineral waters, 219.
 Schantz & Kats, Jewelry, 204.
 Scharf, J. T., Maryland, 12.
 Scharlach, Louis, jr., Roofing, 75.
 Schastey, George A., Furniture, 110.
 Schaum, J. P., Kettles, 377.
 Schedler, J., Globes, 321.
 Scheehan, Diogo Jorge, Kid gloves, 287.
 Scheffer, E., Pepsin, 101.
 Schehl, C. W., Jewelry, 204.
 Scheidecker, Ch., Machines, 199.
 Scheider, J., & Co., Goods, 377.
 Scheidl, A., Gold frames, 208.
 Scheitlin & Widmer, Embroideries, 213.
 Scheitlin & Zollikofer, Manuals, 354.
 Scheller, Ferdinand, Malt preparations, 205.
 Schenck, J. H., Clock, 330.
 Schenck, J. V., Mattress, 110.
 Scherer Bros., Kirschwasser, 214.
 Schermerhorn, Chas., Stand and rack, 112.
 Schermerhorn, J. W., & Co., Books, charts,
 school material, 321.
 Schickendantz, F., Medicinal herbs, 259.
 Schickendantz, M., Quilt, 257.
 Schidebalaki, H. N., Oil, 291.
 Schiedmayer, J., Piano, etc., 350.
 Schiedmeyer, J., Judge, Gr. XXV., 19.
 Schier, H., Mirror, 113.
 Schilizzi, E. F., Silk, 207.
 Schiller, Jos., & Co., Hats, 126.
 Schilling, V. Chr., Military weapons, 205.
 Schimmel & Co., Essential oils, 202.
 Schimmelpfing, A., Kaolin, 82.
 Schirin Agha, Pyrites, 96.
 Schisshyte-Molnebo Iron Works, Ores, 78.
 Schisshyttan-Molnebo Mfg. Co., Iron, 79.
 Schit Mohammed, Gall nuts, 306.
 Schlaepfer, J. U., Muslim, 212.
 Schlafhorst & Brüel, Cotton goods, etc., 203.
 Schlegel, E., Plates, 348.
 Schlegel, J., Toys, 205.
 Schleife Tanneries, Leather, 214.
 Schlenk & Lutzenberger, Toys, 205.
 Schlesinger, C., Judge, Gr. XXVII., 19.
 Schlesinger, Martin, Paper letters, 205.
 Schlessinger & Lummer, Leather, 350.
 Schleuerpflug, E., Toys, 205.
 Schlieper & Baum, Calico, 203.
 Schlimp, C., Designs, 352.
 Schloglmühl Paper Factory, Paper rolls, 210.
 Schlotterbeck, A. S., Thermometer, 329.
 Schlyter, G. R., Costumes, 363.
 Schmid, Jos. Ed., Concave glass articles, 207.
 Schmidl Sons, W., Passementerie, 208;
 Haberdashery, 209.
 Schmidt, A., Mineral waters, 85.
 Schmidt, A., & Co, Glass, 215.
 Schmidt, Brothers & Sisters, Window glass,
 215.
 Schmidt, C., Cement, 98; Oil, 315.
 Schmidt, Devillez, & Co., Glass, 215.
 Schmidt, E., Axles, 320; Spring tester, 383.
 Schmidt, Emile Schaeberck, Cordial, 219.
 Schmidt, F., Cosmetic, 315; Models, 352.
 Schmidt, H., Designs, 351; Models, 352.
 Schmidt, H. W., Books, 348.
 Schmidt, Heinr., & Gunther, C., Books, 348.
 Schmidt, J. Ph., & Sons, Woolens, 208.
 Schmidt, Joseph, Bitters, 214; Apparatus, 351.
 Schmidt, Major, Rifle, 213.
 Schmitt, F., Wine, 164.
 Schmitt, H., Music, 351.
 Schmitt, L., Wheat, 163.
 Schmitt, Nicolau, & Co., Harness, 254.
 Schmitz, F. A., & Co., Skins for hats, 218.
 Schmitz, P., Books, 360.
 Schmoll, A. von, Models, 352.
 Schmoranz, F., Designs, 351.
 Schnabl, J., Laces, 209.
 Schneelock, O., Target, 133.
 Schneider, B., Embroideries, 204.
 Schneider, C. F., Lint, 212; Knives, 214.
 Schneider, W., Toilet articles, etc., 210.
 Schnek & Kohnberger, Rubber, 211.
 Schnidel, John Adam, Stones, 75.
 Schneider, C. A., Piano stools, 334.
 Schnyder, J. J., Bristles, 212.
 Schoenfeld, E., jr., Jewelry, 204.
 Schoenfeld, H., Reports, 360.
 Schoenhof, J., & Co., Skirts, 124.
 Schoenner, G., Instruments, 349.
 Schoffel, A., Papier-mâché boxes, 210.
 Schoffer & Budenberg, Gauges, 349.
 Schofield, Seville, Blankets, etc., 121.
 Schokking, J. A. J., Tube, 221.
 Scholfield, J. H., Stoneware, 284.
 Schöller, J. P., Cloths, 203.
 Schöller, L., & Son, Cloths, 203.
 Scholler, Ph. J., & Sons, Wire goods, 203.
 Scholz, P., Yarns, 203; Hosiery, 204.
 Schomacker Piano Co., Pianos, 332.
 Schon, J. G., Maps, 352.
 Schönfeld, G., Books, 348.
 Schopp, P. J., Ventilator, 382.

- School for Poor Girls, Worsteds, 261; Weaving frame, 262.
- School of Medicine, Books, 371.
- School of Mines of Columbia College, Drawings, 335.
- Schött, Hermann, Fancy papers, 205.
- Schotte & Co., Maps, etc., 348.
- Schöttle, G., Furniture, 202.
- Schough, Robert, Iron ores, 78.
- Schoverling & Daily, Rifles, 133.
- Schrabetz, E., Plans, 352.
- Schrebler, Federico, Card-baskets, 261.
- Schreck, Maximiliano, & Kemp, Ore, 94.
- Schreiber, I. F., Books, 348.
- Schreiber, S., Glassware, 207.
- Schreiber, W. A. H., Clay, etc., 54.
- Schreiner, A., Drinking utensils, 202.
- Schrenkeisen, M. & H., Rocking chair, 110.
- Schroder, J., Models, 349.
- Schroeder, C., Wines, 104.
- Schröder, Theodore, Ore, 83.
- Schröder, Wilhelm, & Co., Silks, 213.
- Schroyer, J. C., Ornaments, 328.
- Schubeler, F. C., Map, etc., 364.
- Schubert & Co., Music, 348.
- Schubetter, J., Show case, 109.
- Schucani & Wegman, Liquors, 224.
- Schuchardt, T., Chemicals, 201.
- Schultz, C. H., Waters, 55.
- Schultz, J. S., New York, 13.
- Schültz, Thurebyholm, Model, 224.
- Schultze, G. A., Apparatus, 349.
- Schulz, O. A., Book, 348.
- Schulze, Books, 348.
- Schum, Phillip, Quilts, etc., 118.
- Schunemann, L., Dolls, 205.
- Schurman, A., Patent medicines, 283.
- Schuyler, Hartley, & Graham, Costumes, 123.
- Schwabe, Salis, & Co., Cotton prints, 149.
- Schwan, W., Buttons, 210.
- Schwanhäuser, Pencils, 205.
- Schwann, L., Publications, 348.
- Schwarz, J., von, Gas burners, 202.
- Schwarz & Son, J., Hat bands, 209.
- Schwarzenbach, Landis J., Silks, 213.
- Schwarzenhorn, Fr. von, Porcelain, 229.
- Schwarzmann, H. J., Designs, 336.
- Schwarzmann, D., & Co., Men's clothing, 208.
- Schwechten, G., Pianos, 350.
- Schweigert, Auguste, Sauce, 214.
- Schweigert, W., & Co., Cigars, 158.
- Schweinberg, G., Carpets, 208.
- Schwer, B., jr., Clocks, 349.
- Sciaccia della Scala, Oil, 232; Silk, 234.
- Sciaccaluga & Co., Fish, 262.
- Scioto Fire Brick Co., Fire bricks, 107.
- Scioto Furnace, Iron ores, 48; Pig iron, 58.
- Sci-shi-jo Silk Reeling Estab., Silk, 246.
- Scocchiolini, A., Pomatun, 232.
- Scorgie, Wight, & Co., Granite fountain, 52.
- Scott, G., Pennsylvania, 14.
- Scott, G. B., Photograph, 167.
- Scott, J., Wheat, 163.
- Scott, J. M., Judge, Gr. XXI., 18.
- Scott, J. W., & Co., Stamp albums, 336.
- Scott, Q. A., Dentifrice, 136.
- Scott, Robson John, Blocks, 338.
- Scott, T. S., & Bro., Paper carpet, etc., 132.
- Scott, W. & C., & Sons, Fire arms, 152.
- Scott, W. D., Nebraska, 13.
- Scovill Manufacturing Co., Brass, 59.
- Scovill, S. S., & Co., Buggy, 381.
- Scranton, L. S., Buggy, 380.
- Scribner, Armstrong, & Co., 327.
- Scribner, D., Salmon, 191.
- Scuderi, Giuseppe, Cream of tartar, 231.
- Scurati, M. de G., Cotton, 233.
- Seabra, José dos Santos, Jewelry, 288.
- Seabury & Johnson, Plasters, 134.
- Seaman & Co., Grindstones, 73.
- Seaman, L. L., Percussor, 135.
- Searle, C., Wool, 183.
- Searls, A., Sockets, 379.
- Seavy, Foster, & Bowman, Silk, 122.
- Sebah, Photographs, 371.
- Sebou, N., Silk, 297.
- Secchi de Casali, G. F., Judge, Gr. IV., 16.
- Seckler, J., Specimen work, 254.
- Secombe, R., Milk, 158.
- Secor, Jerome B., Automaton birds, 334.
- Secrétan, Instruments, 345.
- Secretan, E., Copper, 195.
- Sedj Agha, Furse, 302.
- Seefeldt, W. F., Instruments, 332.
- Seeley, J. B., Trusses, 136.
- Seelhorst, G., Judge, Gr. II., 15.
- Seemann, E. A., Books, 348.
- Seewald, M., Leather ware, 210.
- Seffarlen & Fritz, Warps, 122.
- Segant, Shoemakers' tools, 199.
- Segelche, T. R., Judge, Gr. IV., 16.
- Segovia, Carolina, Hides, 264.
- Segueira, D. A., Painting, 290.
- Séguin, Althocinum, 193.
- Seguin, Bordeaux, Dyes, 193.
- Segura, Rufino, Soapstone, etc., 84.
- Schi Tassane, Cases, 302.
- Seid Abdul Hamid, Silk, 297.
- Seid Alil, Silks, 298.
- Seid Alip, Tables, 292.
- Seid Chaban, Z., Maize, 309.
- Seid Cherif, Issues, 293.
- Seid Hadji, Grapes, 307.
- Seid Hassan, Garment, 299.
- Seid Hussa, Mahaleb, 307.
- Seid Mehemed, A., Wheat, 309; Apricots, 312.
- Seid Ragui, Plate, 292.
- Seid Yayia, Silk, 297.
- Seidler & May, Sofa bed, 111.
- Seidler, T., Spokes, 379.
- Seifu, Y., Vases, 245.
- Seigert, Dr., Bitters, 184.
- Seikan, S., Jars, 245.
- Seiler, E., Piano, 350.
- Scilles lez Andenne Bouffoulx Co., Clay, 215.
- Seit, Hadji, Potash, 291.
- Seitz, G. W., Judge, Gr. XIII., 17.
- Sekitei, I., Vases, 245.
- Seki-yu Kuwaisha Petroleum Co., Oils, 244.
- Selim Agha, P., Waters, 292.
- Selim Arikili, Smokers' articles, 302.
- Selim Kohi, Wool, 314.
- Selim, M., Cord, 299.
- Selim Zeutekli, Pipe stems, 302.
- Selim Zia Effendi, Canes, 302.
- Seliverstoff, N., Woolen cloths, 316; Hair, 317.
- Sell, Charles P., Soap, 207.
- Sellers, Chas. P., Brooms, 142.
- Sellers, W., Finance, 10.
- Sellers, William, & Co., Iron, 59.
- Selma & Alabama R. R., Ore, 48; Iron, 56.
- Selma, Rome, & Dalton Railroad, Ores, 50; Pig iron, etc., 57.
- Selsor, G., & Co., Hammers, 137.
- Semare, Govt. of, Carpet, 296; Garment, 300.
- Semenoff, Silver plate, 316.
- Séminaire Ste. Thérèse, College work, 342.
- Semple, S., & Sons, Thread, 116.
- Sensfelder, A., Pomades, 193.
- Sequeira, Francisco Pinto, Boots, 287.
- Sequeira, T., & Carneiro d'Andrade, E., Ore, 94.
- Serdar, Hassan Oglou Hussin, Raisins, 312.
- Serdukoff, B., Cosmetics, 315.
- Sere, Edouard, Minerals, 85.
- Serebrenikoff, S., Tureens, 320.
- Serfiché, Government of, Wheat, 308.
- Sergeant, B. M., California, 11.
- Sergieff, P. W., Paper, 318.
- Sergeant, Th., Faience, 193.
- Serkiz, Marble, 97.
- Serra, Felipe José, Boots, 287.
- Serra & Font, Liquor, 278.
- Serra, J., Ink, 271.
- Serrana, Florencia, Waistcoat, 287.
- Serrano, B., Cloth, 275.
- Serrano, Cardona, & Co., Tubing, 89.
- Serraris, P. A., jr., Apparatus, 360.

- Serravalle, C., Chemical preparations, 255.
 Serres, A. de, Models, 352.
 Serret & Turull, Shawls, 274.
 Serrinha Tin Co., Ore, 94.
 Sert Bros. & Solá, Woolens, 274.
 Serta, G. N., Ventilation, 216.
 Sertorio & Pinho, Kid gloves, 254.
 Servant, C. J., & Co., Velvets, 196.
 Servet, J. Marc, Son, Tools, 358.
 Serzedello & Co., Chemicals, 283.
 Sestoretzk Rifle Mfy., Arms, 319.
 Seth Thomas Clock Co., Clocks, 330.
 Setzuzan, A., Vases, 245.
 Seurin, J., Varnish, 193.
 Séve, E., Books, 261.
 Sévène, Barral, & Co., Failles, 196.
 Seventh Day Adventist Pub. Assn., 328.
 Several Contributors, Woods, 174.
 Severino, Perez, Pipitza-huina, 268.
 Severt, Wm. A., Drawings, 335.
 Sevey, J. A., Bone, 120.
 Sevilla & Perez Bros., Baskets, etc., 273.
 Seward, M., & Son, Hardware, 379.
 Sewill, J., Chronometers, 339.
 Seychelles, Chief Com. of, Woods, 181.
 Seydoux, Sieber, & Co., Threads, 195.
 Seyfoullah, R., Leather, 310.
 Seymour, Henry, & Co., Shears, 139.
 Seymour Paper Co., Paper, 131.
 Sfakia, Government of, Lime, 97; Pitch, 36.
 Shadrin, E., Embroideries, 318.
 Shaffner & Stringfellow, Wool, 119.
 Shalter, R. M., Iron ore, 48; Pig iron, 57.
 Shanahan & Jennings, Wool, 159, 180.
 Shannon, J. B., Locks, 140.
 Shantz, J. Y., Mirror, 188; Ivory buttons, 189.
 Sharland, W. C., Hops, 183.
 Sharland, W. S., Wool, 183.
 Sharp, H. E., Son, & Colgate, Windows, 113.
 Sharp, Jos. S., Salt, 187.
 Sharpless, J. M., & Co., Extract, 104.
 Sharpless & Sons, Costumes, 125.
 Sharp's Rifle Co., Rifles, 133.
 Sharswood, W., Coal, 47.
 Shaw, A., Iowa, 12.
 Shaw, A., & Co., Brooms, 160.
 Shaw, A. F., Dakota, 12.
 Shaw, C. A., Box, 377.
 Shaw, F., Wool, 183.
 Shaw, F. E., Maine, 12.
 Shaw, F. K., Wine, 164.
 Shaw, J. G., Warps, 116.
 Shaw, J. H., & Co., Mirrors, 113.
 Shaw, P., Copper pyrites, 70.
 Shaw, Thomas Ogg, Mineral paint, 105.
 Shearer, Smith, & Co., Granite, 61.
 Shedd, J. Herbert, Engineering, 335.
 Sheeler, Buckwalter, & Co., Stoves, 374.
 Shelajiff, S. & G., Bros., Silk, 317.
 Shelby Iron Co., Iron ores, 48; Pig iron, 57.
 Sheldon & Co., Books, 327; Axles, 379.
 Sheldon & Fenton, Silks, 150.
 Sheldon, H. L., Newspaper, 250.
 Sheldons & Slason, Marble, 53.
 Shenandoah Gold Mining Co., Quartz, 65.
 Shepard & Dudley, Instruments, 135.
 Shepard, S., & Co., Japanned ware, 376.
 Shepardson, H. S., & Co., Gimlets, 137.
 Shepherd, C. H., Refuse of cork, 376.
 Shepherd, H. E., Drawings, 321.
 Shepherd & Lloyd, Scales, 137.
 Sheppard, Arrison, & Sheppard, Curtains, 110.
 Sheppard, I. A., & Co., Stoves, 375.
 Sheppard, W., Bible, 342.
 Sheppard, W. G., Violoncello, 342.
 Shepperd, E., Quartz, 166.
 Shereshevsky, N., Shirts, 317.
 Sherman, B. R., Iowa, 12.
 Sherwood, G., & Co., Books, 326.
 Shetucket Co., Fancy stripes, etc., 117.
 Shibata, Y., Silks, 246.
 Shibe, J. D., Base balls, 336.
 Shichijo Yasunori, Statuettes, 249.
 Shields, King, & Co., Sands, etc., 54.
 Shields, T., Bolts, 379.
 Shields, W., Bolts, 379.
 Shiga-ken, Local Government, Mats, 247.
 Shii-no, S., Silks, 246.
 Shikki-Shosha, Furniture, 245; Toys, 246.
 Shiloff, A., Harness, 320.
 Shimidzu, J., Bamboo, 247.
 Shimidzu, K., Tea sets, 244.
 Shimidzu, Rokubei, Vases, 244.
 Shimidzu, S., Bowls, 244.
 Shinhelm, Models, 372.
 Shinn, Wm. P., Engineering exhibit, 335.
 Shinoda, K., Vases, 245.
 Shinoyama, A. U., Bronze, 249.
 Shi-o-kawa Bunnin, Picture, 249.
 Shipley, Howard W., Cutlery, 139.
 Shippen, W. W., Portraits, 336.
 Shippo-Kuwai-sha, Enamel, 245; Fans, 247; Caddy, 249.
 Shiromidzu, Ch., Silk dress, 246.
 Shishkin, S., Harness, 383.
 Shitomi Sohei, Y., Vases, 244.
 Shiu-shi-kiyoku, Map, 244.
 Shlippe, Chemicals, 315.
 Schmidt, Dr. von, Plaster, 319.
 Shoemaker, J. L., Solicitor, 10.
 Shoemaker, R., & Co., Fluid extracts, 101.
 Shoemaker, S. M., Alternat, 9.
 Shoemakers' Co-operative Soc ty, Shoes, 234.
 Shoemakers' Society, Boots, 197.
 Shoeburger, J. H., Pennsylvania, 14.
 Shoenhof, J., & Co., Felt skirts, 127.
 Shokkojo Weavers, Dress silks, 246.
 Shomi, Y., Vases, 249.
 Shoninger, B., Organ Co., 332.
 Shoobert, J., Bark, 158.
 Shoobridge, E., Hops, 183.
 Shoobred, J., & Co., Furniture, 147.
 Shootoff, Arm chair, 316.
 Shorey & Co., Clothing, 189.
 Shorey, J., & Co., Fixtures, 113.
 Shortridge, N. P., Finance, 11.
 Shove Mills, Printing cloth, 118.
 Shoza, T., Cups, 245.
 Shrader, Table, 315.
 Shrader, A., Woolen goods, 317.
 Schroder, F., & Co., Cotton drills, etc., 117.
 Shroeder, F. & H., Pulpit, 109.
 Shubert, L., Hats, 317.
 Shuler & Benninghofen, Felts, 120.
 Shulthess, Friedr., Manuals, 354.
 Sibalon, Gov. & Municipality of, Fabric, 281.
 Sibeth, Otto, Map, 336.
 Sibley, A. H., Silver ores, etc., 70.
 Sibley, Col., & McIntyre, J., Galena, 71.
 Sibley, F. K., Emery cloth, 55.
 Sicard, Juana G. de, Stone, 83.
 Siddall Bros., Book printing, 132.
 Sidenblad, E., Statistics, 362.
 Sidmaki, S., Beans, 309.
 Sidoroff, Michael, Ore, 98; Costumes, 318.
 Siebenhüner, A., Violins, 332.
 Siebenpeiffer, C., Jewelry, 204.
 Siegenthaler, Sl., Boots, 212.
 Sieger, E., Lithographs, 211.
 Siegerland, Mine Owners of the, Ores, 75.
 Siegmund & Volkening, Literature, 348.
 Siegl, C., Linen, 208.
 Siegmund, W., Woolens, 208.
 Siemens Bros., Gutta percha, 339.
 Siemens, C. W., Iron, 62; Pyrometers, 339.
 Siemsen, J., Hemp goods, 203.
 Sieperman, C. F., & Son, Chemicals, 201.
 Sierra, Francisco, Coal, 89; Jet, 91.
 Sierra, Justo, Book, 267.
 Sigler, C. J., Signs, 113.
 Sihieldknecht, Apparatus, 372.
 Silas, Rogers, & Co., Axles, 379.
 Siles, I., Essences, 232.
 Silicate Paint Co., Paints, 145.
 Silicon Steel Co., Steel rails, 56.
 Sillery, Convent de, pupils' work, 342.
 Silliman Chemical Works, Chemicals, 102.
 Silva, A. J. de L. e V., Cocoons, 286.

- Silva, A. J. P. da, & Alves, Sewing silk, 286.
 Silva, Antonio Moreira, Hats, 287.
 Silva, B. da, Mats, 285.
 Silva, Bernardino Antunes, Kid gloves, 287.
 Silva, Callado J. A. da, Music, 366.
 Silva Coutinho, J. M. da, Judge, Gr. XXVI., 19.
 Silva, David Jose da, & Sons, Figured silk; 287.
 Silva, F., Cotton, 256.
 Silva, F. J. X. da, Cups, etc., 254.
 Silva, F. M. da, Compositions, 366.
 Silva, Guimaraes, Shoes, 287.
 Silva, H. J. da, Shoes, 253.
 Silva, J. B. C. da, Hats, 253.
 Silva, J. Baptista da, Horse bits, 290.
 Silva, J. P., Linen stuffs, 285; Shoes, 287.
 Silva, J. P. N. da, Memoirs, 369.
 Silva, Joao d'Oliveira, Furniture, 290.
 Silva, Joaquim da, Toothpicks, 288.
 Silva, José Francisco, Brown woolen cloth, 286.
 Silva, José Gonçalves, Bird cages, 288.
 Silva, L., Prisms, 82.
 Silva, M., Napkins, 258.
 Silva, M. A. Machado da, Iron, 82.
 Silva, M. da, Pottery, 283.
 Silva, Manuel José Francisco da, Silk, 287.
 Silva, Miguel Manuel da, Military boots, 287.
 Silva, Pessanha da, Annals, 366.
 Silva, S. A. P. da, Salt, 283; Model, 369.
 Silva, S. A. P. da, & F. A. Marques de Moura, Plan, 95.
 Silva, S. S. G. da, Ink, 252.
 Silva & Santos, Statuettes, 370.
 Silvas, M. D. da, Matting, 285.
 Silver Islet Co., Ingot of silver, 74.
 Silver, Jno., Marble, 72.
 Silver Lake Co., Braided cords, 123.
 Silver Spring Bleaching & Dyeing Co., Cotton cloth, 117.
 Silver, W. H., Churns, 377.
 Simeaes, Rosa Clara, Blanket, 286.
 Simerell, C. B., Ornaments, 329.
 Simes & Tate, Filter, 377.
 Simes, Wm. F., & Son, Camphor, 101.
 Simmons, W. C., Wool, 183.
 Simms, T. S., & Co., Brushes, 190.
 Simon Bros., Embroidery, 258.
 Simon, M., Model, 361.
 Simon, May, & Co., Shawls, 150; Curtains, 151.
 Simon, P., Carpet, 297.
 Simona, Giorgio, Photographs, 358.
 Simonds' Manufacturing Co., Ranges, 374.
 Simonin, L., Judge, Gr. I., 15.
 Simonis, I., Woolen stuff, 217.
 Simons & Co., Mosaic tiles, 193.
 Simons & Malcolm, Door mats, 155.
 Simons, Opdyke, & Co., Jewelry, 127.
 Simons, P., Bindings, 221.
 Simonsen, C., Punch, 223.
 Simpson & Co., Pianos, 333.
 Simpson, John, Manganese, 70.
 Simpson & King, Cotton fabrics, 149.
 Simpson, Robert, Coal, 71.
 Simpson, W. H., Maine, 12.
 Simpson, W., & Son, Prints, 119.
 Simon, A., Fabric, 280.
 Singer, J. W., & Son., Metal work, 147.
 Singer, Max, Aniline products, 215.
 Singer, Nimick, & Co., Steel, 56.
 Singer & Talcott Stone Co., Stone, 53.
 Singaglia, S., Heir of, Silk, 233.
 Sinsz, P., Tools, 137.
 Sintz, Geo., Limestone and lime, 54.
 Sippel, C., Turning, 379.
 Siqueira, P., Agates, 82.
 Sirch, O., Skins, 310.
 Sirkilé, O., Skins, 310.
 Siretti, F., Sets of teeth, 235.
 Siroc, C. & L., Nails, 200.
 Sisters of Charity, Embroideries, 242.
 Sitnoff, G., Boots, 317.
 Sittig, J., Buttons, 210.
 Sjoberg, A. P., Soaps, 225.
 Skead, Building sandstone, 72.
 Skead, W., Judge, Gr. VI., 16.
 Skellington, S., Whip lashes, 191.
 Skelly, T., Bolts, 379.
 Skelton & Co., Lamps, 148.
 Skelton, Tooke, & Co., Shirts, 189.
 Skinner, G. M., Fishing tackle, 191.
 Skorniakoff, E., Wood, 320.
 Skriván, J., & Son, Hats, 209.
 Skultuna Stock Co., Copper, 79.
 Slade Mills, Printing cloths, 118.
 Slataper, F., Judge, Gr. XVIII., 18.
 Slater Cotton Co., Cotton goods, 116.
 Slater & Perry, Boots and shoes, 189.
 Slater, W. S., Cotton goods, 115.
 Sloan, W. B., Ornaments, 328.
 Slotter, Geo., & Co., Almanac, 179.
 Smart, Dr., Gold, 68.
 Smart, W., Oven, 148.
 Smedley, Samuel L., Drawings, 335.
 Smet, E. de, & Co., Thread, 276.
 Smiley, T. J. L., California, 11.
 Smirnoff, N., Felt, 317.
 Smith, A. E., Axles, 379.
 Smith, Alex., & Sons Carpet Co., Carpet, 122.
 Smith, B. N., & Co., Piano legs, 334.
 Smith, Borthwick, Chronometers, 339.
 Smith Bros., Engraving, vases, 108.
 Smith & Campion, Furniture, 109.
 Smith, Chas. K., & Co., Oils, 103.
 Smith, David, Book, 338.
 Smith, E. J., Desk, 112; Envelope, 130.
 Smith, Edward, & Co., Varnishes, 105.
 Smith & Egge, Chairs, 140.
 Smith, Estéban G., Petroleum, 263.
 Smith, F. H., Judge, Gr. XXVII., 19.
 Smith, Frederick, & Co., Iron, etc., 62.
 Smith, G. J., Lace, 151.
 Smith, G. S., Wine, 164.
 Smith, Geo., Wheat, 163; Portable organ, 339.
 Smith, H., Sleighs, 381.
 Smith, H. D., & Co., Hardware, 379.
 Smith, H. E., & Co., Cotton yarns, 117.
 Smith, H. H., Canadian goods, 189.
 Smith, H. J., & Co., Stained glass window, 108.
 Smith, Hanway, & Co., Baking powder, 102.
 Smith, J., Bismuth, 68.
 Smith, J. C., Illinois, 12; Minerals, 48.
 Smith, J. L., Judge, Gr. III., 15; Maps, 321.
 Smith, J. & S., Tools, 153.
 Smith, J., & Son, Needles, 151; Sleigh, 381.
 Smith, J. T., & Co., Buggies, 381.
 Smith, J. W., Needles, 151.
 Smith, J. Y., Rhode Island, 14.
 Smith, J. Y., Sheetings, 116.
 Smith, James Nelson, Fruit wines, 156.
 Smith & Kaye, Bricks, 188.
 Smith, Marshall L., Mineral paint, 105.
 Smith, Mrs. R. T., Lace, 174.
 Smith, R. H., & Co., Saws, 190.
 Smith, S. A., Chairs, 143.
 Smith & Sayre, Drawings, 335.
 Smith & Son, Biscuits, 164.
 Smith, W. B., Counter show-case, 109.
 Smith, W. M., Ornaments, 143.
 Smith & Wesson, Fire arms, 133.
 Smith & Wilby, Flannels, cotton, 189.
 Smith, Wm., Peat, 71; Knives, 230.
 Smith, Wm. Sooy, Engineering exhibits, 335.
 Smithers, J. & G., Soap, 169; Wax, 170.
 Smithers, Mrs. G. H., Flowers, 128.
 Smith's Homœopathic Pharmacy, Homœopathic preparations, 134.
 Smits, C., Model, 360.
 Smucker, I., Ornaments, 329.
 Smuts, Miss G., Articles of flowers, 171.
 Smyrna, Government of, Lignite, 96; Salt, 291; Towels, 295, 296, 297; Jalap, 304; Pitch, 306; Almonds, 307; Wheat, 308; Wax, 312; Wool, 314.
 Smyth & Co., Stockings, 151.
 Smyth & Pennington, Files, 138.
 Smyth, R. Brough, Maps, 65.
 Snell Mfg. Co., Augers, 137.

- Snow, C., Massachusetts, 12.
 Snow, J. H., Model ship, 337.
 Snowden, E. G., Wine, 164.
 Snyder, C. Ridgway, Work table, 111.
 Snyder, Jacob R., California, 11.
 Snyers, Rang, & Co., Walnut furniture, 216.
 Snyers, T., Judge, Gr. VII., 16.
 Soares, José Nogueira, Shoes, 287.
 Social Manufacturing Co., Cotton goods, 117.
 Society of Friends, Jasper, 90.
 Soden, Smith R. H., Judge, Gr. II., 15.
 Soderen, F. W., Knives, 227.
 Soenneken, F., Books, 348.
 Soergel & Stollmeyer, Jewelry, 204.
 Soggs, C. W., Vegetable parer, 376.
 Sohmer & Co., Pianos, 333.
 Sohn & Delabre, Porcelain, 198.
 Sohn, L., Jewels, 193.
 Solá, Ramon, Gypsum, 84.
 Solanas, A., Shirts, 276.
 Soldan, L. P., Oil, 264.
 Soldevilla, E., Pistols, 278.
 Soldiers, Com. on Wounded, Book, 221.
 Solé, E., Cotton, 273.
 Soleiman, Guengine, Galena, 96.
 Solenhofen Joint Stock Co., Tiles, 75.
 Solf, A., & Co., Rice, 264.
 Soliman, Pocket knife, 305.
 Solinas, Arras Giuseppe, Olive oil, 231.
 Sollima, Giacomo, Scales, 365.
 Solmans, Alden, Hats, 126.
 Solo, Emilio de, Peroxide of manganese, 88.
 Solomayor, P., Counterpane, 256.
 Solomon, C., Map, 169.
 Solomon, Saul, & Co., Bookbinding, 169.
 Solomonoff, P. Z., Chests, 320.
 Solvay & Co., Chemicals, 192, 215.
 Somers, D. M., Penholders, 130.
 Somerset, F., Photographs, 174.
 Somerville, P. T., Marble monuments, 72.
 Somes & Co., Oil, 184.
 Sommelet, C., Cutlery, 199.
 Sommerschuh, W. I., Earthenware, 208.
 Somoza, Juan Manuel, Iron, 92.
 Somoza Piñero, Ramon, Iron, 89.
 Sonderegger, Y. Y., Manuals, 354.
 Sonto, Antonio M. G., Silk cocoons, 286.
 Sonto, José Sebastião, Horse shoe, 290.
 Sonto, Rodrigo Alves Martius de, Boots, 287.
 Soorin, P., Carpet, 318.
 Sooviroff, V. N., Woolen cloths, 316.
 Soper, W., Rifles, 152.
 Sopwith, Tomas, Galena, 88.
 Sordoillet, J. F., Jewelry, 197.
 Sorensen, C. P., Clothing, 223.
 Sorensen & Kloostad, Carriage, 230.
 Soriano, Ancitico, Salt, 270.
 Sorokin, T., Gloves, 317.
 Sosa, R., Ostrich feather caparison, 260.
 Sossoolnikoff, J., Caps, 317; Crosses, 319;
 Harness, 320.
 Soto & Barrera, Baskets, 277.
 Soto, Mayor C., Minerals, 86.
 Soto, O. & M., Stuffed condor, 262.
 Soto y Tello, M., Tiles, 272.
 Souchet & Co., Enamel, 193; Flowers, 198.
 Souké, Government of, Ores, 97.
 Soutar & Co., Tobacco, 172.
 South Australian Commissioners, Marble, 166;
 Skins, 167.
 South Boston Mfg. Co., Cannon, etc., 134.
 South & North Alabama R.R., Ores, 48; Ircn,
 56.
 Southworth Co., Writing paper, 131.
 Souza, B. J. J., Ink, 283.
 Souza, José da Cunha Alves, Boots, 287.
 Souza, Luiz Augusto de, Small bells, 289.
 Souza, Maria Magdalena, Aloe fibres, 288.
 Souza & Silva, A. J., Cotton yarns, 285.
 Sovetoff, Mary, Shirt, 318.
 Sower, Potts, & Co., Maps, 321.
 Soyer, Paul, Jewelry, 197.
 Sozeiriyo, Nat. Rev. Dept., Stamps, 248.
 Spadaro, Grassi P., Citrates, 235.
 Spafford, A. C., Illinois, 12.
 Spahn, C. C., Jewelry, 204.
 Spalhareon, Government of, Ore, 304.
 Spamer, O., Books, 348.
 Sparks, T. W., Drop-shot, 133.
 Sparks, Westwater, & Co., Coal, 51.
 Spaulding, D. S., Jewelry, 129.
 Spear, J., & Co., Stoves, 374.
 Special Commission to the Exhibition, Woods,
 minerals, 263; Silk, 264.
 Spedalieri, Ba Felice, Sulphur, 81.
 Specler Pottery Co., Crockery ware, 108.
 Speir, W., Drawings, 367.
 Spellier, L. H., Regulator, 330.
 Spemann, W., Works, 348.
 Spence, John C., Stained glass window, 188.
 Spence, Peter, Alum, 144.
 Spencer, J., Dentistry, 157.
 Spencer, O. B., Painting, 251.
 Spencer Optical Mfg. Co., Lenses, 331.
 Spencer, T., Sugars, 251.
 Speth, K. L., Fancy cabinet ware, 112.
 Spiegelberger, L., Chemicals, 202.
 Spill, D., Ivorie, 153.
 Spiller Bros., Cutlery, 190.
 Spiller, Ph., Books, 348.
 Spillman, H., Trusses, 136.
 Spillmann, Heinrich, Tools, 214.
 Spinelli, R., Soaps, 187.
 Spink, S. L., Alternate, 9.
 Spiral Elliptic Spring Works, Springs, 109.
 Spitzer, Geo. W., Jewelry, 129.
 Spofford, Jennie H., Bracket holder, 109.
 Spooner, W. B., Alternate, 9.
 Sprague, E., Maine, 12.
 Spranger, N., Jewelry, 204.
 Springer, J., Books, 348.
 Springer, Morely, & Gause, Wheels, 379.
 Spurr, C. W., Wood hangings, 133.
 Squires, E., Fruits, 158.
 St. Amand, A., Indian curiosities, 342.
 St. Arnaud Pastoral & Agricultural Society,
 Oats, 163.
 St. Gallen Aid Society, Annual reports, 357.
 St. Gallen, Government of, Plans, 356.
 St. Gallen Orphan Asylum, Report, 357.
 St. Gobain, Chauny, & Cirey, Glass, 193;
 Mirrors, 194.
 St. Hubert's Vineyard Co., Wine, 154.
 St. Hyacinthe College, 342.
 St. Isabel, College of, Sandals, 281.
 St. James, C., Carriage, 381.
 St. John, F., Ducks, fish, 163.
 St. John Stone Chinaware Co., Stoneware, 188.
 St. John's Stone Chinaware Co., Fire brick,
 73.
 St. Johnsbury Granite Co., Tablets, 53.
 St. Louis & Iron Mountain R. R., Minerals, 48.
 St. Louis Stamping Co., Utensils, 377.
 St. Maria da Soledade, Colony of, Linens, 253.
 St. Nicolas, C., Books, 359.
 St. Petersburg Arsenal, Harness, 320.
 St. Petersburg Mining School, Minerals, 98.
 St. Petersburg, Municipality of, Plans, 373.
 St. Petersburg Workshop for Educational Ap-
 pliances & Games, Gymnastics, 372.
 Staaf, P. O., Books, 362.
 Staaff, Book, 344.
 Stacoupola, Madame H., Cover, 301.
 Stadtbauamt of Vienna, Plans, 352.
 Staes, Sproelants, Oils, 215.
 Stafford & Co., Yarns, 116.
 Stafford Manufacturing Co., Stencils, 140.
 Stafford Mills, Printing cloths, 118.
 Stäheli-Wild, C., Embroideries, 213.
 Stahl, Maurice, Chronometers, 355.
 Stähliberg, L. F., Cutlery, 227.
 Stahlecker, C. F., Piano, 350.
 Staiger, C., Ores, 67.
 Stamadi Marneraki, Wines, 313.
 Stambach, John A., & Co., Furs, 129.
 Stampa Bula, F., Gloves, 276.
 Standiford, E. D., Kentucky, 12.
 Stang, T., Drawings, 361.

- Stanhope Co., Ore, 68.
 Stanley Bros., Tiles, 146.
 Stanley, I. N., Setting of retorts, 335.
 Stanley Rule & Level Co., Lathes, 137.
 Stanley Works, Hinges, 140.
 Stantien & Becker, Raw amber, 75.
 Stanton, M., & Co., Hangings, 190.
 Stanway, W., Models, 161.
 Stapfer, John, Silks, 213.
 Staples, C., Judge, Gr. XV., 17.
 Star Furnace Co., Ores, 48; Iron, 58.
 Star Knitting Co., Shirts, 125.
 Star Plate & Universal Polishing Powder Co.,
 Polishing powder, 61.
 Star Tool Co., Tools, 137.
 Stark Mills, Sheetings, 119.
 Starkoff, E., Paper, 373.
 Starr & Co., Tacks, 319.
 Starr, John, Barytes, 71.
 Starr Manufacturing Co., Skates, 190.
 Starr & Marcus, Diamonds, etc., 127.
 Starri, K., Wool, 314.
 Starri, Oglou, Salep, 304; Skin, 310.
 Stassfurt Chemical Factory, Salts, 201.
 Statistical Bureau, Christiania, Statistics, 364.
 Stauffenegger, Chr., Absinthe, 214.
 Stchelkoff, Embroidery, 318.
 Steam Net Manufactory, Nets, 203.
 Steam Ticking Mills, Ticking, 203.
 Stearic Light Co., Soaps, 252.
 Stearns, Frederick, Pharmacies, 101.
 Stebert, P., Essay, 359.
 Stechel, Oils, 257.
 Stecher, K., Instruments, 351.
 Steck, G., & Co., Pianos, 333.
 Steeger, H., Boilers, 378.
 Steel Co. of Canada, Ores, 71; Iron, etc., 74.
 Steel, E. T., Finance, 11.
 Steel & Garland, Grates, 148.
 Steele, John, Chairs, 110.
 Steen, C., & Son, Maps, 224.
 Steen, Daniel, Soaps, 229.
 Steenberg, A., Newspaper, 223.
 Steffan, F., & Co., Shawls, 121.
 Stefsky, J., Cords, 208.
 Stéhelin, Plans, 356.
 Stehr, Carl, Amber, 128.
 Steidinger, J., Penmanship, 353.
 Steiger & Co., Embroideries, 213.
 Steiger, E., Books, 321.
 Stein, C., Furniture, 208.
 Steinbach, G. P., Carriages, 381.
 Steindl, C., Buttons, 210.
 Steiner, H., Vases, 166; Inkstands, 167.
 Steiner & Kolliner, Garnet jewelry, 209.
 Steinhauer & Co., Jewelry, 204.
 Steinhäus, J. F., Bibles, 348.
 Steinhilber, A., Gloves, 209.
 Steinmetz, D., Judge, Gr. XV., 17.
 Steinmetz, F., Vencer, 211.
 Steinway & Sons, Pianos, 332.
 Stelwagon, J., & Sons, Paper, 132.
 Stenborg's, G., Widow, Fabrics, 226.
 Stenman, F. A., Locks, 227.
 Stenographical Society, Books, 349.
 Stenstrup, Painting, 223.
 Stephani, Boots, etc., 300.
 Stephen, A., & Son, Secretary, 188.
 Stephen, Geo., Silver ores, 70.
 Stephens, H. C., Inks, 145; Inkstands, 152.
 Stephens, R. E., Rifle, 190.
 Stephens, T. B., Leather, 180.
 Stephenson, Blake, & Co., Printing, 338.
 Stephenson, J., & Co., Cars, 382.
 Steraux, E., Marbles, 82.
 Sterchi, Fritz, Wood carvings, 358.
 Sterling, E., Coal, 71.
 Stern Portland Cement Factory, Cement, 75.
 Sternberger, L. & S., Shirts, 124.
 Sterns, Jno. N., & Co., Silks, 123.
 Stetson, John B., & Co., Hats, 126.
 Stettin Fire Brick Mfg. Co., Retorts, 202.
 Steubenville Coal Co., Coal, 51.
 Stevens, A. J., & Co., Oil cloth, 189.
 Stevens, C. A., & Alrich, W. H., Bedstead, 109.
 Stevens Institute of Technology, Model, 134;
 Instruments, 332.
 Stevens, J., & Co., Shot guns, etc., 134.
 Stevens, J. G., Alternate, 9.
 Stevens Linen Works, Diaper, 119.
 Stevens, Thomas, Regalia, 150; Cards, 152.
 Stevenson, C. C., Nevada, 13.
 Stevenson & Elliott, Landau, 161.
 Steward, J., Ale, 164.
 Stewart, A., Indicator, 330.
 Stewart, A. C., Wool, 171.
 Stewart, A. C., & Co., Angora hair, 171.
 Stewart & Co., Wire, 57; Photographs, 162.
 Stewart & Ferguson, Wheat, 163.
 Stewart, G., Books, 169.
 Stewart, G., jr., Chest, 190.
 Stewart & Mattson, Locks, 140.
 Stewart, Moir, & Muir, Curtains, 150.
 Stewart, S. N., Rail, 374; Model, 382.
 Stewart, W. W., Native copper, 70.
 Stiasny, F. & M., Gloves, 209.
 Stief, J., Toys, 205.
 Stieff, C. M., Pianos, 333.
 Stieglitz, Baron A., Sail cloth, 316.
 Stierling, Dr. R., Model, 353.
 Stiff, James, & Sons, Terra-cotta, 146.
 Stiles, Mrs. E. W., Desk, 110; File, 130.
 Still, W., Book, 326.
 Stille, Alb., Surgical instruments, 227.
 Stillwater Woolen Mills, Cassimeres, 120.
 Stilson, E., Wisconsin, 14.
 Stimson & Babcock, Varnishes, 105.
 Stiraki Marinaki, Almonds, 307.
 Stites & Co., Iron measures, 376.
 Stitt, Price, & Co., Building stone, 54.
 Stivers, R. M., Buggies, 380.
 Stobie, James, Iron ore, 71.
 Stock Co. for Mfg. Bricks, Limestone, 81.
 Stock Co. for Mfg. Laces, Laces, 234.
 Stockbridge Iron Co., Iron ore, 48.
 Stockenström, Axel von, Ores, 78; Iron, 79.
 Stockholm Central Printing Stock Co., 362.
 Stockholm Royal Statistical Central Bureau,
 Diagrams, 362.
 Stockholm Royal War Dep., Drawings, 362.
 Stockholm Woolen Mfg. Co., Woolens, 226.
 Stocking, Z. S., Stone, 54.
 Stockton Spoke Works, Spokes, 379.
 Stockwell Self-Lighting Gas Burner Co., 114.
 Stoddard, C. J., Cartridge-loader, 134.
 Stoddard, Richard T., Book rack, 130.
 Stoddard, J. M., & Co., Books, 327.
 Stoerber & Segitz, Metal leaf, 201.
 Stoger, L., Gloves, 209.
 Stokes & Parrish, Passenger elevator, 336.
 Stolberg, Count, Castings, 206.
 Stolberg & Westfalia, Galena, 88.
 Stolze, J. F. E., Toys, 205.
 Stolze's Sons, C., Glassware, 207.
 Stone, F. P., Buggy, 381.
 Stone & Kaighn, Carriage, 380.
 Stoneman, A., Carriage springs, 161.
 Stoneman, E., Railway spring, 162.
 Stoner, Hitchman, & Co., Coal, 51.
 Stonestreet, Samuel, Diamonds, 169.
 Stora Kopparbergs Bergslag, Iron ores, 78.
 Storch & Kramer, Chromos, 348.
 Stork & Sinsheimer, Jewelry, 204.
 Storer, David, & Sons, Colors, 145.
 Stork, C. F., Goods, 220.
 Stotler, D. C., Limestone, 53.
 Stott, C. H. & F. H., Flannel, 121.
 Stout, W. C., Arkansas, 11.
 Strachan, R., Salt, 182.
 Strahan, Hodgson, & Co., Collars, 125.
 Strahorn, Pierson, & Co., Wheels, 379.
 Stramitzer, I., Laces, 209.
 Strandberg, Fr. Aug., Varnishes, 225.
 Strandberg, J., Brass, 227.
 Strange, Wm., & Co., Silks, 123.
 Straschitz, B., Men's clothing, 208.
 Stratford, Hoe, & Co., Paper, 131.
 Stratton, J. F., & Co., Violins, 350.

- Straub, A., Gloves, 209.
 Strauss, J. E., & Co., Iron, 55, 143.
 Strauss, D., & Co., Embroideries, 213.
 Straw, E. A., U. S. Commissioner, 9.
 Straw Hat Stock Co., Braided straw, 234.
 Strazza Giammia, Widow of Lucca, Music, 365.
 Street, H. M., Mississippi, 13.
 Stregnas Match Mfg. Co., Matches, 225.
 Strelnikoff, B., Shoes, 317.
 Strembitzki's Laboratory, Appliances, 372.
 Stringer & Co., Yeast, 160; Pickles, 164.
 Stringer, J., Locks, 190.
 Strobel, J. P., Toys, 205.
 Stroem, Augustus, Furniture, 316.
 Stroesser, J. P., Wire, 359.
 Strogonoff Central School of Technical Drawing, Drawings, etc., 372.
 Strohmeier & Co., Jewelry, 204.
 Strom & De Planque, Marble, 53.
 Strong, J. W., Missouri, 13.
 Strong, W. L., Finance, 10.
 Strookoff, Furniture, 372.
 Strow, Wile, & Co., Crucibles, etc., 54.
 Strumper & Co., Prints, 348.
 Struthers Iron Co., Pig iron, 57.
 Struthers, W., & Sons, Marble, 53.
 Stuart, D. W., Stove, 374.
 Stuart, Peterson, & Co., Stoves, 375.
 Stuart, Seymour C., Quartz, 64.
 Studebaker Bros., Buggy, 380.
 Stunzi & Sons, Silks, 213.
 Sturges Montserrat Co., Essences, 145.
 Sturzenegger & Rutz, Cravats, 213.
 Successful Society, Chakopirita, 87.
 Such, George, Clay, 54.
 Suchard, Ph., Chocolate, 214.
 Suchy, A., Gloves, 209.
 Suesberger, David, Fluid extracts, 105.
 Suez Canal Co., Maps, 345.
 Suhr, W., Chemicals, 201.
 Suiro-riyo, Charts, 248.
 Sukiasian, Silk, 297; Cocoons, 314.
 Suleiman, Salt, 201; Coffee grinders, 293; Receivers, 302; Files, 305; Steelyards, 371.
 Suleiman, Agha, Pipe, 302.
 Suleiman, Ichkodra, Pitch, 306.
 Suleimaneeyah, Government of, Brimstone, 96; Beads, 302; Gum, 306; Barley, 308; Wax, 312; Wool, 314.
 Sullivan, J., Poor man's filter, 160.
 Sullivan, J. D., Nevada, 13.
 Sulzer Bros., Workmen's dwellings, 357.
 Sumii, Z., Fans, 247.
 Sumiyama, I., Silk, 246.
 Sunday School Union, Books, 338.
 Sundström, J. O., Ores, 78; Iron, 79; Nails, 228.
 Sung Sing Kung, Furniture, 241; Embroideries, 242.
 Suppicy, J. F., Pyrites, etc., 82; Chairs, etc., 253; Medals, 367.
 Surahammars Iron Co., Iron, 79.
 Sureda & Villalonga, Chloride of sodium, 270.
 Surgical Clinic, Bandages, 205.
 Suriani, A., Silver, 303; Scissors, 305.
 Susse Brothers, Bronzes, 194, 199; Stationery, 198.
 Sussex Boot & Shoe Co., Boots and shoes, 189.
 Stüssfeld, Lorsch, & Co., Clocks, 194, 345.
 Susuki, Y., Earthenware, 244.
 Sutherland, A., Boots and shoes, 189.
 Sutherland, G., Book, 157.
 Sutherland, J., Indiana, 12.
 Sutherland, James, Coal, 71.
 Sutro Bros., Braids, 123.
 Sutter-Dörig, R., Embroidery, 213.
 Suydam, M. A., & Co., Coal, 51.
 Suzuki, Hiyakunen, Pictures, 249.
 Suzuki, M., Buttons, 247; Vase, 249.
 Suzuki, Yo, Silks, 246.
 Svalling, E. M., Knives, 227.
 Svanberg, C. E., Shoes, 226.
 Svensson, A., Stuffed birds, etc., 362.
 Swain & Co., Soap, 157.
 Swain, E., Sugar, 264.
 Swaine & Adeny, Whips, 151.
 Swainson, Birley, & Co., Fabrics, 148.
 Swallow & Ariell, Biscuits, 164.
 Swansea Tin Plate Co., Tin plates, 62.
 Swasey, I. N., Billiard tables, 111; Chart, 327.
 Swedish Iron Masters' Assoc., Minerals, 78.
 Swedmark, G., Gloves, 226.
 Swcency, A. J., Alternate, 9.
 Sweeney, Thomas S., Photographs, 336.
 Sweet, Orr, & Co., Pantaloon, 125.
 Sweet, R. J., Copper glance, 70.
 Sweet, S. H., Kaolin, 73.
 Swett, Quimby, & Perry, Stove, 374.
 Switt, C. N., Ventilators, 378.
 Swift, James, Microscopes, 339.
 Swinkels, W., Yarns, 220.
 Swiss Alpine Club, Annual reports, 354.
 Swiss Confederation, Department of the Interior, Regulations, 356; Statistics, 357.
 Swiss Confederation, Department of Railroads and Commerce, Statistics, 356.
 Swiss Geodetical Com., Longitude, 354.
 Swiss Historical Society, Catalogue, 354.
 Swiss Locomotive & Machine Works, Photographs, 356.
 Swiss Manufacturing Co., Rifles, 213.
 Swiss Meteorological Com., Observations, 354.
 Swiss National Railway Co., Drawings, 356.
 Swiss Northeast Railway Co., Plans, 356.
 Swiss Reformatory, Statutes, 357.
 Swiss Reformatory Institute, Report, 357.
 Swiss Society for the Advancement of Natural Philosophy, Memoirs, 354.
 Swiss Society of Engineers and Architects, Plans of roads and railways, 356.
 Swiss Society for Instructing the Poor, Report, 357.
 Swiss Society for Penitentiary Reform, Plans, 357.
 Swiss Society for Promoting the Public Welfare, History, 357.
 Swiss Statistical Society, Reports, 354.
 Sydney Meat Preserving Co., Meats, 158.
 Sykes, H., Awnings, 116.
 Sykes, Josephine, & Co., Corsets, 150.
 Symonett, Mrs. M., Tree, 173.
 Synnot, G., & Co., Wool, 165.
 Synnot, M., Wool, 165.
 Syracuse Chamber of Commerce, Ropes, 235.
 Syria, Government of, Salt, 291.
 Syros, Government of, Lignite, 96.
 Sytenko, John, Limestone, 98.
 Sytoff, John, Brocade, galloons, 317.
 Szczepansky, F., Boots, 317.
 Szelibeff, T., Boots, 317.

T.

- Taba, C., Bitters, 255.
 Tabard, Benoit, & Co., Silks, 196.
 Tabouret & Pacault, Shirts, 196.
 Tabulevitch, T. R. N., Light, 373.
 Tack, Loong, Vases, 241.
 Tackabury, J. N., Maps, 342.
 Tacony Chemical Works, Acids, 101.
 Taddei, G., Straw, 234.
 Tadjiché, M., Opium, 304.
 Tæschler Bros., Photographs, 358.
 Taft, R. C., Alternate, 9.
 Tagliabue, G., Barometer, 329.
 Tagliavia, Francesco, & Co., Minerals, 81.
 Taglieb, Carl, Watch, 355.
 Tahera, H., Carpet, 296.
 Tahy, F., Arrowroot, 180.
 Tahif, Gov't of, Wheat, 308; Honey, 311.
 Tahir, O., Decanters, 292.
 Tahlheim, G., Grease, 315; Wax, 318.
 Ta-Ho-jo, Vase, 249.
 Tahon, F., Plates, 199.
 Tailors' Society, Clothing, 196; Dress, 265.
 Tainsy, F., Mantelpieces, 216.
 Taizan, Y., Tea sets, 245.

- Takahashi, D., Vases, 244.
 Takssim Effendi, Tobacco, 309.
 Talamon, Son, & Co., Fabrics, 195.
 Talep, H., Gauzes, 298.
 Tallmadge & Co., Extracts, 105.
 Tamai, C., Book, 248.
 Tamassi, Aydonat, Oil, 291.
 Tamayo, Sidney, Clays, 84.
 Tambour, M., Hunting weapons, 218.
 Tamborel, Equations, 266.
 Tanach, Fabric, 293.
 Tanach, T., Snuff box, 302.
 Tanaka, Honi, Water color, 249.
 Tanaka, R., Album, 249.
 Tanasse, Y., Chandelier, 293; Bells, stirrups, door knocker, 305.
 Tancrede Bros., Glue, 192.
 Tanera, Maps, 344.
 Tangeman, G. P., Paper, 131.
 Tantarini, Mr., Judge, Gr. XXVII., 19.
 Tanzan Seikai, Vases, 244.
 Tapa, Daniel, Ore, 96.
 Tapia, Mrs. E., Books, 266.
 Tapia y Pereira, Pedro, Guano, 270.
 Tapisier Sons & Debyr, Silks, 196.
 Taping, Thomas, & Co., Tapestry, 150.
 Taquoui, Madame, Gauzes, 298.
 Taraiche Metre, Madder, 306.
 Tarai, D., Seed, 310.
 Tarako, Flax, 314.
 Taranaki Committee, Titanic iron, 63; Views, barks, 156.
 Tarassoff, J., Crosses, 319.
 Tarnero, S., Chili illustrated, 261.
 Tarr, H. G. H., Stove plates, 335.
 Tarr, H. S., & Son, Level, 329.
 Tarrat & Sociats, Cloths, 274.
 Tarriba Pablos, C., Manta, 276.
 Tarrout & Co., Poutargue, 304.
 Tarussi, Luigi, & Bros., Olive oil, 232.
 Tasmania, Royal Society of, Topazes, 68.
 Tasmanian Com., Rugs, 182; Furs, etc., 183.
 Tasse Kochman, Cloth, 295; Silk fabric, 297.
 Tassi, Peter, Marble, 81.
 Tassia Didé, Prévèzé, Oil, 291.
 Tassinari & Chatel, Silks, 196.
 Tasté, J., Thread, 217.
 Tathma, T., Woolen fabrics, 295.
 Tauchnitz, B., Publications, 348.
 Taulard, Book, 343.
 Tauliez-Bottelier, Flax, 219.
 Tauriño, Juan, Remedy, 270.
 Tavares, José, Willow baskets, 289.
 Tavares, Rita de J., Lace, 288.
 Tayabas, Provincial Board of, Cases, 281.
 Tayk Pasha, Opium, 304.
 Taylor, D. F., & Co., Iron, 62; Pins, 151.
 Taylor, B. K., Hat, 155.
 Taylor, C. F., Orthopedic apparatus, 135.
 Taylor, C. R., & Co., Soaps, etc., 106.
 Taylor, D., Wool, 183.
 Taylor & Farley Organ Co., Organs, 334.
 Taylor, G., Wool, 183.
 Taylor, J., Wheat, 162.
 Taylor, J. H., Paste, 136.
 Taylor, Jas., & Muller, S. N., Carpet, 122.
 Taylor, John, Wool, 183.
 Taylor, Mrs. Richard, Table mat, 155.
 Taylor, N. & G., Co., Tin plate patterns, 59.
 Taylor, R. F., & Son, Overcoat, 189.
 Taylor, Robert, Trunks, 189.
 Taylor, Robert, & Co., Crucibles, 54.
 Taylor, S. T., Cutter, 124.
 Taylor, T., Reflectors, 138.
 Taylor, T. G., Nevada, 13.
 Taylor, W. O., & Son, Chairs, 111.
 Tchelder, Government of, Borax, 291.
 Tchiko, Lace, 301.
 Tchistiakoff, B., Hats, 317.
 Tchitcheleff, J., Jewelry, 318.
 Tchobano, Dimitri, Wooden mould, 305.
 Tchorbadj Serkis, Bag, 297.
 Tchoula Cheyfi, Cloth, 293.
 Tdomane, Government of, Galena, 96.
 Technical Elementary Schools, Work, 362.
 Tecumseh Iron Co., Iron, etc., 48, 57.
 Tecumseh Mills, Printing cloths, 118.
 Tecumseh Works, Brine, 74.
 Teflif Oglou Moussa, Wool, 314.
 Tegetmeyer, F., Engravings, 348.
 Tehezi Agha, Blanket, 296.
 Tei-Ami Tegiyu, Fans, 247.
 Teixeira, Carlota Matilde, Embroideries, 288.
 Teixeira, José Rodrigues, Silver jewelry, 288.
 Teixeira, M. A., Thread, 285.
 Tejada, A., Open work, 277.
 Telegraph Construction & Maintenance Co., Cable, 339.
 Telegraph Supply Mfg. Co., Porcelain, 202.
 Telhadella Mining Co., Ores, 94.
 Tellini, Dario, & Co., Olive oil soap, 231.
 Tellini, Vincenzo, Olive oil, 231.
 Tello, J., Embroidery, 258.
 Temio Petcha, Silk, 297.
 Temno Petcha, Silk, 297.
 Templeton, J. & J. S., Curtains, 150.
 Templeton, James, & Co., Carpets, 150.
 Temprado, R. F., Handkerchiefs, 281.
 Ten Eyck Axe Mfg. Co., Axes, 137.
 Tennant & McLachlan, Penmanship, 341.
 Tenner, Apparatus, 319.
 Tenner, A. B., Wooden rolling blinds, 202.
 Tennessee Educational Dept., Books, 323.
 Tenorio, F. D., Soap, 283.
 Terada, G., Pipes, 247.
 Teramura, S., Embroidery, 246.
 Ter-Davydoff, Jugs, 315.
 Ter Horst, J. H., Linen, 220.
 Terrades & Vallmana, Sulphur, 278.
 Terramola, D., Salt, 255.
 Terrilon, L., Shawls, 195; Handkerchiefs, 196; Trimmings, 197.
 Terriza José, Galena, 87.
 Terwilliger & Co., Safes, 112; Locks, 141.
 Terzibalion, H. A., Coins, 371.
 Teske, C., Regulator, 330.
 Testi, U., Dentals, 235.
 Tetlow, Henry, & Bro., Perfumery, etc., 105.
 Tetoullah, D., Silk, 297.
 Tetoullah Effendi, Prunes, 312.
 Teufel, J. J., Instruments, 136.
 Teugels, E. M., Furniture, 216.
 Teyler's Foundation, Archives, 360.
 Thackara, Buck, & Co., Brackets, 114.
 Thalheimer & Hirsch, Shirts, 124.
 Tharsis Sulphur & Copper Co., Ores, 88.
 Thatcher Heating Co., Furnaces, 374.
 Themeli, N., Sponges, 310.
 Themudo, Maria Eduardo, Lace, 288.
 Théophani, N., Seeds, 307; Wheat, 309; Cheese, 310; Wool, 313; Lupine, 314; Violin, 371.
 Théophasaki Ysiako, Wine, 313.
 Theorell, A. G., & Sørensen, P., Meteorograph, 363.
 Theresa de Jesus, Needlework, 288.
 Thevenot, F., Cutlery, 199.
 Thibault, Lanthier, & Co., Furs, 189.
 Thibouville, L., Instruments, 345.
 Thie, W., Instruments, 351.
 Thieben, E., Shawls, 208.
 Thiellay, Eugene Henry, Perfumery, 145.
 Thierry, Adolph, Tables, 112.
 Thierry, China, 193.
 Thinet, Cutlery, 199.
 Thirion, C. H., Tables, 344; Tablets, 346.
 Thiry, jr., Cage, 194; Locks, 200.
 Thole, B., Book case, 111.
 Thomachot-Thuillier, Shears, 199.
 Thomar Royal Weaving Co., Yarns, etc., 285.
 Thomas, Chronometric instruments, 346.
 Thomas, Linen, 294; Silk, 298; Ornaments, ladies' belt, 302.
 Thomas, A. W., Bustle, 124.
 Thomas Bros., Chemicals, 192; Raw silk, 196.
 Thomas, C. F., Index, 152; Skin, 165.
 Thomas, D. H., Maryland, 12.
 Thomas, F., Raw silk, 196.

- Thomas, H., Fabrics, 298.
 Thomas Iron Co., Ore, 47; Iron and flux, 57;
 Drawings, 334.
 Thomas Isaac, Van, Silk, 297.
 Thomas, Joel, Ruches, 126.
 Thomas & Joerns, Vases, 374.
 Thomas, Roberts, Stevenson, & Co., Stoves,
 furnaces, 374.
 Thomas, W. H. B., Minerals, 50.
 Thompson, Albert, Paint, 104.
 Thompson, C., Perambulator, 154, 383.
 Thompson, C. C., & Co., Pottery ware, 108.
 Thompson, D. M., Photographs, 335.
 Thompson, E. O., Garments, 124.
 Thompson, G. F., & Sons, Lead, 188.
 Thompson, J. H., Judge, Gr. XXIV., 18.
 Thompson & Weizmann, Tobacco, 172.
 Thompson, W. S., Stone, 53.
 Thomson, J. S., Inks, 105.
 Thomson, Robert, Bark, rulers, etc., 171, 172.
 Thomson, Sir W., Judge, Gr. XXV., 19.
 Thonet Bros., Furniture, 208.
 Thonet, F., Judge, Gr. VII., 16.
 Thorn, C., Carriages, etc., 154, 333.
 Thorn, Stephen S., Brass, 141.
 Thornber, U., Wines, 168.
 Thorne, G., Cocoons, 159.
 Thorne & Greenwell, Almanac, 179.
 Thornton, E., Stove, 148.
 Thornton, S., & Sons, Fabrics, 116, 120.
 Thorpe, Mrs. W., Painting, 174.
 Thrum, T. G., Book, 250; Stamps, 251.
 Thudium, C. A., & Son, Jackets, 124.
 Thun, Count v. K., China, 207.
 Thurston, R. M., Engineering exhibit, 335.
 Thwaites, Miss F. C., Drawings, 170.
 Tibbals, L. P., Carriage, 381.
 Tiburcio, Escabias, Salt, 270.
 Tidström, C. W., Account books, 227.
 Tiebout, W. & J., Brass, 141.
 Tiefenbrunner, G., Citherns, 350.
 Tiemann, G., & Co., Instruments, 135.
 Tiffany & Co., Silverware, 112; Jewelry, 127;
 Stationery, 130; Watches, 330.
 Tigour, A., Wool, 314.
 Tikhomandritzky, N., Embroideries, 318.
 Til, C., Caps, 317.
 Tilburg Woolen Mfg. Co., Flannels, 220.
 Tileston & Hollingsworth, Paper, 131.
 Tillinghast, Mason, & Co., Jewelry, 127.
 Tillson, Davis, Granite work, 52.
 Tilp, E., Plans, 352.
 Timasheff, A., Silk, 317.
 Timbrell, A., Cocoons, 161; Silkworms, 163.
 Timiriazeff, D., Atlas, 373.
 Timms Bros., Wools, 165.
 Tins, Wm., Homoeopathic pellets, 134.
 Tindal, E. & A., Wool, 159.
 Tinogasta, Prov. Sub-com. of, Ores, 83.
 Tinworth, George, Stoneware, 146.
 Tippan, M. W., New Hampshire, 13.
 Tiraki Selim Agha, Fabric, 293.
 Tirapegui, R., Mexican saddle, 260.
 Titodi, G., Music, 365.
 Tittel & Krüger, Wools, 203; Emb'y, 204.
 Titus, E., & Sons, Flannels, 121.
 Tivoli Mine, Coal, 67.
 Tjeenk-Willink, H. A., Balls, 360.
 Tjeenk-Willink, W. E. J., Drawings, 361.
 Tletora, T., Wine, 313.
 Tobella & Argila, Manure, 270.
 Tobias, J. F., Judge, Gr. IV., 16.
 Tobin, Jos. F., Bone, 128.
 Tobique Gypsum Co., Gypsum, 73.
 Tobler, Drawings, 356.
 Tobler, Ulr. & A., Embroidery, 213.
 Todai-riyo, Lighthouse Department, Photo-
 graphs, 248.
 Todd, A. M., Oils, 103.
 Toekomst Society, Reports, 359.
 Togenberg Reformatory, Reports, 357.
 Toin Peh Mei, Porcelain, 241.
 Toiray, M. G., Stationery, 198.
 Toiray, Maurin, Inks, 193.
 Toit, A. L. du, Grapes, 170.
 Tokatlou, Tobacco, 309.
 Tolhurst, Geo. E., Models of gold ingots, 63.
 Toll, Chas., Silex, 54.
 Tolley, J. & W., Guns, 152.
 Tolox, Corporation of, Waters, 92.
 Tolrà & Co., José, Cretons, etc., 273.
 Tomás, Antonio R., Barytes and lime, 90.
 Tomei, A. F., Pavement, 233.
 Tomita, S., Gauze, 246.
 Tomochordo, P., Wine, 313.
 Tompkinson & Adam, Carpets, 150.
 Tondeur & Lempriere, Photographs, 182.
 Tong Chock-hing, Porcelain, 241.
 Tong Chou Hing, Ink, 242.
 Tonsend, C. T., Phaeton, 381.
 Tootchana, Gov. of, Opium, 304; Rice, 308.
 Tooth & Cran, Sugar, 180.
 Topart Bros., Pearls, 198.
 Topchin Mulasin, Oats, 307.
 Tophna, Lace, 301.
 Topliff & Ely, Bow, 379.
 Topographical Bureau, Maps, 373.
 Topowz Oglou, Coal, 96.
 Toran Costa, Wheat, 307.
 Torchon, Ch., Pharmacies, 192.
 Torelli, J., Crockery, 233.
 Torelli, L., Sculpture, 235.
 Torlades, O'Neil, Salt, 283.
 Tornberg, O., Boots, 226.
 Toronto, Corporation of, Photographs, 342.
 Toronto Gold Mining Co., Pyrites, 70.
 Toronto Tweed Co., Flannels, 189.
 Torras Bros., Paper, 278.
 Torre, J., Cloths, 274.
 Torre, M. E. la, Fabric, 263; Liquor, 264.
 Torrell, O. M., Judge, Gr. XXVIII., 19.
 Torrelló & Co., Prints, 273.
 Torrent, E. G. de, Embroidery, 258.
 Torres, A. B. de, Lozenges, 255.
 Torres, F. L., Paints and varnishes, 283.
 Torres, N., Flour, 268.
 Torres Novas National Spinning & Weaving
 Co., Cotton fabrics, 285.
 Torreveiga, Salt, 270.
 Torrey, D., Bureau of Transportation, 10.
 Tössthal Railway, Surveys, 356.
 Tostrup, J., Silver work, 230.
 Tosty, G., Leather, 310.
 Touchard, E., Ornaments, 194, 198.
 Tountcha Litché, Wine, 313.
 Toup Hané c Hadji, Chain, 302.
 Tourinho, F. A. M., Magnetic gold, 82.
 Tournon, E., Problems, 343.
 Tousseano, Vinegar, 313.
 Toutous, Gov. of, Nitre, 291; Gums, 306;
 Cereals, 308.
 Tower, J. J., Planes, 138.
 Tower, W. F., & Bro., 380.
 Towle Mfg. Co., Bell punches, 382.
 Town Council of Wintertur, Plans, 356.
 Towne, A. N., California, 11.
 Towns, R., & Co., Kerosene shale, 64.
 Towns & Co., Kerosene shale, 64.
 Townsend, C. T., Phaeton, 380.
 Townsend, G. W., Slips, 327.
 Townshend, Mrs. M., Clay, 73.
 Toy, Bickford, & Co., Fuses, 106.
 Toyo-oka-ken, Local Govt., Straw work, 247.
 Traber & Aubery, Iron ores, 49; Iron, 59.
 Traber, J., Limestone, 53.
 Tracy, J. L., Missouri, 13.
 Trail, W. J. L., Dakota, 12.
 Trainer, D., & Sons, Cotton yarns, etc., 117.
 Tramon, T., Boots, 257.
 Tramontino, Cocoons, 236.
 Transatlantic Steamship Co., Model, 345.
 Transtagana Mining Co., Ores, 94.
 Trapadoux, A. L., Bros., & Co., Foulards, 196.
 Trapaga, Torriello, & Co., Yarns, 265.
 Trasel, E. G., Pails, 143.
 Tras-os-Montes Mining Co., Ore, 94; Tin, 95.
 Travagino, P. J. & W. J. P., Silks, 220.
 Travana, A., Argil, 82.

- Travis, J. L., Brass, 378.
 Trayser, Ph. I., & Co., Organs, 350.
 Trayvou, B., Scales, 344.
 Treacy, J., & Co., Ale, 164.
 Trebitisch, A., Meerscham articles, 210.
 Trebizond, Government of, Galena, 96.
 Treco, P. A., Shells, 173.
 Tréfousse & Co., Gloves, 197.
 Trell, Miguel del, Calamine, 87; Marble, 89; Gypsum, 91.
 Treloar, Wm. A., Minerals, 83.
 Tremain, Chas., Cement, 54; Barrels, 143.
 Tremont & Suffolk Mills, Flannels, 117.
 Tremouroux, N. & J., Bros., Utensils, 216.
 Trent Brothers, Chicory, 156.
 Trentefil, Miss, Pants stuff, 295.
 Trenton Lock & Hardware Co., Locks, 140.
 Treolar, G. A., Shoes, 257.
 Tress & Co., Hats, 151.
 Treuendt, E., Books, etc., 348.
 Trichaud, A., Tiles, 193.
 Trigg Furnace, Ores, 49; Iron, 59.
 Trimmingham, J., Bonnets, 174.
 Trindade, Joaquin Antonio, Gaiters, 287.
 Trinidad, Government of, Gutta-percha, 184.
 Trinidad, Maria, Embroidery, 281.
 Tripp, J. P., Quartz, 166.
 Triumph Truss Co., Truss, 136.
 Trojani, G. B., Bas-relief, 232.
 Trommsdorff, H., Chemicals, 201.
 Tropic Furnace Co., Ores, 48; Iron, 58.
 Trost, J., & Co., Piano, 355.
 Trotomastropolani, C., Counterpane, 301.
 Trousset & Blampied, Wines, 164.
 Trout, W. H., Drawings, 342.
 Troy Cotton & Woolen Manufactory, Printing cloths, 118.
 Trubia, National Factory of, Coal, 89; Argil, 91; Iron, etc., 92; Bricks, 272; Carriage, 278; Files, 279.
 Trudeau, P., Gas burner, 188.
 Truffy, Toys, 198.
 Tryon, E. K., jr., & Co., Rifles, etc., 134.
 Tschataldja, Olives, 307.
 Tsubaki Yoshi, Sendai, Silk, 246.
 Tsuboi, C., Crapes, 246.
 Tsuji, Ch., Toilet service, 245.
 Tsuji Katsuzo, Porcelain, 249.
 Tsurugaken, Local Government of, Silk, 246; Paper, 247.
 Tucci-Savo, B., Olive oil, 232.
 Tucher, T., Arrowroot, 174.
 Tuchfarber, F., & Co., Cards, 140.
 Tucker, Carter, & Co., Bagging, 118; Wire ropes, 142.
 Tucker, Geo., Tripoli, 54, 139.
 Tucker, Hiram, & Co., Brackets, 114.
 Tucker, Thos. S., New Mexico, 13.
 Tucumane, Provincial Commission of, Limestone, 84; Sea salt, 255; Cups, 256; Wool, 257; Leather caparisons, etc., 260.
 Tudicar, H., & Co., Bricks, 256.
 Tufts, J. W., Fountains, 55.
 Tula, Nabor, Copper ore, 83.
 Tullesen, P., Braiding machine, 224.
 Tunxis Mills, Yarns, 121.
 Turner, Andrews, & Co., Pocket books, 129.
 Turner, Archibald, & Co., Elastic fabrics, 150; Bandages, 153.
 Turner, Chas., & Son, Varnishes, 145.
 Turner, G., & Co., Hammock, 147; Tent, 148; Canteen, 151.
 Turner, Henry A., & Co., Sofa, chairs, 110.
 Turner, John, Yarns, 121; Cords, 123.
 Turner, R., & Co., Needles, 151.
 Turner & Seymour, Hardware, 142.
 Turners' Sample Office, Cork articles, 209.
 Turnwald, C., Gloves, 209.
 Tuscarawas Coal & Iron Co., Ore, 50; Iron, 56.
 Tuschen de Vrienden Plantation, Rum, 751.
 Tuttle & Bailey Manufacturing Co., Ventilators, screens, 375.
 Tuxen, Louis von, Leather goods, 228.
 Tweed, H., Massachusetts, 12.
 Twining & Schiedt, Fluid extracts, etc., 101.
 Tygert's Valley Mining Co., Ore, 49.
 Tyndale, H., Judge, Gr. II., 15.
 Tyrolese Glass Painting Mfy., Glass, 207.
 Tyrrell, J. de F., Ores, 67.
- U.**
- Uddeholm Company, Iron ore, 78.
 Uddeholm Stock Co., Iron, 79; Hand tools, hardware, 227.
 Uebelacker, L., Toys, 205.
 Uitvlugt Plantation, Sugar, 175.
 Ujheh & Co., Candles, 207; Wax, 211.
 Ulbrich, F., Imitation stones, 209.
 Uleeschouer, Bellefroid, & Co., Marble, 90.
 Ullathorne & Co., Thread, 149; Findings, 153.
 Ullmann, J. F., Laces, 209.
 Ulmusrati Ahmed, Brimstone, 97.
 Ultramarine Works, Chemicals, 201.
 Umann, John, Flagon, glass articles, 207; Paper weights, 210.
 Underberg, A. H., Bottles, 202.
 Underwood, T., Paints, 157.
 Unge, V. T., Apparatus, 363.
 Unger, F., Portemonnaie, 210.
 Unger, G., Periodical, 372.
 Union County Mfg. Co., Wheels, 379.
 Union Furnace, Ores, 49; Iron, 58.
 Union Hardware Co., Skates, 138.
 Union Iron Co., Ores, 50, Beams, 55; Model, 335.
 Union Manfg. Co., Doeskins, 120; Hinges, 141; Wooden ware, 377.
 Union Mercantile Co., Cotton goods, 253.
 Union Metallic Cartridge Co., Shells, 133.
 Union Mining Co., Coal, 51, 71; Bricks, 107.
 Union Porcelain Works, Porcelain ware, 108.
 Union Prospectors Co., Quartz, 166.
 Union Steel Screw Co., Steel, 141.
 Union Stone Co., Articles in artificial stone, 56.
 Union Wadding Co., Cotton wadding, 117.
 United Cutters' Soc'y, Gentlemen's goods, 196.
 United Piano Makers, Pianos, 333.
 United Railroads of Switzerland, Plans, 356.
 United States Bunting Co., Bunting, etc., 120.
 United States Cartridge Co., Cartridges, 133.
 United States Centennial Commission, 9.
 United States Corrugated Elbow Co., 56.
 United States Corset Co., Corsets, 125.
 United States Piano Co., Piano, 333.
 United States Publishing Co., Books, 327.
 United States Salicylic Acid Works, Acid, 102.
 United States Soapstone Furnace Co., Furnace, 374.
 United States Soapstone Mfg. Co., Steatite, 55; Gas tips, 115; Pencils, 130.
 United States Spring Bed Co., Beds, 111.
 United States Steel Shear Co., Shears, 139.
 Université Laval, College work, 342.
 University Publishing Co., Books, 327.
 Unterstrass Modeling School, Work, 353.
 Upham, Saml. C., Extracts and perfume, 105.
 Urbina, M., Hampers, 277.
 Urech, E., Embroidery, 213.
 Uria Pinilla, Iron ores, 89.
 Uria & Pinilla, Stone, 91; Iron, 92.
 Urmeneta, José Tomas de, Wines, 262.
 Urmenta & Errazuriz, Copper ores, 85.
 Urnston, J., Hubs, 379.
 Usher, R., Rhubarb, 153.
 Usine Hassan, R., Chandeliers, 293.
 Uskup, Government of, Aluminous earth, 96; Stockings, 300; Bellows, 303; Wheat and rye, 308; Cotton, 313.
 Usni, H., Felts, 295.
 Uson, A., Pipes, 281.
 Ustick, S., Car model, 382.
 Utica Steam Cotton Mills, Sheetings, 117.
 Utschneider & Jaunez, Cement, 240.
 Utsumi, K., Vases, 245.
 Uxbridge Woolen Co., Cassimeres, 120.
 Uyemura, S., Lacquered ware, 245.

V.

- Vachette Bros., Locks, 200.
 Vacquerel, P. E., Decalcomanie, 193, 198.
 Vafiadi Giorki, Wine, 313.
 Vagoonin Bros., Paper, 319.
 Vahey, W., Collars, 191.
 Vaill, E. W., Folding chairs, 110.
 Vaisse, Martin, & Co., Brick, 371.
 Vajani, P., Curtains, 233.
 Val, A., Cloth, 275.
 Valadia, C., Paper, 277.
 Valah, V., Lentils, 309.
 Valania, J., Machines for confectioners, 210.
 Valby, Capsules, 199.
 Valcarcel, Venancio, Olives, 263.
 Valdemoro, Juan Francisco, Iron, 89, 92.
 Valdes, E. & C., Stones, 84; Burnt brick, 256; Boots, 257; Camomile, 259.
 Valdes, H., Lasso, 259.
 Valdes, Nicolas, Lime, 84.
 Valenca, Domingo Fernandes, Hats, 287.
 Valensi, M., Pottery, 239.
 Valentim, M. J., Jewelry, 254.
 Valentine & Butler Safe & Lock Co., Safes, 112; Locks, 142.
 Valentine & Co., Varnishes, 104.
 Valentines & Co., Iron, 56.
 Valentini, G., Medicines, 235.
 Valenzuela, M., Teeth, 279.
 Valenzuela, P. N., Leather, 262.
 Valkenberg & Schoen, Wool, 203.
 Vallarta, L. Y., Woods, 268.
 Valleau, W., jr., Gold leaf, 136.
 Vallés, J., & Sons, Crystal, 272.
 Vallini, N., Paper, 234.
 Vallongo Slate & Marble Quarries, Slate, 94; Tables, 284.
 Valton, F., Judge, Gr. I., 15.
 Van Aken, L., Carriages, 218.
 Van Alen & Co., Nails, 141.
 Van Bellingen, J., Son, Cassimere, 217.
 Van Bellingen, J. H., & Suremont, Silk tissues, 217.
 Van Bergen, A. H., Tiles, 220.
 Van Calker, P. W., Glue, 220.
 Van Carter, J. A., Wyoming, 14.
 Vancouver Coal Co., Building sandstones, 72.
 Vancouver Mining Co., Coal, 71.
 Van Damme Bros., Cloth, 216.
 Vandamme, P. J., Engravings, 217.
 Van de Loo, J. P. H., Plaster, 221.
 Van den Bergh, N. L. J., Cologne, 220.
 Vandembos-Poleman, G., Shoes, 217.
 Vandendaele-Rigot, C., Syrups, 218; Steam machine, 219.
 Van der Burgh, A. R. & P., Marble, 221.
 Van der Burgh, M., Wood, 221.
 Van der Lugt, Furniture, 220.
 Van der Molen, A., & Co., Sculpture, 359.
 Vanderrest, G., Machine, 216.
 Van der Velden, L., Glue, 215.
 Van de Wynckel Bros. & Alsberge, Linen thread, 216.
 Vandezande-Goemaere, Lace, 217.
 Vanduzen & Tift, Bells, 141.
 Van Ginderdeuren, Wood carvings, 216.
 Van Gounden, Young, & Drumm, Marble, 52.
 Van, Government of, Nitre, 291; Calicoes, 294; Carpets, 295; Belt, 300.
 Van Havermaet, H., Furniture, 359.
 Van Henkelom, H. C., Stone, 220; Machine screws, 221.
 Van Holsbeck, H., Books, 359.
 Van Laer, Guillaume, Dyer's Guinde, 215.
 Van Leer, B., Hangings, 220.
 Van Norman, Judge, Native silver, 70.
 Vanoutrye, F., & Co., Damask, 195.
 Van Skelline, Theo., Motto paper, 133.
 Vant, A. B., & Cheney, H. O., Washer, 377.
 Van Verschur & Van der Voort, Stones, 77.
 Van Vliet, W. F., Chairs, 220.
 Van Wagoner & Williams, Hinges, 141.
 Van Wickle, Stout, & Co., Coal, 51.
 Varach, Government of, Iron, 97.
 Vargas, Blas, Wines, 262.
 Various Provinces, Direction of the Public Works of, Building materials, 95.
 Various Towns, Benevolent Societies of, Mineral waters, 91.
 Various Towns, Provincial Commissions of, Argil and clay, 91.
 Vasali Borbo, Morocco, 310.
 Vasconcellas, Jacintha P., Raw silk, 286.
 Vasconcellas, Joas da Camara, Raw silk, 286.
 Vasconcelles, José da Silva P., Damask, 287.
 Vaskapoli, A., Sumac, 291.
 Vasquez, Diego, Quicksilver ore, 88.
 Vasquez, Gullas Francisco, Oxide of tin, 92.
 Vasquez, Lucrecio, Emeralds, 83.
 Vasquez y Lopez, M., Peroxide of manganese, 88.
 Vasseur, Mrs. V., Laces, 197.
 Vassil, Postak, Cloth, 295.
 Vassili, P., Silk cloth, 298.
 Vassilieff, J., Maps, 373.
 Vassiliki, Madame, Laces, 301.
 Vaterlein, J., Gauges, 138.
 Vaucher, L., Animal oil, 212.
 Vaud, Dept. of Public Works, Drawings, 356.
 Vandoise Society for Public Utility, Reports, 357.
 Vaughan, W. R., Trusses, 135.
 Vauthier, Mrs., Clothing, 196.
 Vauthier, Sl., & Sons, Tools, 358.
 Vcelicka, A., Gloves, 209.
 Vecchietti, C., Green-weed, 233.
 Vedernikoff & Mikailoff, Costumes, 318.
 Veelo, P. J., Cloths, 220.
 Vectman, J. A., Scarfs, 220.
 Vega, Daniel de la, Petrification, 83.
 Vega Grande, Count of, Oil, 271.
 Vegetable Creek Co., Tin ingots, 64.
 Vegis, Sculpture, 237.
 Veith, J., Publications, 348.
 Velasco Bros., Lead bars, 92.
 Velasquez, Mrs. L., Embroidery, 266.
 Velazco, J. J., Flour, 262.
 Velhagen & Clasing, Religious books, etc., 348.
 Velho, Agostino F., and others, Ore, 94.
 Velings & Co., Iron wire, 218.
 Veloso, Pascal, Galena, 93.
 Veltman, J. A., jr., Scarfs, 220.
 Vely Bey, Socks, 299.
 Venturini, Luigi, Strings, 365.
 Vera Bauton, Maria, Baskets, 280.
 Vera Cruz, State Government of, Wood, 267; Coffee, 268.
 Verchilli y Marqués, F., Sandals, 276.
 Verdé-Delisle Bros., Lace, 217.
 Verdé-Delisle & Co., Lace, 197.
 Verderau, L., Shirts, 276.
 Vergne & Chose Bros., Instruments, 199, 200.
 Vergnies, O. de, & Sisters, Lace, 217.
 Verhaar, A. T., Casts, 360.
 Verin, Corporation of, Mineral waters, 92.
 Verrocy & Van Heusde, Dyes, 220.
 Versailles Plantation, Sugar, 175.
 Versé-Spelmans, B., Leather, 218.
 Verviers, Doings of Popular Evening Parties of, Publications, 359.
 Vessiere-Paulin, J. A., Clothing, 196.
 Vester, Table, 292; Olive wood, 302; Desk furniture, 304.
 Vesuvius Furnace, Ore, 48; Pig iron, etc., 57.
 Vettler, J., Wines, 164.
 Vianna, Antonio Martius, Plated shoes, 287.
 Vianna do Castello, Direction of the Public Works of, Building materials, 94.
 Viard, F., Perfumery, 193.
 Vicat, Joseph H., Insect powder, 192.
 Vice, G., Saltpetre, 169.
 Vicedo, J., Cloth, 274.
 Vico, V., Olives, 264.
 Victor Navarro, P., Silks, 275.
 Victoria, Advisory Board of, Indian goods, 342.
 Victoria, Bank of, Notes, 341.
 Victoria, Collection of minerals, 65.

- Victoria, Commissioners for, Nuggets, 65.
Crayons, 160; Silk cocoons, 161; Photographs, 162; Water fowl, 163; Cotton, 164; Fruits, 165; Music, 341.
- Victoria, Educational Department of, 341.
- Victoria Institute for Poor Girls of the Canton of Berne, Report, 358.
- Victoria, J. G., Earthenware, 284.
- Victoria Ladies' Sericulture Co., Silk, 161.
- Victoria, Sub-commission of the Dept. of, Pottery, 256.
- Victoria, Surveyor-General of, Photography, 162; Maps, 341.
- Victorian Asylum and School for the Blind, Mats, 341.
- Victorian Asylum for Deaf and Dumb, Photographs, 341.
- Vidago Mineral Waters Co., Waters, 95.
- Vidal, B., Cases, 281.
- Vidal, J. M., Linens, 294; Silk, 297; Embroidery, 301; Old fire arms, 304.
- Vidal, M. A., Ashes, 255.
- Vidal, R., Handkerchief, 277.
- Videla, J., Leggings, 257; Harness, 259.
- Videla, R., Embroidery, 258.
- Vie, Garnier, & Co., Pharmacy, 199.
- Viego, I., Blankets, 274.
- Vieira, A. J., Soap, 283.
- Vienna Building Association, Plans, 351.
- Vienna, Com. in, Various products, 352.
- Vienna, Municipality of, Photographs, 351.
- Vigano, Francesco, Books, 365.
- Vignal, C., Refrigerator, 377.
- Vignerot, C., Insulator, 331.
- Vignon, A., Clocks, 345.
- Vigon, Braulio, Coal, 89.
- Vigors, P., Native weapons, 169; Skins, 170.
- Viguier, Boots, etc., 253.
- Viguier, Figaro water, 193.
- Viguier, H., Shoes, 254.
- Vila, Francisco, Tin ore, 89.
- Vila Janez, Francisco, Tin, 92.
- Vila & Son, Paper, 277.
- Vilaret, José, Carbonic water, 91.
- Villa, Cav. Prof. Ignazio, Maps, 365.
- Villa del Rio, Corporation of, Cloaks, 275.
- Villafañe, Tristan, Galena, 83.
- Villa Franca, Baron of, Peat, 82.
- Villagalijo, Prov. Com. of, Alabaster, 90.
- Villalba, Gregorio, Jet, 91.
- Villalobos Brothers, Sulphate, 87; Lead, 92.
- Villalon, E., Waters, 271; Hair, 277.
- Villalonga y Perez, Antonio, Tripoli, 91.
- Villamartin, Corporation of, Jasper, 90.
- Villamarzo, T., Mats, 280.
- Villamen, C., Bagging, 280.
- Villanova, José Genaro, Earth, 88.
- Villar Cagide, Joaquin S. M. de Abades, Steatites, 91.
- Villar, J., Pharmaceuticals, 271.
- Villard & Co., Velvet, 196.
- Villarmentero Board of Public Works, Crystallized gypsum, 90.
- Villaroel, A., Various publications, 261.
- Villaseca & Pniggenc, J., Paper, 278.
- Villeasante, F., Hats, 276.
- Ville de Spa, Trophy furniture, 77.
- Villen, J., Shoes, 276.
- Villeneuve, J., & Co., Publication, 366.
- Villeroy & Boch, Tiles, 202.
- Villiers, A. B. de, Wines, 171.
- Villiers, A. J. J., Red wines, 171.
- Villiers, Miss de, Articles of flowers, 171.
- Vincent Son, Black marble, 77.
- Vincenzi, P., Corks, 235.
- Vinci, M., Shoes, 234.
- Vinet, Troviño, & Co., Acid, 271.
- Vineyards, Direction of the, Wines, 313.
- Vinogradova, A., Swans' down, 317.
- Vinton, C., Bath, 378.
- Vinton Furnace, Ores, 49; Iron, 58.
- Vinuesa, Corporation of, Chamomile, 278.
- Vinva, A. J., Salt, 283.
- Violet, G., & Co., Soaps, 192.
- Virgili, Angelo, Olive oil, 231.
- Virginia Mineral Bureau, Minerals, 48.
- Violet & Durlach, Oil cloths, 119.
- Virtue & Yorston, Books, 327.
- Virtue, J. W., U. S. Commissioner, 9.
- Vishniakoff, J., & Sons, Papier-maché, 318.
- Vissoka, Government of, 293; Cases, 303.
- Vista Alegre Porcelain Mfy., Porcelain, 284.
- Vital, A., Rollers, 200.
- Vit, François, Leather goods, 205.
- Vitigudino, Corporation of, Manta, 275.
- Vitry Bros., Cutlery, 199.
- Vivas Asqueros, Antonio, Iron ore, 87.
- Vives & Aspiroz, R., Flags, 272.
- Vo Chon, Vases, 242.
- Voeltzkow, G. W., jr., Picture frames, 202.
- Voeltzkow, W., Picture frames, 202.
- Vogel, F. C. W., Books, 348.
- Vogel, G., Looking glasses, 202.
- Vogel, H., Judge, Gr. XXVII., 19.
- Vogel, M. B., Colors, 202.
- Vogel, Sir Julius, Handbook, 156.
- Vogts, F., & Co., Furniture, 202.
- Voiglaender & Son, Telescopes, 349.
- Voisin, V. C., Fancy articles, 198.
- Volante, Alessandro, Pamphlet, 365.
- Volart Bros. & Conill, Fabrics, 273.
- Völker, O., Furniture, 202.
- Vollmer, G., Furniture, 111.
- Volonia, Government of, Mineral water, 97; Soap, 291; Linen, 295; Pitch, 306; Maize, 308; Honey, 312; Wool, 314.
- Volstedt, P. J., Preserves, 170.
- Volta Vivé, J., Fabrics, 275.
- Volz-Bier, A., Jewelry, 204.
- Von Bauer, O., Woolens, 208.
- Von Baumhauer, E. H., Judge, Gr. IV., 16.
- Von Harrach, Count, Glass articles, 207.
- Von Heyden, F., Chemicals, 201.
- Vorster & Grüeneberg, Chemicals, 201.
- Vorster, R. & H., Edge tools, 206.
- Vosburg, J. S., Arizona, 11.
- Vöslau Yarn Manufactory, Yarns, 208.
- Voss, L., Books, 348.
- Vossen Bros., Chemicals, 201.
- Votkinsk Crown Iron Works, Iron, 98.
- Vowohl Asphalt Works, Mastic blocks, 75.
- Voyeikoff, D., Cloth, 317.
- Vrana National High School, Work, 362.
- Vrau & Co., Thread, 195.
- Vrau & Co., Thread, 195.
- Vreed-en-Hoop Plantation, Sugar, 175.
- Vriesendorp, H. M., Oils, 220.
- Vte Mondova, Oils, 270.
- Vuiva Ferreira Campos, & Co., Galloons, 288.
- Vulcan Match Mfg. Co., Matches, 225.
- Vulcanite Jewelry Co., Jewelry, 127.
- Vyse, Robt. H., Belting, 142.

W.

- Wachsmuth, F. E., Pictures, 348.
- Wada, Y., Indigo, 244.
- Waddell, H., jr., Judge, Gr. VIII., 16.
- Waddington, Wm., Brooms, 261.
- Wade, J. M., Ornament on glass, 188.
- Wadman, E., Vases, 241, 242.
- Wadsworth Coal Co., Coal, 51.
- Wagan, R. M., Chairs, 111; Rugs, 122; Fancy articles, 128.
- Wage Kitel, K., Vases, 244.
- Wagenmann, G., Tapers, 207.
- Waggoner, Gifford & Co., Paints, 104.
- Wagner Drug Milling Co., Refrigerators, 374.
- Wagner, Franz, Bronze articles, 207, 210.
- Wagner, G. W., Sleigh, 381.
- Wagner, H., & Debes, C., Maps, etc., 348.
- Wagner, J., Stone, 53.
- Wagner, R., Plates, 348.
- Wagner, R. von, Judge, Gr. III., 15.
- Wagner & Starker, Tiles, 202.
- Wahl, Emil, Jewelry, 127.
- Wahlström, S. Fr., Furniture, 225.

- Waihee Plantation, Sugars, 251.
 Waimanalo Plantation, Rice, 251.
 Wakamatsu, R., Hats, 246.
 Wakefield Earth Closet Co., 377.
 Wakefield Rattan Co., Furniture, 110; Mats, 115, 143.
 Walch & Sons, Almanac, 182.
 Walcker, A. G., Bells, 345.
 Walcker, F. F., & Co., Church organ, 350.
 Walcker, W., Tents, 195.
 Walcott & Campbell, Shirtings, 116.
 Waldheim, R. von, Plans, 352.
 Waldow, A., Books, 348.
 Walén, Joh., Locks, 227.
 Wales, W., Photomicrographs, 330.
 Walker, A. R., Gas cooking stove, 160.
 Walker, Evans, & Cogswell, Blank books, 132.
 Walker, F. A., Chief, Bureau of Awards, 10.
 Walker Glass Importing, Silvering, Mfg. Co., Mirrors, 113.
 Walker, J., Soaps, 187.
 Walker, J. R., Utah, 14.
 Walker, M., & Sons, Gates, 115.
 Walker, N. U., Sewer pipe, etc., 107.
 Walker, R. F., Wheat, 180.
 Walker, Renwicks, & Co., Gum, 156.
 Walker, Tucker, & Co., Stamps, 130.
 Walker, W., Traveling articles, 198.
 Wallace, A. C., Canes, 173.
 Wallace Bros., Roots, 134.
 Wallace & Keller, Fancy articles, 127.
 Wallace, S. J., Roofs, 378.
 Wallenstadt Fancy Cotton Goods Mills, 212.
 Wallgren, A. R., Clothing, 226.
 Walling, H. T., Maps, 336.
 Wallis & Co., Leather, 163.
 Wallis, Jno. G., Sulphate of antimony, 48; Bullion, 55.
 Wall's, Wm., Sons, Cordage, 142.
 Walmsley, W. H., Microscopes, 331.
 Walser, Conrad, Straw hats, 213.
 Walshaw, Wm., Yarns, 122.
 Walter Heywood Chair Co., Chairs, 112.
 Walton Bros., Lanters, 114.
 Walton, E. S., & Co., Hardware, 140.
 Walton, Maison, Bonnets, 126.
 Wampanoag Mills, Printing cloths, 118.
 Wampum Cement & Lime Co., Cement, 54.
 Wamsutta Mills, Shirting, 116.
 Wanamaker & Brown, Clothing, 125.
 Wanamaker, J., Finance, 11.
 Wanamaker, John, & Co., Clothing, 125.
 Wander, G., Malt drops, 214.
 Wandly, H., Stone, 73.
 Wangaratta, Council of, Photographs, 162.
 Wanskuck Co., Kerseys, 120.
 War Dept. of Hawaii, Flag, 250.
 Ward, Anthony, & Co., Silk thread, 150.
 Ward & Co., Bear, 147.
 Ward, L. B., Ore, 48; Iron, 57.
 Ward, M. A., Wines, 264.
 Ward, M., & Co., Leather, 151; Cards, 152.
 Ward & Payne, Steel, 62; Tools, 153.
 Warden, David, Kaolin, 64.
 Warden & Oxnard, Petroleum, 103.
 Wardlaw, J., Yarns, 189.
 Wardle, S., Dentistry, 136.
 Wardle, T., Teeth, 136.
 Ware, J. M., Feathers, 104.
 Warfield, W., Kentucky, 12.
 Wargöns Stock Co., Paper, 227.
 Waring, G. E., jr., Judge, Gr. XXII., 18.
 Warlomont, Dr., Treatise, 360.
 Warner Bros., Supporters, 125.
 Warner, Robert, Books, 338.
 Warner, Wm. R., & Co., Pharmacies, 101; Bottles, 108.
 Warnock, J., & Co., Tools, 190.
 Warren, H. W., Mississippi, 13.
 Warren Manufacturing Co., Cotton goods, 117.
 Warrenheip Distillery Co., Whisky, 164.
 Warrington Wire Rope Works, Wire ropes, 62.
 Warrnambool, Statistics, 341.
 Warsaw, Municipality of, Plate, 373.
 Warthorst & Co., Sandstone, 53, 54.
 Wartpatrikoff Bros., Insect powder, 210.
 Warwick, J. G., Coal, 51.
 Warwick, Wm., Books, 189.
 Washbourn, W. E., Lead ore, 63.
 Washburn & Moen Mfg. Co., Wire, 56.
 Washington Furnace, Ores, 48; Iron, 58.
 Washington Mfg. Co., Printing cloths, 117.
 Washington Mills, Worsted coatings, 121.
 Washington Mills Emery Mfg. Co., 55.
 Wasikili, Cloth, 294.
 Wason Manufacturing Co., Cars, 382.
 Wassel Fire Clay Co., Terra-cotta work, 107.
 Wasson, J., Arizona, 11.
 Watanabe, S., Cloth, 246.
 Watch-Makers' Union, Watches, 354.
 Watcombe Terra-Cotta Co., Statuettes, 145.
 Waterbury Brass Co., Brass, 59.
 Waterbury Button Co., Buttons, 128.
 Waterhouse, Thomas, Hops, 262.
 Waterloo Woolen Mfg. Co., Shawls, 121.
 Waterloo Yeast Co., Yeast, 102.
 Waterlow, Sir S. H., Judge, Gr. XIII., 17.
 Waterman Bros., Petroleum, 71; Coke, 187.
 Waters, E., & Son, Barrels, 143.
 Waters, H., & Sons, Organs, 332.
 Waters, J., Arrowroot, 158.
 Waterston, G., & Son, Wax, 152.
 Wateya, G., Tea sets, 245.
 Watkins, W. B., Telegraph, 332.
 Watrigan, A., Shoes, 217.
 Watson, A., Fleeces, 165.
 Watson, Brock, Fancy articles, 127.
 Watson Bros., Flour, 158.
 Watson, J. C., Judge, Gr. XXV., 19.
 Watson, J. J., Strings, 333.
 Watson, J., & Son, Safes, 112.
 Watson Manufacturing Co., Iron, 59.
 Watson & Patterson, Hams, 164.
 Watson, Richard H., Extracts, 106.
 Watson & Son, Furniture, 147.
 Wattine, Ch., & Co., Draperies, 195.
 Watts & Co., Apparatus, 330.
 Watts, E., Trunk, 378.
 Watts, I., Judge, Gr. VIII., 16.
 Waumbek Co., Flannels, 121.
 Wauregan Mills, Cotton goods, 116.
 Wauters-de-Busscher, Cordials, 219.
 Weare, Bros., & Co., Stove, 375.
 Wearne, Capt., Galena, 71.
 Weaver, J. B., Cologne, 106.
 Weaver, M. H., Scales, 330.
 Weaver & Pennock, Lavatory, 378.
 Webb, Edward, & Sons, Hair cloth, 150.
 Webb, John R., Sleigh, 191.
 Webb, Robert, Stove polish, etc., 54.
 Webber, S., Judge, Gr. VIII., 16.
 Weber, A., Pianos, 333.
 Weber & Co., Pianos, 342.
 Weber, J., Wine, 164.
 Weber, J. J., Diaries, etc., 348.
 Weber, O., & Co., Jewelry, 204.
 Webley Bros., Woolen goods, 155.
 Webley, P., & Son, Revolvers, 152.
 Webster, G., Bible, 342.
 Webster Mills, Jute bagging, 118.
 Webster, S., Feather tippet, 258.
 Wedel-Jarlsberg, F., Compasses, etc., 364.
 Weerth, de, & Co., Cloth, 203.
 Weetamoe Mills, Printing cloths, 118.
 Wegeler, J., Judge, Gr. IV., 16.
 Wehrle, Em., & Co., Clocks, 349.
 Weichl, M., Horseshoes, 191.
 Weidmann & Greppo, Silks, 123.
 Weidner, J. L. & P., Chemicals, 202.
 Weigel, T. O., Books, 348.
 Weigert, M., Judge, Gr. IX., 16.
 Weigert & Co., Furniture plushes, 203.
 Weight, T., Hats, 317.
 Weineck, Ignaz, Perfumery, 207.
 Weintroub, Paul, Olive wood, 127.
 Weir, S. F., Judge, Gr. XXVII., 19.
 Weishaupt, C. M., & Sons, Jewelry, 204.
 Weishaupt & Fleig, Instruments, 349.

- Weiskopf, E., Lenses, 331.
 Weiss Bros., Cloths, 203.
 Weiss & Grohmann, Linen thread, 208.
 Weissenbach, W. C. E., Water power, 356.
 Weisser Hadji, Cereals, 308.
 Wekmann, M., Hosiery, 317.
 Welch & Andres, Instruments, 331.
 Welch, D. J., Montana, 13.
 Welch, E. N., Mfg. Co., Clocks, 330.
 Welch, Margetson, & Co., Rugs, 150.
 Weld, W., Farmers' Advocate, 342.
 Weldon, Dana, & Co., Supporters, 124.
 Weldon, L., Alternate, 9.
 Wellauer, J., Report, 357.
 Wellenberger, J., & Ganter, Organ, 333.
 Wellington Mining Co., Coal, 71.
 Wellmann, Fr., Cutlery, 206.
 Wellock, J., & Co., Waterproof cloth, 149.
 Wells, C. B., Sandstone, 53.
 Wells & Co., Window fastener, 188.
 Wells & Hope Co., Signs, 140.
 Wells, S. R., & Co., Books, 327.
 Wells, W., Clay, 73.
 Wellston Coal & Iron Co., Iron, 58.
 Wellston Twin Furnaces, Iron ores, 48.
 Welsh, John, Presd't Board Finance, 10.
 Welsh & Lea, Bolts, 380.
 Welsh, Miguel, Limestone, 84.
 Welte, M., & Sons, Orchestrion, 350.
 Wemick, J., Carriage, 383.
 Wenck & Briesen, Parlor fountain, 105.
 Wenck & Co., Perfumes, 105; Atomizers, 108.
 Wendberg & Co., Ironwork, 191.
 Wendrich & Son, Terra-cotta vases, 223.
 Wendt, Frantz, Rye, 224.
 Wendt, J. M., Inkstand, 167.
 Wengström, J. O., Construction, 226.
 Wentworth, C. B., & Co., Carpet lining, 122.
 Wentworth, C. H., Carriages, 381.
 Wentworth, Geo. E., Florida, 12.
 Wentzel, Models, 352.
 Werner, C. O., Bone oil, 225.
 Werner, Itschner, & Co., Silk ribbon, 122.
 Werner, J., Men's clothing, 208.
 Werner & Schumann, Paper letters, 205.
 Wertheim, Baron F., Tools, 210.
 Wertheimer, J., Fans, 210.
 Wesely, V., Boxes, 210.
 Wessell, Nickel, & Gross, Piano, 333.
 Wesson, Frank, Rifles, 133.
 West, A. M., Mississippi, 13.
 West Bourke Pastoral & Agricultural Society, Wheat, 163.
 West Canada Mining Co., Copper, 70. 74.
 West Cumberland Iron & Steel Co., Ores, 61.
 West, C., & Sons, Petroleum, 103.
 West, J. R., Judge, Gr. V., 16.
 Westbrook Mfg. Co., Cotton duck, 116.
 Westcott, J. S., & Wisendunger, I., Quartz, 166.
 Westenberg, Jefferson, & Co., Papers, 133.
 Westerlund, A. F., Peat, 78.
 Westermann, G., Books, 349.
 Western Electric Mfg. Co., Instruments, 331.
 Western Meat Preserving Co., Meats, 164.
 Western Reserve College, Antiquities, 328.
 Western Reserve Historical Society, 329.
 Western Union Telegraph Co., Apparatus, 332.
 Westernhagen, A., Essences, 280.
 Westwick Match Factory, Matches, 225.
 Westfelling, J., Catalogue, 358.
 Westland, C. O., Stove, 374.
 Westland Committee, Woods, 156.
 Westmoreland Coal Co., Coal, 51.
 Weston, J. A., New Hampshire, 13.
 Westphalian Union Joint Stock Co., Wire, 75.
 Westport Mfg. Co., Batts, 116.
 Wethered, E. R., Hammock, 147.
 Wetherill & Bro., Paints, 104.
 Wetherill, J. P., Finance, 11.
 Wetteren, M. van, Magnets, 361.
 Wexelberg & Co., Elbows, 188.
 Weybosset Mills, Cassimeres, 120.
 Wharton, G. J., Virginia, 14.
 Wharton, J., Ores, 47; Nickel goods, 59.
 Wheeler, D. H., Nebraska, 13.
 Wheeler, Edmund, Specimens, 339.
 Wheeler, M., Chronometer, 330.
 Wheeler, N., Connecticut, 11.
 Wheeler, W. F., Disinfectants, 115.
 Wheeling Hinge Co., Hinges, 141.
 Whelpley, J. A., Skates, 190.
 Whipple, H. J. P., Door knob, 141.
 Whitaker & Skirm, Nails, 141.
 Whittall, H., Planispheres, 321.
 Whittall, Tatum, & Co., Glassware, 108.
 White, A. D., Judge, Gr. XXVIII., 19.
 White, C. A., Celluloid, 136.
 White, C. B., Gr. XXIV., 18.
 White, Chas. T., & Co., Drugs, 102.
 White, D., Safety hook, 162.
 White, G., Wines, 168.
 White, F. R., Wool, 159.
 White, H. A., Stovepipe damper, 188.
 White, John & James, Potash, 144.
 White Lead & Iron Paint Stock Co., 215.
 White Mfg. Co., Carriage trimmings, 382.
 White, Otis C., Head rests, 110.
 White, Payson, & Co., Textile fabrics, 122.
 White, R. T., & Co., Batts, 116.
 White, S. S., Teeth, 136; Telegraph, 332.
 White, T. R., Sandilene, 139.
 White, W., Axes, 137.
 White, W. G., Safe, 147.
 Whitehead, Isaac, Painting, 161.
 Whitehead, J. R., Wyoming, 14.
 Whitehead, T. J., Furnace, 375.
 Whitehead & Turner, Brushes, 190.
 Whitelaw, E. H., Quartz, 166.
 Whiteside, H., & Co., Beds, 188.
 Whitfield, F. E., Yarns, 116.
 Whittier, C. E., Massachusetts, 12.
 Whiting Paper Co., Fine papers, 131.
 Whiting, Wm. F., Massachusetts, 12.
 Whitney Arms Co., Fire arms, 133.
 Whitney Bros., Glassware, 108.
 Whitney, H. M., Gazette, 250.
 Whitney Mfg. Co., Chairs, 112; Tools, 138.
 Whitson & Slater, Lime and limestones, 72.
 Whittaker, Richard, Watches, 339.
 Whittemore, J., Crutches, 135.
 Whittemore, R. R., Laocoon, 110.
 Whittenton Mfg. Co., Shirtings, etc., 118.
 Whittier, R. S., Screen, 113.
 Whittlesey, C., Antiquities, 328.
 Whitwell, Thomas, Ores, 61; Pig iron, 62.
 Wiberg, Martin, Apparatus, 363.
 Wick, Ridgway & Co., Railway iron, 56.
 Wickersham & Bro., Pipe, 378.
 Wickett & Bradley, Limbs, 135.
 Wickizer, J. H., U. S. Commissioner, 9.
 Widin, Govt. of, 296; Raspberry wine, 312.
 Wiederer, N., Looking glasses, 202.
 Wiegandt, Hempel, & Parey, Books, 349.
 Wiegmann, A., Basket ware, 160.
 Wiehe, J., Sugars, 178.
 Wielander, P., Buttons, 210.
 Wienbelt, W., Boots, 220.
 Wier, M. A., & Co., Indicator, 339.
 Wigan Coal & Iron Co., Ores, 61.
 Wigand, G., Religious books, etc., 349.
 Wigand, O., Books, 349.
 Wight, S. A., Trap, 378.
 Wohl, M., & Co., Woolen stuff, 217.
 Wiki, B., Clothing, 213.
 Wiklund, W., Hardware, 228.
 Wilcox, Wm., Locks, 142.
 Wild & Co., Jewelry, 204.
 Wild, G. L., & Bro., Toy, 129.
 Wild, J. C., Polished stones, 204.
 Wild, J., & Co., Mats, 115.
 Wild, John, Cotton plush, 150.
 Wilder, C., Thermometers, 329.
 Wilder, Helen, Hair, 250.
 Wilder, J. T., Tennessee, 14.
 Wilder, S. G., Fibres, 251.
 Wildman, L. P., Violins, 333.
 Wiler, W., Torches, 114; Plates, 140.
 Wilford, W., Flax, 216.

- Wilhelm, A., Reflectors, 114.
 Wilhelm, F., Models, 352.
 Wilhelm, F., & Co., Drugs, 210.
 Wilhelm, F., Chemicals, 201.
 Wilke, H., & Co., Barks, 167.
 Wilkens, D. S., Florida, 12.
 Wilkin, L., Hats, 317.
 Wilkin, Robert, Rye, 156.
 Wilkins, M., Oregon, 13.
 Wilkinson, H. J., Painting, 174.
 Wilkinson Mine, Cinnabar, 67.
 Wilkinson, Rizzo, & Co., Ore, 96.
 Will & Fink, Tools, 138.
 Willcox, J. M., Judge, Gr. XIII., 17.
 Willems, P. J., Oils, 220.
 Willemsen, P., Cotton goods, etc., 203.
 Willett, G., Photographs, 162.
 Willett, S. T., Flannels, 189.
 Wilhelm & Newmann, Lanterns, 114.
 Williams, C., & Co., Ranges, 375.
 Williams, C. E., Case, 250.
 Williams, Chas., Marble work, 52.
 Williams & Co., Stoves, etc., 374, 376.
 Williams, E. G., & Co., Textile fabrics, 150.
 Williams, J. B., & Co., Scaps, 103.
 Williams, J. F., U. S. Commissioner, 9.
 Williams, J. M., & Co., Stamped ware, 188.
 Williams, J. S., Indiana, 12.
 Williams Marble & Slate Mantel Co., 52.
 Williams, Miles, Varnishes, 145.
 Williams, R. L., Car coupler, 382.
 Williams, Page, & Co., Lamps, 114.
 Williams & Powell, Guns, 152.
 Williamson, D. D., Chemicals, etc., 101.
 Willis, Aug. L., Signals, 106; Shell fuse, 133;
 Ice creeper, 139; Rails, 142; Coupler, 334.
 Willis, E., & Co., Paper collars, 189.
 Williston, A. L., Ink and pens, 104.
 Willmetts, Almanacs, 179.
 Wills, E. S., Tool, 138.
 Wilsey, L., Nevada, 13.
 Wilson, A., Wool, 159; Cokes, 169.
 Wilson, B., Idaho, 12.
 Wilson, B. O. & G. C., Medicinal herbs, 134.
 Wilson, Geo., Bedstead, etc., 112; Wool, 183.
 Wilson, Gilmour, & Co., Mantels, 188.
 Wilson, Hinkle, & Co., Books, 326.
 Wilson & Hughes Stone Co., Stone, 53.
 Wilson, J. C., & Co., Paper bags, 189.
 Wilson, J. C., Blinds, 378.
 Wilson, J. H., Military goods, 125.
 Wilson, J. H., Regalia, 142.
 Wilson, John, Canes, 127; Fire nozzle, 141;
 Wool, 165; Soaps, 187.
 Wilson, Jos. M., Bridge, 334.
 Wilson Mfg. Co., Cup, 377.
 Wilson & Miller, Mantels, 52.
 Wilson, Sir S., Photographs, 162; Wools, 165.
 Wilson, T. A., & Co., Frames, 330.
 Wilson, Thomas, Harness, 156.
 Wilson, W., Limestone, 61; Fossils, 64.
 Wilson, Walker, & Co., Forgings, 56.
 Wilt, A., & Son, Sash, 378.
 Wiltse, C., Judge, Gr. VII., 16.
 Wiman & Co., Stoves, 362.
 Winans, G. G., Wainscoting, 378.
 Winch, Corydon, Wrought iron spikes, 57.
 Winchester Repeating Arms Co., Arms, 133.
 Windover, C. S., Brougham, 153; Phaetons,
 383.
 Windrufva, Sven, Herbarium, 362.
 Wing, F. L., & Hill, F. M., Piano, 333.
 Wingender Bros., Pipes, 205, 215.
 Winger, H., Cloth, 189; Blankets, 189.
 Winkler, A., Plates, 210; Oleographs, 211.
 Winkler, C., Jewelry, 204.
 Winkler, Ch., & Son, Looking glasses, 202.
 Winkler, Dr. E., Designs, 352.
 Winkler, M., Cast metal signs, etc., 210.
 Winner, Powder, 315.
 Winning, Hill, & Ware, Water, 74.
 Winslow, A. P., Herbarium, 362.
 Winslow, Samuel, Skates, 139.
 Winsor, H., Finance, 11.
 Winter, C. F., Books, 349.
 Wire & Screw Factory, Screws, 206.
 Wirmond, E. E., Yellow argil, 82.
 Wisby Match Mfg. Co., Matches, 225.
 Wisconsin, State of, Minerals, 50; Educational
 exhibit, 322.
 Wiskott, C. T., Labels, 205.
 Wiss, J., Scissors, 139.
 Wissen Mining & Smelting Co., Iron, 75.
 Witherbee, J. F., Drawings, 335.
 Witherbees, Sherman, & Co., Ore, 47.
 Wittek, A., Buttons, 210.
 Witty, Calvin, Field cannon, 134.
 Wobanawa, M., Fans, 247.
 Wöhler, E., Jewelry, 204.
 Woldemar, W., Wire ware, 202.
 Wolf, A., Chromos, 340.
 Wolf Brothers & Keech, Oils, 106.
 Wolf, M., Text books, 372.
 Wolf, S. M., Shoes, 204.
 Wolff, C. H., Judge, Gr. VIII., 16.
 Wolff, F., Cotton and mixed goods, 203.
 Wolff, F., & Son, Chemicals, 201.
 Wolff, F. A., & Sons, Pharmacy, 205.
 Wolff, R. & E., Cloth, 203.
 Wolle, A. & C., Glue, 262.
 Woller, Fr. E., Cotton hosiery, 204.
 Women's Labor, Society for the Encourage-
 ment of, Embroideries, 318.
 Wong Go, Rice, 251.
 Wood, A., & Co., Iron, 55.
 Wood Bros., Drain tiles, 107; Wagons, 380.
 Wood, C. E. P., Washington Ter., 14.
 Wood & Haslam, Yarn and cloths, 122.
 Wood & Ivory, Bricks, 145.
 Wood & Lyons, Buggies, etc., 383.
 Wood, Morrell, & Co., Cassimeres, 120.
 Wood, T. M., & Co., Venetian blind, 188.
 Wood, W. D., Wheat, 156.
 Wood, W. D., & Co., Iron, 55.
 Wood, Wm., Model, 336.
 Wood, Wm., & Co., Cottonades, 118; Suitings,
 122; Books, 326.
 Woodburn Sarven Wheel Co., Wheels, 380.
 Woodcock, F., Porcelain, 193.
 Woodfield, W., & Sons, Needles, 151.
 Woodman, J. J., Michigan, 13.
 Woodruff, E. W., File holders, 130.
 Woodruff, Jonah, Silver model, 337.
 Woodruff, W. E., jr., Arkansas, 11.
 Woods, G., & Co., Organs, 332.
 Woods, J. T., Splint, 135.
 Woods, Sherwood, & Co., White ware, 139.
 Woodstock Iron Co., Ores, 50; Iron, 56.
 Woodward, G., Guano, 160.
 Woodward, W. W., Carving, 110.
 Woodworth, C. B., & Son, Perfumery, 105.
 Woodworth, J. L., Cotton yarns, 189.
 Woolman, J. P., U. S. Commissioner, 9.
 Woolworth, J., Handles, 379.
 Woon, R. W., Paddles, 156.
 Wooton Desk Co., Desks, 111.
 Worcester Corset Co., Corsets, 125.
 Worden, A. E., Washer, 377.
 Working Home for the Blind, Baskets, 362.
 Working Men's Benevolent Assn., Straw, 234.
 Workman, H., Clay, 73.
 Workmen's Artisans' School, Drawings, 360.
 Workmen's Society, Drawings, 360.
 Workshop for Making & Repairing Nautical
 Instruments, Lamps, 373.
 Workshop of the Direction of the Baltic
 Lighthouses, Lamps, 373.
 Worrell Bank Lock Mfg. Co., Bank lock, 141.
 Worsley, T., & Co., Soaps, etc., 106.
 Worsted Spinning Mills, Yarns, 203.
 Wortendyke Mfg. Co., Lamp wicks, 118.
 Worthington & Co., Polished marble, 72.
 Worthington & Sons, Stone, 53.
 Worumbo Mfg. Co., Overcoatings, 120.
 Wostenholm, G., & Son, Cutlery, 153.
 Wouldham Cement Co., Cement, 61.
 Woven Wire Mattress Co., Wire cloth, 115.
 Woven Wire Web Bed Co., Bed bottom, 109.

Wray, J., & Nephew, Wine, 172.
 Wren, W. C., Model, 335.
 Wrigglesworth, W. J., Wheels, 379.
 Wright, Davenport, & Co., Leather, 158.
 Wright, E. W., Wines, 168.
 Wright & Holdsworth, Soap, 144.
 Wright, J. K., & Co., Inks and varnishes, 105.
 Wright, J. P., Photographic views, 179.
 Wright & Mansfield, Furniture, 147.
 Wright, Payne, & Co., Jams, 164.
 Wright, R. & G. A., Toilet articles, 106.
 Wright, R. W., Kansas, 12.
 Wright, T. S., Wheat, 163.
 Wright, W. H., & Co., Carriage, 381.
 Wright, Wm. P., Silks and muslius, 123.
 Wrigley, Wm., & Co., Soap, 103.
 Wu, Gauzes, 242.
 Wüflinger Machine Embroidery Estab., 213.
 Wührer, L., Maps, 346.
 Wulf, N., Paint, 315.
 Wulff, H. A., Drawings, 362.
 Wunderlich, J. N., Table, 274.
 Wunsch, A., Chair, 315.
 Würfflein, G., Herbarium, 259.
 Würfflein, Wm., Rifles, 134.
 Wurm, F., Cocoons, 168.
 Wurster, Randegger, & Co., Maps, 356.
 Wurttemberg Felt Factory, Felt shahracks, 203.
 Wurtz, H., Judge, Gr. II., 15.
 Wurtz's, T., Successors, Chemicals, 201.
 Wuste, F., Colors, 207; Coverings, 211.
 Wüthenan, von, Chief Engineer of the Swiss Central Railway, Plans, 356.
 Wyeth, John, & Bro., Drugs, etc., 102.
 Wyndham, F., & Co., Chemicals, 144.
 Wyndham, G., Wines, 159.
 Wyndham, W., Wines, 159.
 Wyoming Historical & Geological Society, Fossils, 47.
 *Wyoming Valley Knitting Co., Hosiery, 123.
 Wywodzeff, Apparatus, 319.

X.

Labregas Cotton Manufactory, Yarns, 285.

Y.

Yachimek & Sosnovski, Gun, 319.
 Yakovlev, John, Ore, 98.
 Yale Lock Manufacturing Co., Locks, etc., 140; Anodes, 331.
 Yamakishi, K., Cups, 245.
 Yamamoto Kinu, Silk, 246.
 Yamamoto, Y., Furniture, 245; Cages, 247; Images, 249.
 Yamazaki Tosen, Picture, 249.
 Yanacoli, Almonds, 307.
 Yanak, A., Cocoons, 314.
 Yanaki, Box, 302; Cocoons, 314.
 Yanaki, Kalviro, Skin, 310.
 Yanaki, Micholi, Carpet, 296.
 Yanaki, N., Wine, 313.
 Yanaki, W., Basket, 292.
 Yandell, C. R., & Co., Leather work, 110.
 Yani, Suit, 299; Brandy, 313.
 Yani, F., Woolens, 299.
 Yani, O. A., Tobacco, 310.
 Yani, P. A., Brandy, 313.
 Yani, Paoli, Olive oil, 291.
 Yanina, Govt. of, Hemp, 295; Silk, 297.
 Yañiz, Marbles, 90; Oil, 271.
 Yarritu, Sons of, Soap, 271.
 Yasmadji, M., Pillows, 294.
 Yassin, H., Leather, 311.
 Yates, Bennett, & Allen, Crockery ware, 108.
 Yates, Wharton, & Co., Hats, 126.
 Yavas, F., Toys, 277.
 Yazacoula, M., Broom, 305.
 Ycazbalcata & Garcia, Sugar, 268.
 Yehrapalaki, H. N., Brandy, 313.
 Ychtip, Government of, Coal, 97.

Yconomidès, Mastic, 307.
 Yehara, T., Silk, 246.
 Yehrapalaki, Hadji, Oil, 291.
 Yeiraku, Z., Vases, 242.
 Yeisei-Kiyiku, Statistics, 244.
 Yekahin, H., Silk, 297.
 Yeki-tel-riyo, Post-office map, 248.
 Yellowley, J. B., Mississippi, 13.
 Yeni Ahmed, Wax, 312.
 Yeomans, C. E., Massachusetts, 12.
 Yerington, H. M., Nevada, 13.
 Yerkes & Plumb, Tools, 138.
 Yicara, C. P. Sa, Hammocks, 253.
 Yildis-Ki, Government of, Emery, 97.
 Yillela, Inks, 252.
 Yiotti, E., Pharmacies, 252.
 Yldis-III, Government of, Pitch, 306.
 Ylizationaluvú, Pulque, 268.
 Ylo, Province of, Oil, 264.
 Yoffrie, Iron, 319.
 Yomo Yasunosuke, Bronze, 249.
 Yoogoff Iron works, Ores, 98.
 Yoogoo Copper Works, Copper, 98.
 Yorgaki, Miss, Tapestry, 296.
 Yorge, F., Statistics, 368.
 Yorghanothaki, Vetch, 309.
 York Manufacturing Co., Shirts, etc., 118.
 York Street Flax Spinning Co., Sheetings, 145.
 Yoshida, K., Paper, 247.
 Yoshida, S., Crapes, 246.
 Yoshida, Y., Bowls, 245; Vases, 248.
 Yost, T. A., Carriages, 381.
 Youle, W., Hearses, 381.
 Younasse Uskup, Spoons, 305.
 Young, C. B., Wheat, 167; Wine, 168.
 Young, I. T., Iowa, 12.
 Young, James Kelly, Potash, 144.
 Young, John, Granite, 64.
 Young, Ladd, & Coffin, Perfumes, etc., 105; Atomizers, 108.
 Young Men's Christian Association of North America, Map, pictures, 336.
 Young Merchants' Union, Report, 358.
 Young, Mrs., Mosses, 250.
 Young & Strang, Gums, 145.
 Young, W. A., Sharpeners, 130.
 Young, Wm. J., & Sons, Hand stamp, 130; Telescopes, 329.
 Young, Y. & G., Limestone, 72.
 Young's, Wm., Sons, Crockery, 107.
 Youngstown Rolling Mill Co., Iron, 56.
 Youssouf, Jujube, 307.
 Youssouf, Seeds, 310; Wool, 314.
 Youssouf, C., Morocco, 310.
 Youssouf, Gunki, Cloth, 294.
 Youssouf, H., Foulards, 298; Pots, 305.
 Youssouf, Mamor, Beans, 309.
 Youssouf, Manoc, Beans, 309.
 Youssouf Blouna, Yarn, 295.
 Yoyan-jo, Raw silks, 246.
 Ypanema Iron Works, Ores, 81; Bar iron, 82.
 Yssakovitch, J. & M., Soap, 315.
 Ystad Match Manuf. Co., Matches, 225.
 Ytuarte, J., Music, 267.
 Yucatan, State Gov. of, Shawls, 265; Woods, 267; Coffee, 268; Fibres, 269.
 Yuson, P., Fabric, 281.
 Yussep, T., Mastic, 313.
 Yussuf Mocha, Poutargue, 304.
 Yussuf Sarret, Raisins, 312.

Z.

Zaalberg, J., Covers, 220.
 Zabala, Iniguez, Syrup, 270.
 Zabalo, Andres, Iron, 89.
 Zacher, C., Photographs, 358.
 Zacherl, J., Insect powder, 210; Sponges, 211.
 Zadě Moustapha, Wool, 314.
 Zaeslin & Müller, Silk waste, 212.
 Zaferemboli, Government of, Raw silk, 297.
 Zaferampolo, Govt. of, Saffron, 306; Prunes, 312.

- Zaferembolo, Inkstand, 304.
 Zaferembolo Orphan School, Cloth, 295.
 Zaframboio, Govt. of, Cups, 293.
 Zaha, M., Shawls, 296.
 Zahadji Gotcha, Vests, 299.
 Zahardji Nocha, Gaiters, 300.
 Zahari, Distillery of, Brandy, 313.
 Zahn, R. von, Books, 349.
 Zähler & Schiess, Edgings, 213.
 Zaitzevski, Pottery, 315.
 Zalaifi, B., Iron work, 235.
 Zambrano, F., Lessons, 266.
 Zamora, F., Soap, 271.
 Zamorano & Bros., Gloves, 276.
 Zander, G., Gymnastic apparatus, 227, 363.
 Zanders, H., Drawings, 362.
 Zane, C., Implements, 329.
 Zanni, Pharmaceutical preparations, 291.
 Zapata, L., Starch, 262.
 Zaragoza Corps of Mining Engineers, Argil,
 91.
 Zaragoza, M., Balsams, 278.
 Zargechi, L., Ore, 94.
 Zasche, Joseph, Porcelain, 207.
 Zäuner, Henry, Zephyr goods, 125.
 Zavialoff, A., Scissors, 319.
 Zayas, Pablo, Dictionary, 267.
 Zech, H., Furniture, 216.
 Zeckert, John, Glassware, 207.
 Zeitoun, Government of, Mineral water, 97.
 Zeiteles, D., Gloves, 204.
 Zekiyé, Madame, Cap, 300.
 Zellweger, J. C., Embroideries, 213.
 Zelo, C., Morocco, 310.
 Zelmer, J., Chemicals, 201.
 Zempoala Factory, Wools, 265.
 Zenca, J. Estrada, Map, 267.
 Zennig, R. H., & Co., Matches, 106; Boxes,
 132.
 Zenoup, Marie, Necktie, 302.
 Zenteno, Estevan, Coal, 86.
 Zentmayer, J., Microscopes, 330.
 Zernin, E., Books, 349.
 Zeuner, H., Jewelry, 204.
 Zevecki, C., Instruments, 372.
 Ziadji Oglou Bolis, Sumac leaves, 306.
 Ziamani, daughter of Nicoli, Case, 301.
 Zieher, Ottmar, Jewelry, 204.
 Ziegele & Hauck, Toys, 205.
 Ziegler's Son, Andreas, Tiles, 207.
 Ziegler's Son, Joh. Ant., Blown plate glass, 207.
 Zievers, B., Cement, 98.
 Zihlman, Jos., Glass mould, 54.
 Zimber, J., Instruments, 349.
 Zimdars, C. E., Apparatus, 339.
 Zimin, J. M. P. & F., Cotton goods, 316.
 Zimmer & Co., Salts, 201.
 Zimmerman, G. P. H., Chart, 361.
 Zimmerman, R., Bags, 318; Saddlery, 383.
 Zimmermann, C. F., Instruments, 332.
 Zimmermann, E. G., Jewelry, 204.
 Zimmermann, H., Organ pipes, 345.
 Zimmermann, Otto, Tiles, 75.
 Zinc Roofing & Ornamenting Works, 143.
 Zinn, C., & Co., Baskets, 380.
 Zinserling, C., Tape, 317.
 Zinsser, Wm., & Co., Varnishes, etc., 105.
 Zlatoust Crown Armor Factory, Swords, 319.
 Zoardji Gocha, Vest, 299.
 Zohei-riyo, Imperial mint, Coins, 248.
 Zokopolani, M., Wool, 295.
 Zollikofer Female Seminary, Work, 353.
 Zolotareff's Widow & Ribakoff, Silk, 317.
 Zoobkoff, S., Silk, 317.
 Zoological Gardens, Direction of, Plans, 35.
 Zorié, Wife of Ahmed, Cap, 300.
 Zorilla, Benjamin, Ore, 83; Hammock, 256.
 Zorn, E., Sauces, 164.
 Zoroku, H., Bronze, 249.
 Zozié, Lace, 301.
 Zsigmondy, A., Teeth, 210.
 Zuccala, Carlo, Pharmacies, 305.
 Zucker & Levett, Rouge, 139.
 Zuelzer, Dr., Model, 350.
 Zuiny, A., Books, 368.
 Zumbunn, Schmoker, & Co., Carvings, 358.
 Zürcher-Banziger, J., Embroidery, 213.
 Zurich Aid Society, Report, 357.
 Zurich Joint Stock Co., Plans, 356.
 Zwicky-Laager, C., Atlas, 353.

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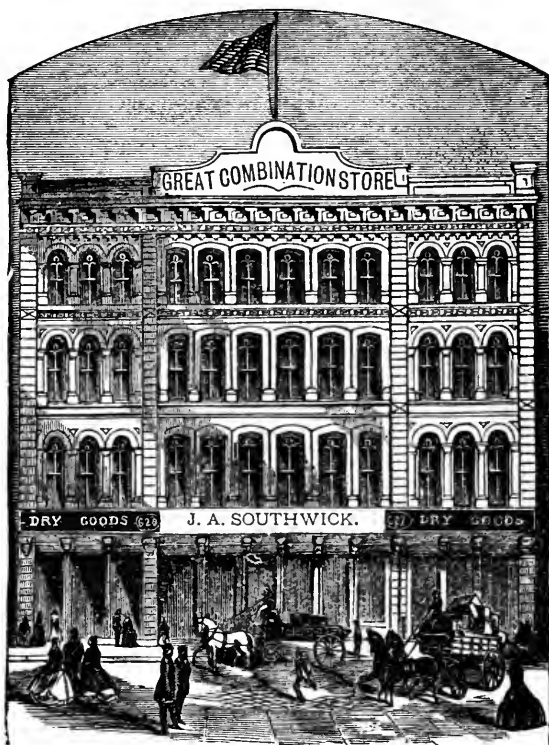
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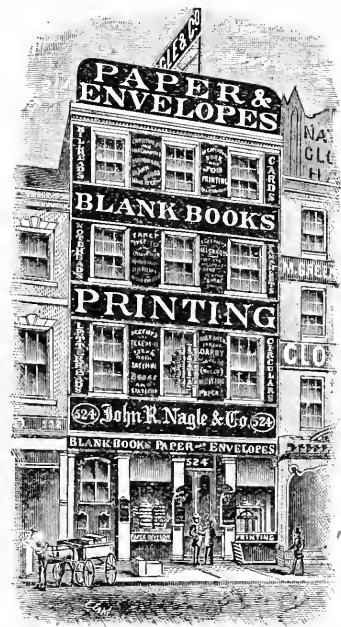
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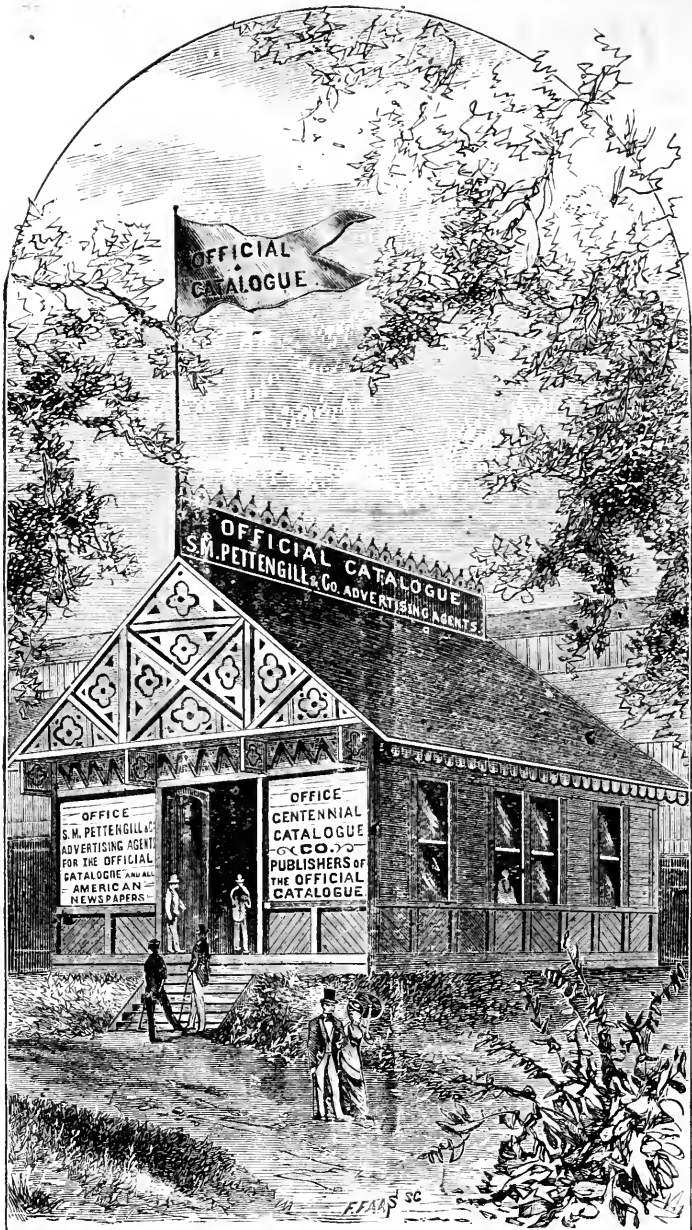


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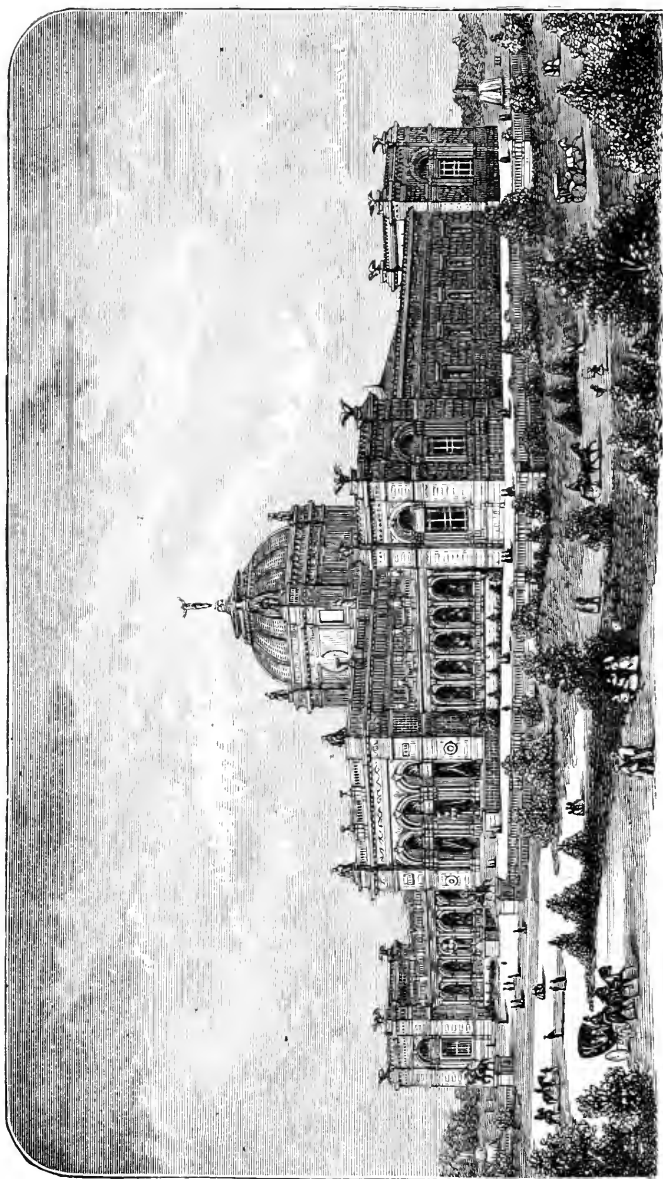
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INTERNATIONAL EXHIBITION.

1876

Official Catalogue.



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ART GALLERY, ANNEXES, AND OUT-
DOOR WORKS OF ART.

DEPARTMENT IV.—ART.

REVISED EDITION.

PHILADELPHIA:

Published for the Centennial Catalogue Company

By JOHN R. NAGLE AND COMPANY.

Printed at the Riverside Press, Cambridge, Mass.

1876.

Entered according to Act of Congress, in the year 1876, by the
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CONTENTS.

List of Buildings and Special Exhibits,	6
Subject Index, National Exhibits,	8
The Memorial Hall and Annex,	9
Synopsis of the Classification,	12
Classification of the Department of Art,	13
Catalogue of the Department of Art,	17
Photographic Exhibition Building,	137
Out-Door Works of Art,	146
Index to Exhibitors.	151

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—The buildings bear the numbers prefixed to them in this table, being the numbers adopted by the Centennial Guide Book Co. (Limited).]

Buildings South of the Avenue of the Republic.

No.	Part	Page
1.	I.	23
2.	III.	9
3.	III.	117
4.	III.	117
5.	III.	117
6.	III.	117
7.	III.	105
8.	III.	117
9.	III.	117
10.	III.	117
11.	III.	118
12.	III.	146
13.	III.	146
14.	III.	118
15.	III.	118
16.	III.	118
17.	III.	118
18.	III.	118
19.	III.	119
20.	III.	119
21.	III.	119
22.	III.	119
23.	III.	119
24.	III.	119
25.	III.	119
26.	III.	119
27.	III.	119
28.	III.	119
29.	III.	120
30.	III.	120
31.	III.	120
32.	III.	120
33.	III.	120
34.	III.	120
35.	III.	120
36.	III.	120
37.	III.	121
38.	III.	121
39.	III.	121
40.	III.	121
41.	III.	121
42.	III.	121
43.	III.	121
44.	III.	122
45.	III.	122
46.	III.	122
47.	III.	122
48.	III.	122
49.	III.	122

Buildings North of the Avenue of the Republic, and West of Belmont Av.

No.	Part	Page
51.	III.	73
51½.	III.	122
52.	III.	73
52½.	III.	122
53.	III.	73
53½.	III.	122
54.	III.	73
54½.	III.	123
55.	III.	123
55½.	III.	123
56.	III.	123
56½.	III.	124
57.	III.	124
57½.	III.	124
58.	III.	124
58½.	III.	124
59.	III.	124
59½.	III.	124
60.	III.	124
61.	III.	125
62.	III.	125
63.	III.	125
64.	III.	125
65.	III.	125
66.	III.	125
67.	III.	125
68.	III.	125
69.	IV.	134
70.	III.	130
71.	III.	130
72.	III.	130
73.	III.	130
74.	III.	130
75.	III.	130
76.	III.	131
77.	III.	131
78.	III.	131
79.	III.	131
80.	III.	131
81.	III.	131
82.	III.	131
83.	III.	131
84.	III.	131
85.	III.	132
86.	III.	132
87.	III.	141
88.	III.	141
89.	III.	142
90.	III.	142
91.	III.	142

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—Descriptions of the Buildings will be found at the indicated part and page of the Official Catalogue.]

Buildings North of the Avenue of the Republic, and West of Belmont Av.

No.	Part	Page
92. Office of the Boston "Advertiser" and Boston "Herald,"	III.	142
93. Rowell's Newspaper Exhibition Building,	III.	142
94. California State Building,	III.	142
95. Centennial Fire Patrol, No. 1,	III.	142
96. Turkish Café,	III.	143
97. Office Frank Leslie's Publications,	III.	143
98. Iowa State Building,	III.	143
99. Rhode Island State Building,	III.	143
100. Vermont State Building,	III.	143

Buildings East of Belmont Avenue, and South of Fountain Avenue.

101. Art Gallery,	II.	9
102. Art Gallery Annex,	II.	10
103. B'nai B'rith Monument of Religious Liberty,	III.	143
104. Photographic Art Building,	II.	137
105. Vienna Bakery and Coffee House,	III.	143
106. Principal Annex to Main Exhibition Building,	I.	374
107. Swedish Government Building,	III.	144
108. Japanese Bazaar,	III.	144
109. The Judges' Hall,	III.	144
110. Centennial Photographic Co.,	III.	144
111. Sheet-metal Pavilion,	III.	144
112. German Government Building,	III.	144
113. Railroad Ticket Office,	III.	144
114. Office United States Centennial Commission,	III.	145
115. Brazilian Government Build'g,	III.	145
116. The Dairy,	III.	145
117. Restaurant "La Fayette,"	III.	145
118. House of Public Comfort,	III.	145
119. Empire Transportation Co.,	III.	145
120. French Government Building,	III.	145
121. Centennial Fire Patrol, No. 2,	III.	145
122. Penn'a Educational Building,	III.	146
123. Telegraph Office,	III.	147
124. American Fusee Company,	III.	147
125. Klautscheck, Thomas, & Stewart's Glass Magazine,	III.	147
126. Moorish Villa,	III.	147
127. American Bible Society,	III.	147
128. Hunter's Camp,	III.	147
129. Office Water Department,	III.	148
130. Soda Water Stands,	III.	148

No.	Part	Page
131. Cigar Stands,	III.	148
132. Singer's Sewing Machines,	III.	148
133. Centennial Medical Departm't,	III.	148
134. Portugal Government Building,	III.	148
135. Bankers' Building,	III.	148
136. French Glass Exhibit,	III.	149
137. Kindergarten,	III.	149
138. Centennial Police Station,	III.	149
139. Philadelphia City Building,	III.	149
140. Music Pavilion,	III.	149
141. Burial Caskets,	III.	149
142. Perforated Metal Building,	III.	149
143. Rubber Roofing,	III.	149
144. Cuban Acclimation Office,	III.	149
145. Naval Group,	III.	149
146. The Dying Lioness,	III.	149

Buildings East of Belmont Avenue, and North of Fountain Avenue.

151. Horticultural Hall,	IV.	147
152. Agricultural Hall,	IV.	9
153. The Women's Pavilion,	III.	85
154. The Women's School House,	III.	150
155. New Jersey State Building,	III.	150
156. Restaurant of the South,	III.	150
157. Kansas and Colorado State Building,	III.	150
158. New England Farmer's Home 100 years ago, and Modern Kitchen,	III.	150
159. Great American Restaurant,	III.	150
160. German Restaurant,	III.	151
161. Tea and Coffee Press,	III.	151
162. Butter and Cheese Factory,	III.	151
163. Soda Water Stand,	III.	151
164. Cigar Stand,	III.	151
165. Farm Wagon Building,	IV.	135
166. Pomological Building,	IV.	135
167. Brewers' Building,	IV.	136
168. Model House Apiary,	IV.	140
169. Guano Company,	III.	151
170. Special Flower Exhibit Building,	III.	170
171. Wind Mills,	IV.	140
172. Office "Ohio Farmer,"	IV.	140
173. Hay Press,	III.	152
174. Police Station,	III.	152
175. Elevated Railroad,	III.	152
176. Boiler House,	III.	152
177. Virginia State Building,	III.	152
178. Protective Fire Apparatus,	III.	152
179. Pop-corn Stands,	III.	152
180. J. L. Mott Co. Fountain,	III.	152

SUBJECT INDEX, NATIONAL EXHIBITS.

DEPT. IV.—ART.

NATIONS.	Sculpture, Medals.	Oil Paintings.	Water Colors.	Engraving, Lithogra- phy, Chromo-lithog- raphy.	Drawings, Etchings.	Architectural Designs.	Ceramic Decorations, Mosaics, Stained Glass.	Art Applied.	Photographs.	Out-Door Works of Art.
United States.....	21-59	17-54	25, 48	58	54	32	52, 53, 57	55	137, 145	146
Great Britain	60	60	65	67	67	.....	.....	.....	141	.....
Canada .....	.....	69	.....	.....	.....	.....	.....	.....	142	.....
France	74-81	72-79	79	79	.....	82	74, 76	73	143	146
Germany	85, 87	83	86	86	.....	.....	86, 87	.....	86, 143	148
Austria.....	90, 91	88, 91	90	.....	91	.....	.....	.....	91, 143	.....
Switzerland.....	.....	.....	.....	.....	.....	.....	.....	.....	143	.....
Belgium.....	93-95	92-99	99	98	98	98	98	97	98	.....
Netherlands.....	103	100	.....	103	.....	.....	.....	.....	103	.....
Denmark.....	.....	104	.....	.....	.....	.....	.....	.....	.....	.....
Sweden	105	105	107	.....	.....	.....	.....	.....	144	.....
Norway.....	108, 109	108	.....	.....	.....	.....	.....	.....	.....	.....
Italy.....	110- 118	111- 120	.....	.....	.....	.....	112, 119	.....	143	.....
Japan.....	.....	.....	.....	.....	.....	.....	.....	.....	145	.....
Brazil.....	121	121	121	.....	121	.....	.....	.....	144	.....
Argentine Republic.....	.....	122	122	.....	.....	.....	.....	.....	144	.....
Mexico.....	124	123	.....	.....	.....	.....	.....	.....	145	.....
Spain	125, 126	125, 127	.....	.....	.....	.....	130	.....	.....	.....
Russia	135	134	136	.....	.....	.....	.....	.....	142	.....

N. B.—The Art exhibit of the following countries is installed, wholly or in part, in the Main Building and catalogued in Part I., viz. :

Great Britain.
New South Wales.
Queensland.
Victoria.
South Australia.
New Zealand.
Cape of Good Hope.
France.
Germany.
Austria.
Denmark.

Egypt.
China.
Italy.
Japan.
Hawaii.
Switzerland.
Argentine Republic.
Chili.
Spain.
Portugal.
Russia.

The Spanish Government Building contains additional works of art.

The Women's Pavllion contains works of art from the following countries (Official Catalogue, Part III.), viz. :

United States.
Great Britain.
Canada.
France.

Italy.
Sweden.
Norway.

NO. 101. ART GALLERY.

Size 365 by 210 feet.

Architect, H. J. SCHWARZMAN.

Contractor, R. J. DOBBINS.

Iron work furnished by EDMOND IRON CO., PENCYD ROLLING MILLS,
KITTREDGE CORNICE CO.

Stone work furnished by SARGENT & CO., WESTHAM GRANITE CO., CONSHO-
HOCKEN STONE CO., S. F. PRINCE & CO., EXCELSIOR BRICK CO.

Glass furnished by BENJAMIN H. SHOEMAKER, WARD & CO., and J. M. ALBERTSON.

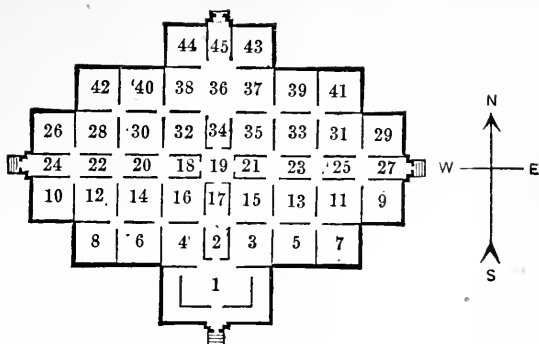
MEMORIAL HALL, built at a cost of \$1,500,000, by the State of Pennsylvania and City of Philadelphia, is placed at the disposal of the Centennial Commission, to be used during the Exhibition as an Art Gallery, after which it is designed to make it the receptacle of an Industrial Art Museum, similar to the South Kensington Museum, at London. The design is modern renaissance, and the structure is fire-proof. It covers an acre and a half, and is 365 feet long, 210 feet wide, and 59 feet high, over a basement 12 feet high. A dome, rising 150 feet above the ground, surmounts the centre, capped by a colossal ball, from which rises the figure of Columbia. The main front of this building looks southward, displaying a main entrance in the centre consisting of three arched doorways, a pavilion on each end, and two arcades connecting the pavilions with the centre. The entrance is 70 feet wide, to which there is a rise of 13 steps. Each of the doorways is 40 feet high and 15 feet wide, opening into a hall. In each pavilion there is a window 12½ feet by 34 feet, eight in all, which will be used for the display of stained glass, glass paintings, etc. The arcades designed to screen the long walls of the galleries each consist of five groined arches, and form promenades looking outward over the grounds and inward over open gardens extending back to the main wall of the building. These garden-plots are each 90 feet by 36 feet, ornamented in the centre with fountains, and intended to display statuary. The rear or north front of the building is of the same general character as the main front, but, in place of the arcade, has a series of arched windows, twelve in number, with the entrance in the centre. Between the pavilions is the grand balcony, a promenade 275 feet long and 45 feet wide, elevated 40 feet above the ground, and overlooking to the northward the grounds of the Park. On each front of the buildings the entrances open into halls, 82 feet long, 60 feet wide, and 53 feet high. These, in turn, open into the centre hall, 83 feet square, the ceiling rising over it 80 feet in height. From the east and west sides of this central hall extend the galleries, each 98 feet long, 48 feet wide, and 35 feet high. These galleries have temporary divisions for the better display of paintings, and, with the central hall, form a grand hall 287 feet long and 83 feet wide, capable of comfortably accommodating 8000 persons. From the galleries

doorways open into two smaller galleries, 89 feet long and 28 feet wide. These open north and south into apartments connecting with the pavilion rooms, and forming two side-galleries 210 feet long. Along the whole length of the north side of the main galleries and central hall extends a corridor 14 feet wide, opening on its north line into a series of rooms, twenty-three in number, designed for studios and smaller exhibition rooms. All the galleries and the central hall are lighted from above; the pavilions and studios from the sides. The pavilions and central hall are designed especially for the exhibition of sculpture. This building gives 75,000 square feet of wall space for painting, and 20,000 square feet of floor space for statues, etc. The skylights throughout are double, the upper being of clear glass and the under of ground-glass.

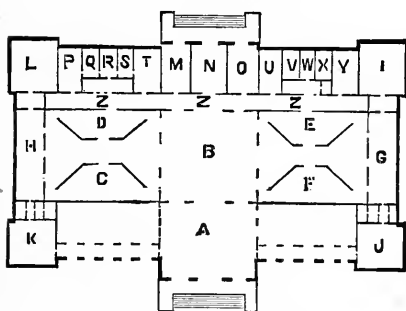
The erection of the building was begun July 4, 1874, and finished March 1, 1876.

No. 102. ANNEX TO ART GALLERY.

Great as is the space afforded in the Memorial Hall, the applications from American and foreign artists proved so greatly in excess of its capacity as to require the erection of a much more spacious building. This, though only of brick, harmonizes architecturally with the Memorial Hall, and is to be permanent. It stands just in the rear of the original Art Gallery. It affords 60,000 square feet of wall space available for paintings, and contains 30 galleries, each 40 feet square, besides 4 galleries, each 100 feet long by 54 feet wide, and two transverse central corridors, 20 feet wide.



ART GALLERY ANNEX.



AVENUE OF THE REPUBLIC.

MEMORIAL HALL.—Ground Plan.

- | | | |
|---|---------------------------|-----------------------|
| A. Italy. | J. Germany. | T. Great Britain. |
| B. United States, Gt. Britain,
Germany, France, Italy. | K. United States, Norway. | U. Italy. |
| C. United States. | L. Great Britain. | V. Italy. |
| D. Great Britain. | M. Russia. | W. Italy. |
| E. France. | N. Italy. | X. United States. |
| F. Germany. | O. Belgium. | Y. United States. |
| G. Austria. | P. Great Britain. | Z. { Great Britain. |
| H. Spain and Sweden. | Q. Great Britain. | { United States. |
| I. France. | R. Great Britain. | { Germany and France. |
| | S. Great Britain. | |

ART GALLERY ANNEX.—Ground Plan.

- | | | |
|------------------------|--------------------------|--------------------|
| 1. Italy. | 16. United States. | 29. Portugal. |
| 2. Italy. | Superintendent's Office. | Brazil. |
| 3. Italy. | 17. Italy. | 30. United States. |
| 4. Italy. | 18. United States. | 31. Spain. |
| 5. Netherlands. | 19. Italy. | 32. France. |
| 6. United States. | 20. United States. | 33. Belgium. |
| 7. Norway. | 21. France. | 34. France. |
| Denmark. | Netherlands. | 35. France. |
| 8. United States. | 22. United States. | 36. France. |
| 9. Argentine Republic. | 23. Belgium. | 37. France. |
| Chili. | Netherlands. | 38. France. |
| Mexico. | 24. United States. | 39. Belgium. |
| 10. United States. | 25. Spain. | 40. United States. |
| 11. Sweden. | Sweden. | 41. Belgium. |
| 12. United States. | 26. Canada. | 42. United States. |
| 13. Netherlands. | 27. Portugal. | 43. France. |
| 14. United States. | Argentine Republic. | 44. United States. |
| 15. Netherlands. | Brazil. | 45. France. |
| | 28. United States. | |

SYNOPSIS OF THE CLASSIFICATION.

LOCATION.	DEPARTMENTS.	CLASSES.	GROUPS.	
MAIN BUILDING.	I. MINING AND METALLURGY.	100—109	Minerals, Ores, Stone, Mining Products.	
		110—119	Metallurgical Products.	
		120—129	Mining Engineering.	
	II. MANUFACTURES.	II. MANUFACTURES.	200—205	Chemical Manufactures.
			206—216	Ceramics, Pottery, Porcelain, Glass, etc.
			217—227	Furniture, etc.
			228—234	Yarns and Woven Goods of Vegetable or Mineral Materials.
			235—241	Woven and Felted Goods of Wool, etc.
			242—249	Silk and Silk Fabrics.
			250—257	Clothing, Jewelry, etc.
258—264			Paper, Blank Books, Stationery.	
265—271			Weapons, etc.	
272—279			Medicine, Surgery, Prosthesis.	
280—284	Hardware, Edge Tools, Cutlery, and Metallic Products.			
285—291	Fabrics of Vegetable, Animal, or Mineral Materials.			
292—296	Carriages, Vehicles, and Accessories.			
III. EDUCATION AND SCIENCE	III. EDUCATION AND SCIENCE	300—309	Educational Systems, Methods, and Libraries.	
		310—319	Institutions and Organizations.	
		320—329	Scientific and Philosophical Instruments and Methods.	
		330—339	Engineering, Architecture, Maps, etc.	
		340—349	Physical, Social, and Moral Condition of Man.	
ART GALLERY.	IV. ART.	400—409	Sculpture.	
		410—419	Painting.	
		420—429	Engraving and Lithography.	
		430—439	Photography.	
		440—449	Industrial and Architectural Designs, etc.	
		450—459	Ceramic Decorations, Mosaics, etc.	
MACHINERY BUILDING.	V. MACHINERY.	500—509	Machines, Tools, etc., of Mining, Chemistry, etc.	
		510—519	Machines and Tools for working Metal, Wood, and Stone.	
		520—529	Machines and Implements of Spinning, Weaving, etc.	
		530—539	Machines, etc., used in Sewing, Making Clothing, etc.	
		540—549	Machines for Printing, Making Books, Paper Working, etc.	
		550—559	Motors, Power Generators, etc.	
		560—569	Hydraulic and Pneumatic Apparatus.	
		570—579	Railway Plant, Rolling Stock, etc.	
		580—589	Machinery used in Preparing Agricultural Products.	
		590—599	Aerial, Pneumatic, and Water Transportation.	
AGRICULTURAL BUILDING.	VI. AGRICULTURE.	600—609	Arboriculture and Forest Products.	
		610—619	Pomology.	
		620—629	Agricultural Products.	
		630—639	Land Animals.	
		640—649	Marine Animals, Fish Culture, and Apparatus.	
		650—662	Animal and Vegetable Products.	
		665—669	Textile Substances of Vegetable or Animal origin.	
		670—679	Machines, Implements, and Processes of Manufacture.	
		680—689	Agricultural Engineering and Administration.	
		690—699	Tillage and General Management.	
HORTICULTURAL BUILDING.	VII. HORTICULTURE.	700—709	Ornamental Trees, Shrubs, and Flowers.	
		710—719	Hot Houses, Conservatories, Graperies.	
		720—729	Garden Tools, Accessories of Gardening.	
		730—739	Garden Designing, Construction, and Management.	

CLASSIFICATION.

DEPARTMENT IV.—ART.

SCULPTURE.

- CLASS 400.—Figures and groups in stone, metal, clay, or plaster.
CLASS 401.—Bas-reliefs, in stone or metal; electrotype copies.
CLASS 402.—Medals, pressed and engraved; electrotypes of medals.
CLASS 403.—Hammered and wrought work—*repoussé* and *rehaussé* work, embossed and engraved relief work.
CLASS 404.—Cameos, intaglios, engraved stones, dies, seals, etc.
CLASS 405.—Carvings in wood, ivory, and metal.

PAINTING.

- CLASS 410.—Paintings in oil on canvas, panels, etc.
CLASS 411.—Water color pictures; aquarelles, miniatures, etc.
CLASS 412.—Frescoes, cartoons for frescoes, etc.
CLASS 413.—Painting with vitrifiable colors. Pictures on porcelain, enamel, and metal.

ENGRAVING AND LITHOGRAPHY.

- CLASS 420.—Drawings with pen, pencil, or crayons.
CLASS 421.—Line engravings from steel, copper, or stone.
CLASS 422.—Wood engravings.
CLASS 423.—Lithographs, zincographs, etc.
CLASS 424.—Chromo-lithographs.

PHOTOGRAPHY.

- CLASS 430.—Photographs on paper, metal, glass, wood, fabrics, or enamel surfaces.
CLASS 431.—Prints from photo-relief plates, carbon prints, etc.
CLASS 432.—Photo-lithographs, etc.
CLASS 433.—Photographic apparatus and supplies.

INDUSTRIAL AND ARCHITECTURAL DESIGNS, MODELS, AND DECORATIONS.

- CLASS 440.—Industrial designs.
CLASS 441.—Architectural designs; studies and fragments, representations and projects of edifices; restorations from ruins and from documents.
CLASS 442.—Decoration of interiors of buildings.
CLASS 443.—Artistic hardware and trimmings, artistic castings, forged metal work for decoration, etc.

DECORATION WITH CERAMIC AND VITREOUS MATERIALS, MOSAIC AND INLAID WORK.

- CLASS 450.—Mosaic and inlaid work in stone.
CLASS 451.—Mosaic and inlaid work in tiles, tessaræ, glass, etc.
CLASS 452.—Inlaid work in wood and metal, parquetry, tables, etc.
CLASS 453.—Stained glass.
CLASS 454.—Miscellaneous objects of art.

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INDEX TO ADVERTISEMENTS.

	PAGE
Burke, Edward and John,.....	64
Brooke Hall Female Seminary,.....	17
Brook, Jonas, & Brothers,.....	65
Blood, Wolfe, & Co.....	64
Drown, W. A., & Co.....	17
French Restaurant,.....	120
Goode, Thomas, & Co.....	64
Haseltine Galleries,.....	17
Lippincott, J. B., & Co.....	120
Longacre & Co.....	137
McGee, John G., & Co.....	120
Philadelphia Demokrat,.....	120
Philadelphia Evening Chronicle,.....	17
Pennsylvania Rail Road,.....	124
Radway's, Dr., Medicines,.....	136
The American Newspaper Union,.....	125
The Sun Newspaper,.....	121
Wilkins, Wm., & Co.....	120
West Philadelphia Passenger Railway Company,.....	Second page of cover.

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DENNIS F. DEALY, Publisher,

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UNITED STATES.

[Works of Art marked with an asterisk (*) are for sale. Information may be obtained at the Art Bureau, Memorial Hall.]

(*Memorial Hall, Central Gallery, West.*)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
1	Story, G. H., New York,	The Young Student.	David Groesbeck.
1 ^a	Healy, G. P. A., Chicago,	Portrait.	
2	Dolph, J. H., New York,	The Antiquarian.	Artist.
3	Pohle, H., New York,	*The Burning Castle.	E. Franke.
4	Whittridge, W., New York,	The Window.	R. L. Stuart.
5	La Farge, John, New York,	Bishop Berkeley's Rock, Newport.	Artist
6	Townsend, Chas. E., New York,	*Lion and Lioness.	Artist.
7	Perdicaris, Ion, Trenton, N. J.,	Moorish Interior.	Artist.
8	Hicks, Thomas, New York,	Portrait—Mrs. MacDaniel.	
9	Hubbard, R. W., New York,	*Coming Storm.	Artist.
10	Matthews, W. T., New York,	Globe of Fish.	Artist.
11	Bunner, A. F., Munich,	*Bavarian Landscape.	Artist.
12	Van Elten, K., New York,	Clearing Off—Adirondacks.	G. Chesterman.
13	Du Bois, C. E., New York,	*Willows at East Hampton, L. I.	Artist.
14	Colman, S., New York,	*The Merchants of Laghouat en route between Tell and the Desert, Algeria.	Artist.
15	Pine, Theodore, Chicago,	Portrait of Mrs. Doane.	
16	Miller, Charles H., New York,	Sunset at Queen's, N. Y.	Robert Gordon.
17	Kensett, J. F. (deceased),	Narragansett Coast	R. M. Olyphant.
18	Hamilton, J., Philadelphia,	*"Break, break, break, On thy cold gray stones, O sea!"	Earle & Sons.
19	Durand, A. B., New York,	Studies from nature.	Artist.
20	Boughton, G. H., New York,	The Pilgrims' Sunday Morning.	R. L. Stuart.
21	Baker, G. A., New York,	Portrait—C. L. Elliott.	New York Academy of Design.
22	Benson, Eugene, New York,	Sirocco, Venice.	Artist.
23	Gifford, S. R., New York,	Bronx River.	H. C. Fahnestock.
24	Gifford, S. R., New York,	On the Nile.	J. J. Nesmith.
25	De Haas, M. F. H., New York,	Moonrise and Sunset.	E. D. Morgan.
26	Bellows, A. F., New York,	*Sunday in Devonshire	Artist.

NO.	ARTIST.	TITLE.	OWNER.
27	Gifford, S. R., New York,	Pallanza, Lago Maggiore.	M. Southwick.
28	Mayer, Constant, New York,	*Love's Melancholy.	S. M. Schafer.
29	Conarroe, G. W., Philadelphia,	Ethel.	Artist.
30	Audubon, J. J. (deceased),	Canada Otter.	Edward Harris.
31	Beeson, Miss E. L., Pittsburg,	*Ophelia.	Artist.
32	White, Edwin, New York,	*The Bargello, Florence.	Artist.
33	Cole, Thomas (deceased),	The Mountain Ford.	J. Taylor Johnston.
34	Huntington, D., New York,	Portrait.	Artist.
35	Van Elten, K., New York,	The Grove in the Heath.	G. Chesterman.
36	Holbrook, H. J., New York,	Portrait.	Artist.
37	MacKnight, Mrs. S. R., New York,	Winter.	Artist.
38	Hubbard, R. W., New York,	Early Autumn.	Judge Benedict.
39	Cropsey, J. F., New York,	Old Bonchurch, Isle of Wight.	Artist.
40	Johnson, David, New York,	Scenery on the Housatonic.	Mrs. J. Bullard.
41	Lambdin, G. C., Philadelphia,	Roses.	Artist.
42	Furness, W. H., Jr. (deceased),	Portrait.	H. H. Furness.
43	Wood, T. W., New York,	The Veteran.	C. S. Smith.
44	Wood, T. W., New York,	The Recruit.	C. S. Smith.
45	Huntington, D., New York,	Portrait—G. T. Trimble.	New York Hospital.
46	Perry, E. Wood, New York,	Young Franklin.	Artist.
47	Kensett, J. F. (deceased),	View near Northampton.	R. L. Stuart.
48	Johnson, Eastman, New York,	Heel-Taps.	
49	Eakins, Thos., Philadelphia,	Chess-Players.	Artist.
50	Waugh, S. B., Philadelphia,	The Cabinet.	Artist.
51	Wood, T. W., New York,	The Contraband.	C. S. Smith.
52	Stuart, Gilbert (deceased),	Portrait—Mrs. S. Eliot.	C. W. Eliot.
53	Loop, H. A., New York,	*Aphrodite.	Artist.
54	Thompson, A., Boston,	*View near Honfleur, Normandy.	Artist.
55	Whittredge, W., New York,	A Hundred Years Ago.	R. M. Olyphant.
56	Birch, Thomas (deceased),	Marine.	Thos. Birch.
57	White, Edwin, New York,	*The Antiquary.	Artist.
58	Miller, C. H., New York,	Returning to the Fold.	Mrs. J. M. Miller.
59	Durand, A. B., New York,	Portrait—Gouverneur Kemble.	Gouverneur Kemble.
60	Allston, Washington (deceased),	Landscape.	Family of Mrs. S. A. Eliot.
61	Weisman, W. H., Philadelphia,	Cape Ann Rocks.	F. Gutekunst.

NO.	ARTIST.	TITLE.	OWNER.
62	Miller, C. H., New York,	Old Mill at Springfield, L.I.	Mrs. J. M. Miller.
63	Guy, S. J., New York,	Evening.	J. M. Falconer.
64	Thom, J. C., New York,	Day (panel).	James M. Burt.
65	Thom, J. C., New York,	Night (panel).	James M. Burt.
66	Perry, E. Wood, New York,	Kept In.	Artist.
67	Thompson, A. Wordsworth, New York,	On the Sands, East Hampton, L.I.	Artist.
68	Maynard, G. W., New York,	*Vespers in Antwerp.	Artist.
69	Anderson, A. A., New York,	Scene in Cairo.	J. J. Milbank.
70	Anderson, A. A., New York,	Roumanian Peasant Girl.	J. J. Milbank.
71	Benson, Eugene, Rome,	The Strayed Masquers.	C. H. Sneff.
72	Johnson, Eastman, New York,	What the Sea Says.	B. Field.
73	Gifford, S. R., New York,	Lake Geneva.	Wm. Goddard.
74	Twibill, G. W. (deceased),	Portrait—Colonel Trumbull.	New York Academy of Design.
75	Stuart, Gilbert (deceased),	Portrait—Mrs. N. Coffin.	Nath. Appleton.
76	Stone, W. O. (deceased),	Portrait—Charles King.	Union Club, New York.
77	Allston, Washington (deceased),	Portrait of himself when young.	
78	Mount, W. S. (deceased),	Husking Corn.	Mr. Kemble.
79	Gray, H. Peters, New York,	The Model from Cadore.	E. Mitchell.
80	Morse, S. F. B. (deceased),	Portrait.	Dr. D. Olyphant.
81	Woodville, R. C. (deceased),	Card-Players.	W. J. Hoppin.
82	Greene, E. D. E., New York,	Ideal head.	National Academy of Design, New York.
83	Copley, J. S. (deceased),	Portrait—Mrs. T. Boylston.	Harvard University.
84	Morse, S. F. B. (deceased),	Portrait.	Dr. D. Olyphant.
85	Copley, J. S. (deceased),	Portrait—John Adams.	Harvard University.
86	Allston, Washington (deceased),	Spalatro's Vision of the Bloody Hand.	J. T. Johnston.
87	Stuart, Gilbert (deceased),	Portrait—James Rivington.	W. H. Appleton.
88	Allston, Washington (deceased),	Rosalie.	N. Appleton.
89	Newton, Stuart (deceased),	The Importunate Author.	E. N. Perkins.
90	Newton, Stuart (deceased),	Portrait—Washington Irving.	Mr. T. W. Storrows.
91	Copley, J. S. (deceased),	Portrait—T. Boylston.	Harvard University.
92	Smibert, J. S. (deceased),	Portrait—Bishop G. Berkeley.	Massachusetts Historical Society.
93	Stuart, Gilbert (deceased),	Portrait—Chief-Justice John Jay.	J. C. Jay.
94	Blashfield, E. H., Brooklyn,	*Treasure-Trove.	Artist.
95	Brown, J. G., New York,	Curling Match.	Robert Gordon.
96	Johnson, Eastman, New York,	*Prisoner of State.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
97	Hubbard, R. W., New York,	Glimpse of the Adirondacks.	R. M. Olyphant.
98	Maynard, G. W., New York,	* "1776."	Artist.
99	Lawrie, Alex., New York,	Autumn in the Hudson Highlands.	Henry Marks.
100	Johnson, David, New York,	Scenery on the Housatonic.	L. A. Lanthier.
101	Irving, J. B., New York,	The Bookworm.	A. McL. Agnew.
102	Parton, A., New York,	Solitude.	Wm. D. Judson.
103	Bridgeman, F. A., New York,	Kybelian Woman.	Hon. Alex. McCue.
104	Brown, G. L., Bos- ton,	*Venice.	Artist.
105	White, Edwin, New York,	*Sabbath of the Emigrant.	Artist.
106	Machen, W. H., Toledo,	Still Life—game.	Artist.
107	Granbery, Miss V., New York,	*Spring Flowers.	Artist.
108	Johnson, Frost, New York,	A Thirsty Party.	Artist.
109	Whittredge, W., New York,	A Home by the Sea.	S. J. Harriott.
110	Gifford, R. Swain, New York,	Boats at Boulah, on the Nile.	L. Tiffany.
111	Brenner, C. C., Lou- isville,	Landscape.	Artist.
112	Durand, A. B., New York,	Il Pappagallo.	Artist.
113	Perry, E. Wood, New York,	The Weaver.	Artist.
114	Niemeyer, J. H., New Haven,	*Gutenberg Inventing Types.	Movable Artist.
115	Moran, Edward, New York,	The Hawk's Nest.	Mrs. H. E. Lawrence.
116	Stewart, J. L., Philadelphia,	Miguel.	W. S. Stewart.
117	Fitch, J. L., New York,	In the Woods.	Artist.
118	Johnson, Eastman, New York,	The Old Kentucky Home.	R. L. Stuart.
119	Whittredge, W., New York,	The Old Hunting-Grounds.	J. W. Pinchot.
120	De Crano, F. F., Philadelphia,	The Celestial Model.	Artist.
121	Cameron, Miss K., Paris,	*Happy as a Queen.	Artist.
122	Wright, Geo., Phil- adelphia,	*One too Many.	Artist.
123	Shade, W. A., New York,	Tantalizing.	Artist.
124	Gifford, R. Swain, New York,	*Egyptian Fountain.	Artist.
125	Moran, Edward, New York,	Minot Ledge Light.	Mrs. H. E. Lawrence.
126	Minor, R. C., New York,	Daybreak.	Artist.
127	Miller, C. H., New York,	The Road to the Mill.	J. L. Melcher.
128	McEntee, J., New York,	October Afternoon.	H. G. De Forest.
129	Guy, S. J., New York,	Solitaire.	J. M. Falconer.
130	Henry, E. L., New York,	Morning Call in 1800.	C. S. Smith.
131	Gignoux, R., New York,	Spring.	T. Messenger.
132	Champney, J. W., Boston,	"Your Good Health."	T. Wiggleworth.

NO.	ARTIST.	TITLE.	OWNER.
133	Brown, J. H., Philadelphia,	Case of miniatures on ivory.	Artist.
133 ^a	Cooper, P. F., Philadelphia,	*Madonna—on ivory.	Artist.
133 ^b	Munger, Geo.,	Nathaniel Jocelyn—miniature on ivory.	N. Jocelyn.
134	Cariss, H. T., Philadelphia,	Blind-Man's-Buff.	Artist.
135	Benson, Eugene, Rome,	San Giorgio, Venice.	Artist.
136	Benson, Eugene, Rome,	Afternoon on the Lagoon.	Artist.
137	Morse, S. F. B. (deceased),	Portrait—Major Paulding.	New York City Hall
138	Woodville, R. C. (deceased),	Fancy head.	J. T. Johnston.

(*Memorial Hall, Gallery C.*)

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
139	Roberts, Howard, Philadelphia,	The First Pose.	Artist.
140	Bailly, J. W., Philadelphia,	*Spring.	Artist.
141	Connelly, P. F., Florence,	*Honor arresting the Triumph of Death.	Artist.
142	Connelly, P. F., Florence,	*Ophelia.	Artist.

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
143	Johnson, Eastman, New York,	Catching the Bee.	Miss Jones.
144	Benson, Eugene, Rome,	Interior of St. Mark's, Venice.	Mrs. M. L. Dickinson.
145	Hart, Wm., New York,	Keene Valley, Adirondacks.	Rev. F. L. Robbins.
146	Baker, George A., New York,	Portrait of a child.	Mrs. D. C. Sturgis.
147	Sully, Thomas (deceased),	Portrait—Miss Rosalie Sully.	Mrs. Darley.
148	Bristol, J. B., New York,	*Lake Memphremagog.	Artist.
149	Gay, W. Allen, Boston,	*Windmills of Delftshaven, Holland.	Artist.
150	Vanderlyn, J. (deceased),	Ariadne.	W. H. Eisenbrey.
151	Thompson, Harry I., New Haven,	Portrait.	Artist.
152	Waugh, S. B., Philadelphia,	General Grant.	
153	Elliott, C. L., New York,	Portrait.	E. D. Morgan.
154	Page, Wm., New York,	Shakspeare, after the Death-Mask.	Artist.
155	McEntee, J., New York,	November.	
156	Waterman, M., Boston,	*Gulliver in Liliput.	Artist.
157	Morrell, Mrs. I. Robinson, Paris,	*First Battle of the Puritans, won by Miles Standish.	Artist.
158	Briscoe, F. D., Philadelphia,	Breezy Day off Dieppe.	
159	Jones, H. Bolton, Baltimore,	*The Ferry Inn.	Artist.
160	Moore, H. H., New York,	The Moorish Merchant.	Artist.
161	Nilson, H. M., Paris,	Portrait.	

NO.	ARTIST.	TITLE.	OWNER.
162	Thompson, H. I., New Haven,	Portrait.	Col. Juan Lewis.
163	Neagle, John (de- ceased),	Portrait—Gilbert Stuart.	Boston Athenæum.
164	Lewis, E. D., Philadelphia,	East Park, Philadelphia.	Artist.
165	Moran, Edward, New York,	The Winning Yacht.	W. A. Cauldwell.
166	Beard, J. H., New York,	The Attorney and his Clients.	G. F. Gilman.
167	La Farge, J., New York,	*Hollyhocks.	Artist.
168	Rothermel, P. F., Philadelphia,	Battle of Gettysburg.	Commonwealth of Penn- sylvania.
169	Champney, J. W., Boston,	"Don't touch!"	Mr. Cheny.
170	Bridgeman, F. A., New York,	Flower of the Harem.	H. E. Nesmith.
171	Winner, W. E., Philadelphia,	Portrait.	Artist.
172	Alexander, F., Bos- ton,	Portrait.	W. Willard.
173	Healy, G. P. A., Chicago,	Portrait.	
174	Mifflin, Lloyd, Co- lumbia, Pa.,	Rome, from Marino.	Artist.
175	Rosenthal, T. E., Munich,	Elaine.	Mrs. R. E. Johnson.
176	Williams, I. L., Philadelphia,	*View near Meriden, Connecticut.	Artist.
177	Homer, Winslow, New York,	Snap the Whip.	J. H. Sherwood.
178	Gifford, S. R., New York,	The Golden Horn.	W. J. Peake.
179	Hetzel, Geo., Pitts- burg,	*Forest Scene in Pennsylvania.	Artist.
180	Tait, A. F., Long Lake, N. Y., and Hart, J. M., New York,	The Portage—Waiting for the Boats.	J. B. Blossom.
181	Armstrong, D. M., New York,	*Twilight on the Tiber.	Artist.
182	McEntee, J., New York,	Saturday Afternoon.	M. C. D. Borden.
183	Suydam, J. A. (de- ceased),	Hudson River.	Smith Clift.
184	Hill, Thomas, San Francisco,	Donner Lake.	Hon. L. Stanford.
185	Johnson, Eastman, New York,	The Wandering Fiddler.	J. T. Johnston.
186	Gifford, S. R., New York,	Fishing Boats of the Adriatic.	C. S. Smith.
187	Irving, J. B., New York,	The End of the Game.	J. H. Sherwood.
188	Richards, W. T., Philadelphia,	The Wissahickon.	George Whitney.
189	Pearce, Charles S., Boston,	*L'Italienne.	Artist.
190	Kollock, Miss M., New York,	*Midsummer in the Mountains.	Artist.
191	Clowes, Miss C. M., Poughkeepsie,	*Cattle at the Brook.	Artist.
192	Kollock, Miss M., New York,	Early Morning in the Mountains.	Artist.
193	Guy, S. J., New York,	Supplication.	J. H. Sherwood
194	Huntington, D., New York,	Sowing the Word.	Anson P. Stokes.
195	Johnson, Eastman, New York,	The Old Stage-Coach.	George Whitney.

NO.	ARTIST.	TITLE.	OWNER.
196	Moran, Thomas, Newark, N. J.,	*The Mountain of the Holy Cross, Colorado.	Artist.
197	Suydam, J. A. (de- ceased),	Berkeley's Seat, Newport.	New York Academy of Design.
198	Colyer, V., New York,	Pueblo—Indian village.	Artist.
199	Sully, Thomas (de- ceased),	Portrait—Mrs. T. Sully.	Miss Sully.
200	Gray, H. Peters, New York,	The Apple of Discord.	R. Olyphant.
201	Whittredge, W., New York,	Twilight on the Shawangunk Moun- tains.	W. B. Smith
202	Lea, Anna M., Phila- delphia,	Portrait.	Mrs. Potter.
203	Martin, H., New York,	Adirondacks.	Century Club.
204	Seligman, Mrs. E., Tarrytown, N. J.,	Love and Pride.	Artist.
205	Miller, C. H., New York,	A Long Island Homestead.	F. Sheldon.
206	Waller, Frank, New York,	Tombs of the Caliphs, Cairo.	Mrs. M. Waller.
207	Bierstadt, A., New York,	The Settlement of California, Bay of Monterey, 1770.	Artist.
208	Smillie, George H., New York,	Lake in the Woods.	T. Robertson.
209	Parton, Arthur, New York,	Stirling Castle.	Bryce Gray.
210	Cole, Thomas (de- ceased),	Kenilworth Castle.	J. T. Johnston.
211	Story, G. H., New York,	Echoes of the Sea.	Artist.
212	Waugh, Ida, Phila- delphia,	An Egyptian.	Artist.
213	Story, G. H., New York,	The Young Mother.	Artist.
214	Staigg, R. M., Bos- ton,	*The Chestnut-Gatherer.	Artist.
215	Weir, J. F., New Haven,	The Gun-Foundry.	*R. P. Parrott.
216	Rothermel, P. F., Philadelphia,	Amy Robsart interceding for Leices- ter.	C. Blanchard.
217	James, Frederick, Philadelphia,	*Interior of a Smoking-Car.	Artist.
218	Neagle, John (de- ceased),	Portrait of John Taggart, First Presi- dent of Farmers' and Mechanics' Bank, Philadelphia.	Farmers' and Mechanics' Bank.
219	Smith, T. Henry, Philadelphia,	Portrait.	M. Drinker.
220	Healy, G. P. A., Chicago,	Portrait.	
221	Johnson, David, New York,	Old Man of the Mountain, Franconia Notch, N.H.	Mr. Taft.
222	McEntee, J., New York,	Autumn.	George Whitney.
223	Shattuck, A. D., New York,	Lake Champlain.	J. M. Telford.
224	Gardner, Miss E. J., Paris,	Corinne.	Artist.
225	Loop, Mrs. H. A., New York,	Portrait.	Mrs. Alexander.
226	Le Clear, Thomas, New York,	Portrait—Parke Godwin.	Artist.
227	Dix, C. Templeton, New York,	Capri.	Century Club.
228	Herzog, H., Phila- delphia,	*Sentinel Rock, Yosemite.	Artist.
229	Leutze, E. (de- ceased),	The Iconoclast.	R. M. Olyphant.
230	Wood, T. W., New York,	Village Post-Office.	C. S. Smith,

NO.	ARTIST.	TITLE.	OWNER.
231	Kensett, J. F. (deceased),	*Conway Valley, N.H.	R. E. Moore.
232	Hicks, Thos., New York,	General Meade.	Artist.
233	Colyer, V., New York,	Cascade Mountains.	J. M. Stearns.
234	Minor, R. C., New York,	*Evening.	Artist.
235	Hunt, William, Boston,	Portrait.	Mr. Schlesinger.
236	Hart, Jas. M., New York,	A Summer Memory of Berkshire.	E. D. Morgan.
237	Waugh, S. B., Philadelphia,	Lost Jewels found.	Mrs. Joseph Harrison.
238	Bridgeman, F. A., New York,	Nubian Story-Teller.	S. H. Keep.
239	Inman, Henry (deceased),	Hackett as Rip Van Winkle.	Miss C. C. Hackett.
240	Brown, C. V., Philadelphia,	Portrait.	W. J. Clark, Jr.
241	Satterlee, W., New York,	*Marguerite.	Artist.
242	De Luce, P., New York,	A Dish for my Lord.	Artist.
243	Wharton, P. F., Philadelphia,	Perdita—Winter's Tale.	Artist.
244	Van Elten, K., New York,	*Russell Falls, Adirondacks.	Artist.
245	Johnson, David, New York,	*Brook study, Orange Co., N.Y.	Artist.
246	Lippincott, W. H., Philadelphia,	The Ducks' Breakfast.	Artist.
247	Millet, F. D., Boston,	*Turkish Water-Seller.	Artist.
248	Heade, M. J., New York,	*Off the California Coast.	Artist.
249	Moran, Peter, Philadelphia,	Return of the Herd.	Artist.
250	Sonntag, W. L., New York,	*Sunset in the Wilderness.	Artist.
251	Bridgeman, F. A., New York,	Bringing in the Corn.	A. A. Low.
252	Schussele, C., Philadelphia,	The Iron-Worker.	Mrs. Joseph Harrison.
253	Moran, Edward, New York,	Moonlight in New York Bay.	Artist.
254	Hicks, Thos., New York,	Portrait—Dr. Gray.	Mrs. B. Knower.
255	Elliott, C. L. (deceased),	Portrait—Dr. Cheesman.	New York Hospital.
256	Miller, C. H., New York,	High Bridge, New York.	Artist.
257	Weber, Philip, Philadelphia,	*Twilight.	Artist.
258	Henry, E. L., New York,	Old Clock on the Stairs.	R. Gordon.
259	Johnson, Eastman, New York,	*Milton and his Daughters.	Artist.
260	Sartain, Emily, Philadelphia,	*The Reproof.	Artist.
261	Irving, J. B., New York,	Cardinal Walsey and his Friends.	P. Van Volkenburg.
262	Beard, W. H., New York,	March of Silenus.	Buffalo Fine Art Gallery.
263	Baker, G. A., New York,	Portrait.	Walter Hatch.
264	Eakins, Thomas, Philadelphia,	Portrait—Dr. Rand.	Dr. Rand.
265	Haseltine, W. S., Philadelphia,	*Ruins of Roman Theatre, Sicily.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
266	Lambdin, G. C., Philadelphia,	Roses.	Artist.
267	Homer, Winslow, New York,	The American Type.	Artist.
268	Thompson, A. Wordsworth, New York,	Virginia in the Olden Time.	D. H. McAlphine.
269	Markham, C. C., New York,	My Grandmother (93 years old).	Artist.
270	La Farge, J., New York,	Wreath of Flowers.	G. V. Hecker.

(Annex, Gallery No. 16.)

AMERICAN SOCIETY OF PAINTERS IN WATER COLORS, OF NEW YORK.

NO.	ARTIST.	TITLE.	OWNER.
271	Hennessey, W. J., New York,	The By-Path.	Mrs. Charles Post.
272	Hennessey, W. J., New York,	An Old Song.	Mrs. C. P. Hemenway.
273	Scott, Wm. Wal- lace, New York,	*Margaretta B. Moore	Artist.
274	Fenn, Harry, New York,	Old Convent Gate, St. Augustine, Florida.	Joseph Wilde.
275	Burling, Gilbert, New York,	*Study of Owl and Ducks.	Artist.
276	Tiffany, Louis C., New York,	The Old and New Mosques, Ali Hassimin and Sultan El Carmel, Cairo.	J. Holme Maghee.
277	Tiffany, Louis C., New York,	Lazy Life in the East—Gate of the Sub-Treasury, Tangiers.	John Taylor Johnston.
278	Falconer, J. M., Brooklyn,	*No. 78, Cross Street, Boston.	Artist.
279	Smillie, James D., New York,	Study from Nature, Ausable River.	Artist.
280	Tiffany, Louis C., New York,	Dignity in Servitude.	J. T. Smith.
281	Magrath, William, New York,	An Irish Thatched Cottage.	Charles S. Smith.
282	Perry, E. Wood, New York,	*Anne Hathaway's Kitchen.	Artist.
283	Colman, Samuel, New York,	Mosque of Sidi Hallui, Tlemcen, Algiers.	J. Jacob Astor.
284	De Golier, Miss, New York,	Purple Iris.	Artist.
285	De Golier, Miss, New York,	Wild Flowers and Grasses.	Artist.
286	Tiffany, Louis C., New York,	*Street Scene, Dinan.	Artist.
287	Boughton, George H., London,	Normandy Girl caught in a Shower.	Robert L. Stuart.
288	Eaton, J. O., New York,	Out of Mischief.	E. M. Clark.
289	Tiffany, Louis C., New York,	As Good as New. (Swiss scene.)	J. Milbank.
290	Nicoll, J. C., New York,	Moonrise.	Bryan H. Smith.
291	Falconer, J. M., Brooklyn,	*Robert Fulton's House in Philadel- phia, 121 South Second Street.	Artist.
292	Baldwin, A. H., New York,	*An Unskilful Gardener.	Artist.
293	Colman, Samuel, New York,	Corpus Christi Day, Seville, Spain.	John Sherwood.
294	Hart, William, New York,	Mount Madison, N.H.	Nicholas Saltus.
295	Satterlee, Walter, New York,	*One Hundred Years Ago.	Artist.
296	Farrer, Henry,	*Windy Day on Long Island.	Artist.
297	Jones, Alfred,	Feeding Dolly.	Jas. D. Smillie.
298	Richards, William T., Philadelphia,	Old Trees at Atlantic City.	Geo. Whitney.

NO.	ARTIST.	TITLE.	OWNER.
299	Boughton, George H., London,	By the Sea.	Wm. T. Richards.
300	McDonald, Margaret, New York,	*Head of a Shepherd Dog.	Artist.
301	Fisher, Ellen Thayer, New York,	American Velvet Leaf.	Artist.
302	Farrer, Henry, New York,	*Sunrise, East River.	Artist.
303	Colman, Samuel, New York,	Street Scene, Morlaix.	Artist.
304	Perry, E. Wood, Jr., New York,	*A Month's Darning.	Artist.
305	Bricher, A. T., New York,	*Foggy Morning, Grand Menan.	Artist.
306	Homer, Winslow, New York,	*The Trysting-Place.	Artist.
307	Gifford, R. Swain, New York,	*Early Morning.	Artist.
308	Homer, Winslow, New York,	*In the Garden.	Artist.
309	Smillie, James D., New York,	*A Scrub Race on the Western Plains.	Artist.
310	Thomas, Mrs., New York,	Phlox and Larkspur.	Artist.
311	Falconer, J. M., Brooklyn,	*House where Thomas Jefferson lived.	Artist.
312	Thomas, Mrs., New York,	Flowering Almond.	Artist.
313	Scott, Wm. Wallace, New York,	An Old Salt.	J. McDougal.
314	Colman, Samuel, New York,	Street Scene, Dinan.	Artist.
315	Fredericks, Alfred, New York,	The Scare-Crow.	Jas. R. Osgood.
316	Brown, J. G., New York,	Watering-Place Pleasures.	I. T. Williams.
317	Magrath, William, New York,	On the Hill-Side.	A. Foster Higgins.
318	Fredericks, Alfred, New York,	*Romeo and Juliet.	Artist.
319	Neffin, Paul H., New York,	Boy's Dream of Christmas.	Artist.
320	Colman, Samuel, New York,	Street Scene, Caen.	Mrs. Horace Waters.
321	Eaton, J. O., New York,	The Little Prisoner.	Mrs. J. O. Eaton.
322	Colman, Samuel, New York,	Distant View of Rome.	Robert Gordon.
323	Symington, James, New York,	*Dolly's Breakfast.	Artist.
324	Homer, Winslow, New York,	*Flower for the Teacher.	Artist.
325	McDonald, Margaret, New York,	Primroses.	Townsend Cox.
326	Hill, J. W., New York,	Hollyhocks.	Miss H. Ripley.
327	Smith, F. Hopkinson, New York,	*"In the Darkling Wood."	Artist.
328	Nicoll, J. C., New York,	*A Calm Morning.	Artist.
329	Fenn, Harry, New York,	Old Fireplace of the Author of "Home, Sweet Home."	Samuel Wilde.
330	Burt, Martha, New York,	Homely Flowers.	Artist.
331	Farrer, Henry, New York,	*Highlands of the Hudson.	Artist.
332	Bellows, A. F., New York,	Autumn Woods.	S. W. Bocock.
333	Silva, F. A., New York,	Brace's Rock.	I. T. Williams.

NO.	ARTIST.	TITLE.	OWNER.
334	Falconer, I. M., Brooklyn,	*William Penn's Mansion.	Artist.
335	Bricher, A. T., New York,	*Summer Morning, Grand Menan.	Artist.
336	Bridges, Fidelia, New York,	Kingfisher and Catkins.	Wm. B. Kendall.
337	Magrath, William, New York,	Grandad's Visit.	I. T. Williams.
338	Nicoll, J. C., New York,	The Deserted Farm.	Artist.
339	Brown, J. G., New York,	Fresh-Water Sailor.	Rush D. Hawkins.
340	Durand, F. F., New York,	Falls of the Ausable.	Artist.
341	Magrath, William, New York,	"Nora."	I. T. Williams.
342	Bellows, A. F., New York,	The Ferry.	Edward P. Borden.
343	Richards, Wm. T., New York,	Paradise, Newport.	George Whitney.
344	McDonald, Marga- ret, New York,	Fruit.	J. O. Thurston.
345	Gilbert, S. D., New York,	Flowers of the Poets.	Artist.
346	Smith, F. Hopkin- son, New York,	Brook study from Nature.	F. H. Smith.
347	Bricher, A. T., New York,	Gathering Water-Lilies.	Artist.
348	Robbins, Horace W., New York,	*An Old Connecticut Bridge.	Artist.
349	Bellows, A. F., New York,	The Willow Wagon.	John Taylor Johnston.
350	Gifford, R. Swain, New York,	The Roc's Egg.	Walter Brown.
351	Richards, Wm. T., Philadelphia,	Sand-Hills, Atlantic City.	George Whitney.
352	Gilbert, S. D., New York,	Begonia Leaves.	Artist.
353	Hill, J. W., New York,	Blackberries.	I. T. Williams.
354	Colman, Samuel, New York,	Arch of Constantine, Rome.	Artist.
355	Brown, J. G., New York,	Got a Nibble.	Artist.
356	Gifford, R. Swain, New York,	*Venetian Companions.	Artist.
357	Bellows, A. F., New York,	Study of a Head.	Artist.
358	Van Elten, Kruse- man, New York,	*Autumn in the White Mountains.	Artist.
359	Smith, F. Hopkin- son, New York,	Old Cedars, Franconia Mountains.	John C. Townsend.
360	Smillie, George H., New York,	Study, Sentinel Rock, Yosemite Valley.	James Smillie.
361	Falconer, John M., Brooklyn,	*No. 15 Chatham Street, New York.	Artist.
362	Robbins, Horace W., New York,	*New England Autumn.	Artist.
363	Bricher, A. T., New York,	Cliffs at Cape Ann.	Artist.
364	Fenn, Harry, New York,	Toilers of the Sea.	Horace Waters.
365	Perry, E. Wood, Jr., New York,	*Quilting.	Artist.
366	Farrer, Henry, New York,	*Old House on the Hill.	Artist.
367	Bridges, Fidelia, Brooklyn,	*Corner of a Rye-Field.	Artist.
368	Smith, Henry P., New York,	Sultry Morning on Long Island Sound.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
369	Hill, John W., New York,	Study of Quail.	Miss E. Ripley.
370	Bridges, Fidelia, Brooklyn,	*Flock of Snow-Birds.	Artist.
371	Satterlee, Walter, New York,	*Far-away Thoughts.	Artist.
372	Colman, Samuel, New York,	Twilight, Gilead, Maine.	Miss Schuyler.
373	Burling, Gilbert, New York,	Study of a Dead Bird.	F. H. Smith.
374	Fenn, Henry, New York,	Study of Boats.	Samuel Wilde.
375	Van Elten, Kruseman, New York,	*Evening, Long Island Sound.	Artist.
376	Moran, Thomas, Newark, N. J.,	*Hot Springs of the Yellowstone, Wyoming Territory.	Artist.
377	Tiffany, Louis C., New York,	Street Scene in Cairo, Egypt.	George D. Morgan.
378	Gifford, R. Swain, New York,	Egyptian Twilight.	Philip J. Sands.
379	Boughton, George H., London,	Looking out to Sea.	H. B. Smith.
380	Wyant, A. H., New York,	Sunset on the Prairie.	M. R. Schuyler.
381	Bridges, Fidelia, Brooklyn,	Daisies and Clover.	George Whitney.
382	Darley, F. O. C., New York,	Street Scene, Rome.	Artist.
383	Bellows, A. F., New York,	Sunday Afternoon in New England.	H. J. Welling.
384	Nicoll, J. C., New York,	*Foggy Morning on the Coast of Newfoundland.	Artist.
385	Newberry, Rose, New York,	Tuberose.	Artist.
386	Scott, Wm. Wallace, New York,	*Getting Dry.	Artist.
387	Nicoll, J. C., New York,	*On the Gulf of St. Lawrence.	Artist.
388	Homer, Winslow, New York,	*The Busy Bee.	Artist.
389	Scott, Wm. Wallace, New York,	*Fair Daughter of Columbia.	Artist.
390	Gifford, R. Swain, New York,	Guérande.	Mrs. A. B. Stone.
391	Smillie, George H., New York,	Study on the Ausable River, New York.	Artist.
392	Baldwin, A. H., New York,	*Desdemona's House, Venice.	Artist.
393	Magrath, William, New York,	Mussel-Gatherers.	Robert Gordon.
394	Hill, John W., New York,	Landscape.	George W. Lane.
395	Smith, F. Hopkinson, New York,	Study from Nature.	Artist.
396	Harmon, Amelia, New York,	Violets.	Artist.
397	Colman, Samuel, New York,	Rome, looking down the Tiber.	I. T. Williams.
398	Wood, Thomas W., New York,	*The Leader's Call.	Artist.
399	Bellows, A. F., New York,	Safely Landed.	Charles V. Whitten.

(Annex, Gallery No. 6.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
400	Robbins, H. W., New York,	*Study from Nature—Farmington River, Connecticut.	Artist.
401	Rafter, Susie J., New York,	String of Onions.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
402	Marshall, W. E., New York,	Portrait—Abraham Lincoln.	Artist.
403	Sellstedt, L. G., Buffalo,	Portrait of the artist.	Buffalo Fine Art Gallery.
404	Gifford, S. R., New York,	Twilight in the Adirondacks.	C. H. Luddington.
405	Cropsey, J. F., New York,	*Old Mill.	Artist.
406	Bispham, H. C., New York,	*The Stampede.	Albert Hayden.
407	Flagg, J. B., New York,	Portrait—Commodore Vanderbilt.	W. H. Vanderbilt.
408	Gifford, S. R., New York,	Santa Maria della Salute, Venice.	Mrs. H. Salisbury.
409	Thompson, Jerome, New York,	*The Old Oaken Bucket.	Jane M. Hodges.
410	Parker, J. A., Brooklyn,	*Sunset in the Adirondacks.	Charles Baxter.
411	Ritchie, A. H., New York,	President Lincoln's Death-bed.	Artist.
412	Vaini, Pietro (de- ceased),	The Jealous Duchess.	Sarony.
413	Shattuck, A. D., New York,	The White Hills in October.	Artist.
414	Hamilton, H., Buf- falo,	The Valley of Fountains.	Artist.
415	La Farge, J., New York,	St. Paul at Athens.	St. Paul's Church, New York.
416	Dolph, J. H., New York,	*The Return from Pasture.	Artist.
417	La Farge, J., New York,	Portrait—Boy and Dog.	Artist.
418	Stone, W. O. (de- ceased),	Portrait.	Union Club, New York.
419	Beard, W. H., New York,	Lo! the Poor Indian.	Artist.
420	McEntee, J., New York,	Scribner's Mill.	Robert Gordon.
421	Baldwin, A. H., New York,	*Baptistery of St. Mark's, Venice.	Artist.
422	Johnson, Frost, New York,	Good Weight.	G. W. Hollis.
423	Johnson, Eastman, New York,	Sabbath Morning.	R. L. Stuart.
424	Granbery, Miss H. A., New York,	*Autumn Flowers.	Artist.
425	MacKnight, Mrs. S. R., New York,	*"When the Cat's away," etc.	Artist.
426	Ogilvie, Clinton, New York,	In the Woods.	Artist.
427	Beard, J. H., New York,	Out All Night.	M. B. Dash.
428	Mathews, W. T., New York,	Dahlias.	Artist.
429	Henry, E. L., New York,	Taking a Night-Cap.	W. O'Brien.
430	La Farge, J., New York,	Water-Lilies.	G. V. Hecker.
431	Cole, Thomas (de- ceased),	*The Cross and the World, Youth.	Vincent Colyer.
432	Cole, Thomas (de- ceased),	*The Cross and the World, Manhood.	Vincent Colyer.
433	Cole, Thomas (de- ceased),	*The Cross and the World, Old Age.	Vincent Colyer.
434	Smith, T. L., New York,	Eve of St. Agnes.	Artist.
435	McEntee, J., New York,	Winter.	J. W. Pinchot.
436	McEntee, J., New York,	November.	Henry James.

NO.	ARTIST.	TITLE.	OWNER.
437	Suydam, J. A. (deceased),	Twilight on the Coast.	R. M. Olyphant.
438	Huntington, D., New York,	Portrait.	Chas. Tracey.
439	Thomson, A. W., New York,	Desolation—St. Cloud.	Artist.
440	Church, F. E., New York,	Chimborazo.	
441	Hays, W. J. (deceased),	*Bison at Bay.	Mrs. W. J. Hays.
442	Elliott, Charles L., (deceased),	The Cavalier.	F. Carpenter.
443	Trumbull, G., Hartford,	The Critical Moment.	W. C. Prime, LL.D.
444	De Haas, M. F. H., New York,	Drifted Ashore in a Fog.	Artist.
445	Warner, Miss W., New York,	Lilies.	Alex. Warner.
446	Coleman, C. C., Rome,	The Troubadour.	Mrs. W. Wilkeson.
447	McEntee, J., New York,	The Woods of Ashokan.	R. Hoe.

(Annex, Gallery No. 6.)

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
448	Lewis, A. J., Philadelphia,	Colossal statue of Washington.	Geo. F. Gordon.
449	Kemys, E., New York,	Coyote and Raven.	Artist.
450	Kemys, E., New York,	Playing Possum.	Artist.
451	Griffin, Julia, New York,	Bust of Rev. Dr. Chapin.	
452	Gifford, Miss I. G., Syracuse, New York,	*Bust of Rev. S. J. May.	Artist.
453	Pardessus, E. V., Brooklyn,	Bust of Hon. E. B. Washburne.	

(Annex, Gallery No. 14.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
454	Huntington, D., New York,	Titian and Charles V.	S. Hawk.
455	Gay, Edward, New York,	*Late Afternoon near Albany.	Dr. S. L. Close.
456	Hicks, Thomas, New York,	E. Delafield, M.D.	New York Society for the Relief of Widows and Orphans.
457	Boughton, G. H., London,	Going to Seek his Fortune.	Geo. Whitney.
458	Kensett, J. F. (deceased),	Lake George.	M. K. Jessup.
459	Whittredge, W., New York,	The Pilgrims of St. Roche.	Winthrop B. Smith.
460	Whittredge, W., New York,	Woods of Ashokan.	S. A. Foot.
461	Gifford, S. R., New York,	San Giorgio, Venice.	R. Butler.
462	Johnson, Eastman, New York,	Bo-peep.	H. Richmond.
463	Colman, Samuel, New York,	Twilight on the Western Plains.	Wm. A. Hamilton.
464	Silva, F. A., New York,	New York Harbor.	J. S. Shultz.
465	Weir, J. F., New Haven,	Lago Maggiore.	J. B. Cauldwell.

NO.	ARTIST.	TITLE.	OWNER.
466	Smith, T. L., New York,	The Deserted House.	W. H. Hamilton.
467	Armstrong, D. M., New York,	*Column of St. Mark's, Venice.	Artist.
468	Lawrie, A., New York,	Monk playing the Violoncello.	H. Marks.
469	Shattuck, A. D., New York,	Sheep and Cattle.	J. H. Sherwood.
470	McEntee, J., New York,	Frosty Morning.	S. D. Coykendall.
471	Bridgeman, F. A., New York,	Women on the Nile.	W. W. Kenyon.
472	Moran, Edward, New York,	*Coming Storm over New York Bay.	R. E. Moore.
473	Bierstadt, A., New York,	The Great Trees, Mariposa Grove, California.	Artist.
474	Durand, A. B., New York,	Brook study.	Artist.
475	Gifford, R. Swain, New York,	*Mosque of Mohammed Ali, Cairo.	Artist.
476	Durand, A. B., New York,	Kaaterskill Clove, Catskill.	Artist.
477	Huntington, D., New York,	Lake George.	D. W. Bishop.
478	Pease, Alonzo, Utica,	Portrait—Hon. S. Campbell.	
479	Ward, E. M., New York,	Brittany Peasants Washing Clothes.	Robert Gordon.
480	Kensett, J. F. (deceased),	New Hampshire Scenery.	Century Club.
481	Montalant, J. O. de, Rome,	*Constantinople.	Artist.
482	Oertel, Rev. J. A., Lenoir, N. C.,	The Shadow of a Great Rock in a Weary Land.	Artist.
483	De Haas, M. F. H., New York,	Brig hove to for a Pilot.	Artist.
484	Thom, J. C., New York,	Going to Church, Christmas Eve.	J. M. Burt.
485	Hart, J. M., New York,	Landscape and Cattle.	J. H. Sherwood.
486	Bricher, A. T., New York,	Morning at Narragansett.	J. Suydam.
487	Kappes, Alfred, New York,	*Waiting.	Artist.
488	Bierstadt, A., New York,	Western Kansas.	Walter Richmond.
489	Gifford, S. R., New York,	Tivoli.	C. H. Luddington.
490	Huntington, D., New York,	Philosophy and Christian Art.	Robert Hoe.
491	Whittredge, W., New York,	Rocky Mountains, from the Platte River.	Century Club.
492	Gray, H. Peters, New York,	The Wages of War.	Metropolitan Museum
493	Mignot, L. R. (deceased),	Snow Scene.	Century Club.
494	Brooks, S., San Francisco,	California Fish.	A. Bierstadt.
495	Huntington, D., New York,	Lake George.	G. N. Stayner.
496	Ritchie, A. H., New York,	Preparing Moses for the Fair.	Artist.
497	Weir, R. W., West Point,	Taking the Veil.	A. C. Alden.
498	Gifford, S. R., New York,	Sunrise on the Sea-Shore.	Robert Hoe.
499	Cropsey, J. F., New York,	Italy.	James M. Mills.

*(Annex, Gallery No. 14.)***SCULPTURE.**

NO.	ARTIST.	TITLE.	OWNER.
500	Cusachs, P., New York,	Christ in the Sepulchre.	Artist.
501	Hess, George, New York,	*The Water-Lily.	Artist.
502	Turini, G., New York,	*Angelica and Medora.	Artist.
503	Turini, G., New York,	*The Rainbow.	Artist.
504	Ives, C. B., Rome,	Nursing the Infant Bacchus.	

*(Annex, Gallery No. 8.)***ARCHITECTURAL DESIGNS.**

NO.	ARCHITECT.	TITLE.
505	Cummings & Sears, Boston,	Old South Church.
506	Thayer, S., Boston,	Design for Turner Library, Randolph, Mass.
507	Howe, F.,	Perspective View of the Latin and English High Schools, proposed for the City of Boston—south-west angle.
508	Bryant & Rogers, Boston,	City Hall, Providence, R.I.
509	Mitchell, John A., Boston,	Designs for Library of Congress. (Two drawings.)
510	Bryant & Rogers, Boston,	View of the Connecticut Mutual Life Insurance Company's Building in Hartford, Conn.
511	McArthur, John, Jr., Philadelphia,	View of the New Public Buildings, Philadelphia.
512	Hobbs, J. H., & Son, Philadelphia,	Design of State Capitol.
513	Hobbs, J. H., & Son, Philadelphia,	Memorial to General George G. Meade.
514	Thayer, S. J. F., Boston,	The Mutual Life Insurance Company's Building, New York.
515	Thayer, S. J. F., Boston,	City Hall, Providence, R.I.
516	Cabot & Chandler, Boston,	House at Beverly Farms, Mass.
517	Cabot & Chandler, Boston,	House at Beverly Farms, Mass.
518	Thayer, S., Boston,	Plan of Unitarian Church, South Boston.
519	Moeller, F. G., Nanuet, N.Y.,	Country-seat at Bernardsville, N.J.
520	Thayer, S. J. F., Boston,	Perspective View.
521	Tilden, George T., Boston,	House for Milton Hill.
522	Tilden, George T., Boston,	Block of five houses, Longwood, Mass.
523	Levy, Thomas S., Philadelphia,	Residence on Fortieth Street—elevation.
524	Newcomb, L., & Son, Boston,	Elevation of a country residence.
525	Putnam, J. P., Boston,	Memorial tablet to the organist of a church.
526	Tilden, George T., Boston,	Designs for cottages.
527	Levy, Thomsa S., Philadelphia,	Eighth National Bank, Philadelphia.
528	Sturgis & Brigham, Boston,	Interior of a church.
529	Newcomb, L., & Son, Boston,	Design for a corner-lot building.
530	Bryant & Rogers, Hartford,	State Capitol, Hartford, Connecticut.
531	Sturgis & Brigham, Boston,	Chicago Court-house.
532	Sturgis & Brigham, Boston,	Design for a church.
533	Sturgis & Brigham, Boston,	Design for a church.
534	Clark, H. P.,	Restoration of the Tomb of Mausolus.
535	Sturgis & Brigham, Boston,	Five designs for cottages.
536	Putnam, J. P., Boston,	House on Irving Street, Boston.
537	Putnam, J. P., Boston,	House on Marlboro Street, Boston.
538	Ware & Van Brunt, Boston,	Design for a house.
539	Ware & Van Brunt, Boston,	Design for a house.
540	Ware & Van Brunt, Boston,	Memorial Hall of Harvard College.
541	Ware & Van Brunt, Boston,	Southeast view of Memorial Hall of Harvard College.
542	Ware & Van Brunt, Boston,	Vestibule of Memorial Hall of Harvard College.
543	Dudley, Henry, New York,	St. John's Church, Waterbury, Connecticut.

NO.	ARCHITECT.	TITLE.
544	Dudley, Henry, New York,	St. Peter's Church, Auburn, N. Y.
545	Earle & Fuller, Boston,	Interior of All Saints' Church, Worcester, Mass.
546	Cummings & Sears, Boston,	Shillaber Building, Boston.
547	Cummings & Sears, Boston,	Porch of Old South Church.
548	Cabot, Edw. C., Boston,	Design of a house.
549	Cabot, Edw. C., Boston,	House in Brookline, Mass.
550	Putnam, J. P., Boston,	Summer residence.
551	Cady, J. C., New York,	Country house.
552	Cady, J. C., New York,	New York Tribune Building.
553	Upjohn, Richard M., New York,	Trinity Church, Princeton.
554	Upjohn, Richard M., New York,	Stable.
555	Upjohn, Richard M., New York,	St. Paul's Church, Brooklyn.
556	Upjohn, Richard M., New York,	St. Chrysostom Chapel, New York.
557	Upjohn, Richard M., New York,	Central Congregational Church, Boston.
558	Upjohn, Richard M., New York,	Presbyterian Church, Rye, N. Y.
559	Upjohn, Richard M., New York,	Monument.
560	Upjohn, Richard M., New York,	Trinity Parish School.
561	Upjohn, Richard M., New York,	St. Thomas's Church, New York
562	Upjohn, Richard M., New York,	The West Middle School, Hartford.
563	Upjohn, Richard M., New York,	Part of Central Church.
564	Upjohn, Richard M., New York,	Entrance to Greenwood Cemetery.
565	Upjohn, Richard M., New York,	The State Capitol, Hartford.
566	Upjohn, Richard M., New York,	State-House, Hartford, Conn.
567	Clinton, Charles, New York,	Architectural design
568	Clinton, Charles, New York,	Architectural design.
569	Upjohn, R. M., New York,	Design of a house.
570	Upjohn, R. M., New York,	Design of a house.
571	Clinton, C. W., New York,	House on Fifth Avenue, New York.
572	Clinton, C. W., New York,	House on Fifth Avenue, corner of Fifty-Eighth Street, New York
573	Longfellow, W. P. P.,	Soldiers' Memorial at Brookline, Mass
574	Clinton, C. W., New York,	House on Fifth Avenue, New York.
575	Clinton, C. W., New York,	House on Fifth Avenue, New York.
576	Clinton, C. W., New York,	House on Fifth Avenue, New York.
577	Clinton, C. W., New York,	House on Fifth Avenue, New York.
578	Hunt, R. M., New York,	Architectural design.
579	Clinton, C. W., New York,	Portico of house on Fifth Avenue, New York.
580	Clinton, C. W., New York,	Design for a house.
581	Hunt, R. M., New York,	Design for Central Park.
582	Hunt, R. M., New York,	Design for Central Park.
583	Hunt, R. M., New York,	Entrance to Central Park.
584	Clinton, C. W., New York,	House at Yonkers, on the Hudson.
585	Clinton, C. W., New York,	Architectural design.
586	Clinton, C. W., New York,	Design for a house.
587	Hunt, R. M., New York,	Design for entrance to Central Park.
588	Hunt, R. M., New York,	Design for Central Park.
589	Hunt, R. M., New York,	Design for Central Park.
590	Hunt, R. M., New York,	Design for Central Park.
591	Jennings, A. B., New York,	Country residence.
592	Hunt, R. M., New York,	Design for Union Telegraph Office.
593	Hunt, R. M., New York,	Designs for entrance to Central Park (two drawings).
594	Hunt, R. M., New York,	Designs for the Lenox Library (four drawings).
595	Hunt, R. M., New York,	Designs for a public building.
596	Hunt, R. M., New York,	View of Lenox Library.
597	Hunt, R. M., New York,	Design for Holy Trinity Church.
598	Hunt, R. M., New York,	Design for an iron building.
599	Hunt, R. M., New York,	The Tribune Building, New York.
600	Fernbach, Henry, New York,	Temple on Lexington Avenue.
601	Fernbach, Henry, New York,	Mutual Life Insurance Company's Building, Philadelphia.

NO.	ARCHITECT.	TITLE.
602	Fernbach, Henry, New York,	Centre pavilion of the Mutual Life Insurance Company's Building, Philadelphia.
603	Fernbach, Henry, New York,	Main stairway of Mutual Life Insurance Company's Building, Philadelphia.
604	Fernbach & Kendall, New York,	German Savings Bank, Fourth Avenue, New York.
605	Fernbach, Henry, New York,	New York Staats Zeitung Building, New York.
606	Fernbach & Kendall, New York,	Vault, Salem Fields Cemetery.
607	Post, George B., New York,	Library and Lyceum Building, Morristown, New Jersey.
608	Post, George B., New York,	Front elevation of the Troy Savings Bank, Troy, New York.
609	Post, George B., New York,	View of State Capitol, Hartford, Connecticut.
610	Post, George B., New York,	Western Union Telegraph Company.
611	Congdon, H. M., New York,	Church, Worcester, Massachusetts.
612	Post, George B., New York,	State-House for the State of Connecticut—front elevation.
613	Post, George B., New York,	Side elevation of the Savings Bank, Syracuse, N. Y.
614	Post, George B., New York,	Free Art Gallery—design made for the late Henry Keep, New York.
615	Post, George B., New York,	The Evening Post Building, New York.
616	Post, George B., New York,	New York Hospital, New York.
617	Post, George B., New York,	Presbyterian Hospital, New York.
618	Jennings, A. B., New York,	Design for five houses.
619	Jennings, A. B., New York,	Residence, Englewood, N. J.
620	Jennings, A. B., New York,	Swiss cottage.
621	Cady, J. C.,	Alexander Mission, New York.
622	Gambrill & Richardson, New York,	Buffalo State Asylum for the Insane, Administration Building.
623	Croff & Camp, Saratoga, New York,	Villa at Montreal, N. Y.
624	Croff & Camp, Saratoga, New York,	Villa.
625	Croff & Camp, Saratoga, New York,	Villa at Hudson, N. Y.
626	Croff & Camp, Saratoga, New York,	Villa at Saratoga Springs.
627	Croff & Camp, Saratoga, New York,	Villa at Rhinebeck, N. Y.
628	Croff & Camp, Saratoga, New York,	Design for a grand hotel at Santa Barbara, Cal.
629	Croff & Camp, Saratoga, New York,	Competitive design for Promenade, etc., Congress Spring Park, Saratoga.
630	Smith, M. L.,	Michigan House of Correction, Ionia.
631	Croff & Camp, Saratoga, New York,	Villa at Saratoga Lake.
632	Croff & Camp, Saratoga, New York,	Villa at Burlington, Vt.
633	Croff & Camp, Saratoga, New York,	Villa at Hudson, N. Y.
634	Haight, Ch. C.,	St. Luke's Cathedral, Portland, Me.
635	Post, George B.,	Savings Bank, Williamsburgh, N. Y.
636	Renwick & Sands,	Church of St. Bartholomew, New York.
637	Potter, W. A.,	Design for a church.
638	Potter, W. A.,	Proposed design for Trinity Church, Boston.
639	Dudley, Henry, New York,	St. Peter's Church, Niagara Falls, N. Y.
640	Potter, W. A.,	Design for a church.
641	Congdon, H. M.,	St. Andrew's Church, Harlem, N. Y.
642	Potter, E.,	Harvard Church, Brookline, near Boston
643	Potter, W. A.,	Villa.
644	Potter & Robertson,	Design for a library.
645	Potter & Robertson,	Hotel at Princeton, N. J.
646	Potter & Robertson,	Dormitory of Princeton College.
647	Potter, W. A.,	Princeton College Library.
648	Potter & Robertson,	Berkshire Athenæum, Pittsfield, Mass.
649	Cady, J. C., New York,	Peabody Museum, Yale College.

NO.	ARCHITECT.	TITLE.
650	Potter, Edward,	Tower of Harvard Church, Brookline, near Boston.
651	Bloor, A. J., New York,	Villa.
652	Bloor, A. J., New York,	Villa.
653	Pfeiffer, Carl, New York,	New Presbyterian Church, Fifth Avenue.
654	Pfeiffer, Carl, New York,	New Presbyterian Church, Fifth Avenue.
655	Pfeiffer, Carl, New York,	New Presbyterian Church, Fifth Avenue.
656	Pfeiffer, Carl, New York,	Osseo Lodge, West Virginia.
657	Congdon, H. M.,	Design for a church.
658	Eppinghousen, C., Terre Haute, Indiana,	Perspective for Indiana State Capitol.
659	Eppinghousen, C., Terre Haute, Indiana,	Flank elevation for Indiana State Capitol.
660	Eppinghousen, C., Terre Haute, Indiana,	Market House and City Hall, Terre Haute, Indiana.
661	Eppinghousen, C., Terre Haute, Indiana,	McKean & Minshall's Bank, Terre Haute, Indiana.
662	Kendall, Edward H.,	Competitive drawing for the German Savings Bank.
663	Eppinghousen, C., Terre Haute, Indiana,	Normal School, Sullivan, Indiana.
664	Eppinghousen, C., Terre Haute, Indiana,	Interior of Indiana State Capitol.
665	Myers, E. E., Detroit, Michigan,	Court-house in Marshall, Michigan.
666	Hallet, William T., New York,	Church in Forty-Fifth Street, New York.
667	Hallet, William T., New York,	First National Bank, Norwich, Conn.
668	Hallet, William T., New York,	Villa near Stamford, Conn.
669	Hallet, William T., New York,	Villa near Stamford, Conn.
670	Hallet, William T., New York,	Macy House, Harrison, N. Y.
671	Hallet, William T., New York,	Residence, Hartford, Conn.
672	Hess, Julius, Detroit,	Michigan Centennial Building, Philadelphia.
673	Myers, E. E., Detroit,	Insane Asylum, Pontiac, Michigan.
674	Myers, E. E., Detroit,	Michigan State Capitol.
675	Myers, E. E., Detroit,	Model farm-house.
676	Myers, E. E., Detroit,	Lansing High School.
677	Hobbs, I. H., & Son, Philadelphia,	Ravensburg Seminary.
678	Le Brun, N., New York,	Masonic Hall, New York City.
679	Le Brun, N., New York,	Sanctuary and Grand Altar of the Cathedral of St. Peter and St. Paul, Philadelphia.
680	Howe, Frank M.,	Country house.
681	Gambrill & Richardson, New York,	Trinity Church, Boston.
682	Gambrill & Richardson, New York,	Competitive design for Town Hall, Brookline, Mass.
683	Moffitt, John M.,	The Delavan Monument at Sleepy Hollow Cemetery.
684	Gambrill & Richardson, New York,	Court-house, Springfield, Mass.
685	Gambrill & Richardson, New York,	Trinity Church, Boston—interior view.
686	Holly, H. Hudson, New York,	Design of villa.
687	Gambrill & Richardson, New York,	Dwelling at Owego, New York.
688	Gambrill & Richardson, New York,	Cottage at Newport, R. I.
689	Gambrill & Richardson, New York,	Competitive design for State-House, Hartford, Conn.
690	Holly, H. Hudson, New York,	Three designs for villas.
691	Sims, H. A. & J. P.,	Design for a villa.
692	Sims, James P.,	Cottage at Atlantic City.
693	Gambrill & Richardson, New York,	Design for the Tower of Trinity Church, Boston.
694	Sims, H. A. & J. P.,	Study for a country church.
695	Sims, H. A.,	Residence at Mount Holly.
696	Sims, James P.,	Design for a church.
697	Hatfield, R. G., New York,	Design for a market.

NO.	ARCHITECT.	TITLE.
698	Hatfield, R. G., New York,	Office building, Broad Street, New York.
699	Hatfield, R. G., New York,	Seaman's Savings Bank, New York.
700	Hatfield, R. G., New York,	Warehouse, Broadway, New York.
701	Hatfield, R. G., New York,	Country house, Scarsdale, New York.
702	Earl & Fuller, Boston,	Hall in a cottage in Worcester.
703	Thayer, S. J. F.,	Architectural design.
704	Pohl, G. R., Philadelphia,	Design for the proposed Centennial Exhibition Building—front on Elm Avenue.
705	Pohl, G. R., Philadelphia,	Design for the proposed Centennial Exhibition Building—diagonal perspective.
706	Pohl, G. R., Philadelphia,	Design for the proposed Centennial Exhibition Building—exterior perspective.
707	Pohl, G. R., Philadelphia,	Design for the proposed Centennial Exhibition Building—interior view.
708	Pohl, G. R., Philadelphia,	Design for the proposed Centennial Exhibition Building—end elevation.
709	Luce, C. S., Boston,	Tomb of Governor Hayden, Haydenville, Mass.
710	Fairfax, J. S.,	State Capitol of West Virginia.
711	Fairfax, J. S.,	Premiated design for the International Exhibition, Philadelphia—ground plan.
712	Fairfax, J. S.,	Premiated design for the International Exhibition, Philadelphia—block plan.
713	Fairfax, J. S.,	Premiated design for the International Exhibition, Philadelphia—side elevation.
714	Fairfax, J. S.,	Premiated design for the International Exhibition, Philadelphia—front elevation.
715	Fairfax, J. S.,	Premiated design for the International Exhibition, Philadelphia—Art Gallery.
716	Fairfax, J. S.,	Premiated design for the International Exhibition, Philadelphia—Memorial Building.
717	Mitchell, J. A.,	Architectural design for a memorial window.
718	Beeler, J., New York,	Ceilings.
719	Thayer, S. J. F.,	Somerville High School Building.
720	Fairfax, J. S.,	Proposed Miller Manual School, Virginia.
721	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Design of a villa.
722	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Dining-room decorations.
723	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Dining-room decorations.
724	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Design for building.
725	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Original building with alteration.
726	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Women's Pavilion.
727	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Centennial Building.
728	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Interior of Judges' Hall.
729	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Architectural design.
730	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Judges' Hall.
731	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Horticultural Hall.
732	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Interior of Horticultural Hall.
733	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Interior.
734	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Memorial Hall.
735	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Competitive design, Vienna Exhibition.
736	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Architectural design.
737	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Architectural design (house).

NO.	ARCHITECT.	TITLE.
738	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Memorial Hall.
739	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Memorial Hall.
740	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Interior of Memorial Hall.
741	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Original building with alteration.
742	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Original design for the International Exhibition, 1876.
743	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Judges' Hall.
744	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Board of Finance Building.
745	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Centennial Bank.
746	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Architectural design.
747	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Residence in Munich.
748	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Designs for villas.
749	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Dining-room decorations.
750	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Dining-room decorations.
751	Schwarzmann, H. J., & Kafka, H., Philadelphia,	Designs for building.
752	Howe, Frank M.,	House in Cambridge.
753	Fehmer, Carl, Boston,	Howe Building, Boston.
754	Richards, Henry,	House at Beverly Farms, Mass.
755	Richards, Henry,	Homœopathic Hospital.
756	Hartwell, Swasey & Co., Boston,	Design for proposed Central Church, Fall River
757	Cummings & Sears,	Montgomery Building.
758	Cabot & Chandler, Boston,	Soldiers' monument at Brookline, Mass.
759	Howe, F. M.,	Proposed City Hall, Providence, R.I.
760	Whitney, L. W., Boston,	Residence on Fairfield Street, Boston.
761	Whitney, L. W., Boston,	Residence on Boylston Street, Boston.
762	Fehmer, Carl, Boston,	Building for the Simmons Estate, Boston.
763	Hartwell, Swasey & Co., Boston,	Dexter Building, Pawtucket, R.I.
764	Luce, Clarence S., Boston,	Monument at Brookline, Mass.
765	Richards, Henry, Boston,	Proposed High School, Providence, R.I.
766	Longfellow, W. P. P., Boston,	Design for a house.
767	Whitney, Lewis W., Boston,	Child's book-case and cabinet.
768	Newcomb, L., & Son,	Library.
769	Earle & Fuller, Boston,	Buildings at Worcester, Mass.
770	Earle & Fuller, Boston,	Dining-room.
771	Earle & Fuller, Boston,	All Saints' Church, Worcester.
772	Longfellow, W. P. P.,	Hall in Fiskdale.
773	Longfellow, W. P. P.,	Town library.

(Annex, Gallery No. 12.)

LOAN COLLECTION OF OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
774	Vandyke, Anthony,	*The Crucifixion.	Mrs. M. Garner.
775	Erpikum, Paris,	Portrait—Madame Houssaye.	C. B. Moore.
776	Domenichino,	*Judith.	G. H. Schneider.
777	Cabanel, Alex., Paris,	Francesca di Rimini.	Mrs. A. E. Kidd.
778	Madrazo, Madrid,	Portrait—Mrs. D. M. Barringer.	L. M. Barringer.
779	Gudin, T.,	*Marine.	A. Bierstadt.
780	Madrazo, Madrid,	Portrait—D. M. Barringer.	L. M. Barringer.

NO.	ARTIST.	TITLE.	OWNER.
781	Makart, Hans, Vienna,	*Abundance of the Sea.	A. & C. Kaufmann.
782	Schidone,	*Charity.	Estate of Dr. Chapman.
783	Navelot, Victor,	*Cavalry Charge.	Dr. George Reuling.
784	Robert, Leopold (deceased),	Pilgrims on their Way to Rome.	Miss S. L. Guerber.
785	Vernet, Jos. (attributed to),	Landscape.	E. S. Conner.
786	(Unknown),	Old Woman's Head.	F. L. Robbins.
787	Murillo (attributed to),	St. Francis in his Cell.	E. S. Conner.
788	Muraton, A., Paris,	*The Devotee.	L. Rabillon.
789	Wolf, G.,	*Portia.	Dr. George Reuling.
790	Dubufe, E., and Bonheur, Rosa, Paris,	*Autumn. (Figure by Dubufe, sheep by Rosa Bonheur.)	Dr. George Reuling.
791	Brion, G., Paris,	*Bridal Procession in Alsace.	M. Knoedler & Co.
792	Max, Gabriel, Munich,	*The Anatomist.	Demas Barnes.
793	Sain, E. A., France,	Italian Girl.	Theo. Lyman.
794	Van Schendel, P., Brussels,	*The Annunciation.	Demas Barnes.
795	Nicoll, E., London,	Paying the Rent.	F. O. Day.
796	Saltau, L., Paris,	Consolation.	Mrs. E. V. Machette.
797	Volk, Douglas, Chicago,	In Brittany.	Artist.
798	Verboeckhoven, E., Brussels,	Driving Home the Sheep.	W. J. Bates.
799	Kunath, Oscar, Munich,	*Still Life.	Artist.
800	Pauwels, F., Weimar,	The New Republic.	W. S. Stewart.
801	Duval, V., Paris,	Gallery of Apollo, Louvre.	
802	Nys, P. (deceased),	*Dutch Interior.	T. C. A. Dexter.
803	Dürer, Albert,	St. Jerome.	E. V. Machette.
803 ^a	Del Sarto, Andrea,	*St. Andrew bearing his Cross. *Christ stilling the Tempest.	Mrs. L. G. Franklin.
804	De Haas, J. H. L., Brussels,	*Cattle in the Meadows of Holland.	Myers & Hedian.
805	Seitz, Prof. Otto, Munich,	*Faun and Nymph.	Myers & Hedian.
806	Makart, Hans, Vienna,	*Abundance of the Earth.	A. & C. Kaufmann.
806 ^a	Porporati (deceased),	*Adoration of the Magi.	P. F. Cooper.
807	Courbet, Gustave, Paris,	*The Huntsman.	A. H. Reitlinger.
808	Courbet, Gustave, Paris,	*Castle of Chillon, Lake Lemman (1).	A. H. Reitlinger.
809	Courbet, Gustave, Paris,	*Castle of Chillon, Lake Lemman (2).	A. H. Reitlinger.
810	Courbet, Gustave, Paris,	*The Bather.	A. H. Reitlinger.
811	Wouwermans (attributed to),	War Scene.	E. S. Conner.
812	Maccari, C., Rome,	Fond Memories.	J. Raymond Claghorn.
813	Maccari, C., Rome,	Music hath Charms.	J. Raymond Claghorn.
814	Ortmans, Miss F. A., Paris,	An Opening in the Forest of Fontainebleau.	John Welsh.
815	West, Benjamin (deceased),	Moses Striking the Rock.	Dr. H. Billings.

(Annex, Gallery No. 12.)

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
816	Gould, T. R., Florence,	The West Wind.	Demas Barnes.

NO.	ARTIST.	TITLE.	OWNER.
817	Gould, M. S., Florence,	Water Babies.	
818	Gould, T. R., Florence,	The Rose.	
819	Gould, T. R., Florence,	The Lily.	

(Annex, Gallery No. 10.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
820	Mayer, F. B., Baltimore,	The Continentals.	Artist.
821	Darrah, Mrs. S. T., Boston,	*Sunset.	Artist.
822	Healy, G. P. A., Chicago,	Portrait—Hon. E. B. Washburne.	
823	Birch, Thos. (deceased),	Marine.	
824	Tompkins, Clementina, Paris,	*The Little Musician.	Artist.
825	Seitz, Otto, Munich,	*Neptune's Bridal (Loan Collection).	Myers & Hedian.
826	Tilton, J. R., Rome,	*The Lagoons of Venice.	Artist.
827	Tompkins, Clementina, Paris,	*An Artistic Dèbût.	Artist.
828	Coleman, C. C., Rome,	Nuremberg Towers—fifteenth century.	H. Sampson.
829	Graham, W., Venice,	*Angle Column of Ducal Palace, Venice.	Artist.
830	Gregory, J. Elliot, Paris,	Portrait.	Dr. J. S. Delavan.
831	Bloomer, H. B., Paris,	El Dorado.	Artist.
832	Chase, W. M., Munich,	"Keying up"—The Court Jester.	S. M. Dodd.
833	Inman, H. (deceased),	Portrait—Bishop R. C. Moore.	Trinity Chapel, N. Y.
834	Healy, G. P. A., Chicago,	Portrait—Lord Lyons.	
835	Du Bois, C. E., Paris,	*Palisades, Hudson River.	Artist.
836	Bierstadt, A., New York,	Yosemite Valley.	Artist.
837	Coleman, C. C., Rome,	The Young Monk.	J. H. Coleman.
838	Sully, Thos. (deceased),	Portrait—Mrs. T. Sully.	Miss Sully.
839	Benson, Eugene, Rome,	*Interior of St. Mark's, Venice.	Artist.
840	Healy, G. P. A., Chicago,	Portrait—Ex-President Thiers.	
841	Brown, H. B.,	The East Highlands.	
842	Vedder, Elihu, Rome,	The Greek Actor's Daughter.	H. Sampson.
843	Robinson, Thos., Boston,	Bull's head.	H. C. Angell.
844	Parker, S. H., New York,	Portrait—Mrs. H. W. Hills.	Artist.
845	Lang, Louis, New York,	Landing of the Market-Boat at Capri.	Artist.
846	Spencer, Mrs. Lily M., Newark, N. J.,	*Earth, Air, and Water.	Artist.
847	West, P. B., Cleveland,	Still Life—game.	Mrs. M. L. Dickinson.
848	Andrews, E. F., Paris,	Portrait.	Dr. S. H. Linn.
849	Thouron, H., Philadelphia,	Charlotte Corday—The Eve of her Execution.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
850	Tait, J. R., Cincinnati,	Summer.	Artist.
851	Coleman, C. C., Rome,	Still-Life.	J. H. Warren.
852	McEntee, J., New York,	Virginia during the War.	Mrs. H. W. Cary.
853	Andrews, E. F., Paris,	Little Leonie.	Artist.
854	Elliott, C. L. (deceased),	Portrait—Ex-Governor Bouck.	City Hall, New York.
855	Meeks, Eugene, Florence,	Little Nell and her Grandfather.	Artist.
856	Andrews, E. F., Paris,	Portrait—General Torbert.	
857	Andrews, E. F., Paris,	Portrait.	Dr. B. J. Bing.
858	Tait, J. R., Cincinnati,	Autumn.	Artist.
859	Montalant, J. O. de, Rome,	*The Parthenon, Athens.	Artist.
860	Marchant, E. D., Philadelphia,	Portrait—H. C. Carey.	J. G. Fell.
861	Andrews, E. F., Paris,	Portrait.	W. E. Macalister.
862	Shirlaw, Walter, Munich,	Toning the Bell.	J. F. Gookins.
863	Shirlaw, Walter, Munich,	Feeding the Poultry.	J. F. Gookins.
864	Middleton, S. G., Paris,	Sketch at Cernay, near Paris.	Artist.
865	Tilton, J. R., Rome,	Kem Ombres, Upper Egypt.	Hon. H. P. Baldwin.
866	Willard, A. M., Cleveland,	Yankee Doodle.	Artist.
867	Rothermel, P. F., Philadelphia,	Trial of Sir Harry Vane.	J. L. Claghorn.
868	Senat, P. L., Paris,	*Moonrise near Rotterdam.	Artist.
869	Coman, Mrs. C. B., New York,	*A French Village.	Artist.
870	Weir, J. F., New Haven,	*The Confessional.	E. E. Salisbury.

(Annex, Gallery No. 10.)

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
871	Bartholdi, Paris,	Proposed Monument to Washington.	
872	Ezekiel, M., Rome,	Grace Darling.	L. J. Workum.
873	Ezekiel, M., Rome,	Sailor Boy.	L. J. Workum.
874	Ezekiel, M., Rome,	Infant Mercury.	L. J. Workum.

(Annex, Gallery No. 28.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
875	Smith, F. Hill, Boston,	*Sunset on the Giudecca, Venice	Artist.
876	Daniels, G. F., Boston,	*Crown Point and the Narrows, Lake Champlain.	Artist.
877	Benson, Eugene, Rome,	*The Reverential Anatomist.	Artist.
878	Staigg, R. M., Boston,	*Cornice Road, Italy.	Artist.
879	Brown, W. W., Boston,	*Spurwink River.	Artist.
880	Higgins, George F., Boston,	*Forest Interior, Adirondacks.	M. M. Farrer.

NO.	ARTIST.	TITLE.	OWNER.
881	Staigg, R. M., Boston,	*Empty Nest.	Artist.
882	Shapleigh, F. H., Boston,	Kenilworth.	J. C. Howe.
883	Millet, F. D., Boston,	*In the Bay of Naples.	Artist.
884	Millet, F. D., Boston,	Lady in Costume of 1740.	Mrs. E. S. Keith.
885	Shapleigh, F. H., Boston,	On the Seine.	J. C. Howe.
886	Cole, J. Foxcroft, Boston,	Twilight, Melrose Highlands.	J. Sayles.
887	De Blois, F. B., Boston,	October in Canada.	T. F. Brooke.
888	Cole, J. Foxcroft, Boston,	*Cows Ruminating.	Doll & Richards.
889	Enneking, J. E., Boston,	*Moonlight on the Giudecca, Venice.	Artist.
890	Tuckerman, S. S., Boston,	*Beach at Hastings.	Artist.
891	Monks, J. A., Boston,	*Trees in Blossom.	Artist.
892	Champney, Benjamin, Boston,	*Artists' Brook, North Conway, N.H.	Artist.
893	Elwell, D. J., Boston,	*Downs near Ostend.	Artist.
894	Cole, J. Foxcroft, Boston,	*Pastoral Scene.	Doll & Richards.
895	Allston, Washington (deceased),	Isaac of York—"Ivanhoe."	Boston Athenæum.
896	Porter, B. C., Boston,	Portrait.	Artist.
897	Brackett, W. M., Boston,	*The Rise.	Artist.
898	Brackett, W. M., Boston,	*The Leap.	Artist.
899	Brackett, W. M., Boston,	*The Last Struggle.	Artist.
900	Brackett, W. M., Boston,	*Landed.	Artist.
901	Key, J. R., Boston,	The Golden Gate, San Francisco.	Artist.
902	Hinckley, T. H., Boston,	*End of the Chase.	Artist.
903	Freeman, J. E., Boston,	Study for an Angel.	C. C. Perkins.
904	Porter, B. C., Boston,	The Hour-Glass.	Artist.
905	Cole, J. Foxcroft, Boston,	*Coast Scene in Normandy.	Artist.
906	Elwell, D. J., Boston,	Port of Antwerp.	S. E. Sawyer.
907	Robinson, T., Boston,	New England Farmer.	John Foster.
908	Weeks, E. L., Boston,	*Arab Story-Teller.	Artist.
909	Gay, Walter, Boston,	*Fall Flowers.	Artist.
910	Boott, Eliz., Boston,	Portrait.	Artist.
911	Baker, Miss M. K., Boston,	*Azaleas.	Artist.
912	Alexander, Fanny, Boston,	Madonna.	James Davis.
913	Ames, Jos., Boston,	Portrait—President Felton.	Harvard University.
914	Staigg, R. M., Boston,	Portrait.	
915	Staigg, R. M., Boston,	Portrait.	
916	Billings, E. T., Boston,	*Portrait—Wendell Phillips.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
917	Jarvis, Melicent, Boston,	Portrait.	Artist.
918	Tuckerman, S. S., Boston,	*United States Frigate "Constitution" escaping from the British Fleet, 1812.	Artist.
919	Staigg, R. M., Bos- ton,	Portrait.	
920	Parker, Edgar, Bos- ton,	Portrait—J. G. Whittier.	Artist.
921	Hale, Ellen D., Boston,	Boy Reading.	Mrs. E. E. Hale.
922	Robinson, T., Bos- ton,	Dog's head.	
923	Hunt, W. M., Bos- ton,	The Boot-Black.	J. H. Wright.
924	Robinson, T., Bos- ton,	Sheep in Pasture.	William Appleton.
925	Ames, Joseph, Bos- ton,	Portrait—Daniel Webster.	B. S. Moulton & Co.
926	Brown, G. L., Bos- ton,	*Sunset—Genoa.	Artist.
927	Norton, W. E., Boston,	*Fog on the Grand Banks.	Artist.
928	Champney, Benja- min, Boston,	*At Glenora, N.Y.	Artist.
929	Billings, E. T., Bos- ton,	Wheelwright Shop.	Artist.
930	Longfellow, E. W., Boston,	*Old Mill at Manchester, Mass.	Artist.
931	Stuart, Gilbert (de- ceased),	Portrait—Fisher Ames.	Harvard University.
932	Stuart, Gilbert (de- ceased),	Portrait—Judge Story.	Harvard University.
933	Stuart, Gilbert (de- ceased),	Portrait—Bishop Chevenix.	Mrs. H. Greenough.
934	Harding (deceased),	Portrait—Washington Allston.	S. Batchelder.
935	Bannister, E. M., Providence,	*Under the Oaks.	Artist.
936	Champney, J. W., Boston,	"Speak, Sir!"	J. L. De Wolf.
937	Champney, Benja- min, Boston,	*Old Willows at Manchester, Mass.	Artist.
938	Darrah, Mrs. S. T., Boston,	*Lake Champlain.	Artist.
939	Allston, Washing- ton (deceased),	Head of a Jew.	Boston Athenæum.
940	Stuart, Gilbert (de- ceased),	Portrait—Mrs. E. C. Cushing.	Mrs. L. L. Chickering.
941	Gerry, S. L., Bos- ton,	*American Tourists.	Miss E. J. Gerry.
942	Petersen, J. E. C., Boston,	Collision at Sea.	Manufacturers' Insurance Company.

(Annex, Gallery No. 28.)

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
943	French, D. C., Con- cord, Mass.,	The Minute-Man, 1775.	Doll & Richards.
944	Whitney, Annie, Boston,	Sketch—Charles Sumner.	Artist.
945		Portrait bust.	
946	French, D. M., New- buryport, Mass.,	Bust—J. G. Whittier.	Artist.
947	Whitney, Annie, Boston,	Roma.	Artist.

*(Annex, Gallery No. 42.)***OIL PAINTINGS.**

NO.	ARTIST.	TITLE.	OWNER.
948	Kendricks, D. T., Boston,	*Foggy Day at the Beach.	Artist.
949	De Blois, F. B., Boston,	Licola, Italy.	Artist.
950	Leland, Henry, Boston,	Portrait.	H. Thouron.
951	Way, C. Granville, Paris,	An Old Friend.	Artist.
952	Martin, Miss L. E., Boston,	Flowers (panel).	Mrs. Martin.
953	Champney, J. W., Boston,	Grandma's Pet.	T. Wiggleworth.
954	Martin, Miss L. E., Boston,	Flowers (panel).	Mrs. Martin.
955	Jarvis, Melicent, Boston,	Jeannette in her Studio.	Artist.
956	Snowe, Francis, Boston,	A Cloudy Day.	G. H. Chickering.
957	Robinson, T., Bos- ton,	*An Old Team.	Artist.
958	Willard, William, Sturbridge, Mass.,	Portrait.	Artist.
959	Cobb, Darius, Bos- ton,	Portrait.	Cyrus Cobb.
960	Holmes, P. H., Gardiner, Me.,	The Adirondacks from Vermont.	Artist.
961	Bacon, Henry, Paris,	*The Boston Boys and General Gage, 1775.	
962	Willard, W., Bos- ton,	Portrait—Charles Sumner.	E. L. Bates.
963	Wild, H. G., Boston,	*Banks of the Nile.	Artist.
964	Cole, J. G. (de- ceased),	Portrait—Commodore D. Turner.	J. V. P. Turner.
965	Ulke, Henry, Washington,	Portrait—Charles Sumner.	Artist.
966	Weber, Carl, Phila- delphia,	*Morning in the Alleghanies.	Artist.
967	Ulke, Henry, Washington,	*Portrait—General Grant.	Artist.
968	Pierson & Poincy,	Firemen's Parade in New Orleans, 1871.	W. McNeely.
969	Weber, Carl, Phila- delphia,	*Reichenbach Falls, Switzerland.	Artist.
970	Andrews, E. F., Paris,	Portrait.	W. T. Carter.
971	Fowler, T. T., Phila- delphia,	Work for the Day is Over.	Artist.
972	Raupp, Carl,	*Approaching Storm.	Dr. George Reuling.
973	Bierstadt, A., New York,	California Spring.	Artist.
974	Kaufmann, Theo- dore, Washing- ton,	Influence of Electricity on Human Culture (ten subjects).	Artist.
975	Smith, Miss Mary, Jenkintown, Pa.,	Cluck and Chickens.	
975 ^a	Wilson, Oregon (de- ceased),	*Woman's Devotion.	Dr. W. A. Wilson.
976	Moore, H. H., New York,	Almeh, a Dream of the Alhambra.	Artist.
977	Brown, G. L.,	*Niagara by Moonlight.	H. N. Barlow.
978	Guthers, Carl, St. Louis,	Awakening Spring.	Artist.
979	Birch, Thomas (de- ceased),	Perry's Victory on Lake Erie.	Thomas Birch.

NO.	ARTIST.	TITLE.	OWNER.
980	Johns, C. M., Pittsburg,	"To Tubal-Cain came many a one, And each one prayed For a strong steel blade."	Artist.
981	Noble, T. S., Cincinnati,	The Tramp.	Artist.
982	Boyle, F. T. L., Brooklyn,	*The Prayer of Judith.	Artist.
983	Bartlett, Jennie M., Minneapolis,	*Callas and Amaryllis (two panels).	Artist.

(Annex, Gallery No. 42.)

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
983 ^a	Calverly, C., N. Y.,	Bronze bust of John Brown.	Union League Club.
984	Richards, D., Chicago,	Satisfaction.	
985	Fillans, Miss W., Wisconsin,	Portrait bust.	Chief-Justice Dixon, of Wisconsin.
986	Richards, D., Chicago,	Disgust.	
987	Whitney, Annie,	The Model.	
987 ^a	Kretschman, E. A., Philadelphia,	The "Continental" Soldier and two portrait bronze medallions.	

(Annex, Gallery No. 40.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
988	Volkmar, Chas., Jr., Baltimore,	The Passing Shower (near Vichy, France).	Artist.
989	Rothermel, P. F., Philadelphia,	Macbeth meditating the Murder of Duncan.	Thomas Dolan.
990	Coleman, C. C., Rome,	Interior of St. Mark's, Venice.	Artist.
991	Healy, G. P. A., Chicago,	Portrait—Princess of Roumania.	E. B. McCagg.
992	Lea, Anna M., Philadelphia,	Portrait.	F. Macauley.
993	Furness, W. H., Jr. (deceased),	Portrait.	H. H. Furness.
994	Morrell, Mrs. I. Robinson, Paris,	*Washington Welcoming the Provision-Train.	Artist.
995	Winters, Miss Anna, Philadelphia,	*Daisies.	Artist.
996	Galvan, Mrs. S. M., Philadelphia,	*Roses.	Artist.
997	Willcox, W. H., Philadelphia,	One Hundred Years Ago.	Artist.
998	Spencer, Mrs. Lily M., Newark, N. J.,	*"Will you have some fruit?"	Artist.
999	Galvan, Mrs. S. M., Philadelphia,	*Roses.	Artist.
1000	Shaw, Annie C., Chicago,	*An Illinois Prairie.	Artist.
1001	Gunnison, Miss M. D., New York,	Portrait—Captain J. W. Gunnison.	Artist.
1002	Lambdin, J. R., Philadelphia,	Portrait—Bishop Alonzo Potter.	
1003	Hill, Thomas, San Francisco,	Home of the Eagle.	John A. Faull.
1004	Julio, E. B. D., New Orleans,	Gathering the Sugar-Cane.	Artist.
1005	Bierstadt, A., New York,	Mt. Hood, Oregon.	

NO.	ARTIST.	TITLE.	OWNER.
1006	Guthers, Carl, St. Louis,	" Ecce Homo."	
1007	Waugh, S. B., Philadelphia,	Portrait.	
1008	Wilson, Oregon, (deceased),	Portrait.	Dr. Wilson.
1009	Kaufmann, Theodore, Washington,	Admiral Farragut.	
1010	Rothermel, P. F., Philadelphia,	*Hypatia, the Neo-Platonic Philosopher, stripped and torn to pieces by the Christian mob of Alexandria.	Artist.
1011	Furness, W. H., Jr. (deceased),	Portrait.	H. H. Furness.
1012	Coleman, C. C., Rome,	Venice.	Mrs. W. Wilkeson.
1013	Furness, W. H., Jr. (deceased),	Portrait—Rev. W. H. Furness.	Rev. W. H. Furness.
1014	Peale, Rembrandt (deceased),	Portrait of the artist.	Mrs. R. Peale.
1015	Stanley, D. M., Detroit,	The Indian Signal.	Artist.
1016	Galvan, Mrs. S. M., Philadelphia,	*Flowers.	Artist.
1017	Elkins, H. R., Chicago,	Shasta, an extinct volcano of North California.	
1018	Sword, J. B., Philadelphia,	Trenton Falls, N.Y.	Artist.
1019	Hill, Thomas, San Francisco,	*Yosemite Valley.	Artist.
1020	Galvan, I. Ernest, Philadelphia,	*Roses (two panels).	Artist.
1021	Smith, T. Henry, Philadelphia,	Mind and Matter.	
1022	Audubon, J. J. (deceased),	*Covey of Blackcock.	Edward Harris.
1023	Simon, H., Philadelphia,	" Steady."	Artist.
1024	Herzog, H., Philadelphia,	*Norwegian Waterfall in Hallingdal.	Artist.
1025	Smith, Xanthus, Jenkintown, Pa.,	The Kearsarge and Alabama.	
1026	Eberhardt, W., Boston,	Portrait—Rear-Admiral Winslow, former Commander of the Kearsarge.	Citizens of Boston, who intend to present it to Memorial Hall.
1027	Wild, H., Boston,	El Majo de Granada.	H. H. Furness.

(Annex, Gallery No. 40.)

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
1028	Mundhenk, A., Cincinnati,	" Auld Lang Syne."	
1029	Kemys, E., New York,	*Panther and Deer.	Artist.
1030	Swayne, W. M., Philadelphia,	*Bust of W. H. Seward.	Artist.
1031	Swayne, W. M., Philadelphia,	*Bust of Abraham Lincoln.	Artist.
1032	Swayne, W. M., Philadelphia,	*Bust of Salmon P. Chase.	Artist.
1033	Hess, Geo., New York,	Bust of Bayard Taylor.	Artist.

(Annex, Gallery No. 30.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
1034	Ropes, Joseph, Philadelphia,	Tivoli.	Artist.
1035	Stewart, J. L., Philadelphia,	Marie.	W. S. Stewart.
1036	Healy, G. P. A., Chicago,	Portrait.	
1037	Schussele, C., Philadelphia,	Zeisberger preaching to the Indians.	J. Jordan.
1038	Trotter, N. H., Philadelphia,	*Wounded Buffaloes pursued by Prairie Wolves.	Artist.
1039	Moran, Thos., Newark, N.J.,	"Fiercely the red sun descending burned his way along the heavens."	Artist.
1040	Haseltine, W. S., Rome,	Natural Arch at Capri.	
1041	Briscoe, F. D., Philadelphia,	Wreckers.	
1042	Fassett, Mrs. C. Adèle, Wash- ington,	Portrait—Chief-Justice Waite.	
1043	Gardner, Miss E. J., Paris,	The Fortune-Teller.	
1043 ^a	King, Geo. W., Philadelphia,	View in the Tyrol.	
1044	Lambdin, G. C., Philadelphia,	On a Summer Sea.	Artist.
1045	Leland, Henry, Boston,	Portrait.	C. M. Leland.
1046	Harrison, Henry, Jersey City,	Portrait.	Miss Belle Dodd.
1047	Moran, Thos., Newark, N.J.,	*Valley of the Rio Virgen, Utah.	Artist.
1048	Rothermel, P. F., Philadelphia,	*Christian Martyrs in the Colos- seum.	Artist.
1049	Moran, Thos., Newark, N.J.,	*Dream of the Orient.	Artist.
1050	Eakins, Thos., Philadelphia,	Portrait.	Artist.
1051	Leland, Henry, Boston,	Portrait.	C. M. Leland.
1052	Machen, W. H., Toledo, O.,	Still Life—Ruffed Grouse.	Artist.
1053	Craig, Thos. B., Philadelphia,	Indian Summer.	Artist.
1054	Rothermel, P. F., Philadelphia,	The Virtuoso.	Artist.
1055	Mayer, F. B., Bal- timore,	The Attic Philosopher.	Artist.
1056	Coleman, C. C., Rome,	The Troubadour.	Henry Sampson.
1057	Smith, T. Henry, Philadelphia,	Portrait.	Mrs. Jos. Harrison.
1058	Healy, G. P. A., Chicago,	Portrait.	E. B. McCagg.
1059	Lea, Anna M., Philadelphia,	*A Patrician Mother.	Artist.
1060	Randle, Fred., Philadelphia,	Flowers.	
1061	Porter, S. C., Philadelphia,	Study of a Child.	
1062	Heaton, A. G., Philadelphia,	Washington as Ambassador at Fort Duquesne.	
1063	Kunath, Oscar, Munich,	*"He won't bite."	Artist.
1064	Kunath, Oscar, Munich,	Portrait.	

NO.	ARTIST.	TITLE.	OWNER.
1065	Richards, F. De B., Philadelphia,	Campagna di Roma.	Artist.
1066	Coleman, C. C., Rome,	Grand Canal, Venice.	James Bayley.
1067	Waugh, S. B., Philadelphia,	Portrait	
1068	Lea, Anna M., Philadelphia,	*Genevieve de Brabant.	Artist.
1069	Bonfield, W. V. der V., Philadelphia,	Drifting Snow.	
1070	Way, A. J. H., Baltimore,	Grapes (two panels).	
1071	John, Joseph, Philadelphia,	The Minstrel.	
1072	Moran, Peter, Philadelphia,	Settled Rain.	
1073	Weir, J. F., New Haven,	Portrait.	
1074	Peale, Rembrandt (deceased),	Washington; from life.	Chas. P. Herring.
1075	Waters, Mrs. S. C., Bordentown, N. J.,	*Still Life—Mallard Ducks.	Artist.
1076	Rosenthal, T. E., Munich,	"Remind me not that I alone Am cast out from the Spring."	W. E. Schmertz.
1077	Smith, Russell, Jenkintown, Pa.,	Mount Vernon in 1836.	
1078	Waugh, Ida, Philadelphia,	Cosette.	Artist.
1079	Wood, G. B., Jr., Germantown, Pa.,	Freddy Flechtenstein's Shop.	Artist.
1080	Smith, Russell, Jenkintown, Pa.,	Cave at Cheltenham Hills.	
1081	Pettit, G. W., Philadelphia,	Cremation of Julius Cæsar.	C. J. Harrah.
1082	Winner, W. E., Philadelphia,	Portrait.	Artist.
1083	Rothermel, P. F., Philadelphia,	The Landsknecht.	Matthew Baird.
1084	Williams, I. L., Philadelphia,	*October.	Artist.
1085	Weir, J. F., New Haven,	The Column of St. Mark's, Venice.	Geo. W. Jewett.
1086	Volk, Douglas, Chicago,	Vanity.	Artist.

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
1087	Rogers, Randolph, Rome,	Atala.	
1088	Passage, A. du, Paris,	Return from the Boar-Hunt.	Mrs. J. H. Johnson.
1089	Richards, D., Chicago,	Il Penseroso.	
1090	Reniers, P. C., Pittsburg,	Bust—Col. T. A. Scott.	
1091	Hess, Geo., New York,	*Lizzie's Pet.	Artist.
1092	Richards, D., Chicago,	Portrait bust.	Mrs. Laird Colyer.

(Annex, Gallery No. 44.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
1093	Reynolds, Sir Joshua (deceased),	Portrait—Mr. Groves.	Mrs. A. S. Hughes.
1094	Reynolds, Sir Joshua (deceased),	Portrait—Mrs. Groves.	Mrs. A. S. Hughes.

NO.	ARTIST.	TITLE.	OWNER.
1095	Peale, C. Wilson (deceased),	Portrait of Washington; from life.	Andrew L. Robinson.
1096	Wertmuller (deceased),	Portrait of Washington; from life.	S. Wagner.
1097	Smibert, John (deceased),	Portrait—P. Faneuil.	Massachusetts Historical Society.
1098	Kneller, Sir Godfrey (deceased),	*Portrait—Lord Baltimore; presented to the City of Annapolis by Queen Anne.	Titian R. Peale.
1099	Plantou, Mrs. (deceased),	Triumph of America, or the Treaty of Ghent.	Miss Plantou.
1100	Truman, E. (deceased),	Portrait—Thos. Hutchinson.	Massachusetts Historical Society.
1101	Sargent, Henry (deceased),	Portrait—General B. Lincoln.	Massachusetts Historical Society.
1102	(Unknown.)	Portrait—Alexander Hamilton.	E. Newland.
1103	Tenney, U. D., New Haven, Conn.,	Portrait—General Stark.	City of Manchester, N.H.

(Annex, Gallery No. 44).

WATER COLORS, DRAWINGS, ETC.

NO.	ARTIST.	TITLE.	OWNER.
1104	Herrick, H. W., Manchester, N. H.,	Grave of General Stark (water color).	City of Manchester, N.H.
1105	Herrick, H. W., Manchester, N. H.,	General Stark at Bunker Hill (water color).	City of Manchester, N.H.
1106	Herrick, H. W., Manchester, N. H.,	General Stark's Last Charge at Bennington (water color).	City of Manchester, N.H.
1107	Herrick, H. W., Manchester, N. H.,	General Stark as Trapper, captured by the Indians (water color).	City of Manchester, N.H.
1108	Herrick, H. W., Manchester, N. H.,	General Stark at Trenton (water color).	City of Manchester, N.H.
1109	McMurtrie, Miss L. G., Boston,	Geraniums (water color).	H. McMurtrie.
1110	Bliss, Lucia S., Boston,	*Lilium Auratum (water color).	Artist.
1111	Story, Annie B., Boston,	*Carnations (water color).	Artist.
1112	Bartlett, G. H., Boston,	Oak leaf (drawing).	Artist.
1113	Story, Annie B., Boston,	*Cherokee Roses (water color).	Artist.
1114	Bliss, Lucia S., Boston,	*Campanula.	Artist.
1115	Bliss, Lucia S., Boston,	Double Poppies.	Artist.
1116	Eddy, G. F., Boston,	*Gladiolus.	Artist.
1117	Bliss, Lucia S., Boston,	*Fringed Gentian and Golden Rod.	Artist.
1118	Bliss, Lucia S., Boston,	*Cardinal Flowers.	Artist.
1119	McMurtrie, Miss L. G., Boston,	Rhododendrons.	Artist.
1120	Robbins, Ella, Boston,	*Vase of Flowers.	Artist.
1124	Stengel, G. A., Boston,	Stuart's Washington (pen drawing).	G. Kaan.
1125	Alexander, Fanny, Boston,	Nella Feeding her Doves (pen drawing).	Rev. Arthur Lawrence.
1126	Stelnhaus, William, New York,	Vienna Exhibition. (Two drawings.)	
1127	Brückner, Henry,	Commemorative Allegory (etching).	Henry Schile.
1128	Steinhaus, William, New York,	Wm. C. Bryant (pen drawing).	

NO.	ARTIST.	TITLE.	OWNER.
1129	Alexander, Fan- ny, Boston,	September (pen drawing).	Caroline Brewer.
1130	Bartlett, G. H., Boston,	Details from Andernach Church Door.	Artist.
1131	Benham, C. C., New Haven,	*Nubian Girl (burnt in wood).	J. H. Benham, Jr.
1132	Galindo, R. E.,	Arabesque design.	Ion Perdicaris.
1133	Hyatt, Mrs. Del- ia, Boston,	Stork Tower in Reutlingen (water color).	Mrs. A. Hyatt.
1134	Wood, G. B., Philadelphia,	Rittenhousetown (water color).	Artist.
1135	Cabot, E. C., Bos- ton,	Puddingstone Boulders, Brookline, Mass. (water color).	Mrs. S. Cabot.
1136	Eddy, G. F., Bos- ton,	*Drummond Phlox (water color).	Artist.
1137	Sterling, Mrs. C. H.,	Oak leaves (water color).	Artist.
1138	Cabot, E. C., Bos- ton,	Baker's Road (water color).	Mrs. S. Cabot.
1139	Catlin, George (deceased),	One hundred and twenty-six Illus- trations of Indian Life.	Heirs of G. Catlin.
1140	Peacon, W. V., New York,	*Declaration of Independence (pen- manship).	
1141	Venino, Franz, New York,	Fall of Carthage (crayon).	Artist.
1142	Cohen, T. T., Phil- adelphia,	The First Centennial (crayon).	Artist.
1143	Doolittle & Corte- lyn, New York,	*Soliloquy of Friar Pacificus, Golden Legend (illumination).	Artist.
1144	Doolittle, E. S., New York,	*Prayer to the Virgin (illumination).	Artist.
1145	Greatorex, Mrs. Eliza, New York,	*Eighteen pen drawings illustrating Old New York.	Artist.
1146	Faber, Hermann, Philadelphia,	Daniel in the Lions' Den (water color).	Artist.
1147	Burns, C. M., Philadelphia,	The Power behind the Throne (water color).	Artist.
1148	Eakins, Thomas, Philadelphia,	*Base-Ball (water color).	Artist.
1149	Eakins, Thomas, Philadelphia,	*Whistling for Plover (water color).	Artist.
1150	Field, R. (de- ceased),	Thomas Jefferson—water color sketch from life, in the first year of his Presidency.	T. J. Miles.
1151	Hartwick, Her- mann, New York,	American Cedar Forest (water color).	Artist.
1152	De Rose, A. L.,	Portrait—D. Crockett; with Auto- graph (water color).	John Durand.
1153	Robbins, Ella, Boston,	*Primroses (water color).	Artist.
1154	Miller, E. F., Co- lumbus, O.,	Landscape (water color).	
1155	Robbins, Ella, Boston,	*Pansies (water color).	Artist.
1156	Darrah, Mrs. S. T., Boston,	*After the Storm (water color).	Artist.
1157	Miller, E. F., Co- lumbus, O.,	Winter (water color).	
1158	Brown, G. L., Boston,	*Ariccia, near Rome (water color).	Artist.
1159	Wood, G. B., Jr., Germantown,	The Old Tinker (water color).	Artist.
1160	Brown, G. L., Boston,	*Study from Nature (water color).	Artist.
1161	Hurtel, P.,	Sketch (water color).	Artist.
1162	Adams, Miss E., Boston,	Study of a Head (water color).	Artist.

(Annex, Gallery No. 44.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
1163	Peale, C. Wilson (deceased),	Portrait—Mrs. General Cropper.	J. Cropper.
1164	West, Benjamin (deceased),	Portrait—Stephen Carmick, Signer of the Non-Importation Act.	Louis Carmick.
1165	Vanderlyn, J. (de- ceased),	Portrait—General Armstrong.	William Astor.
1166	Dunlap, William (deceased),	Portrait—Thomas Eddy.	New York Hospital.
1167	Morse, S. B. F. (deceased),	Portrait—General Lafayette.	City Hall, New York.
1168	Sully, Thomas (deceased),	Portrait—Commodore Decatur.	City Hall, New York.
1169	Jarvis, J. W. (de- ceased),	Portrait—Commodore Macdonough.	City Hall, New York.
1170	Trumbull, John (deceased),	Portrait—General Washington.	City Hall, New York.
1171	Waldo (deceased),	Portrait—General Jackson.	City Hall, New York.
1171 ^a	Jarvis, J. W. (de- ceased),	Portrait—Commodore Perry.	City Hall, New York.

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
1172	Broome, Isaac, Pittsburg,	Base-Ball Players (Parian).	Ott & Brewer.
1173	Park, R. H., Flor- ence,	*Birdie (bust).	Artist.
1174	Park, R. H., Flor- ence,	*Summer.	Artist.
1175	Park, R. H., Flor- ence,	*Purity.	Artist.
1176	Park, R. H., Flor- ence,	*First Boots.	Artist.
1177	Park, R. H., Flor- ence,	*Gardener's Daughter.	Artist.
1178	Park, R. H., Flor- ence,	*First Sorrow.	Artist.
1179	Park, R. H., Flor- ence,	*Sunshine.	Artist.
1180	Park, R. H., Flor- ence,	*Sappho (statuette).	Artist.
1181	Park, R. H., Flor- ence,	*Good-Morning.	Artist.
1182	Park, R. H., Flor- ence,	*Sappho (bust).	Artist.
1183	Park, R. H., Flor- ence,	*Rosebud.	Artist.
1183 ^a	Rush (deceased),	Bust of Washington (clay model from life).	Alfred Young.
1183 ^b	McDonald, W.,	Bust of Washington.	
1183 ^c	Este, Mary God- dard, Cincinnati,	Iolanthe, King René's blind daughter.	Artist.
1183 ^d	Henning, H. D. A., Baltimore,	Happy Days in the Valley of Nysa.	Artist.
1183 ^e	Jacquier, Eli, Cin- cinnati,	*Bust of Shakspeare.	

(Memorial Hall, Grand Central Hall, Gallery B.)

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
1184	Story, W. W., Rome,	*Medea.	
1185	Foley, Miss M., Rome,	*Jeremiah.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
1186	Turner, W. G., Florence,	*Fisherman's Daughter.	Artist.
1187	Connelly, P. F., Florence,	*Horse's head.	Artist.
1188	Haseltine, J. H., Rome,	*Fortune.	Artist.
1189	Connelly, P. F., Florence,	*Queen Philippa.	Artist.
1190	Connelly, P. F., Florence,	Thetis thinking how she may regain the birthright of her son Achilles.	New York Museum.
1191	Connelly, P. F., Florence,	*Lady Clare.	Artist.
1192	Powers, Preston, Florence,	*Bust of Charles Sumner.	Artist.
1193	Connelly, P. F., Florence,	*Helen of Troy.	Artist.
1194	Connelly, P. F., Florence,	*Diana Transforming Actæon.	Artist.
1195	Connelly, P. F., Florence,	*The Thread of Life.	Artist.
1196	Connelly, P. F., Florence,	*Viola.	Artist.
1197	Lawlor, John, London,	*The Emigrant.	Artist.
1198	Haseltine, J. H., Rome,	*Spring Flowers.	Artist.
1199	Haseltine, J. H., Rome,	*Lucretia.	Artist.
1200	Haseltine, J. H., Rome,	*Captivity.	Artist.
1201	Foley, Miss M., Rome,	*Cleopatra.	Artist.
1202	Turner, W. G., Florence,	*Transition.	Artist.
1203	Haseltine, J. H., Rome,	*Cleopatra.	Artist.
1204	Handley, M., Rome,	America Honoring her Fallen Brave.	
1205	Stone, Horatio, Dr. (deceased),	Bronze vase.	J. C. Hoadley.
1206	Story, W. W., Rome,	*Beethoven.	Artist.
1207	Handley, M., Rome,	*Spring Crowning herself with Flow- ers.	
1208	Handley, M., Rome,	*Giotto.	
1209	Handley, M., Rome,	*Autumn Flowers.	Artist.
1210	Haseltine, J. H., Rome,	Duke of Leuchtenberg (equestrian statuette).	G. H. Schneider
1211	Haseltine, J. H., Rome,	*Lucia di Lammermoor.	Artist.
1212	Park, R. H., Flor- ence,	The Mechanic—bronze portrait statue.	
1213	Palmer, E. D., Albany,	Bronze statue of Robert Living- ston.	
1214	Stone, Horatio, Dr. (deceased),	Two bronze vases.	J. C. Hoadley.
1215	Bailly, J. A., Phil- adelphia,	Equestrian statue of Antonio Guz- man Blanco, President of Vene- zuela.	
1216	St. Gaudens, Aug., New York,	Bust of Hon. William Evarts.	
1217	Rogers, Ran- dolph, Rome,	Ruth.	James Douglas.
1218	Ream, Vinnie, Washington,	*Spirit of the Caruival	Artist.
1219	Mills, Theodore A.,	Eve.	
1220	Ream, Vinnie, Washington,	*The West	Artist.

NO.	ARTIST.	TITLE.	OWNER.
1221	Smith, R. C.,	Bust of President J. M. Sturtevant, of Illinois College.	
1222	Ream, Vinnie, Washington,	Miriam.	
1223	Rogers, Ran- dolph, Rome,	Nydia, the Blind Girl of Pompeii.	James Douglas.
1224	Ream, Vinnie, Washington,	Bust of Senator Morrell.	
1225	Warren, O. L., New York,	Medallion of Edwin Forrest.	
1226	Harnisch, A. E., Philadelphia,	Bust of William J. Mullen.	W. W. Mullen.
1227	Connelly, P. F., Florence,	St. Martin Dividing his Cloak.	Mrs. B. Lawrence.
1227 ^a	Fettweis, C. L., Jr., Cincinnati,	*Cast Away.	Artist.

(*Memorial Hall, Grand Central Hall, Gallery B.*)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
1228	Van Reuth, E., Baltimore,	*Homage of America to the Spirit of her Institutions.	Artist.
1228 ^a	Stuart, Gilbert,	The original portrait, from life, of Washington, painted in 1796. The only picture from life by Stuart, except the unfinished portrait in the Boston Athenæum.	J. Delaware Lewis.
1228 ^b	Travers, W. T. K.,	Abraham Lincoln,	W. P. Webster.

(*Memorial Hall, Grand Central Hall, Gallery B.*)

ARCHITECTURAL MOSAICS.

NO.	ARTIST.	TITLE.	OWNER.
1229	Leonardi, Valew- ski, Rubicondi, Italy,	Memorial Altar.	Ordered for St. Clement's Church, Philadelphia.

(*Memorial Hall, Gallery K.*)

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
1230	Calverley,	Bas-relief likeness of Peter Cooper.	
1231	Lewis, Miss Ed- monia,	*Death of Cleopatra.	Artist.
1232	Harnisch, A. E., Philadelphia,	Statue of Wm. J. Mullen.	W. W. Mullen.
1233	Fillans, Miss W.,	Medallion portrait.	
1234	Foley, Miss M., Rome,	Two medallions of Mary and William Howitt.	Artist.
1235	Turner, W. G., Florence,	*Night.	Artist.
1236	Turner, W. G., Florence,	*Morning.	Artist.
1237	Meynen, F., Philadelphia,	Statuette of the Madonna.	Artist.
1238	Tassara,	*Singing Angels (alto-rilievo).	Stephen H. Perkins
1239	Graef, Jos., New York,	Model of a monument to Dr. Wales.	
1240	Graef, Jos., New York,	*Saint Mary.	Artist.
1241	Graef, Jos., New York,	*The First Step.	Artist.
1242	Harnisch, A. E., Philadelphia,	Sketch for a monument to the Pris- oner's Friend.	Artist.
1243	Graef, Jos., New York,	*Infant Bacchus.	Artist.
1244	Foley, Miss M., Rome,	Medallion—Mrs. T. B. Read.	
1244 ^a	Ream, Vinnie, Washington,	Bust of a child.	

NO.	ARTIST.	TITLE.	OWNER.
1245	Ghetti, Antonio, New York,	*Monument to a child.	
1246	Gerardin, G., Philadelphia,	*Bouquet.	
1247	Meyer, H., New York,	Portrait of a boy.	
1248	Meyer, H., New York,	Portrait of a girl.	
1248 ^a	Waugh, Ida, Phil- adelphia,	Saint Agnes.	L. de V. Judd.
1248 ^b	Gordon, Joseph C., Philadelphia,	Inspiration (bas-relief).	Artist.
1248 ^c	Gordon, Joseph C., Philadelphia,	Rosebud (alt-relief).	Artist.
1248 ^d	Kappler, Tobias, New Haven, Conn.,	Medallion—Professor Agassiz.	
1249	Hartley, J. S., New York,	The Young Samaritan.	Artist.
1250	Benton, J. Dean, Philadelphia,	Metal model of Independence Hall.	E. C. Knight.

STAINED GLASS.

NO.	EXHIBITOR.	TITLE.
1250 ^a	Falck, Otto F., & Co., Boston,	The Prodigal Son.
1250 ^b	Slack, S., & Co., Glass Stainers, Orange, N.J.,	Specimens of figure subjects and arabesque designs. This firm has on exhibition in Memorial Hall some fine specimens of their work in antique and rolled cathedral glass, an article used extensively by them in the production of their principal work, such as figure, symbolic, heraldic, and decorated windows, for both ecclesiastical and domestic purposes.
1250 ^c	West, Samuel, Boston,	Specimens of figure subjects and arabesque designs.
1250 ^d	Gibson, Geo., Philadelphia,	Saint Michael.

(West Arcade, on Façade of Memorial Hall.)

SCULPTURE.

NO.	EXHIBITOR.	TITLE.
1251	Eyre, M. Dickerson, Florence,	*Leda.
1252	Eyre, M. Dickerson, Florence,	*Rebecca.
1253	Eyre, M. Dickerson, Florence,	*Hercules and Antæus.
1254	Eyre, M. Dickerson, Florence,	*Ruth.
1255	Eyre, M. Dickerson, Florence,	*Juno.
1256	Eyre, M. Dickerson, Florence,	*Genius of the Vatican.
1256 ^a	Seelig, M. J., & Co., Williams- burg, N.Y.,	Æsculapius (spelter).
1256 ^b	Seelig, M. J., & Co., Williams- burg, N.Y.,	Cupid (spelter).
1256 ^c	Seelig, M. J., & Co., Williams- burg, N.Y.,	A vase (spelter).

(East Arcade, on Façade of Memorial Hall.)

SCULPTURE.

NO.	EXHIBITOR.	TITLE.
1257	Eyre, M. Dickerson, Florence,	*Psyche.
1258	Eyre, M. Dickerson, Florence,	*Bust of Michael Angelo.
1259	Eyre, M. Dickerson, Florence,	*Vulcan.
1260	Eyre, M. Dickerson, Florence,	*Bust of Dante.
1261	Eyre, M. Dickerson, Florence,	*Autumn.
1262	Eyre, M. Dickerson, Florence,	*Spring.
1263	Eyre, M. Dickerson, Florence,	*Hebe.

(Memorial Hall, Gallery Z.)

DRAWINGS, ETCHINGS, ETC.

NO.	ARTIST.	TITLE.	OWNER.
1264	Darley, F. O. C., Claymont, Del.,	Puritans Barricading their Houses against the Indians (crayon).	Artist.
1265	Martin, Mrs. L. E., Boston,	*Sweet Home (porcelain painting).	Artist.
1266	Martin, Mrs. L. E., Boston,	*Flowers (porcelain painting).	Artist.
1266a	Cabot, E. C., Bos- ton,	Woods at Beverly Farms (water color).	Mrs. C. Storrow.
1267	Reich, Jos.,	Portrait (charcoal).	Artist.
1268	Ferris, S. J., Phil- adelphia,	Portrait (crayon).	Artist.
1269	Fabronius, D. C., Boston,	Portrait (crayon).	Artist.
1270	Alexander, Miss F., Boston,	A Prayer.	G. W. Wales.
1271	Moran, Thomas, Newark, N. J.,	*Hiawatha and the Serpent.	Artist.
1272	Moran, Thomas, Newark, N. J.,	*Hiawatha and Nokomis.	Artist.
1273	Moran, Thomas, Newark, N. J.,	*Death of Kwasind.	Artist.
1274	Moran, Thomas, Newark, N. J.,	*Hiawatha's Fasting.	Artist.
1275	Moran, Thomas, Newark, N. J.,	*Hiawatha's Childhood.	Artist.
1276	Moran, Thomas, Newark, N. J.,	*Death of Tawpak.	Artist.
1277	Darley, F. O. C., Claymont, Del.,	A Merciful Man is Merciful to his Beast.	Artist.
1278	Schell, F. B., Phil- adelphia,	On the Susquehanna (drawing on wood).	Artist.
1279	Stokes, John,	Dead Blue Jay.	Artist.
1280	Forbes, Edwin, New York,	*Life Studies of the Great Army. (Forty etchings)	Artist.
1281	Fabronius, D. C., Boston,	Portrait of a baby (crayon).	Artist.
1282	Munzig, G. C.,	Portrait in crayon.	Artist.
1283	Reed, J. C.,	Portrait of a lady (crayon).	Artist.
1284	Ellis, J. C.,	Portrait of a little girl (crayon).	Artist.
1285	Burdick, H. R.,	*Portrait in crayon.	Artist.
1286	Fabronius, D. C., Boston,	*Portrait of H. R. H. the Duchess of Edinburgh.	
1287	Swain,	Portrait of child (crayon).	Artist.

(Memorial Hall, Gallery Y.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
1288	Schwörer, A., Munich,	*A Surprise.	Stroefcr & Kirchner.
1289	Wagner, A., Mu- nich,	*Chariot-Race.	Stroefcr & Kirchner.
1290	Mayer, A. L., Mu- nich,	*Marguerite.	Stroefcr & Kirchner.
1291	Kayser, E., Mu- nich,	*The Convalescent.	Stroefcr & Kirchner.
1292	Epp, R., Munich,	*The Young Mother.	Stroefcr & Kirchner.
1293	Köckert, F., Mu- nich,	*Autumn.	Stroefcr & Kirchner.
1294	Moreau, A., Paris,	*Field Flowers.	M. Knoedler & Co.
1295	Fichel, E., Paris,	*The Naturalist.	M. Knoedler & Co.
1296	Merle, H., Paris,	*Charity.	M. Knoedler & Co.

NO.	ARTIST.	TITLE.	OWNER.
1297	Meyer von Bre- men,	The Rabbit-Seller.	M. Knoedler & Co.
1298	Cortazzo, O., Rome,	*Difficult to Rhyme.	M. Knoedler & Co.
1299	Beard, J. H., New York,	*"There's many a slip," etc.	M. Knoedler & Co.

CRAYONS.

NO.	ARTIST.	TITLE.	OWNER.
1300	Kurtz, W., New York,	Six crayon portraits.	Artist.

ART APPLIED.

(Memorial Hall, Gallery Y.)

NO.	EXHIBITOR.	SUBJECT.
1301	Stroefel & Kirchner, New York,	Eleven engravings illustrating Faust and Marguerite, after A. L. Mayer. Fine Art Books.
1302	Knoedler, M., & Co., New York,	Chromos and engravings.
1303	Speroni, J. L., New York,	Engravings on silver.
1304	Zoellner, L., New York,	Cameos.
1305	Paquet, A. C., Philadelphia,	Medals.
1306	Bachman, H. G., Philadelphia,	Ivory carvings.
1307	Overbaugh, A. W., New York,	Engraving on metal.
1308	Lebrethon, Jules, New York,	Cameos and medallions.

(Memorial Hall, Gallery X.)

NO.	EXHIBITOR.	SUBJECT.
1309	Prang, L., & Co., Boston,	Views of the Yellowstone National Park, and other specimens of chromo-lithography.
1310	Kaufmann, A. & C., New York,	Moonlight on the Nile, and other specimens of chromo-lithography; wall and ceiling decoration of Pavy's Japanese felted fabric.
1311	Bonet, Louis, New York,	Cameos.
1312	Hirrlinger, C. W., New York,	Enamels and enamel paintings.
1313	Barber, W. & C., Philadelphia,	Medals.
1314	Mitchell, Henry, Boston,	Two frames of specimens of stone gems and impressions of seals.
1315	Rowe, George A., 1037 Walnut Street, Philadelphia,	Three frames of specimens of engraving on precious stones and impressions of seals.

(Memorial Hall, Second Story, Corridor.)

NO.	EXHIBITOR.	SUBJECT.
1316	Bencke & Scott, New York,	"One Hundred Years Ago"—chromo-lithograph.
1317	Witteman Bros., New York,	Centennial Memorial.
1318	Cliver & Elway, Altoona, Pa.,	Frame composed of fifteen thousand pieces of wood, constructed without nail, screw, or glue.

(Memorial Hall, Second Story, Room No. 1.)

NO.	EXHIBITOR.	SUBJECT.
1319	Cohn, Louis H., & Co., New York,	Imitations of natural woods (wall paper). Natural wood prints. Impressions taken from all kinds of wood on paper, equal to veneer.
1320	Goth, Anthony, Bethlehem, Pa.,	Oil-painted washable wall paper. Specimens of wall and ceiling decoration.
1321	Rumbold, George W., New York,	Imitations of marbles (wall paper).
1322	Hazzard, R. T., Philadelphia,	Specimens of wall and ceiling decorations in paper and frescoed panels.
1323	Stoll, J. A., New York,	Decorative bas-reliefs.
1324	Hore, William, Philadelphia,	Inlaid book-case and work-boxes.
1325	Lange & Bros., St. Louis,	Inlaid show-case composed of one hundred and twenty thousand pieces of wood.

(Memorial Hall, Second Story, Room No. 2.)

NO.	EXHIBITOR.	SUBJECT.
1326	Hopson, Wm., Everett, Mass.,	Painted imitations of woods, and two table-tops, imitations of inlaid marbles.
1327	McGregor, G. S., Cleveland, O.,	Specimens of oak, walnut, and rosewood graining.
1328	National Chromo Co., Philadelphia,	Specimens of chromo-lithography.
1329	Gruger, Pearson E., Lancaster, Pa.,	Monumental engraving on marble.
1330	Foerster, Edmund, & Co., New York,	Breakwater at Calais, and other specimens of chromo-lithography.
1331	Colton, Zahm, & Roberts, New York,	Beatrice Cenci, and other specimens of chromo-lithography.
1331 ^a	Hollerbach & Dieffenbach, New York,	Frames and specimens of mouldings.
1332	Frickenhaus, Otto, New York,	Designs for crochet and embroidery.
1333	Beeler, J. C., New York,	Ornamental painting on glass.
1334	Beeler, J. C., New York,	Pastel drawing of an Indian's head.
1335	Hoefel, Ferd., St. Louis,	Flowers—painting on glass.

(Memorial Hall, Second Story, Room No. 3.)

NO.	EXHIBITOR.	SUBJECT.
1336	Latham, J., & Co., Boston,	Holy Family, and other specimens of chromo-lithography.
1337	Demorest, W. J., New York,	Old Oaken Bucket, and other specimens of chromo-lithography, and one frame of wood engravings engraved by Redman & Kenney.
1338	Graf Bros., Philadelphia,	Specimens of chromo-lithography, illustrating method of production.
1339	Kelley, Wm. J., New York,	Specimens of ornamental typography.
1340	Hunter, Thos., Philadelphia,	Tegner's Drapa, and other specimens of chromo-lithography.
1341	Hoover, Jos., Philadelphia, Pa.,	The Changed Cross, and other specimens of chromo-lithography, with two of the original oil paintings. Chromos and oil paintings framed. Publisher of fine chromos, wholesale lowest rates. Office and salesroom, 1129 Chestnut Street; factory, south-west corner of Thirteenth and Buttonwood Streets.
1342	Hoen, A., & Co., Baltimore,	The Continentals, and other specimens of lithography and chromo-lithography.

(Memorial Hall, Second Story, Room No. 4.)

NO.	EXHIBITOR.	SUBJECT.
1343	Perrine, W. H., D.D., Albion, Mich.,	Chromo-lithograph of Palestine.
1344	Vandusen, R., Weedsport, New York,	Four frames of lithographs (animals).
1345	Dwyer, Edward, Philadelphia,	Painting and inlaid mother-of-pearl on glass—Moonlight.
1346	Smith, Levi F., Philadelphia,	Chromo-lithograph—Proclamation of Emancipation.
1347	Palm, Chas., & Co., New York,	Specimens of G. Schuessler's patent transfer ornaments on glass.
1348	Mayer, Ferd., New York,	Mammoth crayon lithograph. Three specimens.
1349	Swank, J. W., Washington,	Free-hand penmanship.
1350	Meyer, James, Jr., New York,	Penmanship and pen drawings.
1351	Barlow, Joel H., Hudson City, N. J.,	Penmanship and pen drawing.
1352	Brückner, H., New York,	Roger Williams's Reception by the Indians (drawing).
1353	Brückner, H., New York,	Discovery of the Hudson River (drawing).
1354	Lockwood, Randolph & Co., New York,	Specimens of artificial boxwood for wood-engraving.
1355	Schmidt, Geo. S., Saratoga, N. Y.,	Silhouettes.
1356	North, Miss R. M., Philadelphia,	Bouquet drawn on silk.

NO.	EXHIBITOR.	SUBJECT.
1357	Frost, Philadelphia,	Sketches.
1358	Stehlin, Joseph, New York,	*Ancient altar carvings.
1359	Smith, G. B., Jersey City,	Shield composed of army badges worn in the late war.
1360	Pierce's Business College, 39 South Tenth Street, Philadelphia, Pa., Thomas May Pierce, M.A., Principal and Proprietor, Rev. John Thompson, Business Manager, residence 2002 Brandywine Street,	Specimens of penmanship and pen drawing. Brief description of the objects on exhibition in Pennsylvania Educational Hall. I. Penmanship.—(a.) Seven (7) sets of resolutions engrossed by order of the Philadelphia Board of Public Education at different times during the past five years, and borrowed from the owners for the purpose of showing the high order of talent employed by the College. (b.) The improvement in writing of fourteen hundred (1400) pupils of the College, showing the success of the penman as a teacher. (c.) A "reward of merit" engrossed by the penman, the like of which is given once a month to the pupil who makes the most improvement in writing during the month. (d.) A large piece of "Specimens of Spencerian Penmanship," and a set of resolutions, complimentary of the Principal, written by the penman, and a "deceiving picture" made with pen, brush, and pencil by the professor of drawing, each illustrating the power and ability of the executor. (e.) A piece of ornamental penmanship with a bouquet in the centre drawn with the pen, which with the drawings in the work done for the Board of Education, show the penman's skill in pen-drawing. II. Book-keeping.—(a.) A case of samples of Merchandise used by the pupils of the College in the transaction of business among themselves in the Actual Business Department, thus furnishing each pupil with an original and independent set of transactions for his books. (b.) Samples of College Currency used in the payment of bills, together with copies of the various business papers used by the students. III. Course of instruction.—(a.) A small piece of lettering naming the subjects taught. (b.) A Diploma setting forth the subjects of examination for graduation. IV. Objects of the Institution and Classes who patronize it.—A large piece of penmanship setting forth the same in detail. Particular merit which the Exhibitor claims for his Exhibit.—I. The highest order of talent in the penman in all the departments of work done with the pen. II. Superior plans for the improvement of the writing of pupils, in addition to the excellence of the teacher. III. Ingenious and successful plans for teaching Book-keeping and imparting a sound, practical, and economical preparation of young men for business life.

(Memorial Hall, Second Story, Room No. 5.)

1361	Centennial Commission,	Competitive designs of the Centennial Buildings.
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(Annex, Gallery No. 1.)

STAINED GLASS.

NO.	EXHIBITOR.	SUBJECT.
1362	Fitzpatrick, A., & Co., Staten Island,	*Christ in the Temple, Saint George and Saint Augustine.
1363	Fitzpatrick, A., & Co., Staten Island,	*The Holy Family.
1364	Fitzpatrick, A., & Co., Staten Island,	*The Adoration of the Magi.
1365	Mittermaier, Max, Brooklyn,	Christ amid the Doctors.
1366	West, Samuel, Boston,	Saint Paul.
1367	McPherson, W. J., & Co.,	Knight in armor—after Giorgione.

ENGRAVINGS AND LITHOGRAPHS.

(Annex, Gallery No. 18.)

NO.	EXHIBITOR.	SUBJECT.
1368	Nichols, H. H., Washington,	Frame of surgical engravings on wood; frame of zoological engravings on wood.
1369	Mayer, Charles, Jersey City,	Frame of engravings on wood.
1370	Harley, J. S., New York,	Nine frames of engravings on wood (pictorial).
1371	Smart, T. L. & R. M., New York,	Frame of engravings on wood (mechanical).
1372	Muller, R. A., Brooklyn,	Frame of engravings on wood (pictorial).
1373	Redman & Kenney, New York,	Specimens of engravings on wood.
1374	Faas, Frederick, Philadelphia,	Specimens of engravings on wood.
1375	Scattergood & Hammar, Philadelphia,	Engravings on wood (machinery).
1376	Breuker & Kessler, Philadelphia,	Commercial lithographic engraving.
1377	Leonhardt, Theodore, & Son, Philadelphia,	Commercial lithographic engraving.
1378	Gay, George, Philadelphia,	Decorated china and glass.
1379	Steele Bros., Philadelphia,	American decorated china and engraved glass.

(Annex, Gallery No. 20.)

NO.	EXHIBITOR.	SUBJECT.
1380	Bevington & Co., Philadelphia,	Decorated china.
1381	Bien, Julius, 16 and 18 Park Place, New York,	Lithographic and photo-lithographic illustrations, maps, charts, and scientific engravings and drawings. Publisher of Walker's Statistical Atlas of the United States, and Album of the International Exhibition.
1382	Lauderbach, James W., Philadelphia,	Four frames of engravings on wood, and illustrated books.
1383	Thompson, J. C., Providence,	Two frames of engravings on wood.
1384	Lehman & Bolton, Philadelphia,	Commercial lithographic engraving.
1385	Potsdamer & Co., Philadelphia,	Commercial lithographic engraving.
1386	Haas, Augustus, New York,	Electrotype reproductions of medals and bas-reliefs.

(Annex, Gallery No. 22.)

NO.	EXHIBITOR.	SUBJECT.
1387	Sartain, John, Philadelphia,	Engravings on steel: The Iron-Worker; Christ Rejected; American Inventors; County Election; Zeisberger preaching to the Indians; two portraits.
1388	Sartain, Samuel, Philadelphia,	Engravings on steel: One of the Chosen; Evangeline; Clear the Track; two frames of portraits.
1389	Hollyer, Samuel, Guttenberg, N. Y.,	Engravings on steel: Flaw in the Title; Charles Dickens; frame of portraits.
1390	Perine, George E., New York,	Engravings on steel: Mother of the Lord; Better Land; Star-Spangled Banner; seventeen frames of portraits and book illustrations. Picture engraving on steel executed in all its branches. Portraits a specialty. Fine work in all styles at reasonable prices.
1391	McRae, J. C., New York,	Engravings on steel: The Day we Celebrate; First in Peace; Raising of the Liberty-Pole.
1392	Burt & Hinshelwood, New York,	*Engraving on steel: The Pet Lamb. Owned by R. E. Moore.
1393	Pease, J. Ives, Canaan, Conn.,	Engraving on steel: Old 76 and Young 48; frame of bank-note vignettes.
1394	Whitechurch, R. (deceased),	*Engraving on steel: Franklin before the Lords in Council. Owned by Thos. Kelly.
1395	Ritchie, A. H., New York,	Engraving on steel: Lady Washington's Reception.

NO.	EXHIBITOR.	SUBJECT.
1396	Kelly, Thomas, New York,	Two English engravings, after American artists: Rock of Ages; Mercy's Dream.
1397	Durand, A. B., New York,	Engravings on steel: Musidora; Ariadne; Declaration of Independence; frame of portraits.
1398	Volkmar, Charles, Baltimore,	Etchings on copper; two frames of landscapes.
1399	Brown, G. L., Boston,	Etchings on copper; frame of landscapes.
1400	Moran, Peter, Philadelphia,	Etchings on copper; five frames of animal subjects.
1401	Ferris, S. J., Philadelphia,	Etchings on glass and copper; two portraits of Fortuny.
1402	Hollyer, Samuel, Guttenberg, N. Y.,	Engraving on steel: Autumn.
1403	Andrews, Joseph (deceased),	Engraving on steel: Landing of the Pilgrims.
1404	Gugler, H., Washington,	*Engraving on steel: portrait of Washington, Owned by G. D. Patten, Jr.
1405	Whitechurch, R. (deceased),	Engraving on steel: Capture of the Serapis.
1406	Lang, George S., Philadelphia,	Engravings on copper: Landing of Columbus; Washington crossing the Delaware.
1407	Marshall, W. E., New York,	Three engravings on steel: one of Washington, two of Lincoln.
1408	Knoedler, M., & Co., New York,	English engravings after American artists: Return of the Mayflower; The Two Farewells; Out All Night; Niagara Falls; Woodland Vows; Too Near the War-Path.
1409	Lewis, Miss Edmonia, Rome,	*Asleep (group in marble); Hiawatha's Marriage; Old Arrow Maker and his Daughter (group in marble); terra-cotta busts of Longfellow, Sumner, and John Brown.
1410	Rogers, John, New York,	Twenty-nine groups of plaster statuary for house and lawn.

(Annex, Gallery No. 24.)

NO.	EXHIBITOR.	SUBJECT.
1411	National Bank Note Company, New York,	Specimens of bank-note engraving.
1412	American Bank Note Company, New York,	Specimens of bank-note engraving.
1413	Continental Bank Note Company, New York,	Specimens of bank-note engraving.
1414	Heath & McKendrick, Philadelphia,	Plaster figures and ornaments, and Scagliola pedestals.
1415	Rulon, S. A., Philadelphia,	*Ancient Hindoo idol.
1416	Faser, C., Philadelphia,	Architectural gilt frame.
1417	Spalding, H. M., Philadelphia,	Household art.
1418	Pope, A., Jr., Boston,	*Painted wood carving—Game.
1419	Fick, Frederick, Philadelphia,	Marble monumental bas-relief.
1420	French, Wm. H., Philadelphia,	Plaster ornaments for interior decoration.
1421	Fisher, Mrs. J Francis, Florence,	Mosaic table.
1422	Snowdon, T. W.,	Wood carvings of chamois.
1423	Wiesehahn, F. W. H., St. Louis,	Penmanship and pen drawings.
1424	Giddings, Thomas, Williamsport, Pa.,	Centennial frame carved by hand.

SCULPTURE.

(Memorial Hall, Gallery N.)

NO.	EXHIBITOR.	SUBJECT.
1425	Worthington Sons, North Amherst, Ohio,	Sandstone pedestal, from their quarries; presented to Memorial Hall.
1426	Sheldon & Slason, West Rutland, Vt.,	Marble pedestal, from their quarries; presented to Memorial Hall.

GREAT BRITAIN.

(*Memorial Hall, Galleries B, D, P, Q, R, S, T, Z.*)

[The initials appended to the names of artists in the following pages signify as follows: P.R.A., President, R.A., Academician, A.R.A., Associate, and A.E., Associate Engraver of the Royal Academy of Arts, England; P.R.S.A., President, R.S.A., Member of the Royal Scottish Academy.

When not otherwise stated, the artist is also the contributor.]

SCULPTURE.

NO.	ARTIST.	TITLE.
1	Adams-Acton, John, London,	Il Giuocatore de Castelletto. Life-size group of boy and dog, in Carrara marble. Lent by Sam'l Budgett, Esq.
2	Adams-Acton, John, London,	The Star of the Period. Ideal bust in marble.
3	Bailey, Edward Hodges. R.A. (deceased),	Bust of Flaxman. Lent by the Royal Academy, London.
3 ^a	Bell, John, London,	Colossal group of "America," from the original marble at the Albert Memorial, reproduced in terra-cotta by Messrs. H. Doulton & Co.
4	Chantrey, Sir Francis Legatt, R.A. (deceased),	Bust of the late Benjamin West, P.R.A. Lent by the Royal Academy, London.
5	D'Epinay, Prospère, Rome,	The Spartan Boy. Bronze statue.
5 ^a	Doulton, Henry, & Co.,	Terra-cotta reproduction of colossal group "America."
6	Gibson, John, R.A. (deceased),	Venus. Lent by Richard C. Naylor, Esq.
6 ^a	Gower, Lord Ronald Leveson, London,	No. 1. Marie Antoinette, when Dauphiness, hunting at Fontainebleau, 1773. No. 2. Marie Antoinette on her Way to Execution, 16th October, 1793. No. 3. "It is Finished."
7	Joy, A. Bruce, London,	The Fairy Tale. Statuette of child.
8	Joy, A. Bruce, London,	Bust of a girl.
9	Joy, A. Bruce, London,	Bust of Napoleon III.
10	Joy, A. Bruce, London,	Medallions.
11	Wood, Marshall, London,	Marble statues.
12	Doolin, Walter, Dublin,	Two Celtic crosses, carved after the ancient Irish crosses in limestone. Exhibited in the grounds.
13	Morgan, George, London,	Frame of medals. Exhibited in South Kensington collection.
14	Wyon, J. S. & A. B., London,	One frame containing medals and seals.

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
1	Ansdell, Richard, R.A., London,	On the Hills—ptarmigan-shooting.
2	Ansdell, Richard, R.A., London,	The Anxious Mother.
3	Anthony, Mark, Hampstead,	Sunset after a Storm. Lent by Thomas Winter, Esq.
4	Archer, J., R.S.A., London,	Portrait of Mrs. Henry Joachim. Lent by Henry Joachim, Esq.
5	Archer, J., R.S.A., London,	The Three Sisters.
6	Armitage, Edward, R.A., London,	Julian the Apostate presiding at a Conference of Sectarians. Lent by the Corporation of Liverpool.
7	Barry, James, R.A. (deceased),	The Temptation in Paradise. Lent by the Society of Arts, London.

NO.	ARTIST.	TITLE.
8	Boughton, G. H., London,	God-Speed. Lent by A. M. Marsden, Esq.
9	Brett, John, London,	Morning among the Granite Boulders. Lent by Mrs. McEwen.
10	Buckner, R., London,	Portrait of Lady Marianne Alford. Lent by the Earl Brownlow.
11	Calderon, Philip H., R.A., London,	After the Battle. Lent by H. W. F. Bolckow, Esq., M.P.
12	Calderon, Philip H., R.A., London,	Desdemona. "She sang a song of willow." Lent by G. C. Schwabe, Esq.
13	Calderon, Philip H., R.A., London,	The Siesta. Lent by Messrs. Agnew & Sons.
14	Callcott, Sir Augustus Wall, R.A. (deceased),	Morning. A landscape. Lent by the Royal Academy, London.
15	Cameron, Hugh, R.S.A., London,	Age and Infancy. Lent by Jas. Stevenson, Esq.
16	Cauty, H. H., London,	Little Sunshine.
17	Clark, J., London,	The Sick Child. Lent by H. J. Turner, Esq.
18	Clark, J., London,	The Bird's Nest. Lent by Geo. Dibley, Esq.
19	Clint, Alfred, London,	Lake scene—Sunset.
20	Clint, Alfred, London,	Sunset—Hastings.
21	Cole, Vicat, A.R.A., London,	Misty Morning. Lent by J. C. Bunten, Esq.
22	Cole, Vicat, A.R.A., London,	Noon. Lent by E. J. Reed, Esq., C.B., M.P.
23	Constable, John, R.A. (deceased),	The Lock. Lent by the Royal Academy, London.
24	Cooke, Edward William, R.A., Tunbridge Wells,	The Goodwin Lightship. Lent by Thos. Brassey, Esq., M.P.
25	Cooke, Edward William, R.A.,	The Rescue of a Barque on the Goodwins by the Van Kook North Deal Life-boat. Lent by Henry Dewhurst, Esq.
26	Cope, Charles West, R.A., London,	Launcelot Gobbo. Lent by R. Peacock, Esq.
27	Cope, Charles West, R.A., London,	Taming of the Shrew. Lent by J. Fielden, Esq., M.P.
28	Cope, Charles West, R.A., London,	The Marriage of Griselda. Lent by Geo. Moore, Esq.
29	Creswick, Thomas, R.A. (deceased),	Landscape. Lent by the Royal Academy, London.
30	Crofts, E., Düsseldorf,	Ligny. Lent by W. Howe, Esq.
31	Crowe, Eyre, London,	After a Run. Lent by Messrs. Agnew & Sons.
32	Crowe, Eyre, London,	Goldsmith's Mourners. (See J. Forster's "Life of Oliver Goldsmith.")
33	Daniell, William, R.A. (deceased),	View of the Coast of Scotland. Lent by the Royal Academy, London.
34	Dobson, William C. T., R.A., London,	Children's Children are the Crown of Old Men. Lent by J. Carolus Stirling, Esq.
35	Dobson, William C. T., R.A., London,	Nazareth. Lent by Wm. Bowman, Esq., F.R.S.
36	Dobson, William C. T., R.A., London,	The Widow's Son raised to Life.
37	Donaldson, Andrew B., London,	The Eve of the Battle—Jeanne d'Arc encouraging the Troops.
38	Elmore, Alfred, R.A., London,	Two Women shall be Grinding at the Mill. Lent by John Bowring, Esq.
39	Elmore, Alfred, R.A., London,	On the Housetops.
40	Elmore, Alfred, R.A., London,	Lenore.
41	Etty, William, R.A. (deceased),	Sleeping Nymph and Satyrs. Lent by the Royal Academy, London.
42	Faed, Thomas, R.A., Chigwell,	God's Acre. Lent by George Fox, Esq.
43	Faed, Thomas, R.A., Chigwell,	Baith Faither and Mither. Lent by H. W. F. Bolckow, Esq., M.P.
44	Field, W., London,	The Milkmaid's Song to Izaak Walton. Lent by W. S. Cookson, Esq.
45	Fildes, S. Luke, London,	Applicants for Admission to a Casual Ward. Lent by Thomas Taylor, Esq.
46	Fildes, S. Luke, London,	Betty. Lent by Isaac M. Marsden, Esq.
47	Frith, Wm. Powell, R.A., London,	The Marriage of H.R.H. the Prince of Wales in St. George's Chapel, Windsor, March 10, 1863. Lent by Her Majesty the Queen.
48	Frith, Wm. Powell, R.A., London,	The Railway Station. Lent by Messrs. Graves & Co.
49	Frith, Wm. Powell, R.A., London,	Pamela. Lent by H. W. F. Bolckow, Esq., M.P.
50	Fuseli, Henry, R.A. (deceased),	Thor Battering the Serpent of Misgard. Lent by the Royal Academy, London.

NO.	ARTIST.	TITLE.
51	Gainsborough, Thomas, R.A. (deceased),	Portrait of the Duchess of Richmond. Lent by Baron Lionel de Rothschild.
52	Gilbert, Sir John, A.R.A., Blackheath,	The First Prince of Wales. Lent by Edwin Lawrence, Esq.
53	Gilbert, Sir John, A.R.A., Blackheath,	The Battle of Naseby. Lent by Messrs. Agnew & Sons.
54	Gill, E., Sutton Hill,	Rhaiaid Dú, Dol-y-Melynen, North Wales. Lent by Lewis Loyd, Esq.
55	Girardot, E. G., London,	Herr Carl Deichmann, violinist and composer.
56	Goodall, Frederick, R.A., Harrow Weald,	Cairo Fruit-Girl. Lent by Messrs. Pilgeram & Lefèvre.
57	Graham, Peter, London,	On the Way to the Cattle Tryst. Lent by Thomas Jessop, Esq., J.P.
58	Graham, Peter, London,	Wind. Lent by A. Brogden, Esq., M.P.
59	Grant, Sir Francis, P.R.A., London,	The late Viscount Hardinge, Governor-General of India, returning from the Battle of Ferozeshah. The background represents the captured camp and village of Ferozeshah. Lent by Viscount Hardinge.
60	Grant, Sir Francis, P.R.A., London,	Portrait of Mrs. Markham.
61	Grant, Sir Francis, P.R.A., London,	Portrait of Earl Russell, K.G. Lent by Earl Russell, K.G.
62	Hardy, Heywood, London,	The Disputed Toll. Lent by Messrs. Agnew & Sons.
63	Hayter, Sir George,	Portrait of Her Majesty in Coronation Robes. Lent by Her Majesty the Queen.
64	Herdman, R., R.S.A., Edinburgh,	Portrait of Thomas Carlyle (replica).
65	Hering, G. E., London,	A Rift in the Gloom. Glen Sannox. Lent by John Pender, Esq., M.P.
66	Hicks, G. E., London,	Will he do it?
67	Hilton, William, R.A. (deceased),	The Rape of Ganymede. Lent by the Royal Academy, London.
68	Hodgson, J. E., A.R.A., London,	A Needy Knife-Grinder. Lent by H. J. Turner, Esq.
69	Hodgson, J. E., A.R.A., London,	Returning the Salute. Lent by Thomas Taylor, Esq.
70	Holl, F., London,	"The Lord gave, the Lord hath taken away; blessed be the name of the Lord." Lent by F. C. Pawle, Esq.
71	Holl, F., London,	Village Funeral. "I am the Resurrection and the Life." Lent by John Akroyd, Esq.
72	Hook, James Clarke, R.A., Farnham,	From under the Sea. Lent by C. P. Matthews, Esq.
73	Horsley, John Callcott, R.A., London,	Lost and Found. Lent by J. Penn, Esq.
74	Horsley, John Callcott, R.A., London,	Stolen Glances. Lent by Messrs. Agnew & Sons.
75	Horsley, John Callcott, R.A., London,	Checkmate next Move. Lent by Thomas Jessop, Esq., J.P.
76	Hughes, Arthur, London,	The Convent Boat. Lent by George Trist, Esq.
77	Hunt, Holman, London,	Portrait of the artist.
78	Hunter, Colin, London,	Trawlers waiting for the Darkness. Lent by Alex. S. Stevenson, Esq.
79	Johnson, C. E., London,	The Last of the Spanish Armada.
80	Johnston, A., London,	The Marriage of the Covenanters. Lent by Jas. Virtue, Esq.
81	Jones, T. A., P.R.H.A., Dublin,	Limerick Lasses. Lent by John Lewis, Esq.
82	Jopling, Mrs. Louise, London,	The Five Sisters of York.
83	King, Haynes, London,	First Steps. Lent by Edward G. Barr, Esq.
84	Knight, C. P., Clifton, Bristol,	Newport Bay, Pembrokeshire.
85	Lance, George (deceased),	The Unwelcome Guest. Lent by G. E. Lance, Esq.
86	Landseer, Sir Edwin, R.A. (deceased),	The Traveled Monkey. Lent by Lord Northbrook.
87	Landseer, Sir Edwin, R.A. (deceased),	The Sick Monkey. Lent by Lord Northbrook.
88	Landseer, Sir Edwin, R.A. (deceased),	Portrait of Lord Ashburton. Lent by Lady Louisa Ashburton.
89	Landseer, Sir Edwin, R.A. (deceased),	Study of a Lion. Lent by Thos. H. Hills, Esq.

NO.	ARTIST.	TITLE.
90	Landseer, Sir Edwin, R.A. (deceased),	Study of a Lion. Lent by Thos. H. Hills, Esq.
91	Laurence, S., London,	Portrait of Robert Browning, the poet.
92	Lawrence, Sir Thomas, P.R.A. (deceased),	Portrait of the first Lord Ashburton. Lent by Lady Louisa Ashburton.
93	Lawrence, Sir, Thomas, P.R.A. (deceased),	The Three First Partners of the Baring House, viz., Sir Francis Baring, first Baronet, his brother, John Baring, and his son-in-law, Charles Wall. Lent by Lord Northbrook.
94	Lehmann, Rudolph, London,	"La Rota" at the Foundling Hospital, Rome. Lent by Lewin Mozley, Esq.
95	Lehmann, Rudolph, London,	Portrait of Mrs. Henry Schlesinger. Lent by Henry Schlesinger, Esq.
96	Leighton, Frederick, R.A., London,	Summer Moon. Lent by Alfred Morrison, Esq.
97	Leighton, Frederick, R.A., London,	Interior of a Jew's House, Damascus. Lent by Bingham Mildmay, Esq.
98	Leighton, Frederick, R.A., London,	Eastern Slinger Scaring Birds in the Harvest Time—Moonrise.
99	Leslie, C. R., R.A. (deceased),	May Day in the Time of Queen Elizabeth. Lent by J. Naylor, Esq.
100	Leslie, George D., A.R.A., London,	Celia's Arbor. Lent by G. C. Schwabe, Esq.
101	Lewis, C. J., London,	Sunday Morning.
102	Lewis, C. J., London,	A Berkshire Barley-Field.
103	Lewis, John Frederick, R.A., Walton-on-Thames,	The Prayer of Faith healeth the Sick. Lent by J. Wardell, Esq.
104	Lutyens, C., London,	Portrait of F. Barne, Esq. Lent by F. Barne, Esq.
105	MacCallum, A., London,	Sultry Eve.
106	Maclaren, W., Capri, near Naples,	A Game of Knucklebones.
107	Maclise, Daniel, R.A. (deceased),	The Banquet Scene from Macbeth. Lent by F. W. Cosens, Esq.
108	Maclise, Daniel, R.A. (deceased),	The Wood Ranger. Lent by the Royal Academy, London.
109	MacWhirter, J., London,	Out in the Cold. Lent by Captain Hill.
110	MacWhirter, J., London,	Land of the Mountain and of the Flood. Lent by Kaye Knowles, Esq.
111	MacWhirter, J., London,	Valley of Slaughter. Lent by George Fox, Esq.
112	Marks, Henry Stacy, A.R.A., London,	The Ornithologist. Lent by George Fox, Esq.
113	Marks, Henry Stacy, A.R.A., London,	The Three Jolly Post-Boys. Lent by Messrs. Agnew & Sons.
114	Mason, George, A.R.A. (deceased),	Wind on the Wolds. Lent by Fred'k Leighton, Esq., R.A.
115	Millais, John Everett, R.A., London,	Early Days. Lent by C. P. Matthews, Esq.
116	Moore, Henry, London,	A Winter Gale in the Channel. Lent by H. Smith Wright, Esq.
117	Moore, Henry, London,	Storm coming on at Sunset—Coast of North Wales. Lent by E. Bollans, Esq.
118	Mulready, William, R.A. (deceased),	The Village Buffoon. Lent by the Royal Academy, London.
119	Mutrie, Miss A. F., London,	White Cactus.
120	Mutrie, Miss M. D., London,	Cottage Window.
121	Newton, Gilbert Stewart, R.A. (deceased),	Abelard. Lent by the Royal Academy, London.
122	Northcote, J., R.A. (deceased),	The Marriage of the Young Prince Richard, Duke of York, second son of King Edward the Fourth, with Anne, daughter of the Duke of Norfolk, May 15th, 1478. Lent by Her Majesty the Queen.
123	O'Neil, Henry, A.R.A., London,	A Volunteer.
124	Opie, John, R.A. (deceased),	Portrait of Hannah More. Lent by the Duke of Manchester.
125	Orchardson, W. Q., A.R.A., London,	Prince Henry, Poins, and Falstaff. Lent by C. Moxon, Esq.
126	Orchardson, W. Q., A.R.A., London,	Moonlight on the Lagoons, Venice. Lent by H. J. Turner, Esq.

NO.	ARTIST.	TITLE.
127	Oules, W. W., London,	Portrait of John Rous, Esq. Lent by Bart. Rous, Esq.
128	Oules, W. W., London,	Portrait of Philip M. Westlake, Esq.
129	Owen, William, R.A. (deceased),	Boy and Kitten. Lent by the Royal Academy, London.
130	Paton, W. H., R.S.A., Edinburgh,	A Dell without a Name. Lent by Alex. S. Stevenson, Esq.
131	Peele, J. T., London,	Children and Goldfish.
132	Perugini, Charles Edward, London,	Portrait of Mrs. C. E. Perugini, younger daughter of the late Charles Dickens, Esq.
133	Pettie, John, R.A., London,	Touchstone and Audrey. Lent by C. Moxon, Esq.
134	Pettie, John, R.A., London,	Smuggler and Exciseman—Tussle for the Keg. Lent by W. P. Frith, Esq., R.A.
135	Pettie, John, R.A., London,	Portrait of G. H. Boughton, Esq. Lent by G. H. Boughton, Esq.
136	Pettie, John, R.A., London,	Sanctuary. Lent by George Fox, Esq.
137	Poole, P. F., R.A., London,	The Lion in the Path. Lent by Messrs. Agnew & Sons.
138	Pott, L. G., London,	Charles I. leaving Westminster Hall after his Trial. Lent by H. T. Elwes, Esq.
139	Poynter, Edward J., A.R.A., London,	The Ibis Girl. Lent by J. Wardell, Esq.
140	Poynter, Edward J., A.R.A., London,	The Golden Age. Lent by the Earl of Wharnccliffe.
141	Poynter, Edward J., A.R.A., London,	The Festival. Lent by the Earl of Wharnccliffe.
142	Prinsep, Val. C., London,	A Minuet. Lent by George Paine, Esq.
143	Prinsep, Val. C., London,	The Death of Cleopatra.
144	Raeburn, Sir Henry, R.A. (deceased),	Portrait of Alexander, Fourth Duke of Gordon. Lent by the Duke of Manchester.
145	Raven, John S., London,	The Quarries of Holmground, Lancashire.
146	Redgrave, Richard, R.A., London,	The Woodreeve's Orders.
147	Redgrave, Richard, R.A., London,	The Alarm of an Invasion.
148	Reynolds, Sir Joshua, P.R.A. (deceased),	Portrait of the artist. Lent by the Royal Academy, London.
149	Richmond, W. B., London,	Prometheus Bound.
150	Rigaud, John Francis, R.A. (deceased),	Samson and Delilah. Lent by the Royal Academy, London.
151	Rivière, B., London,	Circe and the Companions of Ulysses. Lent by J. K. Cross, Esq., M.P.
152	Rivière, B., London,	War Time. Lent by E. W. Buxtop, Esq.
153	Roberts, T., London,	The Night before Bosworth. Lent by W. J. Alt, Esq.
154	Sant, James, R.A., London,	"Sometimes with most intensity gazing, I seem to see thought folded over thought." Lent by Mrs. Lancaster.
155	Sant, James, R.A., London,	Young Whittington. Lent by Samuel Lord, Esq.
156	Smart, J., A.R.S.A., Edinburgh,	The Gloom of Glen Ogle.
157	Stanfield, Clarkson, R.A. (deceased),	On the Scheldt near Lierkenshoek. Lent by the Royal Academy, London.
158	Staples, Mrs. M. E., Sible Heddingham,	In Memoriam. Lent by W. F. Shawcross, Esq.
159	Starr, Miss Louisa,	Imogen. Lent by H. C. Howells, Esq., of New York.
160	Stone, Marcus, London,	My Lady is a Widow and Childless. Lent by Jas. Virtue, Esq.
161	Storey, George A., London,	Mistress Dorothy. Lent by G. C. Schwabe, Esq.
162	Storey, George A., London,	Only a Rabbit. Lent by Messrs. Agnew & Sons.
163	Stuart, Gilbert (deceased),	Portrait of Washington. Lent by J. Delaware Lewis, Esq.
164	Tadema, L. Alma, A.R.A., London,	Convalescence. Lent by W. H. Smith, Esq., M.P.
165	Tadema, L. Alma, A.R.A., London,	The Vintage Festival. Lent by Ernest Gambart, Esq.
166	Tadema, L. Alma, A.R.A., London,	The Mummy—Roman period. Lent by Messrs. Pilgeram & Lefèvre.

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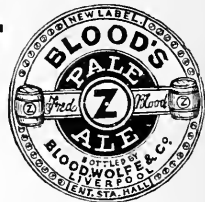
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Only Medal London, 1851. | Only First Class Medal, Paris, 1855.
Prize Medal London, 1862. | Gold Medal Paris, 1867.

ONLY DIPLOMA OF HONOUR, VIENNA, 1873.

NO.	ARTIST.	TITLE.
167	Topham, F. W. W., London,	The Fall of Rienzi, the last Roman Tribune. Lent by the Corporation of Liverpool.
168	Turner, J. M. W., R.A. (deceased),	Dolbadden Castle, North Wales. Lent by the Royal Academy, London.
169	Wallis, H., London,	Across the Common. Lent by Charles G. Clement, Esq.
170	Wallis, H., London,	The Stone-Breaker. Lent by Temple Soanes, Esq.
171	Walton, F., Dorking,	Crossways Farm, near Dorking. "One of the olden time."
172	Ward, Edward M., R.A., London,	Chesterfield's Anteroom. Lent by George Fox, Esq.
173	Ward, Edward M., R.A., London,	Lady Teazle's Spinster Days.
174	Ward, Mrs. Henrietta, London,	The Poet's First Love. Lent by A. Brogden, Esq., M.P.
175	Ward, Mrs. Henrietta, London,	A Scene from the Childhood of the Old Pretender.
176	Ward, James, R.A. (deceased),	An Arab Horse. Lent by Charles J. Freake, Esq.
177	Watts, George F., R.A., London,	Portrait of John Everett Millais, R.A. Lent by J. E. Millais, Esq., R.A.
178	Watts, George F., R.A., London,	Portrait of Frederick Leighton, R.A. Lent by F. Leighton, Esq., R.A.
179	Weigall, Henry, London,	Portrait of the late Duke of Wellington, K.G. Lent by the Dowager Countess of Westmoreland.
180	Weigall, Henry, London,	Portrait of Alexandra, Princess of Wales.
181	Wells, Henry Tanworth, R.A., London,	Portrait of the Right Hon. W. E. Forster, M.P. Lent by the Right Hon. W. E. Forster, M.P.
182	Wells, Henry T. R.A., London,	Volunteers at a Firing Point, with portraits of Colonel The Hon. W. J. Colville, Lieut.-Colonel Lord Elcho, Lieut.-Colonel Sir Henry Halford, Bart., Major Drake, Royal Engineers, Captain Horatio Ross, Captain Heaton, Stewart Pixley, Esq., Martin R. Smith, Esq., and Edward C. Ross, Esq.
183	Wells, Henry T., R.A., London,	Alice.
184	West, Benjamin, P.R.A. (deceased),	The Death of General Wolfe. Lent by Her Majesty the Queen.
185	West, Benjamin, P.R.A. (deceased),	Christ Blessing Little Children. Lent by the Royal Academy, London.
186	Wilkie, Sir David, R.A. (deceased),	Reading the Gazette. Lent by Joseph Fenton, Esq.
187	Wilkie, Sir David, R.A. (deceased),	Boys Digging for a Rat. Lent by the Royal Academy, London.
188	Wilson, Richard, R.A. (deceased),	Portrait of the artist. Lent by the Royal Academy, London.
189	Wynfield, D. W., London,	Fresh Flowers. Lent by George Dibley, Esq.
190	Wynfield, D. W., London,	The Death of Buckingham.
191	Yeames, William F., A.R.A., London,	The Appeal to the Podestà. Lent by Messrs. Agnew & Sons.
192	Yeames, William F., A.R.A., London,	Flowers for Hall and Bower. Lent by Messrs. Agnew & Sons.
193	Zoffany, Johann, R.A. (deceased),	The Meeting of the Members of the Royal Academy, London. Lent by the Royal Academy, London.

WATER COLOR PAINTINGS.

NO.	ARTIST.	TITLE.
1	Absoion, J., London,	The Beacon. Lent by C. R. Cheffins, Esq.
2	Beavis, R., London,	Returning Home from the Autumn Fairs—Early Snow. Lent by David Duncan, Esq.
3	Brierly, O. W., London,	Blake going on board the "Resolution" off Dover to take command of the Fleet fitted out against the Dutch, June, 1652. Lent by Messrs. Vokins.
4	Callow, W., London,	The Grand Canal, Venice, looking toward Santa Salute.
5	Callow, W., London,	Menagio on the Lake of Como.
6	Cattermole, George (deceased),	The Death of Duncan. Lent by George Giles, Esq.
7	Cox, David, Jr., London,	Donne Castle. Lent by F. A. Argles, Esq.
8	Cox, David, Jr., London,	Mountain Solitude. Lent by Captain Baldwin.

NO.	ARTIST.	TITLE.
9	Donaldson, A. B., London,	Ludlow Churchyard.
10	Fahey, E. H., London,	A Cloudy Day on the Moulsoford Downs.
11	Fripp, A. D., London,	Young England. Lent by P. G. Hewett, Esq., F.R.S.
12	Fripp, A. D., London,	Starring in the Provinces. Lent by W. S. Cookson, Esq.
13	Fripp, A. D., London,	The Coming Storm. Lent by H. Drake, Esq.
14	Gilbert, Sir John, A.R.A., Blackheath Road,	Visit of King Francis the First of France, the Queen of Navarre, Madam d'Estampes, and the Cardinal of Lorraine to the Workshop of Benvenuto Cellini.
15	Gillies, Mrs. M., London,	Prospero and Miranda. Lent by James Horsfall, Esq.
16	Goodall, E. A., London,	The Rialto. Lent by F. A. Argles, Esq.
17	Goodall, E. A., London,	The Ancient Causeway near the Pyramids of Sak-hara.
18	Goodall, Walter, London,	The Lottery Ticket. Lent by Jones Gibb, Esq.
19	Haghe, Louis, London,	The Tepidarium of the Baths (Pompeii). Lent by T. Woodgate, Esq.
20	Haghe, Louis, London,	His Holiness Pope Pius IX. administering the communion to the gentlemen of his household, and to persons of distinction, in the Sistine Chapel, in the Vatican. Lent by R. M. Knowles, Esq.
21	Haghe, Louis, London,	The Night Watch.
22	Hargitt, E., London,	A Highland Glen. Lent by R. Newbold, Esq.
23	Jenkins, J. J., F.S.A., London,	En Route. Lent by H. A. Hunt, Esq., C.B.
24	Johnson, E. K., Sible Hedingham,	A Study. Lent by J. Galsworthy, Esq.
25	Johnson, H., London,	The Carrara Mountains from Lerici, Gulf of Spezia. Lent by E. Cohen, Esq.
26	Jopling, J. M., London,	Flossy. Lent by the Right Hon. Cowper Temple, M.P.
27	Jopling, J. M., London,	Winter. Lent by H. S. Bicknell, Esq.
28	Jopling, J. M., London,	In the Conservatory.
29	Knight, J., London,	A Morass. Lent by Henry Crowley, Esq.
30	Linton, J. D.,	Washing the Beggars' Feet on Maundy-Thurs-day. Lent by A. Dunbar, Esq.
31	May, W., London,	Homeward Bound. Lent by E. J. Reed, Esq., C.B., M.P.
32	Mole, J. H., London,	Somebody Coming. Lent by Latimer Clark, Esq.
33	Montalba, Miss Clara, London,	Blessing a Tomb, Westminster.
34	Naftel, P. J., London,	Isle of Skye.
35	Newton, A. P., London,	Mountain Gloom, Glencoe. Lent by F. W. Strugnell, Esq.
36	Newton, A. P., London,	Left by the Tide.
37	O'Connor, J., London,	St. Paul's, Thanksgiving-day. (In distemper.) Lent by Lord R. L. Gower.
38	Severn, A., London,	Waves by Moonlight. Lent by the Duchess of Westminster.
39	Severn, A., London,	Old Chelsea before the Thames Embankment. Lent by Alfred Tylor, Esq., F.G.S.
40	Smallfield, F., London,	Italian Nurse and Child.
41	Smallfield, F., London,	Genoese Flower-Girl.
42	Stillman, Mrs. M., London,	Sir Tristram and Queen Yseult.
43	Tadema, L. Alma, A.R.A., London,	The Picture. Lent by Ernest Gambart, Esq.
44	Tadema, L. Alma, A.R.A., London,	The Three Friends. Lent by Messrs. Pilgeram & Lefevre.
45	Tadema, L. Alma, A.R.A., London,	History of an Honest Wife. Lent by Messrs. Pilgeram & Lefevre.
46	Tayler, F., London,	Cattle ferry-boat landing at Kylarkin from the Isle of Skye, Scotland. Lent by W. Gibley, Esq.
47	Tayler, F., London,	Keeper's Daughter. Lent by W. Gibley, Esq.
48	Tayler, F., London,	A Meet in the Forest. Lent by W. Gibley, Esq.
49	Thomas, W. L., London,	The Girls' School.
50	Thorburn, A., A.R.A., London,	Duchess of Manchester. Lent by the Duke of Manchester.
51	Thorburn, A., A.R.A., London,	Lady Constance Grosvenor. Lent by the Duke of Westminster.

NO.	ARTIST.	TITLE.
52	Topham, F. W., London,	Listening to her Lover's Letter. Lent by R. M. Knowles, Esq.
53	Willis, H. B., London,	A Group of Highland Cattle in Glen Nevis, Western Highlands, Scotland. Lent by H.R.H. the Princess Louise (Marchioness of Lorne).
54	Willis, H. B., London,	A Group of Cattle on the Banks of the Hamble, in Hampshire. Lent by Mrs. George Moore.

DRAWINGS WITH PEN, PENCIL, OR CRAYONS.

ARTIST.	TITLE.
Leech, John (deceased),	Outlines in pencil. Lent by Miss C. E. Leech, London.

ENGRAVINGS.

NO.	ARTIST.	TITLE.
1	Barlow, T. O., A.R.A., London,	Prayer (after J. Phillip, R.A.).
2	Barlow, T. O., A.R.A., London,	Faith (after J. Phillip, R.A.).
3	Barlow, T. O., A.R.A., London,	Dolores (after J. Phillip, R.A.).
4	Barlow, T. O., A.R.A., London,	Sir James Paget, Bart. (after J. E. Millais, R.A.).
5	Brandard, E. P., Barnsbury,	Venice (after J. M. W. Turner, R.A.).
6	Brandard, E. P., Barnsbury,	Men-of-War off Plymouth—Rough Weather (after H. Dawson).
7	Cope, C. W., R.A., London,	"The Life School of the Royal Academy."
8	Edwards, Edwin, London,	Proofs of a work on "Old Inns";—Title-page, "Crown and Castle, Oxford;" back, "Scole Inn."
9	Edwards, Edwin, London,	Proofs of a work on "Old Inns."
10	Edwards, Edwin, London,	Martlesham Lion Inn and Sign.
11	Edwards, Edwin, London,	Scole Inn. The Sun, Feering.
12	Edwards, Edwin, London,	Half Moon, Bury. Rose and Crown, Sudbury.
13	Etching Club,	Etchings by members. Lent by Samuel Redgrave, Esq.
14	Evershed, Arthur, London,	Dry Points.
15	Evershed, Arthur, London,	Etchings.
16	Haden, F. S., London,	Calais Pier (after J. M. W. Turner, R.A.).
17	Haden, F. S., London,	Breaking up of the Agamemnon.
18	Heseltine, J. P., London,	Branscombe, Devon. Gainsborough Lane, Ipswich.
19	Jeens, C. H., London,	Parents of Christ seeking Him (after E. Armitage, R.A.).
20	Leighton, J., F.S.A., London,	Proofs of wood engravings, various (after drawings by artist).
21	Leighton, J., F.S.A., London,	Etchings printed from relief.
22	Lewis, Charles G., London,	The Horse Fair (after Rosa Bonheur).
23	Lewis, Charles G., London,	Highland Cattle—Early Morn (after Rosa Bonheur).
24	Lewis, Charles G., London,	Bouricairos crossing the Pyrenees (after Rosa Bonheur).
25	Lewis, Charles G., London,	Daniel in the Lions' Den (after B. Rivière).
26	Parkes, R. B., Hornsey,	Mrs. Abington as Miss Prue (after Sir J. Reynolds, P.R.A.).
27	Phillips, L. B., London,	The Rathhaus, Cologne.
28	Phillips, L. B., London,	The Canongate Tolbooth, Edinburgh.
29	Phillips, L. B., London,	John Knox's House, Edinburgh.
29 ^a	Quick, W. M. R., London,	Specimens of engravings on wood.
30	Redgrave, Richard, R.A., London,	Help at Hand.
31	Redgrave, Richard, R.A., London,	Rustic Courtship.
32	Ridgway, W., London,	The Light of the World (after Holman Hunt).
33	Ridgway, W., London,	Pirates of the Mediterranean (after F. R. Pickersgill, R.A.).
34	Ridgway, W., London,	A Triumphant Procession (after T. Gérard).

NO.	ARTIST.	TITLE.
35	Saddler, J., London,	St. Michael's Mount, Cornwall (after Birket Foster).
36	Saddler, J., London,	Homeless (after G. Doré).
37	Saddler, J., London,	Going to the Christening (after A. Bellows).
38	Saunders, G., London,	Choosing the Wedding Gown (after W. Mulready, R.A.).
39	Saunders, G., London,	The Valley Farm (after J. Constable, R.A.).
40	Sharpe, C. W., Maidenhead,	Play scene in Hamlet (after D. Maclise, R.A.).
41	Sharpe, C. W., Maidenhead,	Here Nelson fell (after D. Maclise).
42	Slocombe, C. P., Islington,	King Arthur's Castle, Tintagel, Cornwall.
43	Slocombe, C. P., Islington,	Stonehenge.
44	Slocombe, C. P., Islington,	Beach at Rottingdean, Sussex—chalk cliffs and boulders.
45	Stacpoole, F., London,	Circe and the Friends of Ulysses (after B. Rivière).
46	Stacpoole, F., London,	Ought and Carry One (after Miss A. Havers).
47	Swain, Joseph, London,	Pictures from "Punch."
48	Swain, Joseph, London,	Specimens of book and magazine illustrations.
49	Tayler, Frederick, London,	Illustrations to the "Deserted Village" of Oliver Goldsmith.
50	Tayler, Frederick, London,	The "L'Allegro" of Milton.
51	Tayler, Frederick, London,	The "Songs of Shakespeare."
52	Thomas, Percy, London,	Good-Night.
53	Thomas, Percy, London,	Miss Isabel Bateman.
54	Thomas, Percy, London,	Henry Irving, Esq.
55	Tomkins, Charles A., London,	Jochebed, mother of Moses (after Fred'k Goodall, R.A.).
56	Tomkins, Charles A., London,	Lady Gertrude Fitzpatrick (after Sir J. Reynolds, P.R.A.).
57	Tomkins, Charles A., London,	The Right Rev. J. W. Colenso, D.D., Bishop of Natal (after S. Sidley).
58	Uhlrich, H. S., Chiselhurst,	Three sets of wood engravings, portraits.
59	Ward, George R., London,	Earl of Harewood and Hounds (after Sir F. Grant, P.R.A.).
60	Ward, George R., London,	Mehemet Ali, Pasha of Egypt (after T. Brigstocke).
61	Willmore, A., London,	Dutch Boats landing Fish off Egmont (after E. W. Cooke, R.A.).
62	Willmore, A., London,	A Calm Morning on the Thames (after D. Cox).
63	Willmore, A., London,	Windsor Castle (after Birket Foster).

CANADA.

[Works of Art marked with an asterisk (*) are for sale. Information may be obtained at the office of the Canadian Commission, Main Building.]

(Annex, Gallery No. 26.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
1	Cresswell, W. N.,	Sheep.	Dr. John Salter.
2	Kane, Paul,	Chief of Prairie Tribes.	Hon. G. W. Allen.
3	Vogt, Adolph,	Habitans.	H. McMahon, Esq.
4	Day, F.,	Landscape.	
5	Verner, F. A.,	Winneshiek.	
6	Cresswell, W. N.,	In the Eastern Townships.	Dr. John Salter.
7	Perré, H.,	*Autumn.	
8	Verner, F. A.,	*Hudson Bay Officials leaving Brûlé Portage, on Rainy Lake (early morning).	
9	Kreighoff,	Winter in Lower Canada.	Mrs. Frothingham.
10	Cresswell, W. N.,	Pastoral.	Dr. John Salter.
11	Verner, F. A.,	*Wa-pa-sto-ka.	
12	Jacobi,	Morning Mist on the Ottawa.	A. Gilmore, Esq.
13	Forbes, J. C.,	Foundering of the Hibernia in Mid-Ocean.	
14	Verner, F. A.,	*Storm on Lake Ontario.	
15	Forbes, J. C.,	Beware.	
16	Hancock, H.,	*At Dundas, Ontario.	
17	Jacobi,	Mountains on the Ottawa.	A. Gilmore, Esq.
18	Day, F.,	Landscape.	
19	Martin, T. M.,	A Whisky Ring.	
20	Day, F.,	Landscape.	
21	Perré, H.,	*Summer.	
22	Verner, F. A.,	*Indian Summer, Parry Sound.	
23	Day, F.,	Landscape.	
24	Sandham, H.,	On the river Godbout.	A. Gilmore, Esq.
25	Day, F.,	Landscape.	
26	Day, F.,	Landscape.	
27	Edson, A.,	The Owl's Head, Eastern Township.	H. McMahon, Esq.
28	Verner, F. A.,	*Ne-bah-quah-ous.	
29	Cresswell, W. N.,	Coast Sketch.	Major Walker.
30	Baigent, R.,	*Dead Canary.	
31	Millard, C. S.,	Scene in Wales.	J. M. T. Burnside.
32	Matthews, M.,	Lane in Oxfordshire.	
33	Martin, T. M.,	Still Life.	Warren Rock, Esq.
34	Millard, C. S.,	Rest.	Dr. Hall.
35	O'Brien,	Lords of the Forest.	Government of Ontario.
36	O'Brien,	Crossing the Ice.	E. Carter, Esq.
37	Fowler, D.,	Lilacs.	C. S. Gzowski, Esq.
38	Millard, C. S.,	Indian Tents.	Major John Walker.
39	O'Brien,	Pelé Islands.	Dr. J. Hall.
40	White, G. H.,	Stapel-y-Mall.	J. K. Kerr.
41	Millard, C. S.,	Snowdon.	A. Leask.
42	Fowler, D.,	Lilacs.	Government of Ontario.
43	Cresswell, W. N.,	Lake Superior.	Major Walker.
44	Cresswell, W. N.,	Sheep.	Major Walker.
45	Jacobi,	Landscape.	L. R. O'Brien, Esq.
46	O'Brien,	Ottawa.	

NO.	ARTIST.	TITLE.	OWNER.
47	Sandham, H.,	Point des Monts.	H. Langley, Esq.
48	Hoch, I.,	Old Well in the Woods.	Government of Ontario.
49	Cresswell, W. N.,	Thunder Cape, Lake Superior.	Major Walker.
50	Jacobi,	Landscape.	J. M. T. Burnside, Esq.
51	Fowler, D.,	Partridges.	I. T. Rolph, Esq.
52	Way,	Old Saw-mill.	
53	Edson,	A Trout Brook.	A. I. Pell, Esq.
54	Way,	On the Androscoggin.	T. Kershaw, Esq.
55	Millard, C. S.,	On the Mad River.	A. Chapman, Esq.
56	Fowler, D.,	Castle of Ischia.	J. M. T. Burnside, Esq.
57	Way,	Pumpkin Harvest.	D. A. Crane, Esq.
58	Way,	Morning after the Fishing.	F. Kershaw, Esq.
59	Jacobi,	Sunset.	C. A. Drummond, Esq.
60	Matthews, M.,	A Woodland Stream.	J. C. Forbes.
61	Fowler, D.,	Kirkstall Abbey.	J. M. T. Burnside, Esq.
62	Fowler, D.,	Pigeons.	Dr. C. Leggo.
63	Edson,	Trespassers.	A. I. Pen, Esq.
64	Edson,	Reapers.	T. A. Crane, Esq.
65	Matthews, M.,	Twilight.	C. S. Gzowski, Esq.
66	O'Brien,	Indian Summer.	E. Carter, Esq.
67	Millard,	The Snowdon Ridge.	L. R. O'Brien, Esq.
68	Millard,	Dolwyddelan Castle, Wales.	W. H. Howland, Esq.
69	Fowler, D.,	Flowers.	H. Hancock, Esq.
70	Millard,	North Wales.	J. A. Fraser, Esq.
71	Cresswell,	Lime-Kilns.	Major Walker.
72	Jacobi,	Sketch.	J. M. T. Burnside, Esq.
73	Martin, T. M.,	Beech.	G. Hague, Esq. [treas.]
74	Fowler, D.,	Hollyhocks.	Art Association, Mon-
75	Jacobi,	Sunset.	C. A. Drummond, Esq.
76	Fowler,	Grebes.	H. McMahan, Esq.
77	Weston, I.,	Snowbird and Pigeon.	W. F. Kay, Esq.
78	Fowler, D.,	Syringa.	J. A. Fraser, Esq.
79	Matthews, M.,	At Fairfield, Oxfordshire, England.	Hon. W. Cayley.
80	Millard,	Wild Wales.	J. A. Fraser, Esq.
81	O'Brien,	*Through the Tower Archway, Parli- ment House, Ottawa.	
82	Martin,	Doorway at Westminster Abbey.	James Smith, Esq.
83	Millard,	Welsh Mountain Scene.	R. W. Laird, Esq.
84	Weston, I.,	Making War on the Forest.	
85	Weston, I.,	Study in the Woods.	Major Walker.
86	Jacobi,	Outlet of Gull Lake.	W. F. Kay, Esq.
87	Sandham,	The Lovers' Walk.	T. A. Crane, Esq.
88 ^a	Vandyck,	Portrait of Prince Rupert, painted for George Abbot, Archbishop of Can- terbury in the sixteenth century.	G. A. Gray, Esq.
88 ^b	Vandyck,	Portrait of Owen Abbott, who was de- puted by the English House of Com- mons to bring King George I. to the throne.	G. A. Gray, Esq.
89	Kane, Paul,	Indian Chief.	Hon. G. W. Allen.
90	Sandham, H.,	Mic-Mac Encampment on the Lower St. Lawrence.	D. Butler, Esq.
91	Day, F.,	Winter.	
92	Berthon, G. T.,	The Early Visitor.	Government of Ontario.
93	Jacobi,	The Montmorenci River.	G. A. Drummond, Esq.
94	Raphael, Wm.,	Habitans attacked by Wolves.	G. Scott, Esq.
95	Way, C. I.,	On the Androscoggin.	T. Kershaw, Esq.
96	Jacobi,	Sha-wan-e-gan Falls.	Art Association, Mon-
97	Day, F.,	On Gold River, Nova Scotia.	[treas.]
98	Weston, I.,	*Fruit.	W. Scott, Esq.
99	Bertrand, E.,	*Street Scene in Algiers.	Dr. Robillard.
100	Edson,	Burnham Beeches.	Mrs. Frothingham.
101	Martin, T. M.,	*Nepigon.	
102	Martin, T. M.,	Ptarmigan Grouse.	H. Hague, Esq.

NO.	ARTIST.	TITLE.	OWNER.
103	Fraser, J. A.,	*A September Afternoon.	W. Angus, Esq.
104	Vogt, A.,	Horses at Water.	W. Clare, Esq.
105	Fraser, J. A.,	A Gleam of Morning Sunlight.	G. Scott, Esq.
106	Edson,	On the Line between Canada and the United States.	A. I. Pell, Esq.
107	Martin, T. M.,	Indian Summer, Georgian Bay.	Dr. Givins.
108	Edson,	Burnham Beeches.	Government of Ontario.
109	Fraser, J. A.,	Dry Bed of a Stream.	R. S. Woods, Esq.
110	Way, C. I.,	The Owl's Head, Lake Memphremagog.	R. C. Jamesson, Esq.
111	Vogt, A.,	Returning Home.	W. I. Sterling, Esq.
112	Martin, T. M.,	A Forest Home.	The National Club.
113	Day, F.,	Winter Scene in Nova Scotia.	
114	Sharpe, C.,	The Captive.	Jas. Ewan, Esq.
115	Vogt, A.,	Taking a Breath of Morning Air.	Mrs. G. Frothingham.
116	Sandham, H.,	Old Fort Chambley, Richelieu River.	Miss Gale.
117	Sandham, H.,	On the Godbout River.	W. Notman, Esq.
118	Fraser, W. L.,	*Clouding on Mount Elephantis.	W. Angus, Esq.
119	Way, C. I.,	In the White Mountains.	T. Kershaw, Esq.
120	Fraser, W. L.,	A Pool in the Woods.	G. S. Brush, Esq.
121	Jacobi,	Falls of St. Anne.	I. McLachlan, Esq.
122	Vogt, A.,	The Last Ride.	W. F. Kay, Esq.
123	Martin, T. M.,	*"This Side up with Care."	
124	Bridgman & Foster,	Portrait.	
125	Schreiber, Mrs.,	Goat and Lamb.	
126	Jacobi,	Timber Slide.	A. Gilmore, Esq.
127	Bridgman & Foster,	Portrait of J. L. Hutchinson, Esq.	P. G. C. K. T. Penn.
128	Martin, T. M.,	Fruit.	James Smith, Esq.
129	Verner, F. A.,	Indians Gambling.	
130	Hancock,	Autumn in Canada.	Government of Ontario.
131	Cresswell, W. N.,	The Wreck.	
132	Vogt,	*The Grey Battery.	H. McMahon, Esq.
133	Day, Forshaw,	Landscape.	
134	Forbes, J. C.,	Portrait of D. Forbes, Esq. [eral.	
135	Bridgman & Foster,	Ex-Governor Jewell, Postmaster-Gen-	
136	Fyfe,	Fruit (old picture).	G. A. Gray, Esq.
136 ^a	Lely, Sir Peter,	Portrait of General Vesey Abbott, "of the Blues," Major-General, and Receiver of all the Revenues of England in King William III.'s reign.	G. A. Gray, Esq.
137	Forbes, J. C.,	His Excellency the Earl of Dufferin, Governor-General of Canada.	
138	Martin, T. M.,	Grouse.	H. Hague, Esq.
139	Day, F.,	Sleighting in Nova Scotia.	
140	Martin, T. M.,	Summer Noon.	
141	Day, F.,	River scene.	
142	Day, F.,	River scene.	
143	Hancock, H.,	*Lake Inckbracke.	C. Parsons, Esq.
144	Lely, Sir Peter,	Portrait of Lady Molyneux.	G. A. Gray, Esq.
145	Day, F.,	Marble Head, Nova Scotia.	
146	Fraser, I. A.,	Oat Harvest in Lower Canada.	Government of Ontario.
147	Schreiber, Mrs.,	Olivia.	
"What Olivia really felt gave me some uneasiness. In this struggle between prudence and passion, her vivacity quite forsook her, and every opportunity for solitude was sought."			
148	Lely, Sir Peter,	Portrait of Lady Falkland.	G. A. Gray, Esq.
149	Schreiber, Mrs.,	Joan of Arc.	
150	Bridgman, I. W.,	Portrait of W. H. Frazer, Esq.	
151	De Witte,	Kidderminster Abbey, England.	G. A. Gray, Esq.
152	Day, F.,	Landscape.	
153	Vandervelde,	Ship Firing a Salute.	G. A. Gray, Esq.
154	Lely, Sir Peter,	Portrait of the wife of Major Mordecai Abbott.	
155	Weston, J.,	Bunch of Grapes.	Wm. Notman.
156	Martin, Henry,	Flowers.	H. Langley.

FRANCE.

(Memorial Hall, Central Gallery East, North Side.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
1	Muraton, Mrs. E., Paris,	Monkey amidst the Fruit.
2	Lesrel, A. A., Paris,	A Nobleman (reign of Louis XIII.).
3	Protais, P. A., Paris,	The Royal French Guard, 1776.
4	Guillon, Adolph, Paris,	Landscape.
5	Blanc, C. L., Paris,	Floral Offerings to the Holy Mother, Naples.
6	Veron, A. R., Paris,	Storm—Entrance to the Harbor of Bologne.
7	Brest, Fabian, Paris,	Coffee-House in Persia.
8	Feyen-Perrin, F. N. A., Paris,	Melancholy.
9	Coninck, P. de, Paris,	Italian Shepherd-Girl.
10	Ségé, A., Paris,	Coast Scene.
11	Bartholdi, F. A., Paris,	Old California.
12	Rosier, A., Paris,	Evening in the Harbor of Venice.
13	Yon, Edmond C., Paris,	The River Seine, near Marolles.
14	Viger, H. J. L., Paris,	Empress Josephine and Family, 1814.
15	Bartholdi, F. A., Paris,	New California.
16	Feyen-Perrin, F. N. A., Paris,	Antique Dance.
17	Castiglione, G., Paris,	Visiting the Uncle Cardinal.
18	Lortet, L., Oullins,	View on Mont Blanc.
19	Curzon, A. F. de, Paris,	The Serenade.
20	Bellel, J. J., Paris,	Landscape.
21	Michel, Ernest B., Montpellier,	Decameron.
22	Sain, E. A., Nanterre,	Family Scene in the Pyrenees.
23	Dupres, L. Victor, Paris,	Watering Cattle.
24	Hanoteau, H., Paris,	Feeding the Hens.
25	Legat, Léon, Paris,	Landscape with figures.
26	Antigna, I. P. A., Paris,	The Shipwrecked.
27	Antigna, I. P. A., Paris,	The First Step in Crime.
28	Curzon, P. A. C., Paris,	Ruth and Boaz.
29	Benouville, A., Paris,	Suburbs of Palestrina, Italy.
30	Bellel, J. J., Paris,	Market-Street in Constantine
31	Masson, Miss A., Paris,	Still Life.
32	Brunet-Houard, P. A., Fontaine-bleau,	Dog and Monkey, Circus.
33	Ulmann, B., Paris,	Dancing Gipsy Girl (Spain).
34	Feyen-Perrin, F. N. A., Paris,	A Mother and Child.
35	Lebel, Edmond, Paris,	Italian Shepherd-Girl.
36	Montfallet, D., Paris,	The Minstrel.
37	Hillemacher, E. E., Paris,	Wedding Gifts.
38	Maignan, Albert, Paris,	Hélène at the Fountain.
39	Leyendecker, F. M., Paris,	Still Life.
40	Gide, T., Paris,	Studying.

(Memorial Hall, Gallery E.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
41	Feyen, Eugène, Paris,	Regatta in the English Channel.
42	Palliére, J. L., Paris,	Visiting the Confessor.
43	Kuwasseg, C. J., Sen., Paris,	View in the Tyrol.

NO.	ARTIST.	TITLE.
44	Schenck, A. F., Ecouen,	Sheep in a Snow-Storm.
45	Saintin, Jules Emile, Paris,	Child and an Apple.
46	Notermann, Zach., Paris,	Before the Court.
47	Castiglione, G., Paris,	The Warrants (Haddon Hall Castle).
48	Duran, Carolus, Paris,	Portrait of Mlle. Croizette.
49	Schenck, A. F., Ecouen,	Sheep on the Heath.
50	Brest, Fabius, Paris,	Yard of the Grand Mosque in Trebizond.
51	Plassan, A. E., Passy,	In Front of the Looking-Glass.
52	Viger, H. J. L., Paris,	Remember the Poor.
53	Bellée, L. G. de, Paris,	Winter Landscape.

GOBELIN TAPESTRIES.

NO.	ARTIST.	TITLE.
54	The Gobelin Manufactories in Paris, Beauvais, and Gobelin,	Collection of nine tapestries.

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
55	Chaillou, N., Lagny-le-Sec,	The Watermelon.
56	Landelle, Ch., Paris,	A Fellah Woman (Egypt).
57	Sain, E. A., Nanterre,	The Convalescent.
58	Renié, Jean Emile, Passy,	Landscape.
59	Colzmann, M., Paris,	A Court Scene.
60	Maillart, D., Paris,	The Bird's Nest.
61	Legat, L., Paris,	Village on the River-Bank.
62	Perrault, L., Paris,	Repose.
63	Clément, A. F., Paris,	The Death of Julius Cæsar.
64	Muraton, Mrs. E., Paris,	An Antique Room.
65	Brunet-Houard, P. A., Fontaine-bleau,	Interior of a Menagerie.
66	Renié, Jean Emile, Passy,	Winter Landscape.
67	Comte, P. C., Paris,	Training Rat-Dogs.
68	Saintin, Jules Emile, Paris,	Lonely.
69	Chartran, T., Paris,	Angelica and Roger.
70	Clément, A. F., Paris,	On the Sea-Shore.
71	Luminais, E. V., Paris,	Savages and Cattle.
72	Jacomin, A. L., Paris,	An Armorer of the Seventeenth Century.
73	Comte, P. C., Paris,	The King's Entertainment.
74	Adan, L. Emile, Paris,	Consultation.
75	Prion, Louis, Paris,	School for Young Satyrs.
76	Becker, Georges, Paris,	Rizpah protecting the Bodies of her Sons from the Birds of Prey (II. Samuel xxi. 10).
77	Maignan, Albert, Paris,	The Sentinel.
78	Groiselliez, M. de, Paris,	The Meadows of Moussy.
79	Reynaud, F., Paris,	Market in Naples.
80	Harpignies, A. X., Paris,	Landscape near Renard.
81	Rudaux, E., Caudebec-les-Elbeuf,	Interruption.
82	Protais, P. A., Paris,	Soldiers at a Halt.
83	Leleux, Mrs. Emilie, Paris,	The Doctors' Consultation.
84	Saintin, Jules Emile, Paris,	The Laundress.
85	Salabert, F., Paris,	View on Lake d'Annecy.
86	Faivre-Duffer, L. S., Paris,	Venus led by Love.
87	Ballot, Mrs. A., Paris,	Meditation.
88	Huas, P. A., Paris,	The First Coquetry.
89	Leleux, Armand, Paris,	Indiscretion.
90	Rapin, A. J., Paris,	Lake in the Woods of Marfontaine.
91	Rivey, A., Paris,	Young Venetian Girl.
92	Trupheine, A. J., Paris,	Drawing-School.
93	Lebel, Edmond, Paris,	Butcher in Trastevere (Italy).
94	Chevrier, I., Place de Beaune, Saone.	Captured Mice.

NO.	ARTIST.	TITLE.
95	Dubos, Miss A., Paris,	The Big Sister.
96	Luminais, E. V., Paris,	King Morvan.
97	Courdouan, V., Toulon,	Cannes (Alpine view).
98	Dumaresque, A., Paris,	The Congress of Geneva, 1873.
99	Benouville, A., Paris,	The Banks of the Nive.
100	Pabst, C. Alf., Paris,	Alsatian Bride.
101	Rosier, A., Paris,	Morning on the Lagoons of Venice.
102	Chevrier, I., Place de Beaune, Saone,	Mouse in the Library.
103	Saintin, Jules Emile, Paris,	Leda and the Swan.
104	Hirsch, Alphonse, Paris,	The First-Born.
105	Villebesseyx, G., Paris,	Staircase in the new Opera-House, Paris.
106	Dubouchet, H.,	St. Anthony's Day.
107	Zuber, H. J., Auteuil,	Forest in Normandy.

SCULPTURE AND PORCELAIN.

NO.	ARTIST.	TITLE.
108 ^{a b}	Sèvres Porcelain Manufactory,	Two vases.
109	Girard, N. J., Paris,	Iphigenia Sacrificed (marble).
111	Sèvres Porcelain Manufactory,	Vase.
112	Cordier, Ch., Paris,	Arabian Woman (marble and bronze statue).
113 ^{a b}	Sèvres Porcelain Manufactory,	Two vases.
114	Bartholdi, A., Paris,	The Young Vine-Grower (bronze).
115 ^{a b}	Sèvres Porcelain Manufactory,	Two vases.
116	Félon, Joseph,	L'Oceani (granite).
117	Sèvres Porcelain Manufactory,	Vase.
118	Schroeder, Louis, Paris,	Etruscan Art.
119 ^{a b}	Sèvres Porcelain Manufactory,	Two vases.

(Memorial Hall, Gallery Z.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
120	Ballavoine, J. F., Paris,	The Bouquet.
121	Chevrier, J., Place de Beaune, Saone,	Rats in a Gothic Hall.
122	Coroenne, H., Paris,	Salutation.
123	Baucé, J. A., Paris,	Interior of a Sheep-Cote.
124	Montfallet, A., Paris,	The Juggler (time of Louis XIII.).
125	Lepesqueur, H., Paris,	The Beautiful Innkeeper.
126	Yon, Edmond C., Paris,	River Seine near Marolles.
127	Sebillot, Paul, Paris,	Trees on the Sea-Shore.
128	Laporte, M., Paris,	Betrothed.
129	Colzmann, M., Paris,	An Old History.
130	Salles-Wagner, Mrs. A., Nimes,	Holy Mother and Child.
131	Chagot, E., Paris,	The Beach of St.-Briac.
132	Lays, J. P., Lyons,	Basket with Flowers.
133	Delobbe, F. A., Paris,	Going Home from the Fields.
134	Fery, Miss V., Paris,	Artistic objects.
135	Daubigny, Karl, Paris,	Landscape.
136	Dameron, E., Paris,	The Pyramids.
137	Accard, E., Paris,	The Two Sisters.
138	Petit, Eugène, Paris,	Spring Flowers.
139	Blum, Maurice, Paris,	A Consultation.
140	Trouillebert, P. D., Paris,	Remembrance.
141	Blum, Maurice, Paris,	A Painful Operation.
142	Lays, J. P., Lyons,	Basket with Fruit.
143	Dumaresque, A., Paris,	Declaration of Independence, United States of America, 4th July, 1776.
144	Masure, J., Paris,	Shores of the Bay of San Juan.

NO.	ARTIST.	TITLE.
145	Sirouy, A., Paris,	A Japanese Lady.
146	Guillon, A., Paris,	After the Rain.
147	Chaillou, N., Lagny-le-Sec,	Public Assistance in Paris.
148	Chevrier, J., Place de Beaune, Saone,	Mouse in an Antique Room.
149	Morin, Léonard, Paris,	Flower-Market at the Madeleine.
150	Dupré, Victor, Paris,	Banks of the River Marne.
151	Nicholas, Miss M., Paris,	The Alphabet.
152	Houard-Brunet, P. A., Fontaine-bleau,	The Horse Fair.

SCULPTURE.

NO.	ARTIST.	TITLE.
153	Perrey, N. A., Paris,	A Young Shepherd (marble).
154	Vasselot, A. de, Paris,	Portrait of M. Auzoux (bronze).
155	Devaux, F. A., Rouen,	Louis Bouilhet (marble).

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
156	Bouillard, A. M. L., Paris,	Hope.
157	Muraton, A., Paris,	A Monk.
158	Revel, C., Paris,	The Miser.
159	Beliard, E., Paris,	Banks of the River Oise (Winter).
160	Oudinot, A., Paris,	Low Tide at Villeville.
161	Notermann, Z., Paris,	Auction Sale.
162	Duverger, T. E., Ecoeu, Paris,	The School.
163	Salles-Wagner, Miss A., Nimes,	The Little Fisher.
164	Montfallet, A., Paris,	Summer Amusements near Versailles.
165	Hirsch, A., Paris,	The Model.
166	Collette, A., Paris,	A French Peasant Girl.
167	Munier, E., Paris,	Refreshment.
168	Leleux, Armand, Paris,	At the Fountain.
169	Selim, Mrs. H., Paris,	Divine Love.

(Memorial Hall, Gallery I.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
170	Gide, T., Paris,	An After-Dinner Nap.
171	Yvon, A., Paris,	Napoleon the First.
172	Duverger, Th. E., Ecoeu, Paris,	End of the Harvest.
173	Bruelle, Gaston, Paris,	Fishing-Boats.
174	Cabuzel, A. H., Paris,	A Visit to the Louvre.
175	Daubigny, K. P., Paris,	Valley of Pourville (Normandy).
176	Glaize, T. T. L., Paris,	The Flower-Girl.
177	Busson, Ch., Montoire,	Before the Rain.
178	Hillemacker, Ernest, Paris,	Napoleon I., with Goethe and Wieland.
179	Curzon, A. de, Paris,	View at Fort Napoleon.
180	Brissot de Warville, Saturnin, Compiègne,	Sheep-Pen.
181	Dumaresque, A., Paris,	Surrender of Yorktown.
182	Legat, L., Paris,	An Old Water-Mill.
183	Veron, A. R., Paris,	Banks of the River Seine.
184	Leleux, A., Paris,	The First Theft.
185	Bellé, J. J., Paris,	Suburbs of Constantine.
186	Richner, L. P. R., Paris,	Reminiscence of Raincy.
187	Clément, H., Paris,	A Fellah Girl (Egypt).
188	Vuagnat, F., Paris,	Landscape with Cattle.
189	Deshayes, Ch., Paris,	In the Forest.
190	Jacomin, H., Paris,	Check-mate.
191	Bellange, Eug., Paris,	Evening after the Battle.

NO.	ARTIST.	TITLE.
192	Rapin, A., Paris,	Morning—Valley of Bonnevoix.
193	Willenick, M., Paris,	L'Ospedaletto, Venice.
194	Kienlin, Jules, Paris,	The Party.
195	Bar, Alexandre de, Paris,	View at Boulak.
196	Lebel, E., Paris,	View in Italy.
197	Berthelemy, E., Paris,	Fishing-Boats going to Sea.
198	Feyen-Perrin, F. N. A., Paris,	The Lesson in Anatomy.
199	Renié, Jean Emile, Passy,	Interior of the Bas-Breaux.
200	Baron, Stephane, Paris,	Faust and Margaret.
201	Lesrel, A. A., Paris,	The Halberd-Seller.
202	Willenich, M., Paris,	The Naval Battle.
203	Cetner, A. de, Paris,	Salambo.

SCULPTURE AND PORCELAIN.

NO.	ARTIST.	TITLE.
204	Sèvres Porcelain Manufactory,	Vase.
205	Sèvres Porcelain Manufactory,	Vase.
206	Vasselot, A. de, Paris,	Chloe (bronze).
207 ^a	Sèvres Porcelain Manufactory,	Two vases.
208	Sèvres Porcelain Manufactory,	Vase.
209	Cordier, Ch., Paris,	Christopher Columbus (bronze).
210	Sèvres Porcelain Manufactory,	Vase.
211	Marcellin, E., Paris,	Venus nursing Cupid (bronze).
212	Sèvres Porcelain Manufactory,	Vase.
213	Itasse, A., Paris,	Playing Cupid (marble).
214	Itasse, A., Paris,	John Crying (marble).
215	Itasse, A., Paris,	Boy and Snail (marble).
216	Itasse, A., Paris,	Sleeping Cupid (marble).
217	Itasse, A., Paris,	Christmas Gifts (marble).
218	Itasse, A., Paris,	Cupid Ready (marble).
219	Itasse, A., Paris,	The Last Hour (marble).
220	Itasse, A., Paris,	John Laughing (marble).
221	Itasse, A., Paris,	Day and Night (marble).
222	Lanson, E., Paris,	Bust (marble).
223	Roubeaud, L. A., Paris,	Child (marble).
224	Gautherin, J., Paris,	Two Good Friends.
225	Arson, A., Paris,	Partridges (bronze).
226	Loison, P., Paris,	The Young Convalescent (marble).
227	Félon, Paris,	Navigation (bronze).
228	Itasse, A., Paris,	Boy and Bird (marble).
229	Roubeaud, L. A., Paris,	A Young Girl (marble).
230	Galineau, J. A. de, Stockholm,	Queen Mab (marble).

(*Memorial Hall, Grand Central Hall, Gallery B.*)

SCULPTURE AND PORCELAIN.

NO.	ARTIST.	TITLE.
231	Crauk, Gustave, Paris,	MacMahon (bronze).
232 ^a	Sèvres Porcelain Manufactory,	Two vases (porcelain.)
233	Sèvres Porcelain Manufactory,	Two vases (porcelain).
233 ^a	Sèvres Porcelain Manufactory,	Starting for Cythera (painting on porcelain).
234	Cordier, Charles, Paris,	Priestess of Isis (bronze).

(*Annex, Gallery No. 32.*)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
235	Kienlin, Jules, Paris,	Louis XIII. and Anne of Austria.
236	Clairval, Mrs. M. T., Paris,	France in Mourning for Alsace and Lorraine.
237	Herpin, Léon, Paris,	The Hills of Moulineau.

NO.	ARTIST.	TITLE.
238	Zuber-Buhler, Paris,	The Dew.
239	Castelnau, P. de, Paris,	The Apollo Gallery in the Louvre.
240	Barrias, Felix J., Paris,	Electra (Victor Hugo).
241	Lambert, A. E., Paris,	The Marshes of Longpré.
242	Salles, J., Nimes,	The Little Brother.
243	Zuber-Buhler, Paris,	The Springs.
244	Renié, J. E., Passy,	Forest of Fontainebleau.
245	Bonnefoy, H., Paris,	Thistles.
246	Allemand, G., Lyons,	A Young Girl with Fruit.
247	Sebron, H., Paris,	Niagara Falls (Winter).
248	Mellée, A. L., Paris,	A Forest Road.
249	Chagot, E., Paris,	Wreck of a Sloop.
250	Sirouy, Ach., Paris,	The Prodigal Son.
251	Berchère, N., Paris,	Gale on the Nile during the Flood.
252	Cassagne, Armand, Paris,	The Cross-Road in the Forest.
253	Rochenoir, I. de la, Paris,	The Flood.
254	Salanson, Miss E., Paris,	Rest.
255	Mathieu, O. P., Paris,	The Nymph Echo bewailing the Death of Narcissus.
256	Carrier, Belleuse P., Paris,	The Sleeping Child.
257	Laurent, Henri, Paris,	Feeding the Sheep.
258	Couder, E. Gustave, Paris,	Alone in the House.
259	Dameron, E. Ch., Paris,	The Oaks of Grandmoulin.
260	Villa, E., Paris,	The Vegetable-Stand.
261	Huas, P. A., Paris,	Soap-Bubbles.
262	Sebron, H., Paris,	A Hebrew Wedding at Tangiers, Morocco.
263	Notermann, Z., Paris,	A St. Bernard Dog on the Alps.
264	Masson, Miss A., Paris,	Flowers.
265	Valadon, J. E., Paris,	The Neighbor's Cat.
266	Veron, A. R., Paris,	Park at Senlis.
267	Moullion, A., Paris,	The Birds' Paradise.
268	Garnier, Jules, Paris,	The Bather.
269	Biliard, E., Paris,	Interior of a Studio.
270	Herst, A., Paris,	The Falls at Doubs.
271	Grandschamp, Pinel de, Paris,	Oriental Fantasy.
272	Salles, Jules, Nimes,	A Young Girl of Procida.
273	Lacretelle, E., London,	The Royal Stables, London.

SCULPTURE.

NO.	ARTIST.	TITLE.
274	Dalou, J., Paris,	The Needle-Woman (bronze).
275	Felon, J., Paris,	The Hour of Rest (marble).
276	Lecoainte, Paris,	Good-Bye (bronze).
277	Martin, F., Paris,	Negro Hunting (bronze).
278	Doublemard, A., Paris,	Bacchus's Education (bronze).
279	Durst, M., Paris,	The Laughter (bronze).

(Annex, Gallery No. 38.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
280	Japy, Louis, Paris,	Valley in the Jura Mountains.
281	Martin, Ernest, Paris,	French Soldiers at the Foot of Mont Valérien.
282	Baux, Miss, Paris,	Salonican Woman.
283	Lacretelle, E., London,	Horses.
284	Jaquard, Claudius, Paris,	Prisoners redeemed at Morocco.
285	Duval, Jobbè, Paris,	Mysteries of Bacchus.
286	Landelle, Charles, Paris,	A Young Gipsy Girl.
287	Bar, Alexandre de, Paris,	Interior of a Forest.
288	Herst, A., Paris,	Spring.
289	Cherez, L.,	The Cours Venéon (Dauphiné).
290	Mathieu, O., Paris,	The Vanquished.

NO.	ARTIST.	TITLE.
291	Jadin, E., Paris,	Sheikh Salah dead in his Tent—Souvenir of the Algerine Sahara.
292	Herpin, L., Paris,	The River Marne at Chermevières.
293	Tortez, V., Paris,	The Nymph Echo.
294	Monginet, C., Paris,	The Friends of the House.
295	Rivey, A., Paris,	Young Girl (time of Louis XIII.).
296	Kock, Miss Eliza, Paris,	"You can't have any."
297	Hugard, Claude, Paris,	Oaks on the Banks of l'Etang de Guirlande.
298	Yvon, Ad., Paris,	Cæsar.
299	Berchère, N., Paris,	After the Simoon.
300	Laporte, Emile, Paris,	Gathering Grapes.
301	Maillart, D., Paris,	A Young Italian Girl and Mandolin.
302	Belle, J. J., Paris,	The Valley of Allevard.
303	Perrault, A., Paris,	The Bather.
304	Laporte, Emile, Paris,	Harvest Scene.
305	Collette, A., Paris,	The Reader.
306	Merry, B., Bougival,	"Don't touch."
307	Bideau, E., Paris,	The Little Quarrelers.

SCULPTURE.

NO.	ARTIST.	TITLE.
308	Dubucand, Alfred, Paris,	A Chase in the Sahara (bronze).
309	Cecioni, Paris,	Child and Cock (bronze).
310	Méne, P. J., Paris,	A Falconer on Horseback (bronze).
311	Dubucand, Alfred, Paris,	Ostrich-Hunting (bronze).
312	Moulin, H., Paris,	A Secret (bronze).

(Annex, Gallery No. 37.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
313	Maignan, Albert, Paris,	The God of the Woods.
314	Callias, H., Paris,	A Concert (period of Charles the Bold).
315	Doux, Mrs. Lucile, Paris,	Revery.
316	Ferry, G., Paris,	Worship of Bacchus.
317	Breton, Emile, Pas-de-Calais,	The Canal of Courrières.
318	Trouillebert, ———, Paris,	A Young Girl at the Fountain.
319	Collette, A., Paris,	The Railroad Depot.
320	Debat, Ponsan E., Paris,	The First Mourners.
321	Carrier, Belleuse P., Paris,	The Baptismal Plate.
322	Dubos, Miss A., Paris,	The Barber's Daughter.
323	Bellée, G. C., Paris,	The Pillars of Scornée.
324	Gudin, Théodore, Chateau de la Barre,	Escape of a Christian Slave.
325	Camorré, Léon, Lille,	Cassandra.
326	Cassagne, A., Paris,	Through the Rocks.
327	Valandon, I., Paris,	Motherly Apprenticeship.
328	Fery, Miss L., Paris,	Roses and Fruit.
329	Muratou, A., Paris,	The Penitent.
330	Deshayes, Ch., Paris,	Cattle in Pasture.
331	Cabaillet, Lasalle, Paris,	Sculptors' Hall in the Exhibition of 1872.
332	Poncet, I. B., Paris,	Orpheus and Eurydice.
333	Cassagne, A., Paris,	Sully's Walk at Fontainebleau.
334	Durst, Aug., Puteaux,	Evening in the Kitchen.
335	Vely, A., Paris,	A Lady with a Guitar.
336	Landelle, Ch., Paris,	A Samaritan Woman.
337	Princeteau, R., Paris,	Portrait of Washington.

SCULPTURE.

NO.	ARTIST.	TITLE.
338	Cain, A., Paris,	Cock Fight (bronze).
339	Méne, P. J., Paris,	Scottish Hunting Scene (bronze).

NO.	ARTIST.	TITLE.
340	Lechene, A. J. B., Paris,	Parrots (bronze).
341	Mêne, P. J., Paris,	Hunter and Dogs (bronze).
342	Megrez, A., Paris,	The Youth David (bronze).

(Annex, Gallery No. 35.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
343	Cassinelli, H., Nice,	Decatur leaving the harbor of Tripoli, February, 1804, after having set fire to the Frigate Philadelphía.
344	Laguillermie, F., Paris,	Crossing the Run.
345	Cettner, A., Paris,	Faith.
346	Sebron, H., Paris,	Broadway, New York (Winter).
347	Adan, L. Emile, Paris,	Scene of the Inquisition.
348	Mallet, Joseph, Paris,	The Juggler's Family.
349	Zier, Edouard, Paris,	Julia.
350	Mallet, Joseph, Paris,	Boats on the Rhone.
351	Daubigny, Karl, Paris,	Shipping Oysters at Cancale.
352	Antigna, J. P. A., Paris,	Fascination.
353	Breton, Emile, Pas-de-Calais,	A Village in Winter.
354	Bar, Alexandre de, Paris,	The Death of Virginia.
355	Jacomín, A., Paris,	Bilboquet and his Companion.
356	Poncet, B., Paris,	Sully, of the Théâtre Français, in the part of "Orestes."
357	Renié, J. Emile, Paris,	Old Oaks.
358	Barras, Felix, Paris,	"My Husband is on the Sea."
359	Princeteau, R., Paris,	Horses frightened by the Railway Train.
360	Rouffio, P., Paris,	Herodias.
361	Jundt, G., Paris,	The Hair Fair in Auvergne.
362	Ségé, A., Paris,	Fountain at Nantois.
363	Durst, A., Puteaux,	Evening Landscape.
364	Jundt, G., Paris,	Coast Scene.
365	Rougeron, A., Paris,	Teasing.

SCULPTURE.

NO.	ARTIST.	TITLE.
366	Cordier, Charles, Paris,	Young Grecian Girl (bronze).
367	Gobineau, de, Stockholm,	Valkyria after the Victory (marble).
368	Cordier, Charles, Paris,	Fellah Girl (bronze).
369	Bertaux, Miss Léon, Paris,	Ideal bust (marble).
370	Caille, J. M., Paris,	Bacchante playing with a Panther (bronze).

(Annex, Galleries Nos. 34, 36, 45.)

WATER COLORS, ENGRAVINGS, ETC.

NO.	ARTIST.	TITLE.
371	Lalande, Maxime, Paris,	Crayon drawing.
372	Dumas, Em., Paris,	Flowers (water color).
373	Herst, A., Paris,	Pines in Provence (water color).
374	Mermet, C., Paris,	Butterflies (water color).
375	Courdouan, V., Toulon,	Valley in the Ardennes Mountains (crayon).
376	Cassagne, A., Paris,	View in a Forest (water color).
377	Courdouan, V., Toulon,	Moustier Ste. Marie (pastel).
378	Félon, Joseph, Paris,	Massacre of the Innocents (India ink).
379	Lestang, Parade de, Paris,	Autumn Flowers (water color).
380	Herst, A., Paris,	Aygalades, near Marseilles (water color).
381	Lalanne, M., Paris,	View of Bordeaux Harbor.
382	Félon, Joseph, Paris,	Engravings.
383	Félon, Joseph, Paris,	Notre Dame de Ste. Espérance.
384	Cassagne, A., Paris,	An Up-hill Road.

NO.	ARTIST.	TITLE.
385	Brunet, Debaines A., Paris,	Three etchings, after Turner.
386	Gaillard, F., Paris,	Van Eyck (etching).
387	Gaillard, F., Paris,	The Holy Heiress (etching).
388	Bellel, J. J., Paris,	The Ravine at Gravenoire (drawing).
389	Brunel, Debaines A., Paris,	An Italian Yard.
390	Gaillard, S., Paris,	Portrait of Pius IX.
391	Brunet, Debaines A., Paris,	Six etchings.
392	Bichot, Felix, Paris,	Japanese objects of art (etching).
393	Rajon, P. A., Paris,	Portrait of John Stuart Mill (etching).
394	Gaillard, F., Paris,	The (Edipus of Ingres (etching).
395	Thomas, Emile, Paris,	Marshal Prim (wood engraving).
396	Levasseur, J. G., Paris,	Miracle of the Loaves and Fishes, after Murillo.
397	Gaillard, F., Paris,	Portrait of Count de Chambord.
398	Levasseur, J. G., Paris,	Dante's Departure.
399	Rajon, P. A., Paris,	"Don't cry."
400	Lévy, Gustave, Paris,	La belle Jardinière.
401	Dubouchet, H., Auteuil,	Charon (engraving).
402	Potemont, M., Paris,	La Tonnellerie—a street in old Paris.
403	Brunet, Debaines A., Paris,	Remains of St. Charles Bridge.
404	Lalanne, M., Paris,	View of the Pont de la Concorde, Paris (engaving).
405	Flameng, Leopold, Paris,	Three etchings.
406	Thomas, E., Paris,	Mater Dolorosa (engraving).
407	Brunet, Debaines A., Paris,	Interior of the Church of St. Ouen.
408	Poncet, J. B., Paris,	Moses before the Burning Bush.
409	Rajon, P. A., Paris,	Portrait (etching).
410	Gaucherel, Léon, Paris,	Colleoni's Statue, Venice (etching).
411	Flameng, Leopold, Paris,	The Night Patrol (etching).
412	Lalanne, M., Paris,	Ten etchings
413	Poncet, J. B., Paris,	Jesus bearing the Cross (engraving).
414	Robert, Jules, Paris,	Three portraits (engravings).
415	Varin, Eugène, Paris,	Spring (engraving).
416	Hildebrand, H., Paris,	Fifteen engravings.
417	Leveux, Paris,	The Concini Family (engraving).
418	Robert, Jules, Paris,	Three portraits (engraving).
419	Potemont, M., Paris,	La Merveilleuse.
420	Bellel, J. J., Paris,	Don Quixote and Sancho Panza (crayon).
421	Poncet, J. B., Paris,	Jesus riding into Jerusalem.
422	Lamotte, A., Chaville,	The One-Year Volunteer (engraving).
423	Lalanne, M., Paris,	Twelve etchings, representing the interior of Victor Hugo's house.
424	Thomas, E., Paris,	Turtle Fight (engraving).
425	Deblois, Ch., Paris,	The Betrothed (engraving).
426	Rajon, P. A., Paris,	The Sketcher.
427	Lalanne, M., Paris,	Paris in 1867 (etching).
428	Rajon, P. A., Paris,	The First-Born (etching).
429	Rajon, P. A., Paris,	Bible Lessons.
430	Gaillard, F., Paris,	Five engravings.
431	Coindre, G. J., Paris,	Twenty-one etchings.
432	Dubouchet, H., Auteuil,	Three engravings.
433	Jaquemart, J., Paris,	Five objects of art (etchings) from the Louvre.
434	Flameng, Leopold, Paris,	Six etchings.
435	Coindre, G. J., Paris,	Eleven etchings.
436	Gaillard, C. F., Paris,	Two engravings.
437	Dubouchet, H., Auteuil,	Portrait—Balthasar Castiglione.
438	Gaillard, F., Paris,	Holy Mother and Child.
439	Brunet, Debaines A., Paris,	The Church Della Salute, Venice.
440	Rajon, P. A., Paris,	Six etchings.
441	Dubouchet, H., Auteuil,	Charity (engraving).
442	Flameng, Leopold, Paris,	Etching.
443	Gaillard, F., Paris,	Dante (engraving).
444	Adeline, Jules, Rouen,	The Great Town-gate at Rouen.
445	Rajon, P. A., Paris,	Smoking (engraving).

NO.	ARTIST.	TITLE.
446	Gaillard, F., Paris,	Statue on the Tomb of one of the Medici, after Michael Angelo (etching).
447	Gaucherel, Léon, Paris,	Three etchings.
448	Laguillermie, F., Paris,	The Surrender of Breda.
449	Rajon, P. A., Paris,	Three etchings.
450	Robert, J., Paris,	Three engravings.
451	Adeline, Jules, Rouen,	The Cathedral at Rouen.
452	Gaucherel, Léon, Paris,	Four Actors of the Théâtre Français (etching).
453	Lévy, Gustave, Paris,	Damocles (engraving).
454	Jaquemart, J., Paris,	Collection of Wilson (five etchings).
455	Laplante, Paris,	Nine engravings.
456	Robert, J., Paris,	Three engravings.
457	Jaquemart, J., Paris,	Collection of Wilson (five etchings).
458	Delauney, A., Paris,	Notre Dame, Paris (engraving).
459	Laplante, Paris,	Six engravings.
460	Dubouchet, H., Paris,	Divine Retribution (engraving).
461	Flameng, Leopold, Paris,	Five etchings.
462	Gaucherel, Léon, Paris,	Three etchings.
463	Saintin, J. E., Paris,	Breakfast (crayon).
464	Herst, A., Paris,	Trees and Rocks (water color).
465	Lalanne, M., Paris,	Park scene (crayon).
466	Courdouan, V., Toulon,	Ghizeh, Egypt (water color).
467	Herst, A., Paris,	Road at Calvoir (water color).
468	Chagot, E. A., Paris,	Coffee-House in Cairo (water color).
469	Eliot, G., Paris,	Cock-Fight (pastel).
470	Chagot, E. A., Paris,	Views in Guernsey (water color).
471	Bellel, J. J., Paris,	Solitude.
472	Chagot, E. A., Paris,	View in Cairo (water color).
473	Eliot, G., Paris,	White Hen and her Chickens (pastel).
474	Herst, A., Paris,	The Great Fall at Chartreuse (water color).
475	Lalanne, M., Paris,	View at Fribourg (crayon).
476	Bellel, J. J., Paris,	Road from Biskra to Tooggoort, Algeria (water color).

(Annex, Galleries Nos, 34, 36, 45.)

SCULPTURE.

NO.	ARTIST.	TITLE.
477	Bartholdi, A., Paris,	Génie funèbre (bronze).
478	Bartholdi, A., Paris,	Peace (bronze).
479	Bartholdi, A., Paris,	Genius in the Grasp of Misery (bronze).
480	Blanchard, I., Paris,	The Juggler (bronze).
481	Martin, Felix, Hermes,	Louis XI. at Péronne (bronze).
482	Cambos, J., Paris,	"He that is without sin among you, let him first cast a stone at her" (bronze).
483	Cambos, J., Paris,	La Cigale.
484	Itasse, A., Paris,	The Birth of Cupid (marble).
485	Ringel, D., Paris,	The Flute-Player (silvered bronze).
486	Moulin, H., Paris,	A Discovery at Pompeii (bronze).
487	Arson, A., Paris,	Island Birds (silver stand).
488	Itasse, A., Paris,	Sleeping Cupid (marble).
489	Bertaux, Mrs. Léon, Paris,	The Bather (bronze).
490	Chartrousse, E., Paris,	Héloïse and Abelard (bronze).
491	Barrias, L. E., Paris,	Spinning-Girl of Megara (silver bronze).
492	Doublemare, A., Paris,	Scapin, after Molière (bronze).
493	Ross, A., Paris,	Bohemian at the Spring (bronze).
494	Pautrot, I., Paris,	Falcons Fighting (bronze).
495	Leschesne, Paris,	Lapwings (bronze).
496	Cain, A., Paris,	Pheasants' Nest (bronze).
497	Roubaud, L., Paris,	Winter (bronze).
498	Moreau, Vouthière, Paris,	Young Italian Shepherd (bronze).

*(Annex, Gallery No. 43.)***ARCHITECTURAL DESIGNS.**

NO.	ARTIST.	TITLE.
499	Devrez, Désiré Henri Louis, Paris,	Nine architectural designs for the church of the Sacré Cœur at Montmartre.
500	L'Heureux, Paris,	Eight architectural designs for La Faculté des Sciences.
501	Devrez, D. H. L., Paris,	Architectural drawings and photographs.
502	Devrez, D. H. L., Paris,	Two architectural water colors.
503	Devrez, D. H. L., Paris,	Two views at Mont St. Michel (water colors).
504	Devrez, D. H. L., Paris,	Two church designs for the diocese of Orleans.
505	Crepinet, A., Paris,	Four architectural designs for the church of the Sacré Cœur at Montmartre.
506	Etex, Antoine, Paris,	Photographs of public monument.
507	Penel, Jules, Paris,	Engravings of sculpture in the church of Vezelay.
508	Penel, Jules, Paris,	Engraving of Holy Trinity Church.
509	Lalande, Ch. de, Paris,	Eight architectural designs for the Théâtre de la Renaissance, Paris.
510	Picq, H., Paris,	Wall drawing of the Grand Salon Louis XVI.
511	Picq, H., Paris,	Design of a monument to be erected at Lisbon in memory of the Emperor Dom Pedro IV.

GERMANY.

[Information regarding works for sale will be given at the desk in Gallery F,
Memorial Hall.]

(*Memorial Hall, Central Gallery, East.*)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
1	Jaeckel, H., Berlin,	Court-yard in Venice.
2	Koken, G., Berlin,	Landscape.
3	Mali, C., Berlin,	Evening.
4	Haber, R. von, Weimar,	Thomas the Shepherd.
5	Pixis, Theodore, Munich,	The Car of Thespis (Strolling Players' cart) in a Dilemma.
6	Farbarius, F. W., Düsseldorf,	Departure of Dutch Herring-Fishermen for the Dogger-Bank.
7	Hallatz, E., Berlin,	Harvest Festivities in Westphalia.
8	Douzette, L., Berlin,	Ship on the Strand.
9	Bellermann, Frd., Berlin,	American Forest.
10	Hahn, J., Munich,	Moonlight Landscape (Sternberg Lake).
11	Jungheim, C., Düsseldorf,	The Gosau Lake, with the Dachstein, in the Austrian Salt Regions.
12	Jungheim, C., Düsseldorf,	Lake of the Four Cantons.
13	Molnar, J., Pesth,	Consolation.
14	Ruths, V., Hamburg,	The Glacier of Argentières, Swiss Alps.
15	Deutsch, R. von, Berlin,	Sir John Falstaff.
16	Preller, L., Weimar,	Port of Safety, Norwegian Coast.
17	Hagn, L. von, Munich,	Monastery Festivities.
18	Schauss, F., Weimar,	Saint John.
19	Seybold, G. von, Munich,	Wanderers.
20	Gebhardt, L., Munich,	Lake Sim.
21	Gebhardt, L., Munich,	Lake Constance.
22	Thiersch, L., Munich,	Easter Morn.
23	Fries, B., Munich,	Suburbs of Naples.
24	Becker, C., Berlin,	Venetian Nobleman tuning a Guitar.
25	Begas, O., Berlin,	Pauline Lucca.
26	Koerner, E., Berlin,	Mahmudi Canal near Alexandria.
27	Dietz, Th., Carlsruhe,	Flight of an American Family (Revolutionary scene).
28	Güterbock, L., Berlin,	The Daughter of Herodias with the Head of John the Baptist.
29	Willich, C., Munich,	Girl from the Sabine Mountains.
30	Souchon, W., Weimar,	Marguerite (Faust).
31	Deutsch, R. von, Berlin,	"Know whom you trust."
32	Heck, R., Stuttgart,	The Crater of Vesuvius and Bay of Naples.
33	Reichert, F., Dresden,	The Blinding of Arthur.
34	Fischer, Helene von, Bremen,	Flowers.
35	Conrad, A., Berlin,	Landscape Studies.
36	Fries, B., Munich,	The Tiber at Rome.

(*Memorial Hall, Gallery F.*)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
37	Kappis, A., Munich,	Fishermen surprised by a Storm.
38	Ockel, E., Berlin,	Oxen Ploughing (Mark of Brandenburg).
39	Swieszewski, A. von, Munich,	View of Pompeii, with Mount Vesuvius.

NO.	ARTIST.	TITLE.
40	Eschke, H., Berlin,	Coast of Capri.
41	Hertel, A., Berlin,	Summer Evening at the Brandenburger Gate, Berlin.
42	Brücke, G., New York,	Columbus discovering America.
43	Boyen, O. von, Munich,	Neptune riding the Waves.
44	Wider, W., Berlin,	Taking the Veil in Rome.
45	Harach, Count von, Berlin,	Capitulation of Sedan.
46	Bosch, E., Düsseldorf,	The Old Shepherd and his Granddaughter.
47	Laar, Ulrica, Berlin,	The Lesson Hour.
48	Erdmann, M., Berlin,	Morsum Cliff, on the Isle of Sylt.
49	Moras, W., Berlin,	Moonlight in the Harbor of Elsinore.
50	Laar, Ulrica, Berlin,	Caught in the Rain.
51	Wider, W., Berlin,	Girl Reading.
52	Steffeck, C., Berlin,	Mares in Pasture.
53	Plockhorst, B., Berlin,	Franz Liszt.
54	Schaus, F., Weimar,	A Dryad.
55	Gräf, G., Berlin,	Penserosa.
56	Deiker, J., Düsseldorf,	Dog with Fox.
57	Gräf, G., Berlin,	Lady with Rose.
58	Pohle, H., Düsseldorf,	Landscape.
59	Horst, L., Stuttgart,	Portrait of the German Emperor.
60	Meissner, E., Munich,	"Young Ones."
61	Poschinger, R. von, Munich,	Environs of Munich.
62	Bechtolsheim, G. von, Munich,	Landscape (Upper Bavaria).
63	Geibel, C., Weimar,	Concert in a Beer-Room.
64	Harling, E. von, Munich,	An Evening Melody.
65	Lier, A., Munich,	Autumn Landscape.
66	Preller, N., Weimar,	Autumn.
67	Jordan, R., Munich,	Happy Old Age.
68	Starkenborgk, J. N. T. von, Düsseldorf,	Tobacco-Gatherers.
69	Ortlieb, F., Munich,	The Last Rehearsal previous to going to the Siugers' Festival.
70	Heger, H., Munich,	Audience-Hall in the Doge's Palace, Venice.
71	Ockel, E., Berlin,	The Critical Moment.
72	Hallatz, E., Berlin,	Snow-Storm in the Pustha (Russia).
73	Mücke, C., Düsseldorf,	Lullaby.
74	Ewers, H., Düsseldorf,	Duet in a Village Blacksmith's Shop.
75	Seibels, C., Düsseldorf,	Cattle.
76	Meyer, F., Munich,	Carousal after the Fair.
77	Hildebrand, E., Carlsruhe,	A Sentinel.
78	Steffeck, C., Berlin,	Steeple Chase.
79	Xylander, W., Schleissheim, near Munich,	Mouth of the Thames.
80	Seibels, C., Düsseldorf,	Cattle.
81	Hiddemann, F., Düsseldorf,	Nothing but Practice makes Perfect.
82	Mücke, C., Düsseldorf,	The Sailor's Home.
83	Hirschfelder, S., Munich,	Unexpected Issue.
84	Frey, W., Munich,	Cattle.
85	Spangenberg, G., Berlin,	The Flirtation.
86	Becker, Q., Berlin,	After the Christening.
87	Hiddemann, F., Düsseldorf,	In the Park.
88	Dielitz, K., Berlin,	A Smoker (Upper Bavaria).
89	Steffeck, C., Berlin,	The Crown Prince of Germany, on the battle-fields of Worth and Weissenburg.
90	Kretschmer, H., Berlin,	Vanity.
91	Marc, W., Munich,	Disagreement.
92	Frey, W., Munich,	Cattle.
93	Meyerheim, P., Berlin,	The King of the Forest.
94	Schlesinger, F., Munich,	Convalescent.
95	Kretschmer, H., Berlin,	Buying the Cradle.
96	Boser, F., Düsseldorf,	The Rural Sunday Toilet.
97	Risse, R., Düsseldorf,	The God and the Bayadere.

NO.	ARTIST.	TITLE.
98	Reichert, F., Dresden,	The First Proof-Sheet.
99	Meyer von Bremen, Berlin,	The Gossips.
100	Kornbeck, J., Stuttgart,	Sheep in the Pasture.
101	Neustätter, L., Munich,	The Strong Inclination.
102	Neustätter, L., Munich,	The Mouse.
103	Eggert, S., Munich,	Visit to the Village Artist.
104	Wider, W., Berlin,	Child and Doll.
105	Kornbeck, J., Stuttgart,	Good Friends.
106	Kornbeck, J., Stuttgart,	Sheep on the Mountain.
107	Souchon, W., Weimar,	Imogene.
108	Boser, F., Düsseldorf,	The Orphans.
109	Behmer, H., Weimar,	Interior of a House in Bethlehem.
110	Lutteroth, A., Berlin,	Lake Chiem, Italy.
111	Lutteroth, A., Berlin,	Near Naples.
112	Achenbach, A., Düsseldorf,	Storm at Vlissingen (Holland).
113	Boser, F., Düsseldorf,	Early Affliction.
114	Eckenbrecher, Th. v., Munich,	Picnic in Asia Minor.
115	Becker, Q., Berlin,	Before the Christening.
116	Hacker, H., Munich,	König Lake, from the Kessel-Alp.
117	Hacker, H., Munich,	Lake of the Four Cantons at Brunnen.
118	Grund, J., Baden-Baden,	Diana and Endymion.
119	Lasch, C., Düsseldorf,	The Orphans.
120	Richter, G., Berlin,	Hon. G. Bancroft.
121	Amberg, W., Berlin,	Ophelia.
122	Sturm, F., Berlin,	A Storm.
123	Sturm, F., Berlin,	Pilot-Boat.
124	Faber du Faur, Otto von, Munich,	Departure of Frederick V. from Prague after the Battle of the White Hills.
125	Schrader, Jul., Berlin,	Queen Elizabeth signing the Death-Warrant of Mary Queen of Scots.
126	Schwarz, A.,	Broken Flowers.
127	Molnar, J., Pesth,	Misty Veil.
128	Starkenborgk, J. N. T. von, Düsseldorf,	Harvest in Holland.
129	Dietrich, A., Dresden,	Faust and Marguerite (Prison Scene).
130	Wider, W., Berlin,	Return from Skating.
131	Rückart, F., Hamburg,	After the Chase.
132	Grund, J., Baden-Baden,	Queen Esther.
133	Heck, R., Stuttgart,	Natural Arch at Capri.
134	Braun, L., Munich,	Capitulation of Sedan.
135	Harach, Count von, Berlin,	Luther Intercepted.
136	Plockhorst, Prof., Berlin,	Christ appearing to Mary Magdalene.
137	Folingsby, G. F., Munich,	Lady Jane Grey's Triumph over Bishop Gardiner.
138	Wilberg, C., Berlin,	Grotto of Egeria, near Rome.
139	Lutteroth, A., Berlin,	Bismarck on his Estates in Lauenburg.
140	Behmer, H., Weimar,	Girl with Wild Roses.
143	Weber, P., Munich,	View near Munich.
144	Mayer, T., Munich,	Statue of Cincinnatus.
145	Hearth, S. D., Munich,	Evening in the Woods.

(Memorial Hall, Gallery F.)

SCULPTURE.

NO.	ARTIST.	TITLE.
146	Schulz, M., Berlin,	Love conquers Strength.
147	Reusch, F., Berlin,	Group for fountain (bronze).

(Memorial Hall, Gallery J.)

SCULPTURE.

NO.	ARTIST.	TITLE.
148	Herter, E., Berlin,	Orestes (bronze).
149	Herter, E., Berlin,	Antigone (bronze).

NO.	ARTIST.	TITLE.
150	Silbernagel, C.,	Statuette of Prince Bismarck (bronze).
151	Brunow, L., Berlin,	Statue of Count Moltke (bronze).
152	Andressen, E., Dresden,	Boy and Frog (group).
153	Brunow, L., Berlin,	Marble bust of Count Moltke.
154	Schweinitz, R., Berlin,	Marble bust of the Crown Prince of Germany.
155	Ezekiel, M., Rome,	Relief in plaster.
155 ^a	Toberenz, R., Berlin,	Ideal bust (marble).

GALVANOPLASTY.

NO.	ARTIST.	TITLE.
156	Bavarian Museum of Art, Nuremberg,	Galvanoplastic representations of ancient art, especially of gold and silver.

WATER COLORS.

NO.	ARTIST.	TITLE.
157	Meyerheim, P., Berlin,	Rhenish Landscape.
158	Meyerheim, P., Berlin,	French Village.
159	Meyerheim, P., Berlin,	Glass-Works in Bohemia.
160	Meyerheim, P., Berlin,	Evening in the Park.
161	Meyerheim, P., Berlin,	At the Brook.
162	Meyerheim, P., Berlin,	Twilight.
163	Spangenberg, L., Berlin,	Glacier in Engadin.
164	Spangenberg, L., Berlin,	Capuchin Cloister near Salzburg.
165	Spangenberg, L., Berlin,	Mount Pilatus, on the Lake of the Four Cantons.
166	Lage, Julia von der, Berlin,	Flowers.
167	Skarbina, F.,	Alpine Hospitality.
168	Friedrich, C. F., Dresden,	Thirteen water colors.

PORCELAIN PAINTINGS.

NO.	ARTIST.	TITLE.
169	Ens & Greiner, Lauscha,	Porcelain paintings.
170	Deiningner, C. H., Munich,	Portrait of a lady.

ENGRAVINGS.

NO.	ARTIST.	TITLE.
171	Dinger, F., Coblenz,	Cinderella.
172	Bartchmess, N., Düsseldorf,	In a House of Mourning—copper engraving after Vautier.
173	Krausse, A., Leipsic,	Engravings.
174	Duncker, A., Berlin,	Engravings.
175	Gräf, C., Dresden,	Thirty-six engravings.
176	Boehm, Hannah, Berlin,	Silhouettes.

PHOTOGRAPHS.

NO.	ARTIST.	TITLE.
177	Berlin Photograph Co., Stroofer & Kirchner, New York, Agents,	Madonna San Sisto, after Raphael; Angels, after Raphael; St. Sixtus, after Raphael; St. Barbara, after Raphael; Morning Prayer, after Rosenthal; Elaine, after Rosenthal; Marie Stuart, after Neal; The Broken Pitcher, after Greuze.

CHROMO-LITHOGRAPHS.

NO.	ARTIST.	TITLE.
178	Zettler, F. X., Munich,	Four frames containing chromo-lithographs.
179	Duncker, A., Berlin,	Chromo-lithographs.

STAINED GLASS.

NO.	ARTIST.	TITLE.
180	Zettler, F. X., Munich,	Stained glass window, Christian church.
181	Zettler, F. X., Munich,	Stained glass window, Mohammedan temple.
182	Zettler, F. X., Munich,	Stained glass window, Persian temple

MEDALS.

NO.	ARTIST.	TITLE.
183	Jungfer, A., Berlin,	Collection of coins and medals.

MINERALOGY.

NO.	ARTIST.	TITLE.
184	Jungfer, A., Berlin,	Pieces of amber, inclosing antediluvian insects, —ants, flies, gnats, sugar-mites, moths, scarabæi, spiders, etc.

(Memorial Hall, Gallery B.)

STATUARY.

NO.	ARTIST.	TITLE.
185	Manger, H., Berlin,	Colossal statue of Prince Bismarck (bronze).

AUSTRIA.

[Works of Art marked with an asterisk (*) are for sale. Information may be obtained at the Austrian office, in Gallery G, Memorial Hall.]

(*Memorial Hall, Galleries G and Z.*)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
1	Makart, Hans, Vienna,	*Venice paying Homage to Caterina Cornaro.
2	Engl, Hugh, Lienz,	*Still Life—game.
3	Russ, Robert, Vienna,	*Mill near Mals, South Tyrol.
4	Parmentier, Louisa von, Vienna,	*Landscape—suburbs of Munich.
5	Brunner, Joseph, Vienna,	*Landscape.
6	Schilcher, Fred., Vienna,	*Austrian Harvesters.
7	Rumpler, F., Vienna,	*The Friends.
8	Amerling, Fred., Vienna,	*Ideal female.
9	Schödl, Max, Vienna,	*Still Life.
10	Schödl, Max, Vienna,	*Still Life.
11	Friedländer, Fred., Vienna,	*Tasting the Wine.
12	Canon, John, Vienna,	*Girl with Fruit.
13	Hlavacek, Anthony, Vienna,	*View in the Palatinate of the Rhine.
14	Ruben, Francis Leo, Vienna,	*Roman Woman selling Pomegranates.
15	Thoren, Otto von, Paris,	*Norman Pasture.
16	George-Mayer, Augustus, Vienna,	*Bathsheba.
17	Parmentier, Louisa von, Vienna,	*Interior of the Castle Ruin "Taufers," in the Tyrol.
18	Minigerode, Lewis, Vienna,	*Sleeping Nymph.
19	Hoegel, Minna, Vienna,	*Still Life—game.
20	Lichtenfels, Edward, Chevalier, Vienna,	*Castle Court.
21	Graf, Lewis, Vienna,	*Nursery Maid.
22	Graf, Lewis, Vienna,	*The Love-Letter.
23	Schaeffer, Augustus, Vienna,	*"At the Sea" (desolate beach).
24	Riedel, Charles, Vienna,	*An After-Dinner Nap.
25	Bühlmayer, Conrad, Vienna,	*Landscape, with animals.
26	George-Mayer, Augustus, Vienna,	*Cupid's Warning.
27	Kratzer, Charles von, Vienna,	*Return from Hunting—Scene in Carinthia.
28	George-Mayer, Augustus, Vienna,	*Art going a-begging.
29	Ribarz, Ralph, Vienna,	*Cow and Sheep.
30	Gross, Augustus, Vienna,	*Villa d'Este, at Tivoli, near Rome.
31	Munsch, Leopold, Vienna,	*Alp Gschlöß, looking towards the Gross-Venediger.
32	Berres, Joseph von, Vienna,	*Caravan in the Caucasus.
33	Schilcher, Fred., Vienna,	*Bas-relief.
34	Hlavacek, Anthony, Vienna,	*Moonrise.
35	Ribarz, Ralph, Vienna,	*View in Venice.
36	Graf, Lewis, Vienna,	*An Interior.
37	Berres, Joseph von, Vienna,	*Husking in Hungary.
38	Lafite, Erneste, Vienna,	*Peasant Woman of Upper Austria.
39	Halauska, Lewis, Vienna,	*Village Road.
40	Lafite, Erneste, Vienna,	*Girl of Upper Austria.
41	Berres, Joseph von, Vienna,	*Children's Tenderness.
42	Russ, Francis, Vienna,	*Girl and Cat.
43	Stocker, Francis, Vienna,	*Overwhelmed with Grief.
44	Schilcher, Fred., Vienna,	*Bas-relief.
45	Otto, Henry, Vienna,	*View near Naples.

NO.	ARTIST.	TITLE.
46	Müller, Charles Leopold, Vienna,	*Monte Pelegrino, near Palermo.
47	Gaul, Gustavus, Vienna,	*Satanella.
48	Blaas, Charles, Vienna,	*Centaur carrying off a Nymph.
49	Oeconomo, A., Vienna,	Portrait of the artist.
50	Ribarz, Ralph, Vienna,	*Fish-Market at Chioggia.
51	Penther, Daniel, Vienna,	*Portrait (Darwin).
52	Pausinger, Francis von, Munich,	*A Chamois killed by a Fall.
53	Oeconomo, A., Vienna,	*A Study (head).
54	George-Mayer, Augustus, Vienna,	*A Study (female head).
55	Hoffmann, Joseph, Vienna,	*Ideal landscape.
56	Fux, Joseph, Vienna,	*"Sans-Souci" (strolling minstrel).
57	Penther, Daniel, Vienna,	*Portrait (Schopenhauer).
58	Lichtenfels, Edward, Chevalier, Vienna,	*Village Road in Upper Austria.
59	Schaeffer, Augustus, Vienna,	*Winter Landscape in Styria.
60	Schweninger, Rosa, Vienna,	*A Neapolitan.
61	Schaeffer, Augustus, Vienna,	*November Evening in the Prater, Vienna.
62	Felix, Eugene, Vienna,	*Pan and Bacchantes.
63	Russ, Francis, Vienna,	*Life in a Castle (Middle Ages).
64	Lichtenfels, Edward, Chevalier, Vienna,	*Copper-Mines of Agordo.
65	Nemes-Ransonnet, Eliza, Count- ess, Vienna,	*Interior of St. Stephen's, in Vienna.
66	Geyling, Ralph, Vienna,	*Garden Scene (Jesuit College).
67	Parmentier, Mary von, Vienna,	*Village Scenery in the Tyrol.
68	Obermüllner, Adolphus, Vienna,	*"Welcome Sounds," a hunting episode of the Austro-Hungarian North Polar Sledge Expe- dition, 1872-1874 (after Julius Payer).
69	Probst, Charles, Vienna,	*A Study (female figure).
70	Obermüllner, Adolphus, Vienna,	*The Lake of Constance seen from the Gebharts Mountains, Tyrol, at the beginning of a storm called "Föhnwind."
71	Gaul, Gustavus, Vienna,	*A Study (female head).
72	Pausinger, Francis von, Munich,	*Distrustful.
73	Gaul, Gustavus, Vienna,	*A Shepherdess.
74	Schönreither, George, Vienna,	*View of the High Tauern, Austrian Alps.
75	Mayer, Louis, Vienna,	*The Judgment of Paris.
76	Seelos, Godfrey, Vienna,	*The Vogelweidehof, near Botzen, South Tyrol, birthplace of Walter von der Vogelweide, the greatest lyric poet of the Germans in the Middle Ages.
77	Amerling, Fred., Vienna,	*Counsellor of the Middle Ages.
78	Gevling, Ralph, Vienna,	*Roman Pomegranate-Seller.
79	Grabowski, Andrew, Lemberg,	Portrait.
80	Obermüllner, Adolphus, Vienna,	*View of the Grum Alpe, with the Paluglacier, Upper Engadin, in Switzerland (morning).
81	Ruben, Francis Leo, Vienna,	*Venetian Society.
82	Berres, Joseph von, Vienna,	*Exhibiting a Foal (England.)
83	Ribarz, Ralph, Vienna,	*Ox-Team.
84	Fritsch, Melchior, Vienna,	*The Leopoldstein Lake in Styria.
85	Schrödl, Anthony, Vienna,	*An Interior at Hallstädt, in Upper Austria.
86	Graf, Lewis, Vienna,	*A Study (boy).
87	Müller, Charles Leopold, Vienna,	*Scene in the English Garden, Palermo, Sicily.
88	Nemes-Ransonnet, Eliza, Count- ess, Vienna,	*A Study (female head).
89	Hansch, Anthony, Salzburg,	*The Weissbachhorn, in the Pinzgau, Austrian Alps.
90	Aigner, J. M., Vienna,	Portrait of the artist.
91	Schrödl, Anthony, Vienna,	*Animals and Girl—scene in the valley of Fer- leithen, near Gastein.
92	Blaas, Charles, Vienna,	*Ulysses and the Sirens.
93	Blume, Edmund, Vienna,	*The Grandmother's Tales.
94	Swoboda, Edward, Vienna,	*The Mermaid's Home.
95	Reichert, Charles, Vienna,	*A Bull-dog.
96	Reichert, Charles, Vienna,	*A Bull-dog.

NO.	ARTIST.	TITLE.
97	Hansch, Anthony, Salzburg,	*The Great Oetz Valley, Ferner (glacier), and Gurgl Lake.
98	Schams, Francis, Vienna,	*The Newly-Elected Mayor.
99	Berres, Joseph von, Vienna,	*Trader in Cattle of the Campagna di Roma.
100	Graf, Lewis, Vienna,	*"He loveth me."
101	Haanen, Remi van, Vienna,	*View of a Dutch town by Moonlight.
102	Graf, Lewis, Vienna,	*Rural Sports.
103	Parmentier, Louisa von, Vienna,	*Landscape.
104	Kuntz, G. A., Vienna,	*The Nun's Revery.
105	Blaas, Charles, Vienna,	*A Summer's Day in the Woods.
106	Parmentier, Mary von, Vienna,	*A Mill in the Tyrol.
107	Friedländer, Camilla, Vienna,	*Still Life (ham, etc.).
108	Parmentier, Mary von, Vienna,	*Village of Gaaden, near Vienna.
109	Schönn, Aloysius, Vienna,	*Siesta of an Oriental Woman.
110	Stainer-Knittel, Anne, Innsbruck,	Alpine Flowers.
111	Friedländer, Fred., Vienna,	*A Bashful Declaration of Love.
112	Huber, Ralph, Vienna,	*In the Pasture.
113	Friedländer, Camilla, Vienna,	*Antiquities and Books.
114	Rumpler, Francis, Vienna,	*Smiling Girl.
115	Friedländer, Camilla, Vienna,	*Still Life (fancy ware).
116	Russ, Robertus, Vienna,	*View in the Prater, Vienna, previous to the Exhibition of 1873.
117	Canon, John, Vienna,	*The Page.
118	Fritsch, Melchior, Vienna,	*Mountain Landscape (autumn).
119	Nemes-Ranssonnet, Eliza, Countess, Vienna,	Portrait of the artist.
120	Hlavacek, Anthony, Vienna,	*Under the Maple-Tree.
121	Wertheimer, Gustavus, Vienna,	*The Moor and his Horse.

(Memorial Hall, Galleries G and Z.)

STATUARY.

NO.	ARTIST.	TITLE.
122	Zumbusch, Caspar, Vienna,	His Majesty the Emperor of Austria (marble bust).
123	Gliber, James, Vienna,	*A Study (marble head).
124	Pilz, Vincenz, Vienna,	A Portrait (plaster bust).
125	Costenoble, Charles, Vienna,	*Charles V. (marble bust).
126	Costenoble, Charles, Vienna,	*Maximilian I. (marble bust).
127	Wagner, Anthony, Vienna,	*Michael Angelo (bronze statue).
128	Gliber, James, Vienna,	*Madonna (wood).

WATER COLORS.

NO.	ARTIST.	TITLE.
129	Tepa, Francis, Lemberg,	*The Polish Cavalry Captain Jastrzebiec.
130	Tepa, Francis, Lemberg,	*A Portrait.
131	Alt, Francis, Vienna,	*The Landing at Lucerne.
132	Alt, Francis, Vienna,	*The Ancient Fish-Market in Rome.
133	Alt, Francis, Vienna,	*Interior of the Cathedral, Milan.
134	Alt, Francis, Vienna,	*The Cursalon in the Stadt Park, Vienna.
135	Stöckler, Emanuel, Vienna,	*Girl at the Window.
136	Stöckler, Emanuel, Vienna,	*Campanile of San Marco, Venice.
137	Stöckler, Emanuel, Vienna,	*Fishmonger in Venice.
138	Stöckler, Emanuel, Vienna,	*The Grand Canal, Venice.
139	Hoffmann, Joseph, Vienna,	*View in the Herrengarten, Darmstadt.
140	Hoffmann, Joseph, Vienna,	*"The Beautiful Chestnut-Tree," Theaterhof, Darmstadt.
141	Hoffmann, Joseph, Vienna,	*Oberwesel on the Rhine.
142	Alt, Ralph, Vienna,	*Cathedral in Orvieto.
143	Alt, Ralph, Vienna,	*Arch of Constantine, Rome.
144	Pitner, Francis, Vienna.	*Tambourine-Girl, Molo di Gaëta, near Naples.
145	Pitner, Francis, Vienna,	*Punished Fickleness.
146	Tepa, Francis, Lemberg,	*A Peasant of Zolkiew, Galicia.
147	Tepa, Francis, Lemberg,	*Peasant Woman of Truskaviec, Galicia.
148	Tepa, Francis, Lemberg,	*The Polish General Josef Zaluski.

NO.	ARTIST.	TITLE.
149	Tepa, Francis, Lemberg,	*A Study (boy).
150	Lauer, Joseph, Vienna,	*Brier Bush (oil painting).
151	Pönninger, Miss C., Vienna,	*Still Life (a duck, in water colors).
152	Pönninger, Miss C., Vienna,	*Flowers (water colors).
153	Pönninger, Miss C., Vienna,	*Flowers (water colors).
154	Schuster, Miss Adele, Vienna,	*Alpine Flowers (oil painting).
155	Schuster, Miss Adele, Vienna,	*The Four Seasons (oil painting).

ETCHINGS.

NO.	ARTIST.	TITLE.
156	Unger, W., Vienna,	*Marine view (after Van der Capellen).
157	Unger, W., Vienna,	*Portrait (after Velazquez).
158	Unger, W., Vienna,	*Portrait (after Palma Vecchio).
159	Unger, W., Vienna,	*Landscape (after Hobbema).
160	Unger, W., Vienna,	*Jacob's Blessing (after Govaers Flink).
161	Unger, W., Vienna,	*Catharine Cornaro (after Hans Makart).
162	Unger, W., Vienna,	*Katharina Formann (after Rubens).

STATUARY.

NO.	ARTIST.	TITLE.
163	Pezzicar, F., Trieste,	*The Abolition of Slavery in the United States, 1863 (statue in bronze).

PHOTOGRAPH.

NO.	ARTIST.	TITLE.
164		*Catharine Cornaro.

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
165	Angeli, Henry von, Vienna,	Portrait.
166	Angeli, Henry von, Vienna,	Portrait.

MEDALS.

(*Memorial Hall, Gallery O.*)

NO.	ARTIST.	TITLE.
167	Scharff, Anthony, Vienna,	*Collection of medals.

BELGIUM.

[Information regarding the sale of Works of Art can be obtained at the office of the Belgian Commission, Main Building.]

(Annex, Gallery No. 33.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
1	Portaels, Jean, Brussels,	Morning.
2	De Biseau, Aristide, Brussels,	The River Semoy (Ardennes).
3	Gerboux, Auguste Charles, Mons,	The Mill of Lens, near Mons.
4	Roffiaen, François, Brussels,	Morning, Lake Koenigsee (Bavaria).
5	Slingeneyer, Ernest, Brussels,	A Christian Martyr in the Reign of Diocletian.
6	De Schampheleer, Edmond, Brussels,	Nymwegen, on the River Wahal, Netherlands.
7	Musin, François, Brussels,	Harbor of Rotterdam in Rainy Weather.
8	Huygens, François Joseph, Brussels,	Bouquet of Thorn-Blossoms.
9	De Heuvel, Theodore, Brussels,	The Prayer.
10	Soubre, Charles, Liège,	Insurrection of St. Martin (history of Liège).
11	Coosemans, Joseph Theodore, Brussels,	Sunset.
12	Barnaba, Louis, Brussels,	Coast of France.
13	Mols, Robert, Antwerp,	The Dome of "Les Invalides," Paris.
14	Dauriac, Henry, Arlon,	Madonna.
15	De Keyser, Nicaise, Antwerp,	Rebecca.
16	Verhas, Jean, Brussels,	Sea-Shore at Blankenberge.
17	De Bylandt, Count Alfred, Brussels,	Mountain View in Switzerland.
18	Langlet, Mrs. Caroline, Brussels,	Lighting Candles to the Holy Mother—Italian woman.
19	Cardon, Charles Léon, Brussels,	The Smoking-Room.
20	Robbe, Henry, Brussels,	The Destroyer.
21	De Meester, Raymond, Brussels,	Landscape.
22	Wagner, Jules, Antwerp,	Griseldis.
23	Walckiers, Gustave, Brussels,	The Town-House in Alost.
24	Verhoeven-Ball, Antwerp,	Preparing the Christmas Plum-Pudding.
25	Kuhnen, Victor, Brussels,	Steen Street in Antwerp.
26	Vinck, Franz, Antwerp,	The Pink Domino.
27	De Praterre, Edmond, Brussels,	Stop!
28	Slingeneyer, Ernest, Brussels,	The Night of St. Bartholomew.
29	Tschaggeny, Charles, Brussels,	Flemish Stallion.
30	Van Keirsbilck, Jules, Brussels,	Crime and Superstition.
31	Steens, Edmond, Brussels,	Poultry.
32	Unterberger, F. R., Brussels,	Posilippo, near Naples.
33	Roosenboom, Albert, Brussels,	Motherly Love.
34	Robbe, Henry, Brussels,	Flowers and Fruit.
35	Cogen, Felix, Brussels,	Fisherwoman of the Zuyder-Zee, Netherlands.
36	Keelhoff, François, Brussels,	Autumn.
37	Walraven, Jean, Brussels,	The Right of Way.
38	De St. Cyr, Georges, Brussels,	Sentinel at the Entrance of the Harem.
39	Vinck, Franz, Antwerp,	The Confederates in the Presence of Marguerite of Parma.
40	Stroobant, François, Brussels,	The House of the Society of the Archers in Bruges.
41	Dandoy, Armand, Namur,	The Banks of the River Meuse.

NO.	ARTIST.	TITLE.
42	Stroobant, François, Brussels,	Dordrecht—View from the River Meuse.
43	Tschaggieny, Charles, Brussels,	Fire in the Stable.

STATUARY.

NO.	ARTIST.	TITLE.
42 ^a	Vinçotte, Thomas, Brussels,	The Female Captive (bronze statue).

(Annex, Gallery No. 39.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
44	Van den Broeck, Miss Clemence, Brussels,	Flemish House in A. D. 1600.
45	Berlin, Jean Joseph, Brussels,	A Confidential Talk.
46	Madiol, Adrien Jean, Brussels,	"Don't let him fly."
47	De Beughem, Count Charles, Brussels,	Landscape near Wiesbaden, Germany.
48	De Schampheleer, Edmond, Brussels,	River Moerdyk, Netherlands.
49	Lagye, Victor, Antwerp,	The Sculptor—close of the fifteenth century.
50	Raoux, Albert, Brussels,	Fruit.
51	Sodar, Franz, Dinant,	Reminiscence of Rome.
52	Bellemans, Joseph, Antwerp,	Ariosto at the Fountain.
53	Van Luppen, G. Joseph, Antwerp,	After the Rain—View from Anseremme, near Dinant.
54	Col, David, Antwerp,	In the Wine-Cellar.
55	Dekeghel, Jules, Ghent,	Pouting.
56	Goemans, Gustave, Melle, near Ghent,	Landscape in Flanders.
57	Asselbergs, Alphonse, Brussels,	Landscape at Mount-Eagle.
58	Weber, Theodore Alexander, Brussels,	Using the Life-Boat, at Tynemouth, England.
59	Stallaert, Joseph, Brussels,	Palm Sunday (Albano costume, Italy).
60	Van Lil, Joseph, Antwerp,	The Last at Church.
61	Berlin, Jean Joseph, Brussels,	The Family Portrait.
62	Van Hove, Victor, Heyst-sur-Mer,	Child and Rabbit.
63	Starck, Jules, Brussels,	Louis XIV. visits young Malandry, the Dead Defender of Montmédy.
64	De Keyser, Albert, Antwerp,	Harbor of Antwerp.
65	Cleynhens, Theodore, Antwerp,	An Archer of the Sixteenth Century.
66	Pauwels, Ferdinand, Antwerp,	Fire in the Village of Ruhla, Germany.
67	Nisen, Felix, Liège,	Fancy head.
68	Carlier, Modeste, Brussels,	Peasant Girl in the Woods.
69	De Vigne, Miss Malvina, Ghent,	Azaleas.
70	De Burbure, L., Brussels,	Harbor of Boulogne, France.
71	Beernaert, Miss Euphrosyne, Brussels,	Banks of the River Scheldt, near Antwerp.
72	Robert, Alexander, Brussels,	Three Friends.
73	De Schampheleer, Edmond, Brussels,	Domburg Banks, Island of Walcheren, Netherlands.
74	De Loose, Basile, Brussels,	Fair in a Flemish Village.
75	Van Luppen, G. Joseph, Antwerp,	Before the Thunder Storm—View in Flanders.
76	Mellery, Xavier, Brussels,	Young Girl from the Environs of Rome.
77	Gérard, Theodore, Brussels,	The Peddler.
78	Beernaert, Miss Euphrosyne, Brussels,	View of Domburg, Island of Walcheren, Netherlands.
79	De Vigne, Miss Emma, Ghent,	Lilacs.
80	Génisson, Georges, Namur,	Old Hermitage of St. Hubert, Namur.
81	De Loose, Basile, Brussels,	The School.
82	Asselbergs, Alphonse, Brussels,	Harvest on the River Meuse.
83	Carabain, Jacques François, Brussels,	Church of St. Fermo, Verona, Italy.
84	De Biseau, Aristide, Brussels,	Reminiscence of the Ardennes Mountains.
85	Smits, Eugène, Brussels,	War.
86	Rosseels, Jacques, Antwerp,	Mill on the River Scheldt.

NO.	ARTIST.	TITLE.
87	Meerts, Franz, Brussels,	Saturday in the Monastery.
88	Van Seben, Henry, Brussels,	The Dead Bird—winter landscape.
89	Portaels, Jean, Brussels,	Deception.
90	Huygens, François Joseph, Brussels,	Hazels and Roses.
91	Meerts, Franz, Brussels,	Announcement of Marriage.
92	De Baerdemaeker, Felix, Ghent,	View from the Highway Anthée, Harvest Time.
93	Vinck, Franz, Antwerp,	A Flemish Burgher's Wife in the Sixteenth Century
94	Bouvier, A., Brussels,	The Coast of Bretagne, France.
95	Lampe, Louis, Brussels,	The Little Sleeper.
96	Carabain, Jacques François, Brussels,	St. Peter and St. Paul's Church, Antwerp.
97	Goemans, Gustave, Melle, near Ghent,	Banks of the River Meuse, near Yvoir.
98	Stallaert, Joseph, Brussels,	The Fan.
99	De Beughem, Count Charles, Brussels,	Kreuznach, on the Rhine, Prussia.
100	Guffens, Godefroid, Brussels,	The Crucifixion.
101	Walckiers, Gustave, Brussels,	The Fish-Market in Brussels.
102	Unterberger, F. R., Brussels,	The Rhine, between Bonn and Coblenz.
103	Smits, Eugène, Brussels,	Rosetta.
104	De Franchimont, Mrs. Emilie, Brussels,	Fruit.
105	Wagner, Jules, Antwerp,	Girl tending Geese.
106	De Keyser, Nicaise, Antwerp,	Dante and the Young Girls of Florence.
107	Van Luppen, G. Joseph, Antwerp,	Morning—View near Dinant.
108	Houzé, Florentin, Brussels,	The Last Moments of the Daughter of Grétry.
109	Keymeulen, Emile, Brussels,	Landscape in Provence, France.
110	Gérard, Theodore, Brussels,	An Inn in Würtemberg, Germany.
111	Wagner, Jules, Antwerp,	Dangerous Medium.
112	Langlet, Mrs. Caroline, Brussels,	In Prison as a Vagabond.

(Annex, Gallery No. 39.)

STATUARY.

NO.	ARTIST.	TITLE.
112 ^a	Laumans, Jean André, Brussels,	The Exercise (bronze statue).

(Annex, Gallery No. 41.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
113	Platteel, Jean David, Brussels,	The Broken Sledge—Zealand, Netherlands.
114	Carabain, Jacques François, Brussels,	Sotto Riva Street in Verona, Italy.
115	De Simpel, Bruno Alphonse, Brussels,	Location in France (Pas-de-Calais) where the Channel Tunnel is to be commenced.
116	Maswiens, Joseph, Louvain,	Church Interior in the Abbey of Everbode, Brabant.
117	Robert, Alexander, Brussels,	Discontent in the Harem.
118	Fourmois, Theodore, Brussels (deceased),	The Mill in the Campine.
119	Sodar, Franz, Dinant,	Destruction of the Home by Fire.
120	Barnaba, Louis, Brussels,	Boats ashore on the Coast of France.
121	Dillens, Adolphe, Brussels,	Fair in Zuid-Beveland, Zealand—"The Youths' Day."
122	Jacobs, Jacob, Antwerp,	Falls in Norway.
123	Guffens, Godefroid, Brussels,	Episode of the destruction of Pompeii.
124	Gérard, Theodore, Brussels,	The Discarded Lover.
125	Van Keirsbilck, Jules, Brussels,	Desdemona.
126	Plumot, André, Antwerp,	On the Road to Market.
127	Bouvier, A., Brussels,	Coast of Flanders (Sunrise).
128	Houzé, Florentin, Brussels,	An Italian Shepherd Family.
129	De Meester, Raymond, Brussels,	View at Oneglia, near the Cornice, Italy.

NO.	ARTIST.	TITLE.
130	Carabain, Jacques François, Brussels,	The Town-Gate at Wertheim, Germany.
131	Madiol, Adrien Jean, Brussels,	Hesitation.
132	Sebes, Pieter Willem, Brussels,	An Interior at Hindeloopen, Province of Friesland, Netherlands.
133	Barnaba, Louis, Brussels,	Sunset on the English Coast.
134	Bossuet, François Antoine, Brussels,	Rome—View from the River Tiber, the Fort and the Bridge of St. Angelo, and St. Peter's Cathedral.
135	Stallaert, Joseph, Brussels,	The Cellar of Diomede—scene at the destruction of Pompeii.
136	Mols, Robert, Antwerp,	View at Sachsenhausen, near Frankfort-on-the-Main, Germany.
137	Keymeulen, Emile, Brussels,	After the Hurricane.
138	Van Keirsbilck, Jules, Brussels,	The Duet.
139	Gérard, Theodore, Brussels,	Soup.
140	Madiol, Adrien Jean, Brussels,	Pancakes.
141	Meyers, Isidore, Antwerp,	View on the River Scheldt, in Winter.
142	Smits, Eugène, Brussels,	Studio Corner.
143	Gérard, Joseph, Brussels,	A Roman Pottery-Seller.
144	Berlin, Jean Joseph, Brussels,	In the Country.
145	Verhoeven-Ball, Antwerp,	Fruit and Game.
146	Gabriel, Paul Joseph Constantin, Brussels,	Landscape—Morning View in Netherlands.
147	Dekeghel, Jules, Ghent,	The Little Rogue.
148	Smits, Eugène, Brussels,	Italian Girl.
149	Gérard, Joseph, Brussels,	A Roman Triclinium.
150	Plumot, André, Antwerp,	The Shepherd.
151	Gérard, Theodore, Brussels,	The Birthday.
152	Wittkamp, Jean Bernard, Antwerp,	Byron's Parisina.
153	Gérard, Theodore, Brussels,	An Unwelcome Guest.
154	Van den Broeck, Miss Clemence, Brussels,	The Visit.
155	Musin, François, Brussels,	Sea-Shore at Scheveningen.
156	Wulffaert, Hippolyte, Brussels,	Waterwomen of Venice.
157	De Burbure, Louis, Brussels,	London Bridge, St. Catharine Docks, London.
158	De Groux, Charles, Brussels (deceased),	The Saviour.
159	Verheyden, François, Brussels,	The Removal.
160	De Baerdemaeker, Felix, Ghent,	The Village of Maurenne, Ardennes Mountains.
161	Nisen, Felix, Liège,	In the Fields, Ardennes.
162	Mellery, Xavier, Brussels,	A Roman Peasant Woman.
163	Le Gendre, Léonce, Tournai,	Clytie (Ovid).
164	Van Seben, Henri, Brussels,	Winter Amusements.
165	Raoux, Albert, Brussels,	Flowers.
166	Bossuet, François Antoine, Brussels,	Granada, Spain.
167	Bellemans, Joseph, Antwerp,	Arias Montanus visits the Printer Plantyn in Antwerp.
168	Weber, Theodore Alexander, Brussels,	Shipwreck in Douarnenez Bay, Finistère, France.
169	Roosenboom, Albert, Brussels,	The Gems.
170	Weber, Theodore Alexander, Brussels,	Shipwreck on the Shore of Mariakerke, near Ostend.
171	Verheyden, Isidore, Brussels,	Landscape.
172	Glibert, Albert, Brussels,	Good Counsels.
173	Speckaert, Gustave, Antwerp,	Landscape—Puers, near Antwerp.
174	Ooms, Karel, Antwerp,	The First Ice of the Season.

STATUARY.

NO.	ARTIST.	TITLE.
174a	Fassin, Adolphe, Brussels,	The Neapolitan Water-Seller (galvanoplastic statue).

*(Memorial Hall, Gallery O.)***STATUARY.**

NO.	ARTIST.	TITLE
175	Bouré, Antoine Félix, Brussels,	The Lizard (marble).
176	Bouré, Antoine Félix, Brussels,	A Lion (marble).
177	Bouré, Antoine Félix, Brussels,	A Lion (marble).
178	Bouré, Antoine Félix, Brussels,	A Recumbent Lion (marble).
179	Brunin, Charles, Mons,	Laughing Neapolitan (bronze).
180	Comein, Polydore, Brussels,	The Little Mother (terra-cotta).
181	Comein, Polydore, Brussels,	Awakening (terra-cotta).
182	Comein, Polydore, Brussels,	Winter (terra-cotta).
183	Comein, Polydore, Brussels,	Summer (terra-cotta).
184	De Groot, Guillaume, Brussels,	A Child (marble).
185	De Villez, Louis Henri, Mons,	Laughing Faun.
186	De Woelmont, Gustave, Baron, Brussels,	Bust of Miss De W. (marble).
187	Fassin, Adolphe, Brussels,	Roma (marble).
188	Fassin, Adolphe, Brussels,	Napoli (marble).
189	Fraikin, Charles Auguste, Brussels,	The First Child (marble).
190	Fraikin, Charles Auguste, Brussels,	The Drone Bee (marble).
191	Godebski, Cyprien, Neuilly, Paris,	The Drunken Moujik (marble).
192	Godebski, Cyprien, Neuilly, Paris,	Russian Peasant Woman (marble).
193	Lefever, Edmond Florimond, Brussels,	Piccolo (terra-cotta).
194	Lefever, Edmond Florimond, Brussels,	Piccola (terra-cotta).
195	Lefever, Edmond Florimond, Brussels,	Summer (terra-cotta).
196	Lefever, Edmond Florimond, Brussels,	Remembrance (terra-cotta).
197	Rodin, Auguste, Brussels,	The Renaissance.
198	Rodin, Auguste, Brussels,	Loving Thoughts.
199	Rodin, Auguste, Brussels,	The Rose.
200	Rodin, Auguste, Brussels,	Alsacian Woman.
201	Rodin, Auguste, Brussels,	Spring.
202	Rodin, Auguste, Brussels,	Autumn (small grapes).
203	Rodin, Auguste, Brussels,	Large Grapes.
204	Rodin, Auguste, Brussels,	Field Flowers.

MEDALS.

NO.	ARTIST.	TITLE.
205	Wiener, Charles, Brussels,	Frame with the following medals : 1. The Orange Society medals. 2. Portrait of Jonas Webb. 3. The Cathedral in Seville, interior and exterior. 4. Portrait of A. Rodenbach. 5. The Cathedral of Belem (Portugal). 6. "Notre Dame" in Paris. 7. The King of Holland. 8. Medallion of Jenner. 9. Medallion—awarded for industries in Holland. 10. A. Rodenbach. 11. Two medallions—awarded by the Society of the "Seine-Inférieure." 12. Two medallions—Prince Albert of England. 13. Two medallions—The Exhibition in Oporto, Portugal. 14. Award from the Lisbon Academy of Fine Arts. 15. The Prison in Arlon. 16. Anthony Van Dyck. 17. Benjamin Rumford. 18. Queen Victoria. 19. The Queen of England. 20. A "5000 reis" silver piece, Portuguese money. 21. Benjamin Rumford. 22. Sir Moses and Lady Montefiore.

NO.	ARTIST.	TITLE.
	Wiener, Charles, Brussels,	23. A. Horsesn.
		24. Baron de St. G6nois.
		25. M. C. Pycke, Baron, Governor of the Province of Antwerp.
		26. National Bank in Brussels.
		27. Cardinal Sterckx.
		28. Interior of the Cathedral in Cologne.
		29. The King of the Belgians.
		30. Cardinal Dechamps.
		31. Interior of the Cathedral in Toledo, Spain.
		32. Stock Exchange in Brussels.
		33. Von Gensau.
		34. Medallion from a Fair.
		35. An English Shilling.
		36. Belgian Postage Stamp.

ARTISTIC BRASS WORK.

NO.	ARTIST.	TITLE.
206	Labaer, Jean Jacques, Antwerp,	William the Silent.
207	Labaer, Jean Jacques, Antwerp,	Marnix de Sainte-Aldegonde, Mayor of Antwerp.
208	Labaer, Jean Jacques, Antwerp,	Van Strale, Mayor of Antwerp.
209	Labaer, Jean Jacques, Antwerp,	Brederode, Chief of the Gueux.
210	Labaer, Jean Jacques, Antwerp,	Saint John (after Quentin Matsys).
211	Labaer, Jean Jacques, Antwerp,	M. Emanuel Hiel.

DECORATED FAÏENCE.

NO.	ARTIST.	TITLE.
212	Dauge, Franz, Brussels,	Battle scene.
213	Dauge, Franz, Brussels,	Landscape, with Cattle.
214	Dauge, Franz, Brussels,	The Conqueror's Return.
215	Dauge, Franz, Brussels,	Cupids.
216	Dauge, Franz, Brussels,	Cupids.
217	Dauge, Franz, Brussels,	Cupids.
218	Dauge, Franz, Brussels,	Interior.
219	De Mol, Adolphe, Brussels,	Bacchante playing the Tambourine.
220	De Mol, Adolphe, Brussels,	Bacchante.
221	De Mol, Adolphe, Brussels,	Bacchante.
222	De Mol, Adolphe, Brussels,	The Holy Family (after Rubens).
223	Meunier, Miss Georgette, Brussels,	The Holy Family.
224	Meunier, Miss Georgette, Brussels,	Diana (after Vouet).
225	Meunier, Miss Georgette, Brussels,	Spring (after Boucher).
226	Meunier, Miss Georgette, Brussels,	Harvest (after Boucher).
227	Tourteau, Edward, Brussels,	The Contented Hermit.
228	Tourteau, Edward, Brussels,	Decorated dish.
229	Tourteau, Edward, Brussels,	Decorated dish.
230	Tourteau, Edward, Brussels,	Cupids.
231	Tourteau, Edward, Brussels,	Cupids.
232	Tourteau, Edward, Brussels,	Odalisque.
233	Tourteau, Edward, Brussels,	Cupids.
234	Tourteau, Edward, Brussels,	Venus.
235	Tourteau, Edward, Brussels,	The Infant Jesus.
236	Tourteau, Edward, Brussels,	The War-Flag.
237	Tourteau, Edward, Brussels,	Holy Woman.
238	Tourteau, Edward, Brussels,	Autumn.
239	Tourteau, Edward, Brussels,	The Dance.
240	Tourteau, Edward, Brussels,	The Dance.
241	Tourteau, Edward, Brussels,	Cupids.
242	Tourteau, Edward, Brussels,	Cupids.
243	Tourteau, Edward, Brussels,	The Hours of the Day.
244	Tourteau, Edward, Brussels,	Goat.
245	Tourteau, Edward, Brussels,	Cupid.
246	Tourteau, Edward, Brussels,	Dish, style of Louis XV.

DECORATED EARTHENWARE.

NO.	ARTIST.	TITLE.
247	Tourteau, Edward, Brussels,	Nessus cloping with Dejanira.
248	Tourteau, Edward, Brussels,	Rape of the Sabines.
249	Tourteau, Edward, Brussels,	Animals.
250	Tourteau, Edward, Brussels,	Animals.
251	Tourteau, Edward, Brussels,	The Laugher and the Shepherdess.
252	Tourteau, Edward, Brussels,	The Child with the Butterfly.
253	Tourteau, Edward, Brussels,	Amphitrite.
254	Tourteau, Edward, Brussels,	Venus and Vulcan.
255	Tourteau, Edward, Brussels,	The Elopement.
256	Tourteau, Edward, Brussels,	The Elopement.
257	Tourteau, Edward, Brussels,	The Thinker.
258	Tourteau, Edward, Brussels,	The Dreamer.
259	Tourteau, Edward, Brussels,	Boy's head.
260	Tourteau, Edward, Brussels,	Girl's head.
261	Tourteau, Edward, Brussels,	The Rat-Catcher.
262	Tourteau, Edward, Brussels,	A Man's head.
263	Tourteau, Edward, Brussels,	A Woman's head.
264	Tourteau, Edward, Brussels,	Love is Conqueror.
265	Tourteau, Edward, Brussels,	The Broken Pitcher.
266	Tourteau, Edward, Brussels,	A Gothic Triptych.
267	Tourteau, Edward, Brussels,	Child's head.
268	Tourteau, Edward, Brussels,	Boy's head.
269	Tourteau, Edward, Brussels,	Girl's head.
270	Volkaerts, François Xavier, Brussels,	Cupids.
271	Volkaerts, François Xavier, Brussels,	Ducks.
272	Volkaerts, François Xavier, Brussels,	Venus and Cupid.

PHOTOGRAPHS.

NO.	ARTIST.	TITLE.
273	Royal Belgian Society for Photog- raphy,	Album of photographs (after the Belgian painter Wiertz, deceased)

ARCHITECTURAL DRAWING.

NO.	ARTIST.	TITLE.
274	De Curte, Louis, Brussels,	Plans for a cathedral in the Gothic style of the thirteenth century.

(Annex, Gallery No. 23.)

DRAWINGS.

NO.	ARTIST.	TITLE.
275	Demannez, Joseph, Brussels,	The Christian Martyr.

ENGRAVINGS.

NO.	ARTIST.	TITLE.
276	Biot, Gustave, Brussels,	The Triumph of Galatea (after Raphael).
277	Biot, Gustave, Brussels,	Portrait.
278	Biot, Gustave, Brussels,	Portrait of the Emperor of Austria.
279	Danse, Auguste, Mons,	The Sorceress.
280	Danse, Auguste, Mons,	The Last Moments of Charles V.
281	Danse, Auguste, Mons,	The Wedding.
282	Danse, Auguste, Mons,	The Martyrdom of Saint Peter.
283	Danse, Auguste, Mons,	The Virgin on Calvary.
284	Demannez, Joseph, Brussels,	The Christian Martyr.

NO.	ARTIST.	TITLE.
285	D'Inghuem, Le Bailly, Brussels,	Frame containing etchings.
286	D'Inghuem, Le Bailly, Brussels,	Frame containing etchings.

OIL PAINTING.

NO.	ARTIST.	TITLE.
287	Wittkamp, John Bernard, Antwerp,	Cruelty of Adolph towards his father, Duc de Guelders (Motley's History of the Netherlands).

WATER COLORS.

NO.	ARTIST.	TITLE.
288	Beeckman, Marie Ferdinand de, Brussels,	View at Tervueren, Belgium.
289	Beeckman, Marie Ferdinand de, Brussels,	View in the Forest of Fontainebleau.
290	Robinson, John. Brussels,	"She is a winsome wee thing."—(Burns.)

NETHERLANDS.

[Works of Art marked with an asterisk (*) are for sale. Information may be obtained at the office of the Netherlands Commission, in Annex, Gallery 13.]

(Annex, Gallery No. 15.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
1	Van Lockhorst, D., Utrecht,	*Field of Heather near Epe.
2	Heemskerk, Van Beest E. v., the Hague,	*Storm near Dover.
3	Taanman, J., Amsterdam,	*Flower-Girl.
4	Koekkoek, H., Amsterdam,	*Beach on the French Coast.
5	Koekkoek, H., Jr., London,	*Stormy Weather at Sea.
6	Israels, J., the Hague,	The Card-Players.
7	Egenberger, J. H., Groningen,	*Rain and Sunshine.
8	Van Deventer, J. F., the Hague,	*Holland Landscape.
9	Gruijter, W., Jr., Amsterdam,	*Dutch Fishermen caught in a Rain-Storm.
10	Kate, J. Mari H. Ten, the Hague,	*Good Friends.
11	Mesdag, van Houten, Mrs., the Hague,	*In the Downs.
12	Stroebel, J. A. B., the Hague,	*The Deacons of the Silversmiths' Guild conferring a Freeman's Certificate—seventeenth century.
13	Eerelman, O., Brussels,	*A Directress of the Orphan Asylum at Groningen—about the beginning of this century.
14	Bilders, J. W., Amsterdam,	*Landscape near Vorden.
15	Cunaeus, C., Amsterdam,	*In Summer.
16	Bischop, C., the Hague,	*Dieuwke.
17	Kool, S., Amsterdam,	*Saturday Afternoon in Friesland.
18	Stortenbeker, P., the Hague,	*Landscape with Cattle.
19	Canta, J. A., Rotterdam,	*Summer in the Fields.
20	Bosboom, J., the Hague,	Church at Treves.
21	Hanrath, Th.,	*A Connoisseur.
22	Haanen, Adriane, Mrs., Oosterbeek,	*Flowers.
23	Mesdag, H. W., the Hague,	*Storm on the North Sea.
24	Martens, W. J., Rome,	*Vestibule of St. Mark in Venice.
25	Rust, J. A., Amsterdam,	*View of Amsterdam—sixteenth century.
26	Oppenoorth, W. J., Antwerp,	*A Pool at Lent—Evening.
27	Apol, L., the Hague,	*Early Morning.
28	Valkenburg, H., Amsterdam,	*Domestic Happiness.
29	Koster, E., and Savry, H., Haarlem,	*River View near Dordrecht.
30	Cunaeus, C., Amsterdam,	*Annexation.
31	Postma, G., Haarlem,	*The Barber of Seville.
32	Huybers, J. D., Zwolle,	*Four Weeks after St. John's Day.
33	Vos, M., Miss, Oosterbeek,	*Still Life.
34	Soeterick, Th., Utrecht,	*Solitude.
35	Lingeman, L., Baarn,	*Trial of a Prisoner of War.
36	Van Hove, J. H., the Hague,	*Good Tidings.
37	Scholten, J. H., Haarlem,	Sunday Morning.
38	Savrij, H., Haarlem,	*Pastoral Scene near Haarlem.
39	Rochussen, Ch., Rotterdam,	*Cheese-Market in North Holland.
40	Cunaeus, C., Amsterdam,	*In Winter.
41	Heemskerk, Van Beest E. v., the Hague,	Off the Island of Texel.
42	Roth, G. A., Amsterdam,	*Mill at Vorden.

NO.	ARTIST.	TITLE.
43	Verveer, S. L. (deceased),	Village of Scheveningen.
44	Seggern, F. van, Amsterdam,	*Evening near Calmpthout.
45	Masurel, J. E., Amsterdam,	*Recreation.
46	Kate, H. F. C. Ten, the Hague,	*A Morning Concert.
47	Hazeu, A. C., Haarlem,	*Landscape in Gelderland.
48	Springer, C., Amsterdam,	*View of Toren Street in Enkhuizen.

(Annex, Gallery No. 5.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
49	Hilverdink, Johan, Amsterdam,	*Landscape on the Mediterranean Coast.
50	Verveer, Elchanon, the Hague,	*The Widow.
51	Vester, W., Heemstede,	*Landscape in Holland.
52	Nakken, W. C., the Hague,	Packhorses in the Woods of St. Gatlen, Normandy.
53	Oppenoorth, W. I., Antwerp,	*A Watering-Place.
54	Bisschop, C., the Hague,	At Church.
55	Kockkoek, W., the Hague,	*Scene in Kuilenburg.
56	Ronner, Mrs. Henriette, née Knip, Brussels,	*Hare in his Covert.
57	Vogel, J. G., the Hague,	*On the Heath.
58	Henkes, Gerke, the Hague,	*A Critical Moment.
59	Greive, J. C., Jr., Amsterdam,	*The Dock at Amsterdam.
60	Israels, J., the Hague,	In the Grain-Field.
61	Roelofs, W., Brussels,	Landscape.
62	Van Everdingen, A., Utrecht,	*On the River-Side.
63	Hanedoes, L., and Verveer, S. L., the Hague,	*Woodland, with Figures.
64	Sande Backhuijzen, Mrs. G. J. v. d., the Hague,	*Bouquet of Roses.
65	Tom, J. B., the Hague,	Heath with Sheep.
66	Bilders, J. W., Amsterdam,	*Landscape.
67	Israels, J., the Hague,	After the Storm.
68	Gempt, B. te, Amsterdam,	Dog.
69	Trigt, H. A. van, Hilversum,	*Norwegian Women bringing Children to be Bap- tized, and being welcomed by the Clergyman.
70	Maris, Willem, the Hague,	*The First Lesson in Swimming.
71	Verschuur, W., Jr., Amsterdam,	*Horse in the Stable.
72	Philippeau, C. F., Amsterdam,	On the Lookout.
73	Everdingen, A. v., Utrecht,	*Landscape with Grain-Fields.
74	Verschuur, W., Jr., Amsterdam,	*Dog.
75	Weissenbruch, Jan, the Hague,	Leerdam.
76	Vos, Miss M., Oosterbeek,	*Still Life.
77	Schenkel, J. J., Amsterdam,	*St. Nicholas Church at Amsterdam.
78	Flier, H. R. v. d., Baarn,	*In the Stable.
79	Hollander, H., Amsterdam,	*Rembrandt disposing of his Picture at the Hague.
80	Koster, E., Haarlem,	*On the Beach.
81	Windt, P. P., the Hague,	*Tough Beans.
82	Heerebaarth, G., Amsterdam,	*Suburbs of a Dutch City.
83	Sande Backhuijzen, Mrs. G. J. v. d., the Hague,	*Fruit.
84	Kockkoek, H. P., Jr., London,	*Landscape near Guilford, England.
85	Borselen, I. W. van, the Hague,	A Holland Landscape.
86	Maaten, J. J. van der, Apeldoorn,	The Canal of Apeldoorn.
87	Testas, W. de Famars, Brussels,	*A Barber's Shop at Cairo.
88	Mesdag, H. H., the Hague,	*Evening on the Beach.
89	Sadee, Th., the Hague,	The Potato-Gatherers.
90	Ronner, Mrs. Henriette, Brussels,	*The Last Hope.
91	Scholten, J. A., Haarlem,	*Summer Flowers.
92	Borselen, J. W. v., the Hague,	*Landscape.
93	Kruseman, Elten van, New York,	*Holland Landscape.
94	Kluyver, P. L. F., Amsterdam,	*Winter Evening near Amersfoort.

NO.	ARTIST.	TITLE.
95	Schipperus, P. A., Rotterdam,	*Holland Landscape.
96	Lingeman, L., Baarn,	A Conference.
97	Gempt, B. te, Amsterdam,	Three Dogs.
98	Greive, J. C., jr., Amsterdam,	*The River Y, near Amsterdam.
99	Steffellaar, J., Amsterdam,	*In the Church Kitchen.
100	Kate, J. Mari H. Ten, the Hague,	*On the Beach.
101	Boks, M., the Hague,	*Landscape.
102	Taanman, J., Amsterdam,	*Sheriff's Hall in the old Town Hall at Kampen —with figures from the sixteenth century.
103	Craeyvanger, R., Amsterdam,	*The First Pair of Spectacles.
104	Roelofs, W., the Hague,	*A Thunder-Storm.
105	Heemskerk, Van Beest E. v., the Hague,	The River Y, near Amsterdam.
106	Gempt, B. te, Amsterdam,	*The Cat Pretending to have been Hanged (after La Fontaine).
107	Kate, H. F. C. Ten, the Hague,	*The Fortunes of War—seventeenth century.
108	Apol, L., the Hague,	In the River.
109	Mauve, A., the Hague,	*Hauling up the Fishing-Boat.
110	Paling, John I., Amsterdam,	*Sunday Morning.
111	Bosboom, J., the Hague,	*The New Church at Amsterdam.
112	Mesdag, H. W., the Hague,	*Winter near the Hague.
113	Vogel, J. G., the Hague,	*Holland Landscape.

(Annex, Gallery No. 13.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
114	Riegen, N., Amsterdam,	A Calm.
115	Heijl, M., Amsterdam,	*Evening.
116	Lingeman, L., Baarn,	*A Dutch Scholar of the Seventeenth Century.
117	Kever, J. S. H., Amsterdam,	*The Artist.
118	Altmann, S., Amsterdam,	*Petrus Plancius correcting Marine Charts.
119	Altmann, S., Amsterdam,	*The Young Bull (after Potter).
120	Seggern, F. van,	*Landscape in Norway.
121	Hilverdink, E. A., Amsterdam,	*View of the Binnen-Amstel in Amsterdam.
122	Schenkel, J. J., Amsterdam,	*Cathedral in Breda.
123	Groot, J. de, Amsterdam,	*Meditation.
124	Taanman, J., Amsterdam,	*On Duty.
125	Eichelberg, W. H., Amsterdam,	*Winter Landscape in Holland.
126	Nakken, W. C., the Hague,	*Haymaking—Normandy.
127	Kellen, D. v. d., Jr., Amsterdam,	*Secrets.
128	Koster, E., Haarlem,	*View on the River Y, near Amsterdam.
129	Deventer, J. F. van, the Hague,	*Holland Landscape and Cattle.
130	Allebé, Aug., Amsterdam,	*The Nursery.
131	Ebersbach, J. E., Amsterdam,	*Recreation.
132	Hove, B. J. v., the Hague,	*View of a part of St. Hippolytus Church at Delft.
133	Sande Backhuijzen, J. v. d., the Hague,	*River Landscape.
134	Schenkel, J. J., Amsterdam,	*The New Church in Amsterdam.
135	Reijntjes, H. E., Amsterdam,	*Twenty by Eighteen.
136	Stroebel, J. A. B., the Hague,	*Dutch Interior.
137	Rochussen, Ch., Rotterdam,	*A Picnic.
138	Rochussen, Ch., Rotterdam,	Near Scheveningen.
139	Roloofs, W., Brussels,	Landscape.
140	Kate, H. F. C. Ten, the Hague,	*Gamblers—seventeenth century.
141	Deventer, W. A., the Hague,	Near Scheveningen.
142	Rochussen, Ch., Rotterdam,	*A Moonlight Excursion.
143	Rochussen, Ch., Rotterdam,	*Reconnoitring.
144	Bilders, J. W., Amsterdam,	*Landscape.
145	Destrée, J. J., the Hague,	*Dutch Meadow.
146	Heemskerk, Van Beest E. v., the Hague,	*Arrival in the Harbor.

NO.	ARTIST.	TITLE.
147	Reijntjes, H. E., Amsterdam,	*Sixty-five by Forty.
148	Bosboom, J., the Hague,	Dutch Church.
149	Constant Rebecque, W. C. de, Loosduinen,	*Harbor of Moerdyk.
150	Kellen, David v. d., Amsterdam,	*No Bad News.
151	Joosten, D. J. H., Haarlem,	*Fruit.
152	Essen, J. C. van, Amsterdam,	*A Moment's Rest.
153	Bocks, M., the Hague,	*Landscape.
154	Riegen, N., Amsterdam,	*Coast Scene in France.
155	Altmann, S., Amsterdam,	*Jan Steen in his Studio.
156	Altmann, S., Amsterdam,	*The Masters of the Kloveniersgild (after F. Hals, 1633).
157	Altmann, S., Amsterdam,	*Masters of the Drapers (after Rembrandt).
158	Altmann, S., Amsterdam,	*Banquet of the Civil Guard (after Van der Helst).
159	Canta, J. A., Rotterdam,	*The Close of a Weary Day.
160	Eversen, A., Amsterdam,	*Street Scene in Winter.

(Annex, Gallery No. 23.)

ENGRAVINGS, PHOTOGRAPHS, CARVINGS.

NO.	ARTIST.	TITLE.
161	Sluijter, H. Dzn, Amsterdam,	*Fourteen engravings, representing Dutch paintings.
162	Cuypers & Stolzenberg, Sculptors, Roermond,	a The Crucifixion. b The Holy Virgin. c St. Joris.

(Annex, Gallery No. 21.)

NO.	ARTIST.	TITLE.
163	Wollrabe, H. W., the Hague,	Collection of photographs, eight in number.
164	De Jong, G., Groningen,	Three photographs.
165	Tresling & Co., Amsterdam,	Sixteen chromo-lithographs.
166	Molkenboer, W. B. G., Leeuwarden,	Two architectural compositions.
167	Kolkow, F. J. von, Groningen,	Microscopic photographs on glass.
168	Bauer, C. W., Middelburg,	Five photographs.

STATUARY.

NO.	ARTIST.	TITLE.
169	Goossens & Son, Bosch,	Saul on the Road to Damascus (terra-cotta).

DENMARK.

[Works of Art marked with an asterisk (*) are for sale. Information may be obtained at the office of the Danish Commissioner, Main Building.]

(Annex, Gallery No. 7.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
1	Andersen, A., Copenhagen,	*Winter Landscape.
2	Andersen, A., Copenhagen,	*Afternoon in a Danish Beech Forest.
3	Eckardt, C., Copenhagen,	*The Harbor of Genoa.
4	Eckardt, C., Copenhagen,	*The Coast of Spalato, Dalmatia.
5	Hammer, H. J., Copenhagen,	*By the Fountain in Ariccia, Italy.
6	Hammer, W., Copenhagen,	Fruit under an Apple-Tree.
7	Hammer, W., Copenhagen,	*Garden Fruit in a Basket.
8	Melby, W., Copenhagen,	*Midsummer Night, Iceland, Stormy Weather.
9	Mackeprang, A., Copenhagen,	*Fox in the Chicken-Yard.
10	Mackeprang, A., Copenhagen,	*Fox and its Young.
11	Rasmussen, J. E. C., Copenhagen,	*Discovery of America in the Year 1000.
12	Rasmussen, J. E. C., Copenhagen,	*Greenlanders on a Journey.
13	Rasmussen, J. E. C., Copenhagen,	*Danish Fjord.
14	Schovelin, A., Copenhagen,	*Ruins of Heidelberg.
15	Sörensen, C. F., Copenhagen,	*Sunset on the Atlantic—An Old Frigate in a Gale.

SWEDEN.

[Works of Art marked with an asterisk (*) are for sale. Information may be obtained at the office of the Swedish Commission, Memorial Hall.]

(Memorial Hall, Galleries Hand K: Annex, Galleries Nos. 11 and 25.)

STATUARY.

NO.	ARTIST.	TITLE.
1 ^a	Börjeson, J., Rome,	*The Ladies of the Lake.
1 ^b	Börjeson, J., Rome,	*Psyche.

WOOD CARVINGS.

NO.	ARTIST.	TITLE.
2	Lundmark, A., Stockholm,	*Carvings in wood.
3	Ostergren, I. P., Westeras,	*Carvings in wood.
4	Wästfelt, Carl C., Kölingsholm,	*Carvings in wood.

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
5 ^a	Adelsköld, C., Stockholm,	*Preparing for Dinner.
5 ^b	Adelsköld, C., Stockholm,	*A Gale on the Coast of Sweden.
6 ^a	Ankarkrona, H., Stockholm,	*Evening Prayer in the Desert.
6 ^b	Ankarkrona, H., Stockholm,	*View from the Boundaries of Algiers and Morocco.
7 ^a	Arborelius, O. P., Stockholm,	*View from Dalarna.
7 ^b	Arborelius, O. P., Stockholm,	*Winter Landscape.
8	Arsenius, John, Stockholm,	*On the Ice.
9	Bennett, C., Baron, Stockholm,	*Royal Palace, Stockholm.
10 ^a	Berg, Albert, Stockholm,	*Coast of Sweden.
10 ^b	Berg, Albert, Stockholm,	*Marine View.
10 ^c	Berg, Albert, Stockholm,	*Winter in the Skjårgård.
10 ^d	Berg, Albert, Stockholm,	*Moonlight.
11 ^a	Bergh, Edward, Stockholm,	*Fishing-Harbor on the Coast of Sweden.
11 ^b	Bergh, Edward, Stockholm,	*Birch Forest.
11 ^c	Bergh, Edward, Stockholm,	Swedish Waterfall.
11 ^d	Bergh, Edward, Stockholm,	Interior View of Pine Forest.
12	Bergman, Miss Elizabeth, Stockholm,	*Landscape in Wermland.
13	Bergstedt, Miss Amanda,	*The Difficult Lesson.
14	Billing, Th., Stockholm,	*Landscape in North Sweden.
15 ^a	Boklund, J. Ch., Stockholm,	*A Marauder.
15 ^b	Boklund, J. Ch., Stockholm,	*Consultation—Gustavus Adolphus and Three Warriors.
16	Brandelius, P., Stockholm,	*Dangerous Excursion.
17 ^a	Börjesson, Miss Agnes, Rome,	*Farewell.
17 ^b	Börjesson, Miss Agnes, Rome,	*A Happy Finding.
18 ^a	Cantzler, H., Stockholm,	*Northern Landscape.
18 ^b	Cantzler, H., Stockholm,	*Reaping in Italy.
19	Cedergeren, P. A., Stockholm,	*View of Stockholm.
20	Cederström, G., Baron, Stockholm,	*Dark Moments.
21	Dietrichson, Mrs. M., Christiania,	*The Recovered Document.
22	Ekström, P., Stockholm,	*Summer Evening.
23 ^a	Engström, W. O., Düsseldorf,	*Good-Morning!
23 ^b	Engström, W. O., Düsseldorf,	*Bird of Prey carrying off a Rabbit.
24 ^a	Fagerlin, F. I., Stockholm,	Boys smoking.

NO.	ARTIST.	TITLE.
24 ^b	Fagerlin, F. I., Stockholm,	Jalousy.
25	Fahlgren, C. A., Stockholm,	*Landscape.
26	Hafström, A. G., Düsseldorf,	*A Captured Frenchman.
27 ^a	Hermelin, O., Baron, Stockholm,	*Winter Day in Sweden.
27 ^b	Hermelin, O., Baron, Stockholm,	*Poor People's Graveyard.
27 ^c	Hermelin, O., Baron, Stockholm,	*The First Snow.
27 ^d	Hermelin, O., Baron, Stockholm,	*Fishing-Harbor near Stockholm.
27 ^e	Hermelin, O., Baron, Stockholm,	*Spring, Montmartre, Paris.
27 ^f	Hermelin, O., Baron, Stockholm,	*In a Stockholm Suburb.
27 ^g	Hermelin, O., Baron, Stockholm,	*The Church of St. Pierre, Paris.
27 ^h	Hermelin, O., Baron, Stockholm,	*Returning at Noon.
27 ⁱ	Hermelin, O., Baron, Stockholm,	*Landscape in Södermanland.
27 ^k	Hermelin, O., Baron, Stockholm,	*Birch Forest.
27 ^l	Hermelin, O., Baron, Stockholm,	*Autumn Day at Djurgarden, near Stockholm.
27 ^m	Hermelin, O., Baron, Stockholm,	*Fishing-Place near Stockholm.
27 ⁿ	Hermelin, O., Baron, Stockholm,	*Sunny Day on Montmartre, Paris.
28	Herzberg, A. G., Stockholm,	Going to Confirmation.
29 ^a	Holm, P. D., Stockholm,	In the Mining Districts of Wermland.
29 ^b	Holm, P. D., Stockholm,	*In the Forest.
30	Holmlund, Miss Josefina, Stockholm,	*Frederika Bremer's First and Last Home.
31 ^a	Holst, J. G. von, Stockholm,	*Sheep on the Pasture.
31 ^b	Holst, J. G. von, Stockholm,	*A Fruitless Effort.
32	Höckert, J., Stockholm,	*Burning of the Royal Palace in Stockholm during the Youth of Charles XII.
33 ^a	Jernberg, Aug., Düsseldorf,	*Market-Day in Düsseldorf.
33 ^b	Jernberg, Aug., Düsseldorf,	The Broken Pipe.
33 ^c	Jernberg, Aug., Düsseldorf,	*Preparations for Meal.
33 ^d	Jernberg, Aug., Düsseldorf,	*Visitors in the Amsterdam Museum, looking at Rembrandt's Night Watch.
34	Jernberg, O., Düsseldorf,	*Swedish Landscape.
35 ^a	Kallenberg, A., Berlin,	*Cattle in Skane.
35 ^b	Kallenberg, A., Berlin,	*Beech Forest.
35 ^c	Kallenberg, A., Berlin,	Farm-House in Sweden.
36	Kjörbel, C. F., Dijon,	Dogs attacking a Fox.
37	Koskull, A. G., Baron, Stockholm,	*Boy and Wolves.
38	Kulle, J., Stockholm,	*Wedding in Skane.
39	Lagerholm, Miss W., Stockholm,	*A Mother's Grief.
40 ^a	Lindegren, Miss Amalia, Stockholm,	Father returned from Market.
40 ^b	Lindegren, Miss Amalia, Stockholm,	Merriment at Home.
40 ^c	Lindegren, Miss Amalia, Stockholm,	Girl with an Orange.
41	Lindman, A., Stockholm,	*Evening on the West Coast of Sweden.
42	Lindström, C., Munich,	Autumn Landscape.
43	Löfgren, Miss Clara, Stockholm,	*Sorrow.
44	Lönnroth, Fr., Boras,	*Norwegian Horses.
45	Malmström, J. Aug., Stockholm,	Dance of Elves.
46 ^a	Nilsson, S., Paris,	*Sigurd Ring, King of Scandinavia and England, burning himself and his Dead Bride.
46 ^b	Nilsson, S., Paris,	*The King of the Children.
46 ^c	Nilsson, S., Paris,	*Brother and Sister.
47 ^a	Nordenberg, B.,	*Dalecarlians put to Flight by a Fire in the Forest.
47 ^b	Nordenberg, B.,	*Wedding in a Swedish Country Church.
47 ^c	Nordenberg, B.,	*Rest in a Säter, Alpine Dairy.
47 ^d	Nordenberg, B.,	The Dead Sheep.
48 ^a	Nordgren, Miss Anna, Paris,	*Italian Girl.
48 ^b	Nordgren, Miss Anna, Paris,	*Genre.
49 ^a	Nordgren, Axel, Düsseldorf,	*View from the Promontory of Kullen in Skane.
49 ^b	Nordgren, Axel, Düsseldorf,	*Coast Scenery.
50	Nordlander, Miss Anna, Stockholm,	*The Favorite Toilet.
51	Palm, G. W.,	*View of Stockholm

NO.	ARTIST.	TITLE.
52	Perseus, Edw., Stockholm,	*Parisian Maid.
53	Post, Miss Christine, Stockholm,	The Five Foolish Virgins at the Locked Door.
54 ^a	Ribbing, Miss S., London,	*Young Girl with Grapes.
54 ^b	Ribbing, Miss S., London,	*Girl at the Säter.
54 ^c	Ribbing, Miss S., London,	*The Gardener's Children.
54 ^d	Ribbing, Miss S., London,	*Girl with Eggs.
55	Rosen, C., Count von, Stockholm,	Portrait.
56 ^a	Rydberg, C. F., Stockholm,	Winter Landscape.
56 ^b	Rydberg, C. F., Stockholm,	Spring Landscape.
56 ^c	Rydberg, C. F., Stockholm,	Landscape in Bleking.
57	Salmson, Hugo, Stockholm,	*Odalisque.
58 ^a	Saloman, Geskel, Stockholm,	Maid with an Open Letter.
58 ^b	Saloman, Geskel, Stockholm,	*At the Letter-Box.
58 ^c	Saloman, Geskel, Stockholm,	*Religious Ceremony on the Coast of Algiers.
59 ^a	Schwerin, Baroness Amalia von, Düsseldorf,	*Landscape with Cattle.
59 ^b	Schwerin, Baroness Amalia von, Düsseldorf,	*Landscape with Cattle.
60	Sidwall, Miss Amanda, Paris,	*Mulatto Women.
61	Skänberg, C. E., Paris,	*In the Spring.
62	Svenson, F., Stockholm,	*H. M. Frigate "Vanadies."
63	Södergren, Miss Sofia, Paris,	*French Coast Landscape.
64 ^a	Törna, O., Düsseldorf,	*Pine Forest, Sweden.
64 ^b	Törna, O., Düsseldorf,	*Moonrise, Sweden.
64 ^c	Törna, O., Düsseldorf,	*Birch Forest, Sweden.
65	Wahlberg, H. A. L., Paris,	Moonlight Landscape.
66 ^a	Wahlquist, E., Sigtuna,	*Hunting Party.
66 ^b	Wahlquist, E., Sigtuna,	*Cronborg Castle, at the Oeresund.
66 ^c	Wahlquist, E., Sigtuna,	*Smugglers.
67	Wallander, W., Stockholm,	*Forge in the Forest.
68 ^a	Wallander & Torslow, Stockholm,	*Shepherds making a Fire.
68 ^b	Wallander & Torslow, Stockholm,	*Saturday Night on an Alpine Pasture.
69	Werner, G., Naples,	*The Salamander.
70 ^a	Winge, Mrs. H., Stockholm,	*Church at Rättwik, Dalarna.
70 ^b	Winge, Mrs. H., Stockholm,	*Before Service.
71 ^a	Winge, E., Stockholm,	*Signe burning Herself on witnessing her Lover hanged.
71 ^b	Winge, E., Stockholm,	*Viking Fleet.
72 ^a	Virgin, J. G., Stockholm,	*Letter-Box in Dalarna.
72 ^b	Virgin, J. G., Stockholm,	*On the Meadow.
73	Zetterström, Mrs. M., Paris,	*"Of what is she thinking?"

WATER COLORS.

NO	ARTIST.	TITLE.
74	Ahrenberg, J., Stockholm,	*City Gate of Rouen.
75 ^a	Blackstadius, J. L., Stockholm,	*Miller's Cottage at Alwastra.
75 ^b	Blackstadius, J. L., Stockholm,	*In Stockholm's Skjårgård.
76 ^a	Gardell, Miss Anna, Stockholm,	*Views from Skane.
76 ^b	Gardell, Miss Anna, Stockholm,	*A Spring Day.
77	Hellquist, H., Paris,	*Genre.
78 ^a	Hägg, J., Stockholm,	*In the River at Stockholm.
78 ^b	Hägg, J., Stockholm,	*Man-of-War.
79	Kylberg, Miss Regina, Stockholm,	*The Halsfors in Norway.
80 ^a	Larson, Miss Virginia, Stockholm,	*Peasant Girl from Dalarna.
80 ^b	Kylberg, Miss Virginia, Stockholm,	*Swedish Landscape.

NORWAY.

[Works of Art marked with an asterisk (*) are for sale. Information can be obtained at the office of the Norwegian Commission, Main Building.]

(*Memorial Hall, Gallery K.*)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
1	Gude, Hans, Carlsruhe,	*A Fresh Breeze, Norwegian Coast.
2	Bennetter, J. J., Paris,	*Vikings at Sea.
3	Arbo, P. M., Christiania,	*Day.
4	Bøe, Frantz, Bergen,	*Midnight Sun in Norway.
5	Gude, Hans, Carlsruhe,	*Calm, Christianiafiord.
6	Thaulow, Fritz, Christiania,	*On the Thames.
7	Schanche, Herm. G., Düsseldorf,	*The Folgefond Glacier in Norway.
8	Askevold, A., Bergen,	*Summer Day at the Mountain Tarn.
9	Thurman, P., Christiania,	*Hardangerfiord.
10	Lerche, Vinc. St., Düsseldorf,	*Studio in a Monastery.
11	Munthe, —, Düsseldorf,	Winter Day in a Forest.
12	Tidemand, A., Düsseldorf,	Peasants in a Wood.

(*Memorial Hall, Gallery K.*)

SCULPTURE.

NO.	ARTIST.	TITLE.
12a	Borch, C., Rome,	*Jephthah's Daughter.

(*Annex, Gallery No. 7.*)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
13	Thaulow, Fritz, Christiania,	*View of the Ice Channel, Christianiafiord.
14	Skari, E. O. R., Christiania,	*French Fishermen in the Channel.
15	Jacobsen, S., Düsseldorf,	*Birch Forest.
16	Schive, Jacob, Düsseldorf,	*Norwegian Winter Landscape.
17	Gude, Hans, Carlsruhe,	*View from Dröbak, near Christiania.
18	Sinding, Otto, Munich,	*Fight at a Christmas Feast.
19	Askevold, A., Bergen,	*Evening on the Mountain Pastures.
20	Möller, Niels B., Düsseldorf,	*Waterfall in Telemarken, Norway.
21	Nielsen, Amaldus, Christiania,	*The Vingeraashei, Telemarken.
22	Norman, A., Düsseldorf,	*Landscape from Lærdal, Sognefiord.
23	Baade, Knud, Munich,	*View on the Norwegian Coast.
24	Nicolaysen, L. W., Christiania,	*Norwegian Landscape, from Lake Bandak, in Telemarken.
25	Möller, Niels B., Düsseldorf,	*The Kirkevig near Lysekil, Sweden.
26	Nielsen, Johan, Munich,	*Approaching Thunder-Storm, Lofoten Islands, Norway.
27	Norman, A., Düsseldorf,	*Norwegian Fiord.
28	Bennetter, J. J., Paris,	*Sea-Fight between the Frigate "La Preneuse" and the line-of-battle ship "Jupiter," off Le Banc des Aiguilles, 26th September, 1799.
29	Sinding, Otto, Munich,	*Ruth and Boaz.
30	Wexelsen, Chr., Christiania,	*Scenery from Sörfiorden, Hardanger.
31	Smith-Hald, F., Düsseldorf,	*Winter Day, Bohuslän, Sweden.
32	Möller, Niels B., Düsseldorf,	*Moonlight, Lysekil.

NO.	ARTIST.	TITLE.
33	Jacobsen, S., Düsseldorf,	*Winter Scenery.
34	Möller, Niels B., Düsseldorf,	*From Fiorland, Sognefiord, Norway.
35	Nielsen, Amaldus, Christiania,	*Scenery in the Sognefiord, Norway.
36	Hanno, W. von, Christiania,	*A Street in Brunswick, Germany.
37	Bergslien, Christiania,	*Portrait.
38	Grimelund, I. M., Paris,	*A Summer Morning in the Birch Forest.
39	Bøe, Frantz, Bergen,	*Fruits.
40	Rummelhof, Chr., Arendal,	"Morning"—Faleide in Norfiord.
41	Ulfsten, —, Carlsruhe,	*Moonrise on the Norwegian Coast.
42	Nielsen, Amaldus, Christiania,	*Towards Evening.
43	Lorck, Carl J., Düsseldorf,	*The Elk-Hunters.
44	Anker, Herman, Christiania,	Scenery in Romsdalen.
45	Dahl, Hans, Bergen,	*Natives of Western Norway.
46	Anker, Herman, Christiania,	*Scenery near Loen, in Nordfiord.
47	Bøe, Frantz, Bergen,	*Flowers.
48	Rummelhof, Chr., Arendal,	*After the Rain—View in the Sörfiord.
49	Bergh, Anton, Christiania,	*The Folgefond Glacier in Hardanger.
50	Norman, A., Düsseldorf,	*Scenery in the Romsdalsfiord.
51	Vigdal, A. G., Bergen,	*Waterfall—View in Ves.
52	Lerche, Vinc. St., Düsseldorf,	*Interior of a Monastery.

(Annex, Gallery No. 7.)

SCULPTURE.

NO.	ARTIST.	TITLE.
53	Borch, C., Rome,	*Morning (marble).
54	Borch, C., Rome,	*Evening (marble).
55	Sinding, Stephan, Christiania,	*Hermes (marble).
56	Sinding, Stephan, Christiania,	*Völund (plaster).

ITALY.

(Annex, Gallery No. 1.)

SCULPTURE.

NO.	ARTIST.	TITLE.
1	Lazzerini, Pietro, Florence,	Brotherly Love (group in marble).
2	Bernasconi, Pietro, Milan,	The Adulteress.
3	Magni, Prof., Milan,	The Sergeant's Family.
4	Becucci Brothers, Florence,	Bacchante.
5	Bottinelli, Antonio, Rome,	Modesty.
6	Pazzi, Prof. Enrico, Florence,	Innocence Playing with Vice.
7	Martegani, Alessandro, Milan,	Moses trampling on the Crown of Pharaoh.
8	Sarrocchi, Prof. Tito, Siena,	The First Capture.
9	Malfatti, Andrea, Milan,	Emancipation.
10	Braga, Enrico, Milan,	Morning.
11	Pazzi, Prof. Enrico, Florence,	Cupid Asleep.
12	Romani, Prof. Carlo, Milan,	A Jealous Sweetheart.
13	Caroni, Prof. Emanuele, Florence,	Cold.
14	Motelli, Metello, Milan,	Prayer.
15	Barcaglia, Donato, Milan,	Fleeting Time.
16	Bazzanti, Peter, & Son, Florence,	Ruth.
17	Caroni, Prof. Emanuele, Florence,	Effects of Cold Water.
18	Sarrocchi, Prof. Tito, Siena,	The Fisher-Boy.
19	Barzaghi, Francesco, Milan,	Blind-Man's-Buff.
20	Barzaghi, Francesco, Milan,	Vanity.
21	Marai, Luigi, Milan,	Cupid Flying.
22	Calvi, Pietro, Milan,	A Courageous Defender of the Feeble.
23	Malfatti, Andrea, Milan,	After the Bath.
24	Trombetta, Milan,	"The First Step."
25	Argenti, Giosuè, Milan,	Dreams of Youth.
26	Zannoni, Ugo, Milan,	The Future Artist.
27	Bernasconi, Pietro, Milan,	A Childish Pleasure.
28	Bernasconi, Pietro, Milan,	A Child's First Misfortune.
29	Ramazzotti, Serafino, Rome,	Spirit of Liberty.
30	Calvi, Pietro, Milan,	The Flower.
31	Becucci Brothers, Florence,	A Gipsy.
32	Pandiani, Innocente, Milan,	Eagle attacking a Turkey.
33	Braga, Enrico, Milan,	Playing Cat's Cradle.
34	Braga, Enrico, Milan,	Beating the Rataplan.
35	Epinay, Cav. Prospero, Rome,	The Youthful Hannibal.
36	Bracony, Guglielmo, Rome,	Vanity.
37	Bergonzoli, Giulio, Milan,	Angelic Love.
38	Lombardo, Giovanni, Rome,	Hen and Chickens.
39	Ragusa, Vincenzo,	Young Bacchus.
40	Marani, Adelaide, Rome,	Innocence (exhibited in Women's Pavilion).
41	Corti, ———, Milan,	Lucifer.
42	Del Panta, Egisto, Florence,	Carnival.
43	Braga, Enrico, Milan,	Cleopatra.
44	Frilli, Antonio, Florence,	Winter.
45	Pandiani, Costantino, Milan,	Love's First Whispers.
46	Frilli, Antonio, Florence,	Spring.
47	Romanelli, Prof. Pasquale, Florence,	Madonna of San Sisto.
48	Miglioretti, Milan,	Death of Abel.
49	Lazzerini, Pietro, Florence,	Innocence.

NO.	ARTIST.	TITLE.
50	Magni, Prof., Milan,	Angelica.
51	Pagani, Luigi, Milan,	Psyche.
52	Pagani, Luigi, Milan,	Lurking Love.
53	Pagani, Luigi, Milan,	Child's First Grief.
54	Pagani, Luigi, Milan,	Luisa San Felice, of Naples.
55	Monari, Alessandro, Ravenna,	Raphael of Urbino.
56	Pessina, Carlo, Milan,	The Bird's Nest.
57	Romanelli, Prof. Pasquale, Florence,	Ruth.
58	Tantardini, Antonio, Milan,	Bathing Girl.
59	Bazzanti, Peter, & Son, Florence,	Vase (in green marble).
60	Becucci Brothers, Florence,	Boy with a Dove.
61	Ragusa, Vincenzo, Milan,	Emancipation.
62	Pandiani, Giovanni, Rome,	Caprice (bust).
63	Struzza, Giovanni, Milan,	Alessandro Manzoni (bronze).
64	Frilli, Antonio, Florence,	Autumn.
65	Cambi, Ulisse, Florence,	Moses trampling on the Crown of Pharaoh.
66	Martegani, Alessandro, Milan,	Garibaldi (bust).
67	Luccardi, Prof., Milan,	Innocent Contrast.
68	Biella, Angelo, Milan,	Woman of Pompeii.
69	Funco, Pietro, Milan,	Maternal Hope.
70	Argenti, Antonio, Milan,	Modesty (bust).
71	Veneroni, Rome,	The Prayer (bust).
72	Becucci Brothers, Florence,	Girl and Dog.
73	Frilli, Antonio, Florence,	Tazza (in green marble).
74	Saul, Giorgio, Florence,	The Last Farewell to her Native Land.
75	Motelli, Metello, Milan,	An Awkward Surprise.
76	Bazzanti, Peter, & Son, Florence,	Washington and his Hatchet.
77	Bazzanti, Peter, & Son, Florence,	Franklin and his Whistle.
78	Bottinelli, Cesare, Milan,	Beatrice Cenci.
79	Dini, Ernesto, Florence,	The Bride.
80	Porcinai, Antonio, Florence,	Innocence.
81	Ferraro, Filippo, Rome,	The Holy Family (bas-relief).
82	Maraini, Adelaide, Rome,	Angels after the Resurrection (bas-relief. In Women's Pavilion).
83	Ramazotti, Serafino, Rome,	Piety (bas-relief).
84	Maraini, Adelaide, Rome,	Angels before the Resurrection (bas-relief. In Women's Pavilion).
85	Lombardi, Giovanni, Rome,	Flowers (bas-relief).
86	Porcinai, Antonio, Florence,	The Fisher-Girl.
87	Peduzzi, Renato, Milan,	Chimney-piece with a Boy representing Silence.
88	Porcinai, Antonio, Florence,	Girl and Dog.
89	Metti, Raimondo, Florence,	Bust of Dante's Beatrice.
90	Dini, Ernesto, Florence,	Effect of the Wind.

(Annex, Gallery No. 1.)

OIL PAINTINGS.

NO.	ARTIST	TITLE.
91	Tedesco, Prof. Michele, Florence,	The School of Love.
92	Lodigiani, Scipione, Milan,	Galileo before the Tribunal of the Inquisition.
93	Bigara, C. F., Milan,	The Invention of Engraving.
94	Bisi, Prof. Luigi, Milan,	Interior of St. Mark's Church, Venice.
95	Gilli, Alberto, Turin,	Arnoldo da Brescia and Pope Adrian IV.
96	Rubio, Prof. Luigi, Florence,	Magdalene.
97	Bisi, Prof. Luigi, Milan,	Landscape.
98	Trenti, Girolamo, Milan,	Inundation of the River Po, Italy.
99	Romoli, —, Florence,	Copy of Fra Angelico's Incarnation of the Virgin.
100	Fumagalli, Michelangelo,	Columbus conducted back to Spain as a Prisoner.
101	Roi, Pietro, Venice,	Lombardy and Venice, the Two Sister Provinces.
102	Cornienti, Cherubino, Bologna,	Lodovico il Moro visits Leonardo da Vinci while building the Canal of Pavia.
103	Giroux, Ernesto, Rome,	A Cup of Tea.

NO.	ARTIST.	TITLE.
104	Romoli, Florence,	Copies of Fra Angelico's Angels and Virgins.
105	Romoli, Florence,	Copies of Fra Angelico's Angels and Virgins.

(Annex, Gallery No. 1.)

FLORENTINE MOSAIC WORK.

[The tables and pictures exhibited in the Annex of Memorial Hall, by the following manufacturers and artists of Florentine mosaics, are all made of small pieces of natural stones, inlaid in black marble, porphyry, or other stones.]

MOSAIC TABLES.

NO.	ARTIST.	TITLE.
106	Scappini, Giovanni, Florence,	The Table of Science, and various other tables.
107	Civita, Angelo, Florence,	Table inlaid in porphyry, and collection of various tables.
108	Torrini, Giocondo, Florence,	Large round table with bouquet and garland, and various other tables.
109	Bazzanti, Peter, & Son, Florence,	Two large round tables, rococo style, and collection of various tables.
110	Boncinelli, Giov., & Co., Florence,	Collection of various mosaic tables.
111	Betti, Francesco, Florence,	Collection of various tables.
112	Bianchini, Telemaco, Florence,	Collection of mosaic tables.
113	Francolini, Tito, Florence,	Mosaic table with Ganymede and the eagle; collection of mosaic tables.
114	Montelatici Brothers, Florence,	Collection of various mosaic tables.
115	Montelatici, Giuseppe, Florence,	Collection of mosaic tables.
116	Novello, Luigi, Florence,	Collection of mosaic tables.
117	Ugolini, Giov., & Co., Florence,	Collection of mosaic tables.
118	Sandrini, Antonio, Florence,	Collection of mosaic tables.
119	Orlandini, Florence,	Collection of mosaic tables.
120	Gherardi, Goffredo, Florence,	Square table—illustration of Michael Angelo.
121	Brunacci, Pietro, Florence,	Mosaic table.
122	Falcini, Andrea, Florence,	Mosaic tables.
123	Scarselli, Nicola, Florence,	Collection of mosaic tables.
124	Vichi, Ferdinando, Florence,	Collection of mosaic tables.

(Annex, Gallery No. 1.)

MOSAIC PICTURES.

NO.	ARTIST.	TITLE.
125	Scarselli, Nicola, Florence,	Still Life.
126	Francolini, Tito, Florence,	The Falconer.
127	Scarselli, Nicola, Florence,	Still Life.
128	Francolini, Tito, Florence,	Portrait of President Lincoln.
129	Bianchini, Telemaco, Florence,	Jacob, Rachel, and Laban.
130	Bianchini, Telemaco, Florence,	Cimabue and Giotto, and four medallions.
131	Bianchini, Telemaco, Florence,	Vase of flowers.
132	Betti, Telemaco, Florence,	A Bouquet.
133	Betti, Telemaco, Florence,	A Bouquet.
134	Francolini, Tito, Florence,	A Roman Peasant Woman.
135	Francolini, Tito, Florence,	Group in the Goldenian Costume.
136	Francolini, Tito, Florence,	Woman of the Roman Campagna.
137	Francolini, Tito, Florence,	The Improvisator.
138	Francolini, Tito, Florence,	A Neapolitan Fisherman playing the Guitar.
139	Francolini, Tito, Florence,	Fowls.
140	Boncinelli, Giov., & Co., Florence,	Still Life.
141	Boncinelli, Giov., & Co., Florence,	Monks in a Cellar.
142	Boncinelli, Giov., & Co., Florence,	A Page leading the Favorite Horse to his Master.
143	Boncinelli, Giov., & Co., Florence,	Scene in a Roman Village.

NO.	ARTIST.	TITLE.
144	Boncinelli, Giov., & Co., Florence,	Still Life.
145	Scappini, Giovanni, Florence,	Roman Costume.
146	Scappini, Giovanni, Florence,	Woman of the Roman Campagna.
147	Scappini, Giovanni, Florence,	Woman of the Roman Campagna.
148	Scappini, Giovanni, Florence,	Interior of the Bargello, Florence.

(Annex, Gallery No. 3.)

SCULPTURE.

NO.	ARTIST.	TITLE.
149	Bazzanti, Peter, & Son, Florence,	Rebecca at the Well.
150	Peduzzi, Renato, Milan,	Boy and Bird.
151	Barcaglia, Donato, Milan,	The First Visit.
152	Pereda, Raimondo, Milan,	Love's Net.
153	Peduzzi, Renato, Milan,	Boy and Swan.
154	Barcaglia, Donato, Milan,	Butterfly.
155	Peduzzi, Renato, Milan,	Berenice.
156	Caroni, Prof. Emanuele, Florence,	L'Africaine.
157	Guarnerio, Pietro, Milan,	White Rose.
158	Guarnerio, Pietro, Milan,	The Orphan.
159	Cantalamessa, P. Capotti, Rome,	Storm.
160	Cantalamessa, P. Capotti, Rome,	The Mirror of Love.
161	Cantalamessa, P. Capotti, Rome,	Sunshine.
162	Torelli, Lot, Florence,	Eva St. Clair, "Uncle Tom's Cabin."
163	Guarnerio, Pietro, Milan,	Girl at the Bath.
164	Caroni, Prof. Emanuele, Florence,	Effects of Cold Water.
165	Barcaglia, Donato, Milan,	Children Blowing Bubbles.
166	Guarnerio, Pietro, Milan,	Evening.
167	Fantachiotti, Cesare, Florence,	Vanity.
168	Trojani, Giovanni Battista, Florence,	Bas-relief in terra-cotta.
169	Spertini, Giovanni, Milan,	Bas-relief in terra-cotta—The Modern Cain.
170	Trojani, Giov. Batt., Florence,	Bas-relief in terra-cotta—Michel Angelo in San Miniato
172	Argenti, Antonio, Milan,	The Prayer.
173	Bottinelli, Antonio, Rome,	Hope (bust)
175	Bernasconi, Pietro, Milan,	Summer (bust).

(Annex, Gallery No. 3.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
176	Faustini, Modesto, Rome,	A Revolt.
177	Formis, Achille, Milan,	Landscape—A Park.
178	Lessi, Luigi, Rome,	The Conspiracy of the Pazzi.
179	Zuccoli, Luigi, Rome,	The Christian Martyrs under Nero.
180	Fattori, Giovanni, Florence,	A Horse-Market.
181	Della Valle, N., Leghorn,	Storm on the Coast.
182	Accarisi, Lodovico, Florence,	Summer.
183	Accarisi, Lodovico, Florence,	Dancing the Tarantella.
184	Accarisi, Lodovico, Florence,	The Bath.
185	Accarisi, Lodovico, Florence,	Playing on the Tambourine.
186	Quèriau, Luigi, Messina,	Scene in Sicily.
187	Palazzi, Gaetano, Bologna,	A Refusal.
188	Fontana, Roberto, Milan,	Evocation of Souls, from "Robert le Diable."
189	Fattori, Giovanni, Florence,	Landscape—At Rest in Summer.
190	Malatesta, Cav. Prof. Narciso, Modena,	Laja, a celebrated Roman artist, painting Julius Cæsar as Apollo.
191	Signorini, Telemaso, Florence,	Olive-Gathering in Tuscany.
192	Zuccoli, Prof. Luigi, Rome,	A Poor Man at the Church-Door.
193	Romagnoli, Angelo, Florence,	Meditation.

NO.	ARTIST.	TITLE.
194	Marchesi, Salvatore, Parma,	Interior of the Choir of the Cathedral of Parma.
195	Cammarano, Michele, Rome,	A Grandmother's Admonition.
196	Zuccoli, Prof. Luigi, Rome,	The Hunter's Rest.
197	Ashton, Federico, Florence,	Woods in Autumn.
198	Solmi, Prof. Valentino, Bologna,	Bizantino d'Aria.
199	Gioli, Francesco, Florence,	The Unlucky Number.
200	Altamura, Prof., Naples,	The Bagpipe-Player.
201	Fattori, Giovanni, Florence,	The Escort.
202	Maldarelli, Federico, Naples,	The Reader.
203	Maldarelli, Federico, Naples,	The Assumption.
204	Fattori, Giovanni, Florence,	Returning from a Military Inspection.
205	Iosio, Prof. Luigi, Rome,	Noon in the Roman Campagna.
206	Bade, Garcia, Rome,	A Portrait.
207	Ridossi, Angelo, Milan,	Resting.
208	Lelli, Giovanni, Milan,	View of Lakes Mergozza and Maggiore.
209	Fattori, Giovanni, Florence,	The Roman Campagna (Oxen).
210	Maldarelli, Prof. Federico, Naples,	A Flower-Girl of Pompeii.
211	Gastaldi, Prof. Andrea, Turin,	"Beware of a False Step."
212	De Santis, Guglielmo, Rome,	A Veiled Figure.
213	Pesenti, Domenico, Florence,	The Ducal Palace of Venice.
214	Ribossi, Angelo, Milan,	"At work you."
215	Maldarelli, Prof. Federico, Naples,	A Bath in Pompeii.
216	Totti, Prof. Carlo, Milan,	The Vintage.
217	Scifoni, Anatolio, Rome,	Preparation for a Feast in Pompeii.
218	Accarisi, Lodovico, Florence,	Sleeping Child and Dog.
219	Giuliani, Prof. Bartolomeo, Milan,	An Alpine Sketch.

(Annex. Galleries Nos. 2 and 17.)

SCULPTURE.

NO.	ARTIST.	TITLE.
220	Bottinelli, Antonio, Rome,	Modesty.
221	Dini, Ernesto, Florence,	Beggar Woman.
222	Romanelli, Prof. Pasquale, Florence,	Franklin and his Whistle.
223	Zocchi, Prof. Emilio, Florence,	Benjamin Franklin in his Youth.
224	Romanelli, Prof. Pasquale, Florence,	Washington and his Hatchet.
225	Villa, Federico Gaetano, Milan,	Girl Playing with a Bird.
226	Torelli, Lot, Florence,	Timidity.
227	Peduzzi, Renato, Milan,	Boy and Basket.
228	Peduzzi, Renato, Milan,	Dancing Faun.
229	Pandiani, Costantino, Milan,	Moses Trampling on the Crown of Pharaoh.
230	Borghi, Ambrogio, Milan,	Carnival.
231	Pereda, Raimondo, Milan,	A Child's Grief.
232	Barzaghi, Francesco, Milan,	A Young Smoker.
233	Butti, Enrico, Milan,	"Once I was rich."
234	Society of Sculptors, Florence,	The Young Soldier.
235	Society of Sculptors, Florence,	A Rose's Perfume.
236	Ramaschiello, Vincenzo, Rome,	Cupid on the Lookout.
237	Caroni, Prof. Emanuele, Florence,	Bust of a Roman Girl.
238	Society of Sculptors, Florence,	Iole and Ruggiero.
239	Caroni, Prof. Emanuele, Florence,	Winter.
240	Torelli, Lot, Florence,	A Good Housekeeper.
241	Del Panta, Egisto,	Goldoni's Boyhood.
242	Tantardini, Prof. Antonio, Milan,	A Wounded Friend.
243	Malfatti, Andrea, Milan,	The Discarded.
244	Barcaglia, Donato, Milan,	The First Friend.
245	Pereda, Raimondo, Milan,	Delight.

NO.	ARTIST.	TITLE.
246	Bazzanti, Peter, & Son, Florence,	Dancing Bacchante.
247	Rossi, Prof. Alessandro, Milan,	Hope.
248	Borghi, Ambrogio, Milan,	The Mother's Treasure.
249	Rossetti, Antonio, Rome,	Ophelia.
250	Zocchi, Prof. Emilio, Florence,	Michael Angelo sculpturing the head of a Faun
251	Gori, Lorenzo, Florence,	After the Bath.
252	Dini, Ernesto, Florence,	Dante and Beatrice—Childhood.
253	Magni, Prof. Enrico, Milan,	The Reader.
254	Vela, Prof. Vincenzo, Milan,	The First Sorrow.
255	Rossi, Prof. Alessandro, Milan,	A Free Church in a Free State.

(Annex, Galleries Nos. 2 and 17.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
256	Mancini, Carlo, Milan,	A Dutch Farm.
257	Michis, Pietro, Milan,	During the Sermon.
258	Accarisi, Lodovico, Florence,	Meditation.
259	De Sanctis, Guglielmo, Rome,	Waiting for her Lover.
260	Formis, Augusto, Turin,	The Refusal.
261	Gelati, Prof. Lorenzo, Florence,	View of Florence.
262	Solmi, Prof., Bologna,	Porta del Popolo, Rome.
263	Lombardi, Giovanni, Rome,	Flowers.
264	Mancinelli, Prof. Gustavo, Naples,	The Harpist.
265	Meucci, Michele, Florence,	Still Life (two pictures).
266	Bartesago, Enrico, Milan,	Noon in the Country.
267	Moia, ———, Venice,	Rear of Caen Cathedral.
268	Accarisi, Lodovico, Florence,	Ideal Portrait.
269	Dies, Cesare, Rome,	Interior of St. Peter's, Rome.
270	Ashton, Federico, Rome,	Landscape.
271	Della Libera, Giov. Batt., Venice,	A Sleeping Gipsy.
272	Sommaruga, Napoleone, Milan,	Landscape, with Boys Bathing.
273	Bianchi, Luigi, Milan,	The Nettunese Bride.
274	Accarisi, Lodovico, Florence,	A Beggar Monk.
275	Pitarra, Cav. Carlo, Rome,	At the Foot of the Alps.
276	Faccioli, Raffaello, Bologna,	Two o'clock at the Procurator's Office in Venice.
277	Picchi, Andrea, Florence,	Frame in ebony, Florentine style (sixteenth century), with picture.
278	Bianchi, Cav. Luigi,	A Birthday in the Eighteenth Century.
279	Formis, Achille, Milan,	The Alpine Tourists.
280	Gioli, Francesco, Florence,	Working in the Campagna of Pisa.
281	Sommaruga, Napoleone, Naples,	Porch of the Church of San Ambrogio, Milan.
282	Stanghi, Carolina, Florence,	Fruit (copy).
283	Bersini, Ferdinando, Rome,	A Mass in the Country.
284	Signorini, Telemaco, Florence,	The Convent of Vallombrosa, in Tuscany.
285	Sommaruga, Napoleone, Naples,	Interior of St. Alexander's Church.
286	Signorini, Telemaco, Florence,	Scottish Covenanters.
287	Bompiani, Roberto, Rome,	Pompeian Boy Flute-Player.
288	Bompiani, Roberto, Rome,	The Anniversary.
289	Picchi, Andrea, Florence,	Ebony frame, Florentine style (sixteenth century), with picture.
290	Picchi, Andrea, Florence,	Ebony frame, Florentine style (sixteenth century).
291	Michis, Cataneo, Milan,	Angelic Love.
292	Ashton, Prof. Luigi, Milan,	Animals.
293	Radice, Cav. Pasquale, Naples,	View of Mount Etna, Sicily.
294	Bompiani, Roberto, Rome,	Scene in a Neapolitan Village.
295	Fattori, Giovanni, Florence,	Arrival of the Mail in Camp.
296	Accarisi, Lodovico, Florence,	Spring.
297	Meucci, Michele, Florence,	Still Life.
298	Cicconi, Prof. Ferdinando, Ancona,	Columbus at the Convent of Palos.

NO.	ARTIST.	TITLE.
299	Busio, Prof. Luigi, Florence,	Neapolitan Fishermen.
300	Trenti, Girolamo, Milan,	Landscape in the Province of Mantua.
301	Accarisi, Lodovico, Florence,	A Moorish portrait.
302	Busio, Prof. Luigi, Florence,	The Flight into Egypt.
303	Strutt, A. T., Rome,	Working in the Roman Campagna.
304	Picchi, Andrea, Florence,	Ebony frame (style, sixteenth century), with picture.
305	Della Libera, Giov. Batt., Venice,	The Council of Ten in Venice.
306	Mazza, Salvatore, Milan,	Roman Woman.
307	Trezzini, Angelo, Milan,	Returning from Church.
308	Trenti, Girolamo, Milan,	Group of Trees.
309	Accarisi, Lodovico, Florence,	Milanese portrait.
310	Bryner, Giovanni, Florence,	The Staubbach Cascade in Switzerland.
311	Michis, Pietro, Milan,	A Happy Morning.
312	Solmi, Valentino, Bologna,	Mosque of Soliman, Constantinople.
313	Accarisi, Lodovico, Florence,	Girl and Dog.
314	Mazza, Salvatore, Milan,	Landscape (group of horses.)
315	Jotti, Prof. Carlo, Milan,	Approaching Storm.
316	Smargiassi, Giovanni, Naples,	View of Naples.
317	Steffani, Luigi, Milan,	Sheep.
318	Burlando, Prof. Leop., Milan,	Borromeo's Cliff.
319	Accarisi, Lodovico, Florence,	The Coming Storm.
320	Cicconi, Ferdinando, Ancona,	Columbus in Prison.
321	Cassioi, Annibale, Florence,	The Studio of Leonardo da Vinci.
322	Accarisi, Lodovico, Florence,	Shepherds in the Roman Campagna.
323	Candidi, Alfredo, Florence,	The Bagpipe-Player.
324	Scifoni, Anatolio, Rome,	Offerings to the Lares.
325	Mazza, Salvatore, Milan,	Landscape.

(Annex, Gallery No. 4.)

SCULPTURE.

NO.	ARTIST.	TITLE.
326	Tantardini, Prof. Antonio, Milan,	Girl Reading.
327	Frilli, Antonio, Florence,	Dancing Boys
328	Barzaghi, Milan,	Phryne before the Judges.
329	Guarnerio, Pietro, Milan,	The Last Days of Pompeii.
330	Cambi, Prof. Ulisse, Florence,	At the Carnival.
331	Guarnerio, Pietro, Milan,	Raphael of Urbino in his Youth.
332	Guarnerio, Pietro, Milan,	The Forced Prayer.
333	Guarnerio, Pietro, Milan,	Vanity.
334	Caroni, Prof. Emanuele, Florence,	Birth of Love.
335	Caroni, Prof. Emanuele, Florence,	Love's Messenger.
336	Guarnerio, Pietro, Milan,	The Rebuke.
337	Caroni, Prof. Emanuele, Florence,	A Christmas-Present.
338	Caroni, Prof. Emanuele, Florence,	Youth as a Butterfly.
339	Caroni, Prof. Emanuele, Florence,	Recreation at School.
340	Barcaglia, Donato, Milan,	Love is Blind.
341	Cambi, Prof. Ulisse, Florence,	Cupid Begging.
342	Bottinelli, Antonio, Rome,	Vanity.
343	Pereda, Milan,	The Orphans.
344	Barzaghi, Francesco, Milan,	The Finding of Moses.
345	Pereda, Raimondo, Milan,	Pretence and Sympathy.
346	Zocchi, Prof. Emilio, Florence,	Bacchus.
347	Monari, Prof. Carlo, Bologna,	Ophelia.
348	Bottinelli, Antonio, Rome,	Bust—Winter.
349	Bottinelli, Antonio, Rome,	Bust—Modesty.
350	Bottinelli, Antonio, Rome,	Summer (bust).
351	Argenti, Giosuè, Milan,	Hope (bust).
352	Bottinelli, Antonio, Rome,	Spring (bust).
353	Bottinelli, Antonio, Rome,	Autumn (bust).
354	Argenti, Giosuè, Milan,	Tamar (bust).

NO.	ARTIST.	TITLE.
355	Formis, Cav. Achille, Milan,	A Lunch.
356	Lelli, Giovanni Batt., Milan,	The Sesia River at Monte Rosa.
357	Di Chierico, ———, Naples,	Buoso da Duero, the Betrayer of King Manfred of Sicily, dying from Starvation at the Door of a Convent.
358	Picchi, Andrea, Florence,	Four pictures (with ebony frame, inlaid with stones—style sixteenth century).
359	Valaperta, Francesco, Milan,	The Beheading of St. John.
360	Ardi, Bartolomeo, Turin,	The Rest in the Fenestrelles Valley, Piedmont.
361	Lelli, Giovanni Battista, Milan,	Fishermen's Island.
362	Canella, Carlo, Milan,	Piazza San Marco, Venice.
363	Burdin, Margherita, Rome,	Still Life.
364	Burdin, Margherita, Rome,	Still Life.
365	Accarisi, Lodovico, Florence,	A Pilgrim.
366	Accarisi, Lodovico, Florence,	A Pilgrim.
367	Accarisi, Lodovico, Florence,	Monk and Farmer.
368	Sasso, Antonio, & Son, Florence,	Titian's Flora (copy).
369	Sasso, Antonio, & Son, Florence,	Beatrice Cenci.
370	Sasso, Antonio, & Son, Florence,	Madonna on the Throne (copy).
371	Sasso, Antonio, & Son, Florence,	Holy Family (copy).
372	Sasso, Antonio, & Son, Florence,	Carlo Dolci's Magdalene (copy).
373	Accarisi, Lodovico, Florence,	Girl Bathing.
374	Accarisi, Lodovico, Florence,	Madame Vigée le Brun (copy).
375	Accarisi, Lodovico, Florence,	Rembrandt (copy).
376	Accarisi, Lodovico, Florence,	A Sweet Look.
377	Accarisi, Lodovico, Florence,	Titian's Bella (copy).
378	Sasso, Antonio, & Son, Florence,	Salvator Rosa's celebrated marine view (copy).
379	Sasso, Antonio, & Son, Florence,	Landscape.
380	Sasso, Antonio, & Son, Florence,	Saint John in the Presence of Herod.
381	Marucelli, Pietro, Milan,	View near Naples.
382	Sasso, Antonio, & Son, Florence,	Raphael's Madonna.
383	Sasso, Antonio, & Son, Florence,	Perugino's Madonna.
384	Accarisi, Lodovico, Florence,	Fruit.
385	Radici, Pasquale, Naples,	A Neapolitan.
386	Romoli, Prof. Luigi, Florence,	Fra Angelico's Angels.
387	Accarisi, Lodovico, Florence,	Neapolitan Family.
388	Accarisi, Lodovico, Florence,	Beatrice Cenci (copy of Guido Reni).
389	Catena, Vincenzo,	Portrait of a Cardinal.
390	Catena, Vincenzo,	A Portrait.
391	Catena, Vincenzo,	A Portrait.
392	Sasso, Antonio, & Son, Florence,	Raphael's Fornarina.
393	Accarisi, Lodovico, Florence,	Volterrano's Sleeping Cupid.
394	Accarisi, Lodovico, Florence,	Vanity (Venetian school).
395	Accarisi, Lodovico, Florence,	Beginning of a Storm.
396	Accarisi, Lodovico, Florence,	Raphael's Madonna (copy).
397	Accarisi, Lodovico, Florence,	A Sweet Look.
398	Accarisi, Lodovico, Florence,	Correggio's Madonna and Child.
399	Accarisi, Lodovico, Florence,	Beginning of a Storm.
400	Accarisi, Lodovico, Florence,	Roman Shepherdess.
401	Accarisi, Lodovico, Florence,	The Thorn.
402	Accarisi, Lodovico, Florence,	Domenichino's Sibylla.
403	Bourdan, Marquinta, Naples,	A Roman Poultry-Dealer.

(Annex, Gallery No. 19.)

NO.	ARTIST.	TITLE.
405	D'Amore, Palermo,	The Night of the 11th of October, 1492.
406	Spertini, Giovanni, Milan,	Love's Messenger.
407	(Unknown),	Boy Gathering Grapes.
408	Barzaghi, Francesco, Milan,	The First Ride.
409	Braga, Enrico, Milan,	A Faun.
410	Zocchi, ——— of Emilio, Florence,	Columbus in his Youth.
411	Barzaghi, Francesco, Milan,	Silvia.

NO.	ARTIST.	TITLE.
412	Braga, Enrico, Milan,	Boy's Playfellow.
413	Braga, Enrico, Milan,	A Mountebank.

(*Memorial Hall, Gallery A.*)

SCULPTURE.

NO.	ARTIST.	TITLE.
414	Buzzi Giberto, Cav. Luigi, Milan,	After School.
415	Pozzi, Egidio, Milan,	The Youth of Michael Angelo.
416	Braga, E., Milan,	Modesty.
417	Galli, Rizzardo, Milan,	Beggars.
418	Buzzi Giberto, Cav. Luigi, Milan,	First Sensation of Love.
419	Buzzi Giberto, Cav. Luigi, Milan,	A Riddle.
420	(Unknown),	The Florist.
421	Cannone & Gargiulo, Naples,	Venus (bronze).
422	Tempra, Quirino, Milan,	The Little Teacher.
423	Dal Negro, Pietro, Milan,	Cain and Abel.
424	Albacini, Achille, Rome,	Roman Costume.
425	Tantardini, Cav. A., Milan,	The First Sorrow.
426	Cocchio, Luigi, Milan,	Spring.
427	Buzzi Giberto, Cav. Luigi, Milan,	The World.
428	Braga, E., Milan,	Peasant Girl (Lombard costume).
429	Zannoni, Cav. Ugo, Milan,	A Wrong Blow.
430	Zannoni, Cav. Ugo, Milan,	Affection and Envy.
431	Gentile, Chieti,	And to-morrow?
432	Zannoni, Cav. Ugo, Milan,	Study and Work.
433	Croff, Giuseppe, Milan,	Odalisque.
434	Romani, Francesco, Milan,	The Coquette.
435	Pandiani, Signora Adelaide Maraini, Milan,	Spring. (In the Women's Pavilion.)
436	Guarnerio, Pietro, Milan,	Arus in the act of shooting the Virgin Camilla. (Virgil, Æneid, book xi.)
437	Guarnerio, Pietro, Milan,	George Washington (model expressly executed for the Centennial Exhibition).
438	Villa, J. G., Milan,	Simplicity.
439	(Unknown),	The Reader.
440	Braga, E., Milan,	Bashfulness.
441	Buzzi Giberto, Cav. Luigi, Milan,	Dante.
442	Biganzoli, Filippo, Milan,	Alessandro Manzoni (Italian poet and novelist).
443	Galli, Rizzardo, Milan,	Resignation.
444	Galli, Rizzardo, Milan,	"Shall I see him again?"
445	Croff, Giuseppe, Milan,	Ernest and Salamace.
446	Galli, Rizzardo, Milan,	Youthful Amusement.
447	Marai, Luigi, Milan,	A Summer Day.
448	Biganzoli, Filippo, Milan,	Alexander von Humboldt.
449	(Unknown),	Garibaldi.
450	Fumei, Pietro, Milan,	Meditation.
451	Galli, Rizzardo, Milan,	A Veiled Girl.
452	Buoninsegna, Milan,	The Slave.
453	Galli, Rizzardo, Milan,	The Bride.
454	Salomi, Florence,	The Daughter of Zion Weeping over Jerusalem.
455	Rosetti, Antonio, Rome,	The Railway (bronze statue).
456	Rosetti, Antonio, Rome,	A Marble Fountain (Bacchus).
457	Rosetti, Antonio, Rome,	The Telegraph (bronze statue).

(*Gallery N.*)

SCULPTURE.

NO.	ARTIST.	TITLE.
458	Bottinelli, Ant., Rome,	Hope.
459	Matteucci, Luigi, Milan,	Gaping.

NO.	ARTIST.	TITLE.
460	Pessina, Carlo, Messina,	Costume of Marie Stuart.
461	Casetti, Turin,	Devotion.
462	Argenti, Giosuè, Milan,	The Florist.
463	Corbellini, Quintilio, Milan,	Lucio.
464	Zocchi, E., Florence,	Youth of Michael Angelo.
465	Radius, Eugenio, Milan,	Faith.
466	Buzzi Giberto, Cav. Luigi, Milan,	Inspiration.
467	Trojani, G. B., Milan,	The Sailor-Boy.
468	Argenti, Giosuè, Milan,	Modesty.
469	Braga, E., Milan,	Wearied with Play.
470	Veneroni, Milan,	Modesty.
471	Braga, E., Milan,	Bashfulness.
472	Trojani, G. B., Milan,	After Recreation.
473	Galli, Rizzardo, Milan,	Columbus.
474	Cambi, Ulisse, Florence,	Eve, with Cain and Abel.
475	Argenti, Giosuè, Milan,	Sleep.
476	Conti, Alessandro, Milan,	Revery.
477	Lucca, Flaminio, Milan,	Modesty.
478	Lucca, Flaminio, Milan,	Candor.
479	Galli, Rizzardo, Milan,	The Little Savoyard.
480	Galli, Rizzardo, Milan,	The Devotee.
481	Calvi, P., Milan,	Michael Angelo.
482	Galli, Rizzardo, Milan,	St. John the Baptist.
483	Galli, Rizzardo, Milan,	Faith.
484	Gallandt, L. A., Rome,	Washington (presented to the Centennial Celebration of American Independence, by the artist).
485	Galli, Rizzardo, Milan,	Hope.
486	Spertini, Giovanni, Milan,	General Garibaldi.
487	Bietta, Angelo, Milan,	The Reader.
488	Ramazzotti, Serafino, Rome,	Rome.
489	Argenti, Antonio, Milan,	Prayer.
490	Argenti, Angelo, Milan,	Devotion.
491	Dies, Emilio, Rome,	Innocence.
492	Spertini, Giovanni, Milan,	Giuseppe Mazzini.
493	Pessina, Carlo, Milan,	Youth.
494	Radius, Eugenic, Milan,	The Afflicted.
495	Pessina, Carlo, Milan,	The Prayer.
496	Tantardini, Prof. Antonio, Milan,	The Pompeian Woman.
497	Radius, Eugenio, Milan,	"Ecce Homo."
498	Trojani, G. B., Rome,	Sir Isaac Newton.
499	Spertani, Giovanni,	Giuseppe Dassi, Vice-President of the Italian Centennial Commission.
500	Brodzki, Rome,	Veiled Girl.

MOSAIC WORK.

NO.	ARTIST.	TITLE.
501	Roccheggiani, Rome,	Collection of mosaics.
502	Moglia, Augusto, Rome,	Ruins of the Temple of Pæstum, Naples.
503	Moglia, Augusto, Rome,	The same (smaller).
504	Moglia, Augusto, Rome,	The Roman Forum, viewed from the Romagna.
505	Moglia, Augusto, Rome,	The Roman Forum (an antique).
506	Moglia, Augusto, Rome,	The Colosseum.
507	Moglia, Augusto, Rome,	Black antique table, inlaid in rococo style, with nine of the principal views of Rome, the centre piece being a view of the piazza of St. Peter's; surrounding this is a circle of four large views, viz. : The Tomb of Cecilia Metella; The Ponte Lucano, or Lucan Bridge, on the road to Tivoli; The Forum; and the Colosseum. An outer circle consists of four minor views, viz. : Temple of the Sibyl, at Tivoli; Temple of Vesta, at Rome; The Pyramid of Caius Cestius, and the Pantheon—the whole forming a work which took a premium at Rome in 1870.

NO.	ARTIST.	TITLE.
508	Moglia, Augusto, Rome,	Black antique table, carved and inlaid with cam-panelle (little flowers of the Campagna), birds, butterflies, bees, scrolls, etc.
509	Moglia, Augusto, Rome,	Picture, the Piazza of St. Peter's (took a prize medal at the Roman Exposition, 1870).
510	Moglia, Augusto, Rome,	The Bridge and Castle of St. Angelo (companion picture to No. 509).
511	Moglia, Augusto, Rome,	View of the Fountain of Trevi, Rome.
512	Moglia, Augusto, Rome,	The Campidoglio (companion picture to No. 511).
513	Roccheggiani, Rome,	Collection of mosaics.
514	Roccheggiani, Rome,	Bouquet (in mosaic).
515	Roccheggiani, Rome,	Bouquet (in mosaic).
516	Gallandt, L. A., Rome,	Head of Washington (presented by the artist to the city of Philadelphia).
517	Gallandt, L. A., Rome,	The Forum (in mosaic).
518	Gallandt, L. A. Rome,	Madonna and Child (after Raphael).

THE CASTELLANI ANTIQUITIES.

(Memorial Hall, Gallery U.)

EXHIBITOR.	TITLE.	OWNER.
Castellani, A., Rome,	Marbles and Bronzes.	A. Castellani.

(Memorial Hall, Gallery V.)

Castellani, A., Rome,	Majolica.	A. Castellani.
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(Memorial Hall, Gallery W.)

Castellani, A., Rome,	Personal Ornaments.	A. Castellani.
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COLLECTION LOANED BY POPE PIUS IX.

(Memorial Hall, Gallery K.)

NO.	ARTIST.	TITLE.	OWNER.
1	(Unknown),	Flowers in mosaic.	Pope Pius IX.
2	(Unknown),	Mosaic of a Madonna after Sasso-Ferrato.	Pope Pius IX.
3	(Unknown),	Mosaic of Raphael's Madonna del Seggiola.	Pope Pius IX.
4	(Unknown),	Tapestry — The Martyrdom of St. Agnes.	Pope Pius IX.

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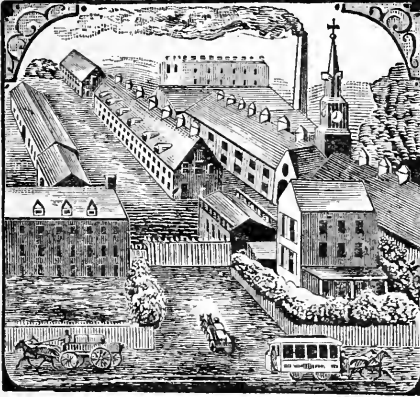
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Is printed and published every day in the year, at 166, 168, and 170 Nassau Street, New York City. Its regular edition on secular days now (April, 1876) averages about 140,000; its weekly edition over 88,000; and its Sunday issue is nearly 100,000. It thus prints and sells more than a million copies a week, which are read all over the United States. This is a circulation unprecedented in American journalism, and it is constantly on the increase. In proof of this, let the following figures testify. They show the number of copies of THE SUN printed every week during the year ending March 11, 1876.

WEEK ENDING	COPIES PRINTED.	WEEK ENDING	COPIES PRINTED.
March 20.....	849,382	September 18.....	860,358
27.....	845,802	25.....	858,778
April 3.....	857,956	October 2.....	863,935
10.....	863,556	9.....	870,820
17.....	855,076	16.....	878,082
24.....	858,270	23.....	874,625
May 1.....	869,542	30.....	876,160
8.....	867,550	November 6.....	908,580
15.....	877,450	13.....	852,372
22.....	874,946	20.....	847,815
29.....	866,276	27.....	886,248
June 5.....	873,782	December 4.....	845,378
12.....	869,769	11.....	1,042,716
19.....	880,348	18.....	956,294
26.....	883,846	25.....	933,864
July 3.....	898,862	January 1.....	933,987
10.....	867,574	8.....	952,202
17.....	877,400	15.....	953,019
24.....	876,282	22.....	969,911
31.....	874,216	29.....	967,850
August 7.....	865,558	February 5.....	993,030
14.....	875,982	12.....	1,024,647
21.....	880,488	19.....	1,027,209
28.....	870,502	26.....	1,014,766
September 4.....	872,211	March 4.....	1,014,993
11.....	860,755	11.....	1,028,951
TOTAL.....		46,799,769	

In printing these papers, no less than three million four hundred and twenty-six thousand six hundred and ten (3,426,610) pounds of paper were consumed.

ADVERTISING RATES.

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Address,

THE SUN,
New York.

BRAZIL.

(Annex, Gallery No. 27.)

SCULPTURE.

NO.	ARTIST.	TITLE.
1	Bernardelli, Rio de Janeiro,	Recollection of the Tribe (plaster).

(Annex, Gallery No. 29.)

SCULPTURE.

NO.	ARTIST.	TITLE.
2	Chaves, Pinheiro, Rio de Janeiro,	The Actor Joao Gaetano as Oscar (plaster).
3	Bernardelli, Rio de Janeiro,	The Indian Peeping (plaster).
4	Almeida, Reis, Rio de Janeiro,	The Crime (plaster).
5	Almeida, Reis, Rio de Janeiro,	The Bishop of Chrysopolis (plaster).

(Annex, Gallery No. 29.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
6	Lima, Victor Meirelles de, Rio de Janeiro,	The Naval Battle of Riachuelo (Paraguayan War).
7	Lima, Victor Meirelles de, Rio de Janeiro,	The Brazilian Iron-clad Fleet passing by Humaita (Paraguayan War.)
8	Lima, Victor Meirelles de, Rio de Janeiro,	The First Mass in Brazil.
9	Figueredo, Pedro Americo de, Rio de Janeiro,	Brazilian Army crossing Passo da Patria, led by Marshal Ozario (Paraguayan War).
10	Figueredo, Pedro Americo de, Rio de Janeiro,	Defence of the Island of Cabrita (Paraguayan War).
11	Henschell, Rio de Janeiro,	Portrait of the Emperor of Brazil.
12	De Martino, Rio de Janeiro,	Moonlight in the Harbor of Montevideo.
13	(Unknown),	View of St. Peter's Cathedral in Rome Exhibited by the Academy of Fine Arts, Rio de Janeiro.
14	(Unknown),	Charity. Exhibited by the Academy of Fine Arts, Rio de Janeiro.
15	(Unknown),	Sunset on the Sea-Shore. Exhibited by H.R.H. the Count d'Eu.

(Annex, Gallery No. 29.)

WATER COLORS.

NO.	ARTIST.	TITLE.
16	Pacheco, I. Insley, Rio de Janeiro,	Three paintings, representing views of the interior of Brazil.
17	Pacheco, I. Insley, Rio de Janeiro,	Aquarelles, representing views of the interior of Brazil.
18	Rocha, Antonio da, Rio de Janeiro,	The Holy Mother (after Guido Reni).

(Annex, Gallery No. 27.)

LITHOGRAPHS, CRAYONS, ETC.

NO.	ARTIST.	TITLE.
19	Almeida, Marianno de, Rio de Janeiro,	Sketches with pen and ink.
20	Pacheco, I. Insley, Rio de Janeiro,	Two landscapes (crayons).
21	Leutzinger & Sons, Rio de Janeiro,	Photo-lithographs, representing panoramas of the Bay of Rio de Janeiro.
22	Damasceno, J. dos Passos, Rio de Janeiro,	Pen-and-ink drawing—Dom Pedro II

ARGENTINE REPUBLIC.

(Annex, Gallery No. 27.)

[Works of Art marked with an asterisk (*) are for sale. For information apply at the Office of the Argentine Republic, Main Building.]

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
1	Petrazzini, Buenos Ayres,	*Fruit.
2	Gattinoni, Carlos, Buenos Ayres,	*Child's Head.
3	Gattinoni, Carlos, Buenos Ayres,	*Old Man's Head.
4	Marroig, G., Entre Rios,	*At the Fountain.
5	Diaz, Josefa, Santa Fè,	*Argentine Gaucho.
6	Castillo, B. del, Buenos Ayres,	*Peace.
7	Boneo, M. L., Buenos Ayres,	Native Scene.
8	Diaz, Josefa, Santa Fè,	*The Chaco Indian.
9	Charton, E., Buenos Ayres,	Valparaiso, Chili.
10	Gattinoni, Carlos, Buenos Ayres,	*Rustic Court.
11	Gattinoni, Carlos, Buenos Ayres,	*A Difficult Answer.
12	Charton, E., Buenos Ayres,	Chilian Farmer.
13	Diaz, Josefa, Santa Fè,	*Fruit.
14	Charton, E., Buenos Ayres,	View of Santiago, Chili.
15	Boneo, M. L., Buenos Ayres,	Native Scene.
16	Pasquinelli, A., Santa Fè,	*The Watering-Place.
17	Marroig, G., Entre Rios,	*The Beggar Monk.
18	Gattinoni, Carlos, Buenos Ayres,	*Giovanni Boccaccio visiting Beatrice Alighieri, daughter of Dante, in the Monastery of Ravenna.
19	Barros, Alvaro, Buenos Ayres,	The Murder of Dr. Varela.
20	Chiama, Epaminonda, Buenos Ayres,	*At the Camp Store.
21	Charton, E., Buenos Ayres,	City and Harbor of Panama.
22	Charton, E., Buenos Ayres,	General View of Guayaquil.
23	Boneo, M. L., Buenos Ayres,	Native Scene.
24	Castillo, B. del, Buenos Ayres,	*Fruit and Flowers.
25	Gattinoni, Carlos, Buenos Ayres,	*Boy after a Bath.
26	Boneo, M. L., Buenos Ayres,	Native Scene.
27	Castillo, B. del, Buenos Ayres,	*Burning of the Steam-Packet America on her Voyage from Buenos Ayres to Montevideo.
28	Diaz, Josefa, Santa Fè,	*Black Servant.
29	Charton, E., Buenos Ayres,	Public Square in Córdoba.
30	Muratory, José, Buenos Ayres,	Naval Battle.
31	Muratory, José, Buenos Ayres,	Naval Battle.
32	Muratory, José, Buenos Ayres,	Naval Battle.
33	Muratory, José, Buenos Ayres,	Naval Battle.
34	Caizadilla, S., Santiago,	*The Washerwoman going to her Work.

MEXICO.

[Information concerning the sale of Works of Art may be obtained at the office of the Mexican Commission, Main Building.]

(Annex, Gallery No. 9.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
1	Sagredo, Ramon,	The Castle of Emaus.	The National Academy.
2	Hernandez, Ignacio,	Portrait of Mina, one of the heroes of Mexican Independence.	The National Academy.
3	Ramirez, Joaquin,	Portrait of Hidalgo, father of Mexican Independence.	The National Academy.
4	Pina, Salomé,	Saint Charles.	The National Academy.
5	Ramirez, Joaquin,	Noah's Ark.	The National Academy.
6	Monroy, Felix,	The Death of Atala.	The National Academy.
7	Velasco, José Maria,	The Valley of Mexico.	Artist.
8	Figueroa, Gregorio,	The Death of Abel.	The National Academy.
9	Velasco, José Maria,	Wood of Chapultepec.	The National Academy.
10	Jimenez, José,	Interior of the Convent of Loreto, City of Mexico.	The National Academy.
11	Rebull, Santiago,	The Death of Marat.	Artist.
12	Flores, Rafael,	Dante.	The National Academy.
13	Dumaine, Gregorio,	The Road of Chapultepec.	The National Academy.
14	Gargollo, Julio,	The Morning Paper.	Artist.
15	Coto, Luis,	The Town of Guadalupe Hidalgo.	The National Academy.
16	Gonzalez, J.,	Evil Presentiments.	The National Academy.
17	Cordero, Juan,	Columbus before the Court of Ferdinand and Isabella.	The National Academy.
18	Ocaranza, Manuel,	The Withered Flower.	The National Academy.
19	Manchola, Juan,	Saint Peter Restoring a Child.	The National Academy.
20	Obregon, José,	Giotto and Cimabue.	The National Academy.
21	Clavé, Pelegrin,	Isabel of Portugal.	The National Academy.
22	Cordero, Juan,	The Family of the Artist Cordero.	Artist.
23	Gutierrez, Felipe,	Saint Sebastian.	The National Academy.
24	Parra, Felix,	Galileo.	The National Academy.
25	Vega, Federico de la,	The Fall of Satan.	The National Academy.
26	Gutierrez, Rodrigo,	The Fisher-Boy	The National Academy.
27	Ferrando, Salvador,	Jacob Anointing a Rock.	The National Academy.
29	Montenegro, Guadalupe,	The Young Sketcher.	The National Academy.
30	Escudero y Espronceda, José,	Portrait of Benito Juarez, late President of Mexico.	Artist.
43	Enriquez, Nicolas,	Apparition of the Holy Virgin—seventeenth century.	The National Academy.
44	Villalpando, Carlos de,	Interior of the Convent of Bethlehem—seventeenth century.	The National Academy.
45	Caballero, N.,	Holy Spring in Guadalupe—seventeenth century.	The National Academy.
46	Castro, José Antonio,	Spain (allegorical painting).	The National Academy.
47	Paez, José,	Saint Rosalia.	The National Academy.
48	Rodriguez, Antonio,	Saint Thomas of Villanueva.	The National Academy.
49	Correa, Nicolas,	Saint Catalina of Senna—seventeenth century.	The National Academy.
50	Lopez de Herrera,	The Crucifixion—seventeenth century.	The National Academy.

NO.	ARTIST.	TITLE.	OWNER.
51	Rodriguez, Juan, Juarez	San Juan de Dios — seventeenth century.	The National Academy.
52	Rodriguez, Nicolas,	Saint Gertrude — seventeenth century.	The National Academy.
53	Vazquez,	Assumption of the Virgin Mary — sixteenth century.	The National Academy.
54	Ibarra, José,	Scenes in the Life of the Virgin Mary — seventeenth century.	The National Academy
55	Vazquez, Ignacio,	Death of Goliath.	The National Academy.
56	Vega, Joaquín de la,	Portrait — Professor ° Carcanio — seventeenth century.	The National Academy.
57	Alcibar, José,	Portrait — Don Manuel Justo Bolea Sanchez	The National Academy.

STATUARY.

NO.	ARTIST.	TITLE.	OWNER.
58	Dumaine,	The Orphans (plaster).	
59	Fernandez, J.,	A figure (plaster).	
60	Guerra, Gabriel,	A Fisherman (plaster).	
61	Sojo,	Mercury and Argos (plaster).	
62	Fernandez, J.,	A Calf (plaster).	

(Annex, Gallery No. 29.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
28	Rebull, Santiago,	Abraham.	The National Academy
33	De Mayora, Mrs. Guadalupe C.,	The Prayer.	Artist.
34	De Mayora, Mrs. Guadalupe C.,	Savoyard Beggar-Boy.	Artist.
35	De Mayora, Mrs. Guadalupe C.,	Fruit.	Artist.
36	De Mayora, Mrs. Guadalupe C.,	Fruit.	Artist.
37	De Mayora, Mrs. Guadalupe C.,	A Page.	Artist.
38	De Mayora, Mrs. Guadalupe C.,	The Madonna (after Murillo).	Artist.
39	De Mayora, Mrs. Gnadalupe C.,	Portrait — Rembrandt.	Artist.
40	Morlete, Patricio José,	San Luis Gonzaga	The National Academy

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A. J. AIKENS, President.

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Milwaukee Newspaper Union, 365 East Water St., Milwaukee.	}	120	"	\$1.25	" "
Aikens Newspaper Union, 143 Race St., Cincinnati.		200	"	\$2.00	" "
Southern Newspaper Union, 227 Second St., Memphis, Tenn.	}	145	"	\$1.50	" "
St. Paul Newspaper Union, 17 Wabashaw St., St. Paul, Minn.		73	"	\$.75	" "

THE ORIGIN OF CO-OPERATIVE NEWSPAPER ADVERTISING.

Co-operative newspaper printing, as now practised, originated in Wisconsin twelve years ago. It is termed *co-operative* for the reason that one side of each of the newspapers is printed at a central office, and the paper sent in its half-printed state to the home office, where it is completed with editorials, local news, and other matter prepared by the editor or publisher. In December, 1846, the idea of co-operation, *with advertisements*, occurred to Mr. Aikens, while yet serving his time as an apprentice, in printing the message of President Polk on one side of a country newspaper of New England at Boston, and the other half being printed at the local office.

Mr. A. J. Aikens, a practical printer and business man, conceived the idea of reducing the cost of ready-printed paper, as it is now termed, to country publishers, by making an agreement with them to use a certain space in each of their papers for advertisements that he might procure. This plan of co-operation he put into practice twelve years ago, at the office of Cramer, Aikens & Cramer, Milwaukee. It at once became successful, leading to the establishment of co-operative newspaper printing-offices in Chicago, New York, St. Louis, Cincinnati, Memphis, St. Paul, and other places. There are now over two thousand newspapers printed upon the co-operative plan in the United States and Canadas, and the number is constantly increasing, it having more than doubled in the last five years. The enterprise is no longer an experiment, but an established success, and the system is one yielding manifold advantages to advertisers as well as to local publishers.

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Is essentially national. The papers represented in it are located in all the States of the Union and in nearly five hundred county seats. They circulate over the whole area of the country from Maine to Colorado, distributing at least *one hundred copies every year to each square mile of the settled portions of the United States.*

Although, as a whole, the Union List is national, covering all sections, it is so made up of different members as to be susceptible of easy division into sections—East, Middle, West, South. The distribution of the papers is as follows:

New England	78	Illinois	117	Nebraska	15
New York	101	Michigan	86	Missouri	17
New Jersey	27	Wisconsin	98	Georgia	10
Pennsylvania	65	Tennessee	29	Alabama	32
Virginia	24	Kentucky	29	Louisiana	11
No. and So. Carolina	24	Minnesota	79	Mississippi	29
Ohio	122	Iowa	85	Other States	46
Indiana	81				

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(*Memorial Hall, Gallery H.*)

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
36	Nobas, Rosendo, Barcelona,	The Wounded Bull-Fighter (plaster).	Artist.
8	Talarn, Domingo, Barcelona,	Massacre of the Innocents (terracotta).	Artist.

(*Memorial Hall, Gallery H.*)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
28d	Miravent y Gatell, José, Barcelona,	Flowers.	Artist.
40a	Navarrete, R.,	Choir of Capuchin Monks.	Museum of Fine Arts, Madrid.
40b	Fierros, D.,	Fountain in Galicia.	Museum of Fine Arts, Madrid.
40c	Agrassot, I.,	The Two Friends.	Museum of Fine Arts, Madrid.
40d	Maureta, G.,	Torquato Tasso retiring to the Monastery of San Onofre.	Museum of Fine Arts, Madrid.
40e	Muñoz, Degrain A.,	The Prayer.	Museum of Fine Arts, Madrid.
40f	Gonzalvo, P.,	The House of La Infanta at Saragossa.	Museum of Fine Arts, Madrid.
40g	Puebla, D.,	The Landing of Columbus.	Museum of Fine Arts, Madrid.
40h	Domingo, F.,	A Duel in the Seventeenth Century.	Museum of Fine Arts, Madrid.
40i	Cano, E.,	Christopher Columbus in the Monastery of La Rabida.	Museum of Fine Arts, Madrid.
40j	Castellano, M.,	Death of the Count of Villamediana.	Museum of Fine Arts, Madrid.
40k	Vera, A.,	Burial of San Lorenzo at Rome.	Museum of Fine Arts, Madrid.
40m	Casado, I.,	Last Moments of Don Fernando IV., el Emplazado.	Museum of Fine Arts, Madrid.
40n	Vallés, L.,	Insanity of Donna Juana de Castilla.	Museum of Fine Arts, Madrid.
40o	Mercadé, B.,	Translation of Saint Francis of Assisi.	Museum of Fine Arts, Madrid.
41a	Häes, D. Carlos, Madrid,	Suburbs of Madrid.	Artist.
41b	Häes, D. Carlos, Madrid,	Reminiscences of the Pyrenees.	Artist.
42a	Morales, Divino,	The Nazarene.	Moreno y Galindo, Tomas, Madrid.
42b	(Unknown),	Saint Bruno.	Moreno y Galindo, Tomas, Madrid.
42c	Cano, Alonzo,	The Trinity.	Moreno y Galindo, Tomas, Madrid.
42d	Murillo, Bartolomé Esteban,	Christ.	Moreno y Galindo, Tomas, Madrid.

NO.	ARTIST.	TITLE.	OWNER.
42e	Morales, Divino,	Madonna and Child.	Moreno y Galindo, Tomas, Madrid.
42f	(Unknown),	Triptych on Wood.	Moreno y Galindo, Tomas, Madrid.
43c	Lucas, E.,	Auto-da-Fé.	Lopez Martinez, Miguel, Madrid.
43i	Lucas, E.,	Saint Joseph.	Lopez Martinez, Miguel, Madrid.
44a	Gonzalvo, Perez Pablo, Madrid,	La Seo, Cathedral of Saragossa.	Artist.
44b	Gonzalvo, Perez Pablo, Madrid,	Chapel and Mausoleum of King Ferdinand and Queen Isabella, called "the Catholic," in the Cathedral of Granada.	Artist.
44c	Gonzalvo, Perez Pablo, Madrid,	Chapel in the Cathedral of Avila.	Artist.
44d	Gonzalvo, Perez Pablo, Madrid,	Sacristy in the Cathedral of Avila.	Artist.
44e	Gonzalvo, Perez Pablo, Madrid,	Basilica of San Vicente at Avila.	Artist.
45	Rivera,	Saint Jerome.	Huelbes y Temprado, Joaquin, Madrid.
46	Ruiz de Valdivia, Nicolas, Madrid,	Aragonese Serenade.	Artist.
49a	Mélida, Enrique, Madrid,	Hall in Godoy's Palace.	Artist.
49b	Mélida, Enrique, Madrid,	The Lovers' Grove.	Artist.
50a	Jordan, Lucas,	David's Victory over Goliath.	Monreal y Garcia, Agustin, Madrid.
50b	Jordan, Lucas,	Jesus Appearing to Mary Magdalene.	Monreal y Garcia, Agustin, Madrid.
50f	(Unknown),	The Holy Mother and Child (on wood—fifteenth century).	Monreal y Garcia, Agustin, Madrid.
51	Gisbert, A.,	Landing of the Puritans in America.	Salamanca, Sr. Marqués de, Madrid.
52	Llanos y Keats, Juan, Madrid,	Throne Room in the Royal Palace, Madrid.	Artist.
54c	Jover, Francisco, Madrid,	A Capuchin Monk before the Roman Conclave.	Artist.
59c	Piñera, Juan de, Seville,	Andalusian Girl with Fan and Mantilla.	Artist.
62a	Alvarez y Espino, Gonzalo, Seville,	An Annual Fair attended only by Men.	Artist.
64	Cabral y Vejarano, Manuel, Seville,	A Water-Seller of the Alameda, in Seville.	Artist.
204	Velazquez,	Portrait.	Mazuel, Countess Antonia du.

(Annex, Gallery No. 31.)

STATUARY, CARVINGS, ETC.

NO.	ARTIST.	TITLE.	OWNER.
1	Suñol, G.,	Dante (bronze).	Provincial Deputation of Barcelona.
2a	Magin Fita y Rovira, Barcelona,	A Valencian Woman (terra-cotta).	Artist.
2b	Magin Fita y Rovira, Barcelona,	A Guipuzcoan Woman (terra-cotta).	Artist.
3a	Nobas, Rosendo, Barcelona,	Portrait of M. Fortuny (plaster).	Artist.
3c	Nobas, Rosendo, Barcelona,	Miguel de Cervantes (plaster).	Artist.
4a	Pagès y Casamitjana, Eduardo, Barcelona,	A Fashionable Lady (marble).	Artist.
4b	Pagès y Casamitjana, Eduardo, Barcelona,	Catalonians (five statues).	Artist.

NO.	ARTIST.	TITLE.	OWNER.
5	Pagés y Serratosa, Francisco, Barcelona,	Romans (two statuettes, terra-cotta).	Artist.
6	Elias y Mascaró, Ramon, Barcelona,	Last Moments of Lincoln.	Artist.
7	Roca, hermanos, Barcelona,	Bronze bust.	Artist.
10	Fuentes, Xavier, Madrid,	Four cups, old Roman epoch; five cups, eighteenth century; three statuettes in clay; a pitcher and a plate.	Artist.
11	Tovar, Manuel, Seville,	Two Arabian models of the Alcázar, in Seville.	Artist.
12 ^a	Peñas y Leon, Antonio de las, Seville,	A Bull-Fighter (terra-cotta).	Artist.
12 ^b	Peñas y Leon, Antonio de las, Seville,	A Gipsy (terra-cotta).	Artist.
13	Soria Ferrando, Ricardo, Valencia,	Rivera (terra-cotta).	Artist.
14 ^a	Santigosa, Francisco, Valencia,	Tragedy (plaster).	Artist.
14 ^b	Santigosa, Francisco, Valencia,	Two statuettes (terra-cotta).	Artist.
19	Molinero, Antonio, Madrid,	An engraved piece of marble.	Artist.
20	Arzadun, Julian de, Villagarcía, Province of Pontevedra,	Bas-reliefs (in mother-of-pearl).	Artist.
23	Subirat, Ramon, Madrid,	Christ (wood, life size).	Artist.
24	Gomez, Gumer-sindo, Seville,	The Conception (wood).	Artist.
25	Garamendi, Bernabé de, Bilbao,	Christ (ivory).	Artist.
26	Albazzi, José, Havana, Cuba,	Christopher Columbus (bas-relief).	Artist.

(Annex, Gallery No. 31.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
27	Benavent, Cayetano, Barcelona,	Moonlight on the Sea.	Artist.
28 ^a	Miravent y Gatell, José, Barcelona,	Grapes.	Artist.
28 ^b	Miravent y Gatell, José, Barcelona,	Grapes.	Artist.
28 ^c	Miravent y Gatell, José, Barcelona,	Grapes.	Artist.
29 ^a	Rabada y Vallve, Juan, Barcelona,	Banks of the River Ter.	Artist.
29 ^b	Rabada y Vallve, Juan, Barcelona,	Banks of the River Llobregat.	Artist.
30 ^a	Arrau, Viuda de, Barcelona,	Fruits.	Artist.
30 ^b	Arrau, Viuda de, Barcelona,	Fruits.	Artist.
30 ^c	Arrau, Viuda de, Barcelona,	Fruits.	Artist.
30 ^d	Arrau, Viuda de, Barcelona,	Fruits.	Artist.
30 ^e	Arrau, Viuda de, Barcelona,	Fruits.	Artist.
30 ^f	Arrau, Viuda de, Barcelona,	Fruits.	Artist.
31	Catalá, Federico, Barcelona,	Madonna (Virgen del Carmen).	Artist.

NO.	ARTIST.	TITLE.	OWNER.
32	Talarn, Pelegrin, Barcelona,	A Flower-Girl.	Artist.
33 ^a	Moragas y Valero, Manuel, Barcelo- na,	Fortune and the Boy.	Artist.
33 ^b	Moragas y Valero, Manuel, Barcelo- na,	The Topers.	Artist.
33 ^c	Moragas y Valero, Manuel, Barcelo- na,	The Librarian.	Artist.
34	Urgell, Modesto, Barcelona,	The Village Grave-Yard.	Artist.
35	Torre casaña, Francisco, Bar- celona,	Winter Evening.	Artist.
36 ^a	Damis y Cortés, Joaquin, Cadiz,	Flowers.	Artist.
36 ^b	Damis y Cortés, Joaquin, Cadiz,	Andalusian Customs.	Artist.
37	Rodriguez Val- cázar, Ramon, Cadiz,	Christ.	Artist.
38	Wade, Carlos, Ca- diz,	Andalusian Customs.	Artist.
39 ^a	Villamil, Leopoldo, Lugo,	Dead Hare.	Artist.
39 ^b	Villamil, Leopoldo, Lugo,	Hunting-Dogs.	Artist.
39 ^c	Villamil, Leopoldo, Lugo,	Head of a Beggar.	Artist.
43 ^a	Lucas, E.,	Marina.	Lopez Martinez, Miguel, Madrid.
43 ^b	Lucas, E.,	Romería.	Lopez Martinez, Miguel, Madrid.
43 ^c	Lucas, E.,	Civil War.	Lopez Martinez, Miguel, Madrid.
43 ^d	Lucas, E.,	A Sermon.	Lopez Martinez, Miguel, Madrid.
43 ^f	Lucas, E.,	The Eve of Epiphany.	Lopez Martinez, Miguel, Madrid.
43 ^g	Lucas, E.,	Saint John (child).	Lopez Martinez, Miguel, Madrid.
43 ^h	Lucas, E.,	Holy Family.	Lopez Martinez, Miguel, Madrid.
44 ^f	Gonzalvo, Perez Pablo, Madrid,	Basilica of San Vicente, in Avila. Leaning Tower on the Plaza of San Felipe, in Saragossa.	Artist.
47	Sanchez Blanco, Pedro, Madrid,	View of the Sardinero, in Santander.	Artist.
48 ^a	Garcia Hispaleto, Manuel, Madrid,	Rosita's Birthday.	Artist.
48 ^b	Garcia Hispaleto, Manuel, Madrid,	A Yard in Seville.	Artist.
48 ^c	Garcia Hispaleto, Manuel, Madrid,	A Girl in Old Spanish Costume.	Artist.
48 ^d	Garcia Hispaleto, Manuel, Madrid,	Gallantry.	Artist.
48 ^e	Garcia Hispaleto, Manuel, Madrid,	Muricians.	Artist.
48 ^f	Garcia Hispaleto, Manuel, Madrid,	A Ball in Andalusia.	Artist.
50 ^c	Zurbaran, F.,	Madonna and Sleeping Child.	Monreal y Garcia, Agus- tin, Madrid.
50 ^d	De Blas del Prado,	Saint Francis of Assisi in Medita- tion.	Monreal y Garcia, Agus- tin, Madrid.
50 ^e	(Unknown),	The Visitation of the Virgin (on wood, fifteenth century).	Monreal y Garcia, Agus- tin, Madrid.
53 ^a	Garcia Valladolid, Isidro G., Ma- drid,	Girl in Old Spanish Costume.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
53 ^b	García Valladolid, Isidro G., Madrid,	Woman.	Artist.
53 ^c	García Valladolid, Isidro G., Madrid,	A Peasant Girl.	Artist.
53 ^d	García Valladolid, Isidro G., Madrid,	Saint Jerome (after Pereda).	Artist.
53 ^e	García Valladolid, Isidro G., Madrid,	A Girl.	Artist.
53 ^f	García Valladolid, Isidro G., Madrid,	The Conception (after Murillo).	Artist.
54 ^a	Jover, Francisco, Madrid,	Faun playing a Flute.	Artist.
54 ^b	Jover, Francisco, Madrid,	Pompeian Woman at the Bath.	Artist.
55 ^a	Aragónès, Señorita Joaquina, Malaga,	Two figures.	Artist.
55 ^b	Aragónès, Señorita Joaquina, Malaga,	Grapes and Flowers.	Artist.
55 ^c	Aragónès, Señorita Joaquina, Malaga,	Fish.	Artist.
56 ^a	Niculoso, Francisco,	Reproduction of oil painting from the centre and chief wall in the chapel of Ferdinand and Isabella "the Catholic," in the Alcázar at Seville. Painted on enameled bricks.	Academy of Fine Arts, Seville.
56 ^b	Niculoso, Francisco,	Reproduction of the Saint Jerome in the Monastery of San Isidro del Campo, founded by Guzman el Bueno, near Seville.	Academy of Fine Arts, Seville.
56 ^{c, d}	Niculoso, Francisco,	Two Holy Bishops.	Academy of Fine Arts, Seville.
56 ^e	Niculoso, Francisco,	Front of the Convent of Santa Paula at Seville, epoch of the two Catholic Regents.	Academy of Fine Arts, Seville.
57	Cortés y Cordero, Eduardo, Seville,	The Secret.	Artist.
58 ^a	Valera, José Diaz,	Venus.	Ortiz y Campos, José, Seville.
58 ^b	Ortiz, José,	A Capuchin Monk.	Ortiz y Campos, José, Seville.
58 ^c	Ortiz, José,	Type from the Seventeenth Century.	Ortiz y Campos, José, Seville.
59 ^a	Piñera, Juan, Seville,	Gipsy playing on a Paadereta.	Artist.
59 ^b	Piñera, Juan, Seville,	Flowers.	Artist.
60 ^a	Eder, Federico, Seville,	Packing Oranges in Seville.	Artist.
60 ^b	Eder, Federico, Seville,	Andalusian Fair.	Artist.
60 ^c	Eder, Federico, Seville,	A Spanish Calesa.	Artist.
60 ^d	Eder, Federico, Seville,	Fascination.	Artist.
61	Quesada, A. M. de,	The Madonna del Carmen.	Caballero y Fiallo, Manuel, Seville.
63	Diez, Joaquin, Seville,	Bulls in the Fields.	Artist.
65	Garrido, Señorita Maria de la Soledad, Valencia,	Love's Messenger.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
66	Chartrand, Esteban S., Havana,	Valley of Jumary.	Artist.
67	Argumosa, José, Havana,	Collection of pictures.	Artist.

(Annex, Gallery No. 31.)

WATER COLORS AND CRAYON.

NO.	ARTIST.	TITLE.	OWNER.
69	Sanchez, Pedro, Cadiz,	Four water colors.	Artist.
70	Guisasola, Federico, Pontevedra,	Water color.	Artist.
74	Lopez Valdemoro Ortiz de Lazcano, Señorita Ines,	Crayon drawings.	Artist.

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
200	Navarrete, Ricardo, Madrid,	Las Hilanderas ("The Carpet Weavers"—copy after Velazquez).	Artist.
201 _a	(Unknown),	Saint Jerome.	Ochoa, Bernardino, Madrid.
201 _b	(Unknown),	Holy Family.	Ochoa, Bernardino, Madrid.
201 _c	(Unknown),	Virgin and Child.	Ochoa, Bernardino, Madrid.
201 _{d, e}	(Unknown),	Two vases with flowers.	Ochoa, Bernardino, Madrid.
201 _{f, g}	(Unknown),	The Combat.	Ochoa, Bernardino, Madrid.
201 _{h, i}	(Unknown),	Still Life.	Ochoa, Bernardino, Madrid.
201 _j	(Unknown),	Picnic.	Ochoa, Bernardino, Madrid.
201 _l	(Unknown),	Pasturing Bulls.	Ochoa, Bernardino, Madrid.
201 _m	(Unknown),	A Bull's head.	Ochoa, Bernardino, Madrid.
202	Elorriaga, Ramon, New York,	A Portrait (life size).	Artist.
203	Ortiz, D. J. de, New York,	Portrait of the celebrated explorer Stanley.	Artist.

SCULPTURE.

NO.	ARTIST.	TITLE.	OWNER.
250	Jocson, Crispulo, Manilla, Philippine Islands,	A bust (wood).	Artist.
251	Tampinco, Isabello, Manilla,	A bas-relief (wood).	Artist.

OIL PAINTINGS.

NO.	ARTIST.	TITLE.	OWNER.
252-53	Resureccion, Felix,	Two landscapes.	Academy of Fine Arts, Manilla.
254	Resureccion, Felix,	A Canoe.	Academy of Fine Arts, Manilla.
255	Resureccion, Felix,	Woman selling Plants called "Lanzones."	Academy of Fine Arts, Manilla.
256	Resureccion, Felix,	Fisherman at Sacag.	Academy of Fine Arts, Manilla.
257	Zaragosa, Miguel,	Laundry.	Academy of Fine Arts, Manilla.
258	Zaragosa, Miguel,	Old Policeman.	Academy of Fine Arts, Manilla.
259	Garcia, Regino,	The Laborer.	Academy of Fine Arts, Manilla.
260-65	Villanueva, Esteban,	Natives of Manilla (six paintings).	Academy of Fine Arts, Manilla.
266	Flores, Simon, Manilla,	A Village in the Province of Pangasinan.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
267-68	(Unknown),	Two oil paintings.	St. Thomas College, Manila.
269	(Unknown),	Oil painting.	St. Thomas Museum, Manila.

MOSAICS.

NO.	ARTIST.	TITLE.	OWNER.
124	Rodriguez, Desiderio, Cienfuegos, Cuba,	Mosaic table.	Artist.

*(Spanish Government Pavilion.)***COLLECTIVE EXHIBIT.**

NO.	ARTIST.	TITLE.	OWNER.
9	Duque, Eugenio, Madrid,	Photographs of statues.	Artist.
15	Sellan, Gregorio, Madrid,	Dies and medals.	Spanish National Mint.
22	Sellan, Gregorio, Madrid,	Old patterns of mint dies.	Spanish National Mint.
68	Bibiloni, José, Barcelona,	India-ink drawings.	Artist.
69	Pupils of the Provincial Academy of Fine Arts, Barcelona,	Drawings.	Provincial Academy of Fine Arts.
72	(Unknown),	Calligraphs.	Provincial Deputation, Cadiz.
73	Gonzales y Montblanc, Modeste, Barcelona,	Lithographs.	Artist.
75	Aramburu, Ricardo, Seville,	Crayon drawings.	Artist.
76	Reynoso, Emilio, Havana,	Calligraphs.	Artist.
77	Gelabert y Hermano, R., Barcelona,	Engravings.	Artist.
78	Lemus, Eugenio, Madrid,	Danae (copper engraving).	Artist.
79	Maura, Bartolomé, Madrid,	Surrender of Breda.	Artist.
80	Martinez, Espinosa, Juan, Madrid,	Etchings.	Artist.
81	Salcedo, Pedro, Morata, Province of Madrid,	Plan of the Escorial Royal Monastery, near Madrid.	Artist.
82	Arnanz, José, Havana,	Stone engravings.	Artist.
83	Vidal y Roger, Andres, Barcelona,	Printed and engraved music.	Artist.
84	Calografia Nacional, Madrid,	Lithographs.	Artist.
85	Sola y Roca, Ramon, Barcelona,	Lithographs.	Artist.
86	Mencha y Rodriguez, Faustino, Logroño,	Lithographs.	Artist.
87	Carderera y Solano, Valentin, Madrid,	Iconography.	Artist.
88	Fortanet, E.,	Books.	Artist
89	Artillery Museum, Madrid,	Collection of engravings of the Royal Artillery Manufactory at Trubia.	Artillery Museum, Madrid.
90	Ariza y Campano, José, Seville,	Typographs.	Artist.
91	Mateu, José Maria, Madrid,	Chromo-lithographs.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
92	Arnanz, José, Havana,	Chromo-lithographs.	Artist.
93	Mariez-Currena, Heriberto, Barcelona,	Photographs.	Artist.
94	Nobas, Narciso, Barcelona,	Photographs.	Artist.
95	Moragas, Manuel García, Province of Barcelona,	Photographs.	Artist.
96	Casiñol de Leopoldo, Xeres de la Frontera,	Helio-chromo.	Artist.
97	Napoléon é Hijo, A. and I., Barcelona,	Photographs.	Artist.
98	Provincial Commission, Lugo,	Monumental photographs.	Provincial Commission.
99	Rodriguez Cortes, César,	Photographs of engravings.	Artist.
100	Spreafico, José, Malaga,	Album, with views of the Monastery La Rabida and the Port of Paños.	Artist.
101	Alviac y Ca., Madrid,	Photographs.	Artist.
102	Julia y Garcia, Eusebio, Madrid,	Photographs.	Artist.
103	Laurent, I., y Ca., Madrid,	Photographs.	Artist.
104	Diaz, Otero, Eduardo, Madrid,	Photographs.	Artist.
105	Casa Nacional de Moneda, Madrid,	Photographs.	Spanish National Mint.
106	Instituto de Segunda Enseñanza, Madrid,	Photographs.	Artist.
107	Sebastiá Vila, Pedro, Seville,	Photographs.	Artist.
108	Rodriguez, Antonio, Seville,	Photographs.	Artist.
109	Sociedad Económica de Amigos del Pais, Seville,	Photographs.	Artist.
110	Arce, Innocencio, Barcelona,	Photo-lithographs.	Artist.
111	Almela y Vinet, Francisco, Seville,	Photographs.	Artist.
112	Mestres, O. José, Barcelona,	Architectural monuments.	Artist.
113	Soler, Federico, Barcelona,	Architectural monuments.	Artist.
114	Guastavin, Rafael, Barcelona,	Architectural monuments.	Artist.
115	Garriga y Roca, Miguel, Barcelona,	Architectural monuments.	Artist.
116	Fenas, Ramon, Barcelona,	Architectural monuments.	Artist.
117	Rovira y Rabassa, Antonio, Barcelona,	Architectural monuments.	Artist.
118	Arsenio, Alonso, Madrid,	Architectural monuments.	Artist.
119	Duque, Eugenio, Madrid,	Photographs of architectural monuments.	Artist.
120	Marin Baldo, José, Madrid,	Photographs of architectural monuments.	Artist.
122	Benito, Santiago de, Escorial, Province of Madrid,	Locks.	Artist.
123	Bustamente y Gallo, Madrid,	Mosaic in wood.	Artist.

NO.	ARTIST.	TITLE.	OWNER.
125	Fernandez Cuevas, Pascual, Bri- biesca, Province of Burgos,	Three pictures of artificial birds.	Artist.
126 ^a	Ruiz, Manuel, Ca- diz,	Hair-work.	Artist.
126 ^b	Ruiz, Manuel, Ca- diz,	Wafer-work.	Artist.
128	Lozano y Villarejo, Mateo, Madrid,	Albums.	Artist.
129	Serrano y Arenas, Havana,	Silk embroideries.	Artist.
130	Comacho de Diaz, Soledad, Havana,	Work made with scissors.	Artist.
271	Museo de San Tomas, Manilla,	Flowers made of leaves of camote- cahoi.	Artist.
272	Casas, José, Ha- vana,	Hair-work.	Artist.
273	Ortells, Carlos, Ha- vana,	Hair-work.	Artist.

RUSSIA.

(*Memorial Hall, Gallery M.*)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
1	Aivazowsky, John, Theodosia, Crimea,	Storm on the Black Sea, near the Crimean coast.
2	Aivazowsky, John, Theodosia, Crimea,	View of Constantinople, from the European shore.
3	Aivazowsky, John, Theodosia, Crimea,	Tartar Women in the Crimea.
4	Aivazowsky, John, Theodosia, Crimea,	After the Storm (Sunset).
5	Aivazowsky, John, Theodosia, Crimea,	Storm in the North Sea.
6	Aivazowsky, John, Theodosia, Crimea,	The Rising Moon, Black Sea.
7	Aivazowsky, John, Theodosia, Crimea,	Shower in the Crimean Mountains.
8	Bogolioboff, Alexis, Paris,	Ice-Drift on the Neva.
9	Bogolioboff, Alexis, Paris,	Landscape.
10	Bronnikoff, Theodore, Rome,	Roman Thermal.
11	Frentz, Rodolphus, St. Petersburg,	The Hunter.
12	Gerson, Wojciech, Warsaw,	The Morning Mist.
13	Gerson, Wojciech, Warsaw,	Summer Rain.
14	Gerson, Wojciech, Warsaw,	Knights of the Teutonic Order in Poland, in the Fourteenth Century.
15	Groozinsky, Peter, St. Petersburg,	Russian Team.
16	Horavsky, Apollinarius, St. Petersburg,	Caucasian Landscape—View of the River Arva.
17	Jooravleff, F., St. Petersburg,	The Step-Mother.
18	Jooravleff, F., St. Petersburg,	The Chimney-Sweeper.
19	Klodt, Baron Michael, St. Petersburg,	Birch Forest.
20	Klodt, Baron Michael, St. Petersburg,	Landscape.
21	Klodt, Baron Michael, St. Petersburg,	Landscape.
22	Korzoöchin, Alexis, St. Petersburg,	Sunday Tea-Party.
23	Korzoöchin, Alexis, St. Petersburg,	Scene in the Wood.
24	Kostrzewski, Francis, Warsaw,	Hunting in Winter.
25	Malyshef, ———, Sergievski-Posad,	Icons (painted images).
26	Miller, Charles, Warsaw,	Hamlet.
27	Miller, Charles, Warsaw,	An Italian Woman.
28	Naomof, Alexis, St. Petersburg,	A Smoky Cottage.
29	Naomof, Alexis, St. Petersburg,	Shepherd Boy.
30	Naomof, Alexis, St. Petersburg,	Orphan Girl.
31	Lemoch, Charles, St. Petersburg,	Orphan Girl.
32	Lemoch, Charles, St. Petersburg,	Peasant Girl Feeding Poultry.
33	Lemoch, Charles, St. Petersburg,	Peasant Girl Making her Toilet.
34	Semiradsky, Henry, Rome,	The Amulet-Seller.
35	Sokoloff, Peter, St. Petersburg,	Russian Scene.
36	Zagorsky, Nicolas, St. Petersburg,	Family Scene.
37	Gerimski, Alexander, Warsaw,	A Tavern.
37 ^a	Gerimski, Alexander, Warsaw,	A Game at Morro.

NO.	ARTIST.	TITLE.
38	Skirmunt, Simon de, Brindisi, Italy,	A Festival in the Palazzo Colonna, Rome (sixteenth century).
39	Skirmunt, Simon de, Brindisi, Italy,	A Member of the Council of Ten, Venice.
40	Skirmunt, Simon de, Brindisi, Italy,	Reflection.
41	Verestchaghin, Peter, Sestroretzk, near St. Petersburg,	Winter Palace Square.
42	Verestchaghin, Peter, Sestroretzk, near St. Petersburg,	The Alexander Column (Winter Palace Square).
43	Svertchkoff, Nicolas, Zarskoe-Selo, near St. Petersburg,	Carnival Week in the Country.
44	Silvanovitch, Nicolas, St. Petersburg,	The Prisoner.
45	Becker, Adolph, St. Petersburg,	The New-Born.
46	Lindholm, B. A., St. Petersburg,	A Steamer in Floating Ice.
47	Munsterhelm, Magnus, St. Petersburg,	Landscape.
48	Lagorio, Lewis, St. Petersburg,	The Kishaoor Valley, Caucasus.
49	Lagorio, Lewis, St. Petersburg,	Along the Road from Tiflis to Akhaltzik.
50	Skirmund, S. A., St. Petersburg,	A Family Party on the Balcony.
51	Clever, Julius, St. Petersburg,	The First Snow on a Ploughed Field.
52	Orlofsky, Wladimir, St. Petersburg,	Fishermen.
53	Tomashefky-Bontcha, Julius, St. Petersburg,	Scene in Molière's "Tartuffe."
54	Pleshanoff, Paul, St. Petersburg,	An Italian.
55	Eckhorst, B., St. Petersburg,	Landscape.
56	Eckhorst, B., St. Petersburg,	Landscape.
57	Karpoff, —, St. Petersburg,	Young Girl Sleeping.
58	Krassofsky, Nicolas, St. Petersburg,	Study—a horse.
59	Krassofsky, Nicolas, St. Petersburg,	Study—a horse.
60	Titoff, Andrew, Rastoff, Yaroslaw,	Enameled images (icons).
61	Marozoff, A. B., Moscow,	Portrait of the Emperor of Russia, and images.
62	Racotchi, Sidorsky & Co.,	Images (icons).
63	Salabanoff, D. A., Nijni-Novgorod,	Painted images (imitations of ancient icons).

STATUARY.

NO.	ARTIST.	TITLE.
64	Ryger, Theodore, Warsaw,	Bust of Washington (marble).
65	Ryger, Theodore, Warsaw,	Bust of Dr. Levitoax (plaster of Paris).
66	Zengler, F., Warsaw,	The Mother's First Joy.
67	Zengler, F., Warsaw,	Bashfulness.
68	Zengler, F., Warsaw,	Sophia (Mickievicz's poem).
69	Goojoff, Nicolas, Borovichi, Novgorod,	Painted figures in terra-cotta, representing national subjects.
71	Ryger, Theodore, Warsaw,	Madonna and child Jesus (marble bas-relief).
72	Zengler, F., Warsaw,	The poet Mickievicz (bas-relief in marble).

WOOD CARVINGS.

NO.	ARTIST.	TITLE.
74	Bauman, Augustus, Moscow,	Images carved in wood.
75	Decamilly, St. Petersburg,	Ornamental carvings.
78	Tzyroolnikoff, P., Sergievsky-Possad, near Moscow,	Images carved in wood.
79	Kroostasheff, T. S., Sergievsky-Possad, near Moscow,	Images carved in wood.
80	Kooznetzoff, —, St. Petersburg,	Child's head carved in wood.
81	Riabinin, —, St. Petersburg,	Portrait.

IVORY CARVINGS.

NO.	ARTIST.	TITLE.
82	Alexieff, A., Vologda,	Carving in ivory.

WATER COLORS.

NO.	ARTIST.	TITLE.
83	Sokoloff, Peter, St. Petersburg,	Water colors.
84	Kostrzewsky, Francis, Warsaw,	The Dear Friend.

(Memorial Hall, Gallery M.)

OIL PAINTINGS.

NO.	ARTIST.	TITLE.
85	Bogatsky,	Portrait of Prince Gortchakoff.
86	Groozintsky, P., St. Petersburg,	Welcome Home to the Bride.
87	Groozintsky, P., St. Petersburg,	Gypsy Festivities.
88	Jooravleff, F., St. Petersburg,	Dinner after a Funeral.
89	Jooravleff, F., St. Petersburg,	Take me Down.
90	Jooravleff, F., St. Petersburg,	Blessing the Bride before Marriage; a Russian Custom.
91	Naoomof, A., St. Petersburg,	Fair in Tiflis, Caucasus.

Other Russian Art Exhibits are installed in the Main Building, and enumerated in that volume of the Catalogue.

HEALTH! BEAUTY!!

Strong, Pure, and Rich Blood, Increase of Flesh and Weight, Clear Skin, and Beautiful Complexion secured to all through

DR. RADWAY'S SARSAPARILLIAN RESOLVENT

Every drop of the Sarsaparillian Resolvent communicates through the Blood, Sweat, Urine, and other fluids and juices of the system the vigor of life, for it repairs the wastes of the body with new and sound material. Scrofula, Consumption, Glandular Disease, Ulcers in the Throat, Mouth, Tumors, Nodes in the Glands and other parts of the system, Sore Eyes, Strumous Discharges from the Ears, and the worst forms of Skin Diseases, Eruptions, Fever Sores, Scald Head, Ring Worm, Salt Rheum, Erysipelas, Acne, Black Spots, Worms in the Flesh, Tumors, and all Weakening and Painful Discharges and Night Sweats are within the curative range of this wonder of Modern Chemistry, and a few days' use will prove to any person using it for either of these forms of disease, its potent power to cure them. If the patient, daily becoming reduced by the wastes and decomposition that are continually progressing, succeeds in arresting these wastes, and repairs the same with new material, made from healthy blood, and this the Sarsaparillian will and does secure, a cure is certain; for, when once this remedy commences its work of purification and succeeds in diminishing the loss of wastes, its repairs will be rapid, and every day the patient will feel himself growing better and stronger, the food digesting better, appetite improving, and flesh and weight increasing. Not only does the SARSAPARILLIAN RESOLVENT excel all known remedial agents in the cure of Chronic, Scrofulous, Constitutional, and Skin Diseases, but it is the only positive cure for Kidney, Bladder, and Urinary Diseases, Gravel, Diabetes, Dropsy, Stoppage of Water, Incontinence of Urine, Bright's Disease, Albuminuria, and in all cases where there are brickdust deposits, or the water is thick, cloudy, mixed with substance like the white of an egg, or threads like white silk, or there is a morbid, dark, bilious appearance, and white bonedust deposits, and when there is a pricking, burning sensation when passing water, and pain in the Small of the Back along the Loins.

Tumor of 12 years' growth cured by Radway's Resolvent.

BEVERLY, MASS., July 18th, 1869.

DR. RADWAY: I have had Ovarian Tumor in the ovaries and bowels. All the doctors said "there was no help for it." I tried everything that was recommended, but nothing helped me. I saw your Resolvent, and thought I would try it, but had no faith in it, because I had suffered for TWELVE YEARS. I took six bottles of the Resolvent, one box of Radway's Pills, and used two bottles of your READY RELIEF, and there is not a sign of a tumor to be seen or felt, and I feel BETTER, SMARTER, and happier than I have for twelve years. The worst tumor was in the left side of the bowels, over the groin. I write this to you for the benefit of others. You can publish if you choose. * * * * *

HANNAH P. KNAPP.

R. R. R.

RADWAY'S READY RELIEF

Cures the worst pains in from one to twenty minutes. Not one hour after reading this advertisement need any one suffer with pain. Radway's Ready Relief is a cure for every pain. It was the first and is *THE ONLY PAIN REMEDY* that instantly stops the most excruciating pains, allays Inflammations, and cures Congestions, whether of the Lungs, Stomach, Bowels, or other glands or organs, by one application, *in from one to twenty minutes*. No matter how violent or excruciating the pain the Rheumatic, Bedridden, Infirm, Crippled, Nervous, Neuralgic, or prostrated with disease may suffer,

RADWAY'S READY RELIEF

Will afford instant ease. Inflammation of the Kidneys, Inflammation of the Bladder, Inflammation of the Bowels, Congestion of the Lungs, Sore Throat, Difficult Breathing, Palpitation of the Heart, Hysterics, Croup, Diphtheria, Catarrh, Influenza, Headache, Toothache, Neuralgia, Rheumatism, Cold Chills, Ague Chills. The application of the READY RELIEF to the part or parts where the pain or difficulty exists will afford ease and comfort. Twenty drops in a half tumbler of water will, in a few moments, cure Cramps, Spasms, Sour Stomach, Heartburn, Sick Headache, Diarrhoea, Dysentery, Colic, Wind in the Bowels, and all Internal Pains. Travelers should always carry a bottle of RADWAY'S RELIEF with them. A few drops in water will prevent sickness or pains from change of water. It is better than French Brandy or Bitters as a stimulant.

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Perfectly tasteless, elegantly coated, for the cure of all Disorders of the Stomach, Liver, Bowels, Kidneys, Bladder, Nervous Diseases, Headache, Constipation, Costiveness, Indigestion, Dyspepsia, Biliousness, Bilious Fever, Inflammation of the Bowels, Piles, and all Derangements of the Internal Viscera. Warranted to effect a Positive Cure. RADWAY'S PILLS will free the system from all the above-named disorders. Price, 25 cents per box.

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THEY WOULD HAVE BEEN CALLED BY YOURS



FERTIL

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THE BIRTH PLACE OF FREEDOM

WALK OF THE BIRTH PLACE

PHOTOGRAPHY.

No. 104.—PHOTORGAPHIC EXHIBITION BUILDING.

Architect, H. J. SCHWARZMANN.—Size, 242 by 77 feet.

Situated on the Avenue of the Republic, north of the Main Building, and east of Memorial Hall. It is a one-story building, containing a single large chamber, with screens projecting from the side walls and forming alcoves for exhibition purposes.

NO.	ARTIST.	TITLE.	LOCATION.
1	Kurtz, W., New York,	Photographs, in pastel, oil, and crayon.	Screen 1, W.
2	Benerman & Wilson,	Photographic transparencies for magic lanterns.	Window, alcove 13.
3	Wenderoth & Co., Philadelphia,	Plain and colored photographs.	Screen 1, E.
4	Brady, W. B., Washington,	Photographs, plain and India ink.	Alcove 2, wall.
5	Alman & Co., New York,	Photographs, plain and colored, in pastel, oil, and India ink.	Screen 2, W.
6	Anthony, E. & H. T., & Co., New York,	Magic lanterns and graphoscopes.	Main avenue.
7	Burrell, D. T., Brockton, Mass.,	Plain photographs.	Screen 2, S.
8	Sibley & Co., L. D., Vineland, N. J.,	Stereoscopic albums.	Alcove 3.
9	Robbins, F., Oil City, Pa.,	Photographer's dark tent.	Alcove 15, S. E.
10	Hazzard, W. B., Philadelphia,	Shade rollers.	Alcove 1.
11	Wilson, J. J., New York,	Improved magic lantern.	Alcove 3.
12	Bierstadt, Ch., Niagara Falls, N. Y.,	Stereoscopic views.	Screen 2, E.
13	Delamater, R. S., Hartford, Conn.,	Photographs, collections of.	Screen 3, W.
14	Waller & Schrader, Brooklyn, N. Y.,	Photographic views.	Screen 3, W.
15	Cremer, James, Philadelphia,	Improved metallic graphoscopes.	Main avenue.
16	Watkins, E. C., San Francisco,	Photographic views, California.	Screen 3, E.
17	Cox, W. A., Baltimore,	Porcelain miniatures.	Screen 4, W.
18	Edgar, Lydia, Philadelphia,	Photographs in crayon.	Screen 4, W.
19	Weston, N., San Francisco,	Photographs, enameled.	Screen 4, W.
20	Stoddard, S. R., Glenn's Falls, N. Y.,	Photographic views and illustrated guide-books.	Screen 4, W.
21	Reilly, J. J., San Francisco,	Stereoscopic views, Yosemite Valley.	Screen 4, W.
22	Berkan, O., Philadelphia,	Pyro-photographs, on porcelain.	Wall, alcove 3.
23	American Photo-Relief Printing Company, Philadelphia,	Transparencies, on glass, for magic lantern, by Woodbury process.	Window, alcove 3.
24	Bradley & Rulofson, San Francisco,	Photographs, plain, in pastel, and crayon.	Wall and screen 4, E.

NO.	ARTIST.	TITLE.	LOCATION.
25	Melander & Brother, Chicago,	Stereoscopic groups.	Screen 4, S.
26	Newell, R., & Son, Philadelphia,	Photographic views.	Screen 5, W.
27	Tyson, I. G., Phila- delphia,	Photograph in crayon.	Screen 5, S.
28	Kiloltz, B., Chicago,	Plain photographs.	Screen 5, S.
29	Sweeny, T.T., Cleve- land,	Photographic views.	Screen 5, E.
30	Thorn, G. W., New York,	Photographic views.	Screen 5, E.
31	Seibert, S. R., Wash- ington,	Improved stereoscopic camera.	Alcove 6.
32	Houseworth, Thos., San Francisco,	Photographs, Yosemite Valley.	Wall, alcove 6.
33	Anderson, D. H., Richmond,	Photographic portraits.	Screen 6, W.
34	Chase, W. M., Balti- more,	Stereoscopic views.	Screen 6, W.
35	Hardy, A. N., Bos- ton,	Photographic portraits.	Screen 6, W.
36	Taylor, W. Curtis, Philadelphia,	Photographs, plain and colored, por- celain miniatures.	Screen 6, E.
37	Haworth, J., Phila- delphia,	Photo-apparatus and albumen paper.	Main avenue.
38	Bass, P. P., Bangor, Maine,	Burnisher for photographs.	Main avenue.
39	Aitken, Philadel- phia,	Photographs in crayon.	Wall, alcove.
40	Collins, Son, & Co., A. M., Philadel- phia,	Card mounts, in various styles, for photographs.	Wall, alcove 7.
41	Bigelow, L. G., De- troit, Mich.,	Photographs, single and in groups.	Screen 7, W.
42	Marcy, L. J., Phila- delphia,	Improved oil and lime-light lanterns.	Screen 7, S.
43	Ryder, J. F., Cleve- land,	Photographs in crayon, and chromo "Yankee Doodle."	Screen 7, E.
44	Schriber & Son, Philadelphia,	Photographs of animals.	Screen 8, W.
45	Kent, J. H., Roches- ter, N. Y.,	Large photographic portraits, direct from life.	Screen 8, E.
46	Gutekunst, F., Philadelphia,	Photographs, glacé, crayon, water color, and plain.	Screen 9, N. wall.
47	Root, M. A., Phila- delphia,	Illustrations of photography from August, 1839, to May, 1876.	Screen 8, S.
48	Pattburg & Bros., New York,	Passe-partouts and velvet cases.	Main avenue.
49	Entrekin, W. G., Philadelphia,	Oscillating enameling machine.	Main avenue.
50	Butterfield, D. W., Boston,	Large landscape views.	Screen 9, E.
51	Rau, George, Phila- delphia,	Photographic portraits.	Screen 9, E.
52	Clemons, J. R., Philadelphia,	Sample prints on his albumen and on plain paper.	Screen 9, E.
53	Hesler, A., Evans- ton, Ill.,	Portraits of babies.	Wall, alcove 10.
54	Fitzgibbon, J. H., St. Louis,	Collection of daguerreotypes, twenty- five years old.	Wall, alcove 10.
55	Landy, J., Cincin- nati,	Collection of character photographs representing the Seven Ages of Man, laughing and crying ba- bies, and large photograph por- traits.	Screen 10, W. Screen 10, S.
56	Rocher, H., Chi- cago,	Photographs, single figures and compositions, in size from 17 by 20 plate to 11 by 14; imperial, bou- doir, and promenade portraits.	Screen 10, E.
57	Sarony, N., New York,	Photographs, plain and in crayon.	Wall, alcove 11.

NO.	ARTIST.	TITLE.	LOCATION.
58	Broadbent & Phillips, Philadelphia,	Photographs, plain, crayon, and water color.	Screen 11, W.
59	Root, Samuel, Dubuque, Iowa,	Photographs.	Screen 11, S.
60	Wilson, Hood, & Co., Philadelphia,	Photographic accessories, chemicals, and lenses.	Main avenue.
61	Mosher, C. D., Chicago,	Photographic portraits and patent album.	Screen 11, E.
62	American Photo-Relief Printing Co., Philadelphia,	Transparencies by Woodbury process.	Window, alcove 11.
63	Beckers, Alex., New York,	Revolving stereoscopes.	Alcove 11.
64	Hanse, A. L., Philadelphia,	Photographic chemicals.	Alcove 11.
65	Evans, G. & W. P., Malden, Mass.,	Photographic chairs.	Alcove 11.
66	Allen & Rowell, Boston,	Enlarged photographs in permanent pigments.	Screen 12, W.
67	Seiler, Carl, Philadelphia,	Micro-photographs.	Screen 12, S.
68	Hovey, E. F., Philadelphia,	Photographic views.	Screen 12, E.
69	Holyland, J., Baltimore,	Photographic groups.	Screen 12, E.
70	Gubleman, Theo., Jersey City, N. J.,	Photographs, plain and in pastel.	Screen 12, E.
71	Babbit, P. D., Niagara, N. Y.,	Transparencies.	Window, alcove 13.
72	Stock & Bro., J., New York,	Photographic apparatus.	Alcove 13.
73	McAllister, T. H., New York,	Magic lantern apparatus.	Alcove 13.
74	Zimmerman, T., St. Paul, Minn.,	Portraits of Indians, and views of Minnesota scenery.	Screen 13, W.
75	Schwind & Kreuger, New York,	Photographic portraits.	Screen 13, W.
76	Train & Bundy, Helena, Montana,	Photographic portraits.	Screen 13, S.
77	Peck, S. M., & Co., New York,	Photographic apparatus.	Main avenue.
78	Marshall, W. I.,	Views of Yellowstone Park.	Screen 16, E.
79	Holler, H., New York,	Photo-portraits and camera-stand.	Wall, alcove 14.
80	Gerlach & Fromhagen, Philadelphia,	Photographs, plain and in crayon.	Wall, alcove 14.
81	Broich & Kreuger, Milwaukee, Wis.,	Photographic portraits.	Screen 14, W.
82	Busey, N. H., Baltimore,	Photographic portraits.	Screen 14, W.
83	McIntyre & Co., Alexandria, N. Y.,	Stereoscopic views.	Screen 14, W.
84	Benerman & Wilson, Philadelphia,	Photographic publications.	Screen 14, S.
85	Centennial Photograph Co., Philadelphia,	Views of Centennial Exhibition.	Screen 14, E.
86	Paxson Bros., New York,	Enlarged photographs.	Wall, N. E. corner.
87	Scovill Manufacturing Co., New York,	Photographic apparatus.	Alcove 15.
88	Harring, J. C., Massillon, O.,	Photographic portraits.	Wall, N. E.
89	Schlesinger, L., Philadelphia,	Photograph album of Philadelphia physicians.	Wall, S. E.
90	Gurney, J. J., New York,	Colored enameled photographs.	Wall, S. E.
91	Waterman & Hall, New York,	Views of buildings.	Wall, S. E.

NO.	ARTIST.	TITLE.	LOCATION.
92	Woodward, D. A., Baltimore,	Solar cameras.	Alcove 16, S.E.
93	Semmeldinger, A., Fort Lee, N. J.,	Photograph apparatus.	Alcove 15, S.E.
94	Seavey, L. W., New York,	Photographic backgrounds, papier maché, furniture, and accessories.	Wall, alcove 15, S.E.
95	Reid, J. J., Paterson, N. J.,	Views of mechanical constructions.	Screen 15, E.
96	Doremus, Pater- son, N. J.,	Views of Mississippi, and portraits.	Screen 15, E.
97	De Silva, Abraham, Hartford, Conn.,	Interior views of students' rooms, Yale College.	Screen 15, N.
98	Howell, J. R., New York,	Artistic photographic portraits.	Screen 15, W.
99	Pach, New York,	Photographic views.	Wall alcove 18.
100	Paullin, W. T., Phil- adelphia,	Photographic portraits.	Screen 16, E.
101	Gentile & Co., Chi- cago,	Photographic portraits.	Screen 16, E.
102	Simons, M. P., Phil- adelphia,	Photographic portraits.	Screen 3, W.
103	Evans, E. D., Corn- ing, N. Y.,	Photographic portraits.	Screen 16, N.
104	Lewis, T., Cam- bridgeport, Mass.,	Historical stereoscopic views.	Screen 16, W.
105	Black, J. W., & Co., Boston, Mass.,	Views of the Arctic Regions.	Screen 16, W.
106	Bonine, E. A., Em- porium, Pa.,	Stereoscopic views of Florida.	Screen 16, W.
107	Schluter, B., Kan- sas City,	Photographs in crayon.	Screen 16, W.
108	French, J. A., Keene, N. H.,	Stereoscopic portraits, colored.	Screen 16, S.
109	Brooks, Thomas, Philadelphia,	Glacé embossing press.	Wall, alcove 19.
110	Freeman, A., Dal- las, Texas,	Photographic portraits and views.	Screen 17, E.
111	Levy, Albert, New York,	Architectural views.	Screen 17, E.
112	Strong & Dotterer, Philadelphia,	Views of the Holy Land.	Screen 17, E.
113	Wetherby, Mrs., Philadelphia,	Colored photographs.	Screen 17, W.
114	Payne, H. T., Los Angeles, Cal.,	Views of semi-tropical California.	Screen 17, W.
115	Meyers, J. W., New York,	Photograph of pen-drawing.	Screen 12, S.
116	Weaver, Mrs. A. K., Salem, O.,	Photograph—Fern-leaf mottoes.	Screen 17, W.
117	Folsom, J. H., Dan- bury, Conn.,	Cabinet and solar prints.	Screen 17, W.
118	Collins, G. W., Ur- bana, O.,	Cabinet photographs.	Screen 17, W.
119	Hall, —, Great Bar- rington, Mass.,	Stereoscopic views and portraits.	Screen 17, W.
120	Gaffield, Thomas, Boston,	Original designs of ferns, feathers, and mosses in photography.	Screen 17, S.
121	Graves, J. A., Dela- ware Water Gap, Pa.,	Landscape views.	Screen 18, E.
122	Bachrach Bros., Baltimore,	Portraits and enlargements.	Screen 18, E.
123	Robbins, F., Oil City, Pa.,	Views of the Oil Region.	Screen 18, E.
124	Bell & Rau, Phila- delphia,	Stereoscopic views from dry plates.	Screen 18, N.
125	American Photo- Relief Printing Co., Philadelphia,	Transparencies for door and window decorations, by Woodbury process.	Door, alcove 9.
126	Moran, John, Phil- adelphia,	Landscape views.	Screen 12, E.

NO.	ARTIST.	TITLE.	LOCATION.
127	Van Loo, Leon, Cincinnati,	Photograph portraits, single and in groups.	Screen 13, W.
128	Okerbund, E. G., Ishpeming, Mich.,	Photographic portraits.	Screen 2, N.
129	Marshall, Aug., Boston,	Vitrified photo enamels.	Screen 22, N.
130	Rice, J. D., Philadelphia,	Improved stereoscope.	Screen 8, N.
131	Wallace, E., Jr., Philadelphia,	Specimens of amateur photography.	Screen 17, W.
132	Rice Bros., Washington, D.C.,	Specimens of glacé photographs.	Screen 7, N.
133	Stockwell, N., Bainbridge, N.Y.,	Dry plate camera.	Alcove 6, N.
134	Morrow, J. H., Philadelphia,	Microscopic photographs for charms.	Main avenue.
135	Gaffield, Thomas, Boston,	Photographs illustrating the action of sunlight on glass.	Wall, alcove 18.
136	Newton, H. J., New York,	Photographs, from emulsion, dry plate negatives.	Wall, alcove N.W.

FOREIGN.

NO.	ARTIST.	TITLE.	LOCATION.
137	Lemere, Bedford, & Co., London,	Architectural photographs.	
138	Wilson, G. W., Aberdeen,	Photograph album of Scottish scenery.	Table, alcove 29.
139	Wilson, G. W., Aberdeen,	Glass transparencies and enlarged views in carbon.	Wall, alcove 29.
140	Henderson, A. L., London,	Vitrified enameled photographs, plain and colored.	Wall, W.
141	Lee, E. P., & Co., Cardiff,	Enameled photographs, plain and colored.	Wall, W.
142	Baum, F., Manchester, England,	Permanent photographs in carbon.	Wall, W.
143	Fradelle & Marshall, London,	Card portraits.	Wall, W.
144	Barnard, J., Bedford, England,	Permanent photographs in carbon.	Wall, W.
145	Hanson, W., Leeds, England,	Photographic portraits, card and cabinet.	Wall, S.W.
146	Bedford, W., England,	Photographic landscapes.	Wall, S.W.
147	Brownrigg, T. M., Dublin,	Photographic landscapes.	Wall, S.W.
148	Crawshay, Robert, Wales,	Photographic landscapes.	Wall, S.W.
149	Jennings, Payne, Dublin,	Photographic landscapes.	Wall, S.W.
150	England, William, London,	Landscapes and statuary.	Wall, W.
151	Wortly, Stuart, London,	Seascape, landscape, and portrait studies.	Wall, S. & W.
152	Norman, Carl, Tunbridge Wells,	Landscape and architectural photographs.	Wall, S.
153	Heath, Vernon, London,	Landscape studies, enlarged and printed in carbon.	Screen 28, W.
154	Dallmeyer, J. H., London,	Specimen of photographs made with Dallmeyer's lenses.	Screen 28, N.
155	Ross & Co., London,	Specimen of photographs made with Ross's symmetrical lenses.	Wall, W.
156	Hudson, F., Ventnor,	Landscape photographs.	Screen 28, E.
157	Stereoscopic Company, London,	Portraits of celebrities.	Screen 28, E.
158	Hedges, David, Lytham, Eng.,	Portraits of animals.	Screen 28, E.

NO.	ARTIST.	TITLE.	LOCATION.
159	Crawshay, Robert, Wales,	Landscape studies.	Screen 28, E.
160	Boal, A. & J., London,	Landscape studies.	Screen 28, E.
161	Robinson, H. P., Leamington, Eng.,	Instantaneous views and composition portraits from life.	Wall, alcove 28.
162	Good, Frank M., London,	Views of Palestine.	Wall, alcove 28.
163	Beau, Adolph, London,	Photographs of silver-ware, and portraits.	Screen 27, W.
164	York, Frederick, London,	Photographs and lantern transparencies illustrating zoology.	Screen 27, W.
165	Crawshay, Robert, Wales,	Landscape views.	Screen 27, W.
166	Cameron, Mrs.,	Character portraits.	Screen 27, W.
167	Slingsby, R., Lincoln, England,	Large portraits from life.	Screen 27, W.
168	Fradell & Marshall, London,	Enlarged portrait in carbon.	Screen 27, W.
169	York, F., London,	Architectural studies.	Screen 27, W.
170	Hanson, W., Leeds,	Card, cabinet, and large portraits.	Wall, alcove 29.
171	Newman, J. H., N. S. Wales,	Large photograph portraits.	Screen 27, N.
172	Newman, J. H., N. S. Wales,	Cabinet photographs.	Screen 27, N.
173	Notman, W., Montreal, Canada,	Photographs in crayon and water color.	Screen 27, E.
174	Notman, W., Montreal, Canada,	Photographs in oil and water color.	Wall, alcove 27.
175	Notman, W., Montreal, Canada,	Composition groups and plain photographs.	Screen 26, W.
176	Barrow, R. W., Kingston, Canada,	Cabinet photographs and views.	Screen 26, N.
177	Grenier, N. N., Montreal, Canada,	Photographing on wood.	Screen 26, N.
178	Barrow, R. W., Kingston, Canada,	Photographs of buildings.	Screen 26, E.
179	Henderson, Alex., Montreal, Canada,	Photographic landscapes.	Screen 26, E.
180	Adams, Owen, Sound, Canada,	Photographic landscapes.	Screen 26, E.
181	Anderson, R. W., Toronto, Canada,	Photographic landscapes.	Screen 26, E.
182	Climo, J. S., St. John,	Stereoscopic views.	Screen 26, E.
183	Bruce, J., & Co., Toronto, Canada,	Photographic portraits.	Screen 26, E.
184	Henderson, Alex., Montreal, Canada,	Composition picture of skating scene.	
185	Frith, F., Reigate, Eng.,	Interior of Canterbury Cathedral.	Screen 24, W.
186	Blanchard, Val., London,	Photographic portrait.	Screen 25, W.
187	Blanchard, Val., London,	Photographic portrait.	Screen 25, W.
188	Valentine, James, Dundee,	Photograph, Balmoral Castle, and other views.	Screen 25, W.
189	Delden, E., Breslau,	Photo portraits.	Wall, alcove 24.
190	Levy, J., & Co., Paris,	Glass transparencies.	Main avenue.
191	Kiepert, H., St. Petersburg,	Photo portrait of Emperor William.	Screen 23, N.
192	Kiepert, H., St. Petersburg,	Photo portrait of Prince Bismarck.	Screen 24, N.

NO.	ARTIST.	TITLE.	LOCATION.
193	Mischenski, Dant- zic,	Variety of artistic photographs from life.	Screen 25, N.
194	Schaarwachler, J. C., Berlin,	Variety of artistic photographs.	Screen 25, E.
195	Ruckwardt, H., Berlin,	Architectural views.	Screen 25, E.
196	Loescher & Petsch, Berlin,	Variety of composition portraits.	Screen 23, W.
197	Kosler, J., Bad Lan- deck,	Architectural photographs.	Screen 23, W.
198	Jacobi, C. H., Coblentz,	Landscape views.	Screen 23, W.
199	Jacobi, C. H., Coblentz,	Views in printing-ink.	Screen 23, W.
200	Scholtz, Robert, Goerlitz,	Landscape photographs.	Screen 23, W.
201	Ritschel, G. A., Warbrunn,	Photographic portraits.	Screen 23, N.
202	Kiewning, E., Stet- tin,	Photographie portraits.	Screen 23, W.
203	Adele, Vienna,	Photographic portraits.	Screen 23, N.
204	Adele, Vienna,	Photographic portraits.	Screen 24, N.
205	Schulz & Suck, Carlsruhe,	Photographic portraits.	Screen 24, E.
206	Reichard & Lind- ner, Berlin,	Photographic portraits.	Screen 24, E.
207	Schwier, K., Wei- mar,	Copies of paintings.	Screen 24, E.
208	Heiler, E.,	Life-studies of the Cayuganga Indians.	Screen 24, E.
209	Brauneck & Mey- ers, Mayence,	Photo mechanical prints.	Screen 24, E.
210	Rathenower, Ber- lin,	Optical and photo apparatus.	Wall, alcove 24.
211	Hertzog, J., Bre- men,	Photo chemicals.	Wall, alcove 24.
212	Obernetter, J. B., Munich,	Photo mechanical prints, bound in albums.	Wall, alcove 24.
213	Romeli, Ph., Ber- lin,	Photographs illustrating the expedi- tion in Africa, 1873 and 1874.	Wall, alcove 24.
214	Henig, R., Berlin,	Photographic cards.	Wall, alcove 24.
215	Trapp & Munch, Friedberg,	Exhibitors of photographs and pho- tograph papers.	Wall, alcove 25.
216	Albert, J., Munich,	Photographs in printing-ink.	Screen 25, W.
217	Geldmacher, F.W., Frankfort,	Permanent photographs on various materials.	Screen 25, E.
218	Angerer, Munich,	Family groups.	Alcove 25.
219	Braun, A., Dornach,	View in the Alps.	Screen 24, W.
220	Naya, E., Venice,	View of Rome.	Screen 24, W.
221	Heid, Dr., Vienna,	Interior View of Horticultural House.	Screen 24, W.
222	Charnaux, F., Ge- neva,	View in the Alps.	Screen 25, W.
223	Liebert, A., Paris,	Photographic portrait.	Screen 25, W.
224	Albert, J., Munich,	Oberammergauer or Passionsspiele.	Screen 25, W.
225	Delden, E., Breslau,	Photographic portraits.	Screen 25, E.
226	Reitmeyer, J., Mu- nich,	Large photographs from life.	Screen 24, W.
227	Wolf, Geo., Ham- burg,	Photographic portraits.	Wall, alcove 26.
228	Trapp & Munch, Friedberg,	Photographs on their make of albu- men paper.	Screen 24, W.
229	Cremer, J., Glad- bach,	Photographs in carbon.	Wall, alcove 25.
230	Schwier, K., Wei- mar,	Photograph of cartoon.	Wall, alcove 25.
231	Vidal, Léon, Paris,	Photo chromic prints.	Screen 23, E.
232	Walery, Paris,	Photographic portraits.	Screen 22, W.
233	Liebert, Paris,	Permanent photographs in carbon.	Wall, alcove 23.

NO.	ARTIST.	TITLE.	LOCATION.
234	Bray, J. W., de, Nice,	Landscape views.	Alcove 23.
235	Hutinet, D., Paris,	Specimens of photographers' cards.	Alcove 23.
236	Gillott, Paris,	Specimens of photo engraving.	Screen 23, E.
237	Auzerer, V., Vienna,	Large interior photographs.	Screen 22, E.
238	Stillfried, R. B., Yokohama,	Views in Japan.	Screen 22, E.
239	Largarjoli, F., Meran, Tyrol,	Views in the Tyrol.	Screen 22, E.
240	Wasservogel, S., Olmütz,	Studies of animals.	Screen 21, W.
241	Schodisch, Lud., Oberwarth,	Studies of animals.	Screen 21, W.
242	Luckhardt, F., Vienna,	Photographic portraits.	Screen 21, W.
243	Gertinger, J., Vienna,	Photographic portraits.	Screen 21, W.
244	Burckman, F., Munich,	Colored transparencies on glass.	Screen 21, W.
245	Luckhardt, F., Vienna,	Colored stereoscopic portraits.	Alcove 22, W.
246	Bogner, A., Munich,	Venus and Tannhauser.	Screen 21, N.
247	Ungar, J., Vienna,	Children's portraits.	Screen 21, E.
248	Rupperecht, M., Oldenburg,	Groups from life.	Screen 21, E.
249	Aubert, E., Christiania,	Photographic portraits.	Wall, alcove 22.
250	Knudsen, K., Bergen,	Landscape views.	Wall, alcove 22.
251	Knudsen, C., Christiania,	Portraits of ladies.	Wall, alcove 22.
252	Beernaert Frères, Ghent,	Photographic portraits.	Screen 20, W.
253	Pacheco, I., Rio de Janeiro,	Plain and colored photographs.	Screen 20, W.
254	Fidanza, F. A., Pará, Brazil,	Photographic portraits.	Screen 20, W.
255	Satyro, Pedro,	Colored miniatures.	Screen 20, W.
256	Sabino, J. T., Pará, Brazil,	Card photographs.	Screen 20, W.
257	Christiano, Jr., Buenos Ayres,	Card and cabinet photographs.	Screen 20, W.
258	Monzon, T. B., Buenos Ayres,	Card and cabinet photographs.	Screen 20, W.
259	Petre, F., Buena Ayres,	Colored photograph.	Screen 20, W.
260	Aguila, C. de, Buenos Ayres,	Photographic views.	Screen 20, W.
261	Proa, C., Buenos Ayres,	Photographic portraits.	Screen 20, W.
262	Pozzo, Aug., Oesti,	Photographic portraits.	Screen 20, W.
263	Bunge, E., Buenos Ayres,	Photographs of public buildings.	Screen 20, W.
263 ^a	Souza, Silveira, Rio de Janeiro,	Colored miniatures.	Screen 20, W.
263 ^b	Ferrez, M., Rio de Janeiro	Geological photographs.	Screen 20, W.
263 ^c	Verranzo, L., Rio de Janeiro,	Portraits and views.	Screen 20, W.
264	Geologica, C., Rio de Janeiro,	Photographic portraits.	Screen 20, W.
265	Wiklund, O., Westeras, Sweden,	Composition groups and views.	Screen 20, E.
266	Bergh, E., Stockholm, Sweden,	Landscape.	Screen 20, E.
267	Winge, M. E., Stockholm, Sweden,	Copies of cartoons.	Screen 20, E.
268	Jager, J., Stockholm, Sweden,	Photographs of sculpture and paintings.	Screen 20, E.

NO.	ARTIST.	TITLE.	LOCATION.
269	Lundberg, W., Stockholm,	Photographic portraits.	Screen 20, E.
270	Osti, Henry, Up- sala, Sweden,	Photographic portraits.	Screen 20, E.
271	Sophje, L., Upsala, Sweden,	Photographic portraits.	Screen 20, E.
272	Campa, C. Y., Mex- ico,	Photographic portraits.	Screen 19, W.
273	Stillfried & Ander- son, Yokohama, Japan,	Native portraits and views.	Wall, alcove 20, S.
274	Tyszkiewicz, Count, Russia,	Portraits and views illustrating his travels in Africa, and taken there by his artist.	Wall alcove 19.
275	Bergomasco, St. Pe- tersburg,	Photographic portraits.	Screen 18, W.
276	Meczkowski, War- saw,	Photographic portraits.	Screen 18, W.
277	Brandel, Warsaw,	Photographic portraits.	Screen 18, W.
278	Kostrza, Warsaw,	Photographic portraits.	Screen 18, W.
279	Karelin, Warsaw,	Photographic portraits.	Screen 18, W.
280	Carbutt, John, Phil- adelphia,	Photo-lithograph reproductions.	Screen 13, E.
281	Bierstadt, E., New York,	Photographs, in printing-ink, by Al- bert's process.	Wall, N.W.
282	Mason, O. G., New York,	Photographs of the moon.	Wall, alcove 1, N.W.
283	Hirsh, J. M., Chi- cago,	Specimens of relief plate engraving.	Wall, N.
284	Wenderoth, F. A., Philadelphia,	Specimens of photo engraving.	Screen 13, E.
285	Photo-Lithograph Co., New York,	Specimens of photo lithography.	Wall, N.
286	Osgood, J. R., & Co., Boston,	Photographs in printing-ink, by heliotype process.	Screen 13, E.
287	Ornamental Mirror Co., New York,	Photographs on mirrors.	Wall, N., alcove 4.

No. 110.—CENTENNIAL PHOTOGRAPHIC ASSOCIATION BUILDING,

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 150 feet by 30 feet.

The Photographic Association have erected a one-story frame building, located north of the Main Exhibition Building, on the east side of Belmont Avenue. It contains one room for the exhibition of photographs, and three rooms for photographers, for working purposes.

OUT-DOOR WORKS OF ART.

WINGED HORSES.

Owned by the FAIRMOUNT PARK COMMISSION.

In front of Memorial Hall are situated two bronze groups, each representing the mythological winged horse Pegasus; by the side of the one stands a figure emblematic of Music, and by the other a figure representing History. They were cast in Vienna, and purchased by the Park Commission.

No. 12.—BARTHOLDI'S FOUNTAIN.

Architect, A. BARTHOLDI, of Paris.—Size, basin, 26 feet in diameter; height, 30 feet; statue, 11 feet.

Situated in the Esplanade, in front of the main entrance to the grounds; constructed of iron, bronzed, and was cast in Paris by A. Durenne. In the centre of the basin is erected a triangular pedestal, on the faces of which are aquatic monsters, and fishes spouting water. Upon the pedestal are three female Caryatides, supporting a basin thirteen feet in diameter, which receives the water from an upper basin upheld by three infant Tritons; the whole surmounted by a Mural Crown, through which the water flows. An illuminating apparatus is attached, in order to combine the effects of light and water. This fountain is intended to embody an allegorical representation of the elements Water and Light.

No. 13.—CATHOLIC TOTAL ABSTINENCE FOUNTAIN.

Architect, HERMAN KIRN, Philadelphia.

Situated at the junction of Fountain Avenue and the Avenue of the Republic, at the northwestern corner of Machinery Hall. In design it is a circular platform, with four arms projecting at right angles, terminating in four smaller circular platforms. From the centre of the large circle rises a marble rockwork, sixteen feet high, with a diameter of eighteen feet at base, on which stands a statue of Moses smiting the rock. The water descends from numerous fissures into a basin forty feet in diameter. On each of the circular platforms is a drinking-fountain, twelve feet in height and eight feet eight inches in diameter, surrounded with statues, nine feet high. These represent Father Mathew, Charles Carroll, Archbishop John Carroll, and Commodore John Barry. It has been erected by contributions made by the numerous societies forming the Catholic Total Abstinence Union of America.

No. 24.—THE AMERICAN SOLDIER.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

A granite statue, designed for the Antietam Soldiers' Monument; is twenty-one feet six inches high, exclusive of the pedestal, and weighs thirty tons; it represents a soldier in the United States uniform, standing at rest, and is located in front of the north-central entrance of the Main Building, and opposite Memorial Hall.

No. 29a.—RUSTIC MONUMENT.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

A granite column, entwined with polished ivy, and surmounted by a cross; is situated southeast of Machinery Hall.

No. 29b.—MONUMENT.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

A small polished granite monument, surmounted by an urn; is located in front of the Board of Finance Office.

No. 29c.—GOTHIC MEMORIAL.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

Made of Westerly granite, thirteen feet high, surmounted by a cross; is placed between the Bartholdi Fountain and the Board of Finance Office.

No. 29d.—MEMORIAL.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

Built of granite, with polished tracery; is located southeast of Machinery Hall.

No. 29e.—POLISHED SCOTCH GRANITE MONUMENT.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

Is seventeen feet high, surmounted by a circular dome, and placed between the Bartholdi Fountain and Machinery Hall.

No. 29f.—GOTHIC COLUMN AND PEDESTAL.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

Granite work, with richly ornamented capitals, surmounted by a spire; is located in front of the Board of Finance Office.

No. 29g.—THE MINUTE-MAN OF '76.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

A marble statue, life size, on a pedestal seven feet high; situated southeast of Machinery Hall.

No. 29h.—GOTHIC FOUNTAIN.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

Built of granite, seventeen feet high, surmounted by a cross, with four columns representing angels, with polished traceries; is located between the Board of Finance Office and Machinery Hall.

No. 29i.—CANOPY MONUMENT.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

Is built of granite, forty feet high, crowned with a spire and cross; within is seated a figure representing Memory; is situated southeast of Machinery Hall, between it and the Board of Finance Office.

No. 29^k.—CORINTHIAN MONUMENT.

Exhibitors, NEW ENGLAND GRANITE COMPANY, Hartford, Conn.

Is located between Machinery Hall and the Board of Finance Office, southwest of the Bartholdi Fountain; is constructed of granite, forty-six feet high, and crowned with a statue of Hope.

No. 50. — WASHINGTON.

Exhibitor, M. DICKERSON EYRE, Florence, Italy.

This statue is designed after Leutze's painting of "Washington Crossing the Delaware." It is of marble, heroic in size, being twelve feet high, and standing on a pedestal built of wood and Portland cement. It is situated south of, and directly in front of Judges Hall.

No. 52^l.—THE HOWE MONUMENT.

A bronze statue, life size, on a sandstone pedestal, erected by the Howe Sewing Machine Company to the memory of the late Elias Howe; situated near the western end of the lake.

No. 80.—CHRISTOPHER COLUMBUS MONUMENT.

A brown-stone statue of the discoverer; is located on the corner of Belmont and Fountain Avenues.

No. 81.—DRINKING-FOUNTAIN.

Exhibitors, SINGER & TALCOTT.

Constructed of limestone, with four pillars, square top, surmounted by an acorn; is situated on Fountain Avenue, between the Pennsylvania State Building and the Tunisian Café.

No. 91.—BISHOP RICHARD ALLEN'S MONUMENT.

Size, base, 6 feet by 6 feet; height, 16 feet.

Erected in memory of the Rev. Richard Allen, founder and first bishop of the African Methodist Episcopal Church; situated between Fountain and State Avenues, west of the United States Government Building.

No. 145.—THE NAVY.

Exhibitors, AMES MANUFACTURING COMPANY, Chicopee, Mass.

LARKIN G. MEAD, Sculptor.

A bronze group, for the Lincoln Monument, Springfield, Illinois; located in front of Memorial Hall.

No. 146.—THE DEAD LIONESS.

Owned by the FAIRMOUNT PARK COMMISSION.

A bronze group, cast by F. v. Müller, Munich; modeled by Prof. Wolf, Berlin; is situated between Memorial Hall and Photographic Hall.

No. 180.—THE MOTT FOUNTAIN.

Exhibitors, THE J. L. MOTT IRON WORKS, New York.

Constructed of iron, forty-five feet in diameter, and twenty-six feet high, with four figures at the base ; the top is surmounted by "Venus rising from the Sea ;" is situated east of Horticultural Hall.

MEMORANDUM FOR THE RECORD

DATE: [illegible]

TO: [illegible]

FROM: [illegible]

SUBJECT: [illegible]

[The body of the memorandum contains several paragraphs of text that are extremely faint and illegible due to the quality of the scan. The text appears to be a standard memorandum format with a subject line, followed by a description of the issue and any actions taken or recommended.]

INDEX OF EXHIBITORS.

DEPARTMENT IV.

A.

Absolon, J., Water color, 65.
 Academy of Fine Arts of Rio de Janeiro, Paintings, 121.
 Accard, E., Painting, 74.
 Accarisi, Lodovico, Paintings, 113, 114, 115, 116; Sculpture, 117.
 Achenbach, A., Painting, 85.
 Adams-Acton, John, Sculpture, 60.
 Adams, Miss E., Water colors, 49.
 Adams, O., Photographs, 142.
 Adan, L. Emile, Paintings, 73, 79.
 Adele, Photographs, 143.
 Adeline, Jules, Water color, 81.
 Adelsköld, C., Paintings, 105.
 Agnew, A. McL., loans Painting, 20.
 Agnew & Sons, loan Paintings, 62, 63, 64, 65.
 Aguila, C. de, Photographs, 144.
 Ahrenberg, J., Water color, 107.
 Aigner, J. M., Painting, 89.
 Aitken, Photographs, 138.
 Aivazowsky, J., Paintings, 134.
 Akroyd, John, loans Painting, 62.
 Albacini, Achille, Sculpture, 118.
 Albazzi, José, Bas-relief, 127.
 Albert, J., Photographs, 143.
 Albertson, J. M., Glass, 9.
 Alcibar, José, Painting, 124.
 Alden, A. C., loans Painting, 31.
 Alexander, F., Painting, 22.
 Alexander, Fanny, Painting, 41; Drawings, 48, 49, 54.
 Alexander, Mrs., loans Painting, 23.
 Alexieff, A., Carving, 136.
 Allebé, Aug., Painting, 102.
 Allemand, G., Painting, 77.
 Allen, G. W., loans Painting, 69, 70.
 Allen & Rowell, Photographs, 139.
 Allston, W. (dec'd), Paintings, 18, 19, 41, 42.
 Alman & Co., Photographs, 137.
 Almeida, Marianno de, Pen sketches, 121.
 Almeida, Reis, Sculpture, 121.
 Almela y Vinet, F., Photographs, 132.
 Alt, Francis, Water colors, 90.
 Alt, Ralph, Water colors, 90.
 Alt, W. J., loans Painting, 64.
 Altamura, Prof., Painting, 114.
 Altmann, S., Paintings, 102, 103.
 Alvarez y Espino, Gonzalo, Painting, 126.
 Alviac & Co., Photographs, 132.
 Amberg, W., Painting, 85.
 American Bank Note Co., Engraving, 59.
 American Photo Relief Printing Co., 137, 139, 140.
 Amerling, Fred., Painting, 88, 89.
 Ames, Joseph, Paintings, 41, 42.
 Andersen, A., Paintings, 104.
 Anderson, A. A., Paintings, 19.
 Anderson, D. H., Photographs, 138.
 Anderson, R. W., Photographs, 142.
 Andressen, E., Sculpture, 86.
 Andrews, E. F., Paintings, 39, 40, 43.
 Andrews, Joseph (dec'd), Engraving, 59.

Angell, H. C., loans Painting, 39.
 Angeli, Henry von, Paintings, 91.
 Angerer, Photographs, 143.
 Angus, W., loans Paintings, 71.
 Ankararkona, H., Paintings, 105.
 Anker, Herman, Paintings, 109.
 Ansdell, Richard, Paintings, 63.
 Anthony, E. & H. T., & Co., Graphoscopes, 137.
 Anthony, Mark, Painting, 63.
 Antigna, I. P. A., Paintings, 72, 79.
 Apol, L., Painting, 100, 102.
 Appleton, Nath., loans Painting, 19.
 Appleton, William, loans Painting, 42.
 Appleton, W. H., loans Paintings, 19.
 Aragonés, Señoría J., Paintings, 129.
 Aramburu, R., Drawings, 131.
 Arbo, P. M., Painting, 108.
 Arborelius, O. P., Paintings, 105.
 Arce, I., Lithographs, 132.
 Archer, J., Paintings, 63.
 Ardi, Bartolomeo, Sculpture, 117.
 Argenti, Antonio, Sculpture, 111, 113, 119.
 Argenti, Giosué, Sculpture, 110, 116, 119.
 Argles, F. A., loans Water colors, 65, 66.
 Argumosa, J., Painting, 130.
 Ariza y Campano, J., Typographs, 131.
 Armitage, Edward, Painting, 60.
 Armstrong, D. M., Paintings, 22, 31.
 Arnanz, J., Engravings, 131, 132.
 Arrau, Viuda de, Paintings, 127.
 Arsenio, A., Monuments, 132.
 Arsenius, J., Painting, 105.
 Arson, A., Sculpture, 76; Bronze, 81.
 Art Association, Montreal, loans Painting, 70.
 Artillery Museum, Madrid, Engravings, 131.
 Arzadun, J. de Villa Garcia, Bas-reliefs, 127.
 Ashburton, Lady Louisa, loans Painting, 62, 63.
 Ashton, Federico, Paintings, 114, 115.
 Ashton, Prof. Luigi, Painting, 115.
 Askevold, A., Paintings, 108.
 Asselbergs, Alphonse, Painting, 93.
 Astor, J. Jacob, loans Painting, 25.
 Astor, William, loans Painting, 50.
 Aubert, E., Photographs, 144.
 Audubon, J. J. (deceased), Painting, 18, 45.
 Auzerer, V., Photographs, 144.

B.

Baade, Knud, Painting, 108.
 Babbit, P. D., Transparencies, 139.
 Bachman, H. G., Ivory carvings, 55.
 Bachrach Bros., Photographs, 140.
 Bacon, Henry, Painting, 43.
 Bade, Garcia, Painting, 114.
 Baigent, R., Painting, 69.
 Bailey, Edward Hodges, Sculpture, 60.
 Bailly, J. A., Sculpture, 51.
 Bailly, J. W., Sculpture, 21.
 Baird, Matthew, loans Painting, 47.
 Baker, G. A., Paintings, 17, 21, 24.

- Baker, Miss M. K., Painting, 41.
 Baldwin, A. H., Paintings, 25, 28; Water color, 29.
 Baldwin, Captain, loans Water color, 65.
 Baldwin, Hon. H. P., loans Painting, 40.
 Ballavoine, J. F., Painting, 74.
 Ballot, Mrs. A., Painting, 73.
 Bannister, E. M., Painting, 42.
 Bar, A. de, Paintings, 76, 77, 79.
 Barber, W. & C., Medals, 55.
 Baraglia, D., Sculpture, 110, 113, 114, 116.
 Barlow, H. N., loans Painting, 43.
 Barlow, J. H., Penmanship, 56.
 Barlow, T. O., Engravings, 67.
 Barnaba, L., Paintings, 92, 94, 95.
 Barnard, J., Photographs, 141.
 Barne, F., loans Painting, 63.
 Barnes, Demas, loans Painting, 38.
 Barøn, S., Painting, 76.
 Barr, E. G., loans Painting, 62.
 Barras, Felix, Painting, 79.
 Barrias, F. J., Painting, 77.
 Barrias, L. E., Silver bronze, 81.
 Barringer, L. M., loans Painting, 37.
 Barros, Alvaro, Painting, 122.
 Barrow, R. W., Photographs, 142.
 Barry, James, Painting, 60.
 Barthelemess, N., Engraving, 86.
 Bartesago, Enrico, Painting, 115.
 Bartholdi, Sculpture, 40.
 Bartholdi, A., Bronzes, 74, 87.
 Bartholdi, F. A., Paintings, 72.
 Bartlett, G. H., Drawings, 48, 49.
 Bartlett, Jennie, Painting, 44.
 Barzaghi, F., Sculpture, 110, 114, 116, 117.
 Bass, P. P., Burnisher, 138.
 Batchelder, S., loans Painting, 42.
 Bates, E. L., loans Painting, 43.
 Bates, W. J., loans Painting, 38.
 Baucé, J. A., Painting, 74.
 Bauer, C. W., Photographs, 103.
 Baum, F., Photographs, 141.
 Bauman, A., Carving, 135.
 Baux, Miss, Painting, 77.
 Bavarian Museum of Art, Galvanoplasty, 86.
 Baxter, C., loans Painting, 29.
 Bayley, James, loans Painting, 47.
 Bazzanti, P., & Son, Sculpture, 111, 112, 113, 115.
 Beard, J. H., Paintings, 22, 29, 55.
 Beard, W. H., Paintings, 24, 29.
 Beau, A., Photographs, 142.
 Beavis, R., Water color, 65.
 Bechtolsheim, G. von, Painting, 84.
 Becker, A., Painting, 135.
 Becker, C., Painting, 83.
 Becker, G., Painting, 73.
 Becker, Q., Paintings, 84, 85.
 Beckers, A., Stereoscopes, 139.
 Becucci Bros., Sculpture, 110, 111.
 Bedford, W., Photographs, 141.
 Beckman, Marie F. de, Water colors, 99.
 Beeler, J., Design, 36.
 Beeler, J. C., Ornamental painting on glass, 56.
 Beernaert Bros., Photographs, 144.
 Beernaert, Miss Euphrosyne, Painting, 93.
 Beeson, Miss E. L., Painting, 18.
 Begas, O., Painting, 83.
 Behmer, H., Paintings, 85.
 Bell, J., Sculpture, 60.
 Bellange, E., Painting, 75.
 Bellée, G. C., Painting, 78.
 Bellée, L. G. de, Painting, 73.
 Belle, J. J., Paintings, 72, 75, 78, 80, 87.
 Bellemans, Joseph, Paintings, 93, 95.
 Bellermann, Frd., Painting, 83.
 Bellows, A. F., Paintings, 17, 26, 27, 28.
 Bell & Rau, Photographs, 140.
 Bernardelli, Sculpture, 121.
 Benavent, C., Painting, 127.
 Bencke & Scott, Chromo-lithograph, 55.
 Benedict, Judge, loans Painting, 18.
 Beneman & Wilson, Photographs, 137, 139.
 Benham, C. C., Drawings, 49.
 Benham, J. H., jr., loans Drawing, 49.
 Benito, S. de E., Locks, 132.
 Bennett, C., Painting, 105.
 Bennetter, J. J., Paintings, 108.
 Benouville, A., Paintings, 72, 74.
 Benson, Eugene, Paintings, 17, 19, 21, 39, 40.
 Benton, J. Dean, Sculpture, 53.
 Berchère, N., Painting, 77.
 Berg, A., Paintings, 105.
 Bergh, Anton, Painting, 109.
 Bergh, E., Paintings, 105, 144.
 Bergman, Miss E., Painting, 105.
 Bergomasco, Photographs, 115.
 Bergonzoli, Giulio, Sculpture, 110.
 Bergslien, Painting, 109.
 Bergstedt, Miss A., Painting, 105.
 Berkan, O., Pyro-photographs, 137.
 Berlin, J. J., Paintings, 93, 95.
 Berlin Photograph Co., Photographs, 86.
 Bernasconi, Pietro, Sculpture, 110, 113.
 Berres, J. von, Paintings, 88, 89, 90.
 Bersini, Ferdinando, Painting, 115.
 Bertaux, Miss L., Sculpture, 79.
 Bertaux, Mrs. L., Bronze, 81.
 Berthelemy, E., Painting, 76.
 Berthon, G. T., Painting, 70.
 Bertrand, E., Painting, 70.
 Betti, Francesco, Mosaic tables, 112.
 Betti, Telemaco, Mosaic pictures, 112.
 Bevington & Co., Decorated china, 58.
 Bianchi, L., Painting, 115.
 Bianchini, Telemaco, Mosaic tables, 112.
 Bibiloni, J., Drawings, 131.
 Bichot, Felix, Etchings, 80.
 Bicknell, H. S., loans Water color, 66.
 Bideau, E., Painting, 78.
 Biella, Angelo, Sculpture, 111.
 Bien, J., Lithographs, 58.
 Bierstadt, A., Paintings, 23, 31, 39, 43, 44; loans Paintings, 31, 37.
 Bierstadt, C., Photographs, 137.
 Bierstadt, E., Photographs, 145.
 Bietta, Angelo, Sculpture, 119.
 Biganzoli, Filippo, Sculpture, 118.
 Bigelow, L. G., Photographs, 138.
 Bijara, C. F., Painting, 111.
 Bilders, J. W., Paintings, 100, 101, 102.
 Billard, E., Painting, 77.
 Billing, T., Painting, 105.
 Billings, Dr. H., loans Painting, 38.
 Billings, E. T., Paintings, 41, 42.
 Bing, Dr. B. J., loans Painting, 40.
 Biot, Gustave, Engravings, 98.
 Birch, T. (deceased), Paintings, 18, 39, 43.
 Bischof, C., Painting, 100.
 Bishop, D. W., loans Painting, 31.
 Bisi, Prof. Luigi, Painting, 111.
 Bispham, H. C., Painting, 29.
 Bisschop, C., Painting, 101.
 Blaas, C., Paintings, 89, 90.
 Black, J. W., & Co., Photographs, 140.
 Blackstadius, J. L., Water colors, 107.
 Blanc, C. L., Painting, 72.
 Blanchard, C., loans Painting, 23.
 Blanchard, I., Bronze, 81.
 Blanchard, V., Photographs, 142.
 Blashfield, E. H., Painting, 19.
 Bliss, Lucia S., Water colors, 48.
 Bloomer, H. B., Painting, 39.
 Bloor, A. J., Designs, 35.
 Blossom, J. B., loans Painting, 22.
 Blum, M., Painting, 74.
 Blume, E., Painting, 89.
 Bocks, M., Painting, 103.
 Boccock, S. W., loans Painting, 26.
 Bœe, F., Paintings, 108, 109.
 Boehm, Hannah, Silhouettes, 86.
 Bogner, A., Painting, 144.
 Bogoloboff, A., Paintings, 134.
 Boklund, J. C., Paintings, 105.
 Boks, M., Painting, 102.
 Bollans, E., loans Painting, 63.
 Bompiani, Roberto, Painting, 115.
 Boncinelli, G., & Co., Mosaics, 112, 113.

Boneo, M. L., Painting, 122.
 Bonet, Louis, Cameos, 55.
 Bonfield, W. V. der V., Painting, 47.
 Bonheur, Rosa, Painting, 38.
 Bonine, E. A., Photographs, 140.
 Bonnefoy, H., Painting, 77.
 Bool, A. & J., Photographs, 142.
 Boott, Eliz., Painting, 41.
 Borch, C., Sculpture, 108, 109.
 Borden, E. P., loans Painting, 27.
 Borden, M. C. D., loans Painting, 22.
 Borghi, A., Sculpture, 114, 115.
 Börjesson, J., Statuary, 105.
 Börjesson, Miss A., Paintings, 105.
 Borselen, I. W. van, Painting, 101.
 Bosboom, J., Paintings, 100, 102, 103.
 Bosch, E., Painting, 84.
 Bosser, F., Paintings, 84, 85.
 Bossuet, F. A., Painting, 95.
 Boston Athenæum, loans Paintings, 22, 41, 42.
 Boston, Citizens of, loan Painting, 45.
 Bottinelli, A., Sculpture, 110, 113, 114, 116, 118.
 Bottinelli, C., Sculpture, 111.
 Boughton, G. H., Paintings, 17, 25, 26, 28, 30, 61, 64.
 Bouillard, A. M. L., Painting, 75.
 Bourdan, Marquinta, Sculpture, 117.
 Bouré, Antoine Felix, Statuary, 96.
 Bouvier, A., Brussels, Painting, 94.
 Boyen, O. von, Painting, 84.
 Boyle, F. T. L., Painting, 44.
 Brackett, W. M., Painting, 41.
 Bracony, Guglielmo, Sculpture, 110.
 Bradley & Rulofson, Photographs, 137.
 Brady, W. B., Photographs, 137.
 Braja, E., Sculpture, 110, 117, 118, 119.
 Brandard, E. P., Engraving, 67.
 Brandel, Photographs, 145.
 Brandelius, P., Painting, 105.
 Braun, A., Photograph, 143.
 Braun, L., Painting, 85.
 Brauneck & Meyers, Prints, 143.
 Bray, J. W. de, Painting, 144.
 Brenner, C. C., Painting, 20.
 Brest, F., Paintings, 72, 73.
 Breton, E., Paintings, 78, 79.
 Brett, John, Painting, 61.
 Breuker & Kessler, Engraving, 58.
 Brewer, Caroline, loans Drawing, 49.
 Bricher, A. T., Paintings, 26, 27, 31.
 Bridgeman, F. A., Paintings, 20, 22, 24, 31.
 Bridges, Fidelia, Paintings, 27, 28.
 Bridgman, I. W., Painting, 71.
 Bridgman & Foster, Paintings, 71.
 Brierly, O. W., Water color, 65.
 Brion, G., Painting, 38.
 Briscoe, F. D., Paintings, 21, 46.
 Brisson de Warville, Painting, 75.
 Bristol, J. B., Painting, 21.
 Broadbent & Phillips, Photographs, 139.
 Brodzki, Sculpture, 119.
 Brogden, A., loans Paintings, 62, 65.
 Broich & Kreuger, Photographs, 139.
 Bronnikoff, T., Painting, 134.
 Brooke, T. F., loans Painting, 41.
 Brooks, S., Painting, 31.
 Brooks, T., Photographs, 140.
 Broome, Isaac, Sculpture, 50.
 Brown, C. V., Painting, 24.
 Brown, G. L., Paintings, 20, 42, 43; Drawings, 49; Etchings on copper, 59.
 Brown, H. B., Painting, 39.
 Brown, J. G., Paintings, 19, 26, 27.
 Brown, J. H., Paintings, 21.
 Brown, W., loans Painting, 27.
 Brown, W. W., Painting, 40.
 Brownrigg, T. M., Photographs, 141.
 Bruce, J., & Co., Photographs, 142.
 Brücke, G., Painting, 84.
 Bruckner, H., Drawings, 48, 56.
 Bruelle, G., Painting, 75.
 Brunacci, Pietro, Mosaic tables, 112.
 Brunet, D. A., Etchings, 80.

Brunet-Houard, P. A., Paintings, 72, 73.
 Brunin, Charles, Statuary, 96.
 Brunner, J., Painting, 88.
 Brunow, L., Bronzes, 86.
 Brush, G. S., loans Painting, 71.
 Bryant & Rogers, Designs, 32.
 Bryce, Gray, loans Painting, 23.
 Bryner, Giovanni, Painting, 116.
 Buchner, R., Painting, 61.
 Buffalo Fine Art Gallery, loans Paintings, 24, 29.
 Bühlmayer, Conrade, Painting, 88.
 Bullard, Mrs. J., loans Painting, 18.
 Bunge, E., Photographs, 144.
 Bunner, A. F., Painting, 17.
 Buoninsegna, Sculpture, 118.
 Burckman, F., Painting, 144.
 Burdick, H. R., Drawing, 54.
 Burdin, Margherita, Sculpture, 117.
 Burlando, Prof. Leop., Painting, 116.
 Burling, G., Paintings, 25, 28.
 Burns, C. M., Drawings, 49.
 Burnside, J. M. T., loans Paintings, 69, 70.
 Burrell, D. T., Photographs, 137.
 Burt, J. M., loans Paintings, 19, 31.
 Burt, Martha, Painting, 20.
 Burt & Hinshelwood, Engravings on steel, 58.
 Busey, N. H., Photographs, 139.
 Busio, Prof. Luigi, Painting, 116.
 Busson, C., Painting, 75.
 Bustamente y Gallo, Mosaic, 132.
 Butler, D., loans Painting, 75.
 Butler, R., loans Painting, 30.
 Butterfield, D. W., Views, 138.
 Butti, Enrico, Sculpture, 114.
 Buxton, E. W., loans Painting, 64.
 Buzzi, Giberto C. L., Sculpture, 118, 119.

C.

Cabaillot, L., Painting, 78.
 Caballero, N., Painting, 123.
 Caballero y Fiallo, M., loans Painting, 129.
 Cabanel, Alex., Painting, 37.
 Cabot, E. C., Design, 33, 49, 54.
 Cabot & Chandler, Designs, 32, 37.
 Cabott, Mrs. S., loans Painting, 49.
 Cabral y Vejarano, Manuel, Painting, 126.
 Cabuzel, A. H., Painting, 75.
 Cadiz, Prov. Deputation of, Calligraphs, 131.
 Cady, J. C., Designs, 33, 34.
 Caille, J. M., Bronze, 79.
 Cain, A., Painting, 78; Bronze, 81.
 Calderon, Philip H., Painting, 61.
 Callcott, Sir Augustus Wall, Painting, 61.
 Callias, H., Painting, 78.
 Callow, W., Water colors, 65.
 Calografia, N., Lithographs, 131.
 Calverly, C., Sculpture 44, 52.
 Calvi, P., Sculpture, 110, 119.
 Calzadilla, S., Painting, 122.
 Cambi, U., Sculpture, 111, 116, 119.
 Cambos, J., Bronze, 81.
 Cameron, Hugh, Painting, 61.
 Cameron, Miss K., Painting, 20.
 Cammarano, Michele, Painting, 114.
 Camorré, L., Painting, 78.
 Campa, C. Y., Photographs, 145.
 Candidi, Alfredo, Painting, 116.
 Canella, Carlo, Sculpture, 117.
 Cannone & Gargiulo, Sculpture, 118.
 Canon, J., Paintings, 88, 90.
 Canta, J. A., Paintings, 100, 103.
 Cantalamessa, P. Capotti, Sculpture, 113.
 Cantzler, H., Paintings, 105.
 Carabain, J. F., Paintings, 93, 94, 95.
 Carbutt, J., Photographs, 145.
 Carderera y Solano, V., Iconography, 131.
 Cardon, Charles Leon, Painting, 92.
 Cariss, H. T., Painting, 21.
 Carlier, Modeste, Painting, 93.
 Carnick, Louis, loans Painting, 50.

- Caroni, Prof. E., Sculpture, 110, 113, 114, 116.
 Carpenter, F., loans Painting, 30.
 Carrier, B. P., Paintings, 77, 78.
 Carter, E., loans Paintings, 69, 70.
 Carter, W. T., loans Painting, 43.
 Cary, Mrs. H. W., loans Painting, 40.
 Casas, J., Hairwork, 133.
 Casetti, Sculpture, 119.
 Casñol, Leopoldo de, Chromo, 132.
 Cassagne, A., Paintings, 77, 78, 79.
 Cassinelli, H., Painting, 79.
 Cassioli, Annibale, Painting, 116.
 Castelnau, P. de, Painting, 77.
 Castiglione, G., Paintings, 72, 73.
 Castillo, B. del, Painting, 122.
 Castro, José Antonio, Painting, 123.
 Catala, Federico, Painting, 127.
 Catena, Vincenzo, Sculpture, 117.
 Catlin, George, Drawings, 49.
 Cattermole, George, Water color, 65.
 Cauldwell, J. B., loans Painting, 30.
 Cauldwell, W. A., loans Painting, 22.
 Cauty, H. H., Painting, 61.
 Cayley, W., loans Painting, 70.
 Cecioni, Sculpture, 78.
 Cedergren, P. A., Painting, 105.
 Cederström, G., Painting, 105.
 Centennial Commission, Competitive designs of Centennial buildings, 57.
 Centennial Photograph Company, 139.
 Century Club, loans Paintings, 23, 31.
 Cetner, A. de, Painting, 76.
 Cettner, A., Painting, 79.
 Chagot, E., Paintings, 74, 77.
 Chagot, E. A., Water colors, 81.
 Chaillon, N., Paintings, 73, 75.
 Champney, B., Paintings, 41, 42.
 Champney, J. W., Painting, 20, 22, 42, 43.
 Chantrey, Sir Francis L., Sculpture, 60.
 Chapman, A., loans Painting, 70.
 Chapman, Estate of Dr., loans Painting, 38.
 Charnaux, F., Photograph, 143.
 Charton, E., Paintings, 122.
 Chartran, T., Painting, 73.
 Chartrand, E. S., Painting, 130.
 Chartrousse, E., Bronze, 81.
 Chase, W. M., Painting, 39; Views, 138.
 Chaves, Pinheiro, Sculpture, 121.
 Cheffins, C. R., loans Water colors, 65.
 Cheney, Mr., loans Painting, 22.
 Cherez, L., Painting, 77.
 Chesterman, G., loans Paintings, 17, 18.
 Chevrier, J., Paintings, 73, 74, 75.
 Chiama, Epaminonda, Painting, 122.
 Chickering, G. H., loans Painting, 43.
 Chickering, Mrs. L. L., loans Painting, 42.
 Christiano, jr., Photographs, 144.
 Church, F. E., Painting, 30.
 Cicconi, F., Paintings, 115, 116.
 City Hall, New York, loans Paintings, 40, 50.
 Civita, Angelo, Mosaic tables, 112.
 Claghorn, J. L., loans Painting, 40.
 Claghorn, J. Raymond, loans Painting, 38.
 Clairval, Mrs. M. T., Painting, 76.
 Clare, W., loans Painting, 71.
 Clark, E. M., loans Painting, 25.
 Clark, H. P., Design, 32.
 Clark, J., Paintings, 61.
 Clark, Latimer, loans Water color, 66.
 Clark, W. J., jr., loans Painting, 24.
 Clave, Pelegrin, Painting, 123.
 Clément, A. F., Paintings, 73.
 Clément, H., Painting, 75.
 Clemment, Charles G., loans Painting, 65.
 Clemons, J. R., Prints, 138.
 Clever, J., Painting, 135.
 Cleynhens, Theodore, Painting, 93.
 Clift, Smith, loans Painting, 22.
 Climo, J. S., Views, 142.
 Clint, Alfred, Paintings, 61.
 Clinton, Chas., Designs, 33.
 Clinton, C. W., Designs, 33.
 Cliver & Elway, Frame, 55.
 Close, S. L., loans Painting, 30.
 Clowes, Miss C. M., Painting, 22.
 Cobb, Cyrus, loans Painting, 43.
 Cobb, Darius, Painting, 43.
 Cocchio, Luigi, Sculpture, 118.
 Cogen, Felix, Painting, 92.
 Cohen, E., loans Water colors, 66.
 Cohen, T. T., Drawings, 49.
 Cohn, Louis H., & Co., Wall paper, 55.
 Coindre, G. J., Etchings, 80.
 Col, David, Painting, 93.
 Cole, J. Foxcroft, Painting, 41.
 Cole, J. G. (deceased), Painting, 43.
 Cole, Thomas (deceased), Paintings, 18, 23, 29.
 Cole, Vicat, Paintings, 61.
 Coleman, C. C., Paintings, 30, 39, 40, 44, 45, 47.
 Coleman, J. H., loans Painting, 39.
 Collette, A., Paintings, 75, 78.
 Collins, A. M., Son, & Co., Card mounts, 138.
 Collins, G. W., Photographs, 140.
 Colman, S., Paintings, 17, 25, 26, 27, 28, 30.
 Colton, Zahn, & Roberts, Chromos, 56.
 Colyer, Mrs. Laird, loans Sculpture, 47.
 Colyer, V., Paintings, 23, 24.
 Colyer, Vincent, loans Paintings, 29.
 Colzmann, M., Paintings, 73, 74.
 Comacho de Diaz, S., Scissor work, 133.
 Coman, Mrs. C. B., Painting, 40.
 Comein, Polydore, Statuary, 96.
 Comte, P. C., Paintings, 73.
 Conarro, G. W., Painting, 18.
 Congdon, H. M., Designs, 34, 35.
 Coninck, P. de, Painting, 72.
 Connelly, P. F., Sculpture, 21, 51, 52.
 Connor, E. S., loans Paintings, 38.
 Conrad, A., Painting, 83.
 Conshohocken Stone Co., Stone work, 9.
 Constable, John (deceased), Painting, 61.
 Constant Rebecque, W. C. de, Painting, 103.
 Conti, Alessandro, Sculpture, 119.
 Continental Bank Note Co., Engraving, 59.
 Cooke, Edward William, Paintings, 61.
 Cookson, W. S., loans Water color, 66.
 Cooper, P. F., Painting, 21; loans Painting, 38.
 Coosemans, Joseph Theodore, Painting, 92.
 Cope, C. W., Paintings, 61; Engraving, 67.
 Copley, J. S. (deceased), Portraits, 19.
 Corbellini, Quintilio, Sculpture, 119.
 Cordero, Juan, Painting, 123.
 Cordier, C., Bronzes, 74, 76, 79.
 Cornienti, Cherubino, Painting, 111.
 Coronne, H., Painting, 74.
 Correa, Nicolas, Painting, 123.
 Cortazzo, O., Painting, 55.
 Cortés y Cordero, E., Painting, 129.
 Corti, Sculpture, 110.
 Cosens, F. W., loans Painting, 63.
 Costenoble, Charles, Sculpture, 90.
 Coto, Luis, Painting, 123.
 Couder, E. G., Painting, 77.
 Courbet, Gustave, Painting, 38.
 Courdoun, V., Painting, 74; Pastel, 79; Water color, 81.
 Cox, David, jr., Water colors, 65.
 Cox, Townsend, loans Painting, 26.
 Cox, W. A., Miniatures, 137.
 Coykendall, S. D., loans Painting, 31.
 Craeyvanger, R., Painting, 102.
 Craig, Thos. B., Painting, 46.
 Crane, D. A., loans Painting, 70.
 Crauk, G., Sculpture, 76.
 Crawshaw, R., Photographs, 141, 142.
 Cremer, J., Photographs, 137, 143.
 Crepinet, A., Designs, 82.
 Cresswell, W. N., Paintings, 69, 70, 71.
 Cresswick, Thomas (deceased), Painting, 61.
 Croff, Giuseppe, Sculpture, 118.
 Croff & Camp, Designs, 34.
 Crofts, E., Painting, 61.
 Cropper, J., loans Painting, 50.
 Cropsey, J. F., Paintings, 18, 29, 31.
 Cross, J. K., loans Painting, 64.
 Crowe, Eyre, Paintings, 61.

Crowley, Henry, loans Water color, 66.
 Cummings & Sears, Designs, 32, 33, 37.
 Cunaeus, C., Paintings, 100.
 Curzon, A. de, Painting, 75.
 Curzon, A. F. de, Painting, 72.
 Curzou, P. A. C., Painting, 72.
 Cusachs, P., Sculpture, 32.
 Cuypers & Stolzenberg, Engravings, 103.

D.

- Dahl, Hans, Painting, 109.
 Dallmeyer, J. H., Photographs, 141.
 Dal Negro, Pietro, Sculpture, 118.
 Dalou, J., Sculpture, 77.
 Damasceno, J. dos Passos, Drawing, 121.
 Dameron, E., Painting, 74.
 Dameron, E. C., Paintings, 77.
 Dami y Cortés, Joaquin, Paintings, 128.
 D'Amore, Sculpture, 117.
 Dandoy, Armand, Painting, 92.
 Daniell, William (deceased), Painting, 61.
 Daniels, G. F., Painting, 40.
 Danse, Aguste, Engravings, 98.
 Darley, F. O. C., Water color, 28; Drawings, 54.
 Darley, Mrs., loans Painting, 21.
 Darrah, Mrs. S. T., Paintings, 39, 42; Drawings, 49.
 Dash, M. B., loans Painting, 29.
 Daubigny, Karl, Paintings, 74, 79.
 Daubigny, K. P., Painting, 75.
 Dauge, Franz, Decorated faience, 97.
 Dauriac, Henry, Painting, 92.
 Davis, James, loans Painting, 41.
 Day, F., Paintings, 69, 70, 71.
 Day, F. O., loans Painting, 38.
 De Baerdemaeker, Felix, Paintings, 94, 95.
 Debat, P. E., Painting, 78.
 De Beughem, Count Chas., Paintings, 93, 94.
 De Biseau, Aristide, Paintings, 92, 93.
 De Blas del Prado, Paintings, 128.
 Deblois, Ch., Engraving, 80.
 De Blois, F. B., Paintings, 41, 43.
 De Burbure, L., Paintings, 93, 95.
 De Bylandt, Count Alfred, Painting, 92.
 Decamilly, Carving, 135.
 De Crano, F. F., Painting, 20.
 De Curte, Louis, Architectural drawing, 98.
 De Forest, H. G., loans Painting, 20.
 De Franchimont, Mrs. Emilie, Painting, 94.
 De Golier, Miss, Painting, 25.
 De Groot, Guillaume, Statuary, 96.
 De Groux, Charles (deceased), Painting, 95.
 De Haas, J. H. L., Painting, 38.
 De Haas, M. F. H., Paintings, 17, 30, 31.
 De Heuvel, Theodore, Painting, 92.
 Deiker, J., Painting, 84.
 Deininger, C. H., Portrait, 86.
 De Jong, G., Photographs, 103.
 Dekeghel, Jules, Paintings, 93, 95.
 De Keyser, Albert, Painting, 93.
 De Keyser, Nicaise, Paintings, 92, 94.
 Delamater, R. S., Photographs, 137.
 Delauney, A., Engraving, 81.
 Delavan, J. S., loans Painting, 39.
 Delden, E., Photographs, 142, 143.
 Della Libera, Giov. B., Paintings, 115, 116.
 Della Valle, N., Painting, 113.
 Delobbe, F. A., Painting, 74.
 De Loose, Basile, Painting, 93.
 Del Panta, E., Sculpture, 114.
 Del Sarto, Andrea, Painting, 38.
 De Luce, P., Painting, 24.
 Demannez, Joseph, Drawings, 98.
 De Martino, Painting, 121.
 De Mayora, Mrs., Painting, 124.
 De Meester, Raymond, Paintings, 92, 94.
 De Mol, Adolphe, Decorated faience, 97.
 Demorest, W. J., Chromos, 56.
 D'Epiny, Prospère, Sculpture, 63.
 De Prater, Edmond, Painting, 92.
 De Rose, A. L., Drawings, 49.
 De Santis, Guglielmo, Paintings, 114, 115.
 De Schampheleer, E., Paintings, 92, 93.
 Deshayes, C., Paintings, 75, 78.
 De Silva, A., Photographs, 140.
 De Simpel, Bruno Alphonse, Painting, 94.
 De St. Cyr, Georges, Painting, 92.
 Destrée, J. J., Painting, 102.
 Deutsch, K. von, Paintings, 83.
 Devaux, F. A., Sculpture, 75.
 Deventer, J. F. van, Painting, 102.
 Deventer, W. A., Painting, 102.
 De Vigne, Miss Emma, Painting, 93.
 De Vigne, Miss Malvina, Painting, 93.
 De Villez, Louis Henri, Statuary, 96.
 Devrez, D. H. L., Designs, 82.
 De Witte, Painting, 71.
 De Wolmont, Gustave, Statuary, 96.
 De Wolf, J. L., loans Painting, 42.
 Dexter, T. C. A., loans Painting, 38.
 Diaz, Josefa, Paintings, 122.
 Diaz, O., Photographs, 132.
 Dibley, George, loans Painting, 65.
 Di Chierico, Sculpture, 117.
 Dickinson, Mrs. M. L., loans Paintings, 21, 39.
 Dielitz, K., Painting, 84.
 Dies, Cesare, Painting, 115.
 Dies, Emilio, Sculpture, 119.
 Dietrich, A., Painting, 85.
 Dietrichson, Mrs. M., Painting, 105.
 Dietz, Th., Painting, 83.
 Diez, J., Painting, 129.
 Dillens, Adolphe, Painting, 94.
 Dinger, F., Engraving, 86.
 D'Inghuerm, Le Bailly, Engraving, 99.
 Dini, Ernesto, Sculpture, 111, 114, 115.
 Dix, C. Templeton, Painting, 23.
 Dixon, Chief Justice, loans Sculpture, 44.
 Dobbins, R. J., Contractor, 9.
 Dobson, William C. T., Painting, 61.
 Dodd, Miss Belle, loans Painting, 46.
 Dodd, S. M., loans Painting, 39.
 Dolan, Thomas, loans Painting, 44.
 Doll & Richards, loan Painting, 41.
 Dolph, J. H., Paintings, 17, 29.
 Domenichino, Painting, 37.
 Donaldson, Andrew B., Painting, 61; Water color, 66.
 Doolin, Walter, Sculpture, 60.
 Doolittle & Cortelyn, Drawings, 49.
 Doolittle, E. S., Illumination, 49.
 Doremus, Photographs, 140.
 Doublemare, A., Bronzes, 77, 81.
 Douglas, James, loans Sculpture, 51, 52.
 Doulton, Henry, & Co., Sculpture, 60.
 Doux, Mrs. L., Painting, 78.
 Douzette, L., Painting, 83.
 Dowager Countess of Westmoreland, loans Painting, 65.
 Drake, H., loans Water color, 66.
 Drummond, C. A., loans Painting, 70.
 Du Bois, C. E., Paintings, 17, 39.
 Dubos, Miss A., Paintings, 74, 78.
 Dubouchet, H., Painting, 74; Engravings, 80, 81.
 Dubucand, A., Sculpture, 78.
 Dubufe, E., Painting, 38.
 Dudley, H., Designs, 32, 33, 34.
 Dumaine, Gregorio, Painting, 123; Statuary, 124.
 Dumaesque, A., Painting, 74, 75.
 Dumas, Em., Water color, 79.
 Dunbar, A., loans Water color, 66.
 Duncan, David, loans Water colors, 65.
 Duncker, A., Engraving, 86; Chromo, 86.
 Dunlap, William, Painting, 50.
 Dupres, L. Victor, Painting, 72.
 Dupré, Victor, Painting, 75.
 Duque, E., Photographs, 131, 132.
 Duran, Carolus, Painting, 73.
 Durand, A. B., Paintings, 17, 18, 20, 31; Engravings, 59.
 Durand, F. F., Painting, 27.

Durand, John, loans Water color, 49.
 Dürer, Albert, Painting, 38.
 Durst, A., Paintings, 78, 79.
 Durst, M., Sculpture, 77.
 Duval, J., Painting, 77.
 Duval, V., Painting, 38.
 Duverger, T. E., Paintings, 75.
 Dwyer, Edward, Inlaid work, 56.

E.

Eakins, Thos., Painting, 18, 24, 46; Drawings, 49.
 Earle & Fuller, Design, 33, 36, 37.
 Earle & Sons, loan Painting, 17.
 Eaton, J. O., Paintings, 25, 26.
 Eaton, Mrs. J. O., loans Painting, 26.
 Eberhardt, W., Painting, 45.
 Ebersbach, J. E., Painting, 102.
 Eckardt, C., Paintings, 104.
 Eckenbrecher, Th. V., Painting, 85.
 Eckhorst, B., Paintings, 135.
 Eddy, G. F., Painting, 48; Drawings, 49.
 Eder, F., Paintings, 129.
 Edgar, Lydia, Photographs, 137.
 Edge Moor Iron Co., Iron work, 9.
 Edson, Paintings, 70, 71.
 Edson, A., Paintings, 69.
 Edwards, Edwin, Engravings, 67.
 Eerelman, O., Painting, 100.
 Egenberger, J. H., Painting, 100.
 Eggert, S., Painting, 85.
 Eichelberg, W. H., Painting, 102.
 Eisenbrey, W. H., loans Painting, 21.
 Ekström, P., Painting, 105.
 Elias y Mascaró Ramon, Statuary, 127.
 Eliot, C. W., loans Painting, 18.
 Eliot, G., Pastels, 81.
 Eliot, Mrs. S. A., loans Painting, 18.
 Elkins, H. R., Painting, 45.
 Elliot, C. L. (dec'd), Paintings, 21, 24, 30, 46.
 Ellis, J. C., Drawing, 54.
 Elmore, Alfred, Paintings, 61.
 Elorriaga, R., Painting, 130.
 Elwell, D. J., Painting, 41.
 Elwes, H. T., loans Painting, 64.
 Engl, Hugh, Painting, 88.
 England, W., Photographs, 141.
 Engström, W. O., Paintings, 105.
 Enneking, J. E., Painting, 41.
 Enriquez, Nicolas, Painting, 123.
 Ens & Greiner, Porcelain paintings, 86.
 Entrekin, W. G., Enameler, 138.
 Epinay, Cav., Sculpture, 110.
 Epp, R., Painting, 54.
 Eppinghausen, C., Designs, 35.
 Erdmann, M., Painting, 84.
 Erpikum, Painting, 37.
 Eschke, H., Painting, 84.
 Escudero y Espranceda, José, Painting, 123.
 Essen, J. C. van, Painting, 103.
 Este, Mary Goddard, Sculpture, 50.
 Etching Club, Etchings, 67.
 Etex, Antoine, Photographs, 82.
 Etty, William (dec'd), Painting, 61.
 Evans, E. D., Photographs, 140.
 Evans, G. & W. P., Chairs, 139.
 Everdingen, A. van, Painting, 101.
 Eversen, A., Painting, 103.
 Evershed, Arthur, Engravings, 67.
 Ewan, Jas., loans Painting, 71.
 Ewers, H., Painting, 84.
 Excelsior Brick Company, Stone work, 9.
 Eyre, M. Dickerson, Sculpture, 53.
 Ezekiel, M., Plaster, 86; Sculpture, 40.

F.

Faas, Frederick, Engraving, 58.
 Faber du Faur, Otto von, Painting, 85.
 Faber, Hermann, Drawings, 49.

Fabronius, D. C., Drawing, 54.
 Faccioli, Raffaello, Painting, 115.
 Faed, Thomas, Paintings, 61.
 Fagerlin, F. T., Paintings, 105, 106.
 Fahey, E. H., Water color, 66.
 Fahlgren, C. A., Painting, 106.
 Fahnstock, H. C., loans Painting, 17.
 Fairfax, J. S., Designs, 36.
 Faivre-Duffer, L. S., Painting, 73.
 Falcini, Andrea, Mosaic tables, 112.
 Falck, Otto F., & Co., Stained glass, 53.
 Falconer, J. M., loans Paintings, 19, 20, 25, 27.
 Fantachiotti, Cesare, Sculpture, 113.
 Farbarius, F. W., Painting, 83.
 Farmers' and Mechanics' Bank, loans Painting, 23.
 Farrer, H., Paintings, 25, 26, 27.
 Farrer, M. M., loans Painting, 40.
 Faser, C., Architectural gilt frame, 59.
 Fasset, Mrs. C. Adèle, Painting, 46.
 Fassin, Adolphe, Statuary, 95, 96.
 Fattori, Giovanni, Paintings, 113, 114, 115.
 Faull, John A., loans Painting, 44.
 Faustini, Modesto, Painting, 113.
 Fehmer, Carl, Design, 37.
 Felix, Eugene, Painting, 89.
 Fell, J. G., loans Painting, 40.
 Fèlon, Joseph, Sculpture, 74, 76, 77; Engravings, 79.
 Fenas, R., Monuments, 132.
 Fenn, H., Paintings, 25, 26, 27, 28.
 Fenton, Joseph, loans Painting, 65.
 Fernandez Cuevas, P., Painting, 133.
 Fernandez, J., Statuary, 124.
 Fernbach, Henry, Designs, 33, 34.
 Fernbach & Kendall, Design, 34.
 Ferrando, Salvador, Painting, 123.
 Ferraro, Filippo, Sculpture, 111.
 Ferrez, M., Photographs, 144.
 Ferris, S. J., Drawing, 54; Etchings, 59.
 Ferry, G., Painting, 78.
 Fery, Miss L., Painting, 78.
 Fery, Miss V., Painting, 74.
 Fettweiss, C. L., jr., Sculpture, 52.
 Feyen, Eugène, Painting, 72.
 Feyen, Perrin, Paintings, 72, 76.
 Fichel, E., Painting, 54.
 Fick, Frederick, Monument, 59.
 Fidanza, F. A., Photographs, 144.
 Field, B., loans Painting, 19.
 Field, R. (deceased), Drawings, 49.
 Field, W., Painting, 61.
 Figueredo, Pedro Americo de, Paintings, 121.
 Figueroa, Gregorio, Painting, 123.
 Fildes, S. Luke, Paintings, 61.
 Fillans, Miss W., Sculpture, 44, 52.
 Fine Arts, Provincial Academy of, Barcelona Drawings, 131.
 Fine Arts, Academy of, Manilla, loans Paintings, 130.
 Fine Arts, Academy of, Seville, loans Paintings, 120.
 Fischer, Helene von, Painting, 83.
 Fisher, Ellen T., Painting, 26.
 Fitch, J. L., Painting, 20.
 Fitzgibbon, J. H., Daguerreotypes, 138.
 Fitzpatrick, A. & Co., Stained glass, 57.
 Flagg, J. B., Painting, 29.
 Flameng, Leopold, Etchings, 80, 81.
 Flier, H. R. v. d., Painting, 101.
 Flores, Rafael, Painting, 123.
 Flores, S., Painting, 130.
 Foerster, Edmund, & Co., Chromos, 56.
 Foley, Miss M., Sculpture, 50, 51, 52.
 Follingsby, G. F., Painting, 85.
 Folsom, J. H., Photograph, 140.
 Fontana, Roberto, Painting, 113.
 Foot, S. A., loans Painting, 30.
 Forbes, Edwin, Drawing, 54.
 Forbes, J. C., Paintings, 69, 71; loans Painting, 70.
 Formis, Achille, Paintings, 113, 115.
 Formis, Augusto, Painting, 115.

Formis, Cav., Achille, Sculpture, 117.
 Forster, W. E., loans Painting, 65.
 Fortanet, E., Books, 131.
 Foster, John, loans Painting, 41.
 Fourmois, Theodore, Painting, 94.
 Fowler, D., Paintings, 69, 70.
 Fowler, T. T., Painting, 43.
 Fox, George, loans Paintings, 63, 64, 65.
 Fradelle & Marshall, Photographs, 141.
 Fraikin, Charles Auguste, Statuary, 96.
 Francolini, Tito, Mosaic tables, 112.
 Franke, E., loans Painting, 17.
 Franklin, Mrs. L. G., loans Painting, 38.
 Fraser, J. A., loans Paintings, 70, 71.
 Fraser, W. L., Paintings, 71.
 Freake, Charles J., loans Painting, 65.
 Fredericks, A., Paintings, 26.
 Freeman, A., Photographs, 140.
 Freeman, J. E., Painting, 41.
 French, D. C., Sculpture, 42.
 French, D. M., Sculpture, 42.
 French, J. A., Photographs, 140.
 French, Wm. H., Plaster ornaments, 59.
 Frenz, R., Painting, 134.
 Frey, W., Paintings, 84.
 Frickenhaus, Otto, Designs, 56.
 Friedländer, Camilla, Painting, 90.
 Friedländer, Fred., Paintings, 88, 90.
 Friedrich, C. F., Water colors, 86.
 Fries, B., Paintings, 83.
 Frilli, Antonio, Sculpture, 110, 111, 116.
 Fripp, A. D., Water colors, 66.
 Frith, F., Photograph, 142.
 Frith, Wm. Powell, Paintings, 61.
 Frith, W. P., loans Paintings, 64.
 Fritsch, Melchior, Paintings, 89, 90.
 Frost, Sketches, 57.
 Frothingham, Mrs., loans Paintings, 69, 70.
 Frothingham, Mrs. G., loans Painting, 71.
 Fuentes, Xavier, Cups, 127.
 Fumagalli, Michel Angelo, Painting, 111.
 Fumei, Pietro, Sculpture, 118.
 Funeco, Pietro, Sculpture, 111.
 Furness, H. H., loans Paintings, 18, 44, 45.
 Furness, Rev. W. H., loans Painting, 45.
 Furness, W. H., jr. (dec'd), Paintings, 18, 44, 45.
 Fuseli, Henry (deceased), Painting, 61.
 Fux, Joseph, Painting, 89.
 Fyfe, Painting, 71.

G.

Gabriel, Paul J. C., Painting, 95.
 Gaffield, T., Photographs, 140, 141.
 Gaillard, C. F., Engravings, 80.
 Gaillard, F., Etchings, 80, 81.
 Gaillard, S., Painting, 80.
 Gainsborough, Thomas (dec'd), Painting, 62.
 Gale, Miss, loans Painting, 71.
 Galindo, R. E., Drawings, 49.
 Galineau, J. A. de, Sculpture, 76.
 Gallandt, L. A., Sculpture, 119; Mosaics, 120.
 Galli, Rizzardo, Sculpture, 118, 119.
 Galsworthy, J., loans Water color, 66.
 Galvan, I. Ernest, Painting, 45.
 Galvan, Mrs. S. M., Paintings, 44, 45.
 Gambart, Ernest, loans Painting, 64; Water color, 66.
 Gambrell & Richardson, Designs, 34, 35.
 Garamendi, Bernabe de, Ivory carving, 127.
 Garcia, Hispaleta Manuel, Paintings, 128.
 Garcia Valladolid, I. G., Paintings, 128, 129.
 Gardell, Miss Anna, Water colors, 107.
 Gardner, Miss E. J., Paintings, 23, 46.
 Gargollo, Julio, Painting, 123.
 Garner, Mrs. M., loans Painting, 37.
 Garnier, J., Painting, 77.
 Garrido, Miss M. de la S., Painting, 129.
 Garriga y Roca, M., Monuments, 132.
 Gastaldi, Prof. Andrea, Painting, 114.
 Gattinoni, Carlos, Paintings, 122.

Gaucherel, Leon, Etchings, 80, 81.
 Gaul, Gustavus, Paintings, 89.
 Gautherin, J., Sculpture, 76.
 Gay, Edward, Painting, 30.
 Gay, George, Decorated china and glass, 5^f.
 Gay, Walter, Painting, 41.
 Gay, W. Allen, Painting, 21.
 Gebhardt, L., Paintings, 83.
 Geibel, C., Painting, 84.
 Gelabert y Hermano, R., Engravings, 131.
 Gelati, Prof. Lorenzo, Painting, 115.
 Geldmacher, F. W., Photographs, 143.
 Gempt, B. te, Paintings, 101, 102.
 Genisson, Georges, Painting, 93.
 Gentile & Co., Photographs, 140.
 Gentile, Chieti, Sculpture, 118.
 Geologica, C., Photographs, 144.
 George-Mayer, Augustus, Paintings, 88.
 Gérard, Joseph, Painting, 95.
 Gérard, Theodore, Paintings, 93, 94, 95.
 Gerardin, G., Sculpture, 53.
 Gerboux, Aguste C., Painting, 92.
 Gerimski, A., Paintings, 134.
 Gerlach & Fromhagen, Photographs, 139.
 Gerry, Miss E. J., loans Painting, 42.
 Gerry, S. L., Painting, 42.
 Gerson, W., Paintings, 134.
 Gertinger, J., Photographs, 144.
 Geyling, Ralph, Paintings, 89.
 Gherardi, Goffredo, Mosaic tables, 112.
 Ghetti, Antonio, Sculpture, 53.
 Gibb, Jonas, loans Water color, 66.
 Gibley, W., loans Water colors, 66.
 Gibson, Geo., Stained glass, 53.
 Gibson, John, Sculpture, 60.
 Giddings, Thos., Frame, 59.
 Gide, T., Paintings, 72, 75.
 Gifford, Miss I. G., Sculpture, 30.
 Gifford, R. Swain, Paintings, 20, 26, 27, 28, 31.
 Gifford, S. R., Paintings, 17, 18, 19, 22, 29, 31, 31.
 Gignoux, R., Painting, 20.
 Gilbert, S. D., Paintings, 27.
 Gilbert, Sir J., Paintings, 62; Water color, 66.
 Giles, George, loans Water colors, 65.
 Gill, E., Painting, 62.
 Gilli, Alberto, Painting, 111.
 Gillies, Mrs. M., Water color, 66.
 Gillott, Photo-engraving, 144.
 Gilman, G. F., loans Painting, 22.
 Gilmore, A., loans Painting, 69, 71.
 Gioli, Francesco, Paintings, 114, 115.
 Girard, N. J., Sculpture, 74.
 Girardot, E. G., Painting, 62.
 Giroux, Ernesto, Painting, 111.
 Gisbert, A., Painting, 126.
 Giuliani, Prof. Bartolomeo, Painting, 114.
 Givins, Dr., loans Painting, 71.
 Glaize, T. T. L., Painting, 75.
 Glibert, James, Sculpture, 90.
 Glibert, Albert, Painting, 95.
 Gobelin Manufacturers, The, Tapestries, 73.
 Gobineau, de, Sculpture, 79.
 Goddard, Wm., loans Painting, 19.
 Godebski, Cyprien, Statuary, 96.
 Goemans, Gustave, Paintings, 93, 94.
 Gomez, Gumersindo, Wood carving, 127.
 Gonzalez, J., Painting, 123.
 Gonzalvo, Perez Pablo, Paintings, 126, 128.
 Good, F. M., Views, 142.
 Goodall, E. A., Water colors, 66.
 Goodall, Frederick, Painting, 62.
 Goodall, Walter, Water color, 66.
 Goojoff, Nicolas, Statuary, 135.
 Gookins, J. F., loans Painting, 40.
 Goossens & Sons, Statuary, 103.
 Gordon, G. F., loans Paintings, 30.
 Gordon, Joseph C., Sculpture, 53.
 Gordon, Robert, loans Paintings, 17, 19, 24, 26, 28, 29, 31.
 Gori, Lorenzo, Sculpture, 115.
 Goth, Anthony, Interior decoration, 55.
 Gould, M. S., Sculpture, 39.
 Gould, T. R., Sculpture, 38, 39.

- Government of Ontario, loans Painting, 69.
 Gower, Lord Ronald Leveson, Sculpture, 60;
 loans Water colors, 66.
 Grabowski, Andrew, Painting, 89.
 Graef, Jos., Sculpture, 52.
 Graf Bros., Chromo-lithographs, 56.
 Graf, C., Engravings, 86.
 Graf, G., Painting, 84.
 Graf, Lewis, Paintings, 88, 89, 90.
 Graham, Peter, Paintings, 62.
 Graham, W., Painting, 39.
 Granberry, Miss H. A., Painting, 29.
 Granberry, Miss V., Painting, 20.
 Grandschamp, P. de, Painting, 77.
 Grant, Sir Francis, Paintings, 62.
 Graves, J. A., Photographs, 140.
 Gray, G. A., loans Paintings, 70, 71.
 Gray, H. Peters, Paintings, 19, 23, 31.
 Greatorex, Mrs. Eliza, Drawings, 49.
 Greene, E. D. E., Painting, 19.
 Greenough, Mrs. H., loans Painting, 42.
 Gregory, J. Elliot, Painting, 39.
 Greive, J. C., jr., Paintings, 101, 102.
 Grenier, N. N., Photographs, 142.
 Griffin, Julia, Sculpture, 30.
 Grimelund, I. M., Painting, 109.
 Groisbeck, David, loans Painting, 17.
 Groscillier, M. de, Painting, 73.
 Groot, J. de, Painting, 102.
 Groozinsky, P., Painting, 134.
 Gruger, Pearson E., Marble work, 56.
 Grijter, W., jr., Painting, 100.
 Grund, J., Paintings, 85.
 Guarnerio, Pietro, Sculpture, 113, 116, 118.
 Guastavin, R., Monuments, 132.
 Gubleman, T., Photographs, 139.
 Gude, Hans, Paintings, 108.
 Gudin, T., Paintings, 37, 78.
 Guerber, Miss S. L., loans Painting, 38.
 Guerra, Gabriel, Statuary, 124.
 Guffens, Godefroid, Painting, 94.
 Gugler, H., Engraving on steel, 59.
 Guillon, A., Paintings, 72, 75.
 Guisasola, F., Painting, 130.
 Gunnison, Miss M., Painting, 44.
 Gurney, J. J., Photographs, 139.
 Gutekunst, F., loans Painting, 18; Photo-
 graphs, 138.
 Güterbock, L., Painting, 83.
 Guthers, Carl, Paintings, 43, 45.
 Gutierrez, Felipe, Painting, 123.
 Gutierrez, Rodrigo, Painting, 123.
 Guy, S. J., Paintings, 19, 20, 22.
 Gzowski, C. S., loans Painting, 69, 70.
- H.**
- Haanen, Mrs. A., Painting, 100.
 Haanen, Remi van, Painting, 90.
 Haas, Augustus, Electrotypes, 58.
 Haber, R. von, Painting, 83.
 Hacker, H., Paintings, 85.
 Hackett, Miss C. C., loans Painting, 24.
 Haden, F. S., Engravings, 67.
 Hães, D. Carlos, Paintings, 125.
 Hafström, A. G., Painting, 106.
 Hägg, J., Water colors, 107.
 Haghe, Louis, Water colors, 66.
 Hagn, L. von, Painting, 83.
 Hague, G., loans Painting, 70.
 Hague, H., loans Paintings, 70, 71.
 Hahn, J., Painting, 83.
 Haight, Ch. C., Design, 34.
 Halauska, Lewis, Painting, 88.
 Hale, Ellen D., Painting, 42.
 Hale, Mrs. E. E., loans Painting, 42.
 Hall, Photographs, 140.
 Hall, Dr., loans Painting, 69.
 Hallatz, E., Paintings, 83, 84.
 Hallet, William T., Designs, 35.
 Hamilton, H., Painting, 29.
 Hamilton, J., Painting, 17.
 Hamilton, W. A., loans Painting, 30.
 Hamilton, W. H., loans Painting, 31.
 Hammer, H. J., Painting, 104.
 Hammer, W., Paintings, 104.
 Hancock, H., Painting, 71; loans Painting, 70.
 Handley, M., Sculpture, 51.
 Hanedoes, L., Painting, 101.
 Hanno, W. von, Painting, 109.
 Hanoteau, H., Painting, 72.
 Hanrath, T., Painting, 100.
 Hansch, Anthony, Paintings, 89, 90.
 Hanse, A. L., Chemicals, 139.
 Hanson, W., Photographs, 141; Paintings, 142.
 Harach, Count von, Paintings, 84, 85.
 Harding, Painting, 42.
 Hardinge, Viscount, loans Painting, 62.
 Hardy, A. N., Photographs, 138.
 Hardy, Heywood, Painting, 62.
 Hargitt, E., Water color, 66.
 Harley, J. S., Engraving, 58.
 Harling, E. von, Painting, 84.
 Harmon, Amelia, Painting, 28.
 Harnisch, A. E., Sculpture, 52.
 Harpignies, A. X., Painting, 73.
 Harrah, C. J., loans Painting, 47.
 Harring, J. C., Photographs, 139.
 Harriott, S. J., loans Painting, 20.
 Harris, Edward, loans Paintings, 18, 75.
 Harrison, Henry, Painting, 46.
 Harrison, Mrs. Joseph, loans Paintings, 24, 46.
 Hart, Jas. M., Paintings, 24, 31.
 Hart, Wm., Paintings, 21, 25.
 Hartley, J. S., Sculpture, 53.
 Hartwell, Swasey & Co., Design, 37.
 Hartwick, Hermann, Drawings, 49.
 Harvard University, loans Paintings, 19, 41, 42.
 Haseltine, J. H., Sculpture, 51.
 Haseltine, W. S., Paintings, 24, 46.
 Hatch, Walter, loans Painting, 24.
 Hatfield, R. G., Design, 35, 36.
 Hawk, S., loans Painting, 30.
 Hawkins, Rush D., loans Painting, 27.
 Haworth, J., Photo-apparatus, 138.
 Hayden, Albert, loans Painting, 29.
 Hays, W. J. (deceased), Painting, 30.
 Hays, Mrs. W. J., loans Painting, 30.
 Hayter, Sir George, Painting, 62.
 Hazu, A. C., Painting, 101.
 Hazzard, R. T., Decorations, 55.
 Hazzard, W. B., Rollers, 137.
 Heade, M. J., Painting, 24.
 Healy, G. P. A., Paintings, 17, 22, 23, 39, 44,
 46.
 Hearsh, S. D., Painting, 85.
 Heath, V., Photographs, 141.
 Heath & McKendrick, Plaster figures, 59.
 Heaton, A. G., Painting, 46.
 Heck, R., Painting, 83, 85.
 Hecker, G. V., loans Painting, 25, 29.
 Hedges, D., Photographs, 141.
 Heemskerck, V. B. E. v., Paintings, 100, 102.
 Heerebaarth, G., Painting, 101.
 Hegcr, H., Painting, 84.
 Heid, Dr., Photograph, 143.
 Heijl, M., Painting, 102.
 Heiler, E., Studies, 143.
 Hellquist, H., Water color, 107.
 Hemenway, Mrs. C. P., loans Painting, 25.
 Henderson, A., Photographs, 142.
 Henderson, A. L., Photographs, 141.
 Henig, R., Cards, 143.
 Henkes, Gerke, Painting, 101.
 Hennessey, W. J., Paintings, 25.
 Henning, H. D. A., Sculpture, 50.
 Henry, E. L., Painting, 20, 24, 29.
 Henschell, Painting, 121.
 Herdman, R., Painting, 62.
 Hering, G. E., Painting, 62.
 Her Majesty the Queen of England, loans
 Paintings, 62, 63, 65.
 Hermelin, Baron O., Paintings, 106.
 Hernandez, Ignacio, Painting, 123.
 Herpin, L., Paintings, 76, 78.
 Herrick, H. W., Drawings, 48.

Herring, Chas. P., loans Painting, 47.
 Herst, A., Paintings, 77; Water colors, 79, 81.
 Hertel, A., Painting, 84.
 Hertter, E., Bronzes, 85.
 Hertzog, J., Chemicals, 143.
 Herzberg, A. G., Painting, 106.
 Herzog, H., Paintings, 23, 45.
 Heseltine, J. P., Engraving, 67.
 Hesler, A., Photographs, 138.
 Hess, G., Sculpture, 32, 45, 47.
 Hess, Julius, Design, 35.
 Hetzel, Geo., Painting, 22.
 Hewett, P. G., loans Water color, 66.
 Hicks, G. E., Painting, 62.
 Hicks, Thomas, Paintings, 17, 24, 30.
 Hiddemann, F., Paintings, 84.
 Higgins, A. Foster, loans Painting, 26.
 Higgins, Geo. F., Painting, 40.
 Hildebrand, E., Painting, 84.
 Hildebrand, H., Engravings, 80.
 Hill, Capt., loans Painting, 63.
 Hill, J. W., Paintings, 26, 27, 28.
 Hill, Thomas, Paintings, 22, 44, 45.
 Hillemacher, E. E., Painting, 72.
 Hillemacher, E., Painting, 75.
 Hills, Thos. H., loans Paintings, 62, 63.
 Hilton, William (deceased), Painting, 62.
 Hilverdink, E. A., Painting, 102.
 Hilverdink, J., Painting, 101.
 Hinckley, T. H., Painting, 41.
 Hirrlinger, C. W., Enamels, 55.
 Hirsch, Alphonse, Paintings, 74, 75.
 Hirschfelder, S., Painting, 84.
 Hirsh, J. M., Photographs, 145.
 Hlavaeck, Anthony, Paintings, 88, 90.
 Hoadley, J. C., loans Sculpture, 51.
 Hobbs, J. H., & Son, Designs, 32, 35.
 Hoch, I., Painting, 70.
 Höckert, J., Painting, 106.
 Hodges, Jane M., loans Painting, 29.
 Hodgson, J. E., Paintings, 62.
 Hoe, R., loans Paintings, 30, 31.
 Hoefel, Ferd., Painting on glass, 56.
 Hoegel, Minna, Painting, 88.
 Hoen, A., & Co., Chromo-lithographs, 56.
 Hoffman, J., Painting, 89; Water colors, 90.
 Holbrook, H. J., Portrait, 18.
 Holl, F., Paintings, 62.
 Hollander, H., Painting, 101.
 Holler, H., Photographs, 139.
 Hollerbach & Duffenbach, Mouldings, 56.
 Hollis, G. W., loans Painting, 29.
 Holly, H. Hudson, Design, 35.
 Hollyer, Samuel, Engravings, 58, 59.
 Holm, P. D., Paintings, 106.
 Holmes, P. H., Painting, 43.
 Holmlund, Miss J., Painting, 106.
 Holst, J. G. von, Paintings, 106.
 Holyland, J., Views, 139.
 Homer, Winslow, Paintings, 22, 25, 26, 28.
 Hook, James Clarke, Painting, 62.
 Hoover, Jos., Chromo-lithographs, 56.
 Hoppin, W. J., loans Painting, 19.
 Hopson, Wm., Imitations of woods, 56.
 Horavsky, A., Painting, 134.
 Hore, Wm., Inlaid work, 55.
 Horsfall, James, loans Water color, 66.
 Horsley, John Callcott, Paintings, 62.
 Horst, L., Painting, 84.
 Houseworth, T., Photographs, 138.
 Houzé, Florentin, Painting, 94.
 Hove, B. J. v., Painting, 102.
 Hovey, E. F., Photographs, 139.
 Howard-Brunet, P. A., Painting, 75.
 Howe, F., Design, 32.
 Howe, Frank M., Designs, 35, 37.
 Howe, J. C., loans Painting, 41.
 Howell, J. R., Photographs, 140.
 Howells, H. C., loans Painting, 64.
 Howland, W. H., loans Painting, 70.
 Huas, P. A., Paintings, 73, 77.
 Hubbard, R. W., Paintings, 17, 18, 20.
 Huber, Ralph, Painting, 90.
 Hudson, F., Photographs, 141.

Hugard, C., Painting, 78.
 Hughes, Arthur, Painting, 62.
 Hughes, Mrs. A. S., loans Painting, 47.
 Hunt, Holman, Painting, 62.
 Hunt, H. A., loans Water color, 66.
 Hunt, R. M., Design, 33.
 Hunt, William, Painting, 24.
 Hunt, W. M., Painting, 42.
 Hunter, Colin, Painting, 62.
 Hunter, Thomas, Chromo-lithographs, 56.
 Huntington, D., Paintings, 18, 22, 30, 31.
 Hurtel, P., Drawings, 49.
 Hutinet, D., Photographers' cards, 144.
 Huybers, J. D., Painting, 100.
 Huygens, François J., Paintings, 92, 94.
 Hyatt, Mrs. A., loans Painting, 49.
 Hyatt, Mrs. Della, Drawings, 49.

I.

Ibarra, José, Painting, 124.
 Inman, Henry, Paintings, 24, 39.
 Instituto de Segunda Ensenanza, Photographs, 132.
 Irving, J. B., Paintings, 20, 22, 24.
 Israels, J., Painting, 100, 101.
 Itasse, A., Sculpture, 76, 81.
 Ives, C. B., Sculpture, 32.

J.

Jacobi, Paintings, 69, 70, 71.
 Jacobi, C., Prints, 143.
 Jacobs, Jacob, Painting, 94.
 Jacobsen, S., Paintings, 108, 109.
 Jacomin, A. L., Paintings, 73, 79.
 Jacomin, H., Painting, 75.
 Jacquier, Eli, Sculpture, 50.
 Jadin, E., Painting, 78.
 Jaeckel, H., Painting, 83.
 Jager, J., Photographs, 144.
 James, Frederick, Painting, 23.
 James, H., loans Painting, 29.
 Jameson, R. C., loans Painting, 71.
 Japy, L., Painting, 77.
 Jaquard, C., Painting, 77.
 Jaquemart, J., Etchings, 80, 81.
 Jarvis, J. W., Paintings, 50.
 Jarvis, Melicent, Painting, 43.
 Jay, J. C., loans Portrait, 19.
 Jeans, C. H., Engraving, 67.
 Jenkins, J. J., Water color, 66.
 Jennings, A. B., Designs, 33, 34.
 Jennings, P., Photographs, 141.
 Jernberg, A., Paintings, 106.
 Jernberg, O., Painting, 106.
 Jessup, M. K., loans Painting, 30.
 Jessop, Thomas, J. P., loans Painting, 62.
 Jewett, Geo. W., loans Painting, 47.
 Jimenez, José, Painting, 123.
 Jocelyn, N., loans Painting, 21.
 Jocson, C., Sculpture, 130.
 John, Joseph, Painting, 47.
 Johns, C. M., Painting, 44.
 Johnson, C. E., Painting, 62.
 Johnson, David, Paintings, 18, 20, 23, 24.
 Johnson, Eastman, Paintings, 18, 19, 20, 21, 22, 24, 29, 30.
 Johnson, E. K., Water color, 66.
 Johnson, F., Paintings, 20, 29.
 Johnson, H., Water color, 66.
 Johnson, Mrs. J. H., loans Sculpture, 47.
 Johnson, Mrs. R. E., loans Painting, 22.
 Johnston, A., Painting, 62.
 Johnston, J. T., loans Paintings, 18, 19, 21, 22, 23, 25, 27.
 Jones, A., Painting, 25.
 Jones, H. Bolton, Painting, 21.
 Jones, Miss, loans Painting, 21.
 Jones, T. A., Painting, 62.

Joosten, D. J. H., Painting, 103.
 Jopling, J. M., Water colors, 66.
 Jopling, Mrs. Louise, Painting, 62.
 Jordan, Lucas, Paintings, 126.
 Jordan, R., Painting, 84.
 Jotti, Prof. Carlo, Painting, 116.
 Jover, F., Paintings, 126, 129.
 Joy, A. Bruce, Sculpture, 60.
 Judd, L. de V., loans Sculpture, 53.
 Judson, Wm. D., loans Painting, 20.
 Julia y Garcia, E., Photographs, 132.
 Julio, E. B. D., Painting, 44.
 Jundt, G., Paintings, 79.
 Jungter, A., Coins, medals, etc., 87.
 Jungheim, C., Paintings, 83.

K.

Kaan, G., loans Drawing, 48.
 Kallenberg, A., Paintings, 109.
 Kane, Paul, Paintings, 69, 70.
 Kappes, A., Painting, 31.
 Kappis, A., Painting, 83.
 Kappler, Tobias, Sculpture, 53.
 Karelin, Photographs, 145.
 Karpoff, Painting, 135.
 Kate, H. F. C. Ten, Paintings, 101, 102.
 Kate, J. Mari H. Ten, Paintings, 100, 102.
 Kaufman, Theo., Paintings, 43, 45.
 Kaufmann, A. & C., loan Painting, 38; Chromo-lithographs, 55.
 Kay, W. F., loans Paintings, 70, 71.
 Kayser, E., Painting, 54.
 Keelhoff, François, Painting, 92.
 Keep, S. H., loans Painting, 24.
 Keith, Mrs. E. S., loans Painting, 41.
 Kellen, D. v. d., jr., Paintings, 102, 103.
 Kelley, Wm. J., Typography, 56.
 Kelly, Thomas, English engravings, 59.
 Kemble, Gouverneur, loans Painting, 18.
 Kemble, Mr., loans Painting, 19.
 Kemys, E., Sculpture, 30, 45.
 Kendall, Edw'd H., Design, 35.
 Kendall, Wm. B., loans Painting, 27.
 Kendrick, D. T., Painting, 43.
 Kensett, J. F. (deceased), Paintings, 17, 18, 24, 30, 31.
 Kent, J. H., Photographs, 138.
 Kenyon, W. W., loans Painting, 31.
 Kerr, J. K., loans Painting, 69.
 Kershaw, T., loans Paintings, 70, 71.
 Kever, J. S. H., Painting, 102.
 Key, J. R., Painting, 41.
 Keymenlen, Emile, Paintings, 94, 95.
 Kidd, Mrs. A. E., loans Painting, 37.
 Kienlin, J., Paintings, 76.
 Kiepert, H., Photographs, 142.
 Kiewning, E., Photographs, 143.
 King, Geo. W., Painting, 46.
 King, Haynes, Painting, 62.
 Kittredge Cornice Co., Iron work, 9.
 Kjörbel, C. F., Painting, 106.
 Klodt, Baron M., Paintings, 134.
 Kluyver, P. L. F., Painting, 101.
 Kneller, Sir Godfrey (dec'd), Portrait, 48.
 Knight, C. P., Painting, 62.
 Knight, E. C., loans Sculpture, 53.
 Knight, J., Water color, 66.
 Knoedler, M., & Co., loan Paintings, 38, 54, 55; Chromos and Engravings, 55, 59.
 Knowler, Mrs. B., loans Painting, 24.
 Knowles, K., loans Painting, 63.
 Knowles, R. M., loans Water colors, 66, 67.
 Knudsen, C., Photographs, 144.
 Knudsen, K., Photographs, 144.
 Kock, Miss E., Painting, 78.
 Köckert, F., Painting, 54.
 Koekkoek, H., Painting, 100.
 Koekkoek, H., jr., Paintings, 100, 101.
 Koekkoek, W., Painting, 101.
 Koerner, E., Painting, 83.
 Koken, G., Painting, 83.

Kolkow, F. J. von, Photographs, 103.
 Kollock, Miss M., Paintings, 22.
 Kool, S., Painting, 100.
 Kooznetzoff, Carving, 135.
 Kornbeck, J., Paintings, 85.
 Korzoochin, A., Paintings, 134.
 Koskull, Baron A. G., Painting, 106.
 Kosler, J., Photographs, 143.
 Koster, E., Paintings, 100, 101, 102.
 Kostra, Photographs, 145.
 Kostrzewski, F., Painting, 134; Water color, 136.
 Krassofsky, N., Paintings, 135.
 Kratzer, Chas. von, Painting, 88.
 Krausse, A., Engraving, 86.
 Kreighoff, Painting, 69.
 Kretschman, E. A., Sculpture, 44.
 Kretzschmer, H., Paintings, 85.
 Kroostasheff, T. S., Carving, 135.
 Kruseman van Elten, Painting, 101.
 Kuhn, Victor, Painting, 92.
 Kulle, J., Painting, 106.
 Kunath, Oscar, Paintings, 38, 46.
 Kuntz, G. A., Painting, 90.
 Kurtz, W., Crayons, 55; Photographs, 137.
 Kuwasseg, C. J., sen., Painting, 72.
 Kylberg, Miss Regina, Water color, 107.
 Kylberg, Miss Virginia, Water color, 107.

L.

Laar, Ulrica, Paintings, 84.
 Labaer, Jean Jacques, Brass work, 97.
 Lacretele, E., Paintings, 77.
 La Farge, J., Paintings, 17, 22, 25, 29.
 Lafitte, Erneste, Paintings, 88.
 Lage, Julia von der, Water color, 86.
 Lagerholm, Miss W., Painting, 106.
 Lagorio, L., Paintings, 135.
 Laguillermie, F., Painting, 79; Engraving, 81.
 Lagye, Victor, Painting, 93.
 Laird, R. W., loans Painting, 70.
 Lalande, Ch. de, Designs, 82.
 Lalande, M., Crayon drawings, 79, 80, 81.
 Lambdin, G. C., Paintings, 18, 25, 46.
 Lambert, J. R., Painting, 44.
 Lambert, A. E., Painting, 77.
 Lamotte, Engraving, 80.
 Lampe, Louis, Painting, 94.
 Lancaster, Mrs., loans Painting, 64.
 Lance, George (deceased), Painting, 62.
 Lance, G. E., loans Painting, 62.
 Landelle, C., Paintings, 73, 77, 78.
 Landseer, Sir E. (dec'd), Paintings, 62, 63.
 Landy, J., Photographs, 138.
 Lane, George W., loans Painting, 28.
 Lang, Geo. S., Engravings, 59.
 Lang, Louis, Painting, 39.
 Lange & Bros., Inlaid show case, 55.
 Langlet, Mrs. Caroline, Paintings, 92, 94.
 Langley, H., loans Paintings, 70, 71.
 Lanson, E., Sculpture, 76.
 Lanthier, L. A., loans Painting, 20.
 Laplante, Engravings, 81.
 Laporte, E., Painting, 78.
 Laporte, M., Painting, 74.
 Largarjoli, F., Photograph, 144.
 Larson, Miss Virginia, Water color, 107.
 Lasch, C., Painting, 85.
 Latham, J., & Co., Chromo-lithographs, 56.
 Lauderbach, James W., Engravings, 58.
 Lauer, Joseph, Painting, 91.
 Laumans, Jean André, Statuary, 94.
 Laurence, S., Painting, 63.
 Laurent, H., Painting, 77.
 Laurent, I., & Co., Photographs, 132.
 Lawlor, John, Sculpture, 51.
 Lawrence, Edwin, loans Painting, 62.
 Lawrence, Mrs. B., loans Sculpture, 52.
 Lawrence, Mrs. H. E., loans Painting, 20.
 Lawrence, Rev. Arthur, loans Drawing, 48.
 Lawrence, Sir Thomas (dec'd), Paintings, 63.

Lawrie, Alex., Paintings, 20, 31.
 Lays, J. P., Painting, 74.
 Lazzerini, Pietro, Sculpture, 110.
 Lea, Anna M., Paintings, 23, 44, 46, 47.
 Leask, A., loans Painting, 69.
 Lebel, Edmond, Paintings, 72, 73, 76.
 Lebrethon, Jules, Cameos and medallions, 55.
 Le Brun, N., Designs, 35.
 Lecheue, A. J. B., Bronze, 79.
 Le Clear, Thomas, Painting, 23.
 Leccointe, Sculpture, 77.
 Lee, E. P., & Co., Photographs, 141.
 Leech, John (deceased), Drawings, 67.
 Leech, Miss C. E., loans Pencil drawing, 67.
 Leféver, Edmond, Statuary, 96.
 Legat, Leon, Paintings, 72, 73, 75.
 Le Gendre, Lconce, Painting, 95.
 Leggo, Dr. C., loans Painting, 70.
 Lehman & Bolton, Engraving, 58.
 Lehmann, Rudolph, Paintings, 63.
 Leighton, Frederick, Painting, 63; loans Paintings, 63, 65.
 Leighton, J., Engravings, 67.
 Leland, C. M., loans Painting, 46.
 Leland, Henry, Paintings, 43, 46.
 Leleux, Armand, Paintings, 73, 75.
 Lelli, Giovanni, Painting, 114.
 Lelli, Giovanni Batt, Sculpture, 117.
 Lely, Sir Peter, Paintings, 71.
 Leonardi, Valewski, Mosaics, 52.
 Leonhardt, Theo., & Son, Engraving, 58.
 Lemere, Bedford, & Co., Photographs, 141.
 Lemoche, C., Paintings, 134.
 Lemus, E., Engravings, 131.
 Lepesqueur, H., Paintings, 74.
 Lerche, Vinc. St., Paintings, 103, 109.
 Leschesne, Bronze, 81.
 Leslie, C. R. (dec'd), Painting, 63.
 Leslie, George D., Painting, 63.
 Lesrel, A. A., Paintings, 72, 76.
 Lessi, Luigi, Painting, 113.
 Lestang, P. de, Water color, 79.
 Lentze, E., Painting, 23.
 Leutzinger & Sons, Photo-lithographs, 121.
 Levasseur, J. G., Engravings, 80.
 Leveux, Engravings, 80.
 Levy, A., Photographs, 140.
 Levy, Gustave, Engraving, 80, 81.
 Levy, J., & Co., Transparencies, 142.
 Levy, T. S., Designs, 32.
 Lewis, A. J., Sculpture, 30.
 Lewis, Chas. G., Engravings, 67.
 Lewis, C. J., Painting, 63.
 Lewis, E. D., Painting, 22.
 Lewis, Miss Edmonia, Sculpture, 52, 59.
 Lewis, J. Delaware, loans Painting, 52, 64.
 Lewis, John, loans Painting, 62.
 Lewis, John Frederick, Painting, 63.
 Lewis, Juan, loans Painting, 22.
 Lewis, T., Photographs, 140.
 Leyendecker, F. M., Painting, 72.
 L'Heureux, Designs, 82.
 Lichtenfels-Edward, Chev., Paintings, 88, 89.
 Liebert, Photographs, 143.
 Liebert, A., Photograph, 143.
 Lier, A., Painting, 84.
 Lima, Victor Meirelles de, Paintings, 121.
 Lindgren, Miss A., Paintings, 106.
 Lindholm, B. A., Painting, 135.
 Lindman, A., Painting, 106.
 Lindström, C., Painting, 106.
 Lingeman, L., Paintings, 100, 102.
 Linn, Dr. S. H., loans Painting, 39.
 Linton, J. D., Water color, 66.
 Lippincott, W. H., Paintings, 24.
 Liverpool, Corporation of, loans Painting, 65.
 Llanos y Keats, Juan, Painting, 126.
 Lockwood, Randolph, & Co., Boxwood, 56.
 Lodigiani, Scipione, Painting, 111.
 Loescher & Petsch, Photographs, 143.
 Loison, P., Sculpture, 76.
 Lombardi, Giovanni, Sculpture, 110, 111, Painting, 115.
 London, Royal Academy of, loans Painting, 63.

Longfellow, E. W., Painting, 42.
 Longfellow, W. P. P., Designs, 33, 37.
 Linnrorth, F., Painting, 106.
 Loop, H. A., Painting, 18.
 Loop, Mrs. H. A., Painting, 23.
 Lopez de Herrera, Painting, 123.
 Lopez Valdemora Ortiz de Lascano, Senorita J., Drawings, 130.
 Lorck, Carl J., Painting, 109.
 Lord, Samuel, loans Painting, 64.
 Lorne, Marchioness of, loans Water color, 67.
 Lortet, L., Painting, 72.
 Low, A. A., loans Painting, 24.
 Loyd, Lewis, loans Painting, 62.
 Lozano y Villarejo, M., Albums, 133.
 Lucas, E., Paintings, 126, 128.
 Lucca, Flaminio, Sculpture, 119.
 Luccardi, Prof., Sculpture, 111.
 Luce, C. S., Designs, 36, 37.
 Luckhardt, F., Photographs, 144.
 Luddington, C. H., loans Paintings, 29, 31.
 Lugo, Provincial Com'n of, Photographs, 132.
 Luminais, E. V., Paintings, 73, 74.
 Lundberg, W., Photographs, 145.
 Lundmark, A., Wood carvings, 105.
 Lutteroth, A., Paintings, 85.
 Lutyens, C., Painting, 63.
 Lyman, Theo., loans Painting, 38.

M.

Maaten, J. J. van der, Painting, 101.
 Macalister, W. E., loans Painting, 40.
 Macaulay, F., loans Painting, 44.
 MacCallum, A., Painting, 63.
 Maccari, C., Paintings, 38.
 Machen, W. H., Paintings, 20, 46.
 Machette, Mrs. E. V., loans Painting, 38.
 Mackeprang, A., Paintings, 104.
 MacKnight, Mrs. S., Paintings, 18, 29.
 Maclaren, W., Painting, 63.
 MacIse, Daniel (dec'd), Paintings, 63.
 MacWhirter, J., Paintings, 63.
 Madiol, Adrien Jean, Paintings, 93, 95.
 Madrazo, Painting, 37.
 Maghee, J. Holme, loans Painting, 25.
 Magin Fita y Kovira, Terra cotta, 126.
 Magni, Prof., Sculpture, 110.
 Magni, Prof. Enrico, Sculpture, 115.
 Magrath, W., Paintings, 25, 26, 27, 28.
 Maignan, Albert, Painting, 72, 73.
 Maillart, D., Paintings, 73, 78.
 Makart, Hans, Paintings, 38, 88.
 Malatesta, Cav. Prof. Narciso, Painting, 113.
 Maldarelli, Federico, Paintings, 114.
 Malfatti, Andrea, Sculpture, 110, 114.
 Mali, C., Painting, 83.
 Mallet, Joseph, Paintings, 79.
 Malmström, C., Painting, 106.
 Malyshef, Painting, 134.
 Manchester, City of, loans Painting, 48.
 Manchester, Duke of, loans Paintings, 63, 64; loans Water color, 66.
 Manchola, Juan, Painting, 123.
 Mancinelli, Prof., Painting, 115.
 Mancini, Carlo, Painting, 115.
 Manger, H., Bronze statue, 87.
 Manufacturers' Ins. Co., loans Painting, 42.
 Marai, Luigi, Sculpture, 110, 118.
 Maraini, Adelaide, Sculpture, 110, 111.
 Marc, W., Painting, 84.
 Marcellin, E., Sculpture, 76.
 Marchant, E. D., Painting, 40.
 Marchesi, Salvatore, Painting, 114.
 Marcy, L. J., Lanterns, 138.
 Mariez-Currena, H., Photographs, 132.
 Marin Baldó, J., Monuments, 132.
 Maris, Willem, Painting, 101.
 Markham, C. C., Painting, 25.
 Marks, H., loans Painting, 31.
 Marks, Henry Stacy, Paintings, 63.
 Marozoff, A. B., Painting, 135.

- Marroig, G., Painting, 122.
 Marshall, A., Enamels, 141.
 Marshall, W. E., Painting, 29; Engravings, 59.
 Marshall, W. I., Photographs, 139.
 Martegani, Alessandro, Sculpture, 110, 111.
 Martens, W. J., Painting, 100.
 Martin, Painting, 70.
 Martin, E., Painting, 77.
 Martin, F., Sculpture, 77; Bronze, 81.
 Martin, H., Painting, 23.
 Martin, Henry, Painting, 71.
 Martin, Miss L. E., Painting, 43.
 Martin, Mrs., loans Painting, 43.
 Martin, Mrs. L. E., Drawing, 54.
 Martin, T. M., Paintings, 69, 70, 71.
 Martinez, E. J., Etchings, 131.
 Marucelli, Pietro, Sculpture, 117.
 Mason, George (dec'd), Painting, 63.
 Mason, O. G., Photographs, 145.
 Massachusetts Historical Society, loans Portrait, 19; Paintings, 48.
 Masson, Miss A., Paintings, 72, 77.
 Masure, J., Painting, 74.
 Masurel, J. E., Painting, 101.
 Maswiens, Joseph Louvain, Painting, 94.
 Mateu, J. M., Lithographs, 131.
 Mathew, C. P., loans Paintings, 62, 63.
 Mathieu, O., Paintings, 77.
 Matteucci, Luigi, Sculpture, 118.
 Matthews, M., Paintings, 69, 70.
 Matthews, W. T., Paintings, 17, 29.
 Maura, B., Painting, 131.
 Mauve, A., Painting, 102.
 Max, Gabriel, Painting, 38.
 Maxon, C., loans Painting, 63.
 May, W., Water color, 66.
 Mayer, A. L., Painting, 54.
 Mayer, Chas., Engravings, 58.
 Mayer, Constant, Painting, 118.
 Mayer, F. B., Paintings, 39, 46.
 Mayer, Ferd., Lithograph, 56.
 Mayer, Louis, Painting, 89.
 Mayer, T., Painting, 85.
 Maynard, G. W., Paintings, 19, 20.
 Mazza, Salvatore, Painting, 116.
 McAllister, T. H., Apparatus, 139.
 McAlphine, D. H., loans Painting, 25.
 McArthur, J., jr., Design, 32.
 McCagg, E. B., loans Paintings, 44, 46.
 McCue, Hon. Alex., loans Painting, 20.
 McDonald, Margaret, Paintings, 26, 27.
 McDonald, W., Sculpture, 50.
 McDougal, J., loans Painting, 26.
 McEntee, J., Paintings, 20, 21, 22, 23, 29, 30, 31, 40.
 McGregor, G. S., Graining, 56.
 McIntyre & Co., Photographs, 139.
 McLachlan, J., loans Painting, 71.
 McMahan, H., loans Paintings, 69, 70, 71.
 McMurtrie, H., loans Painting, 48.
 McMurtrie, Miss L. B., Drawings, 48.
 McNeely, W., loans Painting, 43.
 McPherson, W. J., & Co., Stained glass, 57.
 McRae, J. C., Engravings, 58.
 Meczkowski, Photographs, 145.
 Meeks, Eugene, Painting, 40.
 Meerts, Franz, Painting, 94.
 Meissner, E., Painting, 84.
 Melander & Bro., Photographs, 138.
 Melby, W., Painting, 104.
 Melcher, J. L., loans Painting, 20.
 Melida, Enrique, Painting, 126.
 Mellée, A. L., Painting, 77.
 Mellery, Xavier, Paintings, 93, 95.
 Mencha y Rodriguez, F., Lithographs, 131.
 Méne, P. J., Sculpture, 78, 79.
 Merle, H., Painting, 54.
 Mermet, C., Water color, 79.
 Merry, B., Painting, 78.
 Mesdag, H. H., Painting, 101.
 Mesdag, H. W., Paintings, 100, 102.
 Mesdag van Houten, Mrs., Painting, 100.
 Messenger, T., loans Painting, 20.
 Mestres, O., Monuments, 132.
 Metropolitan Museum, loans Painting, 31.
 Metti, Raimondo, Sculpture, 111.
 Meucci, Michele, Painting, 115.
 Meunier, Miss G., Decorated faience, 97.
 Meyer, F., Painting, 84.
 Meyer, H., Sculpture, 53.
 Meyer, James, jr., Penmanship, 56.
 Meyer Von Bremen, Paintings, 55, 85.
 Meyerheim, P., Painting, 84; Water colors, 86.
 Meyers, Isidore, Painting, 95.
 Meyers, J. W., Photograph, 140.
 Meynen, F., Sculpture, 52.
 Michel, Ernest B., Painting, 72.
 Michis, Cataneo, Painting, 115.
 Michis, Pietro, Paintings, 115, 116.
 Middleton, S. G., Painting, 40.
 Mifflin, Lloyd, Painting, 22.
 Mignot, L. R. (deceased), Painting, 31.
 Milbank, J. J., loans Painting, 19, 25.
 Mildmay, Bingham, loans Painting, 63.
 Miles, T. J., loans Paintings, 49.
 Millais, John Everett, Painting, 63.
 Millard, C. S., Paintings, 69, 70.
 Miller, C., Paintings, 134.
 Miller, Chas. H., Paintings, 17, 18, 19, 20, 23.
 Miller, E. F., Water color, 49.
 Miller, Mrs. J. M., loans Paintings, 18, 19.
 Millet, F. D., Paintings, 24, 141.
 Mills, J. M., loans Painting, 31.
 Mills, Theodore A., Sculpture, 51.
 Mingierode, Lewis, Painting, 88.
 Minor, R. C., Paintings, 20, 24.
 Miravent y Gatell, José, Paintings, 125, 127.
 Mischenski, Photographs, 143.
 Mitchell, E., loans Painting, 19.
 Mitchell, Henry, Stone gems, 55.
 Mitchell, J. A., Designs, 32, 36.
 Mittermaier, Max, Stained glass, 57.
 Moeller, F. G., Design, 32.
 Moffit, John M., Design, 35.
 Moglia, Augusto, Mosaics, 119, 120.
 Moia, Painting, 115.
 Mole, J. H., Water color, 66.
 Molinero, Antonio, Engraved marble, 127.
 Molkenboer, W. B. G., Designs, 103.
 Möller, Niels B., Paintings, 108, 109.
 Molnar, J., Paintings, 83, 85.
 Mols, Robert, Painting, 92, 95.
 Monari, Alessandro, Sculpture, 111.
 Monari, Prof. Carlo, Sculpture, 116.
 Monginet, C., Painting, 78.
 Monroy, Felix, Painting, 123.
 Montalant, J. O. de, Paintings, 31, 40.
 Montalba, Miss Clara, Water color, 66.
 Montelatici Brothers, Mosaic tables, 112.
 Montelatici, Giuseppe, Mosaic tables, 112.
 Montenegro, Guadalupe, Painting, 123.
 Montfallet, A., Paintings, 74, 75.
 Montfallet, D., Painting, 72.
 Monzon, T. B., Photographs, 144.
 Moore, C. B., loans Painting, 37.
 Moore, George, loans Water color, 67.
 Moore, Henry, Paintings, 63.
 Moore, H. H., Painting, 21, 43.
 Moore, R. E., loans Paintings, 24, 31.
 Moragas, M. G., Photographs, 132.
 Moragas y Valero, Manuel, Paintings, 128.
 Morales, Divino, Painting, 126.
 Moran, Edward, Paintings, 20, 22, 24, 31.
 Moran, J., Photographs, 140.
 Moran, P., Paintings, 24, 47; Etchings, 59.
 Moran, Thomas, Paintings, 23, 28, 46; Drawings, 54.
 Moras, W., Painting, 84.
 Moreau, A., Painting, 54.
 Moreau, Vonthière, Bronze, 81.
 Moreno y Galindo, T., loans Paintings, 125.
 Morgan, E. D., loans Paintings, 17, 21, 24.
 Morgan, George, Sculpture, 60.
 Morgan, George D., loans Painting, 28.
 Morin, Léonard, Painting, 75.
 Morrell, Mrs. I. Robinson, Paintings, 21, 44.

Morrison, Alfred, loans Painting, 63.
 Morrow, J. H., Photographs, 141.
 Morse, S. F. B., Paintings, 19, 21, 50.
 Mosher, C. D., Album, 139.
 Motelli, Metello, Sculpture, 110.
 Moulin, H., Sculpture, 78, 81.
 Moulton, A., Painting, 77.
 Moulton, B. S., & Co., loan Painting, 42.
 Mount, W. S., Painting, 19.
 Moxon, C., loans Paintings, 63, 64.
 Mozley, Lewin, loans Painting, 63.
 Mücke, C., Paintings, 84.
 Mullen, W. W., loans Sculpture, 52.
 Müller, Charles Leopold, Painting, 89.
 Müller, R. A., Engraving, 58.
 Mulready, William (dec'd), Painting, 63.
 Mundhenk, A., Sculpture, 45.
 Munger, Geo., Painting, 21.
 Munier, E., Painting, 75.
 Munsch, Leopold, Painting, 88.
 Munsterhelm, M., Painting, 135.
 Munthe, Painting, 108.
 Munzig, G. C., Crayon, 54.
 Muraton, A., Paintings, 38, 75, 78.
 Muraton, Mrs. E., Paintings, 72, 73.
 Muratory, José, Paintings, 122.
 Murillo, Painting, 38.
 Museo de San Tomas, Leaves, 133.
 Museum of Fine Arts, of Madrid, loans Paintings, 125.
 Musin, François, Paintings, 92, 95.
 Mutrie, Miss A. F., Painting, 63.
 Mutrie, Miss M. D., Painting, 63.
 Myers, E. E., Designs, 35.
 Myers & Hedian, loan Paintings, 38, 39.

N.

Naftel, P. J., Water color, 66.
 Nakken, W. C., Paintings, 101, 102.
 Naomof, A., Paintings, 134.
 Napoléon é Hijo, A. & L., Photographs, 132.
 National Academy of Mexico, loans Painting, 123, 124.
 National Bank Note Company, Bank-note engraving, 59.
 National Chromo Company, Chromos, 56.
 National Club, loans Painting, 71.
 Navarrete, R., Painting, 130.
 Navelot, Victor, Painting, 38.
 Naya, E., Photograph, 143.
 Naylor, J., loans Painting, 63.
 Neagle, John, Paintings, 22, 23.
 Nefflin, P. H., Painting, 26.
 Nemes-Ransonnet, Eliza, Paintings, 89, 90.
 Nesmith, H. E., loans Painting, 22.
 Nesmith, J. J., loans Painting, 17.
 Neustätter, L., Paintings, 85.
 Newberry, Rose, Painting, 28.
 Newbold, R., loans Water color, 66.
 Newcomb, L., & Son, Designs, 32, 37.
 Newell, R., & Son, Photographs, 138.
 Newland, E., loans Painting, 48.
 Newman, J. H., Photographs, 142.
 Newton, A. P., Water color, 66.
 Newton, Gilbert Stewart, Painting, 63.
 Newton, H. J., Photographs, 141.
 Newton, Stuart, Paintings, 19.
 New York Academy of Design, loans Paintings, 17, 19, 23.
 New York City Hall, loans Portrait, 21.
 New York Hospital, loans Paintings, 18, 24, 50.
 New York Museum, loans Sculpture, 51.
 New York Society for the Relief of Widows and Orphans, loans Painting, 30.
 Nicholas, Miss M., Painting, 75.
 Nichols, H. H., Engravings, 58.
 Nicolaysen, L. W., Painting, 108.
 Nicoll, E., Painting, 38.
 Nicoll, J. C., Paintings, 25, 26, 27, 28.
 Nielsen, Amaldus, Paintings, 108, 109.

Nielsen, Johan, Painting, 108.
 Niemeyer, J. H., Painting, 20.
 Nilson, H. M., Painting, 21.
 Nilsson, S., Paintings, 106.
 Nisen, Felix, Paintings, 93, 95.
 Nobas, N., Photographs, 132.
 Nobas, Rosendo, Sculpture, 125; Plaster, 126.
 Noble, T. S., Painting, 44.
 Nordenberg, B., Paintings, 106.
 Nordgren, A., Paintings, 106.
 Nordlander, Miss A., Painting, 106.
 Norman, A., Paintings, 108, 109.
 Norman, C., Photographs, 141.
 North, Miss R. M., Drawing, 56.
 Northbrook, Lord, loans Paintings, 62, 63.
 Northcote, J., Painting, 63.
 Norton, W. E., Painting, 42.
 Notermann, Zach., Paintings, 73, 75, 77.
 Notman, W., loans Painting, 71; Photographs, 142.
 Novello, Luigi, Mosaic tables, 112.
 Nys, P., Painting, 38.

O.

Obermullner, Adolphus, Paintings, 89.
 Obernetter, J. B., Prints, 143.
 Obregon, José, Painting, 123.
 O'Brien, Paintings, 69, 70.
 O'Brien, L. R., loans Paintings, 69, 70.
 O'Brien, W., loans Painting, 29.
 Ocaranza, Manuel, Painting, 123.
 Ochoa, B., loans Paintings, 130.
 Ockel, E., Paintings, 83, 84.
 O'Connor, J., Water color, 66.
 Oeconomio, A., Paintings, 89.
 Oertel, J. A., Painting, 31.
 Ogilvie, C., Painting, 29.
 Okerbund, E. G., Photographs, 141.
 Olyphant, D., loans Painting, 19.
 Olyphant, R., loans Painting, 23.
 Olyphant, R. M., loans Paintings, 17, 18, 20, 23, 30.
 O'Neil, Henry, Painting, 63.
 Ontario, Government of, loans Paintings, 70, 71.
 Ooms, Karel, Painting, 95.
 Opie, John, Paintings, 63.
 Oppenorth, W. J., Paintings, 100, 101.
 Orchardson, W. Q., Paintings, 63.
 Orlandini, Mosaic tables, 112.
 Orlofsky, W., Painting, 135.
 Ornamental Mirror Co., Photographs, 145.
 Ortells, C., Hairwork, 133.
 Ortiz, D. J. de, Painting, 130.
 Ortiz, J., Paintings, 129.
 Ortlieb, F., Painting, 84.
 Ortmans, Miss F. A., Painting, 38.
 Osgood, Jas. R., loans Painting, 26.
 Osgood, J. R., & Co., Photographs, 145.
 Ostergren, T. P., Wood carvings, 105.
 Osti, H., Photographs, 145.
 Ott & Brewer, loans Sculpture, 50.
 Oudinot, A., Painting, 75.
 Oules, W. W., Paintings, 64.
 Overbaugh, A. W., Engravings, 55.
 Owen, William, Painting, 64.

P.

Pabst, C. Alf., Painting, 74.
 Pach, Photographs, 140.
 Pacheco, I., Photographs, 144.
 Pacheco, I. Insley, Paintings, 121; Drawings, 121.
 Paez, José, Painting, 123.
 Pagani, Luigi, Sculpture, 111.
 Page, Wm., Painting, 21.
 Pagés y Casamitjana, Sculpture, 126.
 Pagés y Serratosa, Statuettes, 127.

- Paine, George, loans Painting, 64.
 Palazzi, Gaetano, Painting, 113.
 Palling, John I., Painting, 102.
 Pallière, J. L., Painting, 72.
 Palm, Chas., & Co., Transfers on glass, 56.
 Palm, G. W., Painting, 106.
 Palmer, E. D., Sculpture, 51.
 Pandiani, Signora A. M., Sculpture, 118.
 Pandiani, Costantino, Sculpture, 110, 114.
 Pandiani, Giovanni, Sculpture, 111.
 Pandiani, Innocente, Sculpture, 110.
 Paquet, A. C., Medals, 55.
 Pardessus, E. V., Sculpture, 30.
 Park, R. H., Sculpture, 50, 51.
 Parker, E., Painting, 42.
 Parker, J. A., Painting, 29.
 Parker, S. H., Painting, 39.
 Parkes, R. B., Engravings, 67.
 Parmentier, Louisa von, Paintings, 88, 90.
 Parmentier, Mary von, Painting, 89, 90.
 Parra, Felix, Painting, 123.
 Parrot, R. P., loans Painting, 23.
 Parsons, C., loans Painting, 71.
 Parton, A., Paintings, 20, 23.
 Pasquelli, A., Painting, 122.
 Passage, A. du, Sculpture, 47.
 Paton, W. H., Painting, 64.
 Pattburg & Bros., Passe-partouts, 138.
 Paullin, W. T., Photographs, 140.
 Pausinger, Frances von, Painting, 89.
 Pautrot, I., Bronze, 81.
 Pauwels, Ferdinand, Paintings, 38, 93.
 Pawle, F. C., loans Painting, 62.
 Paxson Bros., Photographs, 139.
 Payne, H. T., Photographs, 140.
 Pazzi, Prof. Enrico, Sculpture, 110.
 Peacon, W. V., Penmanship, 49.
 Peake, W. J., loans Painting, 22.
 Peale, C. Wilson, Paintings, 48, 50.
 Peale, Rembrandt (dec'd), Paintings, 45, 47.
 Peale, Mrs. R., loans Painting, 45.
 Pearce, Charles S., Painting, 22.
 Pease, A., Painting, 31.
 Pease, J. Ives, Engravings, 58.
 Peck, S. M., & Co., Apparatus, 139.
 Peduzzi, Renato, Sculpture, 111, 113, 114.
 Peele, J. T., Painting, 64.
 Pell, A. I., loans Paintings, 70, 71.
 Pen, A. I., loans Painting, 70.
 Penas y Leon, Antonio de las, Statuette, 127.
 Pencoysd Rolling Mills, Iron work, 9.
 Pender, John, loans Painting, 62.
 Penel, Jules, Engravings, 82.
 Penn, P. G., loans Painting, 71.
 Pennsylvania, State of, loans Painting, 22.
 Penther, Daniel, Paintings, 89.
 Perdicaris, I., Painting, 17; loans Design, 49.
 Pereda, Raimondo, Sculpture, 113, 114, 116.
 Perine, George E., Engravings, 58.
 Perkins, C. C., loans Painting, 41.
 Perkins, E. N., loans Painting, 19.
 Perkins, Stephen H., loans Sculpture, 52.
 Perrault, A., Painting, 78.
 Perrault, L., Painting, 73.
 Perré, H., Paintings, 69.
 Perrey, N. A., Sculpture, 75.
 Perrine, W. H., Chromos, 56.
 Perry, E. Wood, Paintings, 18, 19, 20, 25, 26, 27.
 Perseus, Edw., Painting, 107.
 Perugini, Charles Edward, Painting, 64.
 Pesenti, Domenico, Painting, 114.
 Pessina, Carlo, Sculpture, 111, 119.
 Petersen, J. E. C., Painting, 42.
 Petit, Eugène, Painting, 74.
 Petrazzini, Painting, 122.
 Petre, F., Painting, 144.
 Pettie, John, Paintings, 64.
 Pettit, G. W., Painting, 47.
 Pezzicar, F., Sculpture, 91.
 Pfeiffer, Carl, Designs, 35.
 Philippeau, C. F., Painting, 101.
 Phillips, L. B., Engravings, 67.
 Photo Lithograph Co., Lithographs, 145.
 Picchi, Andrea, Paintings, 115, 116, 117.
 Picq, H., Design, 82.
 Pierce's Business College, Penmanship, 57.
 Pierson & Poincy, Painting, 43.
 Pilgeram & Lefèvre, loan Paintings, 62, 64, 66.
 Pilz, Vincenz, Sculpture, 90.
 Pina, Salome, Painting, 123.
 Pinchot, J. W., loans Paintings, 20, 29.
 Pine, Theodore, Painting, 17.
 Piner, Juan de, Paintings, 126, 129.
 Pitarra, Cav. Carlo, Painting, 115.
 Pitner, Francis, Water colors, 90.
 Pixis, Theodore, Painting, 83.
 Plantou, Miss, loans Painting, 48.
 Plantou, Mrs., Painting, 48.
 Plassan, A. E., Painting, 73.
 Platteel, Jean David, Painting, 94.
 Pleshonoff, P., Painting, 135.
 Plockhorst, B., Painting, 84.
 Plockhorst, Prof., Painting, 85.
 Plumot, A., Paintings, 94, 95.
 Pohl, G. R., Designs, 36.
 Pohle, H., Paintings, 17, 84.
 Poncet, B., Painting, 79.
 Poncet, J. B., Painting, 78.
 Pönninger, Miss C., Water colors, 91.
 Poole, P. F., Painting, 64.
 Pope, A., jr., Wood carving, 59.
 Pope Pius IX., loans Paintings, 120.
 Porcinai, Antonio, Sculpture, 111.
 Porporati, Painting, 38.
 Portaels, J., Paintings, 92, 94.
 Porter, B. C., Painting, 41.
 Porter, S. C., Painting, 46.
 Poschinger, R. von, Painting, 84.
 Post, Mrs. Charles, loans Painting, 25.
 Post, Miss Christine, Painting, 107.
 Post, Geo. B., Designs, 34.
 Postma, G., Painting, 100.
 Potemont, M., Engraving, 80.
 Potsdamer & Co., Engraving, 58.
 Pott, L. G., Painting, 64.
 Potter, Mrs., loans Painting, 23.
 Potter, E., Designs, 34, 35.
 Potter, W. A., Designs, 34.
 Potter & Robertson, Designs, 34.
 Powers, Preston, Sculpture, 51.
 Poynter, Edward J., Paintings, 64.
 Pozzi, Egidio, Sculpture, 118.
 Pozzo, Aug., Paintings, 144.
 Prang, L., & Co., Chromo-lithographs, 55.
 Preller, L., Painting, 83.
 Preller, N., Painting, 84.
 Prime, W. C., loans Painting, 30.
 Prince, S. F., & Co., Stonework, 9.
 Princeteau, R., Paintings, 78, 79.
 Prinsep, Val. C., Paintings, 64.
 Prion, Louis, Painting, 73.
 Proa, C., Photographs, 144.
 Probst, Charles, Painting, 89.
 Protais, P. A., Paintings, 72, 73.
 Putnam, J. P., Designs, 32, 33.

Q.

- Queriau, Luigi, Painting, 113.
 Quick, W. M. R., Engraving, 67.

R.

- Rabada y Valire, Juan, Paintings, 127.
 Rabillon, L., loans Painting, 38.
 Racotchi, Sidorsky, & Co., Painting, 135.
 Radice, Cav. P., Painting, 115; Sculpture, 117.
 Radius, Eugenio, Sculpture, 119.
 Raeburn, Sir Henry, Paintings, 64.
 Rafter, Susie J., Painting, 28.
 Ragusa, Vincenzo, Sculpture, 110, 111.
 Rajon, P. A., Etchings, 80, 81.

- Ramaschiello, Vincenzo, Sculpture, 114.
 Ramazzotti, Serafino, Sculpture, 111, 119.
 Ramirez, Joaquin, Painting, 123.
 Rand, Dr., loans Painting, 24.
 Randle, Fred., Painting, 96.
 Raoux, Albert, Paintings, 93, 95.
 Raphael, Wm., Painting, 70.
 Rapin, A., Painting, 76.
 Rapin, A. J., Painting, 73.
 Rasmussen, J. E. S., Paintings, 104.
 Rathenower, Apparatus, 143.
 Rau, G., Photographs, 138.
 Raupp, Carl, Painting, 43.
 Raven, John S., Painting, 64.
 Ream, Vinnie, Sculpture, 51, 52.
 Rebull, Santiago, Paintings, 123, 124.
 Redgrave, R., Paintings, 64; Engravings, 67.
 Redgrave, Samuel, loans Engraving, 67.
 Redman & Kenney, Engraving, 58.
 Reed, E. J., loans Water color, 66.
 Reed, J. C., Drawing, 54.
 Reich, Jos., Drawings, 54.
 Reichard & Lindner, Photographs, 143.
 Reichert, Chas., Paintings, 89.
 Reichert, F., Paintings, 83, 85.
 Reid, J. J., Photographs, 140.
 Reijntjes, H. E., Paintings, 102, 103.
 Reilly, J. J., Photographs, 137.
 Reitlinger, A. H., loans Paintings, 38.
 Reitmeyer, J., Photographs, 143.
 Renie, Jean Emile, Paintings, 73, 76, 77, 79.
 Reniers, P. C., Sculpture, 47.
 Renwick & Sands, Design, 34.
 Reuling, George, loans Paintings, 38, 43.
 Reusch, F., Sculpture, 85.
 Revel, C., Painting, 75.
 Reynaud, F., Painting, 73.
 Reynolds, Sir J. (dec'd), Paintings, 47, 64.
 Reynoso, E., Calligraphs, 131.
 Riabinin, Carving, 135.
 Ribarz, Ralph, Paintings, 88, 89.
 Ribbing, Miss S., Paintings, 107.
 Ribossi, Angelo, Painting, 114.
 Rice, J. D., Stereoscope, 141.
 Richards, D., Sculpture, 44, 47.
 Richards, F. De B., Painting, 47.
 Richards, Henry, Designs, 37.
 Richards, W. T., Paintings, 22, 25, 26, 27.
 Richmond, H., loans Painting, 30.
 Richmond, W., loans Painting, 31.
 Richmond, W. B., Painting, 64.
 Richner, L. P. R., Painting, 75.
 Richter, G., Painting, 85.
 Ridgway, W., Engravings, 67.
 Riedel, Chas., Painting, 88.
 Riegen, N., Paintings, 102, 103.
 Rigaud, John Francis, Painting, 64.
 Ringel, D., Bronze, 81.
 Ripley, Miss E., loans Painting, 28.
 Ripley, Miss H., loans Painting, 26.
 Risse, R., Painting, 84.
 Ritchie, A. H., Paintings, 29, 31; Engravings, 58.
 Ritschel, G. A., Photographs, 143.
 Rivera, Painting, 126.
 Rivey, A., Paintings, 73, 78.
 Riviere, B., Paintings, 64.
 Robbe, Henry, Painting, 92.
 Robbins, Ella, Drawings, 48, 49.
 Robbins, F., Photographers' tent, 137.
 Robbins, Rev. F. L., loans Paintings, 21, 38.
 Robbins, H., Paintings, 27.
 Robbins, H. W., Painting, 28.
 Robert, Alexander, Paintings, 93, 94.
 Robert, Jules, Engravings, 80, 81.
 Robert, Leopold, Painting, 38.
 Roberts, Howard, Sculpture, 21.
 Roberts, T., Painting, 64.
 Robertson, T., loans Painting, 23.
 Robillard, Dr., loans Painting, 70.
 Robinson, Andrew L., loans Paintings, 48.
 Robinson, H. P., Photographs, 142.
 Robinson, John, Water colors, 99.
 Robinson, T., Paintings, 39, 41, 42, 43.
 Roccheggiani, Mosaics, 119, 120.
 Rocha, Antonio da, Painting, 121.
 Rochenoir, I. de la, Painting, 77.
 Rocher, H., Photographs, 138.
 Rochussen, C., Paintings, 100, 102.
 Rock, Warren, loans Painting, 69.
 Roco, Hermanos, Statuary, 127.
 Rodin, Auguste, Statuary, 96.
 Rodriguez, Antonio, Painting, 123; Photographs, 132.
 Rodriguez, C., Engravings, 132.
 Rodriguez, D., Mosaic, 131.
 Rodriguez, Juarez Juan, Painting, 124.
 Rodriguez, Nicolas, Painting, 124.
 Rodriguez Valcozar, Ramon, Painting, 128.
 Roelofs, W., Painting, 102.
 Roffiaen, Francois, Painting, 92.
 Rogers, John, Statuary, 59.
 Rogers, Randolph, Sculpture, 47, 51, 52.
 Roi, Pietro, Painting, 111.
 Roloefs, W., Painting, 102.
 Rolph, I. T., loans painting, 70.
 Romagnoli, Angelo, Painting, 113.
 Romanelli Pasquale, Sculpture, 110, 114.
 Romani, Prof. Carlo, Sculpture, 110.
 Romani, Francesco, Sculpture, 118.
 Romeli, P., Photographs, 143.
 Rominelli, Ferdinando, Mosaic table, 59.
 Romoli, Paintings, 111, 112.
 Romoli, Prof. Luigi, Sculpture, 117.
 Ronner, Mrs. Henriette, Painting, 101.
 Roosenboom, Albert, Paintings, 92, 95.
 Root, M. A., Illustrations, 138.
 Root, S., Photographs, 139.
 Ropes, Joseph, Painting, 46.
 Rosen, Count C. von, Painting, 107.
 Rosenthal, T. E., Paintings, 22, 47.
 Rosetti, Antonio, Sculpture, 118.
 Rosier, P., Paintings, 72, 74.
 Ross, A., Bronze, 81.
 Ross & Co., Photographs, 141.
 Rosseels, Jacques, Painting, 93.
 Rossi, Prof. Alessandro, Sculpture, 115.
 Roth, G. A., Painting, 100.
 Rothermel, P. F., Paintings, 22, 23, 40, 44, 45, 46, 47.
 Rothschild, Baron L. de, loans Painting, 62.
 Roubaud, L., Bronze, 81.
 Roubaud, L. A., Sculpture, 76.
 Rouffio, P., Painting, 79.
 Rougeron, A., Painting, 79.
 Rous, Bart., loans Painting, 64.
 Rovira y Rabassa, A., Monuments, 132.
 Rowe, Geo. A., Engravings, 55.
 Royal Academy of London, loans Paintings, 62, 64, 65.
 Royal Belgian Society for Photography, 98.
 Ruben, Francis Leo, Paintings, 88, 89.
 Rubio, Prof. Luigi, Painting, 111.
 Rückart, F., Painting, 85.
 Ruckwardt, H., Photographs, 143.
 Rudaux, E., Painting, 73.
 Ruiz, M., Fancy work, 133.
 Ruiz de Valdiria, Nicolas, Painting, 126.
 Rulon, S. A., Hindoo idol, 59.
 Rumbold, Geo. W., Wall paper, 55.
 Rummelhof, Chr., Paintings, 109.
 Rumpler, F., Paintings, 88, 90.
 Rupprecht, M., Photographs, 144.
 Rush, Sculpture, 50.
 Russ, Francis, Paintings, 88, 89.
 Russ, Robert, Paintings, 88, 90.
 Russell, Earl, loans Painting, 62.
 Rust, J. A., Painting, 100.
 Ruths, V., Painting, 83.
 Rydberg, C. F., Paintings, 107.
 Ryder, J. F., Photographs, 138.
 Ryger, T., Statuary, 135.

S.

- St. Clement's Church, loans Sculpture, 52.
 St. Gaudens, Aug., Sculpture, 51.

- St. Paul's Church, loans Painting, 29.
 St. Thomas' College, loans Paintings, 131.
 Sabino, J. T., Photographs, 144.
 Saddler, J., Engravings, 68.
 Sadee, Th., Painting, 101.
 Sagredo, Ramon, Painting, 123.
 Sain, E. A., Paintings, 38, 72, 73.
 Sainin, Jules Emile, Paintings, 73, 74, 87.
 Salabanoff, D. A., Painting, 135.
 Salabert, F., Painting, 73.
 Salanson, Miss E., Painting, 77.
 Salcedo, P., Design, 131.
 Salisbury, E. E., loans Painting, 40.
 Salisbury, Mrs. H., loans Painting, 29.
 Salles, J., Paintings, 77.
 Salles-Wagner, Mrs. A., Paintings, 74, 75.
 Salmson, Hugo, Painting, 107.
 Saloman, Geskel, Paintings, 107.
 Salomi, Sculpture, 118.
 Saltau, L., Painting, 38.
 Salter, John, loans Painting, 69.
 Salties, Nicholas, loans Painting, 25.
 Sampson, H., loans Painting, 39, 46.
 Sanchez, Blanco Pedro, Painting, 128.
 Sanchez, P., Painting, 130.
 Sande Backhuijzen, Mrs. G. J. v. d., Paintings, 101, 102.
 Sandham, H., Paintings, 70, 71.
 Sandrini, Antonio, Mosaic tables, 112.
 Sands, Philip J., loans Painting, 28.
 Sant, James, Paintings, 64.
 Santigosa, Francisco, Statuettes, 127.
 Sargent, Henry, Painting, 48.
 Sargent & Co., Stonework, 9.
 Sarony, loans Painting, 29.
 Sarony, N., Photographs, 138.
 Sarocchi, Tito, Sculpture, 110.
 Sartain, Emily, Painting, 24.
 Sartain, John, Engravings, 58.
 Sartain, Samuel, Engravings, 58.
 Sasso, Antonio, & Son, Sculpture, 117.
 Satterlee, W., Paintings, 24, 25, 28.
 Satyro, Pedro, Miniatures, 144.
 Saul, Giorgio, Sculpture, 111.
 Saunders, G., Engraving, 68.
 Savrij, H., Painting, 100.
 Savry, H., Painting, 100.
 Sawyer, S. E., loans Painting, 41.
 Sayles, J., loans Painting, 41.
 Scappini, G., Mosaic tables, 112, 113.
 Scarselli, Nicola, Mosaics, 112.
 Scattergood & Hammar, Engraving, 58.
 Scharwachler, J., Photographs, 143.
 Schaeffer, A., Paintings, 88, 89.
 Schafer, S. M., loans Painting, 18.
 Schams, Francis, Painting, 90.
 Schanche, Herm. G., Painting, 108.
 Scharff, Anthony, Medals, 91.
 Schauss, F., Paintings, 83, 84.
 Schell, F. B., Drawing, 54.
 Schenck, A. F., Paintings, 73.
 Schenkel, J. J., Paintings, 101, 102.
 Schidone, Painting, 38.
 Schilcher, Fred., Paintings, 88.
 Schile, Henry, loans Drawing, 48.
 Schipperus, P. A., Painting, 102.
 Schive, Jacob, Painting, 108.
 Schlesinger, F., Painting, 84.
 Schlesinger, Henry, loans Painting, 63.
 Schlesinger, L., Photographs, 139.
 Schlesinger, Mr., loans Painting, 24.
 Schluter, B., Photographs, 140.
 Schmertz, W. E., loans Painting, 47.
 Schmidt, George S., Silhouettes, 56.
 Schneider, G. H., loans Painting, 37; loans Sculpture, 51.
 Schüdi, Max, Paintings, 88.
 Schodisch, Lud., Studies, 144.
 Scholten, J. A., Painting, 101.
 Scholten, J. H., Painting, 100.
 Scholtz, R., Photographs, 143.
 Schön, Aloysius, Painting, 90.
 Schönreither, George, Painting, 89.
 Schovelin, A., Painting, 104.
 Schrader, Jul., Painting, 85.
 Schreiber, Mrs., Paintings, 71.
 Schriber & Son, Photographs, 138.
 Schrodi, Anthony, Painting, 89.
 Schroeder, Louis, Etruscan art, 74.
 Schulz, M., Sculpture, 85.
 Schulz & Suck, Photographs, 143.
 Schussele, C., Paintings, 24, 46.
 Schuster, Miss Adele, Water colors, 91.
 Schuyler, Miss, loans Painting, 28.
 Schuyler, M. R., loans Painting, 28.
 Schwabe, G. C., loans Paintings, 63, 64.
 Schwarz, A., Painting, 85.
 Schwarzmann, H. J., Architect, 9.
 Schwarzmann, H. J., & Kafka, H., Designs, 36, 37.
 Schweinitz, R., Sculpture, 86.
 Schweninger, Rosa, Painting, 89.
 Schwerin, Amalia von, Paintings, 107.
 Schwier, K., Photographs, 143.
 Schwind & Kreuger, Photographs, 139.
 Schwörer, A., Painting, 54.
 Scifoni, A., Paintings, 114, 116.
 Scott, G., loans Paintings, 70, 71.
 Scott, W., loans Painting, 70.
 Scott, Wm. W., Paintings, 25, 26, 28.
 Scovill Manufacturing Co., Apparatus, 139.
 Sculptors, Society of, Sculpture, 114.
 Seavey, L. W., Photographs, 140.
 Sebastião Vila, P., Photographs, 132.
 Sebes, Pieter Willem, Painting, 95.
 Sebillot, Paul, Painting, 74.
 Sebron, H., Paintings, 77, 79.
 Seelig, M. J., & Co., Sculpture, 53.
 Seelos, Godfrey, Painting, 89.
 Ségé, A., Paintings, 72, 79.
 Seggern, F. van, Paintings, 101, 102.
 Seibels, C., Paintings, 84.
 Seibert, S. R., Camera, 138.
 Seiler, C., Photographs, 139.
 Seitz, Prof. Otto, Paintings, 38, 39.
 Seligman, Mrs. E., Paintings, 23.
 Selim, Mrs. H., Painting, 75.
 Sellstedt, L. G., Painting, 29.
 Semiradsky, H., Painting, 134.
 Semmendinger, A., Photographs, 140.
 Senat, P. L., Painting, 40.
 Serrano y Arenas, Embroideries, 133.
 Severn, A., Water colors, 66.
 Sévres Porcelain Manufactory, Vases, 74, 76.
 Seybold, G. von, Painting, 83.
 Shade, W. A., Painting, 20.
 Shapleigh, F. H., Painting, 41.
 Sharpe, C. W., Engravings, 68.
 Shattuck, A. D., Paintings, 23, 29, 31.
 Shaw, Annie C., Painting, 44.
 Shawcross, W. F., loans Painting, 64.
 Sheldon, F., loans Painting, 23.
 Sheldon & Slason, Sculpture, 59.
 Sherwood, John, loans Painting, 25.
 Sherwood, J. H., loans Paintings, 22, 31.
 Shirlaw, Walter, Painting, 40.
 Shoemaker & Co., Glass, 9.
 Shultz, J. S., loans Painting, 30.
 Sibley & Co., Albums, 137.
 Sidwall, Miss Amanda, Painting, 107.
 Signorini, T., Paintings, 113, 115.
 Silbernagel, C., Bronze, 86.
 Silva, F. A., Paintings, 26, 30.
 Silvanovitch, N., Painting, 135.
 Simon, H., Painting, 45.
 Simons, M. P., Photographs, 140.
 Sims, H. A., Design, 35.
 Sims, H. A. & J. P., Designs, 35.
 Sims, James P., Design, 35.
 Sinding, Otto, Paintings, 108.
 Sinding, Stephen, Sculpture, 109.
 Sirouy, A., Paintings, 75, 77.
 Skanberg, C. E., Painting, 107.
 Skarbina, F., Water color, 86.
 Skari, E. O. R., Painting, 108.
 Skirmund, S. A., Painting, 135.
 Skirmunt, S. de, Paintings, 135.
 Slack, S., & Co., Stained glass, 53.

- Slingeneyer, Ernest, Painting, 92.
 Slocombe, C. P., Engravings, 68.
 Sluijter, H. D., Engravings, 103.
 Smallfield, F., Water colors, 66.
 Smargiassi, Giovanni, Painting, 116.
 Smart, J., Painting, 64.
 Smart, T. L. & R. M., Engravings, 58.
 Smibert, John, Painting, 48.
 Smibert, J. S., Painting, 19.
 Smilie, G. H., Paintings, 23, 27, 28.
 Smillie, James, loans Painting, 27.
 Smillie, J. D., Paintings, 25, 26; loans Painting, 25.
 Smith, B. H., loans Painting, 25.
 Smith, C. S., loans Paintings, 18, 20, 22, 23, 25.
 Smith, F. H., Paintings, 26, 27, 28; loans Paintings, 27, 28, 40.
 Smith, G. B., Shield, 57.
 Smith, H. B., loans Painting, 28.
 Smith, H. P., Painting, 27.
 Smith, J., loans Paintings, 70, 71.
 Smith, J. T., loans Painting, 25.
 Smith, Levi F., Chromo-lithograph, 56.
 Smith, Miss Mary, Painting, 43.
 Smith, M. L., Design, 34.
 Smith, R. C., Sculpture, 52.
 Smith, Russell, Painting, 47.
 Smith, T. Henry, Paintings, 23, 45, 46.
 Smith, T. L., Paintings, 29, 31.
 Smith, W. B., loans Paintings, 23, 30.
 Smith, W. H., loans Painting, 64.
 Smith, Xanthus, Painting, 45.
 Smith-Hald, F., Painting, 108.
 Smits, E., Paintings, 93, 94, 95.
 Sneff, C. H., loans Painting, 19.
 Snowden, T. W., Wood carvings, 59.
 Snowe, Francis, Painting, 43.
 Soanes, Temple, loans Painting, 65.
 Sociedad Económica de Amigos del Pais, Photographs, 132.
 Sodar, F., Paintings, 93, 94.
 Sodergren, Miss Sofia, Painting, 107.
 Soeterick, T., Painting, 100.
 Sojo, Statuary, 124.
 Sokoloff, P., Painting, 134; Water colors, 136.
 Sola y Roca, R., Lithographs, 131.
 Soler, F., Monuments, 132.
 Solmi, Prof. V., Paintings, 114, 115, 116.
 Sommaruga, Napoleone, Paintings, 115.
 Sonntag, W. L., Painting, 24.
 Sophie, L., Photographs, 145.
 Sørensen, C. F., Painting, 104.
 Soria, Ferrando Ricardo, Statuary, 127.
 Soubre, Charles, Painting, 92.
 Souchon, W., Paintings, 83, 85.
 Southwick, M., loans Painting, 18.
 Souza, Silveira, Miniatures, 144.
 Spalding, H. M., Household art, 59.
 Spangenberg, G., Painting, 84.
 Spangenberg, L., Water colors, 86.
 Spanish National Mint, loans Medals, 131; Photographs, 132.
 Speeckaert, Gustave, Painting, 95.
 Spencer, Mrs. Lily M., Paintings, 39, 44.
 Speroni, J. L., Engravings, 55.
 Spertini, Giovanni, Sculpture, 113, 117, 119.
 Spreafico, J., Album, 132.
 Springer, C., Painting, 101.
 Stacpoole, F., Engravings, 68.
 Staigg, R. M., Paintings, 23, 40, 41.
 Stainer-Knittel, Anne, Painting, 90.
 Stallaert, J., Paintings, 93, 94, 95.
 Stanfield, Clarkson (dec'd), Painting, 64.
 Stanford, L., loans Painting, 22.
 Stanghi, Carolina, Painting, 115.
 Stanley, D. M., Painting, 45.
 Staples, Mrs. M. E., Painting, 64.
 Starck, Jules, Painting, 93.
 Starkenborgk, I. N. T. von, Paintings, 84, 85.
 Starr, Miss Louisa, Painting, 64.
 Stayner, G. N., loans Painting, 31.
 Stearns, J. M., loans Paintings, 24.
 Steele Bros., China and glass, 58.
 Steens, Edmond, Painting, 92.
 Steffeck, C., Paintings, 84.
 Steffellaar, J., Painting, 102.
 Stehlin, Jos., Altar carving, 57.
 Steinhuis, William, Drawings, 48.
 Stengel, G. A., Drawings, 48.
 Stereoscopic Co., Photographs, 141.
 Sterling, Mrs. C. H., Drawings, 49.
 Sterling, W. I., loans Painting, 71.
 Stevenson, A. S., loans Paintings, 62, 64.
 Stewart, J. L., Paintings, 20, 46.
 Stewart, W. S., loans Paintings, 20, 38, 46.
 Stillfried, R. B., Photographs, 144.
 Stillfried & Anderson, Photographs, 145.
 Stillman, Mrs. M., Water color, 66.
 Stock, J., & Bro., Apparatus, 139.
 Stocker, Francis, Paintings, 88.
 Stockler, Emanuel, Water colors, 90.
 Stockwell, N., Camera, 141.
 Stoddard, S. R., Photographs, 137.
 Stokes, A. P., loans Painting, 22.
 Stokes, John, Drawing, 54.
 Stoll, J. A., Decorative bas-reliefs, 55.
 Stone, Mrs. A. B., loans Painting, 28.
 Stone, Dr Horatio (deceased), Sculpture, 51.
 Stone, Marcus, Painting, 64.
 Stone, W. O. (dec'd), Paintings, 19, 29.
 Storey, George A., Paintings, 64.
 Storrow, Mrs. C., loans Painting, 54.
 Storrows, T. W., loans Portrait, 19.
 Stortenebeker, P., Painting, 100.
 Story, Annie B., Drawings, 48.
 Story, G. H., Paintings, 17, 23.
 Story, W. W., Sculpture, 50, 51.
 Stroebel, J. A. B., Paintings, 100, 102.
 Stroefel & Kirchner, loan Paintings, 54; Engravings, 55.
 Strong & Dotterer, Photographs, 140.
 Stroobant, F., Paintings, 92, 93.
 Strugnell, F. W., loans Water color, 66.
 Strutt, A. T., Painting, 116.
 Struza, Giovanni, Sculpture, 111.
 Stuart, G. (dec'd), Paintings, 18, 19, 42, 52, 64.
 Stuart, R. L., loans Paintings, 17, 18, 20, 25, 29.
 Sturgis, Mrs. D. C., loans Painting, 21.
 Sturgis & Brigham, Designs, 32.
 Sturm, F., Paintings, 85.
 Subirat, Ramon, Wood carving, 127.
 Sully, Miss, loans Paintings, 23, 39.
 Sully, Thomas, Portraits, 21, 23, 39, 50.
 Suñol, G., Bronze, 126.
 Suydam, J., loans Painting, 31.
 Suydam, J. A. (dec'd), Paintings, 22, 23, 30.
 Svenson, F., Painting, 107.
 Svertchkoff, N., Painting, 135.
 Swain, Drawing, 54.
 Swain, Jos., Engravings, 68.
 Swank, J. W., Penmanship, 56.
 Swayne, W. M., Sculpture, 45.
 Sweeney, T. T., Photographs, 138.
 Swieszewski, A. von, Painting, 83.
 Swoboda, Edward, Painting, 89.
 Sword, J. B., Painting, 45.
 Symington, J., Painting, 26.

T.

- Taanman, J., Painting, 100, 102.
 Tadema, L. Alma, Water colors, 64, 66.
 Taft, Mr., loans Painting, 23.
 Tait, A. F., Painting, 22.
 Tait, J. R., Painting, 40.
 Talarn, D., Sculpture, 125.
 Talarn, Pelegrin, Painting, 128.
 Tampinco, Isabello, Sculpture, 130.
 Tantardini, Antonio, Sculpture, 111, 114, 116, 118, 119.
 Tassara, Sculpture, 52.
 Tayler, F., Water colors, 66.
 Tayler, Fred., Engraving, 68.

Taylor, Thomas, loans Painting, 62.
 Taylor, W., Photographs, 138.
 Tedesco, Prof. Michele, Painting, 111.
 Telford, J. M., loans Painting, 23.
 Temple, Cowper, loans Water color, 66.
 Tempra, Quirino, Sculpture, 118.
 Tenney, U. D., Painting, 48.
 Tera, Francis, Water colors, 90, 91.
 Testas, W. de Famars, Painting, 101.
 Thaulow, Fritz, Paintings, 108.
 Thayer, S., Designs, 32.
 Thayer, S. J. F., Designs, 32, 36.
 Thiersch, L., Painting, 83.
 Thom, J. C., Paintings, 19, 31.
 Thomas, Mrs., Paintings, 26.
 Thomas, Emile, Wood engravings, 80.
 Thomas, Percy, Engravings, 68.
 Thomas, W. L., Water color, 66.
 Thompson, A., Paintings, 18, 25.
 Thompson, A. Wordsworth, Paintings, 19.
 Thompson, H. I., Painting, 22.
 Thompson, Harry, Painting, 21.
 Thompson, J., Painting, 29.
 Thompson, J. C., Engravings, 58.
 Thomson, A. W., Painting, 30.
 Thornburn, A., Water color, 66.
 Thoren, Otto von, Painting, 88.
 Thorn, G. W., Photographs, 138.
 Thouron, H., Painting, 39; loans Painting, 43.
 Thurman, P., Painting, 108.
 Thurston, J. O., loans Painting, 27.
 Tidemand, A., Painting, 108.
 Tiffany, L., loans Painting, 20.
 Tiffany, L. C., Paintings, 25, 28.
 Tilden, G. T., Designs, 32.
 Tilton, J. R., Paintings, 39, 40.
 Titoff, A., Painting, 135.
 Toberenz, R., Sculpture, 86.
 Tom, J. B., Painting, 101.
 Tomashefky-Bontcha, J., Painting, 135.
 Tomkins, Chas. A., Engraving, 68.
 Tompkins, Clementina, Painting, 39.
 Topham, F. W. W., Paintings, 65, 67.
 Torelli, Lot, Sculpture, 113, 114.
 Torna, O., Paintings, 107.
 Torrecassana, Francisco, Painting, 128.
 Torrini, Giocondo, Mosaic tables, 112.
 Torte, V., Painting, 78.
 Totti, Prof. Carlo, Painting, 114.
 Tourteau, E., Decorated faience, 97; Decorated earthenware, 98.
 Tovar, Manuel, Models, 127.
 Townsend, Chas. E., Painting, 17.
 Townsend, John C., loans Painting, 27.
 Tracey, C., loans Painting, 30.
 Train & Bundy, Photographs, 139.
 Trapp & Munch, Photographs, 143.
 Travers, W. T. K., Painting, 52.
 Trenti, Girolamo, Paintings, 111, 116.
 Tresling & Co., Chromo-lithographs, 103.
 Trezzini, Angelo, Painting, 116.
 Trigt, H. A. van, Painting, 101.
 Trinity Chapel, N. Y., loans Painting, 39.
 Trist, George, loans Painting, 62.
 Trojani, G. B., Sculpture, 113, 119.
 Trombetta, Sculpture, 110.
 Trotter, N. H., Painting, 46.
 Trouillebert, P. D., Painting, 74, 78.
 Truman, E., Painting, 48.
 Trumbull, G., Painting, 30.
 Trumbull, John, Painting, 50.
 Trupheine, A. J., Painting, 73.
 Tschaggeny, Charles, Paintings, 92, 93.
 Tuckerman, S. S., Paintings, 41, 42.
 Turini, G., Sculpture, 32.
 Turner, H. J., loans Painting, 62, 63.
 Turner, J. M. W., Painting, 65.
 Turner, J. V. P., loans Painting, 43.
 Turner, W. G., Sculpture, 51, 52.
 Twibill, G. W., Painting, 19.
 Tyson, I. G., Photographs, 138.
 Tyszkiewicz, Count, Photographs, 145.
 Tzyroolnikoff, P., Carving, 135.

U.

Ugolini, Giov., & Co., Mosaic tables, 112.
 Uhlrich, H. S., Engraving, 68.
 Ulke, Henry, Paintings, 43.
 Ulmann, B., Painting, 72.
 Ungar, J., Photographs, 144.
 Unger, W., Etchings, 91.
 Union Club, N. Y., loans Paintings, 19, 29.
 Union League Club, loans Sculpture, 44.
 (Unknown), Paintings, 38, 48, 126, 128; Sculpture, 117, 118.
 Unterberger, F. R., Paintings, 92, 94.
 Upjohn, Richard M., Designs, 33.
 Urgell, Modesto, Painting, 128.

V.

Vaini, P. (deceased), Painting, 29.
 Valadon, J. E., Painting, 77.
 Valandon, I., Painting, 78.
 Valaperta, Francesco, Sculpture, 117.
 Valentine, J., Photographs, 142.
 Valera, J. D., Painting, 129.
 Valkenburg, H., Painting, 100.
 Van den Broeck, Miss C., Paintings, 93, 95.
 Vanderbilt, W. H., loans Painting, 29.
 Vandervelde, Painting, 71.
 Vanderlyn, J., Paintings, 21, 50.
 Van Deventer, J. H., Painting, 100.
 Vandusen, R., Chromo-lithographs, 56.
 Vandyck, Paintings, 70.
 Vandyke, Anthony, Painting, 37.
 Van Elten, K., Paintings, 17, 18, 24, 27, 28.
 Van Everdingen, A., Painting, 101.
 Van Hove, J. H., Painting, 100.
 Van Hove, Victor, Painting, 93.
 Van Keirsbilck, Jules, Paintings, 92, 94, 95.
 Van Lil, Joseph, Painting, 93.
 Van Lockhorst, D., Painting, 100.
 Van Loo, L., Photographs, 141.
 Van Luppen, G. Joseph, Paintings, 93, 94.
 Van Reuth, E., Painting, 52.
 Van Schendel, P., Painting, 38.
 Van Seben, Henry, Paintings, 94, 95.
 Varin, Eugene, Engravings, 80.
 Vasselot, A. de, Sculpture, 75, 76.
 Vazquez, Painting, 124.
 Vazquez, Ignacio, Painting, 124.
 Vedder, Elihu, Painting, 39.
 Vega, Federico de la, Painting, 123.
 Vega, Joaquin de la, Painting, 124.
 Vela, Prof. Vincenzo, Sculpture, 115.
 Velasco, José Maria, Painting, 123.
 Velazquez, Painting, 126.
 Vely, A., Painting, 78.
 Veneroni, Sculpture, 111, 119.
 Venino, Franz, Drawings, 49.
 Verboeckhoven, E., Painting, 38.
 Vereschaghin, P., Paintings, 135.
 Verhas, Jean, Painting, 92.
 Verheyden, François, Painting, 95.
 Verheyden, Isidore, Painting, 95.
 Verhoeven-Ball, Paintings, 92, 95.
 Verner, F. A., Paintings, 69, 71.
 Vernet, Jos., Painting, 38.
 Veron, A. R., Paintings, 72, 75, 77.
 Verranzo, L., Photographs, 144.
 Verschuur, W., jr., Painting, 101.
 Verveer, Elchanon, Painting, 101.
 Verveer, S. L., Painting, 101.
 Vester, W., Painting, 101.
 Vichi, Ferdinando, Mosaic tables, 112.
 Vidal, L., Prints, 143.
 Vidal y Roger, A., Music, 131.
 Vigdal, A. G., Painting, 109.
 Viger, H. J. L., Paintings, 72, 73.
 Villa, E., Painting, 77.
 Villa, Federico Gaetano, Sculpture, 114.
 Villa, J. G., Sculpture, 118.
 Villalpando, Carlos de, Painting, 123.
 Villamil, Leopoldo, Paintings, 128.

Villebesseyx, G., Painting, 74.
 Vinck, Franz, Paintings, 92, 94.
 Vincotte, Thomas, Statuary, 93.
 Virgin, J. G., Paintings, 107.
 Virtue, Jas., loans Paintings, 62, 64.
 Vogel, J. G., Paintings, 101, 102.
 Vogt, A., Paintings, 69, 71.
 Volkns, Messrs., loan Water colors, 65.
 Volk, Douglass, Paintings, 38, 47.
 Volkaerts, F. X., Earthenware, 98.
 Volkenburg, P. van, loans Painting, 24.
 Volkmer, Charles, Etchings, 59.
 Volkmer, Charles, jr., Painting, 44.
 Vos, Miss M., Paintings, 100, 101.
 Vuagnat, F., Painting, 75.

W.

Wade, Carlos, Painting, 128.
 Wagner, A., Painting, 54; Sculpture, 90.
 Wagner, Jules, Paintings, 92, 94.
 Wagner, S., loans Painting, 48.
 Wahlberg, H. A. L., Painting, 107.
 Wahlquist, E., Paintings, 107.
 Walekiers, Gustav, Paintings, 92, 94.
 Waldo, Painting, 50.
 Watery, Photographs, 143.
 Wales, G. W., loans Painting, 54.
 Walker, Major, loans Paintings, 69, 70.
 Wallander & Torslow, Paintings, 107.
 Wallander, W., Painting, 107.
 Waller & Schrader, Photographs, 137.
 Waller, Frank, Painting, 23.
 Waller, Mrs. M., loans Painting, 23.
 Wallis, H., Paintings, 65.
 Walraven, Jean, Painting, 92.
 Walton, F., Painting, 65.
 Ward & Co., Glass, 9.
 Ward, E. M., Paintings, 31, 65.
 Ward, Geo. R., Engraving, 63.
 Ward, Mrs. Henrietta, Paintings, 65.
 Ward, James, Painting, 65.
 Wardell, J., loans Paintings, 63, 64.
 Ware & Van Brunt, Designs, 32.
 Warner, A., loans Painting, 30.
 Warner, Miss W., Painting, 30.
 Warren, J. H., loans Painting, 40.
 Warren, O. L., Sculpture, 52.
 Wassenvogel, S., Photographs, 144.
 Wästfelt, C. C., Wood carvings, 105.
 Waterman & Hall, Photographs, 139.
 Waterman, M., Painting, 21.
 Waters, Horace, loans Painting, 27.
 Waters, Mrs. Horace, loans Painting, 26.
 Waters, Mrs. S. C., Painting, 47.
 Watkins, E. C., Photographs, 137.
 Watts, George F., Paintings, 65.
 Waugh, Ida, Paintings, 23, 47, 53.
 Waugh, S. B., Paintings, 18, 21, 24, 45, 47.
 Way, Paintings, 70.
 Way, A. J. H., Painting, 47.
 Way, C. Granville, Painting, 43.
 Way, C. I., Paintings, 70, 71.
 Weaver, Mrs. A. K., Photograph, 140.
 Weber, Carl, Painting, 43.
 Weber, P., Painting, 85.
 Weber, Philip, Painting, 24.
 Weber, Theodore A., Paintings, 93, 95.
 Webster, W. P., loans Painting, 52.
 Weeks, E. L., Painting, 41.
 Weigall, Henry, Paintings, 65.
 Weir, J. F., Paintings, 23, 30, 49, 47.
 Weir, R. W., Painting, 31.
 Weisman, W. H., Painting, 18.
 Weissenbruch, Jan, Painting, 101.
 Welling, H. J., loans Painting, 28.
 Wells, Henry Tanworth, Painting, 65.
 Welsh, John, loans Painting, 38.
 Wenderoth & Co., Photographs, 137.
 Wenderoth, F. A., Photographs, 145.
 Werner, G., Painting, 107.
 Wertheimer, Gustavus, Painting, 90.

Wertmuller (dec'd), Painting, 48.
 West, Benjamin, Paintings, 38, 50, 65.
 West, P. B., Painting, 39.
 West, Samuel, Stained glass, 53, 57.
 Westham Granite Co., Stonework, 9.
 Westminster, Duch. of, loans Water color, 66.
 Westminster, Duke of, loans Water color, 66.
 Weston, I., Paintings, 70, 71.
 Weston, N., Photographs, 137.
 Wetherby, Mrs., Photographs, 140.
 Wexelsen, Chr., Painting, 108.
 Wharnccliffe, Earl of, loans Painting, 64.
 Wharton, P. F., Painting, 24.
 White, Edwin, Paintings, 18, 20.
 White, G. H., Painting, 69.
 Whitechurch, R. (dec'd), Engravings, 58, 59
 Whitney, Annie, Sculpture, 42, 44.
 Whitney, George, loans Paintings, 22, 23, 25,
 27, 28, 30.
 Whitney, L. W., Design, 37.
 Whitten, Charles V., loans Painting, 28.
 Whittredge, W., Paintings, 17, 18, 20, 23, 30,
 31.
 Wider, W., Paintings, 84, 85.
 Wiener, Charles, Medals, 96, 97.
 Wieschahn, F. W. H., Penmanship, 59.
 Wiggleworth, T., loans Paintings, 20, 43.
 Wiklund, O., Photographs, etc., 144.
 Wilberg, C., Painting, 85.
 Wild, H., Painting, 45.
 Wild, H. G., Painting, 43.
 Wilde, Joseph, loans Painting, 25.
 Wilde, Samuel, loans Paintings, 26, 28.
 Wilkeson, Mrs. W., loans Paintings, 30, 45.
 Wilkie, Sir David, Paintings, 65.
 Willard, A. M., Painting, 40.
 Willard, W., Painting, 43.
 Wilcox, W. H., Painting, 44.
 Willenick, M., Paintings, 76.
 Williams, I. L., Paintings, 22, 47.
 Williams, I. T., loans Paintings, 26, 27, 28.
 Willich, C., Painting, 83.
 Willis, H. B., Paintings, 67.
 Willmore, A., Engravings, 68.
 Wilson, G. W., Photographs, 141; Album, 141.
 Wilson, Hood, & Co., Lenses, 139.
 Wilson, J. J., Magic lantern, 137.
 Wilson, Oregon, Paintings, 43, 45.
 Wilson, Richard, Painting, 65.
 Wilson, W. A., loans Paintings, 43, 45.
 Windt, P. P., Painting, 101.
 Winge, E., Paintings, 107.
 Winge, Mrs. H., Paintings, 107.
 Winge, M. E., Cartoons, 144.
 Winner, W. E., Paintings, 22, 47.
 Winters, Miss Anna, Paintings, 44.
 Wittman & Bros., Centennial memorial, 55.
 Wittkamp, Jean Bernard, Paintings, 95, 99.
 Wolf, G., Painting, 38; Photographs, 143.
 Wollrabe, H. W., Photographs, 103.
 Wood, G. B., jr., Painting, 47; Drawings, 42.
 Wood, Marshall, Sculpture, 60.
 Wood, T. W., Paintings, 18, 23, 28.
 Woodgate, T., loans Water color, 66.
 Woods, R. S., loans Painting, 71.
 Woodville, R. C., Paintings, 19, 21.
 Woodward, D. A., Photographs, 140.
 Workum, L. J., loans Sculpture, 40.
 Worthington Sons, Pedestal, 59.
 Wortly, S., Photographs, 141.
 Wouwermans, Painting, 38.
 Wright, Geo., Painting, 20.
 Wright, H. Smith, loans Painting, 63.
 Wright, J. H., loans Painting, 42.
 Wulfraet, Hippolyte, Painting, 95.
 Wyant, A. H., Painting, 28.
 Wynfield, D. W., Paintings, 65.
 Wyon, J. S. & A. E., Sculpture, 60.

X.

Xylander, W., Painting, 84.

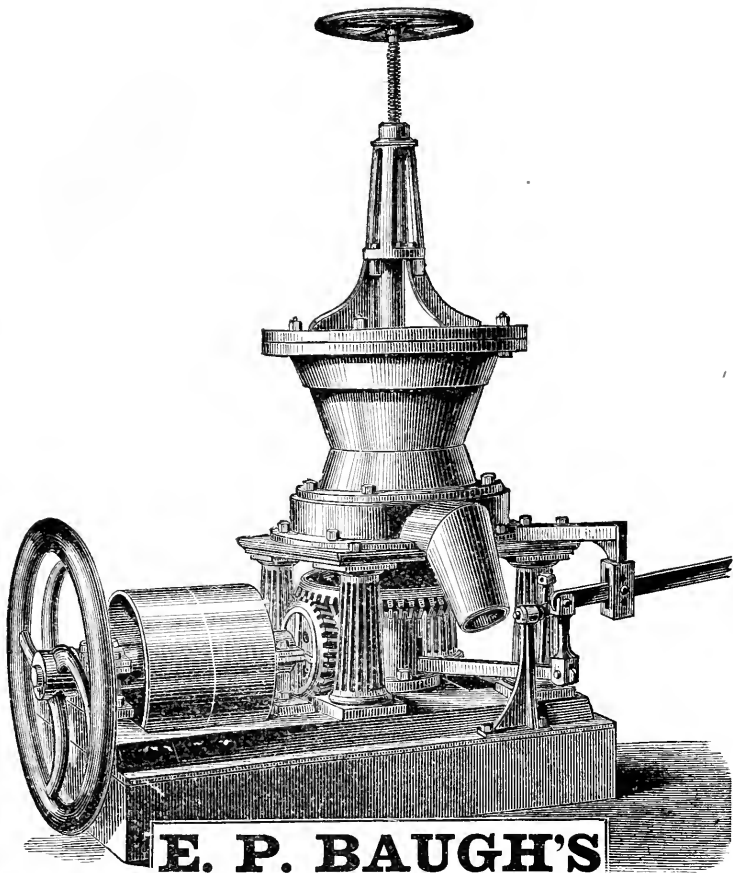
Y.

Yeames, Wm. F., Paintings, 65.
 Von, Edmond C., Paintings, 72, 84.
 Vooravleff, F., Paintings, 134.
 York, F., Photographs, 142.
 Young, Alfred, loans Sculpture, 50.
 Yvon, A., Paintings, 75, 78.

Z.

Zagorsky, N., Painting, 134.
 Zannoni, Cav. Ugo, Sculpture, 118.

Zetterström, Mrs. M., Painting, 107.
 Zettler, F. X., Chromos, 86; Stained glass,
 87.
 Zier, Edouard, Painting, 79.
 Zimmerman, T., Photographs, 139.
 Zengler, F., Statuary, 135.
 Zocchi, E., Sculpture, 114, 115, 116, 117, 119.
 Zoellner, L., Cameos, 55.
 Zoffany, Johann, Painting, 65.
 Zuber, Buhler, Painting, 77.
 Zuber, H. J., Painting, 74.
 Zuccoli, Luigi, Paintings, 113, 114.
 Zumbusch, Caspar, Sculpture, 90.
 Zurbaran, F., Painting, 128.



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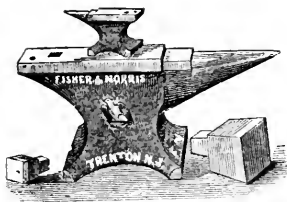
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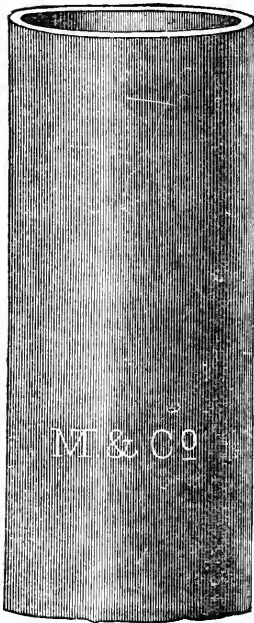
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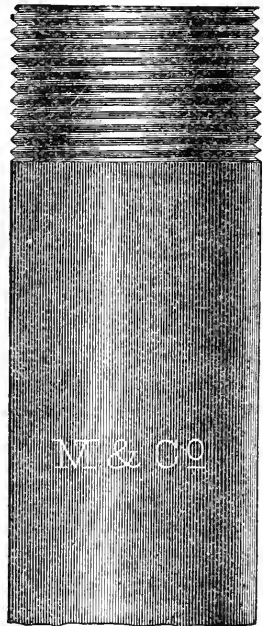
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BOILER TUBE

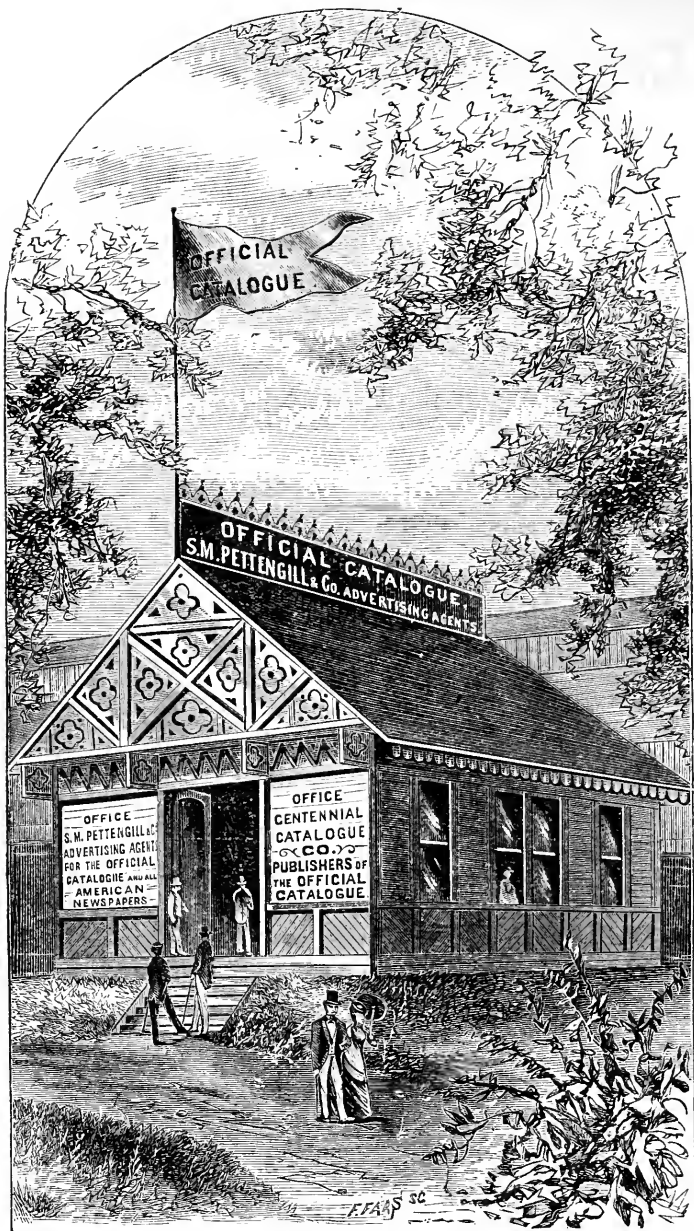
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and Casing, Gas
and Steam Fittings
Brass Valves and
Cocks, Gas and
Steam Fitters'
Tools, Cast-Iron
Gas and Water
Pipe, Street Lamp
Posts and Lan-
terns, Improved
Coal Gas Appara-
tus, Improved
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S. M. Pettengill & Co., Newspaper Advertising Agents,
 South of East End of Machinery Hall.

ADVERTISEMENTS taken at this office for the Official Catalogue and all newspapers of the United States and Canadas. The principal papers of the country kept on file for inspection and use of exhibitors and visitors generally.

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S. W. Cor. Fourth and Library Sts., Philadelphia,

PUBLISHERS OF THE

OFFICIAL CATALOGUE

OF THE

INTERNATIONAL EXHIBITION OF 1876.

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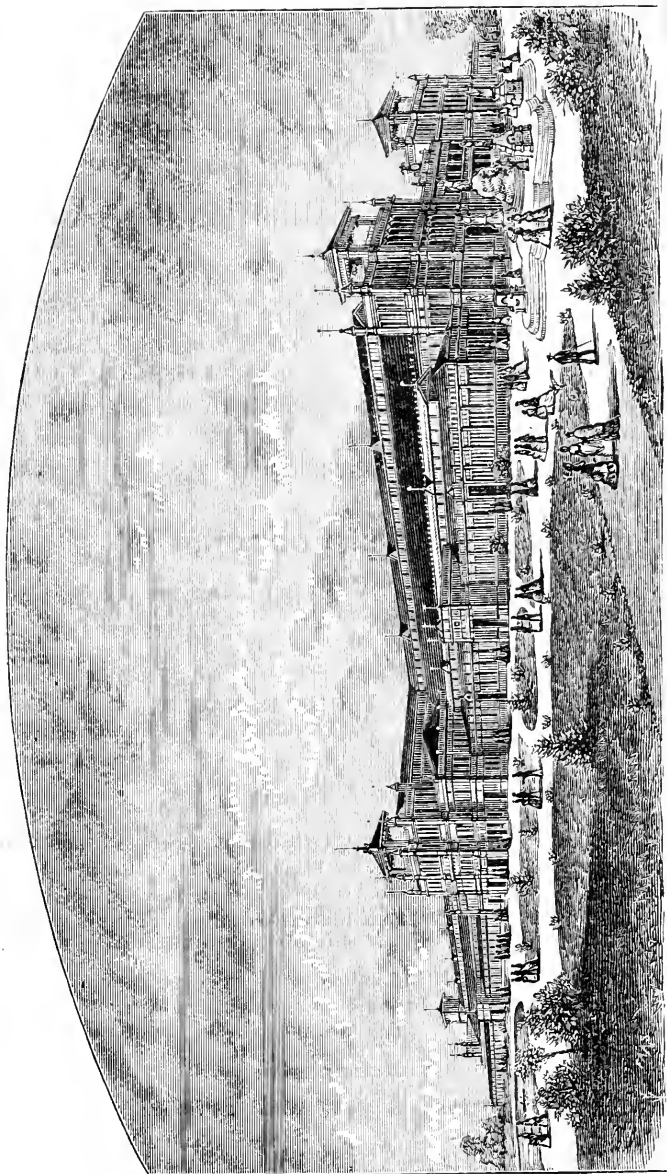
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Office of the Company on Exhibition Grounds, Building No. 41, South of East end of Machinery Hall.



MACHINERY HALL.

United States Centennial Commission.

INTERNATIONAL EXHIBITION.

1876

Official Catalogue.

PART III.

MACHINERY HALL, ANNEXES, AND
SPECIAL BUILDINGS.

DEPARTMENT V.—MACHINERY.

REVISED EDITION.

PHILADELPHIA:

Published for the Centennial Catalogue Company

By JOHN R. NAGLE AND COMPANY.

Printed at the Riverside Press, Cambridge, Mass.

1876.

Entered according to Act of Congress, in the year 1876, by the
UNITED STATES CENTENNIAL COMMISSION,
in the office of the Librarian of Congress, at Washington, D. C.

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CONTENTS.



List of Buildings and Special Exhibits	6
Subject Index, National Exhibits	8
Machinery Hall	9
Key to the Notation	10
Ground Plan of Machinery Hall	11
Synopsis of the Classification	12
Classification of Department V., Machinery	13
Catalogue of the Department of Machinery	17
United States Government Buildings	71
Catalogue of the United States Government Exhibition	73
Women's Pavilion	84
Catalogue of the Women's Exhibition	87
Shoe and Leather Exhibition Building	104
Catalogue of the Shoe and Leather Exhibition	105
Special Buildings and Exhibits, Descriptions and Catalogues	117

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—The buildings bear the numbers prefixed to them in this table, being the numbers adopted by the Centennial Guide Book Co. (Limited).]

Buildings South of the Avenue of the Republic.

No.	Part	Page
1.	I.	23
2.	III.	9
3.	III.	117
4.	III.	117
5.	III.	117
6.	III.	117
7.	III.	105
8.	III.	117
9.	III.	117
10.	III.	117
11.	III.	118
12.	III.	146
13.	III.	146
14.	III.	118
15.	III.	118
16.	III.	118
17.	III.	118
18.	III.	118
19.	III.	119
20.	III.	119
21.	III.	119
22.	III.	119
23.	III.	119
24.	III.	119
25.	III.	119
26.	III.	119
27.	III.	119
28.	III.	119
29.	III.	120
30.	III.	120
31.	III.	120
32.	III.	120
33.	III.	120
34.	III.	120
35.	III.	120
36.	III.	120
37.	III.	121
38.	III.	121
39.	III.	121
40.	III.	121
41.	III.	121
42.	III.	121
43.	III.	121
44.	III.	122
45.	III.	122
46.	III.	122
47.	III.	122
48.	III.	122
49.	III.	122

Buildings North of the Avenue of the Republic, and West of Belmont Av.

No.	Part	Page
51.	III.	73
51½.	III.	122
52.	III.	73
52½.	III.	122
53.	III.	73
53½.	III.	122
54.	III.	73
54½.	III.	123
55.	III.	123
55½.	III.	123
56.	III.	123
56½.	III.	124
57.	III.	124
57½.	III.	124
58.	III.	124
58½.	III.	124
59.	III.	124
59½.	III.	124
60.	III.	124
61.	III.	125
62.	III.	125
63.	III.	125
64.	III.	125
65.	III.	125
66.	III.	125
67.	III.	125
68.	III.	125
69.	IV.	134
70.	III.	130
71.	III.	130
72.	III.	130
73.	III.	130
74.	III.	130
75.	III.	130
76.	III.	131
77.	III.	131
78.	III.	131
79.	III.	131
80.	III.	131
81.	III.	131
82.	III.	131
83.	III.	131
84.	III.	131
85.	III.	132
86.	III.	132
87.	III.	141
88.	III.	141
89.	III.	142
90.	III.	142
91.	III.	142

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—Descriptions of the Buildings will be found at the indicated part and page of the Official Catalogue.]

Buildings North of the Avenue of the Republic, and West of Belmont Av.

No.	Part	Page
92.	Office of the Boston "Advertiser" and Boston "Herald,"	III. 142
93.	Rowell's Newspaper Exhibition Building,	III. 142
94.	California State Building,	III. 142
95.	Centennial Fire Patrol, No. 1,	III. 142
96.	Turkish Café,	III. 143
97.	Office Frank Leslie's Publications,	III. 143
98.	Iowa State Building,	III. 143
99.	Rhode Island State Building,	III. 143
100.	Vermont State Building,	III. 143

Buildings East of Belmont Avenue, and South of Fountain Avenue.

101.	Art Gallery,	II. 9
102.	Art Gallery Annex,	II. 10
103.	B'nai B'rith Monument of Religious Liberty,	III. 143
104.	Photographic Art Building,	II. 137
105.	Vienna Bakery and Coffee House,	III. 143
106.	Principal Annex to Main Exhibition Building,	I. 374
107.	Swedish Government Building,	III. 144
108.	Japanese Bazaar,	III. 144
109.	The Judges' Hall,	III. 144
110.	Centennial Photographic Co.,	III. 144
111.	Sheet-metal Pavilion,	III. 144
112.	German Government Building,	III. 144
113.	Railroad Ticket Office,	III. 144
114.	Office United States Centennial Commission,	III. 145
115.	Brazilian Government Build'g,	III. 145
116.	The Dairy,	III. 145
117.	Restaurant "La Fayette,"	III. 145
118.	House of Public Comfort,	III. 145
119.	Empire Transportation Co.,	III. 145
120.	French Government Building,	III. 145
121.	Centennial Fire Patrol, No. 2,	III. 145
122.	Penn'a Educational Building,	III. 146
123.	Telegraph Office,	III. 147
124.	American Fusee Company,	III. 147
125.	Klautscheck, Thomas, & Stewart's Glass Magazine,	III. 147
126.	Moorish Villa,	III. 147
127.	American Bible Society,	III. 147
128.	Hunter's Camp,	III. 147
129.	Office Water Department,	III. 148
130.	Soda Water Stands,	III. 148

No.	Part	Page
131.	Cigar Stands,	III. 148
132.	Singer's Sewing Machines,	III. 148
133.	Centennial Medical Departm't,	III. 148
134.	Portugal Government Building,	III. 148
135.	Bankers' Building,	III. 148
136.	French Glass Exhibit,	III. 149
137.	Kindergarten,	III. 149
138.	Centennial Police Station,	III. 149
139.	Philadelphia City Building,	III. 149
140.	Music Pavilion,	III. 149
141.	Burial Caskets,	III. 149
142.	Perforated Metal Building,	III. 149
143.	Rubber Roofing,	III. 149
144.	Cuban Acclimation Office,	III. 149
145.	Naval Group,	III. 149
146.	The Dying Lioness,	III. 149

Buildings East of Belmont Avenue, and North of Fountain Avenue.

151.	Horticultural Hall,	IV. 147
152.	Agricultural Hall,	IV. 9
153.	The Women's Pavilion,	III. 85
154.	The Women's School House,	III. 150
155.	New Jersey State Building,	III. 150
156.	Restaurant of the South,	III. 150
157.	Kansas and Colorado State Building,	III. 150
158.	New England Farmer's Home 100 years ago, and Modern Kitchen,	III. 150
159.	Great American Restaurant,	III. 150
160.	German Restaurant,	III. 151
161.	Tea and Coffee Press,	III. 151
162.	Butter and Cheese Factory,	III. 151
163.	Soda Water Stand,	III. 151
164.	Cigar Stand,	III. 151
165.	Farm Wagon Building,	IV. 135
166.	Pomological Building,	IV. 135
167.	Brewers' Building,	IV. 136
168.	Model House Apiary,	IV. 140
169.	Guano Company,	III. 151
170.	Special Flower Exhibit Building,	III. 170
171.	Wind Mills,	IV. 140
172.	Office "Ohio Farmer,"	IV. 140
173.	Hay Press,	III. 152
174.	Police Station,	III. 152
175.	Elevated Railroad,	III. 152
176.	Boiler House,	III. 152
177.	Virginia State Building,	III. 152
178.	Protective Fire Apparatus,	III. 152
179.	Pop-corn Stands,	III. 152
180.	J. L. Mott Co. Fountain,	III. 152

SUBJECT INDEX, NATIONAL EXHIBITS.

DEPARTMENT V.—MACHINERY.

NATIONS.	Machines, Tools, etc., of Mining, Chemistry, etc.	Machines and Tools for Working Metal, Wood, and Stone.	Machines and Implements of Spinning, Weaving, etc.	Machines, etc., used in Sewing, Making Clothing, etc.	Machines for Printing, Making Books, Paper-making.	Motors, Power Generators, etc.	Hydraulic and Pneumatic Apparatus.	Railway Plant, Rolling-Stock, etc.*	Machinery used in Preparing Agricultural Products.	Aerial, Pneumatic, and Water Transportation.	Machinery especially adapted to the Requirements of the Exhibition.	Shoe and Leather Exhibition.	Women's Work.	Special Buildings.
United States.....	17	19	28	30	32	34	40	45	48	50	52	105	87	117
Great Britain.....	54	54	54	55	55	55	55	56	56	56	..	116	98	130
Jamaica.....	..	..	..	..	..	..	..	..	..	..	..	..	99	..
Canada.....	57	57	57	57	..	58	58	58	59	59	..	..	99	130
Tasmania.....	..	..	..	..	..	..	..	..	..	..	..	..	100	..
France.....	60	60	60	60	60	60	61	61	61	61	..	..	100	145
Germany.....	62	62	62	62	62	62	62	62	62	62	..	116	..	144
Austria.....	63	..	63	..	..	63	..	63	63	..	..	..	..	..
Switzerland.....	..	..	..	..	..	63	..	63	..	..	..	..	..	..
Belgium.....	64	64	64	64	64	64	64	64	..	..	..	..	100	..
Netherlands.....	..	65	..	65	..	..	65	..	..	..	..	..	100	..
Denmark.....	..	..	..	..	..	..	..	..	..	..	..	..	100	..
Sweden.....	65	65	..	66	66	66	66	66	..	66	..	..	100	144
Italy.....	67	..	67	..	67	67	67	..	67	67	..	..	100	..
Tunis.....	..	..	..	..	..	..	..	..	..	..	..	..	101	131
Japan.....	..	..	..	..	..	..	..	..	..	..	..	..	..	144
Brazil.....	..	68	68	..	..	68	68	..	68	68	..	..	101	145
Argentine Republic.....	..	..	69	..	69	..	..	69	..	69	..	..	..	..
Chili.....	..	..	..	..	..	..	..	..	..	..	..	..	..	120
Spain.....	..	..	..	..	..	..	..	..	..	..	..	..	..	132
Portugal.....	..	..	..	..	..	..	..	..	..	..	..	..	..	148
Turkey.....	..	..	..	..	..	..	..	..	..	..	..	..	..	143
Russia.....	69	69	69	69	69	70	70	70	70	70	..	116	..	..
U. S. Government.....	..	..	..	..	..	..	..	..	..	..	..	..	..	72
Women's Centennial } Executive Com..... }	..	..	..	..	..	..	..	..	..	..	..	..	..	85

* Railway plant, cars, etc., are largely exhibited in the Annex (No. 106) to the Main Building, Catalogue, Part I., page 374.

Note.—The Machinery of the following countries is installed wholly or in part in the Main Building, and catalogued in Part I., viz. :

	Page		Page
New South Wales.....	340	Austria.....	211
Victoria.....	162	Denmark.....	224
Bermuda.....	174	Netherlands.....	361
Gold Coast.....	177	Norway.....	230
Queensland.....	179	Hawaii.....	251
Tasmania.....	182	Chili.....	262
India.....	186	Mexico.....	267
Canada.....	191		

No. 20. MACHINERY HALL.

Size, 360 by 1402 feet; annex, 208 by 210 feet.

Engineers and Architects, HENRY PETTIT, JOSEPH M. WILSON, *Philadelphia.*

Contractor, PHILIP QUIGLEY, *Wilmington, Del.*

Wrought and cast iron furnished by PUSEY, JONES, & CO., *Wilmington, Del.*

MACHINERY HALL is located west of the intersection of Belmont and Elm avenues, at a distance of 542 feet from the west front of the Main Exhibition Building, and 274 feet from the north side of Elm avenue. The north front of the building is upon the same line as that of the Main Exhibition Building, thus presenting a frontage of 3824 feet from the east to the west ends of the exhibition buildings upon the principle avenue within the grounds.

The principal portion of the structure is one story in height, showing the main cornice upon the outside at 40 feet from the ground, the interior height to the top of the ventilators in the avenues being 70 feet, and in the aisles 40 feet. To break the long lines upon the exterior, projections have been introduced upon the four sides, and the main entrances finished with facades, extending to 78 feet in height. The east entrance forms the principal approach from street-cars, from the Main Exhibition Building, and from the Pennsylvania Railroad depot. Along the south side are the boiler houses and other buildings for special kinds of machinery. The west entrance affords the most direct communication with George's Hill, which point affords the best view of the entire exhibition grounds.

The arrangement of the ground plan shows two main avenues 90 feet wide by 1360 feet long, with a central aisle between, and an aisle on either side. Each aisle is 60 feet in width; the two avenues and three aisles making the total width of 360 feet. At the centre of the building is a transept of 90 feet in width, which at the south end is prolonged beyond the Main Hall. This transept, beginning at 36 feet from the Main Hall and extending 268 feet, is flanked on either side by aisles of 60 feet in width, and forms the annex for hydraulic machines. The promenades in the avenues are 15 feet in width, in the transept 25 feet, and in the aisles 10 feet. All other walks extending across the building are 10 feet in width, and lead at either end to exit doors.

The foundations consist of piers of masonry. The superstructure consists of solid timber columns supporting roof trusses, constructed with straight wooden principals and wrought iron ties and struts. As a general rule, the columns are placed lengthwise of the building, at the uniform distance apart of 16 feet. The columns are 40 feet high to the heel block of the 90 feet span roof trusses over the avenues, and they support the heel of the 60 feet spans over the aisles at the height of 20 feet. The outer walls are built of masonry to a height of five feet, and above that are composed of glazed sash placed between the columns. Portions of the sash are movable

for ventilation. Louvre ventilators are introduced in continuous lengths over both the avenues and the aisles. The building is lit entirely by side light.

The motive power is furnished by a Corliss engine of 1400 horse power. There are eight main lines of shafting, extending almost the entire length of the structure, and countershafts are introduced into the aisles where needed. The hangers are attached at the height of 20 feet from the floor.

The annex for hydraulic machines contains a tank 60 feet by 160 feet, with depth of water of 10 feet. In this hydraulic machinery is exhibited in full operation. At the south end of this tank is a waterfall 35 feet high by 40 feet wide, supplied from the tank by the pumps upon exhibition.

The contract in the erection of Machinery Hall was made January 27th, 1875, and the building was begun forthwith, and finished October 1st, 1875. The cost was \$542,300. The exhibition area covers about 14 acres.

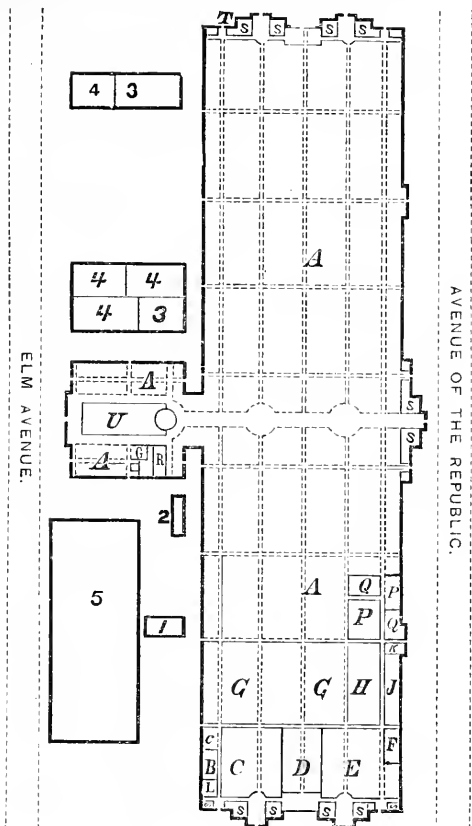
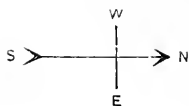
KEY TO THE NOTATION.

THE location of objects in the Machinery Building is shown by a letter and figure, indicating the nearest column of the building. The letters—A, B, C, to F—designate the successive ranges of columns, proceeding northward from the southern wall across the width of the building; the figures, the number of the column in each range, counting westwardly from the eastern wall, the entire length of the building, from 1 to 88. Thus C 5 is the column in the third range from the south, and the fifth from the eastern end of the building. The northwesternmost column is F 88.

The class of the classification (see page 13) to which each exhibit belongs is indicated by the small figures at the end of the line.

MACHINERY HALL.

Scale, 320 ft. to 1 in.



- | | |
|------------------|----------------------------|
| A United States. | P Brazil. |
| B Austria. | Q Russia. |
| C German Empire. | R Switzerland. |
| D Canada. | S Restaurants, etc. |
| E France. | T Ladies' Waiting-room. |
| F Spain. | U Tank. |
| G Great Britain. | 1. English Boiler-house. |
| H Belgium. | 2. Corliss Boiler-house. |
| J Sweden. | 3. Boiler-houses. |
| K Denmark. | 4. Machine Shop and Annex. |
| L Italy. | 5. Shoe and Leather Shop. |

Length, 1402 ft. Width, 360 ft. Height of Avenues, 70 ft. Height of Aisles, 40 ft.

SYNOPSIS OF THE CLASSIFICATION.

LOCATION.	DEPARTMENTS.	CLASSES.	GROUPS.
MAIN BUILDING.	I. MINING AND METALLURGY.	100—109 110—119 120—129	Minerals, Ores, Stone, Mining Products. Metallurgical Products. Mining Engineering.
	II. MANUFACTURES.	200—205 206—216 217—227 228—234 235—241 242—249 250—257 258—264 265—271 272—279 280—284 285—291 292—296	Chemical Manufactures. Ceramics, Pottery, Porcelain, Glass, etc. Furniture, etc. Yarns and Woven Goods of Vegetable or Mineral Materials. Woven and Felted Goods of Wool, etc. Silk and Silk Fabrics. Clothing, Jewelry, etc. Paper, Blank Books, Stationery. Weapons, etc. Medicine, Surgery, Prothesis. Hardware, Edge Tools, Cutlery, and Metallic Products. Fabrics of Vegetable, Animal, or Mineral Materials. Carriages, Vehicles, and Accessories.
	III. EDUCATION AND SCIENCE	300—309 310—319 320—329 330—339 340—349	Educational Systems, Methods, and Libraries. Institutions and Organizations. Scientific and Philosophical Instruments and Methods. Engineering, Architecture, Maps, etc. Physical, Social, and Moral Condition of Man.
ART GALLERY.	IV. ART.	400—409 410—419 420—429 430—439 440—449 450—459	Sculpture. Painting. Engraving and Lithography. Photography. Industrial and Architectural Designs, etc. Ceramic Decorations, Mosaics, etc.
MACHINERY BUILDING.	V. MACHINERY.	500—509 510—519 520—529 530—539 540—549 550—559 560—569 570—579 580—589 590—599	Machines, Tools, etc., of Mining, Chemistry, etc. Machines and Tools for working Metal, Wood, and Stone. Machines and Implements of Spinning, Weaving, etc. Machines, etc., used in Sewing, Making Clothing, etc. Machines for Printing, Making Books, Paper Working, etc. Motors, Power Generators, etc. Hydraulic and Pneumatic Apparatus. Railway Plant, Rolling Stock, etc. Machinery used in Preparing Agricultural Products. Aerial, Pneumatic, and Water Transportation. Machinery, and Apparatus, especially adapted to the requirements of the Exhibition.
AGRICULTURAL BUILDING.	VI. AGRICULTURE.	600—609 610—619 620—629 630—639 640—649 650—662 665—669 670—679 680—689 690—699	Arboriculture and Forest Products. Pomology. Agricultural Products. Land Animals. Marine Animals, Fish Culture, and Apparatus. Animal and Vegetable Products. Textile Substances of Vegetable or Animal origin. Machines, Implements, and Processes of Manufacture. Agricultural Engineering and Administration. Tillage and General Management.
HORTICULTURAL BUILDING.	VII. HORTICULTURE.	700—709 710—719 720—729 730—739	Ornamental Trees, Shrubs, and Flowers. Hot Houses, Conservatories, Graperies. Garden Tools, Accessories of Gardening. Garden Designing, Construction, and Management.

CLASSIFICATION.

DEPARTMENT V.—MACHINERY.

MACHINES, TOOLS, AND APPARATUS OF MINING, METALLURGY, CHEMISTRY, AND THE EXTRACTIVE ARTS.

- CLASS 500.—Rock drilling.
CLASS 501.—Well and shaft boring.
CLASS 502.—Machines, apparatus, and implements for coal cutting.
CLASS 503.—Hoisting machinery and accessories.
CLASS 504.—Pumping, draining, and ventilating.
CLASS 505.—Crushing, grinding, sorting, and dressing. Breakers, stamps, mills, pans, screens, sieves, jigs, concentrators.
CLASS 506.—Furnaces, smelting apparatus, and accessories.
CLASS 507.—Machinery used in Bessemer process.
CLASS 508.—Chemical manufacturing machinery. Electroplating. Paint and powder mills. Blacking and soap-making machinery.
CLASS 509.—Gas machinery and apparatus.

MACHINES AND TOOLS FOR WORKING METAL, WOOD, AND STONE.

- CLASS 510.—Planing, sawing, veneering, grooving, mortising, tonguing, cutting, moulding, stamping, carving, and cask-making machines, etc., cork-cutting machines.
CLASS 511.—Direct acting steam sawing machines, with gang saws. Bark mills.
CLASS 512.—Rolling mills, bloom squeezers, blowing fans. Rivet, nail, bolt, and tack making machinery.
CLASS 513.—Furnaces and apparatus for casting metals, with specimens of work.
CLASS 514.—Steam, trip, and other hammers, with specimens of work, anvils, forges, bellows.
CLASS 515.—Planing, drilling, slotting, turning, shaping, punching, stamping, cutting, and coining machines. Wheel cutting and dividing machines, emery wheels, drills, taps, gauges, dies, etc. Grindstones.
CLASS 516.—Stone-sawing and planing machines, dressing, shaping, and polishing, sand blasts, Tilghman's machines, glass-grinding machines, etc.
CLASS 517.—Brick, pottery, and tile machines. Machines for making artificial stone.
CLASS 518.—Furnaces, moulds, blowpipes, etc., for making glass and glassware.
CLASS 519.—Tools, implements, etc., for working metal, wood, and stone.

MACHINES AND IMPLEMENTS OF SPINNING, WEAVING, FELTING, AND PAPER MAKING.

- CLASS 520.—Machines for the manufacture of silk goods.
CLASS 521.—Machines for the manufacture of cotton goods.
CLASS 522.—Machines for the manufacture of woolen goods, carpets, and tapestry
CLASS 523.—Machines for the manufacture of linen goods.

CLASS 524.—Machines for the manufacture of rope and twine, and miscellaneous fibrous materials.

CLASS 525.—Machines for the manufacture of paper and felting.

CLASS 526.—Machines for the manufacture of india-rubber goods.

CLASS 527.—Machines for the manufacture of mixed fabrics.

CLASS 528.—Machines for the manufacture of wire cloth.

MACHINES, APPARATUS, AND IMPLEMENTS USED IN SEWING AND MAKING CLOTHING AND ORNAMENTAL OBJECTS.

CLASS 530.—Machines used in the manufacture of lace, floor-cloths, fancy embroidery, hair, ribbons, etc.

CLASS 531.—Sewing and knitting machines, clothes, corset, hat, and bonnet making machines.

CLASS 532.—Machines for preparing and working leather.

CLASS 533.—Machines for making boots and shoes.

CLASS 534.—Machines for ironing, drying, scouring, and cleaning.

CLASS 535.—Machines for making clocks and watches.

CLASS 536.—Machines for making jewelry.

CLASS 537.—Machines for making buttons, pins, needles, etc.

CLASS 538.—Pipes for smoking.

MACHINES AND APPARATUS FOR TYPESETTING, PRINTING, STAMPING, EMBOS-
ING, AND FOR MAKING BOOKS, AND PAPER WORKING.

CLASS 540.—Printing, stamping, embossing, and lithographing presses.

CLASS 541.—Typecasting machines, apparatus of stereotyping.

CLASS 542.—Types and typesetting machines. Type-writing machines.

CLASS 543.—Printers' furniture.

CLASS 544.—Bookbinding machines.

CLASS 545.—Paper-folding machines.

CLASS 546.—Paper and card cutting machines, paper box machines.

CLASS 547.—Envelope machines.

MOTORS AND APPARATUS FOR THE GENERATION AND TRANSMISSION OF POWER.

CLASS 550.—Boilers and all steam or gas generating apparatus for motive purposes.

CLASS 551.—Water-wheels, water engines, hydraulic rams, windmills.

CLASS 552.—Steam, air, or gas engines, electro-magnetic engines.

CLASS 553.—Apparatus for the transmission of power, shafting, belting, cables, transmission of power by compressed air, etc., gearing, cables.

CLASS 554.—Screw propellers, wheels for the propulsion of vessels, and other motors.

CLASS 555.—Implements and apparatus used in connection with motors, steam gauges, manometers, etc. Anti-friction metals.

HYDRAULIC AND PNEUMATIC APPARATUS, PUMPING, HOISTING, AND LIFTING.

CLASS 560.—Pumps and apparatus for lifting and moving liquids.

CLASS 561.—Pumps and apparatus for moving and compressing air or gas.

CLASS 562.—Pumps and blowing engines, blowers and ventilating apparatus.

CLASS 563.—Hydraulic jacks, presses, elevators, lifts, meters, cranes.

CLASS 564.—Fire engines, hand, steam, or chemical, and fire extinguishing apparatus, hose, ladders, and fire-escapes, etc.

CLASS 565.—Beer engines, soda-water machines, bottling apparatus, corking machines.

CLASS 566.—Stop valves, cocks, pipes, etc.

CLASS 567.—Diving apparatus and machinery.

CLASS 568.—Ice machines.

RAILWAY PLANT, ROLLING STOCK, AND APPARATUS.

CLASS 570.—Locomotives, models, drawings, plans, etc.

CLASS 571.—Carriages, wagons, trucks, cars, etc. Scales.

- CLASS 572.—Brakes, buffers, couplings, and snow-plows.
 CLASS 573.—Wheels, tires, axles, bearings, springs, etc.
 CLASS 574.—Permanent ways, ties, chairs, switches, etc.
 CLASS 575.—Station arrangements, signals, water-cranes, turn-tables.
 CLASS 576.—Miscellaneous locomotive attachments.
 CLASS 577.—Street railways and cars.

MACHINES USED IN PREPARING AGRICULTURAL PRODUCTS.

- CLASS 580.—Flour mills.
 CLASS 581.—Sugar refining machines.
 CLASS 582.—Confectioners' machinery.
 CLASS 583.—Oil-making machinery.
 CLASS 584.—Tobacco manufacturing machines.
 CLASS 585.—Mills for spices, coffee, etc.
 CLASS 586.—Machines for preparing fancy goods.
 CLASS 587.—Machines for preparing malt and spirituous liquors.

AERIAL, PNEUMATIC, AND WATER TRANSPORTATION.

- CLASS 590.—Suspended cable railways.
 CLASS 591.—Transporting cables.
 CLASS 592.—Balloons, flying machines, etc.
 CLASS 593.—Pneumatic railways, pneumatic dispatch.
 CLASS 594.—Boats and sailing vessels. Sailing vessels used in commerce. Sailing vessels used in war. Yachts and pleasure boats. Rowing boats of all kinds. Life boats and salvage apparatus, with life rafts, belts, etc. Submarine armor, diving bells, etc. Ice boats. Models and drawings.
 CLASS 595.—Steamships, steamboats, and all vessels propelled by steam.
 CLASS 596.—Vessels for carrying telegraph cables and railway trains, also coal barges, water boats, and dredging machines, screw and floating docks, and for other special purposes.
 CLASS 597.—Steam capstans, windlass, deck-winches, and steering apparatus, fans.

MACHINERY AND APPARATUS ESPECIALLY ADAPTED TO THE REQUIREMENTS OF THE EXHIBITION.

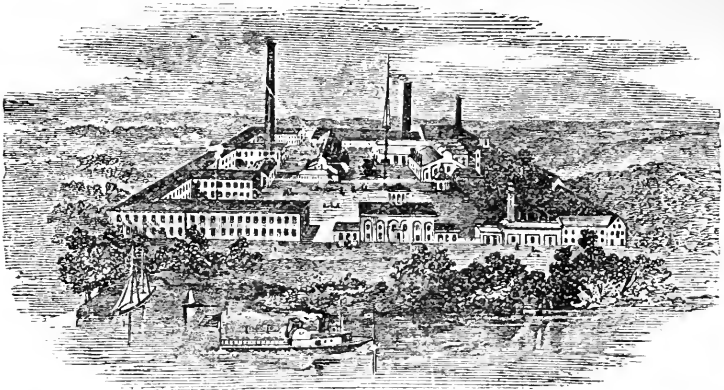
Boilers, engines, cranes, pumps, etc.

INDEX TO ADVERTISEMENTS.



	PAGE
American Newspaper Union.....	44
Automatic Fire Extinguisher and Alarm.....	54
Asbestos Materials.....	Facing third page of cover.
Bridesburg Manufacturing Co.....	17
Baldwin Locomotive Works.....	41
Baeder, Adamson & Co.....	71
Baugh's, E. P., Patent Sectional Mills.....	Third page of cover.
Drown, W. A., & Co.....	40
French Restaurant.....	55
Gloucester Iron Works.....	17
Greenwood & Batley.....	54
Harrison Boiler Works.....	40
Haseltine Galleries.....	40
Lawson, Samuel, & Sons.....	55
Morris, Tasker & Co.....	Facing second page of cover.
McKay's Equilibrium Drill.....	54
Pancoast & Maule.....	28
Pritchett, Baugh & Co.....	29
Pennsylvania Railroad.....	70
Rue's Little Giant Injector.....	29
Springfield Fire and Marine Insurance Co.....	71
Sun Newspaper.....	45
Scanlan, Jr., & Co.....	54
West Philadelphia Passenger Railway Company.....	Second page of cover.
Wiedershiem, John A. & Co.....	71

NOTICE TO COTTON AND WOOLEN MANUFACTURERS.



THE BRIDESBURG MANUFACTURING COMPANY

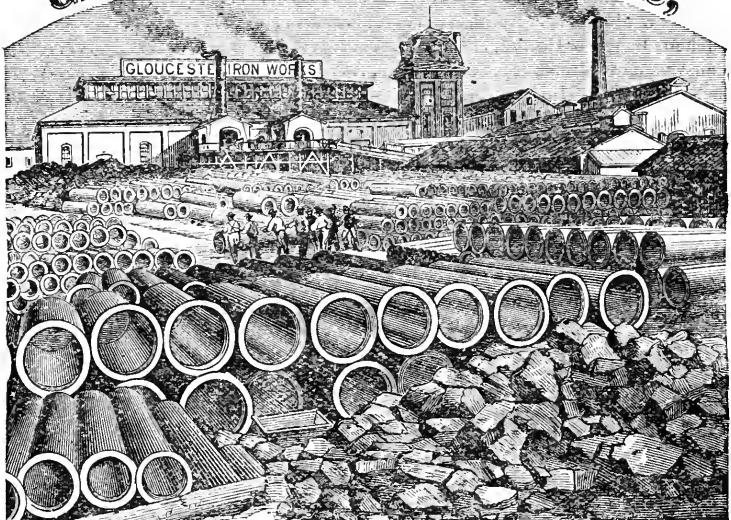
Offices, 65 and 67 North Front Street, Philadelphia,
IS THOROUGHLY REORGANIZED.

It builds none but the best machinery. It builds machinery strictly to specifications. It puts any of its machinery in on competition. It furnishes machinery in contract time, under forfeiture. It furnishes repairs promptly and at moderate prices. It can build ten Looms a day. It can build ten Spinning Frames a week. It can build five sets of Cards in a fortnight. It can build five self-acting Mules in a month. It can build Hand Mules, Cotton Cards, Twisters, Drawing Frames, Railway Heads, Pickers, Feeders, Renovators, Bobbin Winders, Beaming Machines, Warping Mills, Spreaders, Reels, &c., in any quantity required. It asks no pay until efficiency is demonstrated. It quotes low prices, and uniform to all.

David S. Brown, Pres't.
Benj. Chew, Treas.

Geo. P. Michellon, Sec'y.
Wm. Sexton, Sup't.

GLOUCESTER IRON WORKS,
GLOUCESTER CITY, NEW JERSEY.



Cast Iron Gas & Water Pipes, Stop Valves, Fire Hydrants, Gas Holders, &c.

Office, Philadelphia, No. 6 North Seventh St.

DEPT. V.—MACHINERY.

UNITED STATES.

Mining Machinery, Drills.

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

- 1 **Waring Rock Drill Co., New York, N. Y.**—Mining, quarrying, and tunneling drills. A 54. 500
- 2 **Pennsylvania Diamond Drill Co., Pottsville, Pa.**—Prospecting drill, quarry drill, and samples of cores, continuous cylindrical sections of rock and mineral strata, bored out to any depth, and furnished; therefore, is a perfectly reliable method of proving mineral lands. Artesian wells bored of any size and depth. A 55. 500
- 2^a **Beamisdarfer & Eby, Campbells-town, Pa.**—Rock-drilling machine. (*Annex 2.*) A 500
- 2^b **Union Rock Drill Co., New York, N. Y.**—Rock drills. A 60. 500
- 2^c **American Diamond Rock Boring Co., Providence, R. I.**—Diamond-pointed rock drills. A 54. 500
- 5 **Gardiner Drill Co., New York, N. Y.**—Rock-drilling machines and appliances for operating in mines and quarries. A 55. 500
- 4 **Weaver, W., Phœnixville, Pa.**—The Victor rock drill. Two men with this machine will do the work of six by hand. It drills holes from half an inch to six inches in diameter to any depth and at any angle required. Price for machine driven by hand, \$250; by steam, \$750. A 55. 500
- 5 **Ingersoll Rock Drill Co., New York, N. Y.**—Steam or compressed air rock-drilling machine. A 60-61. 500
- 6 **Bolles, J. N., Baltimore, Md.**—Machinery for boring artesian wells, in operation. (*Outside of building.*) 501
- 6^a **Mowbray, George M., North Adams, Mass.**—Electric batteries and exploders. A 59. 501
- 6^b **Randolph, Theodore F., Morris-town, N. J.**—Ditcher and excavator. C 77. 501
- 6^c **Roberts, E. A. L., Titusville, Pa.**—Oil well torpedo. C 78. 501
- 6^d **Robinson, John E., Boston, Mass.**—Sand and air chamber and artesian well. (*Annex 3.*) 501
- 7 **Bolles, Jesse N., Baltimore, Md.**—Boring machinery for artesian wells. A 56. 501
- 8 **Melvin & McMorris, Philadelphia, Pa.**—Artesian well, drilling and pumping. (*Outside of building.*) 501
- 9 **Pierce, Charles D., Peru, La Salle Co., Ill.**—Well boring and prospecting machine. One man and horse can bore 20 feet per hour. Bores any size or depth. Boulders, hard-pan, and quicksand easily handled. Has an established reputation in every State and Territory. \$25 per day is made with one machine. Agents wanted in every county, also in foreign countries. Illustrated catalogue sent free on application. Address as above. (*Outside of building.*) 501
- 10 **Monitor Coal Cutter Co., Brazil, Ind.**—Compressed air coal-cutting machine. A 58. 502
- 11 **Hunt, Chas. W., New York, N. Y.**—Machinery for unloading vessels and storing cargoes. A 56. 503
- 12 **Sternbergh, James Hervey, Reading, Pa.**—Surface emery-grinding machine. B 37. 505
- 13 **Blake Crusher Co., New Haven, Conn.**—Machine for crushing ores, stones, etc. Extensively used for breaking stone for MacAdam roads, ballasting railroads, and for concrete. In mining operations, for the rapid and economical crushing of ores of all kinds, it has a world-wide reputation. A 58 and A 63. 505
- 14 **Fulton Foundry Co., Cleveland, O.**—Turn-table. A 58-59. 505
- 14^a **Krom, S. R., New York, N. Y.**—Ore and laboratory separator; ore crushers. A 60. 505
- 15 **Kreider, Campbell, & Co., Philadelphia, Pa.**—E 50-51. 505
^a Mineral mill. 505
^b Paint mills, paint mixer. 508
- 16 **Coxe Bros. & Co., Jeddo, Pa.**—Working model of coal breaker. A 63. 505
- 17 **Baugh & Sons, Philadelphia, Pa.**—Mills for crushing and grinding minerals, bones, etc. A 61-62. 505
- 18 **State of Nevada, Gold Hill, Nevada.**—Quartzmill. (*South of Machinery Hall.*) 505
- 19 **Poole & Hunt, Baltimore, Md.**—Fertilizer and paint mixer. C 79. 505
- 20 **Bradford, H., Philadelphia, Pa.**—Coal and ore separator. This machine separates all solid substances that differ in specific gravity, and from the smallest particles to four inches in size. For sale by H. Bradford, room 26, Merchants' Exchange, corner Third and Walnut streets, Philadelphia. A 73. 505
- 21 **Albright & Stroh, Mauch Chunk, Pa.**—Coal jig for separating slate from coal, etc. B 19. 505

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Mining, Chemical, Gas Machinery.

- 22** Ball, Edwin P., Chicopee, Mass.—Steam stamping machine for crushing ores and minerals. (*Annex 3*) 505
- 23** Bowron, William M., Philadelphia, Pa.—Waste house, fire grates, blast furnace, hot blast stoves. A 57. 506
- 24** Koenigsberg, J., Lock Haven, Pa.—Model of coke oven and discharging machine. A 57. 506
- 25** Weimer, P. L., Lebanon, Pa.—Charging apparatus for blast furnaces, blast furnace fixtures. B 69. 506
- 26** Edgemoor Iron Co., Edgemoor, Del.—Rotary puddler, hydraulic forged eye-bars, wrought and cast iron work for Main Exhibition Building. C 22. 506
- 26a** Caldwell & Mather, Philadelphia, Pa.—Melting furnace. (*Annex 1*) 506
- 26b** Manes, James, sr., New Haven, Conn.—Revolving globe furnace for smelting gold and silver ores, etc. A 57-58. 506
- 26c** Baker, Charles H., Philadelphia, Pa.—Self-gauging Bessemer tuyeres. (*Annex 2*) 507
- 27** Tully, John W., Industrial Paint, Varnish, and Filler Works, Twentieth and Parrish streets, Philadelphia, Pa.—Paints and varnishes, scraper filling, Belgian varnish filler, American paint filling, Roman filler, iron priming and finishing paint, lubricating paste, wood filling, and French washing blue. A 67. 508
- 28** Bryan & Snyder, Philadelphia, Pa.—Manufacture of silver-plated ware. A 66. 508
- 29** Zindgraf & Hohenadel, 215 Race street, Philadelphia, Pa.—Machine for grinding and mixing paint. Manufacturers of machinery for grinding and mixing paint. Also mills for grinding drugs, spices, etc. Our mills are made with an improved stand for adjusting upper stone. A 66. 508
- 30** Fichtenberg, Werner, New York, N. Y.—Insect powder, exterminating powders and papers, powder bellows, bird lime. A 66. 508
- 31** Reeves, John W., Philadelphia, Pa.—Soap cutting machine. A 67. 508
- 31a** Condit, Hanson, & Van Winkle, Newark, N. J.—Electro-plating machine. Condit, Hanson & Van Winkle, 236 Market street, corner Mulberry, Newark, N. J., exhibit the "Weston-Dynamo Electric Machine," doing electro, nickel, silver, gold, and copper plating. The machine is simple, easy to manage, requiring scarcely any attention. It is strong, durable, compact, reliable, powerful, and requires but little force to run it. It is a self-regulator, automatically adjusting the current to the amount of work done. From the great force obtained from a small amount of material, and the simplicity of its construction, the machines are sold at very low prices, \$75 and upwards. The conversion of motion into electricity and its use for the electro deposition of the metals, etc., is of great importance, as it not only avoids the use of expensive materials and the deleterious and corrosive fumes produced by batteries, but saves a great deal of time, and the current is more uniform than can be obtained by the use of batteries. B 73. 508
- 32** King, Wm. H., Philadelphia, Pa.—Soap press. A 66. 508
- 33** Hagner Drug Milling Co., Philadelphia, Pa.—Double run flaxseed churning mills. A 64. 508
- 34** Mosser, W. F., & Co., Allentown, Pa.—Bark mill, with independent grinding segments. A 48 and *Pump annex*. 508
- 35** Carr Calvin, & Co., Cleveland, O.—Galvanized iron circular cornice machinery. Owners of all circular machine and nearly all the brake and folding machine patents. See circular. B 68. 508
- 35a** Averill Chemical Paint Co., New York, N. Y.—Paint, all colors, ready for use. (*Outside of building*.) 508
- 35b** Wyman, L. A., Boston, Mass.—Ink and paint mill. A 66. 508
- 36** Wallace & Sons, Ansonia, Conn.—Magneto-electric machines, for deposition of metals and for electric light, proprietors of brass and copper rolling mills, Ansonia, Conn., office and warehouse 89 Chambers and 71 Reade streets, New York. Manufacturers of brass, rolled and in sheets, copper rivets and burs, brass and copper tubing, brass and copper wire, brass door rail, brass and iron jack chains, stair rods, copper tacks and nails, braziers, bolt and sheathing copper, etc., kerosene burners and trimmings. Price lists, with discount, furnished on application. A 67. 508
- 36a** Towsley, L. D., & Co., Philadelphia, Pa.—Gas utilizer for manufacturing illuminating gas. A 65. 509
- 36b** Gilbert & Barker Manufacturing Co., Springfield, Mass.—Gas machine. A 77. 509
- 36c** Eichholt, John H., Greenpoint, L. I., N. Y.—Gas generator. A 67. 509
- 36d** Patton, J. Desha, Norristown, Pa.—Cylinder, governor, etc. C 27. 509
- 36e** McIlhenny, George A., Washington, D. C.—Door for gas retorts. C 27. 509
- 36f** Hickman, Towsley, & Swan, St. Louis, Mo.—Gas utilizer for manufacturing illuminating gas. A 65. 509
- 36g** Thomsen, Alexander, Worcester, Mass.—Governor for gas. C 27. 509
- 36h** Day, George H., Haverhill, Mass.—Lime hurdles and screens. C 27. 509
- 38** Goodwin, Wm. W., & Co., 1016 Filbert street, Philadelphia, Pa.—Gas meters of all descriptions, station meters, standard cubic foot measures and provers, photometers of all kinds, candle scales, pressure registers and gauges, pressure and vacuum registers, apparatus for determination of sulphur and ammonia in coal gas, density and specific gravity apparatus, etc. A 80. 509
- 38a** Walker, James H., Milwaukee, Wis.—Model of gas works. C 27. 509
- 38b** Towsley, L. D., Cincinnati, O.—Gas utilizer for manufacturing illuminating gas, and for saving one-half the coal-gas of cities. It is automatic, safe, durable, simple, and cheap. A 65. 509
- 39** Morris, Tasker, & Co., Philadelphia, Pa.—Gas-works machinery. A 70 and C 27. 509
- 40** Harris, Griffin, & Co., Philadelphia, Pa.—Gas meters, registers, gauges, photometers, provers, pumps, exhaust governors. A 78. 509

Gas Machines, Wood-working Machinery.

- 41 Mervine, Samuel P., jr., Philadelphia, Pa.—Gas regulator. A 73. 509
- 41^a Automatic Gas Governor Co. of the U. S., Philadelphia, Pa.—Automatic gas governor. A 73. 509
- 41^b Rand, A. W., Philadelphia, Pa.—Gas machine. A 71. 509
- 42 Rex & Bockius, Philadelphia, Pa.—Illuminating gas generator. C 69. 509
- 43 Excelsior Gas Machine Co., South Norwalk, Conn.—Gas machines. A 75. 509
- 44 Improved Steiner Gas Machine Co., Philadelphia, Pa.—Portable gas machines. A 75. 509
- 45 Walworth Manufacturing Co., Boston, Mass.—Gas machines for lighting country residences, public buildings, etc. A 76, E 75, and B 41. 509
- 46 Imperial Manufacturing Co., New York, N. Y.—Gas machines. A 73. 509
- 47 Tiffany, J. C., Boston, Mass.—Oil gas generator, dry gasometer, process for removing naphthaline in gas conduits, platinum appliance for combustion of coal in furnaces. (*Outside of building.*) 509
- 48 Vasquez, Chas. L., Philadelphia, Pa.—Automatic gas machine. A 73. 509
- 49 Starr, Jesse W., & Son, Camden, N. J.—Gas works, pipe. (*Outside of building.*) 509
- 50 Novelty Gas Machine Co., Baltimore, Md.—Carbureting gas machine. A 73 and *outside of building.* 509
- 51 Gruber, John P., Jersey City, N. J.—Gas works. A 52. 509
- 52 Bean, Joseph H., Cincinnati, O.—Automatic gas machine for residences, churches, etc. A 72. 509
- 53 American Meter Co., New York and Philadelphia.—Standard provers, meters, pressure registers, gauges, exhaust governors, bar and jet photometers; also analytical apparatus generally. A 69. 509
- 54 Burr, William H., Philadelphia, Pa.—Apparatus for making hydro-carbon gas. A 68. 509
- 55 Excelsior Gas Machine Co., South Norwalk, Conn.—Retort gas machine. A 75 and *outside of building.* 509
- 56 Daschbach, E. J., Pittsburg, Pa.—Gas machine, with automatic carburetter. A 72. 509
- 57 Ramsey, Robert H., Pottsville, Pa.—Bituminous coal gas machine, adapted to private residences, stores, and manufactories. Furnishes coal gas of largely increased illuminating power, at less than one dollar per thousand feet. Indorsed by insurance underwriters. A 72. 509
- 57^a Rowland, T. F., Greenpoint, N. Y.—Specimens of forgings; model of steam stoker. A 69 and D 31. 509

Machines and Tools for Working Metal, Wood, and Stone.

- 58 Riehlé Bros., Philadelphia, Pa.—Mortising machines. E 54. 510
- 59 Douglass Manufacturing Co., Seymour, Conn.—Mechanics' edge tools and boring implements. A 43. 510

- 60 Lane & Bodley, Cincinnati, O.—Stroke power mortisers. A 50 and *saw-mill.* 510
- 60^a Gerlach, Peter, & Co., Cleveland, O.—Stave-sawing machine. A 34. 510
- 60^b Andrews, E., Williamsport, Pa.—Saw-sharpener, cross-cut saw handles, saws, gang-saw, hooks and stirrups, etc. B 78. 510
- 60^c Palmer, Samuel R., Belfast, Me.—Stave-jointing machine. A 28. 510
- 60^d Atkins, E. C., & Co., Indianapolis, Ind.—Saws. B 5 and A 5. 510
- 60^e Knowlton, John L., Sharon Hill, Pa.—Saws, saw-sharpening and planer knife, and grinding machines. A 1 and B 1, and *saw-mill.* 510
- 60^f Stranges Cylinder Saw & Machine Co., Taunton, Mass.—Cylinder-saw stave machine; foot lathe. B 74. 510
- 60^g Curtis & Co., St. Louis, Mo.—Slotted circular saw. B 79. 510
- 60^h Ames & Frost, Chicago, Ill.—Dove-tailing machine. B 61. 510
- 61 Norris, W. R., Fort Ann, N. Y.—Diagonal planing and polishing machine. B 60. 510
- 62 Eureka Manufacturing Co., Boston, Mass.—Lathe, scroll saw, scroll saw attachment. B 36-37. 510
- 63 Havens, W. H., Paterson, N. J.—Iron circular saw tables. B 56. 510
- 64 Trump Bros., Wilmington, Del.—Foot-power scroll saws. B 57. 510
- 65 Burk, Wm. B., & Co., Philadelphia, Pa.—Cork-cutting machines, cork-tapering machine. B 60. 510
- 65^a Dowling, T. W., Detroit, Mich.—Scroll saw. B 61. 510
- 65^b Barnes, W. F. & John, Rockford, Ill.—Scroll and circular saws; lathes. B 57. 510
- 65^c Russell, S. J., Chicago, Ill.—Wood lathes. B 56. 510
- 65^d Providence Saw Works, Providence, R. I.—Jig-sawing machines. B 56. 510
- 66 Buss, Charles, & Sons, Marlboro', N. H.—Rotary bed, paneling, planers, hand saw, lathes, slotter, splitter, cutting-up machines. B 49. 510
- 67 First & Prybil, New York, N. Y.—Re-slitting band saw, carving machine, saws, planers, etc., for wood working. B 43. 510
- 68 Disston, Henry, & Sons, Philadelphia, Pa.—Saws and saw tools, trowels, carpenters' tools, files, knives, butt hinges, sheet steel. B 41-46. 510
- 68^a Baxter, C. M., Lebanon, N. H.—Band saws; planer. B 64. 510
- 68^b Forstner, Benjamin, Salem, Oregon.—Wood auger. D 68. 510
- 69 Walker Bros., Philadelphia, Pa.—Wood working machinery. B 53. 510
- a* No. 0. Scroll sawing machine, even tension spring, adjustable fastenings for saw blades and combined belt shifter and brake.
- b* No. 1. Scroll sawing machine-spring, has even tension, combined clamp fastening for saw blades; lower guides have parallel adjustment and the dust from saw is

Wood-working Machinery.

- blown away from the slides by a fan blower attached.
- c* Power-feed panel raiser, for panels of any width or raise or thickness; has upright spindles and heads, swing table and, adjustable guards. 510
- 70 Wallace & Keller, Philadelphia, Pa.**
—Turning lathe. B 67. 510
- 71 Crossley, Harry A., Cleveland, O.**
—Stair jointer. B 67. 510
- 72 Silver & Deming Manufacturing Co., Salem, O.**—Hub boxing machines, adjustable hollow auger, spoke tenoning machines. B 66 and F 54. 510
- 73 Graham, J. S., & Co., Rochester, N. Y.**—Planing, tonguing, and grooving machines, circular re-sawing machine, moulding machine, matching heads, and cutters. B 44. 510
- 74 Moseley, Jerome S., Syracuse, N. Y.**
—Scroll saw machine, boring machine. In all of the wood-sawing machines on exhibition, the great principles involved in their mechanical construction are the many devices for starting, stopping, and controlling its speed without taking the attention of the operators from their work. The manner of holding the saw, and the manner of giving the saws more or less "rake or feed," have been the difficult problems to solve. Moseley's Patent Eureka Scroll Sawing Machine, with its improved apparatus, can be run at a speed from 800 to 1100 revolutions per minute, and will saw the lightest veneered work, such as piano or melodion work, and is capable of running saws from one-sixteenth of an inch wide to any width that can be practically used in a scroll saw machine. The blower and self-adjusting blowpipe is a new feature, which adds greatly to the convenience of running and working this machine. It is attached in a simple manner to the upright shaft in which the saws are worked, and serves every purpose of blowing gently away from the work all sawdust that accumulates. The machine is admirably adapted for all kinds of scroll sawing, from the lightest to the heaviest, and does the work well. This machine received the first prize medal at the fair of the New York State Agricultural Society, held at Utica in the fall of 1870; also at Elmira, 1872; also at Albany, 1873, and at Rochester, 1874; also received a medal of special award at the Fair of the American Institute, held at New York city in 1872; and the first prize medal at the International Exhibition, Buffalo, N. Y., 1872. B 63. 510
- 75 Griffiths, John W., New York, N. Y.**
—Wood bending machines. B 74 and E 5. 510
- 76 Battle Creek Machinery Co., Battle Creek, Mich.**—Carving, paneling, variety moulding, and dovetailing machine; moulders' solid steel cutters. B 55. 510
- 77 Lane Manufacturing Co., Montpelier, Vt.**—Portable single circular saw mill, designed for common use as a portable saw mill, and also intended for use in fixed establishments of ordinary capacity. Sawyer sets the log, uprights both receded, and when desired, advanced, by power; dogging devices especially adapted for "live" or "through-and-through" sawing, and for holding frozen logs. Gauge roll (Fairbank's patent) in front of saw; tapering devices, elevated scale or rule. Over 2000 of these mills (Lane's patent) in use. Heavy double circular saw mill, intended for first-class establishments of the largest capacity; 72 inch lower saw and 40 inch upper saw, feed and jiggling back works, operated from either front or back side of frame; saw-guide quickly removable; uprights advanced by both forward and backward motions of lever; setter rides on carriage; rolled-steel headblocks; improved dogs catch under and upper sides of logs, and swing away from saw when released; uprights receded or advanced by power. (*Saw Mill Building*); 24 inch traveling-bed or "Farrar," planing machine; 18 inch stationary bed or roll-feed planing machine; heavy matching, or tonguing and grooving machine; light matching, or tonguing and grooving machine. A 35. 510
- 78 Marston, J. M., 6 Taber St., Boston, Mass.**—Combined hand and foot circular sawing, boring, and mitreing machines. E 77. 510
- 78a Holmes, James, Belfast, Me.**—Machine for jointing staves. B 77. 510
- 78b Chesney, R. M., Philadelphia, Pa.**
—Scroll saw and wood-jointing machine; process shown. A 44-46. 510
- 78c Boynton, Eben B., New York, N. Y.**
—Saws, frames, sets, files, handles, etc. B 41. 510
- 79 Chase Turbine Manufacturing Co., Orange, Mass.** (*Saw Mill annex.*)
a Machine for sawing staves, spool stock, box boards, etc. 510
b Leverset and circular saw mill. 511
- 80 Beach, Henry Lloyd, Montrose, Pa.**
—Scroll-sawing machines. There is no class of machinery on exhibition that attracts greater attention than the scroll sawing machines. Among the number that possess merits as to their mechanism are the two manufactured by Henry L. Beach, of Montrose, Pa. The No. 2, which is mostly of wrought iron, insuring great strength and durability, is especially noticeable; instead of the ordinary tight and loose pulley, the crank shaft carries a friction pulley, by which the saw is made to start and stop instantly without shifting the belt—a great saving of time on inside work. Both the Nos. 1 and 2 are provided with saw clamps, and very powerful and elastic spring, which give an even tension on the saw of from 10 to 75 lbs. No. 1 has a tilting table, which for pattern work is indispensable, and is used almost daily in any shop. Both the machines have air pumps, steel bearing for each saw, and are adjustable in every part to take up all lost tension. A 29. 510
- 81 Fay, J. A., & Co., Cincinnati, O.**
—Patent wood-cutting machinery. In the choice of machinery it is an object to select the best adapted to the work to be done. That a machine may be profitable, it must be so constructed as not likely to get out of order. In the display in Machinery Hall, section 8, columns 61, 62, and 63, by J. A. Fay & Co. of Cincinnati, of the several varieties of improved wood-cutting machines they manufacture, and the additions added to them during the past five years, it is claimed that the new features introduced place their machines

Wood-working Machinery.

- in the front rank. The high reputation and character of this firm throughout this country and Europe, may be attributable—1st, to the high character, and excellence of their machines; 2d, to the improvements made upon them from year to year, increasing their labor-saving features; 3d, extensive facilities and abundant capital for manufacturing. Of the different machines for planing, matching, band sawing, boring, variety wood workers, combination edging and ripping-saw tables, carving, band re-sawing, and others for sash, doors, blinds, furniture, wheels, feloes, spokes, and agricultural implements, allusion here can only be made to the more important ones. The No. 2 patent variety wood-worker is peculiar and simple in its mechanical construction, and has capacity for great range and variety of work, being constructed in a substantial manner, and possesses many labor-saving qualities. Their patent band saw with elastic wheels embraces many new and valuable labor-saving features by which the breakage of saws is prevented. Their new carving and paneling machine is designed to meet the demands for an effective machine at low cost, and is adapted for any designs of panels in fine furniture, piano, and organ manufactures. The combination edging and ripping-saw table is built wholly of metal, and is quite novel, having a rising and falling saw, hand and power feed, and with a parallel movement of the gauge or fence for rapid and accurate work. It is also provided with planed iron table, and is in all respects admirably adapted for the purposes designed. The large six-roll double cylinder patent planing and matching machine seems to be perfect in all of its appointments. It is strong and powerful. It embraces many new and valuable improvements designed for the saving of labor, economy of lumber, and increasing the quantity of production. The patent band re-sawing machine embodies several novel features which have attracted much attention from visitors, not only of this country, but of Europe. It is simple, powerful, has a large range and capacity for work. The manner of connecting the two wheel shafts with an outside connection, the automatic friction feed, revolving frictionless guides, the perfect ease of adjustment, and ready manipulations by the operator, with many others which might be added, make it a very interesting exhibit for those interested in the reduction of lumber. B 62. 510
- 82 Clark Thread Co., Newark, N. J.**—Self-acting spool-winding machine, spool-turning machine. C 33, and A 34. (See also exhibit in Main Building, A 76.) 510
- 83 Holmes, E. & B., Buffalo, N. Y.**—Machines for making kegs, barrels, staves, and shooks. B 50-52. 510
- 84 Bush & Smith, West New Brighton, N. Y.**—Wood-working machinery. B 77. 510
- 85 S. A. Woods Machine Co., Boston, Mass.**—Planing, matching, moulding, surfacing, and other wood-working machinery. B 54. 510
- 86 Patterson, C. R., Pittston, Pa.**—Pressure blocks independent, showing construction and same applied to J. C. Fay's planer. B 61. 510
- 87 Buckeye Engine Co., Salem, O.**—Automatic shingle machine. B 70. 510
- 88 Richards, London, & Kelley, Philadelphia, Pa.**—Wood-cutting machinery. A 44-46 and Annex 1 and 2. 510
- 89 Burt, C. S. & S., Dunleith, Ill.**—Machines for sawing shingles, barrel-heads, etc. B 54. 510
- 90 Blaisdell, J. H., & Co., Philadelphia, Pa.**—Wood-working machinery. B 75-76. 510
- 91 Warren, John, Detroit, Mich.**—Paneling machine. B 78. 510
- 92 Bentel, Margedant, & Co., Hamilton, O.**—Universal wood-working machines. Planing and matching, jointing, band and scroll saws, boring and shaping machines. Bentel, Margedant, & Co. have on exhibition twelve different machines, each of them presenting new features, which are improvements, and add greatly to their value and usefulness, and are all first-class in mechanical construction. The patent universal wood-workers for planing out of wind, jointing, squaring, smoothing, beveling, cornering, chamfering, tapering, mitring, rabbeting, tenoning, halving, panel-raising, tongueing, grooving, hand-matching, rolling-joints, gaining, plowing, serpentine and waved moulding, fluting, beading, ripping, splitting, cross-cut sawing, straight, circular, oval, and elliptical mouldings, dovetailing, etc. The patent band-sawing machine is, in its construction and improvements, new and highly valuable. This is a patent machine, the improvements on which are entirely new features. The mechanical cause of the breakage of band-saw blades unprecedentedly and successfully removed. The buckling, friction, heating, and crystallization of the saw-blades entirely overcome. Instantaneous starting and stopping of the motion of the saw-blade. The patent scroll saw machine with uniform tension is certain at all points of the stroke. The Hamilton patent surface planer for planing out of wind, jointing, squaring, smoothing, beveling, cornering, chamfering, mitring, and tapering, is furnished with patent triangular shear-knife cutter-heads. It planes both smoothly and accurately. Sec. B 7, columns 51-52 and 53. 510
- 93 Ross, E. W., & Co., Fulton, N. Y.**—Iron framed foot jointer for barrel staves. F 64, and outside. 510
- 94 Seymour & Whittock, Newark, N. J.**—Sash dovetailing, mitre, wiring, borer, mortising machines, and sewing machine motors. A 39. 510
- 95 Smith, H. B., Smithville, N. J.**—Iron framed wood-working machinery, with improvements. B 47. 510
- 96 Baggs, J. T., Bridgeport, O.**—Sawing and grooving machine. B 60. 510
- 97 Rogers, C. B., & Co., Norwich, Conn.**—Wood-working machinery. B 75-76. 500
- 98 Armstrong, Bro., & Co., Pittsburg, Pa.**—Cork cutter and tapering machinery. A 5-39. 510
- 99 Greenlee, Bro., & Co., Chicago, Ill.**—Sash, blind, and door clamping machines; sash, door and blind relishing and mortising machine. A 30. 510
- 100 Skidmore, A. F. & Geo. C., Grand Rapids, Mich.**—Barrel hoop machines and coilers. A 49. 510

Wood and Metal-working Machinery.

- 101 Houston, Smith, & Co., Montgomery, Pa.—Outside bearing moulder, door tenoner, door mortiser. A 31. 510
- 102 Goodall, Braun, & Waters, Philadelphia, Pa.—Panel planer, planer and matcher, surfacer and matcher, band saw. B 77-78. 510
- 102^a Gould, Roscoe J., Newark, N. J.—Dovetailing machine. A 33. 510
- 103 Mussot, A., Cincinnati, O.—General wood-working machinery. A 29. 510
- 104 Greenwich Machine Works, Greenwich, N. Y.—Weavers' wood-working machines, driven by hand, foot, or power. A 37. 510
- 105 Knapp Dovetailing Machine Co., Northampton, Mass.—Machines for cabinet dovetailing. A 35. 510
- 106 Combined Power Co., New York, N. Y.—Geared machinery for all powers. A 34. 510
- 107 Colloday, Jos. O., & Bro., Philadelphia, Pa.—Jointing machine, band saw machine, etc. B 56. 510
- 108 Gleason, John, Philadelphia, Pa.—Spoke and handle turning lathe, etc. B 64. 510
- 109 Babbitt, F. S., Taunton, Mass.—Combination foot lathe. B 61. 510
- 110 Howard Manufacturing Co., Belfast, Me.—Mitring machines, easily adjustable in all the different parts, cuts all angles, used by cabinet makers, carpenters, picture frame makers, car builders, etc. A 28. 510
- 111 Earle, Benj. A., Philadelphia, Pa.—Wool-oiling machine. D 48. 510
- 112 Whitney, Baxter D., Winchendon, Mass.—Wood-working machines. B 79-80. 510
- 113 Benson, A. M., Cleveland, O.—Stave machinery dresser and jointer. A 29. 510
- 114 Goulding, Johnston, & Co., Louisville, Ky.—Hoop and splint machine. B 66. 510
- 115 Hart, Roswell, Rochester, N. Y.—Machines for making half-round hoops for barrels, etc. B 46. 510
- 116 Pope Manufacturing Co., Boston, Mass.—Lathe scroll saw. Acme lathe \$9.00; scroll saw, \$5.00 and \$7.00; darning machine, \$10.00. C 64. 510
- 117 Buck, Martin, Lebanon, N. H.—Single, double, and triple tenoning machines, blind mortising and boring machine, slat planer, wedge and pin machine, hand saws, etc. B 64. 510
- 118 Bustin, Robert, St. Johns, N. B.—Fire escape. Bustin's portable fire escape is one of the many new inventions that deserve special notice for its simplicity, cheapness, durability, and almost certain security to life. It is simple in its construction, easily adjusted, and can be carried in a small valise, thus insuring the traveler that, no matter how high in a hotel, he can in a moment rescue his own life, and if he has others in the room in the same perilous situation, save them at the same time. It can be used in many ways, as it is so ingeniously made that it is always ready for use. There is no machinery connected with it. It cannot get out of order. In case the lower part of the building is so enveloped in flames as to render a direct descent impossible, the parties can make a descent across the street. It is now on exhibition at the north end of Machinery Hall, where practical illustrations of its workings can be seen. The fire escapes, all complete, cost from \$10.00 to \$15.00. In every case you can save your apparatus. 564
- 119 Lane & Bodley, Cincinnati, O.—Stationary portable circular saw mill. (A 50, *Saw mill*.) 511
- 120 Eureka Bark Mill Co., Lancaster, Pa.—Bark mills. A 28. 511
- 121 Harbert & Raymond, Philadelphia, Pa.—Portable saw mill. (*Saw mill*.) 511
- 122 Ross, E. W., & Co., Fulton, N. Y.—Automatic circular saw mill. F 64 and *outside*. 511
- 122^a Scholfield, Socrates, Providence, R. I.—Logging saw. (*Saw mill*, B 12.) 511
- 122^b Meiners, C., & Sons, Philadelphia, Pa.—Band, saw mill and head blocks. B 13. 511
- 122^c Harvey, Easton, & Co., Lock Haven, Pa.—Gang lathe mill. B 15. 511
- 122^d Stearns Manufacturing Co., Erie, Pa.—Circular saw mill, double edging machine, log jacker, log turner, steam engine. (*Saw mill*, A 3, B 3.) 511
- 122^e Allis, Edward S., & Co., Milwaukee, Wis.—Saw mill machinery. (*Saw mill*, A 10-11.) 511
- 123 Flint, C. M., Fitchburg, Mass.—Saw mill. B 13. (*Saw mill*.) 511
- 124 Noyes, Frank G., Clinton, Iowa.—Gang edger with four circular saws. B 12. (*Saw mill*.) 511
- 125 Duncannon Iron Co., Philadelphia, Pa.—Nail-cutting machines. B 25. 512
- 126 Pennsylvania Tack Works, Norristown, Pa.—Tack machines and their products. B 26. 512
- 127 Garrison, A., & Co., Pittsburg, Pa.—Chilled rolls for rolling metals. Manufacturers of chilled and sand rolls, ore and clay pulverizers, rotary squeezers, Haskin's patent double spiral pinions, and rolling mill castings of every description. B 27. 512
- 128 Middleton, John W., Philadelphia, Pa.—Cast and wrought iron, and steel ready for the planer. C 77. 512
- 128^a Lattimon, D. I., Philadelphia, Pa.—Suction and blast fan. B 64. 512
- 128^b Hyslop, John, jr., Abington, Mass.—Machine for making tacks and shoe nails. Hill, Clarke, & Co., selling agents, Boston, Mass. B 35. 512
- 128^c Morris, Wheeler, & Co., Philadelphia, Pa.—Nail machine in operation, boiler and ship plates, nails, puddled bars, ores, etc. B 24. 513
- 129 Flagg, Stanley G., & Co., Philadelphia, Pa.—Malleable gray iron and steel castings. A 41. 513
- 130 Midvale Steel Works, Philadelphia, Pa.—Bar steel, steel forgings and castings. C 23. 513
(See also classification 573.)

For location of objects, indicated by letter and figure, see Key to Notation, p. 10; ground plan, p. 11.

Metal-working Machinery.

- 131 Dick, C. J. A., Philadelphia, Pa., Phosphor Bronze Smelting Works, 2038 Washington avenue.—Phosphor bronze ingots, axle bearings, castings, bells, wire, sheets, tubes, etc. A 6, 42. 513
- 132 Eames, Charles J., New York, N. Y.—Petroleum iron boiler plates, forge blooms, billets, jack plates, horseshoes, etc. (*Annex 1.*) 513
- 132^a Roberts, E. A. L., Titusville, Pa.—Compound metal. C 78. 513
- 133 Reed, S. G., Boston, Mass.—Apparatus for heating locomotive and carriage tires with gas; portable gas attachment for lighting streets. E 69. 513
- 134 Malleable Iron Fittings Co., Brawford, Conn.—Malleable iron steam and gas fittings and castings. A 4. 513
- 135 Lawrence, Frank, Philadelphia, Pa.—Cupola and trier. (*In building of C. Noble & Co.*) 513
- 135^a Phosphor Bronze Smelting Works, C. J. A. Dick, Philadelphia, Pa.—See No. 131. 513
- 135^b Harris, Samuel, Springfield, Mass.—Sifting machines. (*Adjoining Annex 2.*) 513
- 136 Keystone Portable Forge Co., 120 Exchange Place, Philadelphia, Pa.—Portable forges and pressure and exhaust blowers; forges, portable or stationary, for hand or power, forty-seven styles and sizes, for every class of work from lightest to heaviest, and patented and sold in all leading countries. English, French, and Belgian patents for sale. Also blowers for every purpose requiring either pressure or exhaust; all shown in operation. (*Annex No. 1, Machinery Hall.*) 514
- 137 Carnell, F. L. & D. R., 1844 Germantown avenue, Philadelphia, Pa.—Steam hammers. See illustrated catalogue. (*Annex 1 and 3.*) 514
- 137^a Kacy, Robert F., Philadelphia, Pa.—Hand fan-blower. (*Adjoining Annex 2.*) 514
- 138 Forsaith, S. C. & Co., Manchester, N. H.—Abbe bolt forging machine, spring hammers. E 39 and annex. 514
- 139 Ferris & Miles, Philadelphia, Pa.—Machine tools and steam hammers. B 31 and 32. 514
- 140 Merrill, Chas., & Sons, New York, N. Y.—Drop hammer, parallel vises, differential blocks. C 4 and *Annex 2.* 514
- 141 Hammond, H., & Co., Hartford, Conn.—Cast steel hammer, anvil, and drop forgings. A 41. 514
- 142 Metz, George W., & Sons, Philadelphia, Pa.—Bellows. (*Annex 1.*) 514
- 143 Bayliss, John, New York, N. Y.—Hot blast water tuyere and forge, blacksmiths' bellows, portable forge and bellows. (*Annex 1.*) 514
- 144 Bradley Manufacturing Co., Syracuse, N. Y.—Cushioned helve hammers. B 29. 514
- 145 Tubular Barrow & Truck Manufacturing Co., New York, N. Y.—Self-acting steam hammer. (*Annex 1.*) 514
- 146 Empire Portable Forge Co., Troy, N. Y.—Portable fan-blowing forges. (*Annex 1.*) 514
- 147 Bullock, T. H., & Co., Cleveland, O.—Blacksmiths', moulders', hand, and coopers' bellows. (*Annex 1.*) 514
- 148 Hull & Belden Co., Danbury, Conn.—Power forging hammer, samples of drop forgings. C 72. 514
- 148^a Mason, John L., Camden, N. J.—Tire shrinker, blacksmiths' tuyere and pinch bar. (*Annex 1.*) 514
- 148^b Schierloh, H., Jersey City, N. J.—Heat welding compound, with samples of iron and steel welded. (*Annex 1.*) 514
- 148^c Stiles & Barker Press Co., Middletown, Conn.—B 34, and *Annex 1.*
a Drop hammers. 514
b Sheet metal presses. 515
- 148^d Pusey, Jones, & Co., Wilmington, Del.—D 33.
a Riveting machine. 514
b Sheet iron cleaner. 515
- 149 Howard, George C., 13 $\frac{1}{2}$ S. Eighteenth street, Philadelphia, Pa.—Grindstone box, hacker, for truing and sharpening the stone, drill-press, boring and sapping machine. B 31. 515
- 150 Cooper, John H., Philadelphia, Pa.—Model of mechanical movement. C 31. 515
- 151 Mitchell, J. E., Philadelphia, Pa.—Founded, 1810.—Column of 38 varieties of grindstones; two thousand tons in stock; seven sizes of machinists' grindstones in iron boxes. Send for descriptive pamphlet. B 28 and 29. 515
- 152 Sternbergh, J. H., Reading, Pa.—Surface-grinding machine, bolts, nuts, washers, rivets, wood screws, etc. B 37. 515
- 153 American Twist Drill Co., Woonsocket, R. I.—Automatic knife-grinders, emery wheels, and machinery. C 32. 515
- 154 Cooper, Jones, & Cadbury, Philadelphia, Pa.—Lathes. B 19. 515
- 155 Wattis, Edward, jr., Philadelphia, Pa.—Patent pocket flasks, with metallic collars secured without cement. B 34. 515
- 155^a Laurence, Benjamin, Lowell, Mass.—Index and plain milling machine. B 29. 515
- 155^b Sawyer, J. A., & Son, Worcester, Mass.—Combined hand and power iron planer, Hill, Clarke, & Co., selling agents, Boston, Mass. C 40. 515
- 155^c Gallagher, Bernard, Lynn, Mass.—Emery grinder; drills. C 39-40. 515
- 155^d Weed & Co., Boston, Mass.—File cutting machine. G 30. 515
- 156 Stevens, W. X., East Brookfield, Mass.—Centre cutting shears for iron, to cut old steamboat shafts, rails, chain links, bolts, angle and merchant iron, cold; power unlimited. B 34. 515
- 157 Ferris & Miles, Philadelphia, Pa.—Planing, shaping, slotting, drilling, cut-off, turning, boring, punching, and shearing machines. B 31-32 and *Annex 1.* 515
- 158 Brown & Sharpe Manufacturing Co., Providence, R. I.—Machinery and tools. Manufacturers of universal and plain milling machines, grinding, screw, and tapping machines, screw finishing and

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Metal-working Machinery.

- polishing machines, reels, assorters, scales, and testers for roving and yarn, for cotton and woolen manufacturers' use, patent cutters for gear wheels, and for taps, beamers, twist drills, irregularly formed sewing machine and gun parts, milling and screw slotting cutters. B 38. 515
- 159 Lobbell Car Wheel Co., Wilmington, Del.—Solid die rivet machine. E 65. 515
- 159^a Richards, I. P., Providence, R. I.—Punches for metal. A 42. 515
- 159^b Hendey Machine Co., Walcottville, Conn.—Planer and shaper. D 35. 515
- 159^c Howard, William H., Philadelphia, Pa.—Loom frame with automatic let-offs. B 31. 515
- 159^d Cosmopolitan Emery Wheel Co., Philadelphia, Pa.—Emery wheels for grinding saws, tools, etc. (*Annex 1.*) 515
- 160 American Saw Co., Trenton, N. J.—B 33.
^a Movable tooth circular, perforated, and solid saws. 510
^b Eccentric-gear power punching and shearing machines. 515
- 161 Cornell University Machine Shop, Ithaca, N. Y.—Foot lathe, magneto-electrical machine, measuring machine, tools, and gauges. B 68. 515
- 162 Chase Manufacturing Co., New York, N. Y.—Portable pipe and bolt cutting and threading machine. B 28. 515
- 163 Smith, Oberlin, & Bro., Bridgeton, N. J.—Upright or inclined foot and power presses, for cutting or drawing tinware, and can makers' tools, pipe tools, special drills, etc. C 27. 515
- 164 Lovegrove & Co., Philadelphia, Pa.—Pipe threading and cutting machine. B 75 and *Boiler House 4.* 515
- 165 Thorne, De Haven, & Co., Philadelphia, Pa.—Drilling machines. B 30. 515
- 166 George & Du Laney, New York, N. Y.—Screw machinery. C 55 and B 29. 515
- 166^a Clough & Williamson, Newark, N. J.—Wire corkscrews and handles; machine for manufacturing same. B 38. 515
- 166^b Edwards, E. B., Columbia, Pa.—Axle rolls. B 40. 515
- 166^c Cushing, N. B., Jersey City, N. J.—Shears, and punching machines. B 26. 515
- 167 Merriman, A. H., West Meriden, Conn.—Power punching press. B 29. 515
- 168 Jones, Lamson, & Co., Windsor, Vt.—Engine lathes, screw machines, gang drills, etc. B 36. 515
- 170 Sellers, William, & Co., Philadelphia, Pa.—C 18 to 25 and *Annex 1.*
^a Steam hammers. 514
^b Machine tools, punching and shearing machines. 515
- 171 Washburn Machine Shop, Worcester Free Institute, Department Mechanical Engineering, Worcester, Mass.—Lathes with hardened steel bearings; grinding machines and drawing stands. C 38. 515
- 172 Spiral Elliptic Spring Works, Cincinnati, O.—Machinery for making upholstery springs. E 70. 515
- 173 Worcester, E. J., & Co., Worcester, Mass.—Vertical drills for metals, blacksmith's lathe. C 32. 515
- 174 Schon, Mathias, Englishtown, N. J.—Tire upsetting machine. (*Annex.*) 515
- 175 Nichols, Pickering, & Co., Philadelphia, Pa.—Portable rail punches. D 67. 515
- 176 Prentice & Co., Worcester, Mass.—Lathes, slide rests, drills. C 31. 515
- 177 Van Hagen, C., & Co., Philadelphia, Pa.—Rotary shapers, iron planers, drill sharpeners, drills, and boring tools. C 30. 515
- 177^a Vitrified Wheel and Emery Co., Ashland, Mass.—Emery and emery wheels. (*Annex.*) 515
- 177^b Long, Allstater, & Co., Hamilton, O.—Punching and shearing machines. B 36. 515
- 177^c Broadbooks & Co., Batavia, N. Y.—Folding chairs. C 43. 515
- 177^d Howard Iron Works, Buffalo, N. Y.—Propeller wheel. C 29-30. 515
- 177^e Dudgeon, Richard, New York, N. Y.—Punches. C 27. 515
- 177^f Temple, Edward B., Philadelphia, Pa.—Planing machine for metals, etc. B 28. 515
- 177^g Old Colony Rivet Works, New York, N. Y.—Iron planers, shears, cutters, punches, drilling machines, rivets, etc. B 28. 515
- 177^h Clark, John A., Newark, N. J.—Drip pan for kerosene and other liquids. C 30. 515
- 178 Miller's Falls Co., Miller's Falls, Mass.—A 40.
^a Scroll saw. 510
^b Iron cutter, drilling machines. 515
^c Vises. 519
- 179 Putnam Machine Co., Fitchburg, Mass.—Machinists' tools, steam engines, Woodworth planers, water wheels, shafting, mill work, etc. C 28. 515
- 180 Kreider, Campbell, & Co., Philadelphia, Pa.—E 50.
^a Engine lathe. 515
^b Glassware grinding machine. 516
- 181 American Watch Tool Co., Waltham, Mass.—Lathes for watchmakers' use, and bench lathes for machinists. F 38-40. 515
- 182 Coe, C. W., Fenton, Mich.—Hand power drill press and screw cutter. B 29. 515
- 182^a Young, William, Easton, Pa.—Young's patent water and gas main tapping machine. With this apparatus the main pipe is drilled and tapped, the service pipe screwed in, and connection made in one operation, without shutting off the water or changing tools. (*Pump annex 7-5.*) 514
- 183 E. Horton & Son Co., Windsor Locks, Conn.—Lathe and car-wheel chucks. B 30. 515

Metal and Stone-working Machinery.

- 184 Oneida Steam-Engine & Foundry Co., Oneida, N. Y.—Westcott's combination lathe chucks, works universally and independently, holds objects twenty-five per cent. larger than diameter of chuck, jaws all reversible. Little Giant drill chucks holds from 0 to one inch. B 30. 515
- 185 Whiton, David E., West Stafford, Conn.—Gear-cutting machines, machines for centering iron, lathe chucks, drill chucks, etc. C 31. 515
- 186 Wicaco Screw & Machine Works, Philadelphia, Pa.—Special machine screws, studs, rolls, punches, dies, drills, taps, reamers, mills, etc. B 37. 515
- 187 Bliss & Williams, Brooklyn, N. Y.—Presses for making tinware and articles of sheet metals. C 30. 515
- 188 Chase, Pliny E., Newark, N. J.—Back-gear, screw-cutting, conical-bearing foot lathes, slide rests, and fittings. B 36. 515
- 189 Northampton Emery Wheel Co., Leeds, Mass.—Solid emery wheels, and machinery for showing uses. B 37, and *Annex 1*. 515
- 190 Prouty, A. B., Worcester, Mass.—Chucks and jaws for iron planers. D 59. 515
- 191 Racine Hardware Manufacturing Co., Racine, Wis.—Jewelers' and dentists' polishing and turning lathes, power wheels, engraving blocks, and other tools. C 41. 515
- 192 Newbold, Richard S., & Son, Norristown, Pa.—Rotary shear for sheet and plate iron. B 33. 515
- 193 Watson, James, Philadelphia, Pa.—Non-changeable gap lathe. C 31. 515
- 194 Mitchell, J. H., Philadelphia, Pa.—Grindstone boxes. B 80. 515
- 195 Wharton, Wm., jr., Philadelphia, Pa.—Rail-bending machine. D 72. 515
- 196 Pratt & Whitney, Hartford, Conn.—Machinists' tools; gun and sewing machine machinery; drop forging, threading bolts, nuts, and pipe. C 23-26, and *Annex 1*. 515
- 197 Kennedy, De Lancy, New York, N. Y.—Shearing, punching, gripping, and pressing tools and machinery; spiral punch and die. B 37. 515
- 198 Cummings, Geo. L., New York, N. Y.—Grindstone frames. B 34. 515
- 199 Flather & Co., Nashua, N. H.—Engine lathes, 17 and 14 inch swing, with hollow steel spindles, steel screws and shafts, wrought iron racks and case hardened nuts and handles. Self-reversing tapping machine, used in principal gun and sewing machine factories. Prices low. Hill, Clarke & Co., selling agents, 131 Milk street, Boston, Mass. C 38-40. 515
- 200 Doriot, Constant, 337 S. Seventh street, Philadelphia, Pa.—Foot lathe, with slide rest; fine tool maker, and fine work of precision of all kinds. C 34. 515
- 201 Celluloid Emery Wheel Co., Newark, N. J.—Grinding and polishing wheels, made of emery or corundum, cemented into a mass with the new and remarkable material, celluloid. These wheels are all that can be required, as to strength and cutting qualities; they are perfectly even and homogeneous, and will not glaze under any circumstances. They may be used either wet or dry, as they never soften in water, oil, or any other lubricant. (*Annex 1*). 515
- 202 Teal, C. A. & W. L., Philadelphia, Pa.—Boiler rolls, punching and shearing machines, hair-picking machine. C 25. 515
- 203 Scofield, Charles, Vineland, N. J.—Machine for straightening shafting in position. C 34. 515
- 204 Cox & Sons, Bridgeton, N. J.—Steam and gas-fitters' tools, supplies, etc. C 32. 515
- 205 Hamlin, G. A., Philadelphia, Pa.—Machinery for refitting valves. C 35. 515
- 206 Merritt, Daniel S., Bay City, Mich.—Machine for cutting heavy iron bars and plates; punch for all kinds of metal. B 36. 515
- 207 Fitchburg Machine Co., Fitchburg, Mass.—Engine lathes, drills, planer, and shaping machine. C 38. 515
- 208 Ames Manufacturing Co., Chicopee, Mass.—Engine lathes, planer, drills, edging machine, die-sinking machine. C 38 to 40. 515
- 208^a Putnam & Estey, Fitchburg, Mass.—Emery wheels. (*Annex 1, 32*). 515
- 208^b Howard Iron Works, Buffalo, N. Y.—Automatic revolving die-bolt cutter and nut-tapping machines. C 29. 515
- 208^c Reynolds, D. M., Port Deposit, Md.—Machine for cleaning and polishing sheet iron. C 36. 515
- 208^d Cleveland Patent Manufacturing Co., Cleveland, O.—Bolt and pipe cutters; cutter heads. B 29. 515
- 209 Gray, J. Hammond, Philadelphia, Pa.—Screw machinery, for turning and threading screws, etc. B 27. 515
- 210 Hilles & Jones, Wilmington, Del.—Radial drills and slotting machine. B 37. 515
- 211 Hardy Machine Co., Biddeford, Me.—Hardy's improved traverse emery wheel card-grinders, for truing and grinding perfectly the teeth of cotton and wool cards. We warrant the "Hardy" card grinder, cloth-shear grinder, and planer knife grinder. B 35. 515
- 212 Stacy Stone Dressing Machine Co., New York, N. Y.—Stone-dressing machine. (*Annex 3*). 516
- 213 Rogers, William A., Cambridge, Mass.—Automatic machine for grinding parallel surfaces on glass, etc. C 42. 516
- 214 Branch, Crookes, & Co., St. Louis, Mo.—Diamond circular saws and machinery for sawing stone. (*Saw mill*). 516
- 215 Steam Stone Cutter Co., Rutland, Vt.—Stone channeling or quarrying machines; block of machine-cut marble. (*Annex 2*). 516
- 216 Emerson Stone Saw Co., Pittsburg, Pa.—Diamond circular stone saw and machine. This machine, doing regular work, cuts in ordinary sandstone one hundred and fifty square feet per hour (counting both sides of the cut), and other stone in proportion, according to the

Stone, Brick, Glass-working Machinery.

- relative hardness, leaving the stone perfectly in line, beautifully finished, ready to be placed into buildings, etc. This is more than can be accomplished by one hundred men in the same space of time, and at an expense not exceeding the cost of sharpening and wear of tools necessary to do the same amount of work. The highest honor (a gold medal) was awarded to this saw at the Cincinnati Exposition of 1874 and at the Pittsburg Industrial Exposition of 1875. (*Annex 2.*) 516
- 217 Batley, John, & Co., Philadelphia, Pa.**—Shaping machine, for moulding, paneling, or carving on marble, etc. (*Annex 2.*) 516
- 218 Davis & Richmond, Detroit, Mich.**—Hand machine for cutting and punching slate. (*Annex 2.*) 516
- 219 Ryan, James M., Cincinnati, O.**—Silver-plated lathe, show cases, and process of cutting glass. D 38. 516
- 220 Ross, Thos., Rutland, Vt.**—Stone-sawing machine. (*Annex 2.*) 516
- 221 Young, Hugh, New York, N. Y.**—Reciprocating diamond stone-sawing machines. (*Saw mill.*) 516
- 222 Union Stone Co., Boston, Mass.**—Solid emery wheels and machinery for grinding and polishing. Emery wheels, from one inch to six feet in diameter, and grinders for mounting them. Special machines for jointing plows, beveling boiler plates, gumming saws, etc. Patent automatic knife grinder, a decided success, for grinding planing machines, bookbinders' carriers', and long knives and shears of all kinds. Grinders' and polishers' supplies. B 37, and *Annex 1.* 515
- 223 Carnell, F. L. & D. R., 1844 Germantown avenue, Philadelphia, Pa.**—Fire and red brick presses; working model of "Peerless" brick machine. The above firm manufacture brick machinery of every description, of which they have a fine illustrated catalogue, which will be mailed to any person sending them their address. (*Annex 1 and 3.*) 517
- 223^a Aiken, Henry, Philadelphia, Pa.**—Hydrostatic machine; stone-separating and clay-tempering machine. (*Annex 3.*) 517
- 223^b Farr, George, New York, N. Y.**—Working model of brick machine. (*Annex 3.*) 517
- 223^c Maas, Albert W. M., Meridian, Miss.**—Model and drawing of perpetual burning brick-kiln. (*Annex 3.*) 517
- 223^d Whiteford, John, Detroit, Mich.**—Brick moulding, off-bearing, and yard-leveling machine. (*Outside of building.*) 517
- 223^e Miller, Samuel P., & Son, Philadelphia, Pa.**—Hand brick pressing machines. (*Annex 3.*) 517
- 223^f Wyatt, Charles B., Somerville, Mass.**—Grate, bevel knife, and spring pressure for brickmakers' use. (*Annex 3.*) 517
- 224 Newkumet, Adam, Philadelphia, Pa.**—Crucible and pottery ware machines, drying apparatus for glass-house pots, retorts, etc. (*Annex 3.*) 517
- 225 Miller, Samuel P., & Son, Philadelphia, Pa.**—Hand brick press, model of clay-tempering machine, brickmakers' tools. (*Annex 3.*) 517
- 226 Carnell, Geo., Philadelphia, Pa.**—Brick press and pug mill. (*Annex 3.*) 517
- 227 Morand, Augustus, Philadelphia, Pa.**—Brick-making machine. (*Annex 3.*) 517
- 228 Garretson, I. H., Keokuk, Iowa.**—Brick-moulding machine, ring fence. (*Annex 3.*) 517
- 229 Excelsior Brick & Stone Co., Philadelphia, Pa.**—Model of brick machine, samples of brick and stone. (*Annex 3.*) 517
- 230 McLean & Benorr Brick Machine Co., Philadelphia, Pa.**—Impact brick machine, making brick with a blow. (*Annex 3 and C 59.*) 517
- 231 Chambers, Bro., & Co., Philadelphia, Pa.**—Archimedian brick machine. D 23. 517
- 232 Hotchkiss, James, Springfield, O.**—Brick machine. (*Outside of building.*) 517
- 233 Gregg, Isaac, jr., & Co., Philadelphia, Pa.**—Steam brick machine, one-faced front brick. (*Annex 3.*) 517
- 234 Hazlehurst, Samuel, St. Louis, Mo.**—Hand brick-moulds. (*Annex 3.*) 517
- 235 Hoyt, Andrew J., Philadelphia, Pa.**—Brick machine; steam hammer. (*Annex 3.*) 517
- 236 Gregg, Wm. L., Philadelphia, Pa.**—Triple pressure brick machine for making and also re-pressing all kinds of brick; ceramic gas-kiln, for drying and burning red brick, fire brick, terra-cotta, china, lime, pottery, and drain pipe. (*Annex 3.*) 517
- 237 Great American Brick Machine Co., Croton, N. Y.**—Brick machine and trucks. (*Annex 3.*) 517
- 238 Gregg Impact Brick Machine Co., Philadelphia, Pa.**—Model of brick machine. (*Annex 3.*) 517
- 238^a Stacy, George, New York, N. Y.**—Fastening for stonecutters' use, etc. (*Annex 3.*) 517
- 239 Williams, S., & Son, Philadelphia, Pa.**—Brickmakers' implements. (*Annex 3.*) 517
- 240 Stockwell, J. W., Portland, Me.**—Cement pipe machinery, concrete mixing, sewer pipe tamper, moulds for drain pipe, samples of work. A. 55. 517
- 241 Martin, Henry, Lancaster, Pa.**—Self-acting brick machine. (*Annex 3.*) 517
- 242 Laffer, J. A., Albion, N. Y.**—Brick-making machine in operation, brick mould, bricks, and model of brick machine. (*Annex 3.*) 517
- 243 Hamilton, S. M., Baltimore, Md.**—Perpetual brick kiln. (*Annex 3.*) 517
- 244 Mathieu, Charles, Colosse, N. Y.**—Glass steam-engine, glass-blowing, knitting, spinning, and forming fancy glass ornaments. F. 74. 517
- 245 Burgess, Warren S., Norristown, Pa.**—Blowpipe, animal-clipping machine. E. 75. 518
- 246 Holzer, William, Philadelphia, Pa.**—Process of manufacture of druggists', chemists', perfumers', philosophical, and fancy glassware. B 32. 518

Glass and Metal-Working Machinery and Tools.

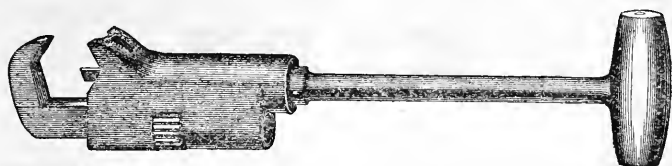
- 247 Brooke, Homer, New York, N. Y.**—Glass manufacturers' moulds and presses, for making bottles, jars, lamps, lantern globes, and for all kinds of pressed and blown glass; also private moulds for patent medicine bottles. E 75. 518
- 248 Chase, B. F., E. Stroudsburg, Pa.**—Glass-blowing machines. E 74. 518
- 249 Steele Bros., 209 South Eleventh street, below Walnut, Philadelphia, Pa.**—Glass engraver at work. Decorated china and engraved glass. Dinner, dessert, and tea sets decorated, to order, in any color or design. Monograms, crests, initials engraved on glass. E 75. 518
- 249_a Bevington & Winters, Philadelphia, Pa.**—Glass furnace; china furnace; printing press and mineral cases, belonging to the art of porcelain printing. (*Annex 1.*) 519
- 250 McCaffrey & Bro., Philadelphia, Pa.**—Hand-cut files and rasps. A 41. 519
- 251 Krumbhaar, Alexander, Philadelphia, Pa.**—Hand-cut files and rasps. A 43. 519
- 252 Barnett, G. & H., Philadelphia, Pa.**—Files and rasps. A 39-40. 519
- 253 Flagg, Stanley G., & Co., Philadelphia, Pa.**—Carriage hardware. A 41. 519
- 253_a Knight, Edward H., Philadelphia, Pa.**—Monkey wrench. A 41. 519
- 253_b Coe, A. G., & Co., Worcester, Mass.**—Screw wrenches. B 41. 519
- 254 Hoopes & Townsend, Philadelphia, Pa.**—Bolts, cold-punched nuts, washers, chain links, wood screws, rivets. C 32. 519
- 255 Stephens Patent Vise Co., New York, N. Y.**—Parallel vise, with swivel, taper, table, woodworkers, and pipe attachment. B 6. 519
- 256 Billings & Spencer Co., Hartford, Conn.**—Drop forgings for guns, pistols, sewing machines, and machinery generally; screw plates and dies, Packer ratchet drills, Barwick pipe wrenches, clamp, die, and common lathe dogs, marlinspikes, and calker's tools. B 40. 519
- 257 Brainard Milling Machine Co., Boston, Mass.**—Standard, universal, index, and plain milling machines, for working metals in all shapes, cutting key seats, spur and bevel gears, twist drills, fluting taps and reamers, and making tools of all kinds. Are universally used in American establishments. C 38-40.
- a* Grinding machines for sharpening the milling cutters, without drawing the temper. 515
- b* Set screw machine, new design. 515
- c* Steel bar vises, combining strength with lightness and convenience. 519
- 258 Bedell, Otis T., New York, N. Y.**—Screw wrench. B 40. 519
- 259 Monk, Chas., Brooklyn, N. Y.**—Iron moulders' steel-finishing tools. B 40. 519
- 260 Silver & Deming Manufacturing Co., Salem, O.**—Blacksmiths' post and table drills. F 54. 519
- 261 Morse Twist Drill and Machine Co., New Bedford, Mass.**—Patent increase twist drills, beach chucks, machine relieved taps, screw plates, tap wrenches, adjustable dies, solid and split dies, pipe, solid, and shell reamers, adjustable and centre drill chucks, milling cutters, drill grinding machines, special tools. All tools to standard gauges. B 40. 519
- 262 Plumb, Burdick, & Barnard, Buffalo, N. Y.**—Bolt-forging machines, with forge. (*Annex.*) 519
- 263 Clark Bros. & Co., Milldale, Conn.**—Bolts, rivets, nuts, washers, etc. B 41. 519
- 264 Parker, Chas., Meriden, Conn.**—Vises. B 41. 519
- 265 Fisher & Norris, Trenton, N. J.**—Parallel double screw vises, hardened cast steel faced steam and drop hammer dies, steel faced ore stamp shoes, and all articles requiring hardened cast steel welded to cast iron. Warranted. B 41, and *Annex.* 519
- 266 Western File Co. (limited), Beaver Falls, Pa.**—Machine-cut files. A 41. 519
- 267 Haase, John A., Philadelphia, Pa.**—Floor and door clamps, ratchet drills. B 41. 519
- 268 Simonds Manufacturing Co., Fitchburg, Mass.**—Knives and sickles for mowers and reapers, planing machine knives, circular saws. B 41. 519
- 268_a Flanagin, W. J., & Co., Philadelphia, Pa.**—Wrenches. B 41. 519
- 268_b Bailey Wringing Machine Co., New York, N. Y.**—Adjustable parallel vises. A 42. 519
- 268_c Barnett, Oscar, Newark, N. J.**—Malleable and gray iron castings, brass founders' flasks, etc. A 39. 519
- 268_d Russell, Wm. C., New York, N. Y.**—Adjustable wrench. D 73. 519
- 268_e Cleveland Screw & Tape Co., Elyria, O.**—Milled set and cap screws, taps and nuts. B 43. 519
- 269 Rutschmann Bros., Philadelphia, Pa.**—Self-feeding hand drill. B 20. 519
- 270 Mudge Hook, Tooth, File, & Rasp Co., Brooklyn, N. Y.**—Machine files and rasps. A 40. 519
- 271 Russell, Burdsall, & Ward, Port Chester, N. Y.**—Bolts for manufacturers' use. A 40. 519
- 272 Clark Bros., Philadelphia, Pa.**—Eccentric or cam rivet pipe tongs. B 40. 519
- 273 Pool, A. Alex., & Co., Newark, N. J.**—Steel arbors for machinists and jewelers. B 40. 519
- 274 Wood, Geo. W., Philadelphia, Pa.**—Self-adjusting flooring clamp and lifting jack. A 41. 519
- 275 Orum, Morris L., Philadelphia, Pa.**—Flexible mandrels for bending metal pipe. B 40. 519
- 276 Eaton, Cole, & Burnham Co., 58 John street, New York, N. Y.**—Brass and iron goods for steam, water, and gas; cast iron radiators, tools, etc. B 41. 519
- 277 Shaw, Thomas, Philadelphia, Pa.**—Lathe tools. D 69. 519
- 278 Nicholson File Co., Providence, R. I.**—Files, finished, ground, and forged; file steel. C 34. 519

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Metal-Working Tools, Silk and Cotton-Working Machinery.

- 279 American File Co., Pawtucket, R. I.—Files, file-testing machine. C 34. 519
- 280 Hey, Henry T., Philadelphia, Pa.—Measuring gauge. A 41. 519
- 281 Spiral Tubing Co., Boston, Mass.—Machine for making spiral seam pipe. B 34. 519
- 282 Hewitt & Follensbee, Washington, D. C.—Machines for filing and setting saws. A 29. 515
- 283 Wilkinson, A. J., & Co., Boston, Mass.—Foot-power lathe, bench lathes, small-power planer, hand-planer. C 38-40. 519
- 284 Wyman, J. Dana, Boston, Mass.—Self-heating soldering iron. B 49. 519
- 285 Backus, Q. S., Winchendon, Mass.—Bit braces, ratchet braces, tack hammers, etc. A 40. 519
- 286 Johnson, Wm., Lambertville, N. J.—Universal lathe chuck. C 77. 519
- Machines and Implements of Spinning, Weaving, Felting, and Paper Making.**
- 287 Cutter, John D., & Co., New York, N. Y.—Jacquard silk loom in operation; mechanism for measuring silk while spooling it. D 31. 520
- 288 Knowles & Bro., Worcester, Mass.—D 51.
a Looms for silk dress goods, ribbons, webbing, etc. 520
b Looms for plain and fancy woolen goods. 522
- 290 Wrigley, John, Paterson, N. J.—Jacquard loom, changeable for power or hand. D 31. 520
- 291 Danforth Locomotive & Machine Co., Paterson, N. J.—Silk machinery. D 29. 520
- 292 Nonotuck Silk Co., Florence, Mass.—Machinery for throwing and finishing organzine, sewing silk, twist, and embroidery; machine for printing spools. D 41. 520
- 293 Holland Manufacturing Co., Willimantic, Conn.—Machines for winding, measuring, and testing the strength of sewing-silk and other threads. D 34. 520
- 294 Lawson, Peter, Lowell, Mass.—Drawing or roving can. B 58. 521
- 294*a* Sullivan Machine Co., Claremont, N. H.—Papier-maché roving cans. D 46. 521
- 294*b* Davis, Caleb S., Philadelphia, Pa.—Cotton goods finisher. D 46. 521
- 295 Avery, John G., Worcester, Mass.—Thread, twine, and cord machinery. D 54. 521
- 298 Butterworth, H. W., & Sons, Philadelphia, Pa.—Drying machines for muslins, prints, tickings, etc.; dyeing and sizing machines, calenders and finishing machinery of all kinds. Tinned sheet iron cotton cans, etc. D 44 to 48. 521
- 299 Willimantic Linen Co., Hartford, Conn.—Spool cotton thread-winding and ticketing machines; ring spinning frame. C 52, 53. 521
- 300 Clark Thread Co., Newark, N. J.—Self-acting spool-winding machine; show case. C 33 and A 34. 521
- 301 Dutcher Temple Co., Hopedale, Mass.—Dutcher's patent self-acting power loom temples. May be seen in operation upon the looms of Geo. Crompton, Esq., Messrs. J. & W. Lyall, and Messrs. L. J. Knowles & Bro., at the Centennial. C 37. 521
- 302 Kitson Machine Co., Lowell, Mass.
a Cotton openers and lappers. 521
b Shoddy pickers and rag dusters. 522
c Leather needle-pointed card clothing, for carding hemp, flax, jute, and tow. C 4, 33 and 34. 527
- 303 Prouty, A. B., Worcester, Mass.—Card-setting machine. D 59. 521
- 305 Gibbs Loom Harness & Reed Co., Clinton, Mass.—Loom harness and reeds used for weaving. C 50. 521
- 305*a* Fales, Jenks, & Son, Pawtucket, R. I.—Combined fly frame and speeder; ring spinner frame. D 34-35. 521
- 305*b* Saco Water Power Machine Shop, Biddeford, Me.—Cotton machinery. C 35-37. 531
- 305*c* Long, Jas., Bro., & Co., Philadelphia, Pa.—Power looms. C 57. 521
- 305*d* Patent Forged Steel Spring Ring Co., Worcester, Mass.—Steel spring rings. C 34. 521
- 305*e* Wolfenden, Shore, & Co., Philadelphia, Pa.—Power loom. D 45. 521
- 305*f* Hertle & Thompson, New York, N. Y.—Wire heddles, for weaving woolens, cottons, etc. C 54. 521
- 306 Rockville Traverse Card Grinding Co., Rockville, Conn.—Traverse grinder for woolen and cotton cards and shears. C 50. 521
- 307 Poole, J. Morton, & Co., Wilmington, Del.—C 60.
a Glazing cylinder for finishing cotton goods. 521
b Chilled roll calenders, for paper-makers' use, ground chilled roll. 525
- 308 Hope & Co., Providence, R. I.—Pantograph engraving machine for calico-printers' plates. C 41. 521
- 309 Ingersoll & Balston, Greenpoint, N. Y.—Hand-power hay and cotton press. C 55. 521
- 310 Butler, Brown, & Co., Providence, R. I.—Ring travelers and belt hooks. C 34. 521
- 311 Ross, L. E., Providence, R. I.—Spring shuttle motion for looms, independent of speed; loom with motion attached. C 36. 521
- 312 Palmer European Patent Tentering & Finishing Machine Co., Norwich, Conn.—Machinery for stretching, tentering, and drying woven fabrics, laces, etc. C 56. 521
- 313 Providence Machine Co., Providence, R. I.—Roving machinery, card and spinning frame, built by Samuel Slater in 1790. D 36. 521
- 314 Hill, James, Providence, R. I.—Tin filling box, tin cotton can. D 35. 521
- 315 Wood, Thomas, 2106 Wood street, Philadelphia, Pa.—"Star loom" single box, five leaf; three box loom, 12 harness; four box loom-sliding cams; bobbin-winding machine; new style beaming machine; power hoisting machine; patent friction pulley; shafting, couplings, and pulleys; adjustable self-oiling hangers; self-oiling pillow blocks. C 54. 521

The Acme Patent Pipe Cutter.



MANUFACTURED ENTIRELY OF SOLID CAST STEEL.

Is adapted to widely varying classes of work, and will be found to operate equally well on

Wrought Iron Gas and Steam Pipes,
Boiler Tubes, Oil-Well Tubes,
Round Iron, Bolts, Shaft-
ing, Brass and Cop-
per Pipes, etc.

IT IS AS CLAIMED AN ACTUAL CUTTER, and does not depend on force of pressure to indent the pipe until it can be BROKEN OFF; but cuts out a regular chip precisely similar to the action of a lathe tool, leaving the end of pipe perfectly square and true, entirely devoid of any burring inside or outside, and ready for the die without being touched with a file.

The knives are of such simple construction that any blacksmith can replace them. This will often be found an advantage by mechanics working at a distance from their shops.

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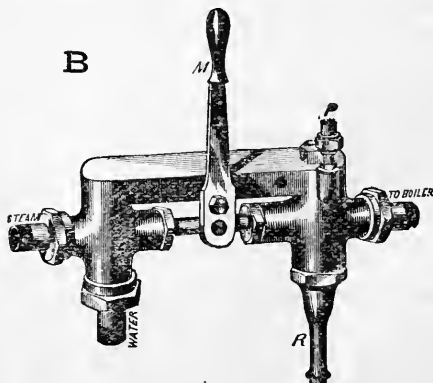
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Section 4, Column 13,
Pump Annex.

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523 CHERRY STREET,

PHILADELPHIA.

Cotton, Woolen, Paper-working Machinery.

- 315^a Smith, J. A. V., Manchester, N. H.—Steel spreader flies. C 66. 521
- 315^b Wolfendon, Shore & Co., Cardington, Pa.—Narrow loom. D 45. 521
- 316 Eaton & Ayer, Nashua, N. H.—Bobbins, spools, shuttles, skeivers, etc., for spinning and weaving textiles. C 60. 521
- 317 Leonard & Silliman, Bridgeport, Conn.—Mill spindle with driver, step and points. E 56. 521
- 318 Jenckes, E., & Co., Pawtucket, R. I.—Ring travelers, cotton binding belt holes, spinning rings, cotton and woolen mill supplies. C 35. 521
- 319 Foss & Pevey, Lowell, Mass.—Under-flat cotton card. C 38. 521
- 320 Cleveland Machine Works, Worcester, Mass.—Double-acting gig. D 47. 521
- 320^a Corner & Cooper, Lowell, Mass.—Cotton stamps for cotton and woolen mills. D 50. 521
- 321 Howard, George C., 13 $\frac{1}{4}$ South Eighteenth street, Philadelphia, Pa.—Folding, rolling, and measuring, strength-testing, shearing, and brushing machines, for carpets or cloths. B 31. 522
- 322 Avery, John G., Worcester, Mass.—Continuous wool spinner. D 53. 522
- 323 Lyall, J. & W., New York, N. Y.—Positive motion looms, weaving various fabrics. C 46 and 49. 522
- 324 Smith, James, & Co., 137 Market street, Philadelphia, Pa.—Machinery for manufacturing fabrics; manufacturers' supplies. Manufacturers of card clothing, oak leather belting, Garnett machines, wool washers, barring machinery, etc.; also, dealers in manufacturers' supplies. Factory, corner of Race and Crown streets. D 62. 522
- 325 Furbush, M. A., & Son, Philadelphia, Pa.—Carding machines, self-acting spinning mule. D 52. 522
- 326 New England Co., Rockville, Conn.—Spooler, warp dresser, reel, beamer. D 46. 522
- 327 Thames River Worsted Co., Norwich, Conn.—Spinning frame with ring and transverse bar. D 48. 522
- 328 Parks & Woolson Machine Co., Springfield, Vt.—Cloth-shearing machine, cloth-brushing machine, etc. Manufacturers of cloth finishing machinery, consisting of improved shearing machines for shearing all kinds of broad and narrow woolen goods, carpet rugs, shawls, etc.; also, double-acting brushing machine and teasing gigs, etc., etc. D 60. 522
- 329 Naylor & Jeffries, Philadelphia, Pa.—Carpet rag looper; adjustable clamp. D 50. 522
- 329^a Rhodes, Thomas, Philadelphia, Pa.—Yarn beam. D 49. 522
- 329^b James, B., Worcester, Mass.—Leather head spools for silk, wool, and cotton manufacturers' use. D 50. 522
- 329^c Dienelt & Eisenhardt, Philadelphia, Pa.—Carpet loom, bobbin-winder, and Jacquard machines. C 55. 522
- 330 Short, James, New Brunswick, N. J.—Positive motion loom for all kinds of carpets. This motion is a differential

- duplex motion, and is a mechanical motion not before known; all dead centres are obviated by the use of this motion; in looms twenty-five per cent. less power is required and a speed of twenty per cent. increase is gained. The motion is adaptable to all kinds of looms. D 47. 522
- 331 Crabb, William, Newark, N. J., branch, Twentieth and Filbert streets, Philadelphia, Pa.—Hackles, wood and leather card clothing, wool combs, picker teeth, comb pins. Manufacturer of wood and leather card clothing, hackles, gills, picker teeth, wool combs, and all kinds of hackle, gill comb and card pins, and general mill furnishing. C 58. 522
- 332 Butterworth, James, & Son, Philadelphia, Pa.—Rag, waste, and shoddy picker. D 58. 522
- 333 Dornan Bros. & Co., Philadelphia, Pa.—Power loom for weaving without shuttles. Dispensing with complicated "box or shuttle motion," and thereby making great saving in waste. Having almost unlimited capacity for shading colors into the fabric, by means of mails, controlled by the Jacquard machine, cheapness and simplicity of construction, diminished expense in running, by reason of lessened wear and tear, also saving in cost of production, inasmuch as two or more looms can be run by one attendant; lessened service required from loom fixer, and consequent reduction in expense of production, by reason of fixer giving attention to double the quantity of shuttle looms now in use. Cone bobbin-winder.—Winding direct from skein; can be adjusted to wind bobbin from one and a half to eight inches in diameter, having a compensating traveling rod and friction barrels, operating so as to give equal tension on the yarn at all times. Power loom shuttles.—So constructed that the bobbin is prevented from flying up and tearing the warp whilst in operation. Carpet fabric, original designs. D 46. 522
- 334 Silcott, Millikan, & Gold, Washington C. H., O.—Cloth-measuring and rolling machine. D 52. 522
- 336 Hillman, Lewis, Philadelphia, Pa.—Automatic measuring machine. D 43. 522
- 337 Draper, George, & Son, Hopedale, Mass.—Spinning frame, spooler, warper, and creel; twister, spinning rings. C 51. 522
- 338 Whitney, Baxter D., Winchendon, Mass.—Wool-spinning machine. D 53. 522
- 340 Atlas Manufacturing Co., Newark, N. J.—Burr picker, to extract foreign substances from wool; single and double burr machine. C 34, 35. 522
- 341 Crabb, William, Newark, N. J.—Rope-makers' pins, gills. C 63. 524
- 342 Kuh, Sol., Grand Junction, Iowa.—Straw-twister, etc. C 63. 524
- 343 Gavit Machine Works, Philadelphia, Pa.—Paper-making machine and adjuncts. F 65-73. 525
- 344 Lobdell Car Wheel Co., Wilmington, Del.—Chilled-iron callender rolls for paper. E 65. 525
- 345 Holyoke Machine Co., Holyoke, Mass.—Web callender; beating-rag engine. F 74. 525

Paper-working, Clothing-making, Sewing Machines.

- 346** Entrekin, William G., Philadelphia, Pa.—Enameler for burnishing photographs, paper, etc. C 41. 525
- 347** Ross, E. W., & Co., Fulton, N. Y.—Paper mill. F 64, and *outside*. 525
- 347^a** Pusey, Jones, & Co., Wilmington, Del.—Wire guides for paper machinery. D 33. 525
- Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.**
- 348** Butler Braider Co., Clinton, Mass.—Braiding machinery. C 42. 530
- 349** Wimpfheimer, Mrs. C., Philadelphia, Pa.—Loom for manufacture of hair-ribbon. C 42. 530
- 350** Suplee Needle Co., New York, N. Y.—Needles for hand and sewing machines. C 8. 530
- 351** Oppenheimer, J. D., Philadelphia, Pa.—Patent process for curling hair by steam or hot water. Manufacturer of real and imitation hair goods. C 43. 530
- 352** Howard, George C., 13 $\frac{1}{4}$ South Eighteenth street, Philadelphia, Pa.—Forming and pressing machines for straw, felt, leather, and buckram. We also make machines for drawing sheet metal. B 31. 531
- 353** American Buttonhole, Overseaming, & Sewing Machine Co., Philadelphia, Pa.—Sewing machines. C 61. 531
- 354** Franz & Pope Knitting Machine Co., Bucyrus, Ohio.—Automatic knitting machines, seamless hosiery knitting machines; samples of work. C 64. 531
- 355** Wheeler & Wilson Manufacturing Co., Bridgeport, Conn.—Sewing machines and attachments; samples of work. C 44. 531
- 356** Washburn Machine Shop, Worcester, Mass.—American drawing models, adjustable drawing tables. C 38. 531
- 357** Wsley, James, Philadelphia, Pa.—Improvement in buttonhole sewing machines. C 46. 531
- 358** Lamb Knitting Machine Manufacturing Co., Chicopee Falls, Mass.—C 64.
a Knitting machines. 531
b Egg heaters. 224
- 359** Howe Machine Co., Bridgeport, Conn.—Sewing machines and attachments; samples of work. C 52. 531
- 360** Rex & Bockius, Philadelphia, Pa.—Sewing machine. C 69. 531
- 361** Bartlett, Joseph W., New York, N. Y.—Reversible sewing machines. C 45. 531
- 362** Wilson Sewing Machine Co., Chicago, Ill.—Sewing machines. C 47. 531
- 363** Billings & Spencer Co., Hartford, Conn.—Sewing machine shuttles, drop-forged and cold-pressed, from bar steel. B 40. 531
- 364** Wilcox & Gibbs Sewing Machine Co., New York, N. Y.—Sewing machines with automatic tension, etc. C 50. 531
- 365** Warth, Albin, Stapleton, N. Y.—Cutting machines for clothing, nothing implement for patterns, folding machine. C 70. 531
- 366** United States Corset Co., New York, N. Y.—Corset-weaving power loom. C 46. 531
- 367** DuLaney, G. L., & Co., New York, N. Y.—Sewing machine. C 55 and B 29. 531
- 368** Florence Sewing Machine Co., Florence, Mass.—Sewing machines. C 51. 531
- 369** Davis Sewing Machine Co., Watertown, N. Y.—Sewing machines. C 51. 531
- 369^a** Robinson, L. W., Champaign, Ill.—Treadle for sewing and other machines. B 77. 531
- 370** National Suspender Co., New York, N. Y.—Loom for manufacturing suspenders; process of weaving suspenders with the name in; samples of work. C 67-69. 531
- 371** St. John Sewing Machine Co., Springfield, O.—Sewing machines. C 54. 531
- 372** Beckwith Sewing Machine Co., New York, N. Y.—Sewing machines. C 55. 531
- 373** McLean & Bennor Machine Co., Philadelphia, Pa.—Sewing machines. C 60. 531
- 374** Johnson, Clark, & Co., Boston, Mass.—Sewing machines. Home, Shuttle, National, and Union sewing machines are furnished for domestic or export trade, at very low prices. The "Home" runs with treadle only; the others by hand or treadle. C 59. 531
- 375** Campbell & Clute, Cohoes, N. Y.—Double table knitting machine, yarn winder, turning-off machine. C 64. 531
- 376** Hart, Wm., jr., 127 North Fourth street, Philadelphia, Pa.—Apparatus for moulding, curving, or round-shaping, pasteboard, brass, and other flexible substances. Patented May 23, 1876. C 65. 531
- 377** Yule, George, Newark, N. J.—Wool forming machine, sizing, stuffing, body stretching, etc., for hatters' use. C 67. 531
- 378** Victor Sewing Machine Co., Middletown, Conn.—Sewing machines, adjustable drill chuck, compensating journal. C 58. 531
- 379** Wagener, Jephtha, Holtzville, N. Y.—Sewing machines, carriages, and attachments. The great advantages of this machine are its simplicity, general utility, velocity and perfection of work. It is mounted upon a carriage, which is easily thrown on or off the wheels by a child, and is as easily moved from room to room as a child's toy. It makes all the stitches of all the other well-known machines, and is easily changed from one stitch to another by the operator, and, by a new feed device, the ordinary fault of fulling the under layer in a seam is entirely obviated. The especial excellence and superiority of this machine are shown by even a brief inspection of its work. The Wagener has a manufacturing capital of \$2,000,000. C 62. 531
- 380** Whitney Manufacturing Co., Paterson, N. J.—Sewing machines. C 58. 531

Clothing-making, Sewing, Washing Machines.

- 381 Singer Manufacturing Co., Elizabethport, N. J.—Sewing machines, samples of work, and case of machine twist. (*Special building.*) 53¹
- 382 Home Knitter Co., Alliance, O.—One-needle knitter for stockings. C 64. 53¹
- 382^a Decrow, A. W., Bangor, Me.—Sewing machine treadle. E 69. 53¹
- 384 New York Needle Co., Jersey City, N. J.—Needles, shuttles, and sewing machine attachments. C 66. 53¹
- 385 Shutt, Daniel, Philadelphia, Pa.—Machine-needle threaders. C 64. 53¹
- 386 Lathrop Anti-frictionate Co., New York, N. Y.—Anti-frictionate sewing machine. D 68. 53¹
- 387 Dyson Needle Co., New Britain, Conn.—Spring-needles and points for knitting machines. C 63. 53¹
- 388 Carpenter, Mrs. Mary P., New York, N. Y.—Sewing machine. C 59. 53¹
- 389 Haas, Joseph, Philadelphia, Pa.—Ancient knitting machine. C 64. 53¹
- 390 Hinkley, Jonas, Norwalk, O.—Carpet and floor sweeper, knitting machines. C 62. 53¹
- 392 Pearson, William, Philadelphia, Pa.—Hosiery-seaming machine. C 62. 53¹
- 393 Taft, J. C., Providence, R. I.—Sewing machines. C 7. 53¹
- 394 Hull & Belden Co., Danbury, Conn.—Machine for forming fur hats. C 72, and annex. 53¹
- 395 Domestic Sewing Machine Co., New York, N. Y.—Sewing machines. C 57. 53¹
- 396 Bickford, Dana, New York, N. Y.—Automatic knitting machines. C 73. 53¹
- 397 Willis, Charles E., Oyster Bay, N. Y.—Sewing machine feed. C 65. 53¹
- 398 Secor Sewing Machine Co., Bridgeport, Conn.—Family sewing machines. C 59. 53¹
- 398^a Boles' Universal Feed-machine Co., New York, N. Y.—Sewing machines and attachments. C 42. 53¹
- 399 Wardwell Manufacturing Co., St. Louis, Mo.—Family sewing machine. Makes a perfect lock-stitch, direct from two store spools; dispenses with the shuttle, bobbin, and tiresome rewinding of under-thread; its needle is self-setting and self-fastening; feeds in any direction; is noiseless, simple, light-running, always in order, and its use saves much valuable time and labor. Ladies should examine it before buying. C 67 and 68. 53¹
- 400 National Hat-Pouncing Machine Co., New York, N. Y.—Machinery to shear the surface of fur and wool hats. C 70. 53¹
- 401 Eickmeyer Hat-Blocking Machine Co., New York, N. Y.—Machinery to stretch, block, iron, and sew sweats into fur and wool hats. C 70. 53¹
- 402 Cuming, M. A., New York, N. Y.—Hand-power hydraulic hat press. C 62. 53¹
- 403 Fish, Warren L., Newark, N. J.—Sewing machines. C 46. 53¹
- 404 McCloskey, John, Brooklyn, N. Y.—Sewing machines. C 59. 53¹
- 404^a Hawley & Branson, Chicago, Ill.—Knitting machines. C 66. 53¹
- 404^b Weed Sewing Machine Co., Hartford, Conn.—Sewing machines and samples of work. C 45. 53¹
- 404^c Remington, E., & Sons, Ilion, N. Y.—Sewing machines; samples of work. C 49. 53¹
- 404^d United States Sewing Machine Co., New York, N. Y.—Sewing machines. C 62. 53¹
- 404^e Pusey, Jones, & Co., Wilmington, Del.—Morocco glazing machine. D 33. 53¹
- 405 Oakley & Keating, New York, N. Y.—Washing machine. E 80. 53⁴
- 406 Buck, Isaiah D., Conshohocken, Pa.—Suction washing machine. E 77. 53⁴
- 407 Woods, George, & Co., Cambridgeport, Mass.—Drying process. E 78. 53⁴
- 408 Lewis, Rufus S., New Hampton, N. H.—Ironer and polisher for laundry use. E 77. 53⁴
- 409 Sternberger, Leopold, Philadelphia, Pa.—Steam starching, ironing, and polishing machines for laundries. Patent right of starching machine for sale. Address L. Sternberger, 503 Market street, Philadelphia. E 76. 53⁴
- 410 Calkins Champion Washer Co., Chicago, Ill.—Washing machine. E 77. 53⁴
- 410^a Barnard, A. B., West Fitchburg, Mass.—Mangles. E 78. 53⁴
- 410^b Howland, W. Penn, Auburn, N. Y.—Mangles. E 78. 53⁴
- 410^c Short, S., Cincinnati, O.—Mangle and ironer; blanket washing machine. E 77. 53⁴
- 410^d Pratt, Jas. W., Philadelphia, Pa.—Laundry washer. E 78. 53⁴
- 411 York Manufacturing Co., York, Pa.—Washing machine. D 78. 53⁴
- 411^a Standard Laundry Machinery Co., Boston, Mass.—Washing, starching and wringing machines. E 77. 53⁴
- 412 Bing, James, Philadelphia, Pa.—Mangle. E 77. 53⁴
- 413 Walker, W. B., Boston, Mass.—Machine for pressing garments; smoothing-iron and sad-irons. E 79. 53⁴
- 414 Briggs, Nicholas A., Shaker Village, N. H.—Shaker washing machine. E 79. 53⁴
- 415 Burt & Putnam, Rockville, Conn.—Washer for scouring cloth. E 78. 53⁴
- 415^a Uhlinger, W. P., Philadelphia, Pa.—Centrifugal hydro-extractor. (*Pump Annex 8-10.*) 53⁴
- 416 Felder, Charles, New York, N. Y.—Plating, pinking, fluting, and crimping machines. C 62. 53⁴
- 417 Storrs, Levi B., Canton, N. Y.—Pressing machines for tailors' use. E 79. 53⁴
- 418 American Watch Tool Co., Waltham, Mass.—Watch lathes and attachments, with all modern improvements, as used in the best American watch factories; model and astronomical instrument mak-

Watch-making, Printing Machines.

- ers' lathes. Hill, Clarke, & Co., agents, 131 Milk street, Boston, Mass. C 41 and D 40. 535
- 419 Hopkins, C., Waltham, Mass.**—Machinery and tools for making and repairing watches. C 41. 535
- 420 Stilwell & Bierce, Newark, N. J.**—Jewelers' lathes, foot-press for rolling-mill, gold ingot. D 80. 536
- 421 National Needle Co., Springfield, Mass.**—Machine for making hand and sewing-machine needles. C 40. 537
- 422 Pyramid Pin Co., New Haven, Conn.**—Machine for sticking pins in paper. Also the processes of rolling, boxing, and finishing, in a pyramidal form, the same number of pins (360) usually sold on papers. This company make no cheap pins, but manufacture exclusively from the best spring-tempered brass wire, thus offering to consumers fine pins, in compact and convenient form for toilet, office, and work-basket. C 42-43. 537
- Machines and Apparatus for Type Setting, Printing, Stamping, Embossing, and for Making Books, and Paper Working.**
- 424 Howard, George C., 13¼ South Eighteenth street, Philadelphia, Pa.**—Plate press for steel, copper, or zinc plate burnishers; power machines, ink, wipe, polish, and print twelve per minute. Screw printing, embossing, punching, and cutting press. Perforating or cutting machines for stamps, checks, sheet metal. Rotary and direct acting, heavy punching, cutting, and bending machines for metal. E 31. 540
- 425 Kelsey, W. A., & Co., Meriden, Conn.**—Portable printing presses. F 32. 540
- 426 Hickok, W. O., Harrisburg, Pa.**—Paper-ruling machines, head-striking machine, book-binders' standing press, and board cutter. F 34. 540
- 427 Gordon, George P., New York, N. Y.**—Printing presses. F 34-36. 540
- 428 Potter, C., jr., & Co., 12 and 14 Spruce street, New York, N. Y.**—Builders of book, job, newspaper, printing, and lithographic presses. Warranted perfect in every respect, and with all the latest improvements of the age. F 28-29. 540
- 429 Rex & Bockius, Philadelphia, Pa.**—Printing presses. C 69. 540
- 430 Hoover, H., & Co., Philadelphia, Pa.**—Printing presses. E 45. 540
- 431 Lent, A. E., Philadelphia, Pa.**—Press for printing steel and copper plates. E 27. 540
- 432 Degener & Weiler, New York, N. Y.**—Printing machines. F 30. 540
- 433 Golding & Co., Boston, Mass.**—Printing presses, printers' tools. E 31. 540
- 434 Rosenthal, Isador, New York, N. Y.**—Apparatus for stamping patterns of ladies' garments. E 32. 540
- 435 Hammett, L. C., Philadelphia, Pa.**—Printers' rollers and composition. E 40. 540
- 436 O'Shea, Andrew J., Jersey City, N. J.**—Devices for registering printing. E 29. 540
- 437 Bagger, Louis, Washington, D. C.**—Printing press using compound lithographic stones. E 31. 540
- 438 Gally, M., New York, N. Y.**—Two printing presses. E 31. 540
- 439 Bullock Printing Press Co., Philadelphia, Pa.**—Printing presses and stereotyping machinery. E 25. 540
- 440 Cottrell & Babcock, New York, N. Y.**—Stop-cylinder press, roller-drum cylinder press, perfecting press for illustrated cut work. F 26-27. 540
- 440a Kneass, N. B., jr., Philadelphia, Pa.**—Press, type, and plates for printing literature and music for the blind. Specimen work. E 32. 540
- 441 Child, C. C., Boston, Mass.**—Printing presses. F 32. 540
- 442 Daughaday, J. W., & Co., Philadelphia, Pa.**—Printing press, self-feeding attachment. E 31. 540
- 443 Woods, B. O., & Co., Boston, Mass.**—Amateur printing presses, improved type cases. E 30. 540
- 444 Dickson, John, & Co., Philadelphia, Pa.**—Engraving on vulcanized rubber for printing on letter-press. E 32. 540
- 445 Ferre, Samuel P., Philadelphia, Pa.**—Chromotype cylinder printing press, prints five colors at once. E 32. 540
- 446 Rose & McDondald, Philadelphia, Pa.**—Roller-combs and rollers. E 40. 540
- 447 Kurtz, H. I., Philadelphia, Pa.**—Process of manufacturing lithographic pictures, with specimens. E 34. 540
- 448 Hoe, R. R., & Co., New York, N. Y.**—Printing presses. E 30 to 37. 540
- 449 MacLachlan, Hopkins, & Co., New York, N. Y.**—Paging and numbering machine. D 25. 540
- 450 Campbell Printing Press & Manufacturing Co., Brooklyn, N. Y.**—Printing presses and auxiliaries, printers' material. E 28. 540
- 451 Parks, John A., New York, N. Y.**—Hand and scraper pattern power lithographic printing presses. F 25. 540
- 452 Boston & Fairhaven Iron Works, Fairhaven, Mass.**—Newspaper and job printing press. F 25. 540
- 453 Loag, Samuel, Philadelphia, Pa.**—Designs and specimens of color printing from blocks and plates; plate engraved by acid process. E 30. 540
- 454 Howell & Bros., Philadelphia, Pa.**—Cutting off and rolling machine, hanging up and hardening machines. F 55-80. 540
- 454a Waldron, J. E., New Brunswick, N. J.**—Wall paper printing machine and turn-around racks. F 80. 540
- 455 Gorham, W. B., & Co., Boston, Mass.**—Rotary, lever, and treadle presses. E 26, 28. 540
- 456 Mann, Wm. H., Philadelphia, Pa.**—Steam paging and numbering machine. E 32. 540
- 457 Newbury, A., & B., Coxsackie, N. Y.**—Printing press. F 33. 540

For location of objects, indicated by letter and figure, see Key to Notation, p. 10; ground plan, p. 11.

Printing, Book-making, Paper-working Machines.

- 457^a Nelson, M., New York, N. Y.—
Printing machine. E 31. 540
- 457^b Johnson, Charles E., Philadelphia,
Pa.—Automatic paper-feeding machine.
E 35. 540
- 457^c Pusey, Jones & Co., Wilmington,
Del.—Forming cylinder; calender rolls.
D 33. 540
- 457^d Burgess Proof Press Co., Belfast,
Me.—Proof press. F 32. 540
- 457^e Gally, Merritt, New York, N. Y.—
Job printing press; magneto-mechanical
perforator. E 28. 540
- 458 Globe Manufacturing Co., Palmyra,
N. Y.—E 28. 540
a Printing presses. 540
b Paper cutters. 546
- 459 Mackellar, Smiths & Jordan, Phila-
delphia, Pa.—Type founding machinery
for casting and finishing types, types and
printing materials. E 28, 29-38. 541
- 460 Armstrong, John M., Philadelphia,
Pa.—Electrotyped music plates; books
and sheet music. E 40. 541
- 461 Grant, Geo. B., Boston, Mass.—Cal-
culating machines. E 44. 542
- 462 Bain, John W., 532 Walnut street,
Philadelphia, Pa.—Type-writer; super-
sedes the pen, faster, manifolds, keys like
a piano; children, blind, and aged, print
at once. C. O. D., \$125. John W. Bain,
general agent (to whom all orders must
be sent). E 40. 542
- 463 Pratt, John, Centre, Ala.—Type-
writing machine. E 40. 542
- 464 Standard Laundry Machinery Co.,
Boston, Mass.—Telegraph copying
machine. E 77. 542
- 465 Page, Wm. H., & Co., Greenville,
Conn.—Wood type, specimen books of
wood type. E 40. 542
- 466 Bruce's, Geo. Son, & Co., New York,
N. Y.—Book of printing types, and cases
of samples of printing types. E 5. 542
- 467 Hoffman & Hoyt, New York, N. Y.
—Copying presses. E 40. 542
- 468 Westcott, C. J., New York, N. Y.—
Machine for casting, dressing, and setting
type. E 29. 541
- 469 Brainard, Charles R., Boston,
Mass.—“Bank” and copy distributor for
printing office. E 40. 542
- 470 Novelty Paper Box Co., Philadel-
phia, Pa.—Book stitching and sewing ma-
chines. D 23. 544
- 471 Marshall, Son, & Co., Boston, Mass.
—Bookbinders', printers', and paper-box
manufacturers' shears and machinery. F
26-27. 544
- 472 Automatic Book-Sewing Machine
Co., Milford, Conn.—Book-sewing, pam-
phlet wire-stitching, and magnetic lasting
machines. F 33. 544
- 473 Standard Machinery Co., Mystic
River, Conn.—Steam rounding and back-
ing machine, automatic book trimmer, and
power paper cutter. E 40. 544
- 474 Semple, Mary H., Lowell, Mass.—
Steam cutter for bookbinders' use. F
33. 544
- 475 Wm. F. Murphy's Sons, Philadel-
phia, Pa.—F 34-36. 544
a Blank-book manufactory and printing
office. 544
b Paper-cutting machine. 546
- 476 Francis & Loutrel, New York, N.
Y.—Folding machine for blank-book
makers and paper mills. F 34-36. 545
- 477 Forsaith, S. C., & Co., Manchester,
N. H.—Newspaper folding machine. E
39, and Annex I. 545
- 478 Chambers, Bro., & Co., Philadel-
phia, Pa.—Newspaper folder, paster, and
trimmer; book-folder; periodical folder,
paster, and coverer. D 23. 545
- 479 Clagne, Randall, & Co., Rochester,
N. Y.—Machine for covering pamphlets.
D 23. 545
- 480 Jaeger, Gustav L., 69, 71 Woos-
ter street, New York, N. Y.—Machine
for pasting and combining any kind of pa-
per, pasteboards, or textile fabrics; fin-
ishes fifteen thousand sheets a day. Pa-
tent-rights for sale. D 24. 546
- 481 Brown & Carver, Philadelphia, Pa.
—Card and paper cutters. E 26-27. 546
- 482 Beck, Charles, Philadelphia, Pa.—
Machinery for making paper boxes and
cutting paper. D 25. 546
- 482^a Sanborn, Geo. H., New York, N.
Y.—Paper cutters, knife grinder, em-
bossor, stabbing, and backing machines.
D 24. 546
- 483 Child, C. C., Boston, Mass.—Paper
cutter. F 32. 546
- 484 Cleveland Paper Box Machine Co.,
Cleveland, O.—Sole manufacturers of
machine for making paper boxes; also,
cutting press, nicking machine for blanks,
and box knives. This machine glues,
folds, makes, dries, and discharges the
box, having a capacity of fifteen thou-
sand a day. D 25. 546
- 485 Riehl, M., & Sons, Philadelphia, Pa.
—Self-clamping book-cutting machine and
paper-cutting machine. D 25. 546
- 486 Kerr, Norman M., & Co., Philadel-
phia, Pa.—Manufacture of paper boxes.
D 25. 546
- 487 Boomer & Boschert Press Co.,
Syracuse, N. Y.—Copying press, paper
presses, glue press, leather-binding press,
cloth-baling press. Packer's press for
tank refuse—power, three hundred tons;
standing and bookbinders' presses, Nos.
0, 1, 2, and 3—power; 30, 80, 120, and 200
tons. Cloth-baling press—power, 250 tons.
Copying press for banks, freight, and post-
offices—power 20 tons. (For presses for
cider or lard, see *Agricultural Hall, S
and T 12.*) E 39. 546
- 487^a Bass, Joseph P., Bangor, Me.—
Burnisher for polishing photographs. B
30. 546
- 488 Curtis & Mitchell, Boston, Mass.—
Paper cutters, self-inking printing presses,
card cutters, etc. D 24. 546
- 489 Sheridan, E. R. & T. W., New
York, N. Y.—Paper cutters, book trim-
mer, shears, presses, sawing machine, etc.
D 25. 546
- 490 Packer, Charles W., Philadelphia,
Pa.—Machines for cutting card board. D
25. 546

Paper-working Machines, Engines, Boilers, etc.

- 491 Vanhorn & Cranston, Brooklyn, N. Y.**—Paper-cutting machines. E 28. 546
- 492 Lockwood, W. E. & E. D.,** 255 South Third street, Philadelphia, Pa.—Patent automatic envelope machine, which cuts, folds, gums, and counts 120 envelopes a minute. Automatic self-feeding envelope printing machine; capacity 6,000 an hour. Paper collar machine, which cuts, stamps, button-holes, and finishes 30,000 collars a day. Seed-bag envelope machines; envelope cutting press; small drug envelope machine. (*Section D 3, post 27, centre aisle.*) 547
- 493 Hoole, John R., New York, N. Y.**—Perforating machine for checks, stamps, tickets, etc.; paging and numbering machine, for paging blank books and numbering bank notes, checks, coupons, tickets, etc. F 34-36. 547
- 494 Cohen, Chas. J., Philadelphia, Pa.**—Machine for folding, gumming, and finishing self-sealing envelopes. D 26. 547
- 494a Raynor, Samuel, & Co., New York, N. Y.**—Envelope machine. D 25. 547
- Motors and Apparatus for the Generation and Transmission of Power.**
- 495 Williamson Bros., Philadelphia, Pa.**—Portable and stationary hoisting engines, with spur and frictional gearing. D 79, and boiler house 4. 550
- 496 Tupper, Lorenzo B., New York, N. Y.**—Furnace grate bars. D 76. 550
- 497 Connery, James W., Philadelphia, Pa.**—Concave calking for steam boilers, iron ships, and metallic vessels. D 76. 550
- 498 Tupper, W. W., & Co., New York, N. Y.**—Grates for steam boiler furnaces, etc. D 78. 550
- 499 Frick & Co., Waynesborough, Pa.**—Portable farm and stationary engines. D 75, and boiler house 4. 550
- 500 Bigelow, H. B., & Co., New Haven, Conn.**—Combined and independent engines and boilers. D 71. 550
- 501 Steam Generator Manufacturing Co. of Pennsylvania, Philadelphia, Pa.**—Sectional boiler. (*Boiler house 4.*) 550
- 502 American Engine Co., Jersey City, N. J.**—Engines and thresher locomotive. D 75. 550
- 503 Shaw, Thomas, 915 Ridge avenue, Philadelphia, Pa.**—Steam and vacuum gauges, test pumps, air chamber feeder, hydraulic valves and gauges. Cushion-seated valves, exhaust nozzles, planer bar. Gauge is free of springs, and measures by weight alone; has been adopted by United States Government and principal establishments as standard of pressure. Test pumps are of superior make and finish, adapted to pressure in small quantities, to every pressure desired. Air-chamber feeder, a useful invention; utilizes vibrations of water in pump to supply air-chambers with air. Hydraulic stop-valve; controls the highest pressure without leakage; has threaded seat. Cushion-seated valve; uses face of valve as dash-pot; prevents pounding. Exhaust nozzle absorbs noise of exhaust steam, and arrests sparks in locomotives. Planer bar, doubles the capacity, of iron planers; reaches through work. D 69. 550
- 504 Reed, John A., New York, N. Y.**—Tapering corrugated sectional boilers. D 77. 550
- 505 Steigert, Leopold, Cincinnati, O.**—Meat-chopping machines, with engine attachments, horizontal engine. D 78. 550
- 506 Bent, Samuel S., New York, N. Y.**—Shaking grate bars for steam boilers, etc. E 75. 550
- 507 Harrison Boiler Works, Philadelphia, Pa.**—Sectional safety steam boiler. First class bronze medal, London, 1862; first class bronze medal, New York, 1869; gold and silver Rumford medals, Boston, 1871; first class silver medal, Philadelphia 1874. *Section D 77, and boiler house No. 4.* 550
- 508 Babcock & Wilcox, New York, N. Y.**—Sectional safety steam boiler. (*Boiler house 3.*) 550
- 509 Meissner, Julius H., Philadelphia, Pa.**—Shelving grates and furnaces. E 76. 550
- 510 Shore Bros., Philadelphia, Pa.**—Boiler feed, belt pumps, steam pump. E 75. 550
- 511 Houghton, R. J., New York, N. Y.**—Boiler and tube compound for removing and preventing scale; specimens of scale. E 76. 550
- 512 Snyder, Ward B., New York, N. Y.**—Steam engine. Snyder's Little Giant steam engine, one-horse power complete, with tubular boiler, \$150; two-horse power, \$200; three-horse power, \$250. Send for circular. Factory, 84 Fulton street, N. Y. B 71. 550
- 513 Howard Safety Boiler Manufacturing Co., Boston, Mass.**—Safety sectional wrought-iron nine-inch tube boiler. (*Boiler house 3.*) 550
- 514 Ames Iron Works, Oswego, N. Y.**—Portable steam engines. B 74, and boiler house. 550
- 516 Eric City Iron Works, Erie, Pa.**—Horizontal tubular boiler, portable engines, farm engine with vertical boiler and horizontal engine. C 76. 550
- 516a Springfield Iron Works, Springfield, Mo.**—Turbine water wheel. D 80. 550
- 517 Ryder Reciprocal Grate Association, Taunton, Mass.**—Reciprocal grates. Books on grates, combustion, and results of tests, sent free. D 68. 550
- 518 Lowe & Watson, Bridgeport, Conn.**—Steam boiler. Lowe's patent steam boiler, made entirely of steel plates; proved by eight years' use, under all conditions, to be safe, durable, reliable, and very economical of fuel. Great and uniform steaming capacity. Process of combustion (smokeless with any fuel) obtained in construction and setting. (*Boiler house 3.*) 550
- 519 Chalmers Spence Co., Philadelphia, Pa.**—Composition boiler and steam pipe covering; tube cleaner. D 78. 550
- 520 Shuster, John T., Philadelphia, Pa.**—Boiler and pipe covering. D 78. 550

Engines, Boilers.

- 521 Murrill & Keizer, Baltimore, Md.—Automatic damper regulator for steam boilers. D 64, and *Pump annex*. 550
- 522 Baird & Huston, Philadelphia, Pa.—Horizontal tubular boiler. D 38 10 40. 550
- 523 Exeter Machine Works, 140 Congress street, Boston, Mass.—Sectional independent expansion and contraction boiler. Following is extract from report of the Franklin Institute, Philadelphia, Sept. 29, 1875, as to its safety qualities: "The Exeter Sectional Boiler" comes very near to it, if it does not solve that difficult problem of uniting small compartments composing a boiler of considerable size, and at the same time provide for the free escape of steam without lifting the water. Many sectional boilers are so constructed in combining their parts as to cause the steam generated in the lower portion of the apparatus to force its way in zig-zag courses through a whole neighborhood of narrow passages, or through a number of long, comparatively small and nearly horizontal tubes, into which it is quite impossible for the water to promptly follow, as it should do, in order to maintain perfect circulation and take up all the transmitted heat before effecting its escape. The water in the "Exeter" section exists in vertical masses about 3¼ inches square and 28 inches high, a form favorable to the ready liberation of the steam to and from the surface of the water, and securing at the same time prompt circulation and supply of water to the heated surfaces of the boiler. * * * We find, on careful and extended inquiry, that the "Exeter boiler," thus far in its existence and service, has an excellent record sufficient to justify us in making the assertion that it is equally as safe as any sectional boiler in the market known to us. We have not found any evidence, whether derived from the severest experimental tests to which a boiler can be subjected, or from long continued daily use, under the ordinary working conditions in the factory, which would prove it to be dangerous as a generator of steam. (*Boiler house 3.*) 550
- 524 Hoadley Co., J. C., Lawrence, Mass.—Portable steam engines, with or without wagons, various sizes, 9 to 100 horse power; automatic variable cut-off, giving uniform speed and great economy of fuel, requiring only 21 to 30 pounds of feed water, and 3 to 3½ pounds of coal per horse power per hour. Cheap, light, compact, durable, safe, convenient, economical. D 80. 550
- 525 Kelley, Wm. E., New Brunswick, N. J.—Sectional safety boiler. (*Pump annex, and boiler house.*) 550
- 525a Smith, S. Decatur, Philadelphia, Pa.—Skeleton grate bar. E 77. 550
- 525b Potts Bros., Pottstown, Pa.—Flanged boiler iron, and boiler flue iron. B 24-25. 550
- 525c Wilson, Benj. F., Philadelphia, Pa.—Shuttle and stop valves. B 70. 550
- 525d Hoyt, J. B., New York, N. Y.—Steam generating furnace, for the perfect combustion of all the gases in bituminous coal, thereby preventing smoke. (*Boiler house 6.*) 550
- 525e O'Hara, Charles M., Boston, Mass.—Ash felting for steam pipes. B 69-71. 550
- 525f Winans, H. N., New York, N. Y.—Boiler powder, compounds and liquids; anti-incrustators; boiler cleaner. D 78. 550
- 526 Lovegrove & Co., Philadelphia, Pa.—Vertical tubular boilers. B 75, and *boiler house 4.* 550
- 527 Armstrong Heater Manufacturing Co., Toledo, O.—Improved heater, lime extractor, condenser, adjustable feed pump for steam boilers. D 74. 550
- 527a Hanmore, Jno. W., Newburgh, N. Y.—Comb felting, blast pipes, vacuum pans, etc. B 71. 550
- 527b McCann, John, Philadelphia, Pa.—Radiators, for steam or water, and boiler. E 76. 550
- 527c Miller, Charles B., Philadelphia, Pa.—Steam generator. (*Boiler house 4.*) 550
- 528 Firmenich, J., Buffalo, N. Y.—Steam boiler. (*Boiler house 4.*) 550
- 529 Ellis, Charles R., New York, N. Y.—Hot-water apparatus for heating buildings. D 75. 550
- 530 Haskins Steam Engine Co., John F. Haskins, Fitchburg, Mass.—Interchangeably-made vertical steam engines. C 10-74, and *boiler house 4.* 550
- 531 Kreider, Campbell, & Co., Philadelphia, Pa.—Horizontal steam engine. E 50. 550
- 532 American Road Steamer Co., Philadelphia, Pa.—Road steamer. E 80. 550
- 533 Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.—Incrustation, scale, and defective iron from steam boilers, fragments of exploded boilers. D 76. 550
- 534 Colt's Patent Fire Arms Manufacturing Co., Hartford, Conn.—Steam engines, steam cylinder in boiler, interchangeable parts. D 74, and *boiler house 4, and quartz mill.* 550
- 535 Sample, McElroy, & Co., Keokuk, Iowa.—Semi-portable steam engine and boiler. This firm makes a specialty of manufacturing these engines, and are prepared to fill orders promptly, if addressed as above. D 77. 550
- 536 Payne, E. W., & Sons, Corning, N. Y.—Vertical engines with safety boilers; 3 to 4 horse power; impossible to explode; price, \$250, complete, except smoke stack. (*Boiler house 4.*) 550
- 538 Vail, S. S., Keokuk, Iowa.—Reversible steam boiler, with automatic fuel feed. To remove scales, reverse ends. Convenient to clean or repair. Rights for sale. C 77. 550
- 539 Lynde, J. D., Philadelphia, Pa.—Safety boiler. B 71, and *boiler house 4.* 550
- 540 Peirce Rotary Tubular Boiler Co., New York, N. Y.—Rotary tubular steam boiler. (*Boiler house 5.*) 550
- 541 Smith, Charles D., Boston, Mass.—Steam tubular boiler, steam boiler furnace and setting grate bars; glass water gauge. C, and *boiler house 3.* 550
- 542 Gillis & Geoghegan, New York, N. Y.—Boiler feeder and steam trap. (*Boiler house 6.*) 550

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Engines, Boilers, Water-Wheels.

- 543 Harrold, George W., Rochester, N. Y.—Automatic steam trap. D 64. 550
- 544 Johns, H. W., New York, N. Y.—F 64.
- a Asbestos roofing, asbestos cement felt-
ing, lined hair felt. 228
- b Asbestos steam packing. 555
- 545 Skinner & Wood, Erie, Pa.—C 78.
- a Horizontal return flue boiler; variable
grate surface for wood or coal. 550
- b Portable engine, stop motion governor,
self-oiling connecting rod, combined
check, stop, and relief valve. 552
- 545a Starr, William M., Tyler, Texas.
—D 78.
- a Water wheel, car starter, glass cutter,
etc. 581
- b Road engine. 552
- 546 Sellers, William, & Co., Phila-
delphia, Pa.—C 18-25, and *Annex 1*.
- a Injectors. 550
- b Three cylinder engines. 552
- c Shafting, hangers, couplings. 553
- 547 Haworth, James, Philadelphia, Pa.
—Turbines, driven by hydrant-water
power. D 73. 551
- 548 Lane Manufacturing Co., Montpel-
ier, Vt.—Monitor turbine water-wheel.
Sets in open flume or in a closed curb;
perfectly balanced cylindrical gate; water
applied upon the entire periphery of
wheel. A 4, 35-36. 551
- 549 Grier, W. W., Hulton, Pa.—Hy-
draulic ram sentinel. D 79. 551
- 550 Stout, Mills, & Temple, Dayton,
O.—Turbine water-wheels with and
without flumes. Thousands of these
wheels are in successful operation, driving
all kinds of machinery. They have been
introduced into nearly every civilized
country in the world. They produce a
very high percentage of power, are com-
pact and durable. Call at Machinery Hall,
and get descriptive catalogue, or address
proprietors as above. D 80. 551
- 551 Stilwell & Bierce Manufacturing
Co., Dayton, O.—Double turbine water-
wheel, simple, durable, and powerful.
D 80. 551
- 552 Dexter Spring Co., Hulton, Pa.—
Carriage spring, in connection with fifth
wheel. D 79. 551
- 553 Leffel, James, & Co., Springfield,
O., and 100 Liberty street, New York.—
Double turbine water-wheel. D 77. 551
- 554 Chase Turbine Manufacturing Co.,
Orange, Mass.—Turbine wheels. (*Pump
annex.*) 551
- 555 Wolf, Abraham N., Allentown,
Pa.—Turbine water-wheel and flume.
(*Pump annex.*) 551
- 556 Buzby, Albert G., Philadelphia, Pa.
—Water motor from hydrant pressure;
model of centripetal railway. D 79. 551
- 557 Bodine Manufacturing Co., Mt.
Morris, N. Y.—Brass turbine water-
wheel. D 79. 551
- 558 Valentine, Wm. J., Fort Edward,
N. Y.—Turbines, with and without regis-
ter gates; hydraulic motor. D 79. 551
- 559 Wright & Rogers, Minneapolis,
Minn.—Stationary, portable, locomotive,
and marine steam engine. D 79. 551
- 560 Mosser, Wm. F., & Co., Allentown,
Pa.—Turbine water-wheel. A 48, and
Pump annex. 551
- 561 Wright, James, Minneapolis,
Minn.—Cylinder meter motor. D 79. 551
- 562 Springfield Iron Works, Spring-
field, Mo.—Turbine wheel. D 80. 551
- 563 Bing, James, Philadelphia, Pa.—
Turbine water-wheel. E 77. 551
- 564 Poole & Hunt, Baltimore, Md.—
Turbine water-wheels and gearing. C
79. 551
- 565 Cox & Sons, Bridgeton, N. J.—Tur-
bine water-wheels. C 32. 551
- 566 York Manufacturing Co., York, Pa.
—Turbine water-wheels. D 78. 551
- 567 National Water-Wheel Co., Bris-
tol, Conn.—Turbine water-wheels.
D 77. 551
- 568 Barber & Son, Allentown, Pa.—
Globe flume, with turbine wheel. D
77. 551
- 569 Brown, Son, & Co., Brookville, Pa.
—Turbine water-wheels. D 78. 551
- 570 Cope, E. T., & Sons, West Chester,
Pa.—Turbine water-wheel, with water-
tight gates opening separately. (*Pump
annex.*) 551
- 571 Bollinger, O. J., York, Pa.—Tur-
bine water-wheel. (*Pump annex.*) 551
- 572 Risdon, T. H., & Co., Mount Holly,
N. J.—Turbine water-wheel. Many
sizes of this wheel, at tests by different
engineers, and under different conditions,
have given over 90 per cent. of the power
of the water consumed. (*Pump annex.*)
551
- 573 Walton, Silas, Moorestown, N. J.
—Turbine water-wheel. (*Pump an-
nex.*) 551
- 574 Alcott, Thos. J., Mount Holly, N.
J.—Turbine water-wheel. D 78. 551
- 575 Tait, Thomas, Rochester, N. Y.—
Water-wheel. The guides form wedge-
shaped openings under all degrees, cutting
water off at periphery of wheel; coun-
terpoising under any hydrostatic pressure.
Surface joints prevent water escapement
between curb and wheel. (*Pump annex*)
551
- 576 Knowlton & Dolan, Logansport,
Ind.—"Little Giant" turbine water-
wheel, noted for economy in the use of
water, and durability. (*Pump annex.*) 551
- 576a Howobin, W. T., Cohoes, N. Y.—
Water-wheel governor; rollers. D 78. 551
- 576b Burnham, N. F., York, Pa.—Tur-
bine water-wheel. (*Pump annex.*) 551
- 576c Capron Water-Wheel Manufac-
turing Co., Hudson, N. Y.—Water-
wheels. D 77. 551
- 576d Rodney Machine Co., Orange,
Mass.
- a Double-acting turbine water-wheel.
(*Pump annex.*) 551
- b Rotary fulling mill. D 45. 552
- 577 Folsom, Andrew, Barrington, R. I.
—Wheel constructed to operate in the
direction of wind or water. (*Pump an-
nex.*) 551
- 578 Peirce, Milton P., Wenonah, N. J.
a Turbine water-wheel. C 80. 551
- b Portable steam engine. D 78. 552

Engines, Boilers.

- 579 **Abendroth & Root Manufacturing Co.**, 96 Liberty street, New York, N. Y.—Wrought iron sectional safety boiler. These boilers were introduced to the public in 1867. There is now over forty-five thousand horse-power in use in all parts of the world. (*Boiler house 3.*) 552
- 580 **Fields, Wm.**, Wilmington, Del.—Motor-power model-dumping coal wagon. B 79. 552
- 581 **Bolles, J. N.**, Baltimore, Md.—Steam engine. (*Outside.*) 552
- 582 **Cobb, Z., & Sons**, Wilmington, Del.—Water engine for sewing machines, etc. E 63. 552
- 583 **Wetherill, Robt., & Co.**, Chester, Pa.—Steam engine, with self-packing piston. B 69. 552
- 584 **Baird & Huston**, Philadelphia, Pa.—Steam engines. D 38-40. 552
- 585 **Lobdell Car Wheel Co.**, Wilmington, Del.—Portable steam engine and boiler. E 65. 552
- 586 **Cornell University Machine Shop**, Ithaca, N. Y.—Steam engine. B 68. 552
- 587 **Rider, Wooster, & Co.**, Walden, N. Y.—Compression engines, operating without valves, using compressed and heated air. B 80. 552
- 588 **Lovegrove & Co.**, Philadelphia, Pa.—Steam engine. B 75, and *Boiler house 4.* 552
- 589 **Jerome, William R.**, Philadelphia, Pa.—Electro-magnetic motor, for running sewing machines, etc. B 69. 552
- 590 **Dudgeon, Richard**, New York, N. Y.—Rotary engine. C 27. 552
- 590^a **Murray Iron Works Co.**, Burlington, Iowa.—Steam engine. E 63. 552
- 590^b **Brayton, George B.**, Philadelphia, Pa.—Hydro-carbon engine. A 71. 552
- 591 **Wardwell, George J.**, Rutland, Vt.—Stationary and portable valveless steam engines. B 77. 552
- 592 **Moorhouse, R. O., & Co.**, Philadelphia, Pa.—Steam engine, with gear for variable expansion adjusted by the governor. B 73. 552
- 593 **Hawley, Henry Q.**, Albany, N. Y.—C 75. 551
^a Water motors. 551
^b Gas heating and cooking furnaces. 552
- 594 **Buckeye Engine Co.**, Salem, O.—Automatic cut-off and throttling steam engines. B 70. 552
- 595 **Hussey, Charles A.**, New York, N. Y.—Electro-magnetic engines. E 69. 552
- 596 **Gladwin, Charles P.**, Philadelphia, Pa.—Plain-slide valve steam engines with governor and automatic stop and speeder. B 71, and C 77. 552
- 597 **Lidgerwood Manufacturing Co.**, New York, N. Y.—Hoisting and elevating engines. B 79, and *Annex 3.* 552
- 598 **Carlisle, Mason, & Co.**, Chicago, Ill.—Chain elevating machinery. C 76. 552
- 599 **Shapley & Wells**, Binghamton, N. Y.—Steam engines. D 80, and *Boiler house 4.* 552
- 599^a **Russell, William D.**, New York, N. Y.—Engines. (*Outside of building.*) 552
- 599^b **Butterworth, H. W., & Sons**, Philadelphia, Pa.—Sheet iron; tin cans. D 44 to 48. 552
- 599^c **Baxter Steam Engine Co.**, New York, N. Y.—Steam engines; in use in Gillinder & Sons' glass-house and in Nevada State building. 552
- 599^d **Wisner & Strong**, Pittston, Pa.—Horizontal engine. B 71. 552
- 599^e **Forbes, J. W.**, Chicago, Ill.—Quartz battery for crushing quartz. A 73. 552
- 600 **Mitchell, J. H.**, Philadelphia, Pa.—Steam engines. B 80. 552
- 600^a **Hampson, Whitehill & Co.**, New York, N. Y.—Stationary engine. B 73. 552
- 601 **New York Safety Steam Power Co.**, New York, N. Y.—Launch engines, stationary engine, combined engine and boiler. E 38-40. 552
- 602 **Lynde, J. D.**, Philadelphia, Pa.—Duplex engine. B 71, and *Boiler house 4.* 552
- 603 **Naylor, Jacob**, Philadelphia, Pa.—Engines, horizontal and vertical boiler feed pump, and combined feed pump and heater. D 71-73. 552
- 604 **Roberts, E. A. L.**, Titusville, Pa.—Exhaust engine; exhaust crank. C 78. 552
- 605 **Ervien, Charles W., & Bro.**, Philadelphia, Pa.—Steam engines. B 69, and *Pump annex.* 552
- 606 **McCutchen, John F.**, Philadelphia, Pa.—Block for eccentric hooks of steam engine. B 77. 552
- 607 **Meeker, D. M., & Sons**, Newark, N. J.—Part of cylinder of the first steam engine used in America. B 76. 552
- 608 **Griffith & Wedge**, Zanesville, O.—Vertical portable engine, and centrifugal drying machine. C 74 and D 77. 552
- 609 **Klein, Chas. C.**, Philadelphia, Pa.—Eccentric piston engine. C 79. 552
- 610 **Jeffery, Thos. B.**, Chicago, Ill.—Rotary steam engines. B 77. 552
- 611 **Hartford Foundry & Machine Co.**, Hartford, Conn.—Automatic and variable cut-off non-condensing steam engine. These engines, formerly known as the "Woodruff & Beach" iron works engine, have acquired a very wide reputation on account of their excellent performances. They are a type of steam motor, combining the prime essentials of solidity, durability, and great economy. There are now in daily use over three hundred, practically demonstrating their merits. (*Annex 1.*) 552
- 612 **Twiss, Nelson W.**, New Haven, Conn.—Vertical engine, yacht engine. C 79. 552
- 613 **Blandy, H. & F.**, Zanesville, O.—Portable, agricultural, and saw-mill engines, and stationary engine. B 68. 552
- 613^a **Lewistown Brass & Engine Co.**, Lewistown, Pa.—Upright and horizontal engines. C 74. 552

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Engines and Appliances, Belting, Shafting, etc.

- 613^b Allis, Edward P. & Co., Milwaukee, Wis.—Steam engine. (*Saw mill. A* 10-11.) 552
- 614 Erie City Iron Works, Erie, Pa.—Stationary engine, horizontal engine. C 76. 552
- 615 Otis Bros. & Co., 348 Broadway, New York, N. Y.—Furnace engine for hoisting purposes. The blast furnace hoisting engine, is adapted for operating two platforms; store hoisting engines, small size, lifting power and gear combinations, lifting power with screw combinations, for use in factories, mills, etc., and safety platforms for freight purposes, with corner and side upright; tiercing truck for piling up heavy boxes or packages. B 38. 552
- 616 Bastet Magnetic Engine Co., Philadelphia, Pa.—Magnetic engines for sewing machines, organs, lathes, pumps, etc. B 75. 552
- 617 Wells Balance Engine Co., New York, N. Y.—Double piston engine. C 77. 552
- 618 Niagara Steam Pump Works, Brooklyn, N. Y.—Miniature engine. Direct acting piston, pressure, and fire pump, direct acting plunger mining pump, crank pump and engine; direct acting organ engine; direct acting agitator and oil pump; direct acting plunger, on boilers in saw mill, loaned Centennial Commission. (*Pump annex.*) 552
- 619 Brown, C. H., & Co., Fitchburg, Mass.—Automatic regulating cut-off steam engine. (*Saw mill.*) 552
- 620 Howard, George C., 13 $\frac{1}{4}$ South Eighteenth street, Philadelphia, Pa.—Patent belt gearing for operating machines of variable speed, sewing machines, etc. B 31. 553
- 621^a Powers, W. P., La Crosse, Wis.—Belting. A and B, *Saw mill.* 553
- 621^b Stow & Burnham, 500 North Fifteenth street, Philadelphia, Pa.—Flexible cable for transmitting power in any direction, also tools and machines operated therewith; drills workable wherever ratchet drill is used; flue cutter for removing locomotive flues. D 68. 553
- 621^c Wahl, Albert, Philadelphia, Pa.—Health apparatus; back straightener and chest expander. E 75. 553
- 622 Eckfeldt & Richie, Philadelphia, Pa.—Oak-tanned leather butts, belting and fire hose. D 65. 553
- 623 Page Belting Co., Concord, N. H.—Leather belting and lace leather; driving belt (in use). D 64. 553
- 624 Roebling's Sons, John A., & Co., Trenton, N. J.—Wire rope, rigging, rope fastenings, bridge cables, rods, telegraph wire, etc. C 64. 553
- 625 Alexander Bros., 410 & 412 North Third street, Philadelphia, Pa.—Oak-tanned leather belting, and frame of specimen laps; also patent double belt-driving shaft No. 3, the construction of which greatly increases the effectiveness and durability of belts from 16 to 48 inches, or wider. Descriptive circulars furnished. D 64. 553
- 626 Cresson, Geo. V., Philadelphia, Pa.—Pulleys, hangers, couplings, wall boxes, pillow blocks; etc. C 71-73. 553
- 627 Heim, Anton, New York, N. Y.—Leather belting, hydraulic packing leather, tympan skins, lace leather, picker leather, elastic pulley; driving belt (in use). D 65. 553
- 628 Branch, Crookes, & Co., St. Louis, Mo.—Adjustable countershaft hanger and belt tightener, for intermediate motion without loose pulleys. (*Saw mill.*) 553
- 629 Rorer, Thomas I., Philadelphia, Pa.—Combined leather and canvas belting. D 65. 553
- 630 American Tubular Iron & Steel Association, Philadelphia, Pa.—Tubular iron and steel car axles, shafting, columns, bars. C 70-73. 553
- 631 Pennsylvania Combined Iron & Steel Association, Philadelphia, Pa.—Combined iron and steel rails, beams, girders, shafting plates, horse shoe and merchant bars. C 70-73. 553
- 632 Jones & Laughlins, American Iron Works, Pittsburg, Pa.—Bar, sheet, and plate iron, T-rails, shafting, hangers, pulleys, couplings. Manufacturers of bar, hoop, sheet, and plate iron; patent cold-rolled shafting; hangers, pulleys, couplings, T-rails, street rails, nails, and spikes. C 65 and 70. 553
- 633 Schieren, Charles A., New York, N. Y.—Oak-tanned leather belting; double belt (in use). D 64. 553
- 634 Charlton, John, Philadelphia, Pa.—Internal clamp coupling for shafting, main driving pulley, with internal clamp hub. C 71 and 73. 553
- 635 Hoyt, J. B., & Co., New York, N. Y.—Oak-tanned sole leather and belting. D 66. 553
- 636 Royer, H., San Francisco, Cal.—Fulled rawhide, belting, lacing, rope. D 66. 553
- 637 Chatfield, Underwood, & Co., New York, N. Y.—Angular belting. D 65. 553
- 638 Pusey, Jones, & Co., Wilmington, Del. C 74. 553
^a Expanding pulleys. 553
^b Temper cut-offs and governors for steam engines. 555
- 639 Jewell P., & Sons, Hartford, Conn.—Leather belting, metallic-tipped belt lacings. D 67. 553
- 640 Mason, Volney W., & Co., Providence, R. I.—Friction clutches and pulleys, adjustable hangers; also, friction clutch pulleys, driving main lines of shafting in pump annex. and in Machinery Hall adjoining, near Corliss engine. D 66 and *Pump annex.* 553
- 641 Poole & Hunt, Baltimore, Md.—Shafting and appurtenances. C 79. 553
- 641^a Eccles, James, Philadelphia, Pa.—Shaft coupling. D 60. 553
- 642 Gates, Josiah, & Sons, Lowell, Mass.—Leather belting, hose, lacing, and worsted apron leather and fire supplies. C 78. 553
- 643 Burgess & Son, Providence, R. I.—Leather belting, lace leather, picker leather, loom pickers. C 70. 553
- 644 Cook, A. B., & Co., Erie, Pa.—Adjustable dead pulleys, wooden belt pulleys, and taper sleeve pulleys. D 72. 553

For location of objects, indicated by letter and figure, see Key to Notation, p. 10; ground plan, p. 11.

HARRISON Boiler Works,

255C Gray's Ferry Road, Phila.

(TAKE PINE ST. CARS.)

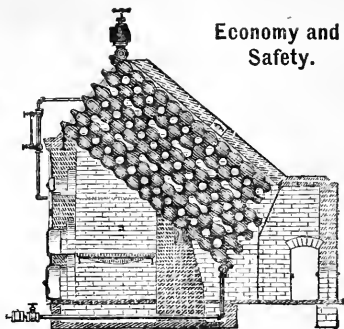
The following Medals have been awarded to this boiler:

By the World's Fair, London, First-class Bronze, 1862.
 American Institute Fair, N. Y. " 1869.
 Great Gold and Silver Sumford Medals, 1871.
 Franklin Institute Exhibition, First-class Silver, 1874.

Descriptive Pamphlets, Drawings, &c. furnished upon application to the Works.

These Boilers may be seen in operation in Boiler-house No. 4 of Machinery Hall.

Economy and
Safety.



HASELTINE GALLERIES,

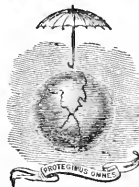
1125 and 1127 Chestnut St., Philadelphia.

ESTABLISHED 1810.

W.A. DROWN & CO.

SUPERIOR
UMBRELLAS
AND
PARASOLS.

Manufactories in Philadelphia.



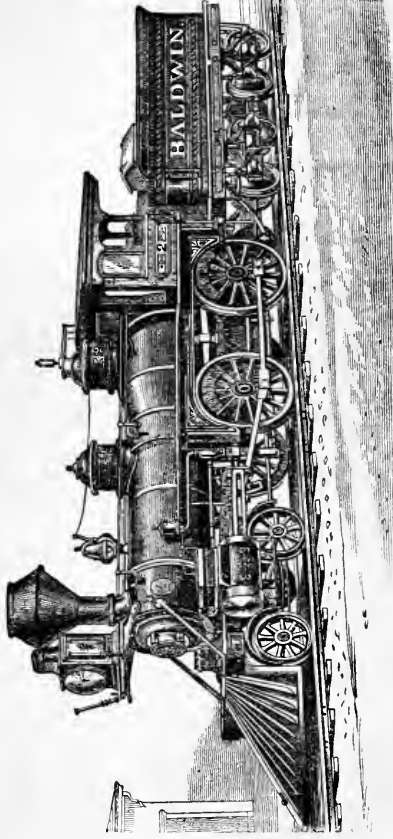
TRADE-MARK.

WAREROOMS:

246 Market Street,
PHILADELPHIA.

498 & 500 Broadway,
NEW YORK.

BALDWIN LOCOMOTIVE WORKS,
BURNHAM, PARRY, WILLIAMS & CO., PHILADELPHIA.



PLAN, MATERIALS

WORKMANSHIP,

FINISH AND EFFICIENCY

FULLY

GUARANTEED

ALL WORK

Accurately Fitted

TO GAUGES

AND

Thoroughly Interchangeable

LOCOMOTIVE ENGINES,

ADAPTED TO EVERY VARIETY OF SERVICE, INCLUDING

Narrow Gauge Locomotives, Mine Locomotives, Steam Street Cars,

ETC., ETC.

Works on Broad St., from Pennsylvania Ave. to Spring Garden St.

Motors and Appliances.

- 645 Fowler, F. G., Bridgeport, Conn.—Propeller. B 72. 554
- 645^a Neafe & Levy, Philadelphia, Pa.—Propeller wheels and blade. C 77. 554
- 645^b Lane Bros., Millbrook, N. Y.—Motor for driving light machinery. C 77. 554
- 645^c Rhett, Roland, Baltimore, Md.—Spring motor for sewing machines. C 71. 554
- 645^d Harper, William, jr., Philadelphia, Pa.—Screw propeller. C 76. 554
- 646 Brown, Edward, Philadelphia, Pa.—Pyrometers for blast furnaces, bakers' ovens, tempering steel, etc.; revolution indicators. D 68. 555
- 647 Woodruff, Joseph, Rahway, N. J.—Balanced steam damper regulator. D 76. 555
- 648 Wickersham & Bro., Philadelphia, Pa.—Oil feeder, brass and glass oil cups. D 76. 555
- 649 Pancoast & Maule, Philadelphia, Pa.—Steam and hot water house heating apparatus, vertical tube radiators, pipe cutter. D 75. 550
- 650 New York Belting & Packing Co., New York, N. Y.—Rubber belting, packing, hose, tubing, car springs, vulcanite emery wheels, etc. D 75. 555
- 650^a Ashcroft, E. H., Boston, Mass.—Steam and vacuum gauges; safety valves; oil testing machine. D 72-73. 555
- 650^b Allis, E. P., & Co., Milwaukee, Wis.—Boiler feed regulator. (*On boiler in Campbell Press Building.*) 555
- 650^c Katzenstein, L., & Co., New York, N. Y.—Metallic packing for piston rods and valve stems. E 40. 555
- 650^d Potter & Hoffman, Philadelphia, Pa.—Steam packing. B 30. 555
- 651 Parshall, C. H., Detroit, Mich.—Lubricator. D 71. 555
- 652 Belfield, H., & Co., Philadelphia, Pa.—Brass and iron valves, cocks, steam gauges, whistles, gongs, steam heating apparatus, etc. D 74. 555
- 652^a Rue Manufacturing Co., Philadelphia, Pa.—Boiler feeders; injectors. (*Boiler house 4, and Pump annex, Sec. 4, Col. 13.*)
- 653 Allen's Sons, Josiah J., Philadelphia, Pa.—Anti-lamina, for preventing and removing scale from boilers. D 76. 555
- 654 Stilwell & Bierce Manufacturing Co., Dayton, O.—Lime extracting heater and filter combined. Removes all impurities from feed-water for steam boilers; indispensable to an economical use of steam. D 80. 555
- 655 Richards, Jackson, Philadelphia, Pa.—Piston packing. D 69. 555
- 656 Waters, C., & Co., Boston, Mass.—Steam engine governors. D 74. 555
- 657 Buffalo Steam Gauge & Lantern Co., Buffalo, N. Y.—D 72. 555
- ^a Steam gauges. 555
- ^b Locomotive head light with patent burner, hand lantern. 576
- 658 Lehman, B. E., Bethlehem, Pa.—Gauge cocks, water gauges, oil cups, gate valves. D 70. 555
- 659 American Oil Cabinet Co., Boston, Mass.—Safety oil cabinets. D 72. 555
- 660^a Vulcanized Fibre Co., Wilmington, Del.—Fish-bolt and carriage washers. D 65. 555
- 660^b Brown, Aug. P., New York, N. Y.—Boiler fixture and engine governor. D 70. 555
- 660^c McShane, Henry, & Co., Baltimore, Md.—Bells. (*Northeast tower.*) 555
- 660^d Christoffel, T. B., Williamsburg, N. Y.—Tube cleaners and scrapers. D 66. 555
- 661 Utica Steam Gauge Co., Utica, N. Y.—Gauges, marine clocks, revolution counters, gauge testing apparatus. D 73. 555
- 662 Cleveland Steam Gauge Co., Cleveland, O.—Gauges, spring balances, test pump and gauge. D 72. 555
- 663 Aultman, Miller, & Co., Akron, O.—Self-registering dynamometer. D 68. 555
- 664 Davis & DuBois, Philadelphia, Pa.—Tallow cups for engines, etc. D 68. 555
- 665 Lynde, J. D., Philadelphia, Pa.—Governors, valves, feed water heaters, regulators and low water alarm combined. B 71, and Boiler house 4. 555
- 666 Union Water Meter Co., Worcester, Mass.—Water meters, steam gongs, governor valves, steam and water regulators. D 67. 555
- 667 Kline, Aaron K., Sommerville, N. J.—Governor for steam engines. D 69. 555
- 667^a Burnet, William, Washington, D. C.—Lubricator. *Pump annex 8 and 9.* 555
- 667^b Hetzel, Herman V., Philadelphia, Pa.—Speed indicator. B 73. 555
- 667^c Chard & Howe, New York, N. Y.—Lubricating compound and cup. A 47. 555
- 667^d Canfield Manufacturing Co., Philadelphia, Pa.—Steam and hydraulic stuffing-box packing, self-lubricating hempen fibre, gum core. D 68. 555
- 668 Haurey, Henry F., Newark, N. J.—Flue and tube brushes. D 69. 555
- 669 Jenkins, Wm. H., & Co., Philadelphia, Pa.—Boiler feeder, steam trap, damper regulator, low water alarm, safety valve, steam gauges. D 77. 555
- 670 Bibb, B. C., & Son, Baltimore, Md.—Fireplace heater. D 72. 555
- 671 Post & Co., Cincinnati, O.—Steam gauges. D 71. 555
- 672 Greenwich Machine Works, Greenwich, N. Y.—Horseshoe corking vise and bolt heading machine. A 37. 555
- 673 Tracy, Eliashib, Philadelphia, Pa.—Injector for boilers. D 68. 555
- 674 Clark, Rufus F., Philadelphia, Pa.—Cylinder oiler. E 69. 555
- 675 Lathrop Anti-friction Co., New York, N. Y.—Carbon composition machinery lubricator. D 68. 555
- 676 Asbestos Patent Fibre Co. (limited), Philadelphia, Pa.—Utilized fibre, paper, board; steam joints and packing, non-conducting pipe covering. D 69. 555

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Motors and Appliances, Pumps.

- 677 Davis, J. B., Hartford, Conn.—Feed water heater and purifier. D 68. 555
- 678 Jasper, George F., Freeburg, Ill.—Heater and filter. D 78. 555
- 679 Brown, Fergus, & Co., Philadelphia, Pa.—Injector for steam boilers. (*In use in building.*) 555
- 680 Brown & Fergus, Philadelphia, Pa.—Steam injector for steam boilers. (*In building.*) D 68. 555
- 680^a Metallic Art Works, Boston, Mass.—Plates and castings of bronze. C 71. 555
- 680^b Jamison, Samuel S., Saltsburg, Pa.—Steam water-injector, car replacer, chimney top. B 64. 555
- 681 Le Van, W. Barnet, Philadelphia, Pa.—Steam engine governors, damper regulator, and furnace grate bars. D 70. 555
- 682 Willoughby, James D., Philadelphia, Pa.—Governor cut-off for steam engines. D 68 and 51, and *Pump annex.* 555
- 683 Woodruff, A. H., Lansing, Iowa.—Reverse and expansion gear for locomotives and propeller engines. D 69. 555
- 685 Newell, Wm. H., Philadelphia, Pa.—Injector valves. (*In building.*) 555
- 686 Allen, Stillman B., Boston, Mass.—Governor for steam engines. D 72. 555
- 686^a Pickering, T. R., Portland, Conn.—Steam engine governors. C 74. 555
- 687 Osgood, Josiah A., Boston, Mass.—Crank pin oiler, metallic spring packing, etc. D 69. 555
- 688 McNab & Harlin Manufacturing Co., New York, N. Y.—Valves, cocks, whistles, water gauges, iron fittings, plumbers' materials. B 40. 555
- 689 Edson's Steam Recording Gauge Manufacturing Co., 91 Liberty street, New York, N. Y.—Gauges, electrical alarms, revolution counters. Sole makers of "Edson's Patent Recording Gauges" for steam or water, with or without the "time" attachment, or the "electrical alarm"; also "revolution counters," and "30-inch gauges." Reliable as "standards of pressure." Send for circulars. D 67. 555
- 690 Schutte & Goehring, Philadelphia, Pa.—Steam jet machinery, furnace blowers, ventilators, injectors, syphons, gas exhausters, condensers, etc. (*Pump annex.*) 555
- 690^a Leonard, T. M., New York, N. Y.—Oil cup and dynamometer. B 52. 555
- 690^b Miller, W. P., New York, N. Y.—Lubricant. D 52. 555
- 690^c Pratt & Whitney Co., Hartford, Conn.—Automatic boiler-feeder and return steam trap. (*In use in Boiler houses.*) 555
- 690^d Smith, Levi F., Philadelphia, Pa.—Low water indicators, lubricators, gauge, steam trap, blower, comb-wrench, car seat, etc. D 78. 555
- 691 Lonergan & McBride, Philadelphia, Pa.—Oil cups and lubricators. D 66. 555
- 692 Silver Lake Co., Boston, Mass.—Self-lubricating steam packing. D 68. 555
- Hydraulic and Pneumatic Apparatus, Pumping, Hoisting, and Lifting.
- 693 Dart, Edward & Co., New York, N. Y.—Rotary pumps and engines, marine governors, cotton gins, presses, duplex plunger crank steam pump. (*Pump annex.*) 560
- 694 Cooper, Jones, & Cadbury, Philadelphia, Pa.—Pumps. B 19. 560
- 695 Silsby Manufacturing Co., Seneca Falls, N. Y.—Rotary steam pump. This firm also has two rotary steam fire engines and a hose cart on the Exhibition grounds, in charge of the Centennial fire brigade. Illustrated and descriptive circulars—English, Spanish, French, and German—may be had on application. A 4. 560
- 696 Valley Machine Co., Easthampton, Mass.—Bucket-plunger steam pumps. (*Pump annex.*) 560
- 697 Kelly, Wm. E., New Brunswick, N. J.—Steam pumps. (*Pump annex and Boiler house 3.*) 560
- 698 Aquometer Steam Pump Co., Philadelphia, Pa.—Steam pumps. (*Pump annex.*) 560
- 699 Hubbard & Aller, Brooklyn, N. Y.—Steam pumps. (*Pump annex.*) 560
- 700 Union Manufacturing Co., New Britain, Conn.—Iron and brass cistern; force, yard, drive well; garden engines, boiler, pumps, and rams. (*Pump annex.*) 560
- 700^a Purvis, Edward, New York, N. Y.—Automatic steam valve. (*Pump annex 8-11.*) 560
- 700^b Nichols, Harris & Walker, New London, Conn.—Acid pump and syphon. (*Pump annex 2-12.*) 560
- 700^c Craig & Brevoort, New York, N. Y.—Condenser for steam pumps, steam engines, etc. (*Pump annex 2-12.*) 560
- 700^d Hyneman, Isaac, Philadelphia, Pa.—Odorless excavating pump. (*Pump annex 1-5.*) 560
- 700^e Le Page, W. N., Boston, Mass.—Force pumps. (*Pump annex 2-12.*) 560
- 700^f Wood, Joseph, Red Bank, N. J.—Steam pump. E 69. 560
- 700^g Hubbard, S. D., Pittsburg, Pa.—Steam pump. (*Boiler house 3.*) 560
- 700^h Young, William, Easton, Pa.—Young's patent wrought iron, rubber-coated, brass cylinder lift and force pumps for deep wells and cisterns. Being made principally of wrought iron, are strong, light and durable. The cylinder and all the working parts are made of brass, works smooth, very durable, and will not rust the water as iron would. (*Pump annex 7-5.*) 560
- 701 Wiswall, H. M., Boston, Mass.—Rotary and oscillating pumps. (*Pump annex.*) 560
- 702 Norwalk Iron Works Co., South Norwalk, Conn.—Direct acting non-expansive steam pumps. C 76. 560

For location of objects, indicated by letter and figure, see Key to Notation, p. 10; ground plan, p. 11.

Pumps, Compressed-Air Engines.

- 703 La France Manufacturing Co., Elmira, N. Y.—P 11, and *Pump annex.*
a Rotary pumps and engine. 560
b Rotary steam fire engine. 564
- 704 Rumsey & Co. (limited), Seneca Falls, N. Y.—Pumps, hydraulic rams. B 45, and *Pump annex.* 560
- 705 Carr, Adam, New York, N. Y.—Direct action steam pumps; compound direct action pump; will save sixty per cent. in fuel and boilers; positive circulating steam radiators; noiseless friction hoisting engine; condensers for steam engines and pumps. (*Pump annex and Boiler house 4.*) 560
- 706 Douglas, W., & B., Middletown, Conn.—Pumps, hydraulic rams, pump chain, garden engines, curbs, chain pump fixtures; grindstone frame. (*Pump annex.*) 560
- 707 Vail & Wallace, Keokuk, Iowa.—Water elevator. (*Pump annex.*) 560
- 708 Mitchell, J. H., Philadelphia, Pa.—Deck pump for ship use. B 80. 560
- 709 Hooker, Wm. D., Dedham, Mass.—Direct acting steam pumps. (*Pump annex.*) 560
- 710 Chapman, Henry, Philadelphia, Pa.—Centrifugal hydro-extractor, for brewers' grains, etc. Kiln model. (*Pump annex 13.*) 560
- 710*a* Waring, J. B., Stamford, Conn.—Steam pump. (*Pump annex 12.*) 560
- 710*b* Toledo Pump Co., Toledo, O.—Wood pumps. (*Pump annex 5.*) 560
- 710*c* Hathorn, Davis, Campbell, & Davey, New York, N. Y.—Pump engine. C 3 and 4, and *Pump annex 27.* 560
- 710*d* Heold, Sisco & Co., Baldwinville, N. Y.—Steam centrifugal pump and centrifugal pumps driven by belts. (*Pump annex.*) 560
- 711 Follensbee, Geo. S., Lewistown, Me.—Double propeller pump. (*Pump annex.*) 560
- 712 Grosvenor, J. A., Jersey City, N. J.—Pulsometer steam pump, operated by pressure of steam on surface of water. (*Pump annex.*) 560
- 713 Biggs, B. F., & Wells, La Fayette, Ind.—Wooden lifting and suction pump. (*Pump annex.*) 560
- 713*a* Ferrell & Jones, Philadelphia, Pa.—Combined steam pump and engine; centrifugal pump and yoke steam pump. (*Pump annex 8.*) 560
- 713*b* Matthewman & Johnson Pump Co., New Haven, Conn.—Excavating pump with deodorizing apparatus. (*Pump annex 12.*) 560
- 713*c* Blake, George F., Manufacturing Co., Boston, Mass.—Steam pump. (*Pump annex 8-9.*) 560
- 713*d* Eagle Odorless Excavating Co., Philadelphia, Pa.—Odorless excavator. (*Pump annex.*) 560
- 713*e* Roberts, E. A. L., Titusville, Pa.—Sand pump. C 78. 560
- 713*f* Crane Bros. Manufacturing Co., Chicago, Ill. (*Pump annex 7.*)
a Steam elevators and pumps. 560
b Hoisting engines and steam radiators. 563
- 714 King, Charles W., Boston, Mass.—Force pumps and house pumps with removable cylinders. (*Pump annex.*) 560
- 715 White, Clark, & Co., Baldwinville, N. Y.—Centrifugal pump. (*Pump annex.*) 560
- 716 Poole & Hunt, Baltimore, Md.—Feed water heater and pump. C 79. 560
- 717 Willoughby, James D., Philadelphia, Pa.—Pulseless pulsometer. D 51 and 68, and *Pump annex.* 560
- 718 Bradley, J., & Co., Philadelphia, Pa.—Odorless excavating apparatus. (*Pump annex.*) 560
- 719 Gawthrop, A., & Son, Wilmington, Del.—Glass models of hydraulic rams with regulators, in operation. (*Pump annex.*) 560
- 720 Huffer, Abraham, Hagerstown, Md.—Automatic steam vacuum pump. (*Pump annex.*) 560
- 721 Pease, F. S., Buffalo, N. Y.—Pneumatic pump. (*Pump annex.*) 560
- 723 Bagley & Sewall, Watertown, N. Y.—Rotary metal force pump with self-packing joints, without stuffing-boxes or valves; pressure on working parts equalized; absolutely positive in action; volume of liquid discharged proportionate to power and speed applied. Specially adapted to use of paper makers, brewers, tanners, etc., and for fire protection. (*Pump annex.*) 560
- 724 Niagara Steam Pump Works, Brooklyn, N. Y.—Direct acting steam pump and crank pump. (*Pump annex.*) 560
- 725 Hydrostatic & Hydraulic Co., Philadelphia, Pa.—Shaw's compound propeller pumps for quarries, mines, etc. Propeller wheels secured to rotating shaft lifts from one thousand to one hundred thousand gallons per minute any height; has no valves, and is not liable to obstruction. Office, at Shaw's Engineering Depot, 915 Ridge avenue, Philadelphia, Pa. (*Pump annex.*) 560
- 726 Conde & Co., Philadelphia, Pa.—Steam pumping engine. (*Pump annex.*) 560
- 727 Nye, Gourlay, & Co., Chicago, Ill.—Steam vacuum pump. (*Pump annex.*) 560
- 730 Sluthour & Mintzer, Philadelphia, Pa.—(*Pump annex.*)
a Force and bilge hand pumps. 560
b Fire engines. 564
- 731 Albright & Stroh, Mauch Chunk, Pa.—B 19.
a Model of duplex steam pump. 560
b Fire-plugs. 566
- 732 Allison & Bannan, Port Carbon, Pa.—Improved air compressing engines. Correspondence and orders solicited. A 52. 561
- 732*a* Burleigh Rock Drill Co., Fitchburg, Mass.—Rock drilling machines, drill carriages, air compressor, tunnelling and mining machines. A 51. 561
- 732*b* Taws & Hartman, Philadelphia, Pa.—Fittings for, and drawings of, blasting furnaces. B 20-21. 561
- 732*c* Union Rock Drill Co., New York, N. Y.—A 60.
a Air compressor. 561
b Hose couplings for rock drills. 564
- 733 Coffin & Woodward, Boston, Mass.—Main and bilge pump for vessels, force pump. D 39. 562

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Hydraulic and Pneumatic Machines, Elevators.

- 734** Roots, P. H. & F. M., Connersville, Ind.—Rotary pressure blowers, hand blowers, gas exhauster. Patentees and manufacturers of positive blast rotary blowers, and gas exhausters, adapted to all purposes for which blast or exhaust are required; also of improved Bye passes and gas valves. (*Pump annex.*) 562
- 734a** Patterson, C. R., Pittston, Pa.—Suction and blast fan. B 61. 562
- 734b** Gould's Manufacturing Co., Seneca Falls, N. Y., New York office 15 Park Place.—Iron and brass force and lift pumps, rotary pumps, ship, railroad, mine, and quarry pumps, hydraulic rams, garden and fire engines. A very elaborate exhibit. (*Pump annex 8 and 10.*) 564
- 735** Ferris & Miles, Philadelphia, Pa.—Blowing engine, steam hammer, and steam drop. (*Annex 1.*) 562
- 736** Wilbraham, T., & Bros., Philadelphia, Pa.—Pressure blowers and steam engines, gas exhausters and steam engines. (*Pump annex.*) 562
- 737** Morris Co., I. P., Philadelphia, Pa.—Blowing engine—ten thousand seven hundred and forty cubic feet of air per minute. B 48. 562
- 738** Roddey, P. D., & Co., New York, N. Y.—Ship ventilator, fog alarm, bilge pump. (*Pump annex.*) 562
- 740** Murphy, Francis, Streator, Ill.—Ventilating apparatus for mines, tunnels, steamboats, etc. (*Pump annex.*) 562
- 741** Disston, Thomas S., Philadelphia, Pa.—Rotary pressure blower. (*Pump annex.*) 562
- 742** Sturtevant, B. F., Boston, Mass.—Pressure and fan blower. *Pump annex 10-9.* 562
- 743** Chase, F. D., Boston, Mass.—Patent ventilating ship deck irons, in brass composition, and galvanized iron; intended for vessel decks, steam car roofs, etc. Seven sizes; flues, from four to nine inches in diameter. Patented, June 23, 1863, improved 1875. (*Pump annex.*) 562
- 744** Wemner, P. L., Lebanon, Pa.—Blowing engine. B 69. 562
- 745** Exeter Machine Works, Boston, Mass.—Pressure blowers, fan blowers, and exhaust fans. (*Pump annex.*) 562
- 745a** Boston Piston Meter Co., Boston, Mass.—Fluid meter. (*Pump annex 2-3.*) 563
- 746** Howard, George C., 13 $\frac{1}{4}$ South Eighteenth street, Philadelphia, Pa.—Hoisting machine; screw gear runs in a bath of oil; patent stop brake, belt shifter, pulleys self-oiling, on independent bearings, car for any location. Elevators made with double and single engines. B 31. 563
- 747** Gunpowder Pile Driver Co., Philadelphia, Pa.—Pile driver. (*Outside of building.*) 563
- 748** Ruoff, William, Philadelphia, Pa.—Double and single-gear jack screws, for moving and raising stone and all heavy weights. (*Pump annex.*) 563
- 749** Stewart, Ralph, & Co., Philadelphia, Pa.—Packing machines. D 23. 563
- 750** Eccles, James, Philadelphia, Pa.—Quadruple screw-power press, pivot centre for drawbridge, etc. D 60. 563
- 751** Sternberger, Leopold, Philadelphia, Pa.—Safety screw steam platform elevator. Patent right for sale. Address Jas. W. Rowley, 1511 North Twentieth street, Philadelphia. E 76. 563
- 751a** Pennypacker, Matthias, Philadelphia, Pa.—Hand hoisting machine. (*Pump annex 1.*) 563
- 752** Harrison, W. H., Philadelphia, Pa.—Double-acting two-valve pump and hydraulic elevator. (*Pump annex.*) 563
- 753** Pneumatic Despatch Co., New York, N. Y.—Pneumatic tube. (*Outside of building.*) 563
- 754** Bolen, Crane, & Co., Newark, N. J.—Compound hydraulic press. (*Pump annex.*) 563
- 755** Eagle Meter Co., New York, N. Y.—Water meter. (*Pump annex.*) 563
- 756** Archbold, Samuel, 417 Walnut street, Philadelphia, Pa.—Marsland's liquid meter, for measuring water and other fluids. Of the turbine wheel form; has only one moving part, besides the register; is not at all affected by sand or silt passing through it; no friction, no wear—hence great durability; readily understood and easily operated. Manufactured by the American Meter Co., Philadelphia. (*Pump annex.*) 563
- 757** Dudgeon, Richard, New York, N. Y.—Hydraulic jacks, pullers, and expanders. C 27. 563
- 758** Taylor, John F., Charleston, S. C.—Steam and hydraulic cotton press. C 54-56. 563
- 759** National Meter Co., New York, N. Y.—Water meters. C 27. 563
- 759a** Baily & Co., Fairocroft, Me.—Elevator for raising rocks, etc. (*Adjoining Annex 3.*) 563
- 759b** United States Hoisting & Conveying Co., New York, N. Y.—Automatic machinery for hoisting, conveying, and depositing. (*Outside of Machinery Hall.*) 563
- 759c** Higgins, H. Van, Chicago, Ill.—Water meter; oscillating piston meter. (*Pump annex 1.*) 663
- 759d** Carlile & Elliott, Steubenville, O.—Safety lock for elevators. (*Pump annex 1.*) 563
- 760** Guerin, Thomas, San Francisco, Cal.—Instrument for measuring and regulating the flow of water from reservoir or canal. (*Pump annex 1-2.*) 563
- 761** Mason, Volney W., & Co., Providence, R. I.—Elevator hoisting machine and safety platform. Also, friction clutch pulleys, driving main line of shafting in pump annex and in Machinery Hall adjoining, near Corliss engine. D 66, and *Pump annex.* 563
- 762** Williams, S. S., & Co., Philadelphia, Pa.—Hod elevator. (*Pump annex.*) 563
- 763** Goldmark, Joseph, New York, N. Y.—Safety elevators for hotels, dwellings, and warehouses, operated by steam, water, or hand power. These elevators are absolutely safe, by virtue of the mechanical principles underlying their construction; they, therefore, require no safety appliances whatsoever, beyond a common break. They are run in private resi-

For location of objects, indicated by letter and figure, see Key to Notation, p. 10; ground plan, p. 11.

Hydraulic Machines, Fire Engines and Appliances.

- dences by water pressure, at an expense of less than half a cent for a round trip, and are used by women and children without requiring a special attendant. A 40. 563
- 763^a Remington, E., & Sons, Ilion, N. Y.—Water meter. (*Pump annex 1.*) 563
- 764 Robertson, John, & Co., Brooklyn, N. Y.—Hydraulic pumps, hydraulic presses. (*Pump annex.*) 563
- 765 Ross, Thos., Rutland, Vt.—Steam crane. (*Annex 2.*) 563
- 766 Randall, Francis M., New York, N. Y.—Automatic steam and vacuum pump. (*Pump annex.*) 563
- 766^a Maclay, J. W., New York, N. Y.—Water meter. (*Pump annex 1.*) 563
- 766^b Ritter, J. R., Reading, Pa.—Model of hoisting apparatus. (*Pump annex 5.*) 563
- 767 Jones & Holmes, Providence, R. I.—Water elevators for open wells. (*Outside of building.*) 563
- 768 Bates, James, Baltimore, Md.—Hand elevator. (*Pump annex.*) 563
- 769 Yale Lock Manufacturing Co., Stamford, Conn.—Safety hoisting machinery, friction clutches and brakes, differential pulleys, drilling braces, stud end center. C 78. (*Outside.*) 563
- 770 Foulds, Thomas, jr., Trevorton, Pa.—Water elevator. (*Pump annex.*) 563
- 773 Otis Bros. & Co., 348 Broadway, New York, N. Y.—Passenger elevator, including engine, safety drum, etc. Manufacturers of brewery elevators, which are generally in use and with great satisfaction in many of the large breweries throughout the country. Their specialty in this line is the elevators, including independent hoisting engine, safety platform, with galvanized iron work, to prevent rust, with lifting ropes and safety ratchets, etc. B 38. 563
- 774 Leonard & Silliman, Bridgeport, Conn.—Grain elevator. E 56. 563
- 774^a Sweetland, I. B., Pontiac, Mich.
^a Brick and mortar elevator. (*Annex 3.*) 563
^b Self-packing faucet, rubber packing. (*Annex 3.*) 566
- 775 Desper, W. E., & Co., Worcester, Mass.—Water meters. (*Pump annex.*) 563
- 776 Tatham & Bros., New York, N. Y.—B 21.
^a Safety apparatus for hoisting machines. 563
^b Drop and buck shot, lead and tin-lined lead pipe, tin-lined iron pipe, sheet lead. 566
- 777 Silsby Manufacturing Co., Seneca Falls, N. Y.—Rotary steam fire engines, horse hose carriage and hand hose reel. Also, in charge of the Centennial Fire Brigade, two rotary steam fire engines and horse hose cart. Illustrated and descriptive circulars, English, Spanish, French, and German, may be had on application. A 6. 564
- 778 Street, E. A., New York, N. Y.—Portable fire pump. B 45. 564
- 778^a Halloway, Charles T., Baltimore, Md.—Chemical self-acting fire engine; portable fire extinguisher. A 40. 564
- 778^b Birkinbine, H. P. M., Philadelphia, Pa.—Apparatus for operating hydraulic valves at a distance. B 46. 564
- 778^c Fairbrother, H. L., & Co., Pawtucket, R. I.—Leather belting. D 9, 72. 564
- 778^d Babson & Dwight, New York, N. Y.—Self-regulating fire-escapes. (*West end of Machinery Hall, opposite column 82.*) 564
- 778^e Heywood, C. L., & Co., Boston, Mass.—Iron safety folding fire-escape ladder. B 68. 564
- 779 Straw, E. A., Manchester, N. H.—Steam fire engine. (*In use on grounds.*) 564
- 780 Schanz, C., Philadelphia, Pa.—Hook and ladder truck for firemen. B 54-56. 564
- 780^a Falk, Louis, New York, N. Y.—Portable fire escape. A 5. 564
- 780^b Wilson, W. H., New York, N. Y.—Firemen's hats and helmets. B 62. 564
- 781 Champion Fire Extinguishing Co., Louisville, Ky.—Chemical engines, with hook, ladder, and hose attachments, hand fire extinguishers. B 56. 564
- 782 Babcock Manufacturing Co., New York, N. Y.—Chemical engines, hook and ladder trucks, truck and engine combined, fire extinguishers. B 57-60. 564
- 783 Platt, Wm. K., & Co., Philadelphia, Pa.—Fire extinguishers. B 49. 564
- 784 Vose, Wm. T., Boston, Mass.—Hydro-pul, for extinguishing fires, washing and watering purposes. A 4. 564
- 784^a Eureka Fire Hose Co., New York, N. Y.—Seamless cotton and linen fire hose. E 68. 564
- 784^b Gutta-Percha & Rubber Manufacturing Co., New York, N. Y.—Rubber belting, hose, and packing. B 44. 564
- 785 Spawn, A. F., & Co., New York, N. Y.—Chemical fire engines, hose carriage, hook and ladder truck, firemen's supplies. B 64-66. 564
- 787 Nichols, B. S., & Co., Burlington, Vt.—Steam fire engine. (*Pump annex.*) 564
- 788 Gomersall, Alfred, Philadelphia, Pa.—Engines, pumps, model of hose carriage. C 79. 564
- 789 Greer, Samuel Y., Philadelphia, Pa.—Hand hose carriage, leather fire hose, leather fire buckets. B 50. 564
- 791 Rumsey & Co. (limited), Seneca Falls, N. Y.—Hand fire engine. B 45. 564
- 794 Dennison, J. N., Newark, N. J.—Steam fire engine, portable waterworks. B 48. 564
- 795 Lamm, John, Port Deposit, Md.—Fire extinguisher. Permanent for dwellings, factories, etc.: useful to gardeners. Rights for sale by patentee. B 66. 564
- 796 Lindlaw, John E., New York, N. Y.—Fire escape. B 56. 564
- 797 Holmes, Horatio L., Providence, R. I.—Cap-bar and stand, combination tool post, with samples of work. (*Pump annex 1-5.*) 564
- 798 Daniels, T. E., Detroit, Mich.—Fire escape and ladder. (*Annex.*) 564
- 799 Wannalansett Manufacturing Co., Boston, Mass.—Linen fire hose, hose reels, pipes, couplings, etc. Ross Turner & Co., selling agents, 159 Devonshire street, Boston, Mass. A 41. 564

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Hydraulic and Pneumatic Machines and Appliances.

- 800** Clapp & Jones Manufacturing Co., Hudson, N. Y.—Piston steam fire engines. B 62. 564
- 801** Button, L., & Son, Waterford, N. Y.—Steam hand and fire engine. B 42-43. 564
- 802** Zwitusch, Otto, Milwaukee, Wis.—B 25.
a Chemical fire extinguisher. 564
b Soda-water apparatus, beer preserver, etc. 565
- 803** Lippincott, Charles, & Co., Philadelphia, Pa.—Apparatus for manufacturing and dispensing soda-water and other aerated beverages. A 27, D 3, and B 6r. 565
- 804** Bates, Benjamin, Baltimore, Md.—Copper and silver carbonaters, with attachments. A 20. 565
- 806** Matthews, John, New York, N. Y.—Apparatus for making, bottling, and dispensing soda-water and aerated beverages. A 24. 565
- 807** Puffer, A. D., Boston, Mass.—Beer apparatus, soda, syrup and mineral-water apparatus. A 22. 565
- 808** Postens, Edward, Philadelphia, Pa.—Soda water and aerated beverages in bottles; apparatus and accessories. A 25. 565
- 809** Tufts, James W., Boston, Mass.—Soda water apparatus, generators, fountains, tumbler washers, etc. A 19 and B 23. 565
- 810** Chapman & Co., Madison, Ind.—Portable soda fountain. A 28. 565
- 811** Fergus, James, & David, Philadelphia, Pa.—Machine for bottling and corking liquors. A 22. 565
- 812** Hey, Michael, Philadelphia, Pa.—Beer pump, with bar fixtures, water pressure machine, beer cooler, air bung and regulator. Manufacturer of all kinds of beer pump bar fixtures, patent water pressure machine, patent beer coolers, patent air bung and patent air regulator, and all kinds of beer spigots and coupling, etc. E 68. 565
- 813** Lalance & Grosjean Manufacturing Co., New York, N. Y.—Seamless soda water fountains. A 21. 565
- 814** Morris, Tasker, & Co., Philadelphia, Pa.—Wrought iron tubes, tools, and brass work. A 70, and C 27. 566
- 815** Kirk, Geo. R., Philadelphia, Pa.—Patent regulating cylinder lubricator, with gauge showing contents, brass cocks, and valves. B 19-20. 566
- 815^a** Carpenter, J. M., Pawtucket, R. I.—Machinists' and blacksmiths' taps, pipe fitters' dies, and die stocks. Hill, Clarke & Co., selling agents, Boston, Mass. C 38-40. 566
- 815^b** Birkinbine, John, Philadelphia, Pa.—Fire hydrant and case. B 46. 566
- 815^c** Powell, Wm., & Co., Cincinnati, O.—Valves and lubricators. B 22. 566
- 815^d** Talley, James, jr., Kansas City, Mo.—Liquid faucet, automatic bung. B 29. 566
- 815^e** Powell, Wm., & Co., Cincinnati, O.—Regrinding globe valves; automatic lubricators, etc. B 22. 566
- 816** Woodruff & Beaumont, Kankakee City, Ill.—Stop valve. B 19. 566
- 817** Flower, James, & Bro., Detroit, Mich.—Stop valve, fire hydrant, machine for squaring nuts, oil cups. D 20. 566
- 818** Evans, Dalzell, & Co., Pittsburg, Pa.—Boiler, oil-well, radiator, artesian and hydraulic tubing; wrought iron pipe, coils, sockets, nipples, and fancy designs. B 25. 566
- 818^a** Basshor, Thos. C., & Co., Baltimore, Md.—Automatic relief valve for steam fire engines. A 6. 566.
- 818^b** Porter, Charles E., Washington, D. C.—Fountain nozzle—prevents clogging. B 19. 566
- 819** Warren Foundry & Machine Co., Phillipsburg, N. J.—Gas and water pipe. (*Outside of Machinery Building.*) 566
- 820** Mohawk & Hudson Manufacturing Co., Waterford, N. Y.—Straightway valves, garden hydrants, fire hydrants. B 21. 566
- 822** Bridgewater Iron Co., Bridgewater, Mass.—Forgings, seamless copper and brass tubes, and bolts, chilled soft rolls, spikes, roll plates, metal sheathing, etc. B 22-23. 566
- 823** Gloucester Iron Works, Philadelphia, Pa.—Cast iron pipes, fire hydrants, stop valves, and lamp posts. B 26. 566
- 825** National Tube Works Co., Boston, Mass.—Iron boiler tubes, iron hydraulic, steam, gas, water, and sewage pipes, enameled pipe, injector. E 74, and D 10. 566
- 826** Meyer, Henry C., & Co., New York, N. Y.—Faucets, anti-freezing hydrants, street washers, combined hitch post and street washer. B 27. 566
- 827** Crosby Steam Gauge & Valve Co., Boston, Mass.—Steam gauges and safety valves, hydraulic and vacuum gauges, etc. D 67. 566
- 827^a** Wood, R. D., & Co., Philadelphia, Pa.—Hydrant. (*Pump annex 4-9.*) 566
- 827^b** Shedd, J. Herbert, Providence, R. I.—Hydrant box, taps, stops, gauges, cover and valve. C 27, and *Pump annex 4.* 566
- 827^c** Douglas, W. & B., Middletown, Conn.—Pumps, hydraulic rams, garden engines, etc. (*Pump annex.*) 566
- 827^d** American Tube Works, Boston, Mass.—Brass and copper tubes. B 20-21. 566
- 828** Cook & Pulver, New York, N. Y.—Lubricating cups, and lubricating compound. D 69. 566
- 829** Pect Valve Co., Boston, Mass.—Brass and iron steam valves. B 22. 566
- 830** Merrill & Keizer, Baltimore, Md.—Gauge cocks for steam boilers. D 64. 566
- 831** Wood, R. D., & Co., Philadelphia, Pa.—Fire hydrants, cast iron pipe, Eddy valves, lamp posts, turbine wheels, duplex turbine. Cast iron pipe for gas and water from one and a half to seventy-two inches diameter. Fire hydrants; Mathew's patent anti-freezing sliding frost case; waste opened by positive motion, without springs, weights, or levers. All working parts removable from ground without dig-

For location of objects, indicated by letter and figure, see Key to Notation, p. 10; ground plan, p. 11.

THE SUN NEWSPAPER

Is printed and published every day in the year, at 166, 168, and 170 Nassau Street, New York City. Its regular edition on secular days now (April, 1876) averages about **140,000**; its weekly edition over **88,000**; and its Sunday issue is nearly **100,000**. It thus prints and sells more than a million copies a week, which are read all over the United States. This is a circulation unprecedented in American journalism, and it is constantly on the increase. In proof of this, let the following figures testify. They show the number of copies of **THE SUN** printed every week during the year ending March 11, 1876.

WEEK ENDING	COPIES PRINTED.	WEEK ENDING	COPIES PRINTED.
March 20.....	849,382	September 18.....	860,358
27.....	845,802	25.....	858,778
April 3.....	857,956	October 2.....	863,935
10.....	863,556	9.....	870,820.
17.....	855,076	16.....	878,082
24.....	858,270	23.....	874,625
May 1.....	869,542	30.....	876,160
8.....	867,550	November 6.....	908,580
15.....	877,450	13.....	852,372
22.....	874,946	20.....	847,815
29.....	866,276	27.....	836,248
June 5.....	873,782	December 4.....	845,378
12.....	869,769	11.....	1,042,716
19.....	880,348	18.....	956,294
26.....	883,846	25.....	933,864
July 3.....	898,862	January 1.....	933,987
10.....	867,574	8.....	952,201
17.....	877,400	15.....	953,019
24.....	876,282	22.....	969,910
31.....	874,216	29.....	967,850
August 7.....	865,558	February 5.....	993,030
14.....	875,982	12.....	1,024,647
21.....	880,488	19.....	1,027,209
28.....	870,502	26.....	1,014,766
September 4.....	872,211	March 4.....	1,014,993
11.....	860,755	11.....	1,028,951
TOTAL.....		46,799,769	

In printing these papers, no less than three million four hundred and twenty-six thousand six hundred and ten (3,426,610) pounds of paper were consumed.

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THE SUN,
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A. J. AIKENS, President.

New York Newspaper Union, 148 and 150 Worth St., New York.	}	315 Newspapers, \$3.00 per line, per week.				
Chicago Newspaper Union, 114 Monroe St., Chicago.			350	"	\$3.50	"
Milwaukee Newspaper Union, 365 East Water St., Milwaukee.	}	120	"	\$1.25	"	"
Aikens Newspaper Union, 143 Race St., Cincinnati.			200	"	\$2.00	"
Southern Newspaper Union, 227 Second St., Memphis, Tenn.	}	145	"	\$1.50	"	"
St. Paul Newspaper Union, 17 Wabashaw St., St. Paul, Minn.			73	"	\$.75	"

THE ORIGIN OF CO-OPERATIVE NEWSPAPER ADVERTISING.

Co-operative newspaper printing, as now practised, originated in Wisconsin twelve years ago. It is termed *co-operative* for the reason that one side of each of the newspapers is printed at a central office, and the paper sent in its half-printed state to the home office, where it is completed with editorials, local news, and other matter prepared by the editor or publisher. In December, 1846, the idea of co-operation, *with advertisements*, occurred to Mr. Aikens, while yet serving his time as an apprentice, in printing the message of President Polk on one side of a country newspaper of New England at Boston, and the other half being printed at the local office.

Mr. A. J. Aikens, a practical printer and business man, conceived the idea of reducing the cost of ready-printed paper, as it is now termed, to country publishers, by making an agreement with them to use a certain space in each of their papers for advertisements that he might procure. This plan of co-operation he put into practice twelve years ago, at the office of Cramer, Aikens & Cramer, Milwaukee. It at once became successful, leading to the establishment of co-operative newspaper printing-offices in Chicago, New York, St. Louis, Cincinnati, Memphis, St. Paul, and other places. There are now over two thousand newspapers printed upon the co-operative plan in the United States and Canadas, and the number is constantly increasing, it having more than doubled in the last five years. The enterprise is no longer an experiment, but an established success, and the system is one yielding manifold advantages to advertisers as well as to local publishers.

The American Newspaper Union

Is essentially national. The papers represented in it are located in all the States of the Union and in nearly five hundred county seats. They circulate over the whole area of the country from Maine to Colorado, distributing at least *one hundred copies every year to each square mile of the settled portions of the United States.*

Although, as a whole, the Union List is national, covering all sections, it is so made up of different members as to be susceptible of easy division into sections—East, Middle, West, South. The distribution of the papers is as follows:

New England	78	Illinois	117	Nebraska	15
New York	101	Michigan	86	Missouri	17
New Jersey	27	Wisconsin	98	Georgia	10
Pennsylvania	65	Tennessee	29	Alabama	32
Virginia	24	Kentucky	29	Louisiana	11
No. and So. Carolina	24	Minnesota	79	Mississippi	29
Ohio	122	Iowa	85	Other States	46
Indiana	81				

AGGREGATE CIRCULATION.

The circulation of these papers is large and constantly increasing. It is larger than the circulation of any other lists or combinations of country papers in the United States—the last aggregate weekly circulation being *seven hundred thousand seven hundred and thirty copies (700,730).*

SEND TO EITHER OFFICE FOR A CIRCULAR.

Machinery Fittings, Valves, Tubes, etc., Locomotives.

- ging. Valves; Eddy's patent straight way double gated gates, hung on universal joint; perfectly adjustable duplex turbine so arranged as to develop full power from variable quantities of water; lampposts; turbines; heavy machinery. B 18, and *Pump annex.* 566
- 832 Roots, P. H. & F. M., Connerville, Ind.**—Tuyere irons and fire bed, bye pass, gas valves. Patentees and manufacturers of hand blowers for blacksmithing of all kinds; also, portable forges adapted to every variety of work; also, improved Tuyere iron and fire bed combined. (*Pump annex.*) 566
- 833 Allison, W. C., & Sons, Philadelphia, Pa.**—Boiler tubes, oil-well tubing, steam pipe, rivets, bolts, nuts, washers, carriage bolts, forgings. B 24. 566
- 834 Cooper, Jones, & Cadbury, Philadelphia, Pa.**—Supplies for plumbers, steam fitters, and machinists, etc. B 19. 566
- 835 Merchant & Co., Philadelphia, Pa.**—Seamless brass and copper tubes, sheet and planished copper, brass wire and tubing, tin plates. B 19. 566
- 836 Patent Water & Gas Pipe Co., Jersey City, N. J.**—Wrought iron asphaltic cement water pipe. B 22. 566
- 837 Flagg, Stanley G., & Co., Philadelphia, Pa.**—Fittings for gas, steam, and water pipes. A 41. 566
- 838 Ludlow Valve Manufacturing Co., Troy, N. Y.**—Sliding stop valves for water, gas, and steam, fire hydrants, etc. B 26. 566
- 839 Lunkenheimer, Fred., Cincinnati, O.**—Automatic cylinder lubricators and glass oil-cups for steam engines; steam valves, with regrinding device; untrimmed brass castings. B 21 and 22. 566
- 840 Stileman, R. T. H., Philadelphia, Pa.**—Water gates, fire hydrants, and station valves. B 19 and 20. 566
- 842 Lewistown Brass & Engine Co., Lewistown, Pa.**—Brass goods. C 74. 566
- 843 Walworth Manufacturing Co., Boston, Mass.**—Steam heating apparatus; steam and gas fitters' tools, etc.; laundry apparatus, etc.; pipe and fittings for steam, gas, and water. A 76, E 73 and B 41. 566
- 844 Radde, William, 548 Pearl street, New York, N. Y.**—Patent glass-lined iron pipe; keeps water, chemicals, and all liquids perfectly pure; prevents poisoning by metallic water pipes; is a safe pipe for aquaria; resists frost, and gives full satisfaction. Patent underground telegraph system; secures perfectly reliable telegraphic connections, under all circumstances, and, thereby, life and property; is composed entirely of inorganic substances. Naked copper wires are drawn through very small glass tubes (3 to 18 and upwards), which are held in the required position in an iron pipe by paraffine wax. Both articles are cheap; need no repairs. B 3-20. 566
- 345 Chapman Valve Manufacturing Co., Boston, Mass.**—Water, gas, and steam valves, with Babbitt metal seats. B 33-34. 566
- 846 Jarecki Manufacturing Co., Erie, Pa.**—Brass work for steam, gas, water, oil, and iron fittings, adjustable pipe tongs. B 20-21. 566
- 847 Starr, Jesse W., & Son, Camden, N. J.**—Castings for gas and water, lamp posts, fire hydrants, stop valves, etc. (*Outside of building.*) 566
- 848 Colwell Lead Co., New York, N. Y.**—Lead pipe, sheet lead, block tin pipe, tin-lined lead pipe. B 22-23. 566
- 849 Long Dennis, & Co., Louisville, Ky.**—Cast iron gas and water pipes. Have in operation three foundries, with melting and casting capacity of 200 tons daily; supply the gas and water mains for the principal cities and towns west, north, and south. B 20-21. 566
- 849a Warren Foundry & Machine Co., Phillipsburg, N. J.**—Cast iron water pipe. (*In building near Machinery Hall.*) 566
- 849b Peck Bros., & Co., New Haven, Conn.**—Brass-plated cocks, valves, and fittings for plumbers', gas and steam fitters' use. A 40. 566
- 850 Larlwig & Batten, New York, N. Y.**—Champagne freezer. B 21. 566
- 851 O'Neill, Andrew, Ansonia, Conn.**—Cast iron pipe; patent gas and water mains, jointing without hot lead, a saving of 50 per cent. over the old; O'Neill's patent-planished copper and brass, tinned or nickelled; nickelled sheet zinc and yellow metal couplings for soil or surface and telegraph pipes. B 3-22, and *outside.* 566
- 852 Mills, Thomas, & Bro., Philadelphia, Pa.**—Vertical engine and ice cream freezer combined, ice cream freezers and freezing apparatus. E 65. 568
- 853 Knickerbocker Ice Co., Philadelphia, Pa.**—Ice tools, elevators, wagons, and ice machinery. B 18. 568
- Railway Plant, Rolling Stock, and Apparatus.**
- 855 Burnham, Parry, Williams, & Co., Philadelphia, Pa.**—Locomotives. E 41-43, and E 45. 570
- 855a Rhode Island Locomotive Works, Providence, R. I.**—Passenger locomotive engine; photographs of locomotives. E 46. 570
- 855b Brooks' Locomotive Works, Dunkirk, N. Y.**—Narrow-gauge locomotive. (*West End Passenger R. R.*) 570
- 856 Pease, James H., Reading, Pa.**—Historical chart of inventions and improvements of the locomotive and railway system. E 71. 570
- 857 Rogers Locomotive & Machine Works, Paterson, N. J.**—Locomotive engine, and tender. D 41, 42, 43. 570
- 858 Danforth Locomotive & Machine Co., Paterson, N. J.**—Locomotives. D 28 and 41. 570
- 859 Howe, Henry, Council Bluffs, Iowa.**—Apparatus for supplying locomotives with water. D 68. 570
- 859a Dickson Manufacturing Co., Scranton, Pa.**—Portion of the Stone-bridge Lion locomotive. C 27. 570

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Locomotives, Railway Plant, Scales.

- 859^b** Polytechnic College, Philadelphia, Pa.—Working model compressed locomotive with horizontal grip drivers for ascending planes. E 44. 570
- 859^c** Robinetz, James F., Petersburg, Va.—Model locomotive. (*Empire Transportation Co.'s building.*) 570
- 860** Row and, John R., Philadelphia, Pa.—Locomotive-power brake. For the safety of life, in collisions, through the crushing of coal, in the ends of the platforms of locomotives. E 48. 570
- 861** Porter, Bell, & Co., Pittsburg, Pa.—Narrow-gauge passenger locomotive and tender. Exclusive specialty light locomotives. Catalogues sent on application. E 44-46. 570
- 863** Philadelphia & Reading Railroad Co., Philadelphia, Pa.—Locomotive and tender. D 44-47. 570
- 864** Dickson Manufacturing Co., Scranton, Pa.—Locomotive and mining machinery. E 49-53. 570
- 865** Pennsylvania Railroad Co., Altoona, Pa.—Locomotive built in 1831, baggage and passenger car combined (old style). (*Outside of building.*) 570
- 866** Mason Machine Works, Taunton, Mass.—Narrow gauge locomotive. (*In use on West End Railroad.*) 571
- 866^a** Johnson, Chas. E., & Co., Lansing, Iowa.—Self-coupling railway car. F 35. 571
- 866^b** Lebanon Manufacturing Co., Lebanon, Pa.—Coal cars. (*Outdoors, west of Machinery Hall.*) 571
- 867** Riche Bros., Philadelphia, Pa.—Scales, testing machines, beams, rope-twisters, sand-sifters. E 54. 571
- 868** Fairbanks & Ewing, 715 Chestnut street, Philadelphia, Pa. (Manufacturers, E. & T. Fairbanks & Co., St. Johnsbury, Vt.)—Railroad track, weigh lock, hay, coal, platform, and counter scales of all descriptions; fine gold and druggists' scales; also improved testing machines for ascertaining the strength of metals, etc. Principal warehouses, Boston, New York, Philadelphia, Baltimore, New Orleans, San Francisco, St. Louis, Chicago, Louisville, Cincinnati, Cleveland, Buffalo, Pittsburg, Albany, Montreal, and London. E 56-60. 571
- 869** Brandon Manufacturing Co., Brandon, Vt.—Railroad, merchandise, post-office, and other scales, beams and trucks. E 61-63, and D 8. 571
- 870** Dell, John C., Philadelphia, Pa.—Scales and weights. D 62. 571
- 871** Buffalo Scale Co., Buffalo, N. Y.—Platform, counter, and combination beam scales. D 54. 571
- 872** Crossman, M., Marshall, Ill.—Hand car. (*Outside of Machinery Hall.*) 571
- 873** Becker & Sons, 232 E. 128th street, New York, N. Y.—Becker's construction of improved balances and weights of precision for druggists, chemists, assayers, and for all purposes where accuracy is required. D 51. 571
- 874** Meyers, F., Newark, N. J.—Scales. D 53. 571
- 875** Hitchcock, S. S., Des Moines, Iowa.—Scales. D 47. 571
- 877** Gilly, John L., Columbus, O.—Freight cars; car wheels. (*West of Machinery Hall.*) 571
- 878** Ball, C. A., & Co., Midland Park, N. J.—Trucks. C 9-71. 571
- 879** Willoughby, James D., Philadelphia, Pa.—Notifying scales, frictionless scales. D 8 and 51. 571
- 880** Chatillon, John, & Sons, New York, N. Y.—Spring balances, self-adjusting scales, counter scales, scale beams. D 50. 571
- 881** Harrisburg Car Manufacturing Co., Harrisburg, Pa.—Eight-wheeled box freight cars. B 1-9, and A 5-9. 571
- 883** Price, Lipsett, & Co., Philadelphia, Pa.—Railroad track scale, platform scales. E 76. 571
- 885** Robidoux, Joseph, & Sons, New York, N. Y.—Scale beams, frames, hooks, etc. D 49. 571
- 886** Steinway & Sons, New York, N. Y.—Metal frames for pianofortes, pianoforte actions. D 49. 571
- 887** Automatic Scale Co., Boston, Mass.—Automatic scales. D 51. 571
- 888** Reinhardt, Chas., Brooklyn, N. Y.—Druggists', gold, and diamond scales. D 62. 571
- 889** Henderson Hydraulic Car Brake Co., Philadelphia, Pa.—Car brake, by steam or hydraulic pressure. D 64-66. 572
- 889^a** Singer, Jacob, Harrisburg, Pa.—Automatic car coupler; brakeshoe. E 72. 572
- 889^b** Welch, Robert R., Frankford, Pa.—Automatic car coupler. E 74. 572
- 890** Lahaye, J. J., Reading, Pa.—Model cars with automatic couplings. In successful operation on the Philadelphia & Reading Railroad, by which company it was adopted after more than a year's trial. D 64. 572
- 891** Barton, C. S., Philadelphia, Pa.—Railway station indicator, operated from engine by compressed air or by hand. D 64. 572
- 892** Haase, John A., Philadelphia, Pa.—Model of safety car-step. B 41. 572
- 892^a** Eames Vacuum Brake Co., Watertown, N. Y.—Injector, valve, vacuum, brake, etc. D 69. 572
- 892^b** Decrow, A. W., Bangor, Me.—Smoke conductor; railroad concussion brake. E 69. 572
- 894** Kline, Aaron K., Somerville, N. J.—Model of car coupling. D 69. 572
- 895** Nelson, Nels, Minneapolis, Minn.—Steam and air car brake, car coupler. D 65. 572
- 896** Bing, James, Philadelphia, Pa.—Brake shoe. E 76-77. 572
- 897** Westinghouse Air Brake Co., Pittsburg, Pa.—Automatic brakes, vacuum brakes, air compressors, speed indicators, engine governors, engine. D 67. 572
- 898** Cobb, Z., & Sons, Wilmington, Del.—Elliptic steel springs, for car seats and upholsterers, door springs. E 68. 573

Railway Plant, Wheels, Springs, Trucks, etc.

- 899 Cayuta Wheel & Foundry Co., Waverly, N. Y.—Chilled wheels for cars and engines; specimens and tests. E 64. 573
- 900 Lobdell Car Wheel Co., Wilmington, Del.—New and old railroad car wheels, tires, castings, etc. E 65. 573
- 901 Ramapo Wheel & Foundry Co., Ramapo, N. Y.—Railroad car and engine wheels. E 71. 573
- 902 Culmer Spring Co., Pittsburg, Pa.—Springs for railway purposes. Spiral draft, bolster, journal, equalizing bar, tender, brake release, switch, and valve springs. Spiral springs of all descriptions, made to order. E 69. 573
- 903 Bryant, George B., Pottsville, Pa.—Self-oiling car wheels, loose pulleys, cups, car journals; vehicle and carriage wheel hubs; independent car axles. E 66. 573
- 904 French, A., & Co., Pittsburg, Pa.—Elliptic springs for cars and locomotives. E 71. 573
- 905 Miltimore Car Axle Co., New York, N. Y.—Railroad car truck, with combined, stationary, and revolving axles, loose, independent wheels, and oscillating boxes. Six sets narrow gauge railroad car trucks, fitted with the Miltimore axles and wheels, are in use on the West End Passenger Railway. D 69-70. 573
- 906 Tryon, Geo. K., Son, & Co., Philadelphia, Pa.—Car and other bearings and articles of phosphor-bronze, composition, Babbitt, and type metal. E 71. 573
- 907 Davenport, Fairbairn, & Co., Erie, Pa.—Engine and car wheels. E 70. 573
- 908 Miles, W. A., Copake Iron Works, Copake, N. Y.—Car wheels. E 68. 573
- 909 Middleton, N. & A., & Co., Philadelphia, Pa.—Railroad car springs with section of trucks. E 66 and 70. 573
- 910 Barnum Richardson Co., Lime Rock, Conn.—Salisbury iron ore, charcoal pig iron, cast chilled car wheels. E 71. 573
- 910^a Ewart Manufacturing Co., New York, N. Y.—Drive chains. E 62. 573
- 910^b National Car Spring Co., New York, N. Y.—Elliptic, spiral, rubber, volute and rubber centre spiral car springs. E 68. 573
- 911 Standard Steel Works, Philadelphia, Pa.—Crucible steel locomotive and car wheel tires, castings, and forgings. E 72. 573
- 912 Midvale Steel Works.—Works and Office, Nicetown, Philadelphia, Pa. C 23.
- a* Cast steel tires, all sizes and sections; record of trial in hydraulic press of Baldwin locomotive works, April, 1876. 573
- b* Cast steel axles, guaranteed to stand five blows of seventeen hundred pounds' drop, falling twenty-five feet upon four-inch section, bearings three feet apart; axle reversed between blows. 573
- c* Same, bent, cold. 573
- d* Rails, twisted, cold. 574
- e* Solid cast steel forging, diameter thirteen inches; length, twelve feet. Tensile strength per square inch, 83,824 pounds; elastic limit, per square inch, 50,000 pounds; elongation under strain, 16.5 per cent. 573
- f* Solid steel castings; railroad crossing: planed anvil-face, weighing 3280 pounds. 513
- g* Miscellaneous ingots. 513
- h* Ingots of open-hearth steel, broken, showing solidity and characteristics of same. Elastic limit per square inch, 65,018 pounds; tensile strength, per square inch, 123,220 pounds; elongation under strain, 16.5 per cent. 513
- i* Tool, machinery, and spring steel, all shapes, with fractures and evidences of quality. 513
- j* Forgings. 514
- 913 Lang, Wm., Bailey, & Co., New York, N. Y.—Cast steel locomotive tires. F 70. 573
- 914 Whitney, A., & Sons, Philadelphia, Pa.—Car wheels and axles. E 72. 573
- 915 American Paper Car Wheel Manufacturing Co., Hudson, N. Y.—Coach, truck and car wheels, of paper, steel and iron combined. E 65. 573
- 916 Washburn Car Wheel Co., Hartford, Conn.—Steel-tired car wheels, cast iron centres. E 70. 573
- 916^a White, Joseph J., Smithville, N. J.—Portable fare-box. D 64. 573
- 917 Sax & Kear, Pittston, Pa.—Steel-tired truck and car wheels, with cast iron centres. E 73. 573
- 918 Harrison, Samuel L., San Francisco, Cal.—Railroad car axle, with independent wheels. E 72. 573
- 919 Schoem, Wm. H., Wilmington, Del.—Locomotive, car, and wagon springs. E 67. 573
- 920 Nichols, Pickering, & Co., Philadelphia, Pa.—D 67.
- a* Railway elliptic, volute and spiral springs. 573
- b* Cast steel nut-lock washers. 574
- 921 Fields, Wm., Wilmington, Del.—Cast steel rails, made direct from iron ore. E 64. 573
- 922 McKee, Fuller, & Co., Catsauqua, Pa.—Railroad car wheels. D 65. 573
- 922^a Baltimore Car Wheel Co., Baltimore, Md.—Chilled cast iron engine and car wheels; samples of iron. E 66. 573
- 922^b Atwood Railway Wheel Co., New York, N. Y.—Railway wheels. E 69. 573
- 922^c Vose, Dinsmore, & Co., New York, N. Y.—Elliptic, spiral, rubber, volute and rubber centre spiral car springs. E 68. 573
- 922^d Roberts, A. & P., & Co., Philadelphia, Pa.—Hammered and rolled car axles. E 72. 573
- 922^e Hopkins, D. A., Jersey City, N. J.—Car journal boxes. E 69. 573
- 922^f Woodbury, James A., Boston, Mass.—Elastic steel tire car wheels. E 70. 573
- 922^g Taylor Iron Works, High Bridge, N. J.—Passenger wheels on axle, narrow gauge wheels, sample wheels and sections; axles bent cold, etc. E 69. 573
- 923 Nashua Iron & Steel Co., Nashua, N. H.—Steel plates, tires, axles, shaftings, bars, and forgings; iron axles, bars, plates, car wheels, and forgings. E 66-67. 573

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Railway Plant, Agricultural Machinery.

- 923^a Eccles, James, Philadelphia, Pa.—Frictionless journal box for railroad car axles. D 60. 573
- 923^b Columbia Car Spring Co., New York, N. Y.—Spiral and rubber car springs. E 69. 573
- 923^c Jeffries, James, & Sons, Philadelphia, Pa.—Locomotive, tender, and elliptic car springs. E 69. 573
- 924 Hamilton Steeled Wheel Co., Philadelphia, Pa.—Car wheels and specimens of metal, process of manufacture. D 68. 573
- 925 Jersey City Wheel Foundry & Machine Works, Jersey City, N. J.—Elastic steel tired car wheels, chilled car wheels. D 68. 573
- 925^a Potter & Hoffman, Philadelphia, Pa.—Railway construction tools. B 30. 573
- 925^b Union Car Spring Co., Bridgeport, Conn.—Car springs, and steel. E 71. 573
- 926 Raddin, John, Lynn, Mass.—Elastic car and carriage wheels, automatic brakes, compensating wheels, bunters, elastic chains, etc. E 70. 573
- 927 Fisher & Norris, Trenton, N. J.—“Fisher” patent rail joints for broad and narrow gauge roads. B 6-41, and Annex 1. 574
- 928 Wharton Railroad Switch Co., Philadelphia, Pa.—Railroad switch, steel rail frogs, steel rail crossing. D 71-73. 574
- 930 Jersey City Iron Works, Jersey City, N. J.—Detachable steel rail frogs and crossings, safety switch stands, car replacer. D 71. 574
- 931^a Cochrane, John, New York, N. Y.—Cleats to secure rails to the cross-ties. E 48. 574
- 931^b Wood, Joseph, Red Bank, N. J.—Adjustable spring, and stationary frogs. E 69. 574
- 931^c Scheiner, J. H., Philadelphia, Pa.—Frogs for cars and signals. E 71. 574
- 931^d Stillman, Wait J., Troy, N. Y.—Track guard. (*Outside of building.*) 574
- 931^e Redding, W. E., New York, N. Y.—Railroad switches. (*Outside of building.*) 574
- 931^f Mansfield Elastic Frog Co., New Haven, Conn.—Railroad frog. E 71. 574
- 931^g Kasson, C. Vallette, Buffalo, N. Y.—Continuous rail, railway frog, and crossing. E 78. 574
- 931^h Seely & Stevens, New York, N. Y.—Pellucidite,—architectural wood finish. (*Used on all wood work in Machinery Hall.*)
- 932 Pennsylvania Steel Co., Harrisburg, Pa.—Bessemer steel ingots, blooms, forgings, and rails, open hearth steel ingots and blooms, safety switch, steel rail crossing and frogs, car replacer. D 29, and E 62. 574
- 933 Diamond State Iron Co., Wilmington, Del.—Railway track fastenings and merchant bar iron. Manufacturers of railroad splice bars, all sizes; noted for fit, quality, and finish. Track bolts and spikes of superior iron; extra quality bar and horseshoe iron. E 62. 574
- 933^a Lukens, J. H., Burlington, N. J.—Railway switch stand. D 71. 574
- 933^b Barker, E. W., Portland, Me.—Car coupler. D 70. 574
- 933^c Wood, Joseph, Red Bank, N. J.—Railroad frogs; switch stand. E 69. 574
- 933^d Tuthill, Daniel S., Newburg, N. Y.—Railway tracks—to overcome contraction and expansion. E 72. 574
- 934 Pratt Manufacturing Co., New York, N. Y.—Elastic fish joints. E 62. 574
- 935 Bean, H. & B. F., Pawling, Pa.—Mail pouch holder and catcher for railroad cars while in motion, draw heads for cars. D 66. 575
- 936 Rousseau's Railway Signal Co., New York, N. Y.—Electric railway signals, office indicators, switch locks, circuit closer, etc. D 67. 575
- 937 Wharton, Wm., jr., Philadelphia, Pa.—D 72.
a Patent Bessemer steel street railway curves; cast iron street railway curves; cast iron street railway switches; cast iron street railway frogs; cast iron street railway crossing. 574
b Patent cast-iron street railway turntable. 575
- 938 Spahn, Emil P., Newark, N. J.—Models for automatic railroad crossings, gates, and signals. E 57. 575
- 939 Ridge, Elmer, Philadelphia, Pa.—Balance folding gates for railway crossings. D 65. 575
- 939^a Lansing, H. S., Philadelphia, Pa.—Railroad crossing safety gate. (*North-east of Machinery Hall.*) 575
- 939^b Williams, Joseph S., Philadelphia, Pa.—Anti-frog tracks, rail switches, and crossings, rail supports, and car ventilator. P 72. 575
- 939^c Heywood, C. L., & Co., Boston, Mass.—Railroad bridge guard, for the protection of train men, at bridges over railroads. E 41. 575
- 939^d Hitchcock Lamp Co., Watertown, N. Y.—Lamps for fat oils and kerosene. D 40. 575
- 939^e Post & Co., Cincinnati, O.—Railway passenger-car trimmings, locomotive head lights. D 71. 576

Machines used in preparing Agricultural Products.

- 940 Deal, M., & Co., Bucyrus, O.—Separator and smutter, brush smutter, warehouse separator, and mill machinery trucks, etc. E 57. 580
- 941 Bullock, C. K., Philadelphia, Pa.—Flour mill machinery. E 52. 580
- 942 Huntley, Halcomb, & Hine, Silver Creek, N. Y.—Purifier, bran dusters, bolting cloth. E 47. 580
- 944 Howes, Babcock, & Co., Silver Creek, N. Y.—Eureka snut and separating machine. Eureka brush polishing machine. The worst samples of smutty and foul wheat can be perfectly cleaned with these two machines. Grain separator, with patent zigzag arrangement for separating oats and all other seeds from wheat. Bolting cloth, elevator buckets, mill stone brush, pick handles. E 49. 580
- 944^a Mungon Bros., Utica, N. Y.—Corn grinding mill, eye spindles, levers, etc. E 61-62. 580

Agricultural Machinery.

- 944^b Cumbie & Donald, New York, N. Y.—Mechanical oven model. E 66, 67. 580
- 944^c Stangeland, Elias, Rockdale, Minn.—Grain steaming machine. E 60. 580
- 944^d Teter, W. L., Bristol, Tenn.—Self-regulating silent mill feed. E 63. 580
- 945 Noye, John T., & Son, Buffalo, N. Y.—Flour mill models, portable mills, millers' tools, middlings purifier, bran duster. E 47. 580
- 945^a Gilbert, Calvin, Chambersburg, Pa.—Combined separating and scouring smut machine. E 57. 580
- 946 Ingraham & Beard, Chicago, Ill.—Grain scourer, smutter separator, grader, dustless malt and warehouse separator and grader. E 54. 580
- 947 Young, J., & S. Bernheisel, Green Park, Pa.—Flour bolt and middlings purifier combined, with bran separator and duster attached. E 57. 580
- 948 Harris, Clinton S., Elizabeth, N. J.—Smut and scouring machine, and suction fan for cleaning grain. E 58. 580
- 949 Richardson, D. M., Detroit, Mich.—Improved patent wheat scourer, polisher, and separator. The principles covered in this machine may be briefly stated as follows, viz.: It scours and polishes the wheat thoroughly, without breaking, cutting, scratching, wearing away, or impairing the bran fibre, thereby leaving the bran full strength. When the wheat goes upon the burrs, the bran comes off in large flakes or patches, and passes through without pulverizing and mixing with the flour; the blast can be adjusted to secure any desired separation. F 60. 580
- 950 Turner, Parks, & Co., Cuyahoga Falls, O.—Rolling screen separator, middlings purifier, malt scourer, garlic, rat-ball, and straw extractor. E 58. 580
- 952 Barnard & Leas Manufacturing Co., Moline, Ill.—Smutter, scourers, separator, flour packer, corn sheller, corn cleaner. E 48. 580
- 952^a Conklin, N. A., Brooklyn, N. Y.—Corn chitting and hominy mill. F 48. 580
- 952^b Roland, Francis, & Co., Reading, Pa.—Grain decorticator and separator; model of water wheel. E 61. 580
- 954 Woodward, Thos. B., Philadelphia, Pa.—Mill stones, mills, flour mill machinery. E 46. 580
- 955 Baltimore Pearl Hominy Co., Baltimore, Md.—Hominy mill or corn granulator. Manufacturers of breakfast hominy, samp, corn flour, pearl meal, etc. Sole owners and manufacturers Patent Buckeye Hominy Mill. F 59. 580
- 957 Griscom & Co., Pottsville, Pa.—Diamond mill stone dressing machines. (Will do as much work in one hour as can be done in a day with the pick.) Used by best mills. Thirty days' trial allowed. E 53. 580
- 958 Harrison, Edward, New Haven, Conn.—Vertical burr stone mills for grain, minerals, etc., and combined flouring mill and bolter. E 59. 580
- 959 Leonard & Silliman, Bridgeport, Conn.—Burr stone flour and grist mills. E 56. 580
- 959^a United States Attrition Co., New York, N. Y.—Attrition mill for pulverizing ores, cereals, etc. F 49. 580
- 959^b Allis, Edward P., & Co., Milwaukee, Wis.—Middlings purifier and duster, mill stones, cockle separator, and crushing rolls. E 56. 580
- 959^c Hanna, C. T., Keokuk, Iowa.—Wheat steamer and dryer. E 57-58. 580
- 959^d Macarthy, John, New York, N. Y.—Bran picker and duster. E 60. 580
- 959^e Mecutchen, Jesse G., Philadelphia, Pa.—Smut machine, and mill stones. E 58-59. 580
- 959^f Throops Grain Cleaner Co., Auburn, N. Y.—Grain scourer and separator; wheat brushing machine. E 68. 580
- 959^g Kreider, Campbell, & Co., Philadelphia, Pa.—E 50.
^a Grain mill. 580
^b Spice mill. 585
- 960 Lafferty, H. W. & R., Gloucester, N. J.—Centrifugal sugar-draining machines, with mixer and elevator. E 46. 581
- 960^a Schemedes, J. W. R., New York, N. Y.—Evaporator. E 57. 581
- 960^b Colwell & Bro., New York, N. Y.—Vacuum pan and sugar refining apparatus. E 79. 581
- 960^c Hepworth, S. S., New York, N. Y.—Centrifugal extractor. E 79-80. 581
- 961 Mills, Thomas, & Bro., 1301 and 1303 North Eighth street, Philadelphia, Pa.—Confectioners' tools, fruit-drop machine and rollers; flat stick, sour drop, and paper fringing machines. Patent candy slicer, coconut grater, cutters, egg beater, and toy machine. E 65. 582
- 962 Gardner, Mrs. John, Philadelphia, Pa.—Confectionery tools, candy machinery. F 48. 582
- 963 Croft, Wilbur, & Co., Philadelphia, Pa.—Revolving pans for making confections. E 64. 582
- 964 Mitchell, J. H., Philadelphia, Pa.—Coconut grater, candy slicer. B 80. 582
- 965 Anderson, J. P., Philadelphia, Pa.—Coconut graters, candy slicers. F 45. 582
- 966 Colburn, Levi J., Chicago, Ill.—Confectionery; process of manufacture. F 46. 582
- 967 Archer & Brownell, Richmond, Va.—Process of manufacturing plug and twist chewing and smoking tobacco, cigarettes. F 57. 584
- 967^b Wulstein, Henry, New York, N. Y.—Tobacco granulator. F 55. 584
- 967^c Tygh, James F., Philadelphia, Pa.—Tobacco stripping and booking machine; cigar moulds. F 60. 584
- 968 Cain, P. O., & Co., Philadelphia, Pa.—Cigar moulds. F 55. 584
- 969 Enterprise Manufacturing Co., Patented Hardware Manufacturers and Iron Founders, American and Dauphin streets, Philadelphia, Pa.—Coffee, drug, and spice mills, twenty sizes; measuring faucets, tobacco cutters, cheese knives, sad irons, bung-hole borers, sausage stuffers, fruit and jelly pressers. F 56. 585
- 970 Dell, John C., Philadelphia, Pa.—Coffee mills, scales. D 62. 585

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Agricultural Machinery, Boats, Vessels, and Appliances.

- 971 Boyd, G., Philadelphia, Pa.—Coffee roaster, coffee cooler. (*Annex 1.*) 585
- 973 Weikel & Smith Spice Co., Philadelphia, Pa.—Coffee roasting and spice mill machinery. (*Annex 1.*) 585
- 974 Troemner, Henry, 710 Market street, Philadelphia, Pa.—Coffee mills; manufacturers of scales and balances in use at the U. S. Treasury, and all the U. S. Mints and Assay Offices. F 55. 585
- 975 McCollum, L. A., New York, N. Y.—Cracker machine, dough mixer, reversible dough brake, mechanical oven. E 66. 585
- 976 Silver & Deming Manufacturing Co., Salem, Ohio.—Meat choppers and meat stuffers. F 54. 586
- 976^a Speihlman, Geo., Strasburg, Pa.—Meat chopper. F 55. 586
- 977 Ruger, J. W., & Co., Buffalo, N. Y.—Cracker, bread, and cake machinery and bakers' tools. F 62. 586
- 978 Murray Iron Works Co., Burlington, Iowa.—Meat choppers, lard presses, sausage stuffers, etc. This exhibit attracts special attention of butchers and sausage makers. The draw-cut movement of the knives (which is that of a knife used by hand), is the peculiar feature which is claimed, distinguishes these machines from all others, and secures to them a clean cut, without noise or pounding and with very little wear of the parts. Some of them have been in constant use for over four years, without repairs of any kind. Their beauty, and the smoothness and precision of their work, attracts very general attention from the many who are interested in this kind of machinery, they being the only "draw-cut" machines made. F 60. 586
- 979 Huber & McCarter, Lancaster, Pa.—Steam meat chopper. E 60. 586
- 979^a Roberts, Carle, & Co., New York, N. Y.—Hand cutter. E 57. 586
- 979^b Kenyon, J. H., Plainfield, N. J.—Hand and power meat choppers. F 61. 586
- 979^c Nittinger, August, jr., Philadelphia, Pa.—Butchers' and packers' machinery. F 54. 586
- 980 Sauter, Charles, Reading, Pa.—Malt cleaning machine, cylinder-wheel malt chopper. E 69. 587
- 981 Reford, J. W., Philadelphia, Pa.—Grain-distilling and vapor-rectifying apparatus. E 69. 587
- 982 Boese, C., & Co., New York, N. Y.—Capping machines, for adjusting metallic capsules on bottles, jars, etc. E 68. 587
- Aerial, Pneumatic, and Water Transportation.**
- 982^a Sewall, Day, & Co., Boston, Mass.—Shrouding, rope, etc. E 39. 590
- 983 Hartness, James, Detroit, Mich.—Section balloon, with life-boat attached. D 32. 592
- 984 Swarzmayer, John, Philadelphia, Pa.—Flying machine model. D 33. 592
- 985 Page, E. W., New York, N. Y.—Boat oars. D 32. 594
- 986 Bolles, J. N., Baltimore, Md.—Models for submarine work. A 56, and *outside.* 594
- 987 Fields, William, Wilmington, Del.—Models of armor-ship, and field-battery gun. E 64. 594
- 988 Chomel, I. A., Brooklyn, N. Y.—Swinging berths and platforms for prevention of sea-sickness. D 31. 594
- 989 Grinnell, Irving, New Hamburg, N. Y.—Ice yacht. D 28-31. 594
- 989^a Lyman, William, Middlefield, Conn.—Bow-facing rowing gear. D 31, and *on lake.* 594
- 990 Wilen, George C., Philadelphia, Pa.—Small boat. D 32. 594
- 991 Richards, H. J., West Troy, N. Y.—Ice yacht. D 34. 594
- 992 Walton, Lewis W., New York, N. Y.—Row-lock for boats. D 35. 594
- 993 Burr & Co., New York, N. Y.—Tackle blocks, etc. D 34. 594
- 993^a Perry, E. L., New York, N. Y.—Life raft. D 37. 594
- 993^b Whistler, Thos., Baltimore, Md.—Non-capsizable life boat. D 31. 594
- 993^c Stoner, John B., New York, N. Y.—Floating lighthouse. D 35-36. 594
- 994 Desmond, Timothy, New York, N. Y.—Pair-oared gig. D 36. 594
- 994^a Bird, John, Philadelphia, Pa.—Glass moulding press. (*Annex 3.*) 594
- 995 Adams, John & Co., Gloucester, N. J.—Life preserving mattress, self-righting life boat. D 33. 594
- 995^a Lyman, W., Middlefield, Conn.—Rowing gear. D 31, and *on lake.* 594
- 995^b Jackson, James L., New York, N. Y.—Steering apparatus; process and apparatus for making patterns. C 35-36. 594
- 996 Waters, E., & Sons, Troy, N. Y.—Paper boats, barrels, packages, cylinders, etc. D 35-36. 594
- 997 Bryant, John L., & Co., Philadelphia, Pa.—Double life boat. D 33. 594
- 998 Von Behren & Shaffer, Stryker, O.—Boat oar, handspike. D 38. 594
- 999 Smith, D. S., Philadelphia, Pa.—Canoe, "Dolphin," of Queenstown, Md. D 38. 594
- 1000 Jones, John McA., Philadelphia, Pa.—Boat-detaching apparatus. D 32. 594
- 1001 Begin, Peter N., Detroit, Mich.—Revolving head light for vessels. D 39. 594
- 1002 Hook, Gilman, West Harwich, Mass.—Toy yacht. D 32. 594
- 1003 Rider Life Raft Co., New York, N. Y.—Life rafts. D 40. 594
- 1004 Miles, Geo. W., Philadelphia, Pa.—Single scull shell. D 40. 594
- 1005 McGilvery, S. W., Belfast, Me.—Model for clipper ship. D 40. 594
- 1006 Powell, Richard, Washington, D. C.—Improvement in building iron vessels. D 39. 594
- 1006^a Bradlee & Co., Philadelphia, Pa.—Cable and rigging chains. D 38. 594
- 1006^b Fearon, Thomas, Yonkers, N. Y.—Shell boats, composite planking. E 40. 594

For location of objects, indicated by letter and figure, see Key to Notation, p. 10; ground plan, p. 11.

Boats, Vessels, and Appliances.

- 1006^c Roach, John B., Chester, Pa.—Models of vessels, shaft and froggings. E 40. 594
- 1006^d Glass, Wm., Philadelphia, Pa.—Race boat. D 36-37. 594
- 1006^e Englis, John, & Son, Greenpoint, N. Y.—Steamship models. D 34. 594
- 1006^f Flower, Wm., Bangor, Me.—Life saving apparatus, boat lowering, and detaching apparatus, etc. E 35. 564
- 1006^g Goldie, George, Princeton, N. J.—Rowing machine. D 40. 594
- 1006^h Pusey, Jones, & Co., Wilmington, Del.—Photographs and models of steamboats and steamships. C 74. 594
- 1006ⁱ Harrington, Charles B., Bath, Me.—Schooner yacht. D 32. 594
- 1006^j Parcels, Thomas, Philadelphia, Pa.—Full-rigged schooner sailing yacht. D 49. 594
- 1006^k Mallory, W. H., Bridgeport, Conn.—Steam yacht. *On Schuylkill river.* 594
- 1006^l Cort, Mrs. C. A. van, New York, N. Y.—Torpedo boat. D 31. 594
- 1006^m Francis, Frank, Philadelphia, Pa.—Model of bark. D 36. 594
- 1006ⁿ Johnson, Hilary C., Philadelphia, Pa.—Miniature model of a full rigged ship. D 40. 594
- 1006^o Kahnweiler, David, New York, N. Y.—Cork jacket. D 40. 594
- 1006^p Ormsbee, M., Brooklyn, New York.—Sleeve life preservers and collar rescuer. "The Sleeve Life Preservers" are used to great advantage in pleasure-swimming, and, as a teacher of the novice, learning the art. To skaters they afford comfort, keeping the arms warm and the body harmless from falling, besides saving life should the ice break, preventing cramp in the arms, however cold the weather. Cricketers also wear them. They make two excellent pillows for traveling on the cars, boats, etc. They can be placed side by side for a cushion, and are easily carried in the pocket, and can be put on very quickly. "The Collar Life Preserver" rescues persons from drowning; is used also as a cushion for the house, counting-room, or traveling in the cars or boats, and as a cabinet invalid chair cushion. It can be put on instantly for life saving, even by a child two years of age; is used as a seat in the parks to prevent colds and sickness from sitting upon the damp ground. Bathing-house proprietors can be furnished with life preservers at prices that must assure them a handsome income from their sale or rental, with bathing-dresses, and by keeping the Collar Life Preservers always ready, none of their patrons can possibly be drowned, as they can be rescued in less than a minute by any of the assistants. Either of the preservers costs \$5; or \$1, to hire for a trip to Europe, or elsewhere. For particulars, address Capt. M. Ormsbee, patentee and manufacturer, 52 Willow street, Brooklyn, New York. D 40. 594
- 1006^q Tipton, John, Philadelphia, Pa.—Model of boat. D 36. 594
- 1006^r Rowland, T. F., Greenpoint, N. Y.—Steam launch, metallic life boat. A 63 and D 31. 594
- 1006^s Roach, John, & Son, New York.—Models, armor plate, and marine engine work. E 40. 594
- 1007 United States Bunting Co., Lowell, Mass.—Bunting and flags. F 40. 594
- 1008 Massachusetts State Commission, Leverett Saltonstall, Commissioner, N. E. Tower Main Building, Philadelphia, 18 Pemberton Square, Boston, Mass.—Water craft, old and new, and articles which take part in their construction and use,—being an historical exhibit of the growth of the marine interests of Massachusetts, from the earliest periods to the present time. F 38-40. 594
- 1009 American Life-Saving Suit Co., New York, N. Y.—Life-saving suit for ocean travel, surf belt for river travel. D 33. 594
- 1010 Wyatt, John L., Yonkers, N. Y.—Full-rigged clipper South Sea whale ship. E 38. 594
- 1011 Gildersleeve, S., & Sons, Gildersleeve's Landing, Conn.—Working models of wooden, steam, and sail vessels, for profitable freighting business. Largest carrying capacity on light draft with good sailing qualities. D 40. 594
- 1012 Poillon, C., & R., New York, N. Y.—Model of schooner yacht "Sappho" and pilot boats "Thomas S. Negus," of N. Y., and "E. C. Knight," of Philadelphia. E 39. 594
- 1013 Webb, Wm. W., New York, N. Y.—Models and plans of celebrated naval and other vessels. D 31. 594
- 1014 Cannon, John D., New Castle, Del.—Hooped skiff boat, without timbers or knees. D 31-32. 594
- 1015 Baird & Huston, Philadelphia, Pa.—Steam yacht. D 38-40. 595
- 1016 Harlan & Hollingsworth Co., Wilmington, Del.—Ships, models, drawings, and plans of vessels and machinery, paintings of ships and steamboats. D 29. 595
- 1017 Griffiths, John W., New York, N. Y.—Model of ocean steamship; "The Progressive Ship Builder." D 40. 595
- 1018 Zantzinger, Dan'l W., Washington, D. C.—Model and section of steamship, improvement in construction of iron vessels. The above improvement consists in providing small watertight compartments entirely surrounding the hull of the vessel. D 40. 595
- 1019 Grant, D. Conrad, Houghton, Mich.—Adjustable ice plow and naval ram, or submarine mortar, attached to miniature boat. D 40. 594
- 1020 New York Safety Steam Power Co., New York, N. Y.—Steam launch. E 38-40. 595
- 1021 Crowell, J. W., & Co., Cambridge, Md.—Models for steam and sail vessels. Builders of all classes of wooden vessels. Frames furnished of best quality of Chesapeake white oak. We invite inquiry as to our facilities. D 40. 595
- 1022 Thwait, Charles, Astoria, N. Y.—Model of steamship, with working machinery. D 35. 595
- 1022^a Sulter, Frederick, Philadelphia, Pa.—Propeller screws, models and drawings of boiler, etc. D 73. 595

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Vessels and Appliances, Machinery in Use.

- 1022^b** American Steamship Co., Philadelphia, Pa.—Models and paintings of the steamers of the company. C 41. 595
- 1023** Pennsylvania Combined Iron & Steel Association, Philadelphia, Pa.—Combined iron and steel armor plate, steel bore wrought iron guns. D 28-30. 594
- 1024** American Dredging Co., 10 South Delaware avenue, Philadelphia, Pa.—Improved grapple and dipper dredges, and machinery for river and harbor improvements. E 40. 596
- 1024^a** Hawley, Abel, Washington, D. C.—Rotary dredge. E 40. 596
- 1024^b** Eau Claire Lumber Co., Eau Claire, Wis.—Sheer rudder loom and pontoon bridge. (*Saw mill.*) 596
- 1025** Cox, Frank, Philadelphia, Pa.—Model for coffer dam for removing propellers from ships. E 39-40. 596
- 1026** Coffin & Woodward, Boston, Mass.—Capstans, chain-stopper, screw-steerer, and rudder-supporter, elastic-traveler, portable winch, windlasses, pumps, etc. Best modern improved articles. D 39. 597
- 1026^a** Robinson, R. M., Philadelphia, Pa.—Simple and compound anchor, with apparatus. D 5. 597
- 1027** Sickles, F. E., Providence Steam Engine Co., Providence, R. I.—Original models of some of exhibitor's early inventions, now in use in this country and abroad, viz.: Trip cut-off, patented 1842, and improvements thereon patented 1845; casting steam chest on cylinder, patented 1845; improvement on working exhaust valves, patented 1844; first machine made or used to apply power to the rudder of vessels (in operation), application filed 1849, patented in 1860, etc.; improved compound engine, patented 1875; also original models of improvement in sinking pneumatic piles; also other original models. D 38. 597
- 1028** Getchett, John S., Washington, Me.—Capstan. D 40. 597
- 1029** American Ship Windlass Co., Providence, R. I.—Capstans, windlass models. D 40. 597
- 1030** Hutchinson, T. C., Philadelphia, Pa.—Anchor. D 40. 597
- 1030^a** Hamilton, S. M., Baltimore, Md.—Hydraulic cement. (*Annex 3.*) 103
- 1031** Hampton Emery Co., Chester, Mass.—Emery in grains. B 37. 106
- 1032** Potts Bros., Pottstown, Pa.—Flanged boiler iron and boiler flue iron. B 24. 111
- 1032^a** Potter & Hoffman, Philadelphia, Pa.—Iron and steel; boiler plate; pig and bar iron. B 30. 111
- 1033** Rittenhouse, E. W., & Bro., Baltimore, Md.—Terra-cotta pipe. (*Outside of building.*) 206
- Machinery and Apparatus Especially Adapted to the Requirements of the Exhibition.**
- 1034** Pease, F. S., Pease, Buffalo, N. Y.—Furnishes all the oil used for the shafting in Machinery Hall. 201
- 1035** Sellers, Wm., & Co., Philadelphia, Pa.—Electric registers, showing number of admissions at gates throughout the day. 321
- 1036** Ledgerwood Manufacturing Co., New York, N. Y.—Ash-hoister. 503
- 1037** American Twist Drill Co., Woonsocket, R. I.—Emery grinding machine, used in the Centennial machine shop. 505
- 1038** Stillwell & Bierce, Dayton, O.—Heater used in boiler house No. 4. 506
- 1039** McNeil, George, Philadelphia, Pa.—Heater used in boiler house No. 4. 506
- 1040** Sellers, Wm., & Co., Philadelphia, Pa.—Lathes, used in the Centennial machine shop. 510
- 1041** Prentice, A. F., & Co., Worcester, Mass.—Lathe and drill, used in the Centennial machine shop. 510
- 1042** Fitchburg Machine Co., Fitchburg, Mass.—Lathe and drill for use in the Centennial machine shop. 510
- 1043** Smith, H. B., Smithville, N. J.—Full set of wood-working tools for Centennial carpenter shop. 510
- 1044** Keystone Portable Forge Co., Philadelphia, Pa.—Three 6 power forges 54 inches in diameter, for the Centennial machine shop. 514
- 1045** Stephens Patent Vise Co., New York, N. Y.—Vises, used in the Centennial machine shop. 514
- 1046** Fisher & Norris, Trenton, N. J.—Vises and anvils, used in the Centennial machine shop. 514
- 1047** Mitchell, J. E., Philadelphia, Pa.—Grindstones, used in the Centennial machine shop. 515
- 1048** Andrews, W. D., New York, N. Y.—50 horse power boiler and pumps; boiler for use, and pumps for supplying cataract. 550
- 1049** Abendroth & Root, New York, N. Y.—100 horse power boiler, supplying steam to steam pumps, etc. 550
- 1050** Steam Generator Manufacturing Co., Philadelphia, Pa.—100 horse power boiler, supplying steam to steam engines. 550
- 1051** Babcock & Wilcox, New York, N. Y.—150 horse power boiler, supplying steam to steam pumps, etc. 550
- 1052** Harrison Boiler Works, Philadelphia, Pa.—100 horse power boiler, supplying steam to steam engine. 550
- 1053** Exeter Machine Works, Boston, Mass.—75 horse power boiler, supplying steam to steam pumps, etc. 550
- 1054** Kelly, W. E., New Brunswick, N. J.—50 horse power boiler, supplying steam to steam pumps, etc. 550
- 1055** Lynde, J. D., Philadelphia, Pa.—50 horse power boiler, supplying steam to steam engines. 550
- 1056** Miller, Charles B., Philadelphia, Pa.—Boiler, used in boiler house No. 4. 550
- 1057** Smith, C. D., Boston, Mass.—Boiler, used in boiler house No. 3. 550
- 1058** Lowe & Watson, Bridgeport, Conn.—Boiler, used in boiler house No. 3. 550

Machinery in Use.

- 1059 Mast, P. P., & Co., Springfield, O.—Boiler, used in saw mill boiler house. 550
- 1060 Baxter Steam Engine Co., New York, N. Y.—Engine and boiler, used in Nevada quartz mill. 550
- 1061 Bowser, J. C., & Co., Fort Wayne, Ind.—Engine and boiler for use in shoe and leather building. 550
- 1062 Peirce Rotary Tubular Boiler Co., New York, N. Y.—Rotary boiler, for use in saw mill boiler house. 550
- 1063 Baxter Steam Engine Co., New York, N. Y.—Engine, used in the Women's Pavilion. 550
- 1064 Hoadley, J. C., Co., Lawrence, Mass.—85 horse power engine and boiler, for use in Machinery Hall. 550
- 1065 Williamson Bros., Philadelphia, Pa.—Portable hoisting engine, used while installing machinery. 552
- 1066 Gates, Josiah, Lowell, Mass.—One 30 inch double leather driving belt. 553
- 1067 Hoyt, J. B., New York, N. Y.—One 15 inch and one 20 inch belt, for driving shafts in Annex 1 and 2. 553
- 1068 Yale Lock Co., Stamford, Conn.—Three pulley blocks, for use in Machinery Hall. 553
- 1069 Fales, George S., Pawtucket, R. I.—One 30 inch double driving belt. 553
- 1070 Burgess & Son, Pawtucket, R. I.—One 30 inch double driving belt. 553
- 1071 Alexander Bros., Philadelphia, Pa.—One 30 inch double driving belt. 553
- 1072 Heims, Anton, New York, N. Y.—One 30 inch double driving belt. 553
- 1073 Schieren, C. A., New York, N. Y.—Belt for use in No. 4 shaft. 553
- 1074 Page, B. & P. Co., Concord, N. H.—One 30 inch double driving belt, in No. 2 shaft. 553
- 1075 Rorer, Thos. J., Philadelphia, Pa.—Belt for driving shaft in Annex 3. 553
- 1076 Goodyear Rubber Co., Philadelphia, Pa.—Belt for driving shaft in Pump annex. 553
- 1077 Jones & Laughlin, Pittsburg, Pa.—Shafting, pulleys and hangers, for driving Centennial machine shop tools. 553
- 1078 Fitts, B., Worcester, Mass.—Steam whistle, for use during exhibition. and 4. 555
- 1079 Woodruff, James, Rahway, N. J.—Dampers, used in boiler houses Nos. 3 and 4. 555
- 1080 Edson, M. B., New York, N. Y.—Steam gauges, for use in boiler houses Nos. 3 and 4. 555
- 1081 Nathan & Dreyfus, New York, N. Y.—Patent oil cups, for one line of shafting. 555
- 1082 Lawrence, W. H., Brooklyn, N. Y.—Safety oil cans, used in Machinery Hall. 555
- 1083 Barr, Robert J., Philadelphia, Pa.—Elliptic steam trap. 555
- 1084 Sluthour & Mitzner, Philadelphia, Pa.—Pump, for use in boiler house. 560
- 1085 Pratt, R. V., New York, N. Y.—Injector, used in boiler house No. 3. 555
- 1086 Caw, A., New York, N. Y.—Two steam pumps, in boiler house. 560
- 1086^a Worthington, Henry P., New York, N. Y.—Duplex pumping engine, furnishing total supply of water for the Centennial Exhibition. (*On Schuylkill river, foot of Lansdowne valley.*) 560
- 1087 Niagara Pump Works, Brooklyn, N. Y.—Pump, for use in boiler house. 560
- 1088 Norwalk Iron Works, South Norwalk, Conn.—Five Earle pumps, for use in boiler house No. 6. 561
- 1089 Blake Manufacturing Co., New York, N. Y.—Pumps, for supplying boilers in boiler house No. 4. 561
- 1090 Knowles Steam Pump Works, New York, N. Y.—Pumps, for supplying boilers in boiler house No. 2. 561
- 1091 Philadelphia Hydraulic Works, Philadelphia, Pa.—Pump, for use in boiler house No. 2. 561
- 1092 Burton, S., & Son, Waterford, N. Y.—Fire engine, for use. 564
- 1092^a Scott-Uda, Mrs. M., New York, N. Y.—Aerial ladder. (*In fire station.*) 564
- 1093 Amoskeag Manufacturing Co., Manchester, N. H.—Fire engine and hose carriage, for use. 564
- 1094 Silsby Manufacturing Co., Seneca Falls, N. Y.—Two engines and hose carriages, for use. 564
- 1095 Nichols, S. B., Burlington, Vt.—Fire engine and hose carriage, for use. 564
- 1096 Hoyt, J. B., New York, N. Y.—Three driving belts, for main driving pulley. 564
- 1098 Gutta-Percha Co., New York, N. Y.—Hose and two driving belts. 564
- 1099 Lansing, H. S., Philadelphia, Pa.—Safety railroad gate. 575
- 1100 Cook & Pulver, New York, N. Y.—Lubricators, for use in annexes. 576
- 1101 Hanmore, J. W., New York, N. Y.—Felting, covering steam pipe in Machinery Hall. 576
- 1102 O'Hara, O. M., Boston, Mass.—Felting, covering steam pipe in Machinery Hall. 576
- 1103 Johns, H. W., New York, N. Y.—Felting, covering steam pipe in Machinery Hall. 576
- 1104 Chalmers, Spence & Co., New York, N. Y.—Felting, covering steam pipe in Machinery Hall. 576
- 1105 Sleuster, John T., Philadelphia, Pa.—Felting, covering steam pipe in Machinery Hall. 576
- 1106 Snider, D. M., Philadelphia, Pa.—Felting, covering steam pipe in Machinery Hall. 576

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

GREAT BRITAIN.

(South of North Avenue, Columns 16 to 17 A to E; also in Pump Annex.)

Metal, Wood, Stone, Cloth, Paper-working Machinery.

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

- 1 Holmes, Joseph E., Payton, Walter, & Taylor, Fenner B., London. 500
a Rock boring machine. 500
b Coal and rock cutting machine. 502
- 2 Baird, William, & Co., Gartsberrie Iron Works, Coatbridge, Scotland.—Coal-cutting machine. 502
- 3 Hurd, Frederick, & Co., Wakefield.—Coal-cutting machine; ratchet wedge shovel. 502
- 4 Macdermott, Martin, London.—Rock and coal perforators; machines for undercutting coal; screw wedge for breaking down coal. 502
- 5 Hardy Patent Pick Co. (limited), Sheffield.—Implements for coal, ironstone, gold, and silver mining, for quarrying and excavating; cast steel picks. 502
- 8 Pickering, Jonathan, Globe Works, Stockton-on-Tees.—Pulley blocks, hoists. 503
- 9 The Dunston Engine Works Co., Gateshead-on-Tyne, Durham.—Stone breaker; combined stone breaker and bone cutter. 505
- 10 Kimberley, Nathan Gold, London.—Centrifugal pulverizing mills. 505
- 11 Siemens, Charles William, London.—Models of furnaces for metallurgical operations, glass melting, etc. 506
- 12 Smith, Dillwyn, Liverpool.—Mechanical stokers and fire bars. 506
- 13 Sugg, William, Vincent Works, London.—Gas burners; a new illuminating power meter. 509
- 18 Beesley & Sons, Abbey Road Boiler Works, Barrow-in-Furness.—Punching, shearing, and angle-cropping machine for iron, steel, or other metals. 515
- 18*a* Greenwood & Batley, Albion Works, Leeds.—Bolt forging machines. 515
- 19 Heap, Joshua, & Co. (limited), Oldham.—Tools and machines, taps, hobs, pipe; bolt-screwing and nut-tapping machines. 515
- 21 Shearer, Hugh, London.—Machine for dressing stone. 516
- 22 Lavers, Alfred Hamilton, London.—Testing machine to show strength of cement. 517

Machines and Implements of Spinning, Weaving, Felting, and Paper Making.

- 23 Fleming, Thomas, & Son, West Grove Mill, Halifax.—Card clothing for carding machines, etc.; needle-point teeth. 520
- 24 Ambler, William, Bradford, Yorkshire.—Machine for making paper cop tubes used in spinning; machine for cleaning the teeth of wheel castings. 520
- 25 Mackenzie, Duncan, London.—Self-acting reader for the Jacquard loom. 520
- 26 Ingham, John, & Sons, Croft Head Works, Thornton, near Bradford.—Case of shuttles, etc., for weaving; tacking, shuttle pikes, stocks, and bowls for weaving. 520
- 27 Platt Bros., & Co. (limited), Hartford Works, Oldham, Lancashire.—Cotton gin. 521
- 28 Gadd, Thomas, Manchester.—Printing machine for large size garment rollers, angular engine; combined engraving and punching machine; setting-out table, with micrometer; combined varnishing and ruling machine; machine for setting out; ruling machine, cams, engravers' block, and lathe. 521
- 29 Lancaster, William, Willow Iron Works, Accrington, Lancashire.—Varnishing dressing machine; self-stopping beaming machines; loom. 521
- 30 Booth, H., & Co., Preston, Lancashire.—Cotton-spinning machinery. 521
- 31 Carter, John, Halifax, Yorkshire.—Spinning frame. 521
- 31*a* Greenwood & Batley, Albion Works, Leeds.—Machine for tying in warps for looms. 521
- 32 Coats, J. & P., Ferguslie Thread Works, Paisley.—Spooling machine; thread-winding machine; machine for ticketing. 531

Machines and Tools for working Metal, Wood, and Stone.

- 14 Roberts, William, Bootle, near Liverpool.—Self-acting painting machine for venetian blinds, laths, hoop iron, etc. 510
- 15 Massey, B. & S., Openshaw, Manchester.
a Circular saw for cutting hot iron and steel. 511
b Steam hammers; steam stamps; models of steam hammers; samples of forgings. 514
- 16 Wright, Peter, & Sons, Constitution Hill Works, Dudley, Worcestershire.—Anvils; vises; tools of various kinds; hammers. 514
- 17 Brooks & Cooper, Mousehole Forge, Sheffield.—Anvils, vises, hammers, shear steel, etc. 514
- 17*a* Fairbairn, Kennedy & Naylor, Leeds.—Quadruple boring machine. 515

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

GREENWOOD & BATLEY,

ALBION WORKS, LEEDS, ENGLAND,

Machinists to the British War Department, the Council of State for India, and all the principal Foreign Governments,

EXHIBIT AT THE INTERNATIONAL EXHIBITION OF 1876,

PATENT BOOT SEWING MACHINE,
 PATENT BOLT FORGING MACHINE,
 PATENT PRINTING PRESS, and
 PATENT MACHINE FOR TIEING IN WARPS, } See Catalogue.

MAKERS OF

Special Machinery for the manufacture of Guns and Gun Carriages, Small Arms and Ammunition of all descriptions, including Cartridges, Shot and Shell, Fuzes, Rockets, Bullets, Percussion Caps, &c.; also of Gunpowder and Powder Cask Machinery, as well as of all kinds of Machinery used in the production of War Material and Implements.

MAKERS OF

Machinery on the latest system for Dressing, Preparing, and Spinning Silk, Silk Waste and China Grass; and of Special and General Tools for Engineering and Railway Work, and Wood-Working Machinery.

Agent for China and Japan—Mr. JAMES DAVIDSON, Shanghai.



PARIS,



1867.



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WALSALL, STAFFORDSHIRE, ENGLAND,

Proprietors of the Patterns and Goodwill of Messrs. Best & Co.'s PLUMBING AND ENGINEERING FOUNDRY WORK, from Birmingham (Trade Mark as above).

MANUFACTURERS OF PATENTED NOVELTIES.

IMPORTERS OF SPECIAL AMERICAN TOOLS.

Contractors for Railway, Telegraph, Colliery, & Iron Works
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MACHINERY INSPECTED. MANUFACTURED IRON EXPORTED.

IMPORTANT TO CAPITALISTS.

FOR SALE,

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AUTOMATIC FIRE EXTINGUISHER & ALARM

A MOST VALUABLE INVENTION—IS ENTIRELY SELF-ACTING.

Sole Patentees { SANDERSON & PROCTOR, at the EXHIBITION (MACHINERY BUILDING);
 or SANDERSON & PROCTOR, Electric Engineers and Lightning Conductor
 Manufacturers, SHORE WORKS, HUDDERSFIELD ENGLAND.

Gold Medal,

MCKAY'S EQUILIBRIUM DRILL,

Paris, 1875.

For Boring Tube Plates, Drilling Rivet Holes, and every description of Engine Work with perfect accuracy, without skilled labour. Only requires true centre pop to guide cutters.

MENZIES & BLAGBURN,
 NEWCASTLE-ON-TYNE, ENGLAND.



AMERICAN PATENT FOR SALE.

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LEEDS,

MAKERS OF
MACHINERY FOR PREPARING AND SPINNING FLAX,
TOW, HEMP, AND JUTE.

LOOMS and PREPARING MACHINERY for
FLAX and JUTE WEAVING.

SPECIAL MACHINERY FOR THE MANUFACTURE OF TWINES.

SOLE MAKERS OF
GOOD'S PATENT COMBINED HACKLING and
SPREADING MACHINE.

PATENT AUTOMATIC SPINNING FRAMES,
And other special Machinery for the manufacture of Rope Yarns.

COUNCIL MEDAL, London, 1851.
GRAND MEDAL, Paris, 1867.

PRIZE MEDAL, Moscow, 1872.
DIPLOMA OF HONOUR, Vienna, 1873.

Corner of Belmont and Fountain Avenues,
NEAR THE LAKE.

FRENCH RESTAURANT,
LES TROIS FRÈRES PROVENCAUX.

The same which had such a great success in the Vienna
Exhibition, in 1873.

CH. VERDIER,

of the MAISON DORÉE, of Paris, Proprietor.

Near the Lake, opposite the U. S. Government Building.

Cloth and Paper-working Machinery, Motors, Pumps.

- 35 Nussey & Leachman, Leeds.—Hydraulic cloth pressing and finishing machine. 522
- 36 Lawson, Samuel, & Sons, Hope Foundry, Leeds.—Machinery for carding, preparing, and spinning jute; cop-winding machine. 524
- 37 Fairbairn, Kennedy, & Naylor, Leeds.—Machinery for preparing and spinning jute, hemp, flax, tow, and similar fibres. Carding engine; drawing, roving, and spinning frames. 524
- 38 Marshall, T. J., & Co., Campbell Works, Kingsland.—Dandy rolls and wire cloth, for paper making, and pulp strainer. 525
- Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.**
- 39 Gimson & Coltman, Leicester.—Knitting machines; rip top and circular machines. 531
- 40 Wilson, Newton, & Co., London.—Sewing machines, their appliances and apparatus. 531
- 41 Kimball & Morton, Glasgow.—Sewing machines; machines for sewing sails and sacks over-edge. 531
- 43 Sanson, Robert Bell, London.—Spring arm endless band knife; cloth-cutting machine; parallel pressing machine for tailors' use. 531
- 44 Air Burning Co. (limited), Glasgow.—Ironing table. 534
- 45 Broadbent, Thomas, Chapel Hill, Huddersfield.—Hydro extractor, for extracting water from wool, cotton, etc. 534
- Machines and Apparatus for Type-Setting, Printing, Stamping, Embossing, and for Making Books, and Paper Working.**
- 46 Beatty, Francis S., Dublin.—Lithographers' manifold transfer machines, for the reproduction of printed matter of enlarged or reduced dimensions from that of the original. 540
- 46^a Greenwood & Batley, Albion Works, Leeds.—Printing machine. 540
- 47 Lilly, John, & Co., London.—Perfecting and single cylinder printing presses. 540
- 48 Walter, John, London.—Printing press. 540
- 49 Shaw, William, London.—Logotypes and cases, shown in operation; printing press. 540
- Motors and Apparatus for the Generation and Transmission of Power.**
- 50 Green, Edward, & Son, Manchester.—Fuel economizer for heating the feed water for steam boilers. 550
- 51 Davey, Paxman, & Co., Colchester, Essex.
^a Vertical boiler and water heater. 550
^b Portable steam engine; vertical engine; steam corn dryer. 552
- 52 Galloway, W. & J., & Sons, Knott Mill Iron Works, Manchester.—Steel boilers, for use in the British section. 550
- 55 Wright, William, Vulcan Foundry, Coatbridge.—Hot water boilers for heating dwellings, conservatories, etc. 550
- 56 Moncrieff, John, North British Glass Works, Perth, Scotland.—Steam boiler water gauge glasses. 551
- 57 Wier, Marshall Arthur, London.—Pneumatic motor, water meter, hydro-gyrometer, locomotive speed indicator, pneumatic gyrometer, reciprocating counter. 551
- 57^a Holmes, Joseph E., Payton, Walter, & Taylor, Fenner E., London.—Cylinder engine; revolving steam engine and air compressor. 552
- 57^b Hurd, Frederick, & Co., Wakefield.—High-speed air compressor. 552
- 57^c Smith & Starley, Trafalgar Works, Coventry.—Electric motors. 552
- 58 Thermo-Electric Generator Co. (limited), London.—Thermo batteries worked by gas, charcoal, or coke, in nature approaching the appearance of a gas stove. 552
- 58^a Moy, Thomas, London.—Small steam engines for tramways, etc. 552
- 58^b King, F. L.—Steam engines. 552
- 59 Turner, Charles, Southampton.—Couplings for propeller shafts and other purposes. 554
- 60 Hewitt, William, Bristol.
^a Model of improved screw propellers; model of an improved principle for driving machinery. 553
^b Breech-loader gun; gun carriage. 266
- 61 Vansittart, Henrietta, Mrs., Twickenham.—Screw propeller. 554
- 62 Hicks, James Joseph, London.—Enamel water gauges for steam boilers. 555
- 63 Moncrieff, John, North British Glass Works, Perth.—Gauge glasses for indicating height of water in steam boilers. 555
- Hydraulic and Pneumatic Apparatus, Pumping, Hoisting, and Lifting.**
- 63^a Pickering, Jonathan, Globe Works, Stockton-on-Tees.—Steam and water cylinder; steam pump. 560
- 64 Gwynne, John & Henry, Hammersmith Iron Works, London.—Model of compound surface-condensing engines with centrifugal pumps made to 1/8 scale. 560
- 64^a Haynes, Thomas, & Sons, London.
^a Platform pump; garden syringe. 560
^b Water bringer, for overcoming friction caused by drawing water through long lengths of hose; self-acting hose coiler. 564
- 65 Gwynne & Co., London.
^a Centrifugal pumps and engines. 560
^b Gas exhauster and engine. 561
- 66 Ellis, William Irlam, Manchester.—Blower or exhauster for air or gas. 561
- 67 Appleby Bros., London.—Steam cranes. 563
- 68 Wallace & Tucker, Belfast.—Fire annihilator. 564
- 70 Needham & Kite, Phoenix Iron Works, London.—High pressure filter press. 565

Railway Plant, Agricultural Machinery, Vessels.

- 71 Lawrence & Co., London.—Refrigerators; mashing machines, spargers, etc. 565
- 72 Dennis, T. H. P., & Co., Anchor Iron Works, Clemsford.—High pressure valves for steam, hot or cold water, or gas. 566
- Railway Plant, Rolling Stock, and Apparatus.**
- 73 Welch, Alfred, London.—Railway cattle wagons. 571
- 74 Williams, Richard Price, London.—Continuous railway crossings; switches for doing away with facing points on railways. 574
- 75 Brierley, Sons, & Reynolds, London.—Railway signal model of railway junction. 574
- 76 Seaton, William, London.—Saddle rail and permanent way construction. 574
- 77 Saxby & Farmer, London.
a Models of railway crossings; junction, with switches and signals. 574
b Railway signals, and level crossing gates. 575
- Machines used in preparing Agricultural Products.**
- 78 Sutcliffe, James S., Bacup, Lancashire.—Middlings flour separator. 580
- 79 Mirlees, Tait, & Watson, Glasgow.—Machinery in motion, consisting of sugar mills, valveless engine working an air pump for a vacuum pan, and driving centrifugal machines. 581
- 80 Collier, Luke, Rochdale.—Confec-tioners' machines. 582
- 81 Andrew, J. E. H., Stockport.—Machines for spinning tobacco; samples of twist tobacco from Europe. 584
- Aerial, Pneumatic, and Water Transportation.**
- 82 Siebe & Gorman, London.—Diving apparatus for two divers; figure of diver in diving suit, with the helmet and speaking apparatus. 594
- 82*a* Wallace & Tucker, Belfast.—Model of turret system of life preservation, in case of shipwreck. 594
- 83 Cruickshank, A. B., Dundee, Scotland.—Self-acting safety cleats for boats and yachts. 594
- 84 Logan, John Maxwell, Cambridge.—Model of four-oared racing boat, to take to pieces for convenience in traveling. 594
- 85 Inman Steamship Co. (limited), Liverpool.—Full rigged model and oil painting of the steamer "City of Berlin." 594
- 86 Hill & Clark, London.—Boat disengaging hooks. 594
- 86*a* Bradford, William Henry, Great Saughall, near Chester.
a Model of life boats, lateen rig, life or salvage boat. 594
b Model of a ship's course indicator. 597
- 87 Clark, Standfield, & Co., London.—Models of floating and gridiron depositing docks. 596
- 88 Roby, George, Wigan.—Hydro-pneumatic and other vessels for the storage of gunpowder, etc. 596
- 90 Wood, John William, Harwich, Essex.—Iron self-adjusting shot hole, rivet hole, and leak stopper. 597
- 91 Martin, Claude, London.—Self-canting anchors; chain cables; model of H. M.'s turret ram "Alexandra." 597
- 92 Gümpel, Charles Godfrey, London.—Ship's rudder. 597
- 92*a* Cooke, Joseph, & Co., Midland Davy Lamp Works, Birmingham.—Miners' safety lamps. 120
- 92*b* Bainbridge, Emerson, Duke of Norfolk's Collieries, Sheffield.—Miners' safety lamp. 120

(N.B.—Certain exhibits of machinery from Great Britain are installed in the Main Building, and catalogued in Part I.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

CANADA.

(Central Aisle, Columns 1 to 7.)

Metal, Wood, Stone, Cloth, Clothing-working Machinery.

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

- 1 **Hannah, Joseph, Ottawa, Ont.**—Rock-drilling bits. 500
 3 **Symonds, W. S., & Co., Halifax, N.S.**—Gold quartz crushing machine. 505
 4 **Freeland, R., Toronto, Ont.**—Soap-making machinery. 508

Machines and Tools for Working Metal, Wood, and Stone.

- 9 **Kennedy, W., & Son, Owen Sound, Ont.**—Facing and jointing planer. 510
 11 **Machine Co., Bowmanville, Ont.**
a Turning lathe for wood, moulding machine, planing and notching machine. 510
b Metal turning lathe, planing machine. 515
 14 **Waterous Engine Works Co., Brantford, Ontario, Canada.**—Twenty-horse power portable saw mill; capacity, six to ten thousand feet per day; shipping weight, eight tons. A strictly portable saw mill, practical, efficient, economical, and durable; obtained first medal and diploma at Exposition Santiago Chili, South America, September, 1875. 510
 15 **Mitchell & Teepie, Harriston, Ont.**—Wood-sawing machine. 510
 18 **McKecknie & Bertram, Dundas, Ont.**—Wood-moulding machine. 510
 20 **Harris, James, & Co., St. John, N. B.**
a Shingle machine. 510
b Register grates. 513
 21 **Lordly, Howe, & Co., St. John, N. B.**—Turning lathe. 510
 22 **Nelson, Thomas, & Co., Dundas, Ont.**—Cast iron water pipe. 513
 23 **Campbell, George, Toronto, Ont.**—Portable saw forges. 514
 24 **Mitchell, R., & Co., Montreal, Q.**—Lead tube bending machine. 515
 26 **McKecknie & Bertrand, Dundas, Ont.**—Iron turning lathes, radial drill, slotting and iron shaping machines. 515
 27 **Tool Co., Hamilton, Ont.**—Engine lathe, bolt cutter, drilling machine, portable radial drill, steam hammer. 515
 29 **Stephenson, M., Stratford, Ont.**—Hand-drilling machine, for drilling both the fish holes in railroad iron at the same time in their exact position and without measuring, effecting a great saving in labor. 515
 30 **Smark, J., Brockville, Ont.**—Drilling machines. 515

- 31 **Fisher, J., & Co., Kincardine, Ont.**—Clipping boiler plate machine. 515
 32 **Mitchell, R., & Co., Montreal, Q.**—Lead tube bending machine. 515
 33 **Dunn, P., Cote St. Paul, Q.**—Wire nail machine. 515
 34 **McFarlane, Thum, & Co., Fredericton, N. B.**—Vertical power drill. 515
 35 **Coore, E. R. N., & Co., St. John, N. B.**—Nail machine. 515
 37 **Bulmer & Sheppard, Montreal, Q.**—Brick machine. 517
 37^a **Tiffany, Geo. S., London, Ont.**—Tile and brick machine. 517

Machines and Implements of Spinning, Weaving, Felting, and Paper Making.

- 38 **Powers, S. H., Woodstock, N. B.**—Self-acting hand loom. 521
 39 **Becker, A., Montreal, Q.**—Sample of card clothing. 522
 40 **Boeck, Chs., Toronto, Ont.**—Combining machines for brush makers. 524

Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.

- 44 **Wilkie & Osborne, Guelph, Ont.**—Sewing machines. 531
 45 **Wanzer & Co., Hamilton, Ont.**—Sewing machines. 531
 48 **St. Amand, O., Quebec, Q.**—Sewing machine. 531
 49 **Lawlor, J. D., Montreal, Q.**—Sewing machines. 531
 51 **Williams, C. W., Manufacturing Co., Montreal, Q.**—Sewing machines. 531
 52 **Harris, Th., Montreal, Q.**—Sewing machine needle sharpener. 531
 55 **Popham, James & Ebenezzer, Montreal, Ca.**—Popham steam peg breaker—now being patented both in Canada and the United States—will cut off and entirely remove the peg-ends that have so long troubled manufacturers and dealers in boots and shoes, and leaves the inside of the sole as free from peg-points and nails as the outside. Attached to the machine will be found samples of the work done, a close inspection of which will conclusively demonstrate the reality of the improvement. 533
 56 **Clarke, R., St. John, N. B.**—Lasts. 533

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Engines, Boilers, Pumps, Railway Plant and Appliances.

Motors and Apparatus for the Generation and Transmission of Power.

- 62 Tandy, G. J., Kingston, Ont.—Steam boiler. 550
- 63 McKay, Adam, Dartmouth, N. S.—Model steam boiler. 550
- 64 Kennedy, Wm., & Sons, Owen Sound, Ont.—Water-wheel. 551
- 65 Tuerk, F. W., Berlin, Ont.—Working model water-wheel. 551
- 66 Barber & Harris, Meaford, Ont.—Water-wheel. 551
- 67 Goldie & McCulloch, Galt, Ont.
a Turbine water-wheel. 551
b Steam engine. 552
- 69 Harris, J., & Co., St. John, N. B.—Water-wheel. 551
- 70 Fleck, A., Ottawa, Ont.—Oscillating steam engine. 552
- 71 Thomson Williams' Manufacturing Co., Stratford, Ont.—Stationary engine. 552
- 72 Martin, Chs., Belleville, Ont.—Vertical steam engine. 552
- 75 Piper, Thos., Hamilton, Ont.—Model four-cylinder engine. 552
- 77 Brush, Geo., Eagle Foundry, Montreal, Ca.—Portable steam hoisting engine, for use on wharves, in mines, quarries, coal yards, etc., and erection of buildings; is very compact and easily handled; all levers and working parts being within easy reach of the driver, without moving from his post. 552
- 83 Fleming, Geo., & Sons, St. John, N. B.—Oscillating engine. 552
- 85 Smith, J. G., Dartmouth, N. S.—Miniature steam engine. 552
- 86 Dixon, Smith, & Co., Toronto, Ont.—Belting. 553
- 87 Sandall, John, Moncton, N. B.—Valve link motion. 553
- 91 McKeough, J. W., Chatham, Ont.—Brass dome. 555
- 92 Morrison, James, Toronto, Ont.—Steam, vacuum, hydraulic gauges. 555
- 93 Piper, Thos., Hamilton, Ont.—Steam boiler detector gauge. 555
- 94 Myers, S., & Son, St. John, N. B.—Governor. 555
- Hydraulic and Pneumatic Apparatus, Pumping, Hoisting, and Lifting.**
- 95 Patrick, Rob., Galt, Ont.—Rotary pump. 560
- 96 Cox, H. W., Peterborough, Ont.—Rotary force pumps. 560
- 97 Oakville Manufacturing Co., Oakville, Ont.—John Dayer, Andrew J. Bounsall, and George C. Bounsall, foundry and iron pump manufactory; force, well, and cistern pumps. 560
- 100 Bowes, E., & Son, Stratford, Ont.—Force pumps. 560
- 101 Webster, Stephen, St. Catherines, Ont.—Oil-storing tank. 560
- 102 Smart, J., Brockville, Ont.
a Cistern, well, and force pump. 560
b Jack screws. 563
- 105 Barnes, C. C., St. John, N. B.—Rotary pump. 560
- 106 Jones, C. C., Fredericton, N. B.—Barrel pump. 560
- 107 Wilson, Clarke, & Co., Yarmouth, N. S.—Ship pump. 560
- 111 Small & Fisher, Woodstock, N. B.—Barrel lifter. 563
- 112 Dailey, M. E., Ottawa, Ont.—Telescope trestle. 563
- 113 Ronald, John D., Chatham, Ont.—Steam fire engine, hose cart and hose. 564
- 117 Murphy & Harle, Montreal, Q.—Pneumatic fire extinguisher. 564
- 118 Bustin, Robert, St. John, N. B.—Fire escape. 564
- 119 Smith, H. F., Toronto, Ont.—Soda water fountain. 565
- 120 Sells, H., Vienna, Ont.—Cider mill and press. 565
- 121 Brazil, P., Barrie, Ont.—Cider mill and press. 565
- 122 Date, John, Montreal, Q.—Diving apparatus. 567
- 123 Pitts, D. H., Halifax, N. S.—Submarine armor. 567
- Railway Plant, Rolling Stock, and Apparatus.**
- 124 Meyer, F. W. A., Montreal, Q.—Drawing of engine and tender. 570
- 127 Knolt, Kennard, Petersville, L., Ont.—Cattle car and refrigerating tender. 571
- 128 Brydon, Robert, Newberg, Ont.
a Grain car. 571
b Grain car door fastener. 573
- 129 Muir, Thomas, London, Ont.—Rail joint protector and car-coupler. 572
- 130 McNabb, M.—Car coupler. 572
- 131 Chrisolm, R. K., Oakville, Ont.—Car coupler. 572
- 132 Chisholm, R. N., Oakville, Ont.—Car coupling. 572
- 132a Griffin, J. K., Toronto, Ont.—Model of car coupler. 572
- 133 Richard, E. O., & Bro., St. Roch, Q.—Car brakes and coupling. 572
- 134 Car Wheel Co., Toronto, Ont.—Car wheels and axles. 573
- 136 Harris, J., & Co., St. John, N. B.—Railroad car wheels and axles. 573
- 136a Osborne, Henry, St. Andrews, Q.—Model of car axle. 573
- 137 Von Staden, W. G., Strathroy, Ont.—Bent posts and rafters for railroad cars. 574
- 140 Nunn, W. C., Belleville, Ont.—Railway telegraph signals, with revolving and fixed lamps, and electric gong. 575
- 143 Miller, Flanges Co., Fredericton, N. B.—Locomotive flanges. 576
- 144 Ramsay, R. H., Cobourg, Ont.—Ramsey's car truck shifting apparatus, patented March 14, 1876. The power required to run a car on the level track is sufficient to remove the trucks, and re-

Agricultural Machinery, Boats, Vessels.

- place them again. Expense reduced from twelve thousand dollars to one hundred. Correspondence with railroad companies invited. 576
- 147 Colford, Henry, Halifax, N. S.—Spark arresters for house, factory, and locomotive. 576
- Machines used in Preparing Agricultural Products.**
- 148 Rochelle, L. N. & A. H., St. Anselme, Ont.—Magnetic separator and dryer. 583
- 148½ Wilson, J. P., Montreal, Q.—Vacuum pan. 581
- 149 Copping, G. H., Toronto, Ont.—Lozeng machine. 582
- 151 Scales, Rob., Toronto, Ont.—Evaporator and tobacco lump machine. 584
- 152 Adams, J. L., Montreal, Q.—Tobacco cutter. 584
- 153 Marengo, J. & A., Montreal, Q.—Cigarette machine. 584
- Aerial, Pneumatic, and Water Transportation.**
- 155 Herald, D., Gore's Landing, Ont.—Canoes. 594
- 156 English, W., Peterborough, Ont.—Hunting canoe. 594
- 159 Power, W., & Co., Kingston, Ont.—Ship models. 594
- 160 Lapierre, Zephirin, Isle of Orleans, Q.—Sailing boat rigged, rowing boat, winter canoe. 594
- 163 Baldwin, P., St. Roch, Quebec, Q.—Ship model. 594
- 164 Dunn & Samson, Levis, Q.—Ship models. 594
- 165 Rose, N., Levis, Q.—Ship models. 594
- 166 Dinning, H., Quebec, Q.—Ship models. 594
- 167 Marquis, F. H., Levis, Q.—Ship models. 594
- 168 Auger, E., Quebec, Q.—Ship models. 594
- 169 Cotman, W., Quebec, Q.—Ship models. 594
- 170 Samson & Co., Quebec, Q.—Ship models. 594
- 171 Gingras, E., Quebec, Q.—Ship models. 594
- 172 Oliver, J., Quebec, Q.—Ship models. 594
- 173 Oliver, F. H., Quebec, Q.—Ship models. 594
- 174 Quebec Advisory Board, Quebec, Q.—Ship models. 594
- 175 Sewell, E. W., Levis, Q.
a Winter canoe, drawings of safety ship, ship and yacht models. 594
b Drawing of steamship for Canadian trade. 595
- 176 Robitaille, Th., Quebec, Q.—Complete cod-fishing boat; "Micmac" bark canoe. 594
- 177 Charland, W., Levis, Q.—Ship model. 594
- 178 Grenier, Frs., Isle of Orleans, Q.—Pilot boat. 594
- 179 Girard, A., Murray Bay, Q.—Poplar canoe. 594
- 182 Ross, Elizah, Portland, N. B.—Single scull racing boat, spoon-set oars, set single scull oars, set oars, life boat model. 594
- 183 Barrill, Jos., Yarmouth, N. S.—Ship model, improved gear for reefing sail. 594
- 184 Moreley, E., Darmouth, N. S.—Ship models. 594
- 185 Garmount, Wm.—Ship model. 594
- 186 Dailey, M. E., Ottawa, Ont.—Model ocean ship. 595
- 187 Merritt, Abel, Chatham, Ont.—Propeller boat. 595
- 188 Richeheu & Ontario Navigation Co., Montreal, Q.—Steamboat models. 595
- 189 Wildgoose, F. H., Montreal, Q.—Steamboat model. 595
- 190 Meyer, F. W. A., Montreal, Q.—Drawing longitudinal section steamboat. 595
- 192 Beautey, H., Quebec, Q.—Dragging or grappling apparatus. 596
- 193 Carroll, S., Widden, Ont.—Marine compass, automatic ship trimmer. 597
- 194 Pitts, D. H., Halifax, Ont.—Ship windlass and cable brake. 597
- 195 Mosler, Geo. J., Maitland Island, N. B.—Ship wheel. 597
- 196 Harris, James, & Co., St. John, N. B.—Capstan. 597
- 197 Pitts, D. H., Halifax, N. S.—Mast hoop clamp, cable brake, metal jib hank. 597
- 198 Couvrette & Frigon, Montreal, Q.—Stern of ship (model). 597
- 198½ Harris, James, & Co., St. John, N. B.—Ships' iron knees, straps. 284
- 198¾ Coldbrook Rolling Mills Co., St. John, N. B.—Cut and clinch nails, spikes and knees. 284
- 198c Weddleton, J. B., Yarmouth, Ont.—Head earrings for ships. 284

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

FRANCE.

(North of Central Aisle, Columns 1 to 7.)

Metal, Wood, Stone, Cloth-working Machinery, Motors.

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

- 1 Fleury, Jules Martin, Paris.—Grinding mill. 505
- 2 David Bros., Charleville (Ardennes).—Portable forges. 506
- 3 Perret, Michel, Paris.—Apparatus for combustion. 506
- 4 Goyard, F., Paris.—Crucibles and furnaces. 506
- 6 Enfer, Ernest, Paris.—Portable forges; forges for the laboratory; gas pressure bellows apparatus; bellows. 506
- 7 Chenaillier, Paris.—Universal evaporator. 506
- 8 Faure & Kessler, Clermont-Ferrand.—Apparatus for the concentration of sulphuric acid. 508
- 9 Desmoutis, Quenessen, & Le Brun, Paris.—Platina apparatus. 508
- 10 Pelouze, E., & Audouin P., Paris.—Condenser for gas works. 509
- 11 Lascole, A., Paris.—Gas apparatus. 509

Machines and Tools for Working Metal, Wood, and Stone.

- 12 Arbey, F., Paris.—Wood-working machinery. 510
- 13 Branche, H., Paris.—Machines and tools. 510
- 14 Rous, Edmond, Paris.—Tools of precision. 510
- 15 Dugoujon, sr., Paris.—Saws. 510
- 17 Limet-Lapareille & Co., Paris.—Files. 515
- 18 La Quintinie, A., & Co., Paris.—Machines and tools for goldsmiths; designs of machines for soap, confectionery, and matches. 515
- 20 Durand, F., & Marais, Paris.—Brick machines. 517

Machines and Implements of Spinning, Weaving, Felting, and Paper Making.

- 21 Guinet, Ant., & Co., Lyons.—Silk-weaving looms. 520
- 22 Richard, J. S., Paris.—Machines and looms for textiles. 521
- 23 Pierron & Dehaitre, Paris.—Weaving machine. 522

- 24 Couture, Paris.—Breaking machine for textile fabrics. 523
- 25 Maigrou, F. A., Paris.—Rope machine. 524
- 26 Deny, Louis, Paris.—Open copper cylinder and refiner for paper manufacture. 525
- 27 Thomine, F., Paris.—Machine for the manufacture of fishing nets. 527

Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.

- 28 Legat, D., Paris.—Machine for sewing straw hats. 531
- 29 Cornely, E., Paris.—Embroidering machines. 531

Machines and Apparatus for Type Setting, Printing, Stamping, Embossing, and for Making Books, and Paper Working.

- 29a Alauzet, Paris.—Printing machines. 540
- 30 Coblenz, Paris.—Electrotypes. 541
- 31 Derriey, Ch., Paris.—Typography, engraving, and electrotypes. 542
- 31b Derriey, Ch., Paris.—Printing type. 542
- 32 Tucker, Paris.—Types and cuts. 542
- 33 Lecerf, L., Paris.—Printing materials. 543
- 34 Vital, A., Paris.—Rollers for lithographic presses. 543

Motors, and Apparatus for the Generation and Transmission of Power.

- 35 Leroy, François, Marseilles.—Models of marine boilers. 550
- 36 Fontaine, Hippolyte, Paris.—Steam engines. 552
- 37 Electro-Magnetic Machine Manufacturing Co., Paris.—Gas machines, galvano-plastic machine, machine to transmit power. 552
- 38 Mignon & Rouart, Paris.—Noiseless gas motors. 552
- 39 Chauveau, Paris.—Steam engines. 552
- 40 Breguet, Paris.—Electro-magnetic machines. 552
- 41 Rous, Edmond, Paris.—Hermetic clasps for oil cups, etc. 553

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Motors, Hydraulic Apparatus, Railway Plant, Agricultural Machinery.

- 42 Welby, Rouen.—Belting. 553
 43 Jacob, Ch. Moise, Paris.—Oiling cushions. 553
 44 Domange, Lemierre, & Co., Paris.—Belting. 553
 45 Perreaux, L. G., Paris.—Screw propeller. 554
 45^a Bourdin, Paris.—Motor for sewing machines. 554
 46 Dechamp, C., Lyons.—Safety boiler apparatus. 555
 47 Cazaubon, Dominique, Paris.—Cocks for steam, water, and gas pumps, and water closets. 555
 48 Lion & Guichard, Paris.—Metallic manometer. 555
 49 Macabies, Paris.—Automatic feeder. 555
 50 Rigollot, Paris.—Cocks for water, steam, and gas. 555
 50^a Serrin, Paris.—Regulator for electric light. 555
 51 Cuau, Paris.—Boiler injector. 555
 52 Coux des Roseaux, Asnieres, near Paris.—Automatic oil cups for steam machines; fire-proof insulator for steam pipes. 555
- Hydraulic and Pneumatic Apparatus, Pumping, Hoisting, and Lifting.**
- 53 Neut, L., & Dumont, L., Paris.—Centrifugal pumps. 560
 54 Garlaudat, Paris.—Refrigerating apparatus. 562
 55 Enfer, A., jr., Paris.—Portable forges and bellows. 562
 56 David Bros., Charleville (Ardennes).—Portable forges. 562
 57 Enfer, Ernest, Paris.—Portable forges, bellows, gas apparatus. 562
 58 Morane, jr., Paris.—Hydraulic press for candle manufacture. 563
 59 Chrétien, J., Paris.—Automatic apparatus for unloading coal. 563
 60 Rous, Edmond, Paris.—Pulleys and tackles. 563
 61 Mègy, Echeverria, & Bazan, Paris.—Elevators, regulators, etc. 563
 62 Gaussart, Epernay (Marne).—Machines for charging wines with gas. 564
 63 Constant, Port-a-Binson (Marne).—Wine press. 565
 64 Appert-Mandart, Reims (Marne).—Hooks and clasps for champagne. 565
 65 Lejeune, Epernay (Marne).—Machine for charging wines with gas. 565
 66 Renard, Epernay (Marne).—Wires and strings for champagne. 565
 67 Paillet & Co., Epernay (Marne).—Corks. 565
 68 Cazaubon, D., Paris.—Soda water machines; siphons. 565
 69 Freal, Epernay (Marne).—Bottling machines. 565
 70 Gervais, E., Bordeaux.—Bottling machines. 565
 71 Guéret Bros., Paris.—Soda water machine. 565
 72 Logette, Ay (Marne).—Clasps for bottles and machines for applying. 565
 73 Maldine, H., Paris.—Soda water machines, siphons. 565
 74 Maurice, Widow, & Guenin, Epernay (Marne).—Bottling machines. 565
 75 Michelot, jr., Epernay (Marne).—Stands and cases for wines. 565
 76 Thessier, Fevre, Paris.—Table apparatus for Seltzer water. 565
 77 Tricourt, A., Reims (Marne).—Wine-making machines. 565
 78 Mestre, A. de, Bordeaux.—Bottling machines. 565
 79 Mondollot, A., Paris.—Soda water machine, siphons. 565
 80 Cicile-Larbre, Reims (Marne).—Bottle cleaners. 565
 81 Durafort, Paris.—Soda water machine. 565
 82 Fisse-Thirion, & Co., Reims.—Bottling machine. 565
 83 Rigollot, Paris.—Cocks for water, steam, and gas. 566
 84 Perreaux, L. G., Paris.—Rubber valves. 566
 85 Giffard & Berger, Paris.—Ice machines. 568
 86 Carré, E., Paris.—Ice machine. 568

Railway Plant, Rolling Stock, and Apparatus.

- 87 Edoux, Leon, Paris.—Special system for mountain railroads. 570
 88 Joliot, S., Vincennes.—Carbrakes. 572
 89 Le Bas, Paris.—Automatic clutch. 572
 90 Arbel Lucien, Rive-de-Gier (Loire).—Forged iron wheels for locomotives and cars. 573
 91 Brunon Bros., Rive-de-Gier (Loire).—Wheels manufactured by hydraulic pressure. 573

Machines used in Preparing Agricultural Products.

- 92 Aubin & Baron, Paris.—Bolting mill. 580
 93 Durrtschmidt, Lyons.—Emery millstones. 580
 93^a Deplanque, Son, sr., Maison-Alfont (Seine).—Emery millstones. 580
 94 Beyer Bros., Paris.—Soap and chocolate machines. 582
 95 Hermann, G., Paris.—Chocolate machines. 582
 96 Durvie, Ivry-la-Bataille (Eure).—Mechanic kneading machine. 582
 97 Beyer Bros., Paris.—Soap and chocolate machines. 585

Aerial, Pneumatic, and Water Transportation.

- 98 General Transatlantic Co., Paris.—Model of the steamship "Pereire." 595

GERMANY.

(South of Central Aisle, Columns 1 to 7, and Pump Annex.)

Metal, Wood, Stone, Cloth, Paper-working Machinery, Pumps, etc.

Machines, Tools, etc., of Mining, Chemistry, etc.

- 1 Sparre, Julius von, Dortmund.—
Model of a drill. 500
- 2 Wünschmann, Reinh., Leipsic.—
Candle-making machine. 508

Machines and Tools for Working Metal, Wood, and Stone.

- 3 Kahlke & Detlefsen, Hamburg.—
Cutting machine and apparatus for cleaning boiler tubes. 515
- 3a Schäffer & Budenberg, Buckau.—
Polishing machines. 516
- 4 Schlickeysen, C., Berlin.—Brick, turf, cement, and clay machines. 517
- 5 Loeff, Paul, Berlin.—Model of a kiln for bricks, etc. 517

Machines and Implements of Spinning, Weaving, etc.

- 6 Windmüller & Meynen, Zwischenahn, Oldenburg.—Wooden spools. 520
- 8 Grothe, H., Berlin.—Models. 521
- 9 Bodemer, Georg, Zschopau.—Apparatus for spinning. 521
- 10 Beuthner Bros., Berlin.—Carders. 522
- 11 Mechanical Card Factory, Mittweida.—Cards. 522

Machines, etc., used in Sewing, Making Clothing, etc.

- 12 Huhn, Heinr., & Co., Aix-la-Chapelle.—Needles. 530
- 13 Lammertz, Leo., Aix-la-Chapelle.—Needles. 530
- 14 Bellè, R., Aix-la-Chapelle.—Needles. 530
- 15 Pastor, Ph. H., Sons, Burtscheid, near Aix-la-Chapelle.—Needles. 530
- 16 Zimmermann, Jos., Aix-la-Chapelle.—Needles. 530
- 17 German Sewing Machine Factory, Frankfurt-on-Main.—Sewing machines. 531
- 18 Müller, Cl., Dresden.—Sewing machines. 531
- 19 Kiehle, R., Leipsic.—Sewing machines. 531
- 20 Hamburg-American Sewing Machine Factory Joint Stock Co.—Sewing machines, etc. 531
- 21 Schmalz, F. G., Altenburg.—Machines for making gloves. 532
- 22 Hemmer, L. Ph., Aix-la-Chapelle.—Fulling and washing machine. 534
- 23 Dausch, J. G., Munich.—Instruments and apparatus for watchmakers. 535

Machines for Printing, Making Books, Paper Working, etc.

- 26 Traiser, Carl, Darmstadt.—Ruling machine. 541
- 27 Lotz, Ferd., Offenbach-on-Main.—Lithographic machinery. 543

Motors, Power Generators, etc.

- 29 Schilling, F. A., Bremerhaven.—Steam engines. 552
- 30 Gas Motor Factory, Deutz.—Gas motors. 552
- 31 Blanke, C. W. J., & Co., Merseburg.—Pyrometer, steam gauges, vacuum meters, etc. 555
- 32 Bodemer, Georg, Zschopau, near Chemnitz.—Regulators. 555
- 33 Schäffer & Budenberg, Buckau, near Magdeburg.—Steam gauges, pyrometers, lubricators, etc. 555
- 34 Blanke, Em. A. R., Frankfurt-on-Oder.—Steam packing, etc. 555
- 35 Gehrckens, C. Otto, Hamburg.—Stuffing boxes, steam packing. 555
- 36 Wertheim, Louis, Bornheim, near Frankfurt-on-Main.—Steam packing. 555

Hydraulic and Pneumatic Apparatus.

- 37 Alléoud, Emanuel, Metz.
a Siphon pumps. 560
b Mechanical lever. 563
- 38 Weyhe, Wilh., Bremen.—Rotary pumps. 560
- 39 Royal Saxon Fire Extinguisher Co., Leipzig.—Fire extinguishing apparatus. 564
- 40 Schultz, Ernst, Aschaffenburg.—Atmospheric apparatus for firemen, miners, etc. 564

Railway Plant, Rolling Stock, etc.

- 42 Glöckner Bros., Tschirndorf, near Halbau.—Blocks for brakes. 572
- 43 Camozzi & Schlösser, Frankfurt-on-the-Main.—Railway switch. 574
- 43a Schäffer & Budenberg, Buckau.—Spark catchers. 576

Machines used in Preparing Agricultural Products.

- 43b Israel Bros., Dresden.—Mill and grind stones. 580
- 43c Osenbruck & Co., Hemelingen, near Bremen.—Cigar moulds. 584

Aerial, Pneumatic, and Water Transportation.

- 44 Dücker, Baron F. F. von, Bückeberg.—Drawing of a wire-rope railway. 590
- 46 Hamburg-American Steamship Co., Hamburg.—Model of a mail steamship. 595

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Ores, Metallurgical Products, Weapons, Railway Plant.

Minerals, Ores, Stone, Mining
Products.

- 47 Krupp, Fried., Essen. — Ores and
raw products. 100

Metallurgical Products.

- 48 Krupp, Fried., Essen. — Samples of
fractured iron and steel. 111

Weapons, etc.

- 49 Krupp, Fried., Essen. — Cannon and
shot. 267

Railway Plant, Rolling Stock, etc.

- 50 Krupp, Fried., Essen. — Axles, wheels,
pistons, springs, etc. 573

AUSTRIA.

(South of South Aisle, Columns 1 to 5.)

Mining, Weaving, Agricultural Machinery, Motors.

Machines, Tools, etc., of Mining,
Chemistry, etc.

- 1 Rosenegger, Josef, Oberalm, near
Hallein, Salzburg. — Model of a glass-
melting furnace, cylinder furnace. 506

Machines and Implements of Spin-
ning, Weaving, etc.

- 3 Schram, Willibald, Vienna. — Jac-
quard looms. 521
- 4 Surber, J. Jacques, Vienna. — Weav-
ers' reeds and heddles. 527

Motors, Power Generators, etc.

- 5 Hock & Co., Julius, Vienna. — Pe-
troleum motor with pump. 550
- 6 Popper, Joseph & David, Vienna.
— Patent boiler incrustation preserver,
boiler fittings. 550

Railway Plant, Rolling Stock, etc.

- 7 Tagleicht, Karl, Vienna. — Locomo-
tive spark catcher and flue. 576

Machinery used in Preparing Agri-
cultural Products.

- 8 Vojtěchovsky & Reznicek, Prague.
— Machines for candy production. 582

SWITZERLAND.

(Section 1, Pump Annex.)

Railway Appliances.

Motors, Power Generators, etc.

- 1 Sulzer Bros., Winterthur, Canton
Zurich. — Model of a new system of re-
versing gear for valve engines. (*Pump
annex.*) 555
- 1a Pictet, Raoul, & Co., Geneva. — Ma-
chine for producing ice with the aid of
anhydrous sulphurous acid. 568

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Railway Plant, Rolling Stock, etc.

- 2 Swiss Manufacturing Co., Neuhaus-
en, near Schaffhausen. — Model of an
apparatus for heating railway car-
riages. (*Pump annex.*) 571

*Machines pertaining to watchmaking are
exhibited in Swiss section, Main Building,
and catalogued in that volume.*

BELGIUM.

(North of North Aisle, Columns 7 to 18.)

Metal, Cloth, Paper-working Machinery, Motors.

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

- 1 Dubois, Wm. & François Joseph, Seraing, near Liège.—Drilling machine for mines, tunnels, etc. 500
- 2 Chaudron, Joseph, Brussels.—Apparatus for boring and tubing mining shafts. 501
- 3 Libotte, Nicholas, Gilly, near Charleroi.—Cages with system of parachute. 502
- 4 Muller & Co., Clermont, near Liège.—Safety fuse for miners. 502
- 5 Souheur, Arnold, Seraing, near Liège.—Safety lamps for coal mines. 502
- 6 Van Haecht, Emile, Haeren, near Brussels.—Models of fat-rendering works, with samples of stearine and oleine. 508

Machines and Tools for Working Metal, Wood, and Stone.

- 7 De Tombay, Auguste, Marcinelle, near Charleroi.
 - a Model of a trip-hammer. 514
 - b Model of steam shears. 515
- 8 Jullien & Jennar, Bomereé, near Charleroi.—Tuyere and axle. 514
- 9 Nicaise, Ch., & Co., and Gobert, Aug., La Louvière.—Machinery for making bolts. 516

Machines and Implements of Spinning, Weaving, and Paper Making.

- 10 Bède & Co., Verviers.—Wool cleaning machine. 522
- 11 Delrez, Felix, Verviers.—Cards. 522
- 12 Dethiou, Gilles, & Co., Verviers.—Cards. 522
- 13 Horstmans Bros., Liège.—Cards. 522
- 14 Martin, Célestin, Verviers.—Looms, mechanical winder, cards. 522
- 15 Martin, Th. J., Pisseroule-Dison, near Verviers.—Cards. 522

Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.

- 16 Turner, B. B., & Co., Brussels.—
 - a Festooning and embroidering machines. 530
 - b Sewing machines for gloves, straw hats, buttonholes, etc. 531
- 17 Joint Stock Society for the Manufacture of Machines and Tools of Precision, Saint Josse-ten-Noode.—Sewing and knitting machines. 531

Machines and Apparatus for Type-setting, Printing, Stamping, Embossing, and for Making Books, and Paper Working.

- 18 Derkx-Schlopfer, I. F., Anderlecht, near Brussels.—Wooden printing types. 542

Motors, Power Generators, etc.

- 19 Van den Kerchove, P., Ghent.—Corliss and Rider engines. 552
- 20 Dolne, L., & Co., Verviers.—Belting. 553
- 21 Horstmans Bros., Liège.—Belting. 553
- 22 Versé-Spelmans, Brichot, Ant., & Co., Brussels.—Belting. 553
- 23 Dervaux, Alfred, Brussels.—Feeding apparatus for boilers. 555

Hydraulic and Pneumatic Apparatus.

- 24 Moreau, Léon, Brussels.—Rotary pumps. 560
- 24a Banolas, R., & Co.—Fire extinguishers. 564

Railway Plant, Rolling Stock, etc.

- 25 Durieux & Co., Louvain.—Wheels for cars, carriages, etc. 573
- 26 Mabille, Valère, Mariemont.—Railway plant. 573
- 27 Legrand, Achille, Hyon, near Mons.—Sleepers and cushions for mining railways. 573
- 28 Léonard, F. L. J., Fayt, near Seneffe.—Railway brake, signals, and gates. 575

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

NETHERLANDS.

[The Machinery Exhibit of the Netherlands is installed in the Main Building, and catalogued in Part I.]

SWEDEN.

(North of North Aisle, Columns 7 to 16.)

Stone, Metal, Wood, Cloth, Paper-working Machines, Motors.

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

- 1 Nilson, G., Eskilstuna.—Jacks. 503
 1^a Wiklund, W., Stockholm.—Centrifugal pump. 504
 2 Alsing, J. R., Stockholm.—Model of cylinder for crushing hard materials. 505
 6 Soderqvist, R., Goteborg.—Gas apparatus. 509

Machines and Tools for Working Metal, Wood, and Stone.

- 7 Bergström, J. W., Stockholm.—Screw-cutting machine. 510
 8 Bolinders, J. & C. G., Machine Manufacturing Stock Co., Stockholm.
 a Sawing machines. 510
 b Machines for making metal cartridges; emery wheels. 515
 9 Von Essen, H. H., Baron, Tidaholm.—Iron for turning veneer. 510
 10 Stridsberg & Biorck, Thorsträlla.—Blades for frame, circular, timber, wood, and pit saws; machine knives, trowels, ship scrapers, plane irons, etc. 510
 11 Fagersta Manufacturing Co., Westanfors.—Saw blades. 510
 12 Sandvikens Iron Works (limited), Sandviken.—Piston rod for steam hammer. 514
 14 Brehmer, E. F. A., Stockholm.—Drilling machine. 515
 15 Köping Mechanical Works Co. (limited), Köping.—Turning machine. 515
 15^a Samuelson, S. H., Foskefors, Rada.—Machine for making hollow peat bricks. 517

Machines, Apparatus, and Implements used in Sewing and Making Clothing and Ornamental Objects.

- 16 Hedlund, Joh., Eskilstuna.—Sewing machines. 531
 17 Husquarna Arms Manufacturing Co. (limited), Jönköping.—Sewing machines. 531

Machines for Printing, Making Books, Paper Working, etc.

- 19 Brehmer, E. F. A., Stockholm.
 a Paging and ticket counting machines, date stamps, etc. 542
 b Paper-cutting machine. 546

Motors, Power Generators, etc.

- 20 Atterberg, A. J., Hagforsen, Rada.—
 a Drawings of turbines. 551
 b Drawing of blast engine. 552
 21 Wenström, W., Orebro.—Drawing of a turbine. 551
 22 Kristinehamn Machine Manufacturing Co., Kristinehamn.—Marine steam engine, tank engine. 552
 24 Köping Mechanical Works (limited), Köping.—Cast iron cylinders for a sixty-horse power propeller steam engine. 552
 27 Motala Iron & Steel Co., Motala.—Compound marine engine. 552
 27^a Runqvist, C. R., Stockholm.—Oscillating steam engine governors. 555
 28 Kockum Machine Manufacturing Co. (limited), Malmo.—Steam engines. 552
 29 Sandvikens Iron Works Co. (limited), Sandviken.—Axles for propellers. 553

Motors, Railway Plant, Models of Vessels.

Hydraulic and Pneumatic Apparatus.

- 29^a Wiklund, W., Stockholm.—Centrifugal pump. 560
 31 Atterberg, A. J., Hagforsen, Rada.—Drawing of blowing engine. 562

Railway Plant, Rolling Stock, etc.

- 34 Bjorkman, C. R., Kristinehamn.—Drawing of a narrow-gauge locomotive. 570
 34^a Kristinehamn Machine Manufacturing Co. (limited), Kristinehamn.
 a Locomotive. 570
 b Railway car wheels. 573
 37 Sandvikens Iron Works Co. (limited), Sandviken.—Railway wheels and axles. 573
 38 Adelskold, C., Stockholm.—Model of an axle box for railway cars. 573
 39 Arboga Foundry & Machine Manufacturing Co., Arboga.—Railway wheels, tires and axles. 573

- 41 Ekman, Carl, Finspang.—Railway wheels. 573

- 42 Fagersta Iron & Steel Works, Westanfors.—Railway axles and springs. 573

- 43 Köpings Machine Manufacturing Co. (Limited), Koping.—Axles. 573

- 45 Ankarsrums Works, Ankarsrum.—Railway switches. 574

- 46 Ostrand, Herrman, Helsingborg.—Drawing of a railway switch. 574

Aerial, Pneumatic, and Water Transportation.

- 47 Lesjöfors Iron & Steel Co. (limited), Langbanshyttan.—Wire cables. 591

- 49 Royal Swedish Commission.—Models of fishing boats. 594

- 51 Kockum Machine Manufacturing Co., Malmö.—Models of steamers, and torpedo boat. 594

SPAIN.

[Machinery Hall (Section F. 1)]

Motors and Apparatus for the Generation and Transmission of Power.

- 1 Cases, Valero, Director of "La Primitiva," Madrid. Semi-portable steam-engine. 552

Hydraulic and Pneumatic Apparatus, Pumping, Hoisting, and Lifting.

- 2 Pando, Acha y Garcia, Sevilla.—Model of a wheel for drawing water from wells. 560
 3 Cases, Valero, Valencia.—Wheel for drawing water from wells. 560
 4 Mirapeix, Bartolomé, Barcelona.—Fire Hose. 564

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

NORWAY.

[The Machinery Exhibit of Norway is installed in the Main Building, and catalogued in Part I.]

ITALY.

(North of North Aisle, Columns 16 to 19.)

Metal, Cloth, Paper-working, Agricultural Machinery, Motors.

Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.

- 1 Paresi, E. Giuseppe, Parma.—Furnace for lime. 506
 2 Agrarian Committee of Chiavari.—Sulphur machine. 508

Machines and Implements of Spinning, Weaving, and Paper Making.

- 3 Ferrari, Bartolomeo, Parma.—Apparatus for silkworms. 520

Machines for Printing, Making Books, Paper Working, etc.

- 4 Perisi, Achille, & Son, Naples.—Pianografo-voltacarte, mechanical invention. 545

Motors, Power Generators, etc.

- 5 Zanini, Pasquale, Rome.—Steam machine. 550

Hydraulic and Pneumatic Apparatus.

- 6 Gasparini, Giacomo, Rome.—Hydraulic machine. 563

Agricultural Engineering and Administration.

- 7 Berteau, Stefano, Alessandria.—Lorenzengo machine. 582

Aerial, Pneumatic, and Water Transportation.

- 8 D'Allessandro, Benedetto, Benvenuto, Rome.—Life-preserver. 594

- 9 Villa, Cav. Ignazio, Milan.—Drawings of nautical machinery and architecture. 594

- 10 Origone, Paolo, Genoa.—Design for an iron steamer, and model in relief. 595

- 11 Zaffarini, Cav. Cesare, Ferrara.—Nautical machine. 597

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

BRAZIL.

(North of North Aisle, Columns 16 to 21.)

Machinery, Weapons, Hardware, Motors, Vessels and Appliances.

Chemical Manufactures.

- 1 Souza, Fausto de.—Metal fuses for artillery. 204
 2 Pyrotechnical Laboratory, Rio de Janeiro.
a Fuses for artillery. 204
b Apparatus for guiding signal rockets. 205
 3 Military Archives of Rio de Janeiro.—Pyrotechnical maps. 205

Weapons, etc.

- 4 Army Arsenal, Rio de Janeiro.
a Breech-loading rifle, and sword bayonet; revolver. 265
b Model of rifled brass field gun, with accessories. 266
c Mounted rifled gun and casemate; brass rifled gun and accessories; brass mortars; shot and shell, canister and grape for heavy ordnance; apparatus for guiding rockets, used as a projectile. 267
d Spears. 268
 5 Arsenal at Bahia.—Drum used by the Brazilian army. 265
 6 Arsenal in the Province of Rio Grande do Sul.—Weapons and articles used by the Brazilian army. 265
 7 Navy Arsenal, Rio de Janeiro.
a Leather buckets for artillery service. 266
b Leather cartridge boxes for heavy ordnance. 267

Hardware, Edge Tools, Cutlery, and Metallic Products.

- 8 Silvino, Tripo di.—Hand tools. 280
 9 Province of Minas Geraes.—Hand tools and instruments. 280
 10 Arsenal of the Province of Bahia.
a Hand tools. 280
b Locks for naval and ships' stores. 284
 11 Ipanema Iron Works.
a Hand tools. 280
b Imperial crown and cross of cast iron; samples of cast iron. 283
 12 Army Arsenal, Rio de Janeiro.—Cast iron ventilator, and samples of cast iron. 283
 13 Santos, Cauto dos.—Imperial crown of cast iron; samples of cast iron. 283
 14 Bieunemback & Bro.—Chair of cast iron; samples of iron grates. 283
 15 Slichal, Fabiano.—Horse shoes of different shapes. 284

Engineering, Architecture, Maps, etc.

- 16 Navy Yard at Rio de Janeiro.—Models of dry docks cut into the rock. 330

Machines and Tools for Working Metal, Wood, and Stone.

- 17 National Mint, Rio de Janeiro.—Stamping machine, edging machine, hand tools and instruments. 510

Machines and Implements of Spinning, Weaving, Felting, and Paper Making.

- 18 Rezende, Luiz de, Rio de Janeiro.—Machine for reeling and skeining silk, apparatus for counting the twist, samples of silk and cocoons. 520

Motors, Power Generators, etc.

- 19 Navy Arsenal, Rio de Janeiro.
a Models of engines for small monitors and mortar ships; steam engine to be used as motor at the pyrotechnical laboratory at Rio de Janeiro. 552
b Pulleys, pulley stand shafts, and flying wheels. 553
 20 Army Arsenal at Rio de Janeiro.
a Iron drums and chairs for transmitting motion. 553
b Iron screw propeller and its cog wheel. 554

Hydraulic and Pneumatic Apparatus.

- 21 Costa, T. C. da.
a Pumps. 561
b Hydraulic ram. 563
c Nozzle fire plug. 564
 22 Neves, F. Candido das, Rio de Janeiro.—Stop cocks. 566
 23 Russell, B. G., Rio de Janeiro.—Lead pipes and hydraulic syphons, copper valve box. 566

Machines used in Preparing Agricultural Products.

- 24 Birrenback & Bros., Iron Works, Province of S. Paulo.—Hand mill. 585

Aerial, Pneumatic, and Water Transportation.

- 25 Navy Arsenal, Rio de Janeiro.—Models of iron clads, casemate and monitor ships, men of war and steam launches; models of corvettes and launches, designed by Trajano de Carvalho. 595

Arboriculture and Forest Products.

- 26 Navy Arsenal, Rio de Janeiro.—Samples of wood used for ship building. 600

ARGENTINE REPUBLIC.

(North of North Aisle, Columns 21 to 23.)

Cloth and Paper-working Machines, Vessels.

Machines and Implements of Spinning, Weaving, and Paper Making.

- 1 Provincial Commission, Province of Santiago del Estero.—Weaving loom. 522

Machines for Printing, Making Books, Paper Working, etc.

- 2 Estrada, Angel, Prov. of Buenos Ayres.—Samples of printing, types, electrotypes, corners, etc. 542
- 3 Cañarte, Bernardo R., Province of Buenos Ayres.—Album of typographic works. 542

Railway Plant, Rolling Stock, etc.

- 4 Gardella, Luis, Province of Buenos

Ayres.—Plan of a rotary machine with boiler. 570

Aerial, Pneumatic, and Water Transportation.

- 5 Provincial Commission, Province of Corrientes.—Oars. 594
- 6 Office of the Harbor Master, Province of Buenos Ayres.—Model of mixed frigate, with wooden hull and auxiliary machine; models of steam lighter, pleasure steam yacht, and whaler. 595
- 7 Roibon, Federico, Province of Corrientes.—Model of rafts for crossing the "Paso de la Patria" during the war with Paraguay, in 1866. 596

RUSSIA.

(North of North Aisle, Columns 22 to 25.)

Metal, Stone, Cloth, Paper-working Machines.

Machines, Tools, etc., of Mining, Chemistry, etc.

- 1 Yevleff, Andrew, Moscow.—Gold-beater's skins and sample of leaf gold. 505
- 2 Administration of the Mining District in Western Poland.—Plan of gas smelting furnace. 506
- 3 Admiralty Electroplate Establishment, Cronstadt.—Specimens of metallic layers by electrotyping. 508

Machines and Tools for Working Metal, Wood, and Stone.

- 4 Lessner, Gustavus, St. Petersburg.—Planing, drilling, and turning machine. 515
- 5 Popoff, Basil, St. Petersburg.—Workbench. 515
- 6 Practical Technological Institute, St. Petersburg.—Lathes, planing, shaping, and drilling machines. 515

- 7 Smithery of the Port of St. Petersburg.—Apparatus for stamping bolts with threads; specimen of bolts, for armor plates and stamped row locks. 515

Machines and Implements of Spinning, Weaving, Paper Making, etc.

- 8 Tilzoff, John, Moscow.—Weaving slays. 520

Machines, etc., used in Sewing, Making Clothing, etc.

- 9 Rauer, Augustus, Warsaw.—Album of reduced patterns for tailors. 532

Machines for Printing, Making Books, Paper Working, etc.

- 10 Alisoff, Michael, St. Petersburg.—Type-writing machine, and new photolithographic process of music printing. 542

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

Machinery, Motors, Railway Plant, Vessels.

- 11 Goldberg, Isidor, St. Petersburg.**—
a Printing types and electrotypes, stereo-
 types. 542
b Pasteboard cutter. 546
- 12 Lorchetes, Alfred, Liban.**—Steganographic apparatus. 542
- 13 Wolf, Morris, St. Petersburg.**—
 Sample book of typographical types. 542
- Motors, Power Generators, etc.**
- 15 Lesser, Gustavus, St. Petersburg.**—
 Section of a steam cylinder with steam
 distributing apparatus. 550
- 16 Steam Engine Works, Port of Cron-**
stadt.—Steam engine and boiler for a
 barge. 550
- 17 Lilpop, Rau, & Lovenstein, War-**
saw.—Portable steam engine, ten horse
 power. 552
- 18 Pootilof Iron Works Co., St. Peters-**
burg.—Steam engine. 552
- 18^a Imperial Technical School, Moscow.**
 —Model of a steam engine with parallel
 motion and regulator. 552
- 19 Admiralty Tyova Works, near St.**
Petersburg.—Chains and moving tackle. 553
- 20 Herezinesk, W., Warsaw.**—Cordage
 transmission straps. 553
- 21 Hofmark, Bruno, St. Petersburg.**—
 Wire transmission belt. 553
- 22 Miiek, William, Warsaw.**—Cordage
 transmission straps. 553
- 23 Tember, K., & Schovede, L., War-**
saw.—Leather transmission belts. 553
- 24 Cohnfeld, S., St. Petersburg.**—Auto-
 matic feeding apparatus. 555
- Hydraulic and Pneumatic Apparatus.**
- 26 Admiralty Tyova Works, near St.**
Petersburg.
a Dawnton's ship pump and fire pump. 560
b Diving apparatus. 567
- 27 Friedland, Michael, St. Petersburg.**
 —Pumps, rotary system. 560
- 28 Liarsky, Nicolas, Smolensk.**—Load
 roller. 563
- 29 Tretzer, Adolphus, Warsaw.**—Fire
 engine. 564
- 30 Lange & Co., Moscow.**—Fire engine
 hose. 564
- 31 Mick, William, Warsaw.**—Fire en-
 gine hose. 564
- 32 Hesse, Charles, Riga.**—Metal cap-
 sules. 565
- Railway Plant, Rolling Stock, etc.**
- 34 Lilpop, Rau, & Lovenstein, War-**
saw.
a Bolts, screws, and other railway and car
 fittings. 571
b Buffer spring and coupling appliance;
 wheel and spring for railway carriages. 572
- 35 Shiloff, L. P., Moscow.**
a Patent railway car lock. 571
b Railway signals. 575
- 37 Pootilof Iron Works Co., St. Peters-**
burg.—Railway ties, axles, and wheels. 573
- 38 Abookoff Steel Foundry, near St.**
Petersburg.—Railway wheels, ties, and
 axles. 573
- 39 Russian Rail Manufacturing Co.,**
Government of Riazan, District of Pronsk.
 —Railway ties, chairs, nails, bolts and
 nuts. 574
- Machinery used in Preparing Agri-**
cultural Products.
- 41 Yosefov Sugar Manufacturing Co.,**
Government of Warsaw.—Metallic
 sugar loaf form. 581
- Aerial, Pneumatic, and Water Trans-**
portation.
- 42 St. Petersburg River Yacht Club.**—
 Rowing boats. 594
- 43 Alexandroosky, —, St. Petersburg.**
 —Air bags for raising sunken vessels. 594
- 44 Makaroff, T. R. N., St. Petersburg.**
 —Patent safety mats for instantly stop-
 ping leakage in ship bottoms. 594
- 45 Modeling Workshop in the Naval**
Museum, St. Petersburg.—Models of
 ships, yachts, and circular iron clads. 595
- 46 Russian Steamboat & Trade Co.,**
Odessa.—Model of steam schooner for the
 coal trade. 595
- 47 Naval Museum, St. Petersburg.**
a Models of a floating dock and graving
 dock in Cronstadt. 596
b Model of steering apparatus. 597
- 48 Engineers' Shop of the Port of St.**
Petersburg.—Apparatus for lowering
 boats and boat furniture. 597
- 49 Steam Engine Works, Port of Cron-**
stadt.—Admiral's caboose. 597
- 51 Mast Maker's Shop, Port of Cron-**
stadt.—Models of masts, etc. 597

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 13-15.

THE PENNSYLVANIA RAILROAD

IS THE

**Best Constructed and Best Equipped Railway
on the American Continent.**

THE ENTIRE LINE between New York and Pittsburg is laid with a double track of steel rails, weighing sixty-seven pounds to the yard. These rails are secured to oak ties, averaging 2600 to the mile of single track, and are connected between the ties, thus preventing all jarring or jolting.

THE ENTIRE LINE is ballasted with broken stone eighteen inches in depth, securing firmness and freedom from dust.

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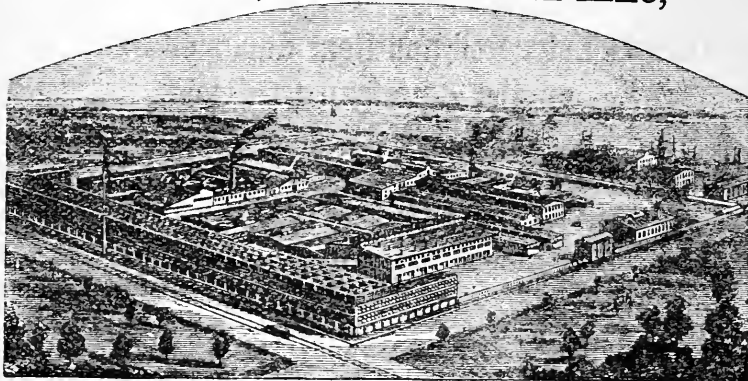
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THE COMFORT AND CONVENIENCE of travelers are paramount considerations.

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General Manager.

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 MANUFACTURERS OF
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**GROUND FLINT AND EMERY,
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 New York, 67 Beekman Street.
 Boston, 143 Milk Street.
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FIRE AND MARINE

INSURANCE COMPANY

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Cash Assets, \$750,000. Capital Stock, \$1,500,000.

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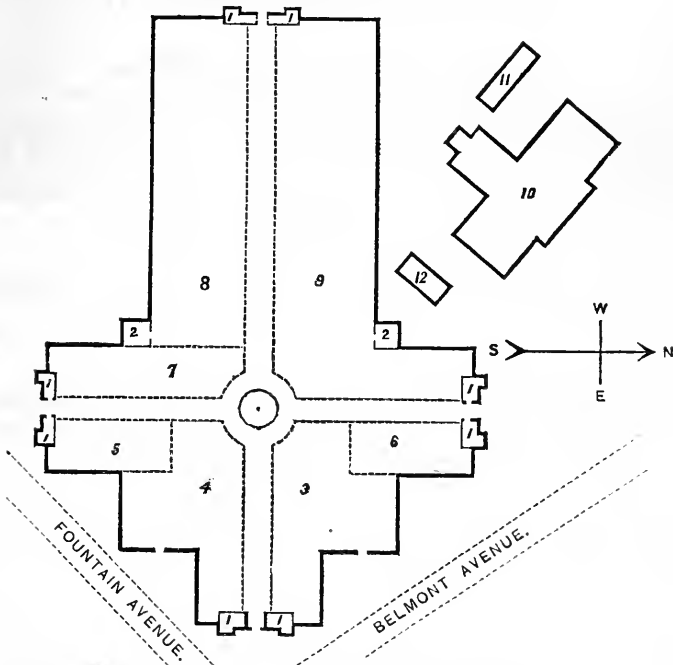
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BRANCH OFFICE IN WASHINGTON, D. C.

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 CALL OR SEND FOR BOOK OF INSTRUCTIONS.

THE UNITED STATES GOVERNMENT BUILDING.

Scale, 150 ft. to 1 in.



- | | |
|-------------------------|---|
| 1. Offices. | 7. Agricultural Department. |
| 2. Water-closets. | 8. Interior Department. |
| 3. War Department. | 9. Smithsonian Institution and Food Fishes. |
| 4. Navy Department. | 10. United States Hospital. |
| 5. Post Office. | 11. Tent. |
| 6. Treasury Department. | 12. Laboratory. |

Total Length, 504 ft. Width, 360 ft. Height, 50 ft.

SPECIAL BUILDINGS.

EXHIBITION MADE BY THE UNITED STATES GOVERNMENT.

CONTRIBUTING DEPARTMENTS.

- WAR DEPARTMENT.—Hon. J. DONALD CAMERON, Secretary of War.
 NAVY DEPARTMENT.—Hon. GEORGE M. ROBESON, Secretary of the Navy.
 TREASURY DEPARTMENT.—Hon. LOT M. MORRILL, Secretary of the Treasury.
 INTERIOR DEPARTMENT.—Hon. Z. CHANDLER, Secretary of the Interior.
 POST-OFFICE DEPARTMENT.—Hon. JAMES M. TYNER, Postmaster-General.
 AGRICULTURAL DEPARTMENT.—Hon. FREDERICK WATTS, Commissioner of Agriculture.
 SMITHSONIAN INSTITUTION.—Prof. JOSEPH HENRY, Director of Smithsonian Institution.
 COMMISSION OF AMERICAN FOOD FISHES.—Prof. S. F. BAIRD, Commissioner.

BOARD ON BEHALF OF U. S. EXECUTIVE DEPARTMENTS AT THE INTERNATIONAL EXHIBITION OF 1876.

- Col. S. C. LYFORD, Ordnance Corps, U. S. Army, Chairman of the Board, and Representative of the War Department at the Exhibition.
 Rear Admiral THORNTON A. JENKINS, U. S. Navy, Representative of Navy Department.
 Hon. R. W. TAYLER, First Comptroller Treasury, Representative of Treasury Department.
 Hon. JOHN EATON, Commissioner of Education, Representative of Interior Department.
 Dr. C. F. MACDONALD, Superintendent Money Order Bureau, Representative of Post-Office Department.
 WILLIAM SAUNDERS, Superintendent Propagating Garden, Representative of Agricultural Department.
 Prof. S. F. BAIRD, Assistant Secretary Smithsonian Institution, Representative of Smithsonian Institution, and Commissioner of American Food Fishes.
 WM. A. DE CAINDRY, Secretary of the Board.

UNITED STATES GOVERNMENT BUILDINGS.

MAIN BUILDING, No. 51.

Architect, JAMES H. WINDRIM.—Size, Floor Area, 102,840 square feet.

This structure is situated at the intersection of Belmont and Fountain Avenues, is built in the form of a Latin cross, and is of framed white pine, unplanned, with two tiers of windows. It contains for exhibition contributions from the different Executive Departments of the United States Government.

ORDNANCE LABORATORY BUILDING, No. 54.

Architect, Col. T. T. S. LAIDLEY, Ordnance Corps, U. S. A.—Size, 53 feet by 23 feet.

This building is located north of Main Building, and is built of wrought iron, rivetted, covered with a light casing of wood. It is designed with the view of preventing the great loss of life that usually results from the demolition of a building of ordinary construction, by the explosion of even a small amount of powder. In the event of an explosion in this building, the roof and sides fall at once, and the iron frame is left standing, in order to shield the inmates from being crushed beneath the ruins. The building, as well as its contents, is on exhibition.

UNITED STATES ARMY POST HOSPITAL, No. 52.

Size, 35 feet by 39 feet, and Addition of 40 feet by 14 feet.

This Hospital is situated north of the Main Building, is two stories in height, and is intended to hold twenty-four beds. It is built of wood, and contains medical appliances of all kinds, including medicines, instruments, hospital stores, clothing, books, and furniture, models of hospitals, cars, boats, ambulances, etc., microscopical and other specimens. The construction of the building and its contents are on exhibition.

TRANSIT OF VENUS BUILDINGS.

This structure is situated southwest of Government Building, consisting of,—

1. Transit House.—Dimensions, 10 feet by 8 feet.
2. Photographic House.—Dimensions, 12 feet by 10 feet.
3. Equatorial House.—Dimensions, 11 feet in diameter.

All the instruments employed in observing and recording the phenomena of the late transit of Venus are so placed on exhibition that the various processes will be exemplified by practical workings.

WAR DEPARTMENT.

Signal Section.**SIGNAL SECTION.**

The instruments exhibited in the Signal Service Section of the United States Army are all of American manufacture, and only such as have been devised for the signal service of the army by officers or enlisted men of the corps.

METEOROLOGICAL INSTRUMENTS.

The display of self-recording instruments consists of barographs, anemographs, thermographs, rain-gauges, and evaporator. Some of these are worked by electrical batteries, others by mechanical means. Those recording the velocity and direction of the wind, the amount of rainfall and changes of temperature, are connected with their respective wind-cups, wind-vanes, rain-receivers, and thermometers, exposed upon an artificial glass roof, beneath which the recording apparatus is placed, each electrical instrument having its own battery. Artificial currents of air and water are used to obtain uninterrupted working.

UNITED STATES SIGNAL STATION.

This department consists of a model United States signal service station, similar to those established in different sections of the United States. Here are exhibited the meteorological instruments used on station; the manner

of taking, recording, and transmitting to the central office at Washington the observations upon which the weather reports, storm warnings, etc., are based; the method of publishing and distributing the predictions forwarded from the office of the Chief Signal Officer of the army, as well as the various means adopted to furnish at the earliest practicable moment all weather information which would be of benefit to commerce and agriculture. Specimens of the publications, charts, and maps of the office of the Chief Signal Officer are also exhibited.

PRINTING DEPARTMENT.

Here are exhibited in detail the printing of "weather maps" and "farmers' bulletins."

FIELD WORK.

This portion of the exhibition comprises a complete United States field-telegraph train, with capacity to erect 50 miles or more of portable telegraph line; portable signal tower 75 feet high, with its wagon; semaphore, signal flags, torches, rockets, bombs, and mortars, colored lights, heliographs (for communicating by means of sun flashing), and international flags, and other apparatus used in communicating with troops in the field or with vessels.

Quartermaster, Medical, Engineer Sections.

MODEL DEPARTMENT.

The model department comprises models of the different instruments used in field signaling, models of station meteorological instruments and portable instrument shelter, and a new electrical instrument for transmitting by telegraph the isobarometric and isothermal lines of the Signal Service weather maps.

QUARTERMASTER SECTION.

Uniforms.—Revolutionary uniforms, and those of succeeding years; present uniforms of the army.

Camp and Garrison Equipage.—Tents, flags, cooking utensils and tools; field music—drums, bugles, etc.; bunks, blankets, and bedsacks.

Means of Transportation.—Wagon and harness; ambulance and harness; aparajo; pack saddle; historic wagon; portable and traveling forges.

Machines.—For cutting out clothing; for brass screwing shoes; for testing fabrics.

Farriers' and Saddlers' Tools.

Standard Horse Shoes.

Veterinary Chest.

Kiernan's System of Horse Shoeing.

MEDICAL SECTION.

This display represents the character of the work of the medical staff of the United States army in peace and war. Four classes of objects are exhibited by the objects themselves, by models, or by photographs.

1. Hospitals for Sick and Wounded Soldiers.

a Post hospital of 24 beds of full size.

b Four full-sized hospital tents, with furniture representing the tent ward which served as the unit of the "tent field hospital" used during the civil war of 1861-65.

c Models of the barrack "General Hospitals" used during the war of 1861-65, viz.: a model of the form of barrack ward for 60 beds, on the scale of half an inch to the foot; and four ground-plan models showing combinations of such wards in general hospitals.

2. Medical and Hospital Supplies.

Samples of articles on the medical supply table of the army; medicines; hospital stores; surgical instruments and dressings; hospital furniture, bedding, clothing, and appliances; books, blank forms for reports, and stationery; medical panniers and medicine wagons, and samples of the artificial arms, legs, trusses, and other apparatus issued by the medical department to disabled soldiers.

3. Transportation of Sick and Wounded.

Stretchers, litters, and ambulances, full size and models; models of hospital railroad cars, hospital steamboat, and hospital ocean steamship, illustrating mode of transporting sick and wounded during the late war.

4. Treatment of Diseases and Injuries of Soldiers.

Army medical museum, represented by medical, surgical, anatomical, and microscopical specimens, photographs of specimens, and catalogue of museum; catalogue of Surgeon-General's office; photographed title pages of rare books on military medicine and surgery, etc.; medical and surgical publications of Surgeon-General's office.

The Post Hospital, for twenty-four beds, constructed from plans approved by the War

Department, contains the greater part of the display of the Medical Department, as follows:

Room 1, 45x25, a ward with twelve beds, furniture, bedding, clothing, etc.

Room 2 (the other ward, same size), models of hospitals, ambulances, hospital cars, boats, and ships, specimens from museum, etc.

Room 3, the dispensary, samples of medical supplies.

Room 4, the office, samples of surgical instruments, medical and surgical books, blanks, etc.

Room 5, dining room, table ware, mess furniture.

Room 6, kitchen, cooking apparatus.

Room 7, office of officer in charge of the display.

Rooms on second floor, stretchers, litters, medicine chests, and panniers; artificial legs and arms, trusses for rupture, and other apparatus.

Tent ward, full-sized hospital tents, pitched in the rear of the post hospital.

Ambulances, medicine wagons, and carts, full-sized, parked near the tent ward.

ENGINEER SECTION.

Maps and Drawings.

Map of the United States, showing work done by corps of engineers, 1776-1876.

Drawing of Rock Island bridge.

Map of canal and locks, Des Moines rapids.

Map of Mississippi river, from Le Claire, Iowa, to Rock Island, Illinois.

Drawings of improvements of Mississippi river between mouths of the Illinois and Ohio.

Plans of improvements on Hudson river, near Albany.

Drawing of iron landing pier, Delaware breakwater harbor.

Drawing of foundation of Fort Delaware.

Drawing of dynamometer for determining force required to screw down iron piles of Lewes pier.

Drawing of Delaware breakwater, with details of breakwater and ice barrier.

Map of shore of Delaware harbor, including Cape Henlopen.

Chart of Schuylkill river, from mouth to Chestnut Street bridge, showing improvements made by United States in its navigation from 1870 to 1875.

Drawing of dredge-boat "Henry Burden."

Drawing of mortar mill and concrete mixer.

Map of flood plain of Minnesota and Mississippi rivers, showing connection with basin of Red river and Lake Winnepeg.

Drawings of snag boat.

Chart of Galveston entrance.

Detailed drawings and photographs, illustrating experimental works at Galveston entrance.

Chart of Indianola harbor.

Detail drawings of end dock.

Charts of Lake Survey.

Lighthouse drawings, Eleventh district.

Drawing of river and harbor works.

Plans of cribs and pile pier at Chicago.

Maps and hydrographs of Ohio, Monongahela, and Great Kanawha rivers.

Drawings of crib work for piers on Lake Ontario.

Special map of region west of Mississippi river.

Special triangulation map of region west of Mississippi river.

Detailed topographical sheets of above region.

Specimen copies of photolithographic atlas,

Engineer, Ordnance Sections.

crayon topographical atlas, and geological atlas.

Models of Harbor Improvements.

Work at Hallet's Point, N. Y. (Hellgate.)
Northern extremity of Cape Cod.

Section of iron landing pier of Delaware breakwater harbor.

Iron ice barrier proposed for Horse Shoe of Delaware river.

Breakwater at Dunkirk, N. Y.

Crib and lighthouse on Spectacle reef, Lake Huron.

Angle crib and lighthouse at Harbor of Refuge, Lake Huron.

Model showing shore lines and breakwater at Harbor of Refuge, Lake Huron.

Crib and pier at Chicago, Illinois.

Crib work for piers on Lake Ontario.

"Mattress" or "apron" used in improvements of harbor at mouth of Cape Fear river, N. C.

Models of Machinery and Appliances.

Steam drilling scow.

Capstan-head and machinery for screwing down iron piles at Delaware breakwater landing pier.

Derrick for landing shafts.

Eccentric clamp or "nipper" for sustaining piles.

Snag boat, showing hull.

Dredge-boat "McAlester."

Large grapple.

Photographs.

Views of Hallet's Point, N. Y.; snag boat; Red river; cribs and piers at Chicago, Ill.; country west of Mississippi river (Wheeler expedition).

Materials, Specimens, and Samples.

Specimens of borings at site of landing pier of Delaware breakwater; of iron used in construction of landing pier; of timber piles taken from between tides at Reedy Island; ice barrier; of building stone, concrete, and woods, collected from various parts of the United States; of fossil trees; of large cypress stump, taken from mouth of Cape Fear river, N. C.

Miscellaneous.

United States bridge equipment, pontoon wagons, loaded; tool wagon; forge; model of bridge train, wagons, and loads; reserve and advance guard bridges; siege and mining tools; field photographic outfit; reconnaissance instruments; bridge model; models of torpedoes; models of apparatus for measuring subaqueous explosions, in glass tank; torpedoes, full size, models, 1874-75; ground mine; cable stop; junction boxes; torpedo cables, multiple and single; operating box; electrical apparatus used with torpedoes; iron plate from torpedo target, showing effects of thirty pounds of dynamite exploded under water at thirty feet distance; models of King, De Russy, and Hunt self-depressing gun carriages; models of mortar carriage and muzzle-pivoting gun carriage; surveying, astronomical, and barometrical instruments for field work; and publications of the engineer bureau.

ORDNANCE SECTION.**Sea Coast Guns.**

20 in. Rodman gun, on carriage and chassis, with hydraulic buffer, on platform; implements.

12 in. Thompson b. l. rifle, experimental, under Laidley's gun lift.

9 in. Sutcliffe b. l. rifle, experimental, on carriage and chassis, with Sinclair's friction-brake, mounted on platform; implements.

10 in. Woodbridge gun, experimental; in slings, under Laidley sling cart.

8 in. m. l. converted rifle, experimental, on 10 in. casemate carriage and chassis, with pneumatic buffers, mounted on platform in model of casemate; implements.

Mann's 8 in. b. l. rifle, wrought iron, experimental, mounted on top carriage and chassis.

8 in. siege howitzer, mounted on wooden siege carriage.

Siege Guns.

4.5 in. siege rifle gun, mounted on Benton's experimental iron siege carriage, with limber; implements.

Field Guns.

Light 12 pdr. gun, 4.62 in. wooden carriage, with limber; implements.

Sutcliffe 3.9 in. b. l. rifle, experimental.

Hotchkiss 3.9 in. b. l. rifle, experimental.

Moffat 3.15 in. b. l. rifle, experimental.

Mann's 3 in. b. l. rifle, experimental.

3 in. wrought iron, m. l. rifle, mounted on Benton's experimental iron 12 pdr. field carriage, with limber and caisson; implements; model horse harnessed to limber, with mounted driver.

10 pdr. Parrot rifle, mounted on Watervliet arsenal experimental iron field carriage, with limber.

3 in. Whitworth field piece, on carriage.

2.5 in. Woodbridge gun, experimental; fired 1327 times.

Hotchkiss field cannon, experimental.

Rebel b. l. pieces, field and boat, experimental skids.

Lyman's multicharge rifle, cal. 6 in., experimental skids.

Bomford and Wade perforated gun, experimental; used to determine experimentally exterior lines of heavy cannon, by means of pressure at different points of bore.

Mountain howitzer, mounted on carriage.

Mountain howitzer battery, on stands.

Volley and Repeating Guns.

Gatling gun, short barrel, cal. 45, on cavalry carriage; model horse in harness.

Hotchkiss revolving cannon, on carriage, experimental.

Union repeating (coffee-mill) gun, on carriage, experimental.

Regua battery, on carriage, experimental.

Guthrie & Lee gun, on carriage, experimental.

Vandenburgh volley gun, on carriage, experimental.

Revolutionary Guns.

6 pdr. French guns, bronze, presented by Lafayette; forming enclosure around models of modern gun plant.

12 pdr. siege gun, bronze, mounted on wooden carriage, with limber.

8 in. howitzer, bronze, mercer.

24 pdr. howitzers, Byer's; cast in Philadelphia.

Anthony Wayne howitzers, intended to be used on horseback; cast in Germantown, Philadelphia, by D. King.

Mortars.

13 in. sea-coast mortars, on bed, with centres, pintles, chassis mounted, on platform; implements.

24 pdr. Coehorn mortars, on beds.

Carriages.

New cavalry forge cart.

Projectiles.

Shot, shells, grape, canister, etc., for various weapons and calibres; smooth-bored and rifled; fired and unfired; hand-grenades,

War and Navy Departments, Ordnance and Appliances.

bombs, rockets, torpedoes, etc. Experimental projectiles from West Point.

Small Arms.

Historical collection of muzzle-loaders, wall-pieces, muskets, musketoons, rifles, pistols, flintlocks, percussion, breech-loaders, fixed and movable chambers, revolvers, tip-up barrels, needle guns, cylindered, magazine, chassepot, repeating, coffee-mill, drop-lever, slap-over guns, American and foreign.

Bayonets, blades, knives, swords and scabbards, lances, pikes, halberds, cleaning appliances, etc.

Accoutrement.

Sets of infantry, cavalry, and artillery equipments; cartridge boxes, canteens, metal work on scabbards, etc.; powder horns and flasks, cartridges, and cases of various materials and calibres; primers, locks, fuses; cartridge-making machinery.

Models.

Minute man.

Rifle private, full dress, Hall breech-loading rifle, 1818.

Private, mounted rifles, Mexican War, 1845.

Infantry private, 1858-1866, regulation equipment.

Cavalry private, 1865, Spencer, Mann's equipment.

Infantry man, full dress, 1876.

Infantry man, marching outfit, 1876.

Cavalry man, present, full dress, 1876.

Light-artillery man, full dress, 1876.

Horse, carved in wood, for cavalry equipment.

Horse, carton pierre, for artillery harness.

Horse, stuffed, for Gatling cart.

Rock Island Arsenal, Illinois, in photograph.

Hitchcock gun-plant, with gun in sections, with set test specimen Hitchcock gun material, showing tensile and torsional strength; sample forging-disk; Dank's iron bloom; Graff, Bennett, & Co., Hitchcock's gun materials; long turnings H.G. material; and thin turnings H.G. material.

Rodman gun-plant, with specimen, showing tensile compression and torsional strength of the American cast-iron used in Rodman gun.

Woodbridge gun, with set specimens, showing tensile strength of Woodbridge gun construction; reel-wire for Woodbridge gun; and half-ring, bronzed, Woodbridge gun.

Cast of bore in gutta-percha of 8 in. m. l. converted rifles, with centres for same on trestles.

Glass-case specimens, containing small models, relics, etc.

Tree, cut in two by musketry at the battle of the Wilderness, Va.

Boards of component parts of small arms, and progressive work on scabbards.

Rodman guns, mounted in barbette and in casemate.

Mortar, mounted on bed with centre pintle chassis.

Table with models, field and siege carriages. Lead bullets, joined together by collision in mid-air at the battle of Petersburg, Va.

Machines.

Casemate gin; Baxter engines.

Cartridge Machinery.

Portable gas furnace for annealing cartridge shells; double-action press; drawing presses; case and cup anvil trimmers; header; primer; cup venting, and impression machines; bullet, ball-trimming, and greasing, tapering, and loading machines; cup anvil press; rotary fan; packing tables and work boxes.

Gun-making Machinery.

Drop hammer; forge; trimming jumper; barrel-boring lathe, for nut boring and quick boring; barrel-turning lathe; straightening stand; polishing stand; vises, with machine for bending swivels; trimming press; drill press; rifling, brush, and profiling machines; milling and screw machines; clamp milling machine; machine for bending swivels; grindstone; engine lathe; emery mill grinder; second drilling receiver; first turning stock; lock-bedding with post and spare pulley; air pump and reservoir; bench for assembling guns.

Instruments.

Laidley laboratory, showing principles of construction, and illustrating experiments in ballistics; models pressure; pendulum epruvette; camera lucida for representation with model of Frankford target; Shultz chronoscope, with Russel's interrupter; vignotti machine; Le Boulougé chronograph; Benton thread, and electro-ballistic machines; target for electro-ballistic machines; recoil dynamometer; mercurial densimeter; scales for mercurial densimeter; stereometer; collection of inspecting instruments for cannon and projectiles for 3 in. rifle and 15 in. gun; iron tube for firing through with safety; firing stand.

Miscellaneous.

Boards showing rifle practice.

Publications from ordnance office and artillery school.

Medal, army target practice; stadia, silver (1 cavalry, 1 infantry); telemeters (1 battery, 1 infantry, and 1 field).

Corrugated iron powder barrels; copper powder barrel.

NAVY DEPARTMENT.

ORDNANCE BRANCH.

Rifled and Smooth Bore Guns.—15 in. guns on Ericsson's and Edes's steam carriages.

[These two guns are mounted on a circular platform and inclosed in a wooden turret, representing in size and form a monitor's iron turret.]

Pieces of heavy ordnance, muzzle and breech loading, of antiquated styles and manufacture.

Guns from 11 in. to 3 in. calibre, and 100 pdrs. to 12 pdrs., variously mounted.

Torpedoes.—Automatic, stationary, and movable; electric batteries, wires, fuses, etc.;

illustrating progress made by the torpedo school.

Small Arms.—Muskets, rifle and smooth bore, breech- and muzzle-loading; pistols, swords, cutlasses, bowie knives, battle axes, tomahawks, boarding helmets, etc.

Ordnance publications.

Samples of gunpowder.

Inspecting instruments for heavy guns; implements for gauging and inspecting shot and shell.

Fuse presses; machines for making percussion caps; metallic cartridges; solid head metallic musket and pistol cartridge now used in the navy, showing the different stages of

Navigation, Observatory, Docks, Engineering, Etc.

manufacture; other musket cartridges and cartridge inventions in possession of the navy.

Rifle projectiles for heavy guns; inventions of Dahlgren, Holroyd, Dana, Parrot, Hotchkiss, James, Brooks, and other inventors.

Sub-calibre and elongated projectiles for smooth bore guns; solid shot, shell, incendiary shell, grape, canister, shrapnel, as used at present, and as previously used or proposed.

Projectiles which have been fired at iron targets; models of projectiles; model gun-carriages; war rockets, hand grenades; leather work of navy ordnance; sponges, rammers, and scrapers of different styles and inventions; fuses, cannon primers, and caps, cannon locks, night signals, impressions from guns, vent impressions; gun sights; breech, reinforce, and trunnion.

Figures of sailors, showing the dress and arms at different periods.

Miscellaneous articles and naval relics.

NAVIGATION BRANCH.

Navy bunting and navy flags, illustrating the present state of the bunting manufacture in the United States, as shown in the bunting made for the navy and known as "navy bunting," and also the mode of making flags by dyeing in pattern.

Bunting testing machine.

Navy sounding machines and auxiliary apparatus, showing the improvements in Sir William Thomson's sounding machine, and the various devices for detaching sinkers, and bringing up specimens of bottom, water, etc.

Navy signal apparatus, showing the colored lights (Coston's), with specimens.

Navy compasses and compass-testing instruments, showing specimens of the navy compass, azimuth circle, tell-tale, boat, and monitor compasses.

Portable compass-testing instrument, with specimens to illustrate development of the liquid compass.

Specimens of the old dry or air compass of American makers, illustrating the progress of improvement.

Adjustable binnacle.

NAVAL OBSERVATORY.

Publications.

Photographs of astronomical and other objects.

Chronometers.

Objects illustrative of American Arctic explorations.

Buildings and instruments used in the observations of the transit of Venus, December 8, 9, 1874.

HYDROGRAPHIC OFFICE.

Nautical charts, books, etc., published by the Hydrographic Office.

NAUTICAL ALMANAC OFFICE.

Publications of the office.

YARDS AND DOCKS BRANCH.

Plans of navy yards at Portsmouth, N. H.; Boston, Mass.; New York, N. Y.; Washington, D. C.; Norfolk, Va.; Pensacola, Fla., and Mare Island, Cal.

Plans of machinery at Boston navy yard; plans of dry docks at Boston, Mass., and Norfolk, Va.

Photographs of buildings, etc., at Portsmouth, N. H.; New York, N. Y.; Norfolk,

Va.; League Island, Pa.; Boston, Mass., and Mare Island, Cal.

Models of dry docks at Boston, Mass.; New York, N. Y.; Norfolk, Va., and Mare Island, Cal.

Pyramid of blocks of wood taken from naval vessels.

STEAM ENGINEERING BRANCH.

Machinery of the "Nipsic."

The machinery of the various sizes of steam launches.

The engines of the "Epervier."

Part of the original machinery of the torpedo boat "Spuyt Duyvel," a steam launch, with the first torpedo machinery used in the United States Navy.

Detail drawings of compound engines.

Photographs of machine shops, foundries, etc., showing improved tools used in the manufacture and construction of steam machinery.

Two compound boilers.

Baird's distiller, illustrating the method of making fresh water on board ship at sea.

EQUIPMENT AND RECRUITING BRANCH.

Young's ship's galley, with utensils for cooking for 500 men.

Hemp, manila, and wire rope; cable, blocks, chain cables, etc.

CONSTRUCTION AND REPAIR BRANCH.

Models of the "Constitution," "Mississippi," "Jamestown," "St. Mary's," "Portsmouth," "Constellation," "Niagara," "Merrimac," "New Ironsides," "Hartford," "Monitor," "Kearsage," "Vandalia," "Constitution," "President," "Ohio," "Enterprise," "Washington," and "Fulton."

Full-rigged model.

MEDICAL AND SURGICAL BRANCH.

Medicines and Hospital Stores used in the Navy.

Surgical instruments and appliances usually supplied in the service; additional case of surgical instruments occasionally supplied in lieu of the standard operation case.

Cots and stretchers for transportation of wounded in action.

Model of a sick bay; the part of the ship usually allotted for hospital accommodation.

Model of hospital ship.

Fan for ventilating the hold of a ship in hot climates.

Starting funnel arrangement for aerating distilled water.

Set of record and account books for a naval hospital.

Fracture bedstead, for elevating the patient and changing position.

Bed with woven wire mattress.

Photographs and plans of naval hospitals.

PAY, PROVISION, AND CLOTHING BRANCH.

Articles and materials of clothing issued in the navy.

Package, showing the manner of packing clothing for sea.

Navy rations in glass jars, and packages of the same as prepared for sea.

"Small stores," articles for mess use: pans,

Patents, Pensions, Lands, Indians, Education, Census.

spoons, knives, etc., tobacco, soap, needles, thread, and other small articles.

Packages of tobacco and soap as packed for sea use.

Paymasters' books and blanks for a ship with complement of 200 men; paymasters' sta-

tionery; stewards' stores, scales, and tools used in issuing provisions.

Iron safe; locks used on paymasters' store-rooms, three in number.

Specimen of candles.

TREASURY DEPARTMENT.

(Owing to want of sufficient appropriation by Congress for defraying the expense of the participation in the Exhibition by the Treasury Department, no definite arrangements have yet been made for contributions from it.—March 31, 1876.)

INTERIOR DEPARTMENT.

PATENT OFFICE.

Publications.—Annual reports; official gazette; indexes to patents, general and yearly; volumes of patents, monthly and weekly; decisions of Commissioner of Patents; mechanical dictionary; official classification.

Drawings of Models.—Selected series (60,000), intended to serve in the illustration of the Patent Office work, from the classes given below.

Models.—Selected series (5000), intended to serve in the illustration of the Patent Office work, from the following classes: agriculture; harvesters; mills and presses; architecture; civil engineering; railways; navigation; metallurgy; metal working; wood working; steam; hydraulics; pneumatics; mechanical movements; hoisting; horse powers; journals and bearings; vehicles; fire arms; textile; printing and stationery; stone; clay; glass; leather; light; heat; electricity; household; chemistry; gas; ice, and fine arts.

Miscellaneous Collections of Interest.—The original Declaration of Independence; Gen. Washington's commission from the Continental Congress; personal effects of Gen. Washington, such as furniture, porcelain, clothing, cane, sword, traveling escritoire, surveying compass, camp equipage, including tent, mess-kit, money-chest, etc.

Weapons of historical interest, such as bayonets from General Braddock's line of march; muskets presented by the Emperor of Morocco to Mr. Jefferson; war saddle of Baron De Kalb; sabres of honor presented to United States officers by sovereigns and beys; model of invention by President Lincoln.

PENSION OFFICE.

Publications.—Annual reports; graphic illustrations; wall maps; wall charts; portfolios of diagrams, etc.; collections of historical interest; selections from the archives of the office relative to the Revolutionary war.

GENERAL LAND OFFICE.

Publications.—Annual reports; digests, and other documents.

Graphic Illustrations.—Maps, charts, and atlas of surveys; miscellaneous collections; instruments and processes employed in the land survey.

INDIAN OFFICE.

Publications.—Reports and other publications.

Illustrations.—Portraits, photographs, maps of reservations, etc.

Models.—Wigwams, communal houses, canoes, etc.

Miscellaneous Collection of Interest.—Costumes, male and female, adult and others; weapons of war and the chase; tents, wigwams, canoes, etc.; domestic utensils; specimens of food; toys, games, and festivals; arts and manufactures of the tribes; ethnological collections, etc.

EDUCATION OFFICE.

Publications by the Office.—Annual and special reports, and circulars of information.

Publications by other Offices or Persons.—Foreign reports on American education; foreign educational reports and documents; treatises on pedagogy; and educational journals.

Graphic Representations.—Wall maps and charts; portfolios of engravings, drawings, and photographs; busts; paintings, and other portraits.

Models of Educational Buildings.—The primitive log school-house; country school-house of to-day; city graded school-house; college buildings; details as to dormitories, ventilative apparatus, school-rooms, etc.; models of adobe and sod school-houses.

Specimens of School Furniture, Apparatus, and text-books.—Historic collection, showing progress in text-books; specimens and models of school desks, seats, black boards, school maps, charts, etc.; specimens of modern slates, globes, natural history cabinets, chemical and philosophical apparatus, chemical appliances, etc.

Miscellaneous Collections of Interest.—Selected volumes of state and city educational reports; catalogues of private schools, academies, seminaries, colleges, and professional schools, selected series; catalogues and reports of orphan, reformatory, and charitable schools for the young, etc.; catalogues and reports of institutions for the deaf mute, blind, etc.; catalogues and reports of libraries; catalogues and reports of museums of art, of science, and of natural history.

These miscellaneous collections, some bound and others in their original condition, will be exhibited as showing specimens of the materials for the study of education, which are published by the systems and corporations themselves.

Volumes of manuscript returns made to the Bureau of Education by educators and school officials of every grade, and used in the preparation of its annual and special reports.

CENSUS OFFICE.

Publications.—Decennial censuses; statistical atlas, 1870.

Surveys, Post-Office, Agriculture.

Graphic Illustrations.—Maps, charts, and diagrams.

Miscellaneous Articles of Interest.—Original schedules of the census of 1790; selected volumes of schedules of subsequent censuses.

GEOLOGICAL AND GEOGRAPHICAL SURVEY OF THE TERRITORIES.**1st Division.**

Publications.—Reports, bulletins, etc.

Graphic Illustrations.—Topographical and geological atlases; wall maps and charts; panoramic photographs; stereoscopic views; photographic portfolios; photographic transparencies; paintings, landscapes, portraits, etc.

Models and Reliefs.—Topographical and geographical relief maps; relief sections; models of displacement; models of ancient

ruined cliff habitations; models of same restored.

Collections of Interest.—Geological and mineralogical cabinets; pottery, costumes, weapons, implements, toys, etc.

2d Division.

Publications.—Reports; bulletins; monographs, etc.

Graphic Illustrations.—Topographical and geological atlases; wall maps and charts; panoramic and stereoscopic views; portfolios, albums, and transparent photographs.

Models and Reliefs.—Topographical and geological relief maps; geological structural sections; models of displacement.

Miscellaneous Collections.—Geological and mineralogical specimens; arms, clothing, etc.

POST-OFFICE DEPARTMENT.

The exhibition of this Department is classed under the following general heads:

A MODEL WORKING POST-OFFICE.

This is a branch office or station of the Philadelphia office, and shows the practical workings of the following divisions of this Department, viz.: Box and general delivery system; system of carrier delivery and collections; registered letter system; money-order system; foreign mail system, etc.

RAILWAY MAIL SERVICE DIVISION.

Two railway post-offices or postal cars, equipped with mail-bag catchers, and all other first-class appointments of that service, under charge of railway post-office clerks, by whom the mailing and distribution of outgoing mails is performed. Several models of mail catchers are also exhibited under this head.

Model mail cars, small size, exhibiting the practical working of the mail-bag catcher upon a miniature truck inside the building.

STAMPS, STAMPED ENVELOPE, AND POSTAL CARD DIVISION.

Machine in operation manufacturing stamped envelopes; machine in operation manufacturing postal cards; specimens of all stamps, stamped envelopes, and postal cards; specimens of registered-letter envelopes and post-office official envelopes; specimens of all United States post-office stamps and stamped envelopes, formerly used and now out of date.

MAIL EQUIPMENT DIVISION.

Leather pouches for letter mails; canvas bags for printed and miscellaneous matter; also registered-letter mail bags; mail locks, now in use; mail locks, out of use.

TOPOGRAPHICAL DIVISION.

Railway and general postal-route maps, and money-order office maps.

DIVISION OF BOOKS AND BLANKS.

Specimens of all books, blanks, etc., used by the Department; letter scales; marking and rating stamps.

AGRICULTURAL DEPARTMENT.

The exhibit from the Agricultural Department embraces as follows:

BOTANICAL DIVISION.

A collection of all the timber trees of the United States, in sections, showing interior and exterior surfaces; specimens of flowers, leaves, and fruits; herbarium specimens of grasses and other specialties.

STATISTICAL DIVISION.

Large outline maps of the United States, showing forest areas, extent, and value of farming lands, and amount of production, by counties; arrangement of charts and diagrams detailing amount of special products, by sections; statistics of farm animals, and illustrated statistics of industrial education; statistical album of miscellaneous details, with charts, diagrams, etc.

ENTOMOLOGICAL DIVISION.

Collections of fruit and vegetable models; birds beneficial and injurious to farmers and

orchardists; poultry types, illustrated by stuffed specimens; collection of grains and cereals; collection of textile fibres of the United States, with specimens of their manufacture; specimens of tobacco, from different tobacco-producing sections of the United States; mounted collection of beneficial and injurious insects.

MICROSCOPICAL DIVISION.

Series of water-color drawings illustrating typical genera of microscopic fungi; preparations illustrating the characteristics of poisonous and edible mushrooms common to the United States; illustrations displaying the varied character of the starch granules of plants; drawings and illustrations explaining method of distinguishing vegetable and animal fibres, their kind and quality; drawings displaying vegetable and animal cellulose and starches, and illustrating methods of detecting them in organizations.

CHEMICAL DIVISION.

Fertilizers.—Mineral—including phos-

Horticulture, Animals, Fish, Ethnology.

phates, apatite, coprolites, and all minerals and materials yielding potash, etc.; vegetable—muck, peat, sea-weed, and other products of vegetable decomposition; animal—including guanos, bones, refuse from abattoirs, fisheries, oil manufactures, cancerine, etc.; agricultural products and materials obtained by chemical processes from flour, meal, bran, hominy; methods of preserving, etc., with special products of manufacture, viz.: starch, dextrine, sago, sugars, gums, glucose; products obtained by fermentation: wine, beer, ale, etc.; products of acetous fermentations;

tanning materials of the United States: barks, leaves; tanning solutions, with modes of manufacture; dyes of the United States; resins and products of distillation of resinous materials; oils, vegetable, fixed, and others; products of milk, classified according to methods of production.

HORTICULTURAL DIVISION.

Specimens of economic and utilizable plants, showing methods of growth, culture, etc., grapes, cotton, tobacco, flax, broom corn, jute, corn, sorghum, yucca fibres, etc.

SMITHSONIAN INSTITUTION, AND COMMISSION ON AMERICAN FOOD FISHES.

The Smithsonian Institution makes the following exhibits:

Publications of the Institution.

Smithsonian contributions to knowledge; miscellaneous collections; annual reports, and other publications.

Meteorological work of the Institution: Charts showing the mean temperature, rainfall, and barometric pressure of the United States.

International exchanges; statistics of number of correspondents; extent of distribution by exchange.

General condition; financial statement.

COLLECTION TO ILLUSTRATE THE ANIMAL RESOURCES OF THE UNITED STATES.

IN CHARGE OF G. BROWNE GOODE.

Animals Beneficial or Injurious to Man—Mammals; birds; reptiles; amphibians; fishes; elasmobranchiates; marsipobranchiates; leptocardians; insects; arachnids; crustaceans; worms; mollusks; radiates; protozoans and marine products not of animal nature.

Means of Pursuit and Capture.—Hand-implements; implements for seizure of objects; missiles; baited hooks; angling tackle; nets, and traps.

Apparatus for Whales Destruction.—Hunting animals; decoys and disguises; pursuit—its methods and appliances.

Means of Utilization.—Preparation and preservation of foods; manufacture of textile fabrics, felts and stuffings; preparation of the skin and its appendages; the hard materials; oils, glues, drugs, perfumes, chemical products, fertilizers and lime; preservation of the animal for scientific uses.

Animal Products and their Applications.—Food; clothing; materials employed in the arts and manufactures.

Protection and Culture of Useful Animals.—Investigation; protection, and propagation.

COLLECTION TO ILLUSTRATE THE FISHERY RESOURCES OF THE UNITED STATES.

This is covered to a considerable extent by the preceding group, in connection with which it is arranged. The special features will embrace the following:

Fishing vessels, boats, etc., life size and models.

The apparatus and dories used in the whale fisheries.

Nets, traps, and pounds.
Hooks, lines, baits, etc.

Casts, photographs, and drawings of fish and other aquatic animals.

Prepared or living specimens of aquatic animals.

Products of the waters.

Economical applications of the above products.

E.—COLLECTION TO ILLUSTRATE THE ETHNOLOGY OF THE UNITED STATES.

IN CHARGE OF DR. CHARLES RAW.

(*This exhibition is made conjointly with the Indian Bureau of the Interior Department.*)

Objects of Stone.

Flaked and chipped stone; raw material (pieces of flint, etc.); flakes and cores of flint, obsidian, etc.; rude or unfinished implements; arrow and spear heads; perforators and scrapers; cutting and sawing implements; dagger-shaped implements; leaf-shaped implements; digging implements, and wedge or celt-shaped implements.

Pecked, ground, and polished stone; wedges or celts; chisels; gouges; adzes; grooved axes; hammers; ceremonial weapons; cutting tools; scraper and spade-like implements; pendants and sinkers; discoidal stones, etc.; pierced tablets and boat-shaped objects; grinding and polishing stones; stone vessels; mortars; pestles; tubes; pipes; ornaments, and sculptures.

Objects of Copper.

Implements and ornaments.

Objects of Bone.

Implements, weapons, and ornaments.

Objects of Shell.

Utensils, implements, and ornaments.

Objects of Clay.

Mound pottery and terra-cottas.

Objects of Wood.

Fragmentary objects and carvings of an early date.

Ethnological Series.

Man.—Skulls, mummies, etc.

Culture.—Aliments, food (mineral and vegetable), drinks, narcotics, and medicines.

Habitations.—Models of houses, tents, etc., and appurtenances.

Furniture.—Cradle boards, mats, etc.

Vessels and other utensils of household use.—Earthenware; carved horn and wooden ware; stone ware; wicker work; bladders and boxes.

Utensils for smoking, etc.—Pipes; tobacco pouches; snuff apparatus, etc.

Receptacles used as means of transportation.—Pouches, bags, raw-hide cases, burden-nets, etc.

Ethnology, Minerals.

Clothing.—Raw material; complete suits; head, body, hand, leg, and foot clothing; parts of dress.

Personal adornment.—Skin ornamentation; head, neck, breast, body, and limb ornaments; toilet articles.

Implements of general use of war and the chase, and of special crafts.—Implements for cutting, drilling, etc.; lances, bows and arrows, clubs, tomahawks, etc.; shields, body armor, etc.; implements for fire-making, arrow-making, pottery, for procuring and manufacturing food; agricultural implements; implements used in spinning, weaving, sewing, and embroidery.

Means of locomotion and transportation.—Snow shoes, ice creepers, etc.; balsams, dug-outs, bark canoes, hide boats, etc.; saddles, bridles, halters, harness, etc.; sleighs, etc.

Games and pastimes.—Gambling implements; masks, etc., used in dancing; rackets, balls, etc.; toys.

Music.—Drums, rattles, whistles, flutes, etc.

Art.—Pictorial representations and carvings.

Superstition.—Charms, mythological figures, etc.

COLLECTION TO ILLUSTRATE THE MINERAL RESOURCES OF THE UNITED STATES.

IN CHARGE OF W. P. BLAKE.

The principal objects of this collection of the useful ores and minerals of the country have been to illustrate: 1st. The nature and variety of the mineral resources of the United States; 2d. The geographical distribution and geological associations of the minerals; 3d. The extent to which they have been utilized; 4th. The mechanical, metallurgical, and chemical processes by which they are extracted or converted into useful products; 5th. The inherent and comparative qualities of the extractive products. A portion of the collection is arranged according to the nature of the objects, irrespective of locality, but the bulk of the Exhibition is grouped geographically by States. There is also a section devoted to models and drawings, and one to geological maps and graphic charts. This collection occupies the northeast portion of the Government Building, upon the right of the main aisle.

I. SYSTEMATIC SERIES, GROUPED IRRESPECTIVE OF LOCALITY, IN THE FOLLOWING ORDER:

a Crystalline minerals, chiefly for scientific and educational purposes.

b Fuels and petroleum.

c Ores, metals, and their immediate derivatives.

d Ornamental stones and gems.

e Building stones; marbles, etc.

f Artificial stones; lime; mortars; cement.

g Pictile materials and direct products, including refractory materials, etc.

h Pigments; colors; detergents.

i Grinding, abrading, and polishing substances.

k Fertilizing substances.

l Sulphur, salts, and minerals chiefly used in chemical manufactures.

II. ORES, MINERALS, AND METALLURGICAL PRODUCTS, GROUPED BY STATES.

Maine.—Iron ores, limestone and pig iron; granite for buildings and monuments.

New Hampshire.—Granitic and metamorphosed rocks; granite; geological map of the State.

Vermont.—Marble; slate of various colors; roofing slate, etc.; iron ores and limonite; chilling pig iron; spiegeleisen; kaolin and fire brick; sand for glass making; copper ores, copper, and metallurgical products; scythe stones.

Massachusetts.—Iron ore, siderite; magnetic iron ore, and steel produced from it; iron and steel wire; emery, massive and associate; corundum, corundophyllite, diaspor, red oxide of titanium, and ilmenite; argenteriferous lead ore, galenite; copper ore; syenite and porphyry; porphyry, a series of polished specimens; granite; sand for glass making; glass, cut and pressed; pearl ash and red lead; kaolin; potters' clay, brick clay, etc.; potters', paper, and alum clay; marble and limestone; geological map of the State.

Rhode Island.—Granite, for building and monumental purposes; magnetite; anthracite and graphitic coal, in large mass and in lumps.

Connecticut.—Granite and building stone; marble and limestone; serpentine marble, verd antique; barytes (sulphate of barytes); kaolin, brick clay, and products; iron ores, limonite, etc.; pig iron; iron ore, spathic and associates; cement steel; mining picks and hammers; copper and alloys, nickel silver, etc.; feldspar, silice, etc., for pottery purposes; geological map of the State.

New York.—Magnetic iron ores, building stones, etc.; fluxes, fuels, and iron; Bessemer steel; hematite, magnetite, etc.; malleable cast iron; puddled iron and muck bar; limestone and lime; hydraulic limestone, hydraulic cement, and cement drain-pipe; kaolin, crude and washed; "incombustible mineral wool," or nitrous fibre "slag felting;" lead and tin foil; fire clay and fire clay goods, refractory materials, etc.

New Jersey.—Magnetic iron ores; iron ore; massive and granular willemite; zinc ores and franklinite; zinc; spiegel iron, "franklinite iron"; calamine (silicate of zinc); potters' and brick clay and iron-stone china ware; refractory furnace materials, fire brick, etc.; fire-brick clay and fire brick, etc.

Pennsylvania.—Iron ore, flux, and fuel; coal and coke; kaolin; limestone; iron ores, limonite, specular iron, etc.; copper ores, copper and copper products; petroleum and petroleum products; glass, and materials for its manufacture; window glass and materials; pig iron and ores; nickel and cobalt ores and products; cast steel; sheet iron; chromite.

Maryland.—Iron ore, flux, and fuel.

Virginia.—Zinc ores, calamine; lead ores, galena, cerussite, etc.; gypsum; barytes; kaolin; iron ores, magnetite, hematite, limonite, and fossil ore; coal and coke; copper ores; salt brine, fossil salt, and prepared salt; gold-bearing quartz; manganese; granite.

West Virginia.—Bituminous coal; coke; iron ores, black band, brown hematite, and fossil ores.

North Carolina.—Gold and silver ores; copper ores; marble; corundum and the associate minerals; iron ores and iron; muscovite (mica); geological map of North Carolina.

South Carolina.—Phosphatic fossils, mineral fertilizers, etc.; minerals and ores.

Alabama.—Ores and coal; spiegeleisen and ores; geological map of Alabama.

Minerals, Geological Maps and Publications

Tennessee.—Iron ores, coal and mineral products; copper pyrites and vein stone; refined copper; geological map of Tennessee.

Georgia.—Auriferous gravel; gold-bearing quartz, etc.

Kentucky.—A series of specimens illustrating the mineral resources of the State.

Louisiana.—Rock salt; sulphur.

Ohio.—Open hearth steel; iron ores, flux and fuel; pig iron; potters' clay and pottery; crude and manufactured plaster; building stone.

Indiana.—Specimens of block coal, and iron ores; potters' clay; "Indianite."

Missouri.—Lead ores, galena, cerussite, etc.; pig lead; zinc ores; barytes, associated with lead ores; marble, limestone, and granite; iron ores, magnetite, specular iron, hematite; pig iron; copper ore; coal and coke; fossil plants, etc.; porphyry.

Michigan.—Iron ores, flux, and Bessemer pig iron; specular and magnetic; native copper, crystallized; mass and stamp work, with silver and associate minerals, and in amygdaloid and "ash bed;" building stone;

native silver; copper and "copper conglomerate."

Colorado.—Gold and silver ores; gold, and ores containing tellurium; silver and copper ore.

Utah.—Silver ores.

Idaho.—Gold and silver ores.

Montana.—Silver ores; argentiferous galena.

Arizona.—Copper ores; gold quartz, and other minerals.

Nevada.—Silver and gold ores.

California.—Gold and silver ores; auriferous gravel, "cement" with gold; quicksilver ores, cinnabar and native quicksilver; copper ores; tin ores and tin.

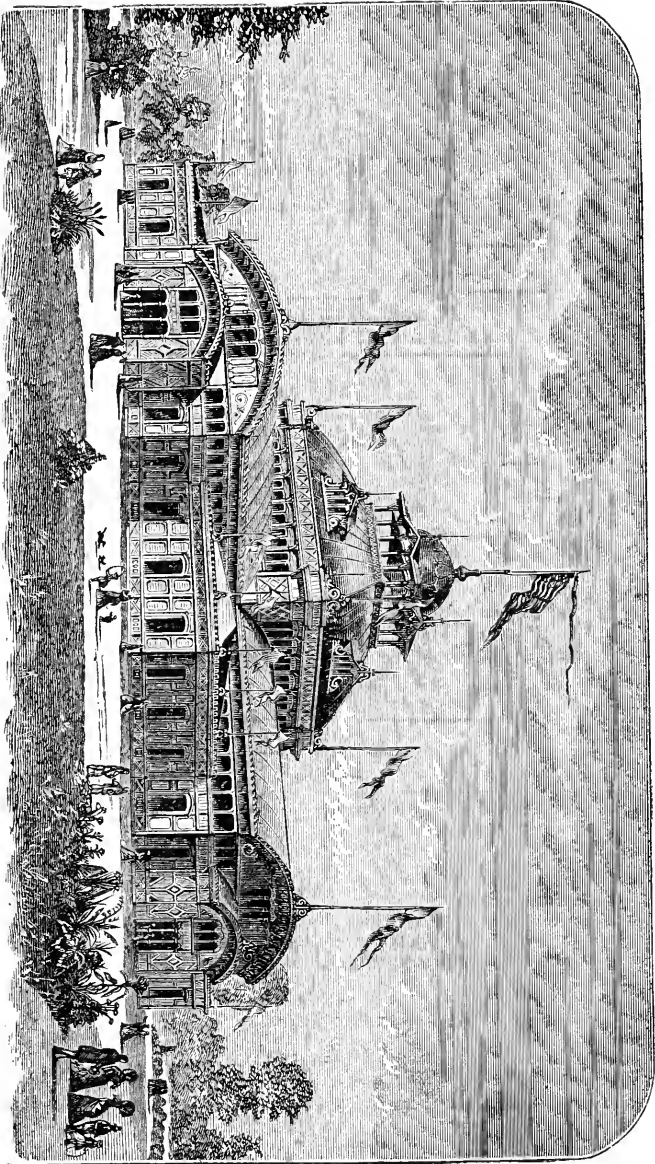
III. MODELS AND DRAWINGS.

IV. GEOLOGICAL MAPS AND GRAPHIC CHARTS.

Geological Map of the United States and Territories.

Geological and other Maps of the State of New Hampshire.

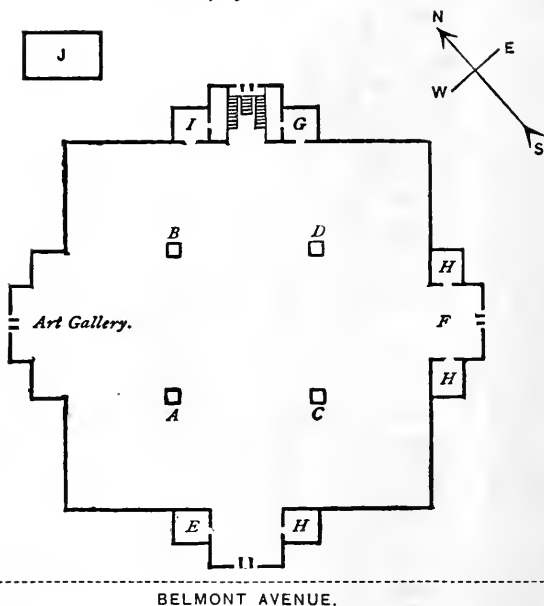
Geological Reports and Publications.



WOMEN'S PAVILION.

WOMEN'S PAVILION.

Scale, 80 ft. to 1 in.



Section A.—Art, Industrial Art, Education.

“ B.—Manufactures, etc.

“ C.—Foreign Exhibits—Great Britain, Canada, Brazil, Norway, Sweden, Japan, France, Egypt, Tunis, Italy, Spain, Netherlands.

“ D.—Needlework, inventions, patents, etc.

E.—Library.

F.—Benevolent Institutions.

G.—Editorial Office of “The New Century for Women.”

H.—Committee Rooms.

I.—Dressing Room.

J.—Kindergarten.

Total Length, 208 ft. Width, 208 ft. Height of Nave, 41 ft. Height of Dome, 67 ft.

No. 153. WOMEN'S PAVILION.

Architect, H. J. SCHWARZMANN.—Size, 26,368 square feet.

THIS pavilion was erected by money raised through the exertions of the women of the United States, and is devoted exclusively to the results of women's labor. It is built of wood, and is situated on Belmont avenue, adjacent to the Horticultural grounds.

OFFICERS AND MEMBERS OF THE WOMEN'S CENTENNIAL EXECUTIVE COMMITTEE.

President, MRS. E. D. GILLESPIE, Philadelphia.

Vice-President, MRS. JOHN SANDERS, Philadelphia.

Secretary, MRS. RICHARD P. WHITE, Philadelphia.

Treasurer, MRS. FRANK M. ETING, Philadelphia.

Members.

- | | |
|---------------------------------------|--------------------------------------|
| MRS. JOHN W. FORNEY, Philadelphia. | MRS. F. W. CROWELL, Kansas. |
| MRS. RICHARD P. WHITE, Philadelphia. | MRS. M. C. LUDELING, Louisiana. |
| MRS. HENRY COHEN, Philadelphia. | MRS. BION BRADBURY, Maine. |
| MRS. AUBREY H. SMITH, Philadelphia. | MRS. JAMES T. FIELDS, Massachusetts. |
| MRS. MATTHEW SIMPSON, Philadelphia. | MRS. K. S. MINOR, Mississippi. |
| MRS. EMILY R. BUCKMAN, Philadelphia. | MRS. S. B. BOWEN, Montana. |
| MRS. A. H. FRANCISCUS, Philadelphia. | MRS. W. L. DAYTON, New Jersey. |
| MISS ELIZABETH GRATZ, Philadelphia. | MRS. EDWARD F. NOYES, Ohio. |
| MISS MCHENRY, Philadelphia. | MRS. F. W. GODDARD, Rhode Island. |
| MRS. CRAWFORD ARNOLD, Philada. | MRS. M. J. YOUNG, Texas. |
| MRS. H. C. TOWNSEND, Philadelphia. | MRS. C. J. FAULKNER, West Virginia. |
| MRS. JOHN PENN BROCK, Philadelphia. | MRS. J. B. THORP, Wisconsin. |
| MRS. THEODORE CUYLER, Philadelphia. | MRS. WORTHINGTON HOOKER, Conn. |
| MRS. ROBERT K. WRIGHT, Philadelphia. | MRS. W. O. ROCKWOOD, Indiana. |
| MRS. L. C. HUGHES, Arizona. | MRS. WM. GEO. REED, Maryland. |
| MRS. FRED. MACCRELLISH, California. | MISS E. S. STEVENS, New Hampshire. |
| MRS. M. E. P. BOULIGNY, Dist. of Col. | MRS. GEN. G. W. CULLUM, New York. |
| MRS. J. M. WASHBURN, Dakotah. | MRS. J. GREGORY SMITH, Vermont. |
| MRS. ELLEN CALL LONG, Florida. | MRS. J. M. HECK, North Carolina. |
| MRS. F. R. WEST, Iowa. | MRS. AARON V. BROWN, Tennessee. |
| MRS. W. S. RAND, Kentucky. | MISS ELIZA R. SNOW, Utah. |

MRS. GOV. BEVERIDGE, Illinois.

CHAIRMEN OF WARDS
IN THE
CITY OF PHILADELPHIA.

WARD.	
Second,	Mrs. C. M. PETERSON.
Third,	Mrs. B. MORTON.
Fifth,	Miss FORNEY.
Sixth,	Miss BOMEISLER.
Seventh,	Mrs. R. L. ASHHURST.
Eighth,	Mrs. TUNIS.
Ninth,	Miss LOUISA E. CLAGHORN.
Tenth,	Miss MAGEE.
Eleventh,	Mrs. ALEX. H. NEWITT.
Twelfth,	Mrs. WILLIAM CONN.
Thirteenth,	Mrs. T. W. BAILY.
Fourteenth,	Mrs. I. HYNEMAN.
Fifteenth,	Mrs. A. W. RAND.
Sixteenth,	Mrs. DR. KNORR.
Eighteenth,	Mrs. DR. CLARIDGE.
Nineteenth,	Mrs. T. W. SWAIN.
Twentieth,	Mrs. ABNER LINCOLN.
Twenty-first,	Mrs. W. B. STEPHENS.
Twenty-second,	Miss ZELL.
Twenty-fourth,	Mrs. E. F. HARDIE.
Twenty-fifth,	Mrs. ROBERT KENNEDY.
Twenty-sixth,	Miss CARR.
Twenty-seventh,	Mrs. C. MCILVAINE.
Twenty-eighth,	Mrs. T. J. DAVIS.
Twenty-ninth,	Mrs. W. B. MANN.
Thirty-first,	Mrs. E. H. RYAN.

Furniture, Laundry Appliances, Woven Goods.

Ceramics—Pottery, Porcelain, Glass,
etc.

- 1 Hoopes, Ellen C., Soho Pottery, Pittsburgh, Pa.—Ironstone china toilet set. Sec. B. 210

Furniture and Objects of General Use
in Construction and in Dwellings.

- 2 Olson, Christine, Chicago, Ill.—Organ and table made of three thousand pieces of wood. Sec. D. 217
- 3 Stiles, Mrs. E. W., Philadelphia, Pa.—Combination desk and book paper file. Sec. D. 217
- 4 Chapman, Miss Laura M., Friendship, N. Y.—Lap table. Sec. D. 217
- 5 Spofford, Mrs. Jennie H., Philadelphia, Pa.—Mattress supporter, mosquito bar. Sec. D. 217
- 7 James, Mary I., Cambridge, Mass.—Holly wood chess table. Sec. A. 217
- 8 Page, Mrs. Elizabeth M., Philadelphia, Pa.—Dirt catcher. Sec. D. 217
- 9 Steele, Mrs. M. W., Woodbury, N. J.—Toy set, quill furniture. Sec. B. 217
- 10 Dickerson, Mrs. Y. G., Belfast, Me.—Embroidered camp chair, foot rest, and sofa pillow. Sec. D. 217
- 11 Mountain, Mrs. H. B., New York, N. Y.—Life-preserving mattress. Sec. D. 217
- 12 Cowen, Mrs. S. J., Hartford, Conn.—Book case. Sec. D. 217
- 13 Williams, Mrs. G. A., Baltimore, Md.—Leather table with checker board. Sec. D. 217
- 14 Phillips, Mrs. Richmond L., New York, N. Y.—Table painted in water colors. Sec. D. 217
- 15 Ladd, Miss Gertie, North Hero, Vt.—Student's book-frame. Sec. D. 217
- 16 Allen, Mary W., Cambridge, Mass.—Chess table, with pen and ink sketches. Sec. D. 217
- 17 Story, Miss Mary, Cambridge, Mass.—Chess table, with etchings. Sec. D. 247
- 18 Women's Executive Committee of Wisconsin.—Easel. Sec. D. 217
- 19 French, Julie Blanche, Boston, Mass.—Bedsteads containing drawers, interior safe, etc. Sec. D. 217
- 20 Davey, Mrs. Israel, Brandon, Vt.—Slate stand tops and panels. Sec. A. 217
- 21 Mitchell, Mrs. Carrie, Normal, Ill.—Combined bureau, table, cupboard, and sink. Sec. D. 217
- 22 Bulfinch, Miss Ellen S., Cambridge, Mass.—Book rack, with pen and ink etchings. Sec. A. 220
- 23 Smith, Mrs. O., Chicago, Ill.—Range. Sec. D. 222
- 24 Sherwood, Amanda S., Philadelphia, Pa.—Griddle greaser. Sec. D. 224
- 25 Fox, Jane Ann, Stamford, N. Y.—Dish drainer. Sec. D. 224
- 26 Whitman, Mrs. E. J., Oakland, Cal.—Kettle and pan scraper. An indispensable article for kitchen use. State rights for sale. Sec. D. 224
- 27 Boynton, Mrs. E. E., Evanston, Ill.—Tea kettle one hundred years old. Sec. D. 224
- 28 Kelsey, Phœbe M., Philadelphia, Pa.—Meat tenderer. Sec. D. 224
- 29 Steiger, Mrs. Hannah, Laurel, Md.—Lock barrel cover. Sec. D. 224
- 30 Hunkins, Mrs. D. Grace, Allegheny, Pa.—Rolling pin, containing ten articles used in cooking. Sec. D. 224
- 31 Sterling, Mrs. Charlotte, Gambia, O.—Dish washer. Sec. D. 224
- 32 Wells, Miss Glory Anna, Luzerne, Pa.—Dish washer. Sec. D. 224
- 33 Inesly, Susan V., New York, N. Y.—Reversible sad iron stand. Sec. D. 225
- 34 Short, Mrs. S., Cincinnati, O.—Blanket washer, mangle, ironer, paint cleaner, and stretcher for drying curtains, etc. Sec. D. 225
- 35 Ball, Mrs. S. P., Philadelphia, Pa.—Gas smoothing iron. Sec. D. 225
- 36 Tremper, Miss Marietta, New York, N. Y.—Window-washing machine. Sec. D. 225
- 37 Colvin, Margaret P., Battle Creek, Mich.—Triumph rotary washing machine, combining three principles: 1st, forcing steam through the goods—a powerful detergent; 2d, revolving in hot suds, with a constant change of position; 3d, the alternate elevation and falling of the goods is equivalent to light pounding. This machine is the successful result of years of experiment by a practical woman, to accomplish the perfect cleansing of all fabrics, from carpets to laces, without rubbing. With this machine, a child of twelve years can do more work, and do it better, than two women by ordinary methods. Sec. D.
- 38 Bancroft, Sarah H., Media, Pa.—Bathing chair. Sec. D. 226
- 39 Griswold, Mrs. Ellen D., Hagerstown, Md.—Sash fixture. Sec. D. 227
- 40 Reibert, Babetta, Montgomery, S. C.—Bell pulls. Sec. D. 227
- 41 Anderson, Miss Ellen D., Frederick, Md.—Shutter fastener. Sec. D. 227

Yarns and Woven Goods of Vegetable
or Mineral Materials.

- 42 Collignon Bros., New York, N. Y.—Cane-seat work, made by women. Sec. D. 229

Woven and Felted Goods of Wool, etc.

- 43 Wilkinson, Mrs. James A., Providence, R. I.—Yarn from the hair of an Esquimaux dog. Sec. D. 235
- 44 Bates, Mrs. Edward, Newport, R. I.—Hand-spinning and carding of wool and flax. Sec. D. 235
- 45 Shapleigh, Mrs. E. B., Philadelphia, Pa.—Hand-made rug. Sec. D. 239
- 46 Ham, Miss Amanda S., Rochester, N. Y.—Rag rug. Sec. D. 239
- 47 Wingate, Mrs. J. F., Hampton, N. H.—Rag rugs. Sec. D. 239

Clothing, Jewelry, and Ornaments;
Traveling Equipments.

- 48 Drury, Mrs. L., Springfield, O.—Dress cutting system. Sec. D. 250

Clothing, Embroideries, Laces, Fancy Articles.

- 49 Brooks, C. S., Philadelphia, Pa.—System for cutting clothing. Sec. D. 250
- 50 Union Benevolent Society, Philadelphia, Pa.—Infants' clothing. Sec. D. 250
- 51 Jones, Mrs. M. A., Philadelphia, Pa.—Children's clothing, dress-cutting system. Sec. D. 250
- 52 Tardy, Mrs. C., Paterson, N. J.—Infants' exercising corset. Sec. D. 250
- 53 Brosse, Madame S. C., San Francisco, Cal.—Models for self-measurement. Sec. D. 250
- 54 Keyser, Mrs. E., Philadelphia, Pa.—Misses' clothing and infants' outfits. Sec. D. 250
- 55 Harman, Mrs. E. F., New York, N. Y.—Dress and pattern designer. Sec. D. 250
- 56 Cornwell, Mrs. Elmira, Philadelphia, Pa.—Self-fitting chart, and patterns for cutting ladies' and children's clothing. Sec. D. 250
- 57 Overend, Rebecca C., Fairlee, Md.—Tippet and muff from pod of wild cotton. Sec. B. 250
- 58 Livingston, L. M., New York.—Garment cutting, tailors' system. Sec. D. 250
- 59 Flynt, Mrs. Olivia P., Boston, Mass.—Weather protector, linen duster, skirts, and under garments. Sec. D. 250
- 60 Stearns, Mrs. A. B., Woburn, Mass.—Diagrams for cutting dresses and shirts. Sec. D. 250
- 62 Dyer, Miss Fannie E., Providence, R. I.—Child's apron. Sec. D. 250
- 63 Merritt, Mrs. Jane E., Brooklyn, N. Y.—Cape made from the silk of the milk weed pod. Sec. B. 250
- 64 Gardiner, Miss Mary Jane, Warwick, R. I.—Trimming cutter. Sec. D. 250
- 65 Blauvelt, Mrs. Mary, New York, N. Y.—Marking and cutting gauge for tailors and dressmakers. Sec. D. 250
- 66 Kellogg, Mrs. D. G. M., Keokuk, Ia.—Hosiery. Sec. B. 250
- 67 Forsyth, Mrs. S. M., Manchester, Ia.—Hosiery. Sec. B. 250
- 68 Champney, Mary H., Billerica, Mass.—Stockings knit at ninety-eight years of age. Sec. D. 250
- 69 Lovering, Mrs. Abigail F., Oxford, Me.—Mittens knit at the age of one hundred years and four months. Sec. D. 250
- 70 Women's Centennial Committee of Lowell, Mass.—Lowell hosiery. Sec. D. 250
- 71 Robbins, L. E., Boston, Mass.—Diagram for cutting dresses. Sec. D. 250
- 72 Employment Society, Providence, R. I.—Sec. D. 250
 a Infant's shirt, child's skirt, and afghan. 250
 b Embroidered flannel skirt. 252
- 73 Bonney, Sarah E., Sterling, Mass.—Sec. B. 250
 a Muff, boa, and cap. 250
 b Feather fans. 254
- 74 Shaw, Mrs. James, jr., Providence, R. I.—Infant's socks. Sec. D. 251
- 75 Summer, Mrs. Sallie O., Providence, R. I.—Mittens. Sec. D. 251
- 75a Conant, Mrs. Orpha, Dwight, Ill.—Hat of common grass, gathered, bleached, and sewed in her eighty-fourth year. Sec. D. 251
- 76 Todd, Miss Lizzie, Columbus, O.—Embroidery. Sec. D. 252
- 77 Marsh, Mrs. Charles P., Woodstock, Vt.—Embroidery for camp chair. Sec. D. 252
- 78 Bach, Jennie & Flora, Philadelphia, Pa.—Embroidered table cover. Sec. D. 252
- 79 Lucas, Mrs. Mary, Charlotte, N. C.—Lace trimmed and embroidered handkerchief. Sec. D. 252
- 80 Paul, Mrs. C. F., Saratoga Springs, N. Y.—Honiton collar and lace. Sec. D. 252
- 81 Beach, Edith, West Hartford, Conn.—Child's rug. Sec. D. 252
- 82 Brush, Miss Jennie, New York, N. Y.—Embroidered lambroquins. Sec. D. 252
- 83 Todd, Miss Lizzie, Columbus, O.—Embroidered shawls and sacque. Sec. D. 252
- 84 Ladies of Immanuel Church, Bellows Falls, Vt.—Needlework. Sec. D. 252
- 85 St. John's Guild, New Haven, Conn.—Ecclesiastical embroidery. Sec. D. 252
- 86 Burton, Susie, Laurel, Md.—Tapestry picture: Joseph presenting his Father to Pharaoh. Sec. D. 252
- 87 Jones, Anna S., Worcester, Mass.—Tatted cushion cover. Sec. D. 252
- 88 Luce, Miss Caroline, Washington, D. C.—Honiton lace. Sec. D. 252
- 89 Weld, Mrs. William G., Boston, Mass.—Embroidered panels; imitation of antique lace. Sec. D. 252
- 90 Skuse, M. J. & F. A., Boston, Mass.—Irish point lace. Sec. D. 252
- 91 Shepherd, Mrs. Emeline, Northampton, Mass.—Embroidered handkerchief. Sec. D. 252
- 92 Jones, Miss Anna, Worcester, Mass.—Cushion cover. Sec. D. 252
- 93 Leonard, Miss Louise, New Bedford, Mass.—Lace ends for necktie. Sec. D. 252
- 94 Fay, Sarah R., Lancaster, Mass.—Embroidered blanket. Sec. D. 252
- 95 Hathaway, Mrs. Mary, New Bedford, Mass.—Embroidered scarf. Sec. D. 252
- 96 Nye, Mrs. Clement D., New Bedford, Mass.—Lace necktie. 252
- 97 Women's Executive Committee of Wisconsin.—Seal of Beloit College, embroidered on white satin. Sec. D. 252
- 98 Brown, Nettie, Keokuk, Ia.—English point guipure. Sec. D. 252
- 99 Leigerot, Mrs. Marie, Keokuk, Ia.—Thread lace. Sec. D. 252
- 100 Clothier, Miss Minnie J., Nevada, Ia.—Honiton point. Sec. D. 252
- 101 Scott, Mrs. T. R., Burlington, Ia.—Point lace bertha; handkerchief of Honiton point. Sec. D. 252
- 102 Scott, Mrs. John, Keokuk, Ia.—Guipure barb. Sec. D. 25

Embroideries, Laces, Fancy Articles.

- 103 Young Ladies' Society, Grinnell, Pa.—Baby blanket; Bible cushion. Sec. D. 252
- 104 Little, Miss, Hagerstown, Md.—Old Spanish lace. Sec. D. 252
- 105 Larkum, Mrs. Edward, Providence, R. I.—Crochet tidy. Sec. D. 252
- 106 Arnold, Mrs. John H., Pawtucket, R. I.—Pincushion cover and tidies in antique lace. Sec. D. 252
- 107 Bradley, Mrs. N. M., Providence, R. I.—Embroidered suspenders. Sec. D. 252
- 108 Kelley, Miss Lina, Providence, R. I.—Pincushion cover in antique lace. Sec. D. 252
- 109 Torrey, Miss, Baltimore, Md.—Guipure lace tidies. Sec. D. 252
- 110 Whitehead, Mrs. C. E., New York, N. Y.—White lace. Sec. D. 252
- 111 Reynolds, Mrs. W. H., Providence, R. I.—Embroidered flannel skirt. Sec. D. 252
- 112 Jessop, Mrs. Henry, Brooklyn, N. Y.—Honiton lace; English and Irish point lace. Sec. D. 252
- 113 Hassam, Miss Harriet A., Frederick, Md.—Embroidered ribbon. Sec. D. 252
- 114 Mordecai, Miss Rosa, Philadelphia, Pa.—Parasol cover, tatted to imitate Irish lace. Sec. D. 252
- 115 Taylor, Miss, Baltimore, Md.—Darning on cloth. Sec. D. 252
- 116 Ralston, Miss Florence, Providence, R. I.—Tatted tidy. Sec. D. 252
- 117 Hoard, Mrs. John W., Providence, R. I.—Netted tidy. Sec. D. 252
- 118 Congdon, Miss C. A., Providence, R. I.—Children's afghans. Sec. D. 252
- 119 Carroll, Mrs. Andrew J., Providence, R. I.—Netted shawl, afghan, and embroidered handkerchief. Sec. D. 252
- 120 Walker, Mrs. Victoria, Providence, R. I.—Embroidered carriage robe and child's skirt. Sec. D. 252
- 121 Whittemore, Miss Jennie, Charleston, S. C.—Worsted picture of General Washington. Sec. D. 252
- 122 Cheeny, Miss Daisy, East Greenwich, R. I.—Tatted tidy. Sec. D. 252
- 123 Wiggin, Mrs. Abby N., Providence, R. I.—Button holes in silk. Sec. D. 252
- 124 Brown, Miss Fanny G., Providence, R. I.—Embroidered sofa pillow. Sec. D. 252
- 125 Fuchs, Heiene, St. Louis, Mo.—Embroidered lace dress. Sec. D. 252
- 126 States, Mrs. E. J., Boston, Mass.—Embroideries and infants' dresses. Sec. D. 252
- 127 Bravo, Miss Sofia, St. Augustine, Fla.—Pincushion cover and Spanish needle work. Sec. E. 252
- 128 King, Mrs. Henry, Georgetown, D.C.—Embroidered cashmere shawl. Sec. D. 252
- 129 Weiller, Julia, Philadelphia, Pa.—Embroidered picture. Sec. D. 252
- 130 Noot, L., New York, N. Y.—Hand-made laces. Sec. C. 252
- 131 Whitesides, Mrs. E. G., Philadelphia, Pa.—Braiding and embroidery. Sec. D. 252
- 132 McCarthy, Miss Eva, Washington, D. C.—Piano cover. Sec. D. 252
- 133 American Button Hole, Overseaming, & Sewing Machine Co., Philadelphia, Pa.—Sewing machine work. Sec. D. 252
- 134 Anthony, Mrs. Sarah E., Smyrna, Del.—Embroidered picture. Sec. D. 252
- 135 Smyth, Mrs. M. H., Philadelphia, Pa.—Embroidery and lace mending. Sec. D. 252
- 136 Auerbach, Mrs. Annie T., Troy, Ala.—Embroidered white satin spread. Sec. D. 252
- 137 Stansbury, Mrs. J. C., Jersey City, N. J.—Thread lace. Sec. D. 252
- 138 Shepherd, Mrs. E. M., Northampton, Mass.—Embroidery and lace. Sec. D. 252
- 139 Heubel, Miss Melanie, Philadelphia, Pa.—Embroidered picture. Sec. D. 252
- 140 Huston, Mrs. A. B., Cincinnati, O.—Embroidered motto. Sec. A. 252
- 141 Purkis, Miss E. W., Providence, R. I.—Sec. B.
a Tatting in thread and silk. 252
b Cross in spatter work. 254
- 142 Palmer, Mrs. John S., Providence, R. I.—Sec. D.
a Tidy and barb in tatting. 252
b Tidy in spatter work; cross made from pith of Japan rose. 254
- 143 Welsh, Mrs. A. S., Ames, Ia.—Embroidered dressing gown, fire screen, and toilet cushion. Sec. D. 252
- 144 Plaisted, Miss Anna D., Dubuque, Ia.—Sachet and needlework. Sec. D. 252
- 145 Toole, Mrs. J. C., Dubuque, Ia.—Embroidered table cover. Sec. D. 252
- 146 Sheffield, Mrs. S. K., Dubuque, Ia.—Embroidered footstool. Sec. D. 252
- 147 Smythe, Miss Dora A., Dubuque, Ia.—Embroidered pin cushion. Sec. D. 252
- 148 Parrott, Mrs. Natt, Waterloo, Ia.—Pillow shams. Sec. D. 252
- 149 Guilbert, Mrs., Waterloo, Ia.—Hand sewing, Sec. D. 252
- 150 Gray, Mrs. John H.—Chenille work. Sec. D. 252
- 151 Lovejoy, Mrs. Perley R., Mt. Washington, Md.—Sec. D.
a Handkerchief, transferred work. 252
b Sachet and wild flowers embroidered on satin. 255
- 153 Davey, Mrs. Israel, Brandon, Vt.—Sec. A.
a Jewelry. 253
b Paper weights. 254
- 154 Walcott, Eloise B., Boston, Mass.—Indian basket work. Sec. D. 254
- 155 Nye, Miss Mary, New Bedford, Mass.—Mats for finger bowls. Sec. D. 253
- 156 Abbe, Mrs., New Bedford, Mass.—Toilet cushions and mats. Sec. D. 254

Fancy Articles, Stationery, Medicine.

- 157 Kesiiah, Margaret, Saratoga, N. Y.—Indian work. Sec. B. 254
- 158 Scott, Miss S., Nevada, Ia.—Toilet box. Sec. D. 254
- 159 Dodge, Mrs. A. C., Dubuque, Ia.—Counterpane with India ink designs. Sec. D. 254
- 160 Sisters of the Visitation, Ottawa, Ia.—Chenille flowers and toilet cushion in fish scale work. Sec. D. 254
- 161 Burdie, Mrs. A. S., Des Moines, Ia.—Moss roses. Sec. D. 254
- 162 Iowa College for the Blind.—Fancy work by pupils. Sec. D. 254
- 163 Ward, Hetta L. H., Newark, N. J.—Violet pin and ear rings. Sec. B. 254
- 164 Jacquemin, Mrs. Eliza F., St. Louis, Mo.—Artificial flowers. Sec. B. 254
- 165 Kohn, Miss Annetta, New York, N. Y.—Autograph album. Sec. B. 254
- 166 Candee, Mrs. Charles T., New Haven, Conn.—Pansies in wool. Sec. D. 254
- 167 Vogel, A. C., Washington, D. C.—Crimping and curling pin. Sec. D. 254
- 168 Vanderpool, Mrs. Emily N., New York, N. Y.—Fan in Japanese style. Sec. D. 254
- 169 Wilhelm, Mrs. A. C., Philadelphia, Pa.—Screw button for shoes, gloves, etc. Sec. D. 254
- 170 Parkhill, Miss Harriet R., Jacksonville, Fla.—Ornaments and flowers made of fish scales. Sec. D. 254
- 171 West, Miss Julia M., Bristol, R. I.—Cross in spatter work. Sec. B. 254
- 172 Atwater, Miss Carrie A., New Haven, Conn.—Paper cut with scissors in imitation of lace. Sec. B. 254
- 173 Bailey, H. F., Walworth, Wis.—Ornamental paper cuttings. Sec. B. 254
- 174 Schmidt, Josephine, Baltimore, Md.—Satin tidy, painted in oil. Sec. A. 254
- 175 Dunning, Miss, Canaan, Conn.—Wooden tray, decorated. Sec. A. 254
- 176 Pierce, Mrs. Mary R., Philadelphia, Pa.—Thread and needle bank. Sec. C. 254
- 177 Requa, Emma M., New York, N. Y.—Miniature Independence Bell. Sec. B. 254
- 178 Bacon, Mrs. L. C., Boston, Mass.—Decorated lamp shades. Sec. B. 254
- 179 Jenkins, Mrs. R. E., Bordentown, N. J.—Dolls' shoes. Sec. B. 254
- 180 Martin, Mrs. J. H., Philadelphia, Pa.—Feather flowers. Sec. B. 254
- 181 Harley, Elizabeth G., Haddonfield, N. J.—Complete darning. Sec. D. 254
- 182 Yohe, Mrs. Daniel, Philadelphia, Pa.—Lamp mat. Sec. D. 254
- 183 Schmitt, Madam Katherine, Philadelphia, Pa.—Hair jewelry. Prize medals of 1854 and 1874. Sec. B. 254
- 184 Whitman, Mrs. E. J., Oakland, Cal.—Buttons that require no needle or thread. Sec. D. 254
- 185 Newberry, Miss Rose, New York, N. Y.—Silk scent bags, painted in water colors. Sec. D. 254
- 186 Brush, Miss J., New York, N. Y.—Satin lamproquins. Sec. D. 254
- 187 Tremper, Miss Marietta, New York City.—Shawl strap and bag combination. Sec. D. 255
- 188 Laumonier, Mrs. Celine, New York, N. Y.—Combined traveling bag and chair. Sec. D. 255
- 189 Merckell, Mrs. J. H., Chicago, Ill.—Faded mink, sable, and seal furs restored to original color. Sec. B. 256
- Paper, Blank Books, and Stationery.**
- 190 Stiles, Mrs. E. W., Philadelphia, Pa.—Revolving ink stand. Sec. D. 258
- 191 McNair, Linda H., Oakland, Cal.—Book marker, pencil holder, and paper cutter combined. Sec. D. 258
- 192 Jay, Miss Elizabeth C., New York, N. Y.—Postage stamp moistener. Sec. D. 258
- 193 Miller, Harriet G., Springfield, Mass.—Specimens of job printing. Sec. D. 261
- Medicine, Surgery, Prosthesis.**
- 194 Marshall, Clara, Women's Medical College of Pennsylvania.—Materia medica cabinet and pharmaceutical preparations. Sec. C. 272
- 195 Blake, Mary J. S., Boston, Mass.—Surgical instrument. Sec. C. 276
- 196 Treadwell, Mrs. F. C., Philadelphia, Pa.—Dental work. Sec. B. 277
- 197 Ramborger, Annie D., Philadelphia, Pa.—Dental work. Sec. B. 277
- Hardware, Edge Tools, Cutlery, and Metallic Products.**
- 198 School of Design, Cincinnati, O.—Original metal work; hinges, lockplates, handle plates, etc. Sec. A. 284
- 199 Goldsborough, Mrs. G. R., Queens-town, Md.—Lock. Sec. A. 284
- Carriages, Vehicles, and Accessories.**
- 200 Spofford, Mrs. Jennie H., Philadelphia, Pa.—Spring saddle. Sec. D. 296
- 201 Ruth, Mrs. Sarah, Philadelphia, Pa.—Sunshade for horses. Sec. D. 296
- 202 Jones, Mrs. D. S., Washington, D. C.—Carriage afghan. Sec. D. 296
- Educational Systems, Methods, and Libraries.**
- 203 Fitts, Ellen E., Boston, Mass.—Geographical globes. Sec. D. 300
- 204 Covell, Miss Adelia C., New York, N. Y.—Perspective outline models for schools. Sec. D. 300
- 205 Bradley, Miss Anna J., Boston, Mass.—The thirteen primary forms of crystallization, made of mica. Sec. A. 301
- 206 Ladd, Miss Gertie, North Hero, Vt.—Music. 302
- 207 Woman's Art School, Cooper Union, New York, N. Y.—Normal School Work. Sec. A. 302

Education, Science, Sculpture.

- 208** Sill, Miss Anna P., Rockford, Ill.—History, catalogues, programmes, and magazine, of Rockford Seminary. Sec. E. 304
- 209** Women's Centennial Committee, Providence, R. I.—Volume of Herald of the Centennial. Sec. E. 304
- 210** Ladd, Miss Marion, North Hero, Vt.—Manuscript tale and poem. Sec. E. 306
- 211** Willard, Mrs. Harriet J., Chicago, Ill.—Books and pamphlets written by Chicago ladies. Sec. E. 306
- 212** Cowen, Mrs. S. J., Hartford, Conn.—Mrs. H. B. Stowe's works. Sec. E. 306
- 213** Larned, Ellen D., Thompson, Conn.—History of Wyndham county, Conn., from 1600 to 1760. Sec. E. 306
- 214** Caulkins, Frances M., New London, Conn.—Histories of Norwich and New London; Literary remains of Martha Day. Sec. E. 306
- 215** Barrett, Elizabeth G. B., New Haven, Conn.—Poems. Sec. E. 306
- 216** Hillhouse, Mary, New Haven, Conn.—German Songs in English Rhyme; Hymns from the Latin. Sec. E. 306
- 217** Porter, Rose, New Haven, Conn.—Miscellaneous literature. Sec. E. 306
- 218** Smith, Julia E., Glastenbury, Conn.—Translation of the Bible. Sec. C. 306
- 219** Harbert, Elizabeth B., Evanston, Ill.—Books. Sec. C. 306
- 220** Women's Centennial Committee of Massachusetts.—Books edited, compiled, and translated by Massachusetts women. Sec. C. 306
- 221** Hale, Sarah Josepha, Philadelphia, Pa.—Books. Sec. C. 306
- 222** Stone, Lucy, Boston, Mass.—"Women's Journal" and pamphlets. Sec. C. 306
- 223** Brotherson, Mrs. H. B. M., Peoria, Ill.—A poem. Sec. C. 306
- 224** Beach, Mrs. John S., New Haven, Conn.—The Spirit of Seventy-Six. Sec. C. 306
- 225** James, Mrs. T. P., Cambridge, Mass.—The Potts Memorial. Sec. C. 306

Institutions and Organizations.

- 226** Richards, Margaret C., Philadelphia, Pa.—Work of Indian women. Sec. C. 312
- 227** Janvier, Mary R., Northam, India.—Curiosities from India. Sec. B. 312

Scientific and Philosophical Instruments and Methods.

- 228** Whitner, Mrs. Mary A. E., Philadelphia, Pa.—Multiscope. Sec. D. 324
- 229** French, Elizabeth J., Philadelphia, Pa.—Electro-magnetic appliances. Sec. D. 325
- 230** Tuckerman, Mrs. Lucius, New York, N. Y.—Descriptive tablet of New York Infirmary and Medical College for Women. Sec. E. 346

- 231** Women's Centennial Committee of Massachusetts.—Photographs of New England Hospital, New Bedford Orphans' Home, New Bedford Mariners' Home, Lowell Old Ladies' Home. Sec. A. 346

Sculpture.

- 232** Guild, Mrs. Emma C., Waltham, Mass.—Skech in plaster. Sec. A. 400
- 233** Nevin, Blanche, Philadelphia, Pa.—Plaster models: Eve; Cinderella. Sec. A. 400
- 234** Whitney, Anne, Belmont, Mass.—Bronze bust.—Sec. A. 400
- 235** Massachusetts State Normal Art School.—Casts: historical ornaments, flowers in relief, medallion portraits, bas-relief of antique figure. 400
- 236** Freeborne, Sarah M., New York, N. Y.—Sec. A.
a Sculpture, Vision of St. Christopher. 400
b Bas-reliefs in silver. 401
- 237** Ward, Emily Winthrop, New York, N. Y.—Bas-relief in plaster, Gates of Life. Sec. A. 401
- 238** Perkins, Mrs. E. W., Boston, Mass.—Sec. A.
a Bas-relief on stone jug. 401
b Carved cabinet and footstool. 405
- 239** Wilsey, Mrs. A. W., Syracuse, N. Y.—Little old folks and chair, cut with a penknife. Sec. A. 405
- 240** Hewett, Mrs. Milwaukee, Wis.—Carved ebony book form. Sec. E. 405
- 241** Patterson, Mrs. S. C., Baltimore, Md.—Wall clock, cut with a penknife; salad fork and spoon. Sec. A. 405
- 242** Cutler, Misses N. M. & M. A., Providence, R. I.—Carved wall pocket, glove box, hanging cross, and frame. Sec. A. 405
- 243** Herrick, Lizzie A., Tilton, N. H.—Carved Easter eggs. Sec. A. 405
- 244** Women's State Centennial Committee, Wisconsin.—Memorial shrine of carved ebony. Sec. A. 405
- 245** Schools of Drawing and Design, Lowell, Mass.—Carved frame. 405
- 246** Brainard, Miss M. M., Worcester, Mass.—Wood carving. Sec. A. 405

Collective Exhibit of Carved Work, Painting, etc., from Ladies of the Cincinnati School of Design, Cincinnati, O. (Sec. A.)

- 247** McLaughlin, Miss M. Louise.—Bust of female head: The Pleasing Thought. 400
- 248** Banks, Miss Fannie M.—Carved Estey organ. 405
- 249** Pitman, Miss Agnes.—Carved piano. 405
- 250** Pitman, Mrs. & Miss.—Carved oak door, ebony inlaid and black walnut door. 405
- 251** Johnson, Misses H. & M.—Carved black walnut bedstead, ebony inlaid. 504
- 252** Huston, Mrs. A. B.—Carved dining-room mantel. 405

Wood Carvings.

- 253 Pitman, Mrs. & Miss.—Carved dining-room shelves. 405
- 254 Barrett, Mrs. T. M.—Carved cabinet. 405
- 255 Pitman, Mrs. Agnes.—Carved hanging cabinet, ebony inlaid. 405
- 256 Tidball, Miss Flora.—Child's carved bedstead. 405
- 257 Pitman, Miss Agnes.—Carved chest of drawers, and mantel bracket, ebony inlaid. 405
- 258 Pack, Miss Mary L.—Carved oak secretary cabinet. 405
- 259 White, Mrs. A.—Carved dressing bureau. 405
- 260 Caldwell, Miss Hattie D.—Carved altar cross. 405
- 261 Johnson, Misses Hattie & Mary.—Carved hanging cabinet, picture frames, wall pocket. 405
- 262 Cooper, Miss Alice.—Carved "prie-dieu" and stool. 405
- 263 Jordan, Miss Laura B.—Carved mahogany hanging cabinet. 405
- 264 Abbott, Mrs. E. F.—Carved dressing stand. 405
- 265 Rice, Miss Julia H.—Carved parlor table. 405
- 266 Laws, Miss Lizzie T.—Carved gothic flower stand. 405
- 267 Gurley, Miss Clara.—Carved writing desk. 405
- 268 Lollord, Miss Helen.—Carved ebony prayer book covers. 405
- 270 Hirst, Miss Claude R.—Carved parlor easel and jewel casket. 405
- 271 Banks, Miss Fanny M.—Carved flower stand. 405
- 272 De Pilgrom, Miss V.—Carved black walnut bedstead. 405
- 273 Barrett, Mrs. S. M.—Carved chess table and picture frame. 405
- 274 Pitman, Miss Agnes.—Carved hanging secretary, walnut and ebony. 405
- 275 White, Mrs. A.—Carved picture frame. 405
- 276 Collard, Miss Isora.—Carved book racks and casket. 405
- 278 McDowell, Miss W. H.—Carved gothic stand. 405
- 279 Huston, Mrs. A. B.—Carved dog kennel frame. 405
- 280 Dominick, Mrs. G.—Carved cherry wall pocket and casket. 405
- 281 Tidball, Miss Flora J.—Carved flower stand. 405
- 282 Collard, Miss Helen.—Carved picture frame. 405
- 283 Vallandingham, Miss N.—Gentleman's carved dressing stand. 405
- 284 Collier, Miss Lizzie M.—Carved tea pot rest. 405
- 285 Hesser, Mrs. C. F.—Carved flower stand. 405
- 286 Huston, Mrs. A. B.—Carved bread plate. 405
- 287 Stern, Miss Jessie.—Carved wall pocket and card receiver. 405
- 288 Donnelly, Miss A.—Carved flower stand and picture frame. 405
- 289 Drake, Miss Ada P.—Carved jardinière. 405
- 290 Swift, Miss Mary P.—Carved writing desk. 405
- 291 McCloskey, Miss Lizzie.—Carved wall pocket and photograph frame. 405
- 292 Collard, Miss H. A.—Carved trencher, picture frame, and flower stand. 405
- 293 Pitman, Miss A.—Carved fruit plate and card receiver, library stool, lamp stand, and picture frame. 405
- 294 Dunlap, Miss Sarah.—Carved wall pocket. 405
- 295 Hollingshead, Miss H.—Carved casket and picture frame. 405
- 296 Kidd, Mrs. N. R.—Carved flower stand. 405
- 297 Metcalf, Miss Flora.—Carved shield. 405
- 298 Newell, Miss Emma.—Carved fruit plate. 405
- 299 Caldwell, Miss Hattie D.—Carved picture frame. 405
- 300 Dodd, Mrs. William.—Carved casket. 405
- 301 Rice, Miss M.—Carved picture frame. 405
- 302 Menzies, Miss R. N.—Carved corner bracket. 405
- 303 Brashear, Miss Lillie.—Carved parlor easel. 405
- 304 Scudder, Miss Tillie.—Carved medicine cupboard. 405
- 305 Doherty, Miss Clara.—Carved fruit plate. 405
- 306 Tazzer, Miss Augusta.—Carved rocking chair. 405
- 307 Moore, Miss A. G.—Carved flower stand. 405
- 308 Kemper, Mrs. Theodore.—Carved tray. 405
- 309 Shaler, Miss Minnie.—Carved chess board and picture frame. 405
- 310 Merrill, Miss Susie.—Carved flower stand and carved and painted bracket. 405
- 311 Temple, Mrs. O. H.—Carved picture frame and wall bracket. 405
- 312 Brashear, Miss Lillie.—Carved flower stand. 405
- 313 Stribley, Miss May.—Carved picture frame and casket. 405
- 314 Tatum, Miss Lizzie.—Carved flower stand. 405
- 315 Huston, Mrs. A. B.—Painted slate panels. 410
- 316 Barrett, Mrs. S. M.—Silver bronze panels and oil painting. 410
- 317 Hirst, Miss Claude R.—Oil painting. 410
- 318 Drake, Miss Ada P.—Painted tiles. 410
- 319 Dominick, Mrs. G.—Illumination and medieval lettering. 411

Paintings.

- 320 Ladies' Centennial Committee,** Worcester, Mass.—Wood carvings. Sec. A. 405
- 321 Force, Mrs. F. H., Cincinnati,** O.—Carved black walnut corner cabinet. Sec. A. 405
- 322 Dodd, Mrs. Wm., Cincinnati,** O.—Carved boudoir table and parlor easel. Sec. A. 405
- 323 Williams, Mrs. E., Cincinnati,** O.—Child's carved mahogany bedstead. Sec. A. 405
- 324 McLaughlin, Miss M. Louise,** Cincinnati, O.—Carved hanging cabinet, walnut and ebony, and jardinière. Sec. A. 405
- Painting.**
- 325 Way, Agnes C., Pittsburg, Pa.—**Oil painting. Sec. A. 410
- 326 Sartain, Emily, Philadelphia, Pa.—**Oil paintings. Sec. A. 410
- 327 Linderman, Mrs. Sophia, Philadelphia,** Pa.—Oil paintings: A Turkish Lady; The Laplander's Evening Call; Princess Dornroschen. Sec. A. 410
- 328 Ferguson, Mrs. Mary L., Philadelphia,** Pa.—Oil paintings: Natural Bridge, Virginia; Sunset over the Blue Ridge. Sec. A. 410
- 329 Natt, Phebe Davis, Philadelphia,** Pa.—Oil painting: "There was an Old Woman who Lived in a Shoe." Sec. A. 410
- 330 Callier, Alice, Salem, Mass.—**Painted panel. Sec. A. 410
- 331 Taneyhill, Flora, Alliance, O.—**Oil painting. Sec. A. 410
- 332 Gilbert, Lucia M., Pittsford, Vt.—**Oil painting on slate: Copy of Gustav Richter's Neapolitan Boy. Sec. A. 410
- 333 McLaughlin, Miss M. Louise,** Cincinnati, O.—Painted slate panels. Sec. A. 410
- 334 Webster, Mrs. Elizabeth S., Hartford,** Conn.—Partridges hanging, and game on table. Sec. A. 410
- 335 Bell, Lucy A., Exeter, N. H.—**Portrait of Governor Bell. Sec. A. 410
- 336 Weeks, Caroline, Greenland, N. H.—**Portrait of Governor Bartlett. 410
- 337 Stevens, M. Elizabeth, Jamaica, L. I.—**Field daisies on red medallion. Sec. A. 410
- 338 Webster, Mrs. S. A., New York,** N. Y.—Panels: Wild Roses and Daisies; Clematis and Woodbine. Sec. A. 410
- 339 Maxim, Nellie, Plainfield, N. J.—**Panel, Daisies. Sec. A. 410
- 340 Henry, Mrs. Annie M., Boston,** Mass.—Oil paintings: Wild Flowers; Horned Owl. Sec. A. 410
- 341 Field, Miss E. C., New York, N. Y.—**Panel: Apple Blossoms. Sec. A. 410
- 342 Woodward, Laura, New York, N. Y.—**Oil painting: Autumn in the Adirondack Mountains. Sec. A. 410
- 343 Greatorex, Eliza, New York, N. Y.—**Oil paintings on panels: The Old Porch; The Old Bloomingdale Church; The Somerindyke House. Sec. A. 410
- 344 Schmidt, Josephine, Baltimore,** Md.—Landscapes in oil. 410
- 345 Culver, Mrs. J. O., Madison, Wis.—**Art cabinet, with painted panels and medallion. Sec. A. 410
- 346 Clarke, Kate W., Hyde Park, Ill.—**Zononia, Mrs. Swisshelm's rustic home; Pine Woods in Autumn. Sec. A. 410
- 347 Warner, Miss Naidine, New York,** N. Y.—Painting: Mackerel. Sec. A. 410
- 348 Remington, Elizabeth H., New York,** N. Y.—Oil painting: The Two Kings, Corn and Cotton. Sec. A. 410
- 349 Cook, Miss H. M., Providence,** R. I.—Painting: Snow Scene. Sec. A. 410
- 350 Burt, Miss Helen, New York, N. Y.—**Oil paintings: Quiet Ruminations. Sec. A. 410
- 351 Rose, Adelaide, Port Jervis, N. Y.—**Oil painting: The Wreath's Daybreak. Sec. A. 410
- 352 Paul, Miss Kate, Providence, R. I.—**Beethoven and Quartette, copied in oil from an engraving. Sec. A. 410
- 353 Keep, Mrs. John R., Hartford, Conn.—**Painting: Ear of Corn. Sec. A. 410
- 354 Rafter, Susan L. Johnson, Brooklyn,** N. Y.—Painting: Fruit; decorated table top; Wreath of Nasturtiums. Sec. A. 410
- 355 Fraley, Miss Mollie E., Marshall,** Texas.—Oil painting: Flowers. Sec. A. 410
- 356 Fraley, Miss Mary E., Marshall,** Texas.—Oil paintings: Jephtha; The Murder of the Innocents. Sec. A. 410
- 357 Conant, Miss C. W., New York,** N. Y.—Oil painting: The Charity Scholar. Sec. A. 410
- 358 Twombly, Mrs. John H., Madison,** Wis.—Oil painting: The White Mountains, from the Conway valley. Sec. A. 410
- 359 Talbot, Miss Eleanor W., Providence,** R. I.—Oil painting: Children at Play. Sec. A. 410
- 360 Martin, Mrs. S. L., Rupert, Vt.—**Panels, paper weights, rulers, etc., painted in oil on slate, and enameled. Sec. A. 410
- 361 Holbrook, Harriet Jane, New York,** N. Y.—Panels: Snowballs; Cactus; fruit-piece in oil, and portraits of Lady and Gentleman. Sec. A. 410
- 362 Hine, Franc E., Saratoga Springs,** N. Y.—Flowers on slate panel. Sec. A. 410
- 363 Donaldson, Lucy, Baltimore, Md.—**Panels: Wild Flowers; Roses. Sec. A. 410
- 364 Williams, Mary E., Salem, Mass.—**Oil paintings: Roman Beggar; An Alchemist; Autumn Wild Flowers of New England. Sec. A. 410
- 365 Anthony, Miss Margaret M., Providence,** R. I.—Oil painting: Fruit. Sec. A. 410
- 366 Studley, Mrs. Thos. E., Providence,** R. I.—Child's portrait, in oil. Sec. A. 410
- 367 Stephens, Miss Maud, New York,** N. Y.—Oil paintings: Autumn Leaves; A Picture within a Picture. Sec. A. 410
- 368 Porter, Miss Rebecca T., New Haven,** Conn.—Oil painting: Absorbed. Sec. A. 410

Paintings.

- 369 Knowlton, Helen M., Boston, Mass.—Oil painting: Paper Mills at Newton Lower Falls. Sec. A. 410
- 371 Wadsworth, Miss A. E., Boston, Mass.—Oil painting: Woman Washing. Sec. A. 410
- 372 Adams, Miss Elizabeth, Boston, Mass.—Oil painting. Sec. A. 410
- 373 Osborn, Miss H. Frances, Peabody, Mass.—Oil painting on panel: Apple Blossoms. Sec. A. 410
- 374 Caller, Miss Alice, Salem, Mass.—Oil painting on panel: Violets. Sec. A. 410
- 375 Lane, Miss S. M., Boston, Mass.—Oil painting: Flowers. Sec. A. 410
- 376 Graves, Miss L., New Haven, Conn.—Panels in oil: Pond Lilies; Fuchsias. Sec. A. 410
- 377 Odenheimer, Mrs. B., New York, N.Y.—Oil painting: Guinevere. Sec. A. 410
- 378 Tolles, Sophie M., New York, N.Y.—Portraits of Linda Gilbert and P. T. Quinn. Sec. A. 410
- 378^a Joes, Mrs. Arthur C., Brooklyn, N.Y.—Miniature portraits. Sec. A. 410
- 379 Boyd, Mrs. Kate, Canastota, N. Y.—Oil paintings: Portland Light, Maine; Old Orchard Beach; Don; Brook Trout. Sec. A. 410
- 380 Morris, Mary Hay, Baltimore, Md.—Oil paintings: Violin, Music, and Books; Fruit. Sec. A. 410
- 381 Nicholson, Martha A., Baltimore, Md.—Panels: Autumn Leaves; Bird. Sec. A. 410
- 382 Herrick, Caroline K., Orange, N.J.—Panel: Fringed Gentians. Sec. A. 410
- 383 Ricketts, Miss, Baltimore, Md.—Oil painting: White Grapes. Sec. A. 410
- 384 Pollock, Miss, Baltimore, Md.—Portrait of Samuel M. Janney. Sec. A. 410
- 385 Kay, Helena de, New York, N.Y.—Oil painting: Withered Golden Rod; panel: Sun Flowers. Sec. A. 410
- 386 Porter, Mrs. Susan C., Hartford, Conn.—Study of an Italian Girl. Sec. A. 410
- 387 Monks, Mary E., New York, N.Y.—Oil paintings: Calla Lilies; Water Lilies. Sec. A. 410
- 388 Farnham, Mrs. Sarah A., Hartford, Conn.—Oil painting: Camp in the Adirondacks. Sec. A. 410
- 389 Dixon, Maria R., New York, N.Y.—Oil painting: Catch me if you can. Sec. A. 410
- 390 Ackerman, Mary, Brooklyn, N.Y.—Oil painting: Hagar and Ishmael. Sec. A. 410
- 391 Palmer, Addie C., Concord, N.H.—Ebony panels: Roses, Azaleas. Sec. A. 410
- 392 Scott, Mrs. E. M., Chicago, Ill.—Oil painting: Roman Boy; panel: Roses. Sec. A. 410
- 393 Perry, Laura C., Poultney, Vt.—Slate panels. Sec. A. 410
- 394 Thomas, Mrs. Annie N., New York, N.Y.—Oil paintings: Morning Glories and Fuchsias. Sec. A. 410
- 395 Perkins, Fanny, New York, N.Y.—Portrait of a young Girl and Water Lilies. Sec. A. 410
- 396 Brounscombe, Jennie, New York, N.Y.—Painting: Elsie Venner. Sec. A. 410
- EXHIBIT FROM SCHOOL OF DESIGN FOR WOMEN, PITTSBURG, PA.—SEC. A.
- 397 Murtland, Mary M.—Oil paintings: Hanging Basket, Flowers. 410
- 398 Reed, Annie.—Oil painting, Hanging basket. 410
- 399 Holmes, C.—Oil painting: Flowers. 410
- 399^a Loomis, Eurilda.—Oil painting: Flowers. 410
- 400 Henderson, Annie W.—Water color paintings: Mullein, Roses. 410
- 401 Kerfoot, Annie.—Water color paintings: Bread and Wine; Florence. 411
- 402 Spring, Mary.—Water color landscapes. 411
- 403 Ferguson, Edith.—Water color painting: Peaches. 411
- 404 Hazlewood, M.—Water color painting: Wild Grapes. 411
- 405 Darrah, Sophia T., Boston, Mass.—Sec. A.
a Oil painting: Stranded Sloop. 410
b Water color painting: Woods in Autumn. 411
- 406 Wood, Miss Martha J., Pittsford, Vt.—Sec. A.
a Oil paintings: Roman Peasant; Monk; German Interior. 410
b Painting on enameled slate: Magdalen. 413
- 407 Sauerwein, Loulie C., Mt. Washington, Ind.—Sec. A.
a Oil paintings, Indian sketches. 410
b Water color sketches. 411
- 408 McLaughlin, Miss M. Louise, Cincinnati, O.—Sec. A.
a Painted panels. 410
b Painted plates, cups, teapot, stands, etc. 413
- 409 Voster, Sarah H., Portsmouth, N. H.—Sec. A.
a Oil painting. 410
b Water color painting. 411
c Painted plates. 413
- 410 Nourse, Mrs., Georgetown, D. C.—Water color painting of flowers. Sec. A. 411
- 411 Dowe, Florence A., Ithaca, N. Y.—Flowers in water colors: Spring Wild Flowers and June Garden Pets. Sec. A. 411
- 412 Stewart, Alice, Chicago, Ill.—Orchids and ferns in water colors. Sec. A. 411
- 413 Burt, Martha, New York, N. Y.—Water color painting: Homely Flowers. Sec. A. 411
- 414 Northam, C. Gussie, Brooklyn, N. Y.—Water color figure: Amateur Theatricals. Sec. A. 411
- 415 Bliss, Mrs. Lydia S., Attleboro', Mass.—Panel: Cactus in Blossom. Sec. A. 411
- 415^a Nourse, Mrs. J. E., Washington, D. C.—Miniature in ivory. Sec. A. 411

Paintings, Engravings, Photographs.

- 416 Badger, Mrs. C. M., Madison, Conn.—Water color paintings: Night-Blooming Cereus and Apple Blossoms. Sec. A. 411
- 417 Grout, Miss S. A., Uxbridge, Mass.—Water color painting: Flowers. Sec. A. 411
- 418 Chaplin, Miss Christine, Boston, Mass.—Water color painting, illustrating a poem. Sec. A. 411
- 419 Bullard, Miss, Worcester, Mass.—Water color painting: Newport Grasses. Sec. A. 411
- 420 Washburn, Mrs. H. B., East River, Conn.—Water color painting: Apples. Sec. A. 411
- 421 Hooper, Mrs. G. W., New Haven, Conn.—Water color design. Sec. A. 411
- 422 Lockwood, Minnie S., New Haven, Conn.—Water color painting: Grasses and Cardinal Flowers. Sec. A. 411
- 423 Davenport, Elizabeth W., New Haven, Conn.—Water color painting: Cardinal Flowers and Clematis. Sec. A. 411
- 424 Ward, Hetta L. H., Newark, N. J.—Water color painting: From the Swamp. Sec. A. 411
- 425 Olmsted, Mrs. Anna M., Hartford, Conn.—Water color paintings: Dead Duck, Snow Bird, Flowers. Sec. A. 411
- 426 Olmsted, Miss Mamie, Hartford, Conn.—Water color painting: Dead Duck. Sec. A. 411
- 427 Barney, Mrs. Sarah E., Farmington, Conn.—Water color paintings: Hollyhocks and Fleur de Lis. Sec. A. 411
- 428 Davis, Georgie A., New York, N. Y.—Water color study: At the Prison Window. Sec. A. 411
- 429 Bradford, Anne H., West Winsted, Conn.—Water color painting: First Chickens of the Season. Sec. A. 411
- 430 Lyman, Miss Abby, New Haven, Conn.—Water color drawings: Blackberry Blossoms, Apple Blossoms, Daisies, Crab-apples, Rocks and Ferns. Sec. A. 411
- 431 Burton, Mrs. Mary H., Hartford, Conn.—Water color drawing: Autumn Field Flowers. Sec. A. 411
- 432 Dunning, Miss M., Canaan, Conn.—Tile painted on wood. Sec. A. 411
- 433 Franklin, Mrs. Anna L., Hartford, Conn.—Water color copy: Turin. Sec. A. 411
- 434 Donlevy, Alice, New York, N. Y.—Illumination: "Light! More Light!" Sec. A. 411
- 435 Porter, Miss Sarah, Farmington, Conn.—Tiles painted on wood. Sec. A. 411
- 436 Burton, Mrs. Mary H., Hartford, Conn.—Water color copies: Italian Peasants. Sec. A. 411
- 437 Warner, Mrs. George, Hartford, Conn.—Water color painting: Daisies. Sec. A. 411
- 438 Klippart, Josephine, Columbus, O.—Water color painting. Sec. A. 411
- 439 Ladies' Centennial Committee, Worcester, Mass.—Paintings. Sec. A. 411
- 440 Blakemore, Mrs. J. W., Philadelphia, Pa.—Water color painting. Sec. A. 411
- 441 Gordon, Margaret S. G., Philadelphia, Pa.—Water color paintings. Sec. A. 411
- 442 Robbins, Miss Ellen, Boston, Mass.—Decorated china. Sec. A. 413
- 443 Marquand, Miss Laura M., Boston, Mass.—Decorated china. Sec. A. 413
- 444 Shippen, Mrs. R. R., Boston, Mass.—Decorated porcelain table top. Sec. A. 413
- 445 James, Mary I., Cambridge, Mass.—Painting on porcelain. Sec. A. 413
- 446 Homans, Miss S. E., Boston, Mass.—Painted porcelain. Sec. A. 413
- 447 McLaughlin, Miss M. Louise, Cincinnati, O.—Decorated egg cups, original design. Sec. A. 413
- 448 Meredith, Mrs. L. P., Cincinnati, O.—Decorated plates, flowers. Sec. A. 413
- 449 Russell, Helen A., New York, N. Y.—Decorated china. Sec. A. 411
- 450 Cunningham, Alice H., Boston, Mass.—Decorated china. Sec. A. 411

Engraving and Lithography.

- 451 Mitchell, Mrs. Nellie D., Philadelphia, Pa.—Pastel painting. Sec. A. 420
- 452 Hopkins, Florence J., Washington, D. C.—Ferns in ink. Sec. A. 420
- 453 James, Mary I., Cambridge, Mass.—Pen and ink etchings. Sec. A. 420
- 454 West, Elizabeth J., Philadelphia, Pa.—Marking with indelible ink. Sec. D. 420
- 455 Hubbard, Mabel G., Cambridge, Mass.—Charcoal sketch. Sec. A. 420
- 456 Bell, Mrs., Philadelphia, Pa.—Colored crayons. Sec. A. 420
- 457 Landis, Mrs. D. C., Philadelphia, Pa.—Pastel painting. Sec. A. 420
- 458 Phillips, E. B., Philadelphia, Pa.—Marking in indelible ink. Sec. D. 420
- 459 Smyth, Mrs. M. H., Philadelphia, Pa.—Indelible ink marking. Sec. D. 420
- 460 Torrey, Martha A., Philadelphia, Pa.—Indelible ink marking. Sec. D. 420
- 461 Kay, Helëna de, New York, N. Y.—Decorative drawings on wood. Sec. A. 420
- 462 Davis, Georgie A., New York, N. Y.—Pen and ink study: Edwin Booth as Iago; drawing on wood: Bridge of Sighs. Sec. A. 420
- 463 Burt, Martha, New York, N. Y.—Crayon portrait of Sothorn. Sec. A. 420
- 464 Stone, Mary L., New York, N. Y.—Illustration of Hans Andersen's Snow Queen, on wood; block drawing of Italian Girl. Sec. A. 420
- 465 Curtis, Jessie, New York, N. Y.—Pen and ink drawings: Fuck; Sunday Morning; Negro Reading; proofs of drawings on wood. Sec. A. 420

Drawings, Photographs.

- 466 Harrison, Mrs. Margarita W., Jersey City, N. J.—Pen and ink sketch: Santa Claus; drawings on wood: Sunset; The Listeners. Sec. A. 420
- 467 Nourse, Mrs. Cora S., New York, N. Y.—Humming birds drawn on wood. Sec. A. 420
- 468 Davis, Mrs. J. A., Providence, R. I.—Marking in indelible ink. Sec. A. 420
- 469 Wilson, Miss Mary, Bellows Falls, Vt.—Pencil: Horses' Heads. Sec. A. 420
- 470 Barton, Isabelle, New York, N. Y.—Crayon picture: Little Wide-Awake. Sec. A. 420
- 471 Gay, Miss Alice, West Randolph, Vt.—Crayon picture: Pharaoh's Horses. Sec. A. 420
- 472 Wilson, Mrs. Robert, Easton, Md.—Crayon drawing: Olympia. Sec. A. 420
- 473 Atkinson, Lizzie H., Baltimore, Md.—Crayon portrait. Sec. A. 420
- 474 Phelps, S. Louise, East Orange, N. J.—Crayon portrait. Sec. A. 420
- EXHIBIT FROM SCHOOL OF DESIGN FOR WOMEN, PITTSBURG, PA.—SEC. A.
- 475 Murland, Mary M.—Crayon drawings: Discobulus, Venus of Milo, Minerva, Cupid. 420
- 476 Loomis, Eurilda.—Crayon drawing: Apollo; anatomical drawings; original drawings by pupils. 420
- 477 Leavitt, Miss H. J., Boston, Mass.—Crayon portrait of Mrs. Bancroft. Sec. A. 420
- 478 Humphreys, Miss L. B., New York, N. Y.—Drawing on wood: "My Son's Fair Wife, Elizabeth." Sec. A. 420
- 479 Willets, Margarita, New York, N. Y.—Proof of drawing on glass. Sec. A. 420
- 480 Coman, Mrs. C. B., New York, N. Y.—Charcoal sketch: In the North Woods. Sec. A. 420
- 481 Tuthill, Sarah S., Farmington, Conn.—Pencil drawing: Venus of Milo. Sec. A. 420
- 482 Lounds, Carrie A., New York, N. Y.—Crayon: My Brother's Portrait. Sec. A. 420
- 483 Wilson, Linnie R., Philadelphia, Pa.—Crayon head: Romulus. Sec. A. 420
- 484 Bryant, Miss, New York, N. Y.—Drawing on stone: Morning Glory. Sec. A. 420
- 485 Clinton, Lucille, New York, N. Y.—Crayon head of E. W. Stoughton. Sec. A. 420
- 486 Peck, Emma A., Hartford, Conn.—Crayon portraits: A Child; A Lady in Old Fashioned Costume. Sec. A. 420
- 487 Messick, Mrs., Providence, R. I.—Ornamental writing: Washington's Farewell Address; Declaration of Independence. Sec. B. 420
- 488 Wallace, Mrs. Mary W., New York, N. Y.—Drawings on wood: The Broken Doll, Flower Gathering. Sec. A. 420
- 489 Chamberlain, Mrs. Agnes H., New York, N. Y.—Drawing on stone: Pitcher Plant; botanical drawings. Sec. A. 420
- 490 Greatorex, Eliza, New York, N. Y.—Pen and ink sketches: Homes of Oberammergau; Old New York—from the Battery to Bloomingdale. Sec. A. 420
- 491 Commonwealth of Massachusetts, Department of Education.—Primary, grammar, high, and free evening industrial schools: drawings of pupils; Massachusetts State Normal Art School: flowers and fruit. 420
- 492 Schools of Drawing & Design, Lowell, Mass.—Crayon portraits of Mozart, Longfellow, and Lady Moon; Child's Head, Storks. 420
- 493 Bache, Miss Jennie, Brooklyn, N. Y.—Crayon picture. 420
- 493^a Woman's Art School, Cooper Union, New York, N. Y.—Sec. A.
^a Drawings from casts, photo-crayons. 420
^b Work of engraving by pupils. 421
^c Work of normal teachers' class. 421
- 494 Earls, Rebecca H. C., Philadelphia, Pa.—Crayon portrait of Brahmin Narayan Sheshhadri; crayon study: Giraffe. Sec. A. 420
- 495 Burt, Miss Helen, New York, N. Y.—Drawing on wood: Little Lone Bird House. Sec. A. 420
- 496 Bondi, Bianca, New York, N. Y.—Sec. A.
^a Drawing on stone: Two Shoes. 420
^b Wood engravings. 422
- 497 Wormley, Mrs. Annie E., Columbus, O.—Microscopic illustrations on steel. Sec. A. 422
- 498 Sartain, Emily, Philadelphia, Pa.—Steel engravings: portrait of R. W. Emerson; Christ Walking on the Sea; Raising of Jairus's Daughter. Sec. A. 421
- 499 Liggett, Miss C. S., Saratoga Springs, N. Y.—Engraved cards, and general engravings. Sec. A. 421
- 500 Crane, Abby T., New York, N. Y.—Wood engravings. Sec. A. 422
- 501 Donlevy, Alice, New York, N. Y.—Wood engraving, The Lord's Prayer, proofs of decorative designs, book and newspaper illustrations. Sec. A. 422
- 502 Zoble, Mrs. Sophia G., New York, N. Y.—Wood engravings. Sec. A. 422
- 503 Hallock, Mary, New York, N. Y.—Wood engravings, book and newspaper illustrations. Sec. A. 422
- 504 Sherman, Miss F. M., New Haven, Conn.—Lithograph: Madonna and Child. Sec. A. 423
- 505 Clapp, Mrs. F. W., Framingham, Mass.—Photograph: Views of Framingham. Sec. A. 430
- 506 Hunt, Mrs. Chas. S., Weymouth, Mass.—Photographs of distinguished Massachusetts women. Sec. A. 430
- 507 Dayton, Miss M. G., Washington, D. C.—Enameled photographs. Sec. A. 430
- 508 Luther, Miss M. M., Warren, R. I.—Painted photograph: An Interior. Sec. A. 430

Designs, Decorations.

- 509 Tryatt, Miss Fanny, New York, N. Y.—Photographs from life. Sec. A. 430
- 510 Chapin, Miss, Providence, R. I.—Colored photograph of Commodore Whipple. Sec. A. 430
- 511 Hare, Miss E. A., Suffolk, Va.—Crystal photograph: Dom Pedro. Sec. A. 430
- 512 Schools of Drawing & Design, Lowell, Mass.—Photographs. Sec. A. 430
- Industrial and Architectural Designs, etc.**
- 513 Lowell School of Design of the Massachusetts Institute of Technology, Boston, Mass.—Designs by pupils for laces, silks, Brussels carpeting, oil cloths, printed robes, and calico. Sec. A. 440
- 514 Schools of Drawing & Design, Lowell, Mass.—Designs by pupils, for carpets, wall papers, handkerchiefs, etc. Sec. A. 440
- 515 Donlevy, Alice, New York, N. Y.—Design for book covers, drawn on wood, for printing in colors. Sec. D. 440
- 516 Boyd, Mrs. Kate, Canastota, N. Y.—Designs for wall paper. Sec. D. 440
- 517 Brownscombe, Jennie, New York, N. Y.—Designs for newspaper illustrations. Sec. D. 440
- 518 Stigale, Mrs. E. M., Philadelphia, Pa.—Model of cemetery enclosure. Sec. D. 441
- Ceramic Decorations, Mosaics, etc.**
- 519 Drown, Mrs. C. L., New York, N. Y.—Illuminated glass signs. Sec. D. 453
- 520 Vanderpool, Mrs. Emily N., New York, N. Y.—Monograms. Sec. B. 454
- 521 Collins, Miss Carrie L., Hartford, Conn.—Case for shaving papers, with pen and ink sketch on cover. Sec. B. 454
- 522 Hewett, Mrs., Milwaukee, Wis.—Illustrated poem. Sec. E. 454
- 523 Nourse, Mrs. Cora S., New York, N. Y.—Frame with designs in engraved proof, pencil, and water colors. Sec. B. 454
- 524 Davenport, Elizabeth W., New Haven, Conn.—Water color painting in silk. Sec. B. 454
- 525 Sterling, Mrs. E. J., Brooklyn, N. Y.—Decorated tiles. Sec. A. 454
- 526 Sweet, Mrs. John E., Ithaca, N. Y.—Wax flowers. Sec. B. 454
- 527 Ward, Susan Hayes, Newark, N. J.—Fireplace tiles, illustrating British ballads. Sec. A. 454
- 528 Hinds, Mrs. F. B., Providence, R. I.—Hair wreath. Sec. B. 454
- 529 Sahler, Miss Elizabeth, Kingston City, N. Y.—Spring and summer flowers, and autumn leaves, in wax. Sec. B. 454
- 530 Shellman, Miss Mary B., Westminster, Ind.—Moss and stone picture of church and graveyard. Sec. B. 454
- 531 Roberts, Jennie M., Chicago, Ill.—Hair wreath, flowers and fruit. Sec. B. 454
- 532 Greatorex, Eliza, New York, N. Y.—Illustrated books and albums. Sec. A. 454
- 533 Whitney, Annie H. & Alice G. Chandler, Lancaster, Mass.—Carved wooden fireplaces with painted tiles, pottery and china on the shelves, and paintings above. Sec. A. 454
- 534 Macdaniel, Miss Fanny L., New York, N. Y.—Illustrated hymn in pressed flowers, frame of pressed flowers. Sec. A. 454
- 535 Brothers, Mrs. H., 80 West Seventh street, Cincinnati, O.—Wax flowers and materials for making them. Manufacturer of excelsior sheet wax, wax flowers, and materials for making them. Artist of wax work, in all its branches. Sec. B. 454
- 536 Jeremias, Triny, Philadelphia, Pa.—Tissue-paper flowers. Sec. B. 454
- 537 Dickeson, Anna Mary, Philadelphia, Pa.—Shell work. Sec. B. 454
- 538 Hoicomb, Sallie N., Philadelphia, Pa.—Hair work. Sec. B. 454
- 539 Bickerton, Mrs. Anna B., Philadelphia, Pa.—Preserved and wax flowers. Sec. B. 454
- 540 McPherran, Hattie E., Millersville, Pa.—Wax cross. Sec. B. 454
- 541 Kampmann, Mrs. Louise, Philadelphia, Pa.—Hair work. Sec. B. 454
- 542 Goodwin, Alice H., Hartford, Conn.—Climbing ferns and autumn leaves. Sec. C. 454
- 543 Springer, Mrs. L. R., Boston, Mass.—Wax work, preserved flowers. Sec. B. 454
- 544 Heubel, Miss Melanie, Philadelphia, Pa.—Wax work. Sec. C. 454
- 545 Whittington, Fannie L., New York, N. Y.—Basket of wax flowers. Sec. B. 454
- 546 Wilson, Mrs. Henry C., Philadelphia, Pa.—Phantom bouquet. Sec. B. 454
- 547 Martin, Mrs. Edna, Cambridge, Mass.—Oil painting on porcelain and wood panel. Sec. A. 454
- 548 Judkins, Miss Eliza M., Cambridge, Mass.—Paintings on mica. Sec. A. 454
- 549 Cook, Miss H. M., Providence, R. I.—Book, with illustrations in birch bark. Sec. A. 454
- 550 Yoster, Sarah H., Portsmouth, N. H.—Frames of paper cuttings. Sec. A. 454
- 551 Bradford, Anne H., West Winsted, Conn.—Shells containing marine views. Sec. A. 454
- 552 Terry, Miss Jennie, Hartford, Conn.—Fans painted in water colors. Sec. A. 454
- 553 Gittings, Mrs. James, Baltimore, Md.—Illuminated poem. Sec. A. 454
- 554 Alexander, Miss E., Baltimore, Md.—Latin psalm illuminated. Sec. A. 454
- 555 Smith, Emily A., Baltimore, Md.—Fire screen, painted in water colors. Sec. A. 454

Fancy Articles, Machines, Needlework.

- 556 Crichton, Antoinette K., Baltimore, Md.—Illuminated books: Day-break, The Falling Rain, A Maiden's Toilette, The Maryland Coat of Arms. Sec. E. 454
- 557 Denroche, Sarah B., New York, N. Y.—Illuminated maps, for photographs; portfolio and lantern. Sec. D. 454
- 558 Schools of Drawing & Design, Lowell, Mass.—Decorated cups and saucers, and tiles. 454
- 559 Whittier, Miss H. A., Lowell, Mass.—Decorated box and tiles. 454
- 560 Hales, Florence, Ridgewood, N. J.—Autumn leaves, in wax. Sec. B. 454
- 561 Proell, Mrs. Gustave, Gastein, Austria.—Pressed flowers, with pictures of Alpine scenery. Sec. B. 454
- 562 Goddard, Miss Lucy, Boston, Mass.—Glass screen, with pressed ferns. Sec. B. 454
- 563 Clark, Miss A. F., Worcester, Mass.—Fire screen. Sec. B. 454
- 564 Upton, Mrs. E. W., Peabody, Mass.—Jewel case, butterfly, and needle book, painted in water colors. Sec. B. 454
- 565 Graves, Miss L., New Haven, Conn.—Painted candles. Sec. B. 454
- 566 Lockwood, Minnie S., New Haven, Conn.—Text with illuminated border. Sec. B. 454
- 567 Robbins, Miss Ellen, Boston, Mass.—Illuminated mirror. Sec. B. 454
- 568 Hooper, Alice S., Boston, Mass.—Portfolio, box, and tray, with pen and ink sketches. Sec. B. 454
- 569 Hollowell, Anna D., Medford, Mass.—Illuminated mirror. Sec. B. 454
- 570 Hendry & Bartholomew, Ansonia, Conn.—Bird cages made by women. Sec. B. 454
- Machines used in Sewing, etc.**
- 571 Compton, Geo., Worcester, Mass.—Cotton loom for dress goods. Sec. B. 521
- 572 Bromley, John, & Sons, Philadelphia, Pa.—The manufacture of ingrain carpets. Sec. D. 537
- 573 Townsend, Mrs. G. L., Philadelphia, Pa.—Vertical handle attachment to sewing machines. Sec. D. 531
- 574 White, Mrs. L. S., Philadelphia, Pa.—The manufacture of confectionery. Sec. B. 582
- Aerial, Pneumatic, and Water Transportation.**
- 575 Edson, Temperance P., Dedham, Mass.—Self-inflating life preserver. Sec. 594
- Land Animals.**
- 576 Bonney, Sarah E., Sterling, Mass.—Stuffed birds. Sec. B. 635
- 577 Janvier, Mrs. Mary R., Sabathu, India.—Lammergeir, or bearded vulture. Sec. B. 635
- Hothouses, Conservatories, Graperies.**
- 578 Lovejoy, Mrs. Carrie P., Columbus, O.—Preserved fern leaves. Sec. B. 709
- 579 Ware, Mrs. M. L., Philadelphia, Pa.—Preserved flowers. Sec. B. 709
- 580 Davey, Mrs. Israel, Brandon, Vt.—Trailing arbutus, poppies, leaves, etc. Sec. A. 709
- 581 Watson, Jane, Massillon, O.—North American mosses. Sec. C. 709
- 582 Shaw, Miss Emma, Elmwood, R. I.—Pressed ferns. Sec. B. 709
- 583 Luther, Mrs. B. J., Providence, R. I.—Mosses from Narragansett Bay. Sec. B. 709
- 584 Parkhill, Miss Harriet R., Jacksonville, Fla.—Florida sea-weeds. Sec. B. 709
- 585 Bray, Maria H., Gloucester, Mass.—Marine algæ. Sec. B. 709
- 586 Hathaway, Mrs. P. V., Stevenson, Ill.—Native flora of Illinois. Sec. B. 709
- Garden Tools, Accessories of Gardening.**
- 587 Pierce, Mrs. Mary R., Philadelphia, Pa.—Flower stands. Sec. C. 721
- 588 Williams, Mrs. Jeff., St. Josephs, Missouri.—Terra-cotta hanging basket. Sec. C. 721
- 589 Slocum, Mrs. Martha E., New York.—Plant protector. Sec. D. 721
- GREAT BRITAIN.**
- 590 Rooke, Mrs. Henry A., London.—Covrette of macramé lace. 252
- 591 Rooke, Miss E. E., Hertfordshire.—Macramé lace. 252
- 592 Greene, Miss, London.—Needlework. 252
- 593 Palmer, Miss H. M., London.—Point-lace parasol cover. 252
- 594 Hudson, Mrs. M. A., Buckingham.—Point lace. 252
- 595 Harding, Miss Caroline, Norfolk.—Embroideries. 252
- 596 Paget, Miss Nina, London.—Needlework. 252
- 597 Parker, Miss M. E., Dundee.—Lace shawl; embroidered screen. 252
- 598 Royal School of Art Needlework, London.—Artistic needlework and embroideries in appliqué, crewels, and silk. 252
- 599 Preble, Miss Mary, London.—Oil paintings. 410
- 600 Wilkinson, Miss G., London.—Water color paintings. 411
- 601 Frere, Miss Catherine F., London.—Water color paintings, and silk fan, with water color designs. 411
- Articles contributed by Her Majesty The Queen.**
- 602 Two table napkins spun by Her Majesty. Etchings by H.M. the Queen. A table cloth embroidered and made by

Needlework, Laces, Paintings.

H.R.H. Princess Louis of Hesse, and H.R.H. Princess Christian of Schleswig Holstein. A banner screen embroidered by H.R.H. the Princess Beatrice. Drawings of flowers by H.R.H. the Princess Louise.

JAMAICA.

- 603 Nash, Mrs. Francilla, Kingston.—
Dagger plant ornaments. 254

CANADA.

- 604 Abbey, Loretto, Toronto.—Vestments. 250
- 604^a Beverly, Mrs., Oshawa.—Knitted shawl. 250
- 605 Grant, Mrs. Joseph, Aberfoyle.—Mitts and gauntlets. 251
- 606 Webster, Mrs. R. A., Ottawa.—Point lace. 252
- 607 Scales, Mrs., Toronto.—Berlin wool work. 252
- 608 Gemmel, Miss A., Toronto.—Embroidered piano cover. 252
- 609 Zimmerman, Mrs. D., Toronto.—Bead work. 252
- 610 Hammond, Mrs., Hamilton.—Needlework. 252
- 611 Park, Miss, Waterdown.—Tatting and knitting. 252
- 612 Robertson, Mrs., Stratford.—Berlin wool work. 252
- 613 Convent of St. Joseph, Toronto.—Berlin wool work and sofa cushion. 252
- 614 Geddes, Mrs., Montreal.—Tapestry. 252
- 614^a Roberts, Mrs. James S., Charleston, S. C.—Needlework; Scene from Shakspeare. 252
- 615 McDonald, Mrs. de B., Montreal.—Gobelin tapestry. 252
- 616 Carrier, Miss, Montreal.—Lace work. 252
- 617 Fairbanks, Miss Isabella, Halifax.—Lace. 252
- 618 Conner, Miss Edith, Halifax.—Lace. 252
- 719 Sutcliffe, Mrs., Halifax.—Needlework. 252
- 620 Pierce, Miss C., Halifax.—Needlework. 252
- 621 Rutterford, Miss I., Halifax.—Lace work. 252
- 621^a Perley, Miss H. A., Fredericton, N. B.—Point lace. 252
- 622 Romans, Misses, Halifax.—Crotchet work. 252
- 623 Viell, Miss, Halifax.—Lace. 252
- 624 Farrell, Misses, Halifax.—Lace. 252
- 625 Renni, Mrs. C. E., Halifax.—Lace. 625
- 626 Pryor, Mrs. H., Halifax.—Fancy work. 252
- 627 Farrell, Mrs. K., Toronto.—Worsted work. 252
- 628 Crawford, Miss, Toronto.—Tatting flounce. 252
- 629 Nunn, Mrs., Belleville.—Point lace. 252

- 630 Cramer, Miss, Toronto.—Embroidery. 252
- 631 Brown, Miss, Brampton.—Needle work. 252
- 632 Strickland, Misses, Oshawa.—Embroidery. 252
- 633 Veau, Miss M., Oshawa.—Embroideries. 252
- 634 Hooper, Miss Ellen, Oshawa.—Lace work. 252
- 635 West, Mrs., Ottawa.—Berlin wool work. 252
- 636 Heslop, Mrs., Toronto.—Fancy wool work. 252
- 637 Barclay, Mrs., Toronto.—Berlin wool work. 252
- 638 Norman, Miss, Hamilton.—Lace work. 252
- 639 Abbey, Loretta, Toronto.—Silk embroidery. 262
- 639^a Jardine, Miss E., Richibucto, N. B.—Point and net lace. 252
- 640 Elleson, Annie, Toronto.—Fancy work. 254
- 641 Epouse, Miss L., Halifax.—Fancy work. 254
- 642 Hartshorne, Mrs., Halifax.—Fancy work. 252
- 643 Gilpin, Mrs., Halifax.—Fancy work. 254
- 645 Neville, Mrs., Ottawa.—Leather work. 255
- 646 Constant, Mrs., Halifax.—Leather work. 255
- 647 Mitchell, Miss M. A., Toronto.—Leather work. 255
- 648 Convent of the Sacred Heart, Province of Quebec.—Plan of the institution. 300
- 649 Convent of Lachine, Province of Quebec.—Plan of the institution. 300
- 650 Convent of Joliet, Province of Quebec.—Plan of the institution. 300
- 651 Convent of Good Shepherd, Province of Quebec.—Plan of the institution. 300
- 652 Convent of Jesus Maria, Province of Quebec.—Plan of the institution. 300
- 653 Convent of Hochlaya, Province of Quebec.—Plan of the institution. 300
- 654 Congregation of Notre Dame, Province of Quebec.—Plan of the institution. 300
- 655 Convent of St. Hyacinthe, Province of Quebec.—Plan of the institution. 300
- 656 Asile de la Providence, Montreal.—Plans of buildings. 300
- 657 Glassford, Mrs., Morrisburg.—Oil paintings. 410
- 658 Smelan, Mrs., Toronto.—Oil paintings. 410
- 658^a James, Mrs. J. A., Richibucto, N. B.—Paintings. 410
- 658^b Mazen, Mrs. E. M., Fredericton, N. B.
^a Oil painting. 410
^b Water color painting. 411
- 659 Chamberlain, Mrs., Ottawa.—Water color paintings. 411

Paintings, Fancy Articles, Embroideries.

- 660 Whitney, Miss, Montreal.—Pic-
tures. 411
- 661 Harrison, Mrs., Montreal.—Pic-
tures. 411
- 662 Bourne, Miss Bessie, Halifax.—
Paintings. 411
- 663 Kent, Miss, Toronto.—Painting. 411
- 664 Morrison, Mrs., Opera House.—
Photographs of buildings. 430
- 664^a Stephenson, Mrs. E. J., St. John,
N. B.
a Inlaid table. 452
b Hair pictures. 454
- 665 Farquhassen, Miss, Whitby.—
Painting in velvet. 454
- 666 French, Mrs. B., Prescott.—Cana-
dian autumn leaves. 454
- 667 Tully, Mrs. K., Toronto.—Moss
picture. 454
- 668 Baird, Mrs. A. G., Toronto.—Moss
picture. 454
- 669 Comens, Loretta, Toronto.—Wax
flowers. 454
- 669² Warren, Mrs. E. J., St John, N.
B.—Bark pictures. 454

TASMANIA.

- 670 Meredith, Hon. Mrs., Orford.—Oil
painting, Tasmanian fish. 410
- 671 Hull, Mrs. Hugh M., Hobart Town.
—Avoca, in Tasmania, by Moonlight. 420
- 672 Meredith, Hon. Mrs., Orford.—Ta-
ble top with flowers. 45
- 673 Graves, Mrs. John, Woodcock.—
Table top with Tasmanian ferns. 454
- 674 Hope, Miss Mary, Hobart Town.—
Table top with Tasmanian flowers. 454
- 675 Blyth, Miss, Hobart Town.—Ta-
ble top with Tasmanian flowers. 454
- 676 Mitchell, Mrs., Swansea.—Gum
from oyster bay pine tree. 603
- 677 Thompson, Mrs. John, Cormiston.
—Native bread. 621

FRANCE.

- 678 Talhouet, Roy, Mrs., Paris.—Silk
embroideries. 225
- 679 Menon, Mrs. Marie, Directress of
the Levallois-Perret School for Drawing
and Painting, Paris.—Pupils' work. 300
- 680 Chateau de Villiers, Young Ladies'
Institute, Paris.—Pupils' work. 300
- 681 Rougier, Miss Jeanne, Paris.—Oil
painting: The Animal Merchant. 410

BELGIUM.

- 682 Everaert, Julie, & Sisters, Brussels.
—Laces. 252

NETHERLANDS.

- 683 Diest, E. van, Arnhem.—Silk bed
cover, with mosaic work on border. 252
- 684 Lokz, Mrs. C.—Footstool, cushion,
and embroidered kerchief. 252
- 685 Snermoudt, Mrs., Amersfoort.—
Embroidered cover and counterpane 252

- 686 Oldenborgh, Mrs. M. J., Dordrecht,
—Imitation tiger skin and wax roses. 254
- 687 Amersfoort, Mrs. H. M., Bad-
hoeve.—Oratorio—"God's Ubi-
quity." 302

DENMARK.

- 688 Tscherning, Miss, Copenhagen.—
Oil painting of flowers. 410
- 689 Rousholdt, Miss, Copenhagen.—
Flower painting on terra-cotta vases. 454

SWEDEN.

- 690 Rappe, Eugenie, Baroness, Skäl-
snäs, Tjureda.—Pasteboard frames. 220
- 691 Soderberg, Maria, Stockholm.—
Mantle. 250
- 692 Andersdotter, Margreta, Lällarp,
Torscuna.—Embroidery. 252
- 693 Bagge, Charlotte, Kramfors, Hemö-
saad.—Embroidery and frames. 252
- 694 Ehrenpohl, Charlotte, Enslöf,
Halmstad.—Embroideries. 252
- 695 Fürst, Batty, Upsala.—Needle-
work. 252
- 696 Pählman, S., Ulexio.—Embroi-
dery. 252
- 697 Segebader, Herminia, Trimethon.
—Embroideries. 252
- 698 Jönsfon, Helena, Stockholm.—
Fancy articles, ornamented with moss. 254
- 699 Klinghammar, Tersa, Landskrona.
—Flowers and ornaments made from fish
scales. 254
- 700 Ehrenpohl, Charlotte, Enslöf,
Halmstad.—Inkstand of burned clay. 258
- 701 Bianchini, Emerentia, Stockholm.
—Carvings in cork. 405
- 702 Andersson, Amanda, Stockholm.—
Oil paintings. 410
- 703 Ehrenpohl, Charlotte, Enslöf,
Halmstad.—Oil painting. 410
- 704 Ramsay, Ebba, Tobsborg.—Water
color painting of flowers. 411
- 705 Ramsay, Ebba, Tobsborg.—Her-
barium. 709

ITALY.

- 706 Carson, Mrs. Caroline A., Rome.—
Easel. Sec. D. 217
- 707 Romani, G., Rome.—Embroideries.
Sec. D. 252
- 708 Regina, B., Rome.—Embroideries.
Sec. D. 252
- 709 Gerosa, Adele, Rome.—Embroi-
dery. Sec. D. 252
- 710 Pozzi, Vittoria, Rome.—Pearl and
coral jewelry. Sec. B. 253
- 711 Crotta, Giamina, Rome.—Music.
Sec. D. 302
- 712 Beceari, Adelaide G., Rome.—"La
Donne," a newspaper, edited and written
by women. Sec. D. 306
- 713 Maraini, Madame Adelaide, Rome.
—Sec. A.
a Marble busts: Sandalphon, Marble Faun,
Cupid and Psyche, Innocence. 400
b Bas-reliefs: Angels before and after the
resurrection. 401

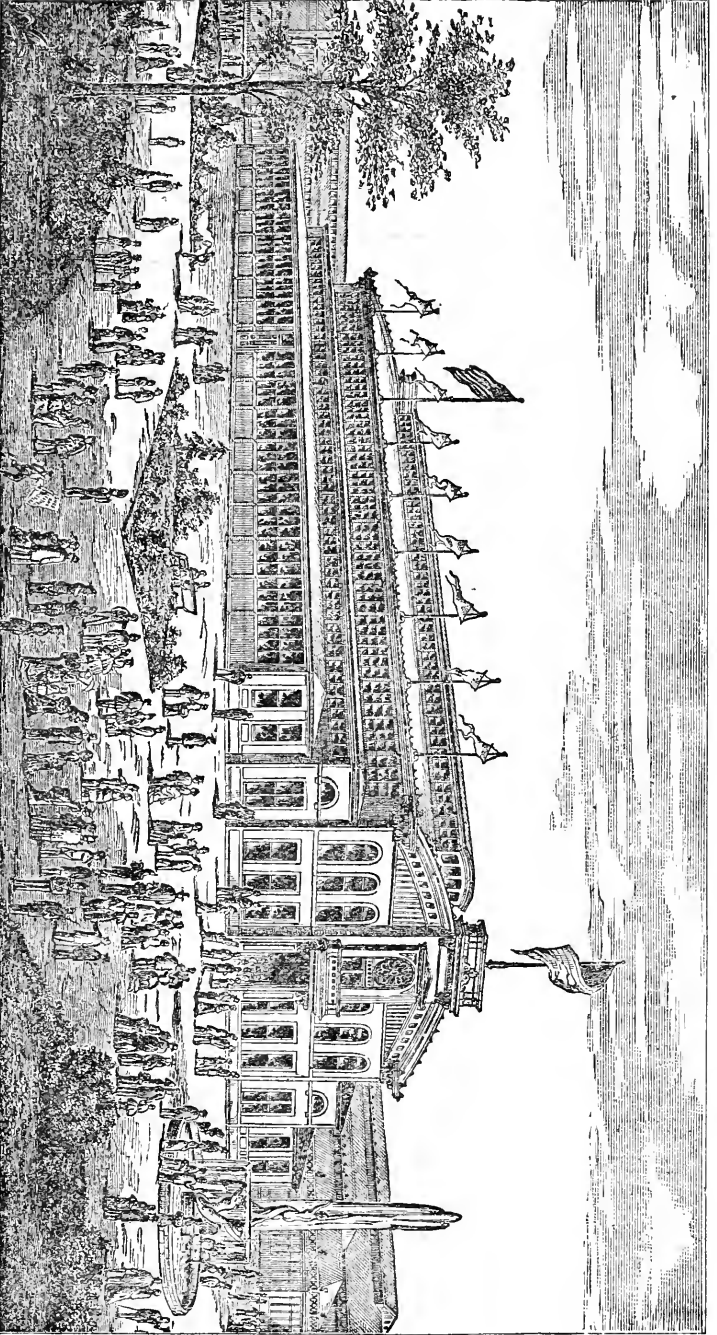
Sculpture, Paintings, Embroideries.

- 714 Freeman, Miss Florence, Rome.—
Sec. A.
a Marble bust. 400
b Bronze vase. 401
- 715 Hosmer, Miss Harriet, Rome.—
Sec. A.
a The African Sibyl. 400
b Lord Brownlow's Gates. 401
- 716 Foley, Miss M. F., Rome.—Bas re-
liefs: Charles Sumner, Joshua. Sec.
401. 401
- 717 Fauchinetti, Adelaide, Rome.—
Landscape in oil. Sec. A. 410
- 718 Walker, Miss W., Rome.—Oil
paintings. Sec. A. 410
- 719 Penniman, Miss Ellen A., Rome.—
Oil paintings. Sec. A. 410
- 720 Clark, Miss Sarah A., Rome.—Sec.
A.
a Oil paintings. 410
b The Dante Album. 411
- 721 Borzina, Leopoldina, Rome.—
Water color paintings. Sec. A. 411
- 722 Wratislau, Miss Matilda, Rome.—
Water color painting: Peasant's Head.
Sec. A. 411
- 723 Conolly, Mrs. Isabella, Rome.—Il-
luminations. Sec. A. 411
- 724 Carson, Mrs. Caroline, Rome.—
Painted banner. Sec. A. 411
- 725 Work of Roman women, exhibited
by Mrs. Augustus Hemenway, Boston,
Mass.—Sec. B.
a Scafati rugs. 239
b Contadina apron. 250
c Roman pearls. 253
d Ornament palm branches. 254
e Oil painting: Temple of Esneh, Egypt. 410
f Water color painting: Peasant Spinning
Silk. 411
- TUNIS.**
- 726 Raschid, Lilla.—Embroidered
shoes. 252
- 727 Houssein Bey, Mrs.—Embroidered
shashea cover and jacket, embroidered by
a Moorish princess. 252
- 728 Jewish & Moorish costumes worn
in Tunis. 256
- BRAZIL.**
- 729 Oliveira, Maria de, Province of Rio
de Janeiro.—Crotchet shawl. 250
- 730 Immaculate Conception, School of
the, Rio de Janeiro.—Embroidered stole
for priest. 250
- 731 Pereira, F. C., Province of Ceará.—
Embroidered and trimmed chemise. 250
- 732 Hegreville, Paulina, Province of
Paraná.—Knit woolen shawl. 250
- 733 Silva, Zulmira Cinitea de, Rio de
Janeiro.—Robe de frivolité, for child. 250
- 734 Mangin, F. H., Province of Paraná.
a Child's dress. 250
b Crotchet shawl. 252
- 735 Netto, Maria Pinto, Province of
Rio de Janeiro.
a Robe de chambre, embroidered. 250
b Linen embroideries 252
- 736 Orphans' School of Sancta Thereza,
Rio de Janeiro.
a Stole for priest. 250
b Embroidered cushions. 252
- 736a Matta, Carolina A. da, Rio de Ja-
neiro.—Cushion in tapestry work. 252
- 738 Neves, Isabel S. das, Rio de Janei-
ro.—Cushion in tapestry work. 252
- 739 Municipal School of St. Sebastiao,
Rio de Janeiro.—Tapestry work by pupils.
252
- 740 Municipal School of San José.—Ta-
pestry work by pupils. 252
- 741 Leao, Maria de, Province of Pa-
raná.—Interlacings, and collar of linen
thread. 252
- 742 Costa, M. E. da, Province of Pa-
raná.—Collar of linen thread. 252
- 743 Mirò, Osminda, Province of Pa-
raná.—Crotchet lace for towels. 252
- 744 Almeida, Anardina B. d', Rio de
Janeiro.—Crotchet counterpane. 252
- 745 Assumpção, M. M., Province of
Paraná.—Crotchet handkerchief. 352
- 746 Ribas, J. S. G., Province of Paraná.
—Crotchet handkerchief. 252
- 747 Huy, Luiza M., Province of Pa-
raná.—Interlacings in crotchet; embroi-
dered handkerchief and towel; lace. 252
- 748 Municipal School of St. Sebastiao,
Rio de Janeiro.—Embroideries. 252
- 749 A. C. C., S. Salvador da Bahia.—
Embroidered cushion. 252
- 750 Dias, H. J., Bahia.—Embroidered
cushion. 252
- 751 Society Amante da Instrução, Orphan
girls of, Rio de Janeiro.—Embroide-
ries on velvet and silk. 252
- 752 Misericórdia School, Orphan Girls
of, Rio de Janeiro.—Embroidered cush-
ions. 252
- 753 Luz, F. F. da, Province of Paraná.
—Embroidered slippers. 252
- 754 Leão, M. M. de, Rio de Janeiro.—
Embroideries. 252
- 755 Chaves, M. G. M., Rio de Janeiro.
—Embroidered cushions. 252
- 756 Boa Viagem, Baroness da, Rio de
Janeiro.—Embroidered pillow shams,
towels, etc. 252
- 757 Pirapitinga, Baroness de, Province
of Rio de Janeiro.—Embroidered towels
and underwear. 252
- 758 Gama, D. Eulalia de Salvanha da,
Rio de Janeiro.—Towels and pillow shams
in labyrinth lace. 252
- 759 Commission General for the Na-
tional Exhibitions, Rio de Janeiro.—
Handkerchiefs in labyrinth lace, and laces
for borders, by women of the province of
Rio Grande do Norte; laces, handker-
chiefs, pillow shams, seives, etc., by wo-
men of the Provinces of Parahyba, Ala-
góas, and Goyaz. 252
- 760 Rozario, G. M. da, Province of Pa-
raná.—Lace made of linen thread. 252
- 761 Lopez, J. F., Province of Paraná.—
Embroidered handkerchief. 252
- 762 Kelim, Clara, Province of Paraná.
—Embroidered handkerchiefs. 252
- 763 Aranjó, G. M. d', Province of Pa-
raná.—Embroidered handkerchief. 252
- 764 Leão, A. C. de, Rio de Janeiro.—
Pillow shams in sieve lace. 252

Embroideries, Laces, Fancy Articles.

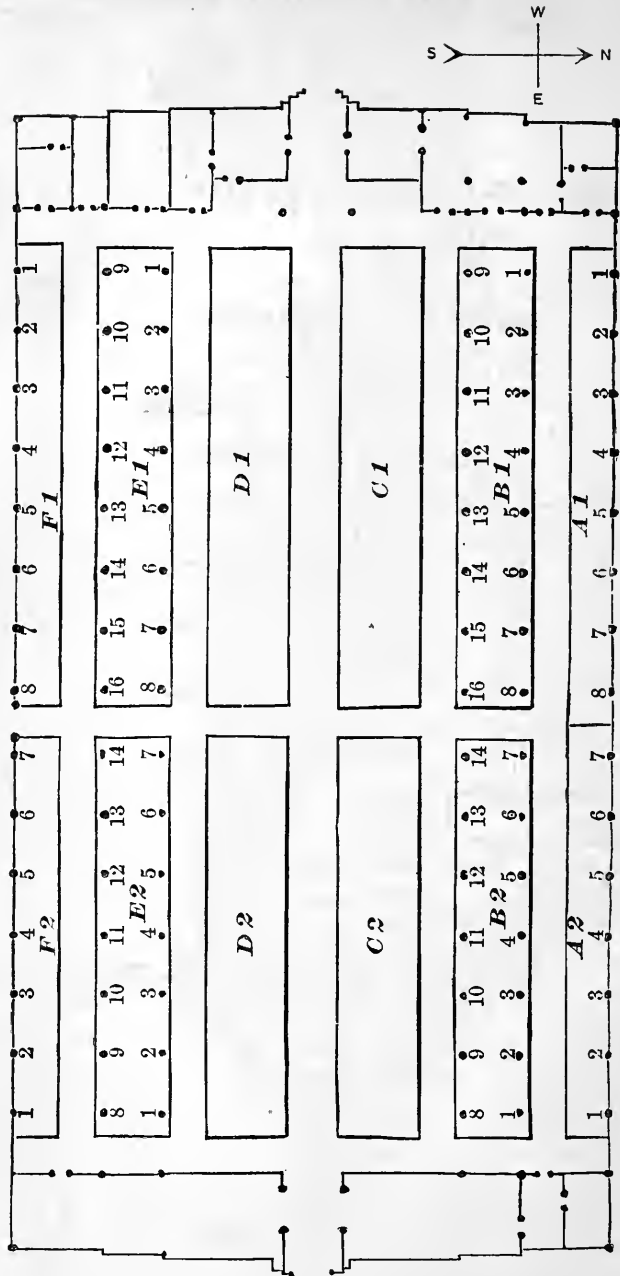
- 765 Alagoàs, Province of.—Towel for toilet table, in embroidery and sieve lace. 252
- 766 Jacobina, Theresa D., Rio de Janeiro.—Tapestry work. 252
- 767 Oliveira, Alzira H. d', Rio de Janeiro.—Cushion in tapestry work. 252
- 768 Nunes, Henriqueta M., Rio de Janeiro.—Cushion in tapestry work. 252
- 769 Ferreira, Maria, Province of Ceará.—Crochet case. 254
- 770 Director of the Colony of Paraná.—Fringes of linen thread, made by an Indian girl of the colony. 254
- 771 Alves, M. R., Province of Paraná.—Toilet covers. 254
- 772 Itamaraty, Viscountess de, Rio de Janeiro.—Embroidered pin case. 254
- 773 Silva, M. M., Province of Paraná.—Embroidered watch case. 254
- 774 Faria, Maria D. de, Rio de Janeiro.—Cushion of silk remnants. 254
- 775 Vianna, B. R., Province of Paraná.—Embroidered watch case. 254
- 776 Province of Ceará, Ladies of.—Feather flowers. 254
- 777 Province of Bahia, Ladies of.—Feather flowers. 254
- 778 Silveira de Souza, Sisters, Province of Sancta Catharina.—Artificial flowers of fish scales, egg-skin, sea shells, etc. 254
- 779 Sancta Catharina, Province of.—Flowers of fish scales. 254
- 780 Natté, Mille, Rio de Janeiro.—Feather flowers, fans, coiffures, ornaments, etc.; ornaments made of bugs. 254
- 781 Province of Paraná, Ladies of.—Bouquet of fish scale flowers, and stand of alum. 254
- 782 Commission General for the National Exhibition.—Feather flowers, made by the orphans of the school of the Immaculate Conception. 254
- 783 Convent das Mercês, San Paulo.—Branch made of the pith of the fig-tree. 254
- 784 Serzidillo, D. Anna M., Pará.—Frame made of cork. 254
- 785 Lopez, Emilia, Rio de Janeiro.—Flower stand of leather. 255
- 786 Leme, Rosalina Paes, Rio de Janeiro.—Leather flowers 255

For location of objects, see ground plan, p. 83.



SHOE AND LEATHER BUILDING.

ELM AVENUE.



SHOE AND LEATHER BUILDING.—GROUND PLAN.

SHOE AND LEATHER BUILDING. No. 7.

Architect, A. B. BARRY.—Size, 314 feet by 160 feet.

The building is constructed of wood, two stories high, and is situated on Elm Avenue, south of Machinery Hall. Its name indicates its purpose.

KEY TO THE NOTATION.

THE location of objects in the Shoe and Leather Building is shown by a letter and two figures, indicating the nearest column of the building. The letter and first figure designate the section of the building, the second figure the column within that section. The system of numbering is shown on the annexed ground plan.

The class of the classification (See Part I., pages 27-45) to which each exhibit belongs is indicated by the small figures at the end of the line.

Oils, Leather Dressing.

Oils and Leather Dressing.

- | | |
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| <p>1 Dodd, A. W., & Co., Gloucester, Mass.—Oils for tanners' use. F 1-3. 201</p> <p>1a Hyde Bros., & Swift, New York, N. Y.—Tanners' oils. A 2-1. 201</p> <p>1b Brown, B. F. & Co., Boston, Mass.—Shoe blacking, leather dressing and bronzes. F 1-3. 202</p> <p>1c Cole, W. D., Ashland, Mass.—Belt and hose stuffing. A 2-3. 202</p> <p>2 Miller, Frank, Son, & Co., New York, N. Y.—F 1-4. 201</p> <p><i>a</i> Harness oils. 201</p> <p><i>b</i> Shoe blacking, leather dressings, etc. 202</p> <p>2a Stump, F., & Co., Philadelphia, Pa.—Blacking, polishing and burnishing inks. A 2-1. 202</p> <p>2b Boyer, W. P., & Co., Philadelphia, Pa.—Shoe blacking. F 1-2. 202</p> <p>2c Hausler, John, Philadelphia, Pa.—Shoe blacking. F 1-2. 202</p> <p>2d Fletcher & Dwyer, Lynn, Mass.—Burnishers for finishing edges and heels of boots and shoes. D 1-6. 202</p> <p>2e Bartlett, H. A., & Co., Philadelphia, Pa.—Shoe blacking. F 1-1. 202</p> <p>3 Levi & Berg, Philadelphia, Pa.—Shoe blacking and ladies' shoe dressing. F 1-3. 202</p> <p>4 Annear, John, Philadelphia, Pa.—Shoe blacking and stove polish. F 1-2. 202</p> | <p>5 Mason, Jas. S., & Co., Philadelphia, Pa.—Shoe blacking. F 1-5. 202</p> <p>7 Bixby, S. M., & Co., New York, N. Y.—Shoe blacking and leather dressing. F 1-4. 2c2</p> <p>8 Restrorff & Bettmann, New York, N. Y.—Leather polish for boots, shoes, traveling bags, etc. B 2-2. 202</p> <p>9 Sawyer, H., Boston, Mass.—Crystal blue. F 1-3. 2c2</p> <p>10 Reed, Geo. H., & Sons, Boston, Mass.—Dressings, inks, varnishes, and stains for leather. F 1-3. 2c2</p> <p>11 Hauthaway, C. L., & Sons, Boston, Mass.—Leather dressings, blackings, stains, and varnishes. These goods are favorably known throughout the United States, Canada, and Europe, and were awarded medals at Boston and Vienna. Visitors at the Shoe and Leather Building will see upon the various exhibits of boots, shoes, harness, and horse collars, specimens of the high finish derived by the use of our dressings, as many of the best goods there are finished with our articles. They are considered indispensable in all manufacturing factories using leather. Our exhibit consists of twenty-one different articles adapted to leather, all of our own invention and production. House established in 1854. E 1-11. 202</p> <p>11a Connihan, E., & Co., Charlestown, Mass.—Water proof leather preservative. F 1-3. 202</p> |
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For classes of exhibits, numbered at end of entries, see Classification, Part I., pp. 27-45.

Boots and Shoes.

- Boots and Shoes.**
- 12 Johnson, N. M., St. Louis, Mo.—Boots and shoes. C 2-11. 251
- 13 Wells, M. D., & Co., Chicago, Ill.—Boots and shoes. C 1-14. 251
- 14 Fargo, C. H., & Co., Chicago, Ill.—Women's, misses', and children's shoes; men's boots. C 2-11. 251
- 15 Falley, L., & Co., Lafayette, Ind.—Men's, boys', and women's calf and kip boots and shoes. C 1-15. 251
- 16 Knees, Chas., Frederick, Md.—Cordovan leather patterns for boots and shoes. D 1-8. 251
- 17 Semenez, Rudolf, Cleveland, O.—English top boots. D 2-4. 251
- 18 Stribley & Co., Cincinnati, O.—Ladies', misses', and children's shoes. C 2-12. 251
- 18^a Davis, Whitcomb, & Co., Boston, Mass.—Seamless felt shoes. D 1-4. 251
- 18^b Graves, Ball, & Co., Albany, N. Y.—Shoe lasts. D 2-7. 251
- 18^c Ransom, W. A., & Co., New York, N. Y.—Men's, women's, misses', and children's sewed, nailed, and pegged shoes and gaiters. D 2-5. 251
- 18^d Keene Bros., Lynn, Mass.—Women's, misses', and children's boots and shoes. D 1-7-8. 251
- 18^e Valpey & Anthony, Lynn, Mass.—Women's, misses', and children's boots and shoes. D 1-7-8. 251
- 18^f Bartlett & Doak, Lynn, Mass.—Women's, misses', and children's boots and shoes. D 1-7-8. 251
- 18^g Boynton & Bancroft, Lynn, Mass.—Women's, misses', and children's soles. D 1-7-8. 251
- 18^h Mower, E. W. & C. F., Lynn, Mass.—Women's, misses', and children's boots and shoes. D 1-7-8. 251
- 18ⁱ Bubier, S. M., & Sons, Lynn, Mass.—Women's, misses', and children's boots and shoes. D 1-7-8. 251
- 18^j Bacheller, C. H., & Co., Lynn, Mass.—Women's, misses', and children's boots and shoes. D 1-7-8. 251
- 19 Hocker, Geo., Cincinnati, O.—Ladies' and gentlemen's boots and shoes. C 2-13. 251
- 20 Kilsheimer, F., Cincinnati, O.—Men's boots, shoes, and gaiters. C 2-13. 251
- 21 Prichard, Smith, & Co., Cincinnati, O.—Boots and shoes. C 2-12. 251
- 22 Alter, Frank & Co., Cincinnati, O.—Boots and shoes. C 2-12. 251
- 23 Cincinnati Shoe Manufacturing Co., Cincinnati, O.—Ladies', misses', and children's boots and shoes. C 2-11. 251
- 24 Feary, Thos., & Sons, Albany, N. Y.—Ladies', misses', children's, and infants' shoes. C 2-11. 251
- 25 East New York Boot, Shoe, & Leather Manufacturing Co., Albany, N. Y.—Women's, misses', and children's shoes. C 2-13. 251
- 26 Newcomb & Walker, Elmira, N. Y.—Men's, boys', youths', women's, misses', and children's shoes. C 1-14. 251
- 27 Burt, Edwin C., New York, N. Y.—Ladies' shoes. C 2-14. 251
- 28 Burt & Mears, New York, N. Y.—Men's boots and shoes. C 2-14. 251
- 28^a Dress Reform Co., Boston, Mass.—Designs for ladies' shoes. D 1-6. 251
- 29 Bay State Shoe & Leather Co., New York, N. Y.—Boots and shoes. C 2-14. 251
- 30 Thierry, Ernest J., New York, N. Y.—Gentlemen's gaiters, shoes, and slippers. C 2-14. 251
- 31 Brooks, Edwin A., New York, N. Y.—Cork-sole boots and shoes. C 2-13. 251
- 32 Creed, Eugene, New York, N. Y.—Boot, shoe, and gaiter uppers. C 1-15. 251
- 33 Kenny & McPartland, New York, N. Y.—Ladies', misses', and children's shoes. D 1-5. 251
- 34 Leh, H., & Co., Allentown, Pa.—Boots and shoes. D 2-4. 251
- 35 Adler & Clement, Baltimore, Md.—Ladies', misses', and children's shoes; leather tips formed from the sole. D 1-4. 251
- 36 Dixon, W. T., & Bro., Baltimore, Md.—Ladies', misses', and children's shoes. D 1-2. 251
- 37 Banister & Tichenor, Newark, N. J.—Men's and boys' boots, shoes, and slippers. Finest class hand and machine-sewed. Any of the goods on exhibition duplicated on orders. D 2-4. 251
- 38 Canfield, M. B. & I., Newark, N. J.—Gentlemen's boots and shoes. D 2-5. 251
- 39 Miller, McCulloch, & Ober, Newark, N. J.—Gents' boots and shoes. D 2-4. 251
- 40 Brown, Alex. P., & Co., Philadelphia, Pa.—Ladies', misses', children's, and infants' boots and shoes. C 1-15. 251
- 41 Evans, Thos. R., 28 South Fourth street, Philadelphia, Pa.—"Evans's American gaiter," and graduated expanding boots and shoes. Patented. D 2-5. 251
- 42 Jenkins Bros. & Co., South Abington, Mass.—Steel shanks for boots and shoes. C 1-15. 251
- 43 Erskine, M. A., & Co., Philadelphia, Pa.—Ladies' shoes. C 1-12. 251
- 44 Graf, L., & Bro., Newark, N. J.—Boots and shoes. C 1-13. 251
- 45 West Bros., Philadelphia, Pa.—Ladies', misses', children's, and infants' shoes. C 1-13. 251
- 45^a Moore, Wm. B., Camden, N. J.—Metal tips for shoes, corsets, etc. D 1-4. 251
- 45^b Barrows & Boyd, New York, N. Y.—Ladies' and children's fine shoes. D 2-5. 251
- 45^c Shaw, Chas. A., Boston, Mass.—Improved shoe lasts. D 1-5. 251
- 45^d Prouty, Isaac, & Co., Spencer, Mass.—Men's, boys', and youths' boots. D 1-3. 251
- 45^e Kent, Edward E., & Co., Spencer, Mass.—Men's, boys', and youths' boots. D 2-7. 251
- 45^f Cooper, R., Ithaca, N. Y.—Centennial shoe. D 1-5. 251

Boots and Shoes.

- 46 Gates, Allen, & Bro., 413 Dillwyn streets, Philadelphia, Pa.—Ladies' machine-sewed turn boots, shoes, and slippers. Warranted equal in quality and workmanship to hand-made shoes. C 1-14. 251
- 47 Sollers, S. D., & Co., Philadelphia, Pa.—Infants' and children's shoes and slippers. C 1-14. 251
- 48 Richelderfer, J. H., Philadelphia, Pa.—Over gaiters and leggings. C 1-13. 251
- 49 Kelley & Moore, Philadelphia, Pa.—Ladies' shoes. C 1-12. 251
- 50 Targett, John, Philadelphia, Pa.—Boot, shoe, and gaiter patterns. C 1-12. 251
- 50^a Claffin, Waldo M., Philadelphia, Pa.—Men's and boys' boots and shoes, with Estabrook, Wires, & Co. screws. C 1-12. 251
- 50^b Pratt, Henry J., Abington, Mass.—Last-block fastening. D 1-6. 251
- 50^c Butterfield, Wm., & Co., New York, N. Y.—Button fastener, and plate-lace hook. D 1-6. 251
- 50^d Phinney, S. C. & J. G., Stoughton, Mass.—Boot and shoe counters, made of sole leather. D 2-4. 251
- 51 Schmid, Jacob, Philadelphia, Pa.—Ladies' boots and shoes. C 1-12. 251
- 52 Benkert, C., & Son, Philadelphia, Pa.—Gentlemen's boots and shoes. C 1-16. 251
- 53 Zaun, Jacob, & Son, Philadelphia, Pa.—Men's boots and shoes. C 1-13. 251
- 54 Dreisbach, Wm., & Co., Philadelphia, Pa.—Shoe bows and wooden heels. C 1-15. 251
- 55 Heulings, Abram, American Hotel, Chestnut street, opposite Independence Hall, Philadelphia, Pa.—Ice creepers which can be attached to any lady's or gentleman's boot or shoe, and worn alike in the parlor or on icy sidewalks. C 1-15. 251
- 56 Meyer, C. Adolph, Philadelphia, Pa.—French calf boots, shoes, and gaiters. C 1-12. 251
- 57 Helweg & Co., Philadelphia, Pa.—Boots and shoes. C 1-16. 251
- 59 Mayer & Stern, Philadelphia, Pa.—Ladies', children's, and infants' shoes. C 1-12. 251
- 60 Dalsheimer Bros., Philadelphia, Pa.—Ladies', misses', children's, and infants' shoes. C 1-15. 251
- 61 Sausser, Dangler, & Co., Philadelphia, Pa.—Women's, misses', and children's shoes. C 1-13. 251
- 62 Ziegler Bros., Philadelphia, Pa.—Ladies', misses', children's, and infants' shoes. C 1-14. 251
- 63 Laird, Schober, & Mitchell, Philadelphia, Pa.—Boots and shoes. C 1-15. 251
- 64 Schiff, W. L., Philadelphia, Pa.—Children's shoes, and ladies' white kid boots and slippers. C 1-15. 251
- 64^a Claffin, Aaron, & Co., New York, N. Y.—Wax, grain, split, kip, and calf boots, brogans, etc. D 1-2. 251
- 64^b Gittens, J. K., Brooklyn, N. Y.—Cork and wool insoles. C 2-13. 251
- 64^c Saller, Lewin, & Co., Philadelphia, Pa.—Men's, boys', women's, and misses' boots and shoes. C 1-13. 251
- 64^d De Haven, A. R., & Son, Philadelphia, Pa.—Ladies' hand-sewed boots and shoes. C 1-12. 251
- 64^e Fontyn, George, Philadelphia, Pa.—Men's boots, shoes, and gaiters. C 1-13. 251
- 64^f Reimel, Louis, Philadelphia, Pa.—Shoemakers. C 1-14. 251
- 64^g Gray Bros., Syracuse, N. Y.—Ladies' and misses' fine shoes. D 1-4. 251
- 65 Simonds, N. J., Woburn, Mass.—Bevel and moulded heel stiffeners from leather and leather boards. D 2-6. 251
- 66 Walker, J. H. & G. M., Worcester, Mass.—Boots. D 1-8. 251
- 67 Hamilton Web Co., Wickford, R. I.—Boot and gaiter webs. D 1-3. 251
- 68 Lilly, Young, Pratt, & Brackett, Boston, Mass.—Men's, boys', and youths' boots and shoes. D 1-3. 251
- 69 Connolly & Power, Boston, Mass.—Gentlemen's boots, shoes, and gaiters. D 2-6. 251
- 70 Haskell, B. C., & Dickerman, Boston, Mass.—Shoe findings, buckles, buttons, laces, button hooks, over gaiters, shoe trimmings, and tools. D 2-7. 251
- 70^a Cushman, Ara, & Co., Auburn, Me.—Men's boots and shoes. D 2-7. 251
- 70^b Henderson, C. M., Chicago, Ill.—Men's boots and shoes. D 2-4. 251
- 70^c Krippendorf & Hart, Cincinnati, O.—Ladies', misses', and children's shoes. C 2-12. 251
- 70^d American Novelty Shoe Co., Meadville, Pa.—Wooden shoes. D 2-4. 251
- 71 Jones, Frederick, & Co., Boston, Mass.—Boots and shoes. D 1-2. 251
- 72 Batcheller, E. & A. H., & Co., Boston, Mass.—Men's, boys', youths', women's, and misses' boots, shoes, and brogans. D 1-1. 251
- 72^a De Waru, Laurens E., Philadelphia, Pa.—Boots and shoes showing the Gordian seam. D 1-3. 251
- 73 Henshaw, Ed., Boston, Mass.—Shoe findings, tools, store supplies, etc. D 2-7. 251
- 74 Aub, Hackenburg, & Co., Philadelphia, Pa.—Machine silk for leather work. D 1-5. 251
- 75 Jenkins, Lane & Sons, Boston, Mass.—Boots, shoes, and brogans. D 1-1. 251
- 76 Fogg, Houghton, & Coolidge, Boston, Mass.—Men's, boys', youths', women's, and children's boots and shoes. D 1-1. 251
- 77 Dane, J. F., Grinnell, & Co., Boston, Mass.—Men's boots, brogans, etc. D 1-3. 251
- 78 Robbins & Kelloggs, Boston, Mass.—Women's, misses', and children's shoes. D 1-3. 251

For classes of exhibits, numbered at end of entries, see Classification, Part I., pp. 27-45.

Boots, Shoes, Trunks.

- 79 Emerson's, Thomas, Sons, Boston, Mass.—Men's, boys', and youths' shoes. Manufacturers of hand and machine fine sewed and nailed work; owners of the patent for the celebrated "Hersome Gaiter." D 1-1. 251
- 80 Sears & Warner, Boston, Mass.—Shoe manufacturers' goods, lastings, and serges. D 1-8. 251
- 81 Peckert, Charles D., & Co., Lynn, Mass.—Ladies' and misses' boots and shoes. D 1-7. 251
- 82 Ventilating Waterproof Shoe Co., Lynn, Mass.—Ladies' and misses' boots. D 1-7. 251
- 83 The Moulded Heel Stiffening Co., Lynn, Mass.—Moulded rubber counters for boots and shoes. D 1-7. 251
- 83^a Wood, W. D., & Co., Haverhill, Mass.—Boot and shoe trimmings. D 1-6. 251
- 83^b Emerson, R. W., & Co., Boston, Mass.—Women's, misses', and children's pegged boots and shoes. D 1-1. 251
- 83^c Mawhinney, H. H., & Co., Boston, Mass.—Boots and shoes. D 1-4. 251
- 83^d Shaw, John, 2d, & Bro., Lynn, Mass.—Women's boots and shoes. D 1-7. 251
- 84 Tebbetts, Charles B., Lynn, Mass.—Ladies' and gents' boots, shoes, slippers, and fancy ties. D 1-7. 251
- 85 Woolledge, A. M., Lynn, Mass.—Ladies' shoes. D 1-7. 251
- 86 Bancroft, E. F., & Co., Lynn, Mass.—Ladies' and misses' boots and shoes, and ladies' and gents' fancy and plain slippers. D 1-7. 251
- 87 Mower & Bro., Lynn, Mass.—Ladies' and misses' boots and buskins. D 1-7. 251
- 88 Sweetzer, C. S., & Co., Lynn, Mass.—Ladies' and misses' boots. D 1-7. 251
- 89 Breed, W. F., Dole, & Co., Lynn, Mass.—Ladies' and misses' boots. D 1-7. 251
- 90 Breed, F. W., Lynn, Mass.—Ladies' boots and shoes. D 1-7. 251
- 91 Breed, A. F., Lynn, Mass.—Men's, ladies', and misses' boots and shoes. D 1-7. 251
- 92 Coffin, C. A., & Co., Lynn, Mass.—Men's boots and shoes. D 1-7. 251
- 93 Mudge, W. R., Lynn, Mass.—Leather, straw, and pattern boards, paper soles, stiffenings, etc. D 1-6. 251
- 94 Sutherland, I. G., Lynn, Mass.—Boot and shoe patterns, and sample boots and shoes. D 1-6. 251
- 95 Buffum, Charles, Lynn, Mass.—Ladies' and misses' boots. D 1-7. 251
- 95^a Rogers, Evan T., San José, Cal.—Seamless gaiters and shoes. D 1-5. 251
- 95^b Boynton & Bancroft, Lynn, Mass.—Shoe soles, sole leather and roundings. D 1-7. 251
- 95^c Dawley & Derby, New York, N. Y.—Shoe lasts, boot trees, crimps, clamps, toe stretchers. D 2-4. 251
- 95^d Reutzell, P. J., New York, N. Y.—Boot, shoe, and gaiter uppers. D 1-4. 251
- 95^e National Boot & Shoe Tip Co., Boston, Mass.—Colored rawhide tips and toe protectors. D 1-2. 251
- 95^f Dalsheimer, Leon, & Bro., Camden, N. J.—Boots and shoes. C-13
- 96 Mower, F. B., Lynn, Mass.—Ladies', misses', and children's boots. D 1-7. 251
- 97 Ordway & Clark, Haverhill, Mass.—Ladies' and gents' walking boots and slippers. D 1-6. 251
- 98 How, Moses, Haverhill, Mass.—Ladies' and misses' shoes and slippers. D 1-5. 251
- 98^a Oliver, Stephen, jr., Lynn, Mass.—Women's boots and shoes. D 1-7. 251
- 98^b Morgan & Dore, Lynn, Mass.—Ladies' boots and shoes. D 1-7. 251
- 98^c Hawkins, Thos. H., Vineland, N. J.—Ladies', misses', and children's boots and shoes. D 1-5. 251
- 98^d Turnbull & Samuels, Philadelphia, Pa.—Composition heel. D 2-5. 251
- 98^e Justh, E. L., Washington, D. C.—Improved shoes. C 1-15. 251
- 99 Goodrich & Whitehouse, Haverhill, Mass.—Misses', children's, and infants' boots and shoes. D 1-6. 251
- 100 Goodrich & Porter, Haverhill, Mass.—Ladies' and misses' boots and shoes. D 1-5. 251
- 101 How, George C., Haverhill, Mass.—Kid slippers and ties. D 1-6. 251
- 102 Gardner Bros., Haverhill, Mass.—Ladies' and misses' boots and shoes. D 1-5. 251
- 103 Farrar, John B., Haverhill, Mass.—Gents' boots and opera and low-cut shoes. D 1-6. 251
- 104 Johnson, L., & Co., Haverhill, Mass.—Ladies' and gentlemen's shoes and slippers. D 1-6. 251
- 105 Nichols, George H., & Co., Haverhill, Mass.—Men's boots and shoes. D 1-6. 251
- 106 Goodrich, J., jr., Haverhill, Mass.—Ladies' boots. D 1-6. 251
- 106^a Parker, Charles F., & Co., Boston, Mass.—Boots and shoes. D 1-4. 251
- 106^b Dohle, Henry, Omaha, Neb.—Boots and shoes. D 2-3. 251
- 106^c American Wooden Shoe Co., Chicago, Ill.—Wooden shoes and slippers. 251
- 106^d Estabrook, Wires, & Co., Milford, Mass.—Clinching screws for boots and shoes. E 1-14. 251
- 106^e Foster & Quiggle, Milford, Mass.—Shoes made with Estabrook's clinching screws. E 1-14. 251

Trunks, Valises, etc.

- 107 Simon, Edward, & Bro., New York, N. Y.—Trunks, bags, bag frames and trimmings, and fancy brass goods. G 2. 255

Traveling Equipments, Harness, Rubber Goods.

- 108 Lagowitz, J., & Co., New York, N. Y.—Trunks, traveling bags, and satchels. G 2. 255
- 109 Hacker, J. C., & Co., New York, N. Y.—Pocket books, bill books, card and cigar cases, etc. G 2. 255
- 110 Lambert, P. W., & Co., New York, N. Y.—Pocket books, belts, toys, and Russia leather goods. C 1-16. 255
- 111 Gillmore, J. C., & Co., New York, N. Y.—Fine trunks, traveling cases and bags. G 1. 255
- 112 Thorne, John W., New York, N. Y.—Saratoga trunk and trunk clamp. G 1. 255
- 112^a Peddie, T. B., & Co., Newark, N. J.—Trunks, valises, traveling bags, and ladies' satchels. G 2. 255
- 112^b Roemer, William, Newark, N. J.—Trunks, bags, and shawl straps. G 1. 255
- 112^c Rowen, John, Philadelphia, Pa.—Trunks, satchels, and pocketbooks. G 1. 255
- 112^d Doughty, S. H., New York, N. Y.—Ladies' belts. D 1-5. 255
- 113 Crouch & Fitzgerald, New York, N. Y.—Trunks, valises, shawl straps, and leather goods. G 2. 255
- 115 Simpson, J. F., Philadelphia, Pa.—Trunk closer, lock, strap, and socket. G 1. 255
- 116 Watt, F. H., Philadelphia, Pa.—Trunks, traveling bags, and fancy leather goods. G 2. 255
- 117 Unruh, John, & Sons, Philadelphia, Pa.—Leather trunks and valises. G 1. 255
- 118 Waas, H. A., Philadelphia, Pa.—Trunk. G 1. 255
- 119 Palmer, Lt. George H., Nashville, Tenn.—Army, sportsmen's, travelers', and miners' equipments, adopted by the United States Army. Part proprietorship in foreign patents for sale. Foreign orders solicited. G 1. 255
- Saddlery, Hardware.**
- 120 Albright, Andrew, Newark, N. J.—Hard rubber-coated harness and carriage trimmings. D 2-2. 284
- 121 Celluloid Harness Trimming Co., Newark, N. J.—Celluloid martingale rings and harness mountings. D 2-1. 284
- 121^a Osborn, H. F., Newark, N. J.—Saddlers' and harness-makers' tools and machinery. D 2-2. 284
- 122 Kuenhold, F. B., Newark, N. J.—Saddlery and coach hardware. D 2-2. 284
- 123 Crane & Co., Newark, N. J.—Flexible rubber bits, wrought hand-forged bits. D 2-2. 284
- 124 Theiberath, Charles M., & Bro., 10 and 12 Ward street, Newark, N. J.—Manufacturers of gold, silver, nickel-plated and leather covered harness mountings. D 2-3. 284
- 125 Manning, Robert, Newark, N. J.—Winkers and winker plates. D 2-1. 284
- 126 Buerman, August, Newark, N. J.—Saddlery and harness hardware, bits, spurs, etc. D 2-1. 284
- 127 Wiener & Co., Newark, N. J.—Saddlery, hardware, and trimmings. D 2-1. 284
- 128 Tompkins, Samuel E., & Co., Newark, N. J.—Tompkins' patent gig trees; coach pads and gig saddles; hames, bits, etc.; coach and saddlery hardware in silver, gold, or nickel. D 2-1. 284
- 129 Waldron, J. V., & Bro., New York, N. Y.—Crests, coats of arms, monograms, bits, bosses, rosettes, etc., for harness. D 2-1. 284
- 130 Reynolds, Samuel, & Co., Pittsburg, Pa.—Fine XC plate, silver plate, gold and japanned post bits, snaffle, ring bits and stirrups, iron gig and coach hames, all styles buckles, rings, loops, etc.; malleable iron castings for agricultural machinery. D 2-2. 284
- 131 Jenks, A. S., Philadelphia, Pa.—Driving bits. D 2-3. 284
- 131^a Whelen, Richard P., New York, N. Y.—Bridle bits. D 2-3. 284
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 132 Davidson Rubber Co., 30 Franklin street, Boston, Mass.—Rubber goods, used in druggist, surgical, stationery, and fine rubber work. We use nothing but the finest stock, and make superiority in finish and quality our aim. C 2-8. 285
- 133 Gossamer Rubber Co., Boston, Mass.—Gossamer water-proof cloaks, coats, and overcoats, hats, caps, and umbrellas. C 2-11. 285
- 134 Taylor, W. B. S., 365 Broadway, New York, N. Y.—Gas tight flexible tubing, for portable light and gas stoves, and gas-proof cloth for gasometers. C 2-9 and 10. 285
- 135 Goodyear Rubber Co., New York, N. Y.—Rubber goods, enameled and table oil cloths. C 2-9 and 10. 285
- 136 National Rubber Co., Providence, R. I.—Rubber boots, shoes, clothing, cloths, stationers' and druggists' articles, mats, belting, hose, cushions, beds, pillows, etc. C 2-9 and 10. 285
- 137 New Brunswick Rubber Co., New Brunswick, N. J.—Rubber boots and shoes. C 2-11. 285
- 138 Vulcanized Fibre Co., Wilmington, Del.—Hard and flexible goods of vulcanized fibre. G 1. 285
- 139 Chadeayne & Christian, Yonkers, N. Y.—Rubber boots. G 1. 285
- 139^a Star Rubber Co., Trenton, N. J.—India-rubber goods for mechanical purposes. G 1. 285
- Carriages, Vehicles, and Accessories.**
- 140 Peters Calhoun Co., Newark, N. J.—Harness, saddles, and bridles. E 1-12. 296

Harness, Leather-Working Machinery.

- 142 Kessler & Bro., Philadelphia, Pa.—
Wooden and plated hames. E 1-5. 296
- 142^a Karr, Wm., Karrsville, N. J.—
Draft harness. E 1-1. 296
- 142^b Crittenden, L. S., Cuba, N. Y.—
Combination horse blanket and fly protector. E 1-12. 296
- 142^c Hallett, Hervey H., Rockland, Mass.—
Harness saddle. E 1-13. 296
- 142^d Ries, Anton, Philadelphia, Pa.—
Harness. E 1-4. 296
- 142^e Taylor, Marshall B., Ludlow, Vt.—
Whip lashes. E 1-5. 296
- 142^f Hamly, Wm., Ripon, Wis.—
Wire stitched horse collars. E 1-4. 296
- 142^g Rosenthal, Henry, New York, N. Y.—
Leather back horse brushes. F 1-1. 296
- 142^h Heydecke, Wm., Newark, N. J.—
Wood hames. E 1-13. 296
- 143 Haedrick, Henry G., & Sons, Philadelphia, Pa.—
Harness and saddlery; preparation for polishing and dressing harness. E 1-10. 296
- 143^a Burns & Degnan, St. Louis, Mo.—
Ventilated side saddle. E 1-11. 296
- 144 Moyer, E. P., & Bros., Philadelphia, Pa.—
Harness, saddlery, and trunks. E 1-3. 296
- 145 Hansell, W. S., & Sons, Philadelphia, Pa.—
Harness and saddlery, and horse clothing. E 1-4. 296
- 146 Lynch, Anthony, Philadelphia, Pa.—
Gold-mounted double and single harness. E 1-10. 296
- 147 Sallada & Pearson, Philadelphia, Pa.—
Ladies' and gentlemen's riding and driving whips. E 1-13. 296
- 148 McFadden, Patrick, Philadelphia, Pa.—
Single harness and saddlery. F 1-1. 296
- 149 Yeager, Daniel A., Media, Pa.—
Double and single harness, riding saddles and bridles. E 1-2. 296
- 150 Wilson, R. F., Milton, Pa.—
Fly nets. E 1-4. 296
- 150^a Wrigglesworth, W. J., Darlington, Wis.—
Horse collar, collar, cap, and pad. E 1. 296
- 150^b Phillips, Samuel R., Philadelphia, Pa.—
Harness, saddles, whips, etc. E 1-2. 296
- 150^c Golcher Bros., Philadelphia, Pa.—
Bridle winkers. F 1-1. 296
- 151 Weaver & Bardall, Western Penitentiary, Pittsburg, Pa.—
Leather whips. E 1-13. 296
- 152 Moseman, C. M., & Bro., New York, N. Y.—
Single and double harness and saddlery. E 1-1 and 9. 296
- 153 Korne & Currie, New York, N. Y.—
Single and double harness. E 1-5. 296
- 154 Moore, Thomas, New York, N. Y.—
Plain and fancy horse collars. E 1-2. 296
- 155 Manheim, William, New York, N. Y.—
Harness loops and back curtain loops. F 1-2. 296
- 156 American Whip Co., Westfield, Mass.—
Driving and riding and leather whips and lashes. F 1-1. 296
- 157 Wilder, J. Lyman, Hartford, Conn.—
Patent leather harness work, rosettes, etc. E 1-5. 296
- 158 Hill, James R., & Co., Concord, N. H.—
Single and double harness and collars. "The Concord harness" is made in all styles and of every description, from the lightest, finest, and most elegant in use, to the heaviest and strongest required for any kind of work. Are remarkable for style, workmanship, strength, and durability. Correspondence solicited. Circulars furnished on application. E 1-1 and 9. 296
- 159 Gale, A. D., Pittsfield, Mass.—
Double coach harness and paper trunk. E 1-6. 296
- 160 Motts, George, Washington, D. C.—
Gold mounted buggy harness. E 1-4. 296
- 161 Lighthouse, J. C., Rochester, N. Y.—
Horse collars and pads. E 1-5. 296
- 162 Stewart, John P., Rochester, N. Y.—
Carriage and draft horse collars. E 1-13. 296
- 162^a Spencer, Robert, Brooklyn, N. Y.—
Saddle cloths. E 1-13. 296

Leather Machinery.

- 163 Pusey, Jones, & Co., Wilmington, Del.—
Tanning apparatus and glazing machine for morocco factory. E 2-3 and 10. 532
- 163^a Mitchell, J. E., Philadelphia, Pa.—
Curriers' blocks, clearing and scouring stones. A 2-2. 532
- 163^b Smith, Wm. M., Philadelphia, Pa.—
Device for regulating sewing machines. E 2-2. 532
- 163^c Stoddard & Fifield, North Brookfield, Mass.—
Skiving machines. F 2-1. 532
- 163^d Carl, Frederick, Somerville, Mass.—
Model of stuffing mill for leather. E 2-9. 532
- 163^e Lewis, Rufus E., New Hampton, N. H.—
Machine for currying leather. F 2-3. 532
- 163^f Bowser, J. C., Fort Wayne, Ind.—
Stationary engine, boiler, and fixtures. E 2-1. 532
- 163^g Newton, E. P., Gloversville, N. Y.—
Glove, mitten, and leather cutting machines. F 2-4. 532
- 164 Walters, G. C., Philadelphia, Pa.—
Wet-skin sewing machine. E 2-2 and 9. 532
- 166 Horn, W. H., & Bro., Philadelphia, Pa.—
Tanners', curriers', and shoemakers' tools and machinery. D 2-3. 532
- 167 Osborne, C. S., & Co., 96 Mechanic street, Newark, N. J.—
Saddlers' and harness makers' tools. Manufacturers of saddlers' and harness makers' tools of superior quality and finish. Established 1826. Send for catalogue. E 2-4 and 11. 532

Leather-Working Machinery and Tools.

- 168 Knox, David, Lynn, Mass.—Pebbling and polishing machine; sole-cutting machine. F 2-4. 532
- 168^a McLaughlin, Grover, & Lloyd, New York, N. Y.—Machine knives, leather, cloth, and paper dies or cutters. D 2-5. 532
- 168^b Sturtevant, Benjamin F., Boston, Mass.—Hot blast apparatus for tanneries and curriers' shops. F 2-1 and 2. 532
- 169 Coogan, Owen, Pittsfield, Mass.—Boarding and graining machine. E 2-9. 532
- 170 Reed, Harvey, Vineland, N. J.—Combination tannery. F 2-5. 532
- 171 Lockwood, Frederick A., Fall River, Mass.—Automatic leather-scouring machine. E 2-12. 532
- 172 Baker, George W., Wilmington, Del.—Skin-sewing machine. E 2-9 and 2. 532
- 173 Fisk, Joseph E., Salem, Mass.—Leather-whitening and buffing machine. E 2-10. 532
- 174 Lampert, Henry, Rochester, N. Y.—Round beam hide worker. E 2-9. 532
- 175 Rosensteel, W. H., Johnstown, Pa.—Model of leather-dressing machine. F 2-5. 532
- 176 Thompson & Nowell, Boston, Mass.—New patent bark-cutting and roasting machine. Tanners are respectfully invited to examine the machine and obtain circulars of information. E 2-3. 532
- 177 Swain, Fuller, & Co., Lynn, Mass.—Beating-out, moulding, and buffing machines. E 1-6 and 14. 532
- 178 Plummer, W. E., Boston, Mass.—Leather, buffing, whitening, and skiving machine; rotary tan press; round leach for leaching bark. E 2-5 and 11. 532
- 179 Gibson, F. N., New Ipswich, N. H.—Raising, creasing, and waving machine for harness makers, etc. F 2-6. 532
- 179^a Harkinson, Robert, Philadelphia, Pa.—Hooks for tanners' use. A 2-3. 532
- 182 American Shoe Tip Co., Boston, Mass.—Boots and shoes with wire-quilted soles and toe protection. F 2-7. 533
- 183 Roney, James B., Philadelphia, Pa.—Shoe trimming and edge setting machine. E 1-10 and 14. 533
- 184 Howe Machine Co., Bridgeport, Conn.—Boot and shoe sewing machines. F 2-3. 533
- 185 Buzzell, J. G., & Co., Lynn, Mass.—Buffing and heel securing machines. F 2-3 and 6. 533
- 186 Carver Cotton Gin Co., East Bridgewater, Mass.—Leveling, counter skiver, and welt cutter, and shank machines. F 2-5. 533
- 187 McKay Sewing Machine Association, Boston, Mass.—Shoe sewing and riveting machines and out-sole tacker. The McKay Sewing Machine is in use for sewing soles to boots and shoes; will sew nine hundred pairs per day; thirty-five million pairs are annually sewed on it in the United States. The riveting machines are for riveting soles to boots and shoes. The rivets are corrugated, automatically cut to the proper length, and firmly clinched on the insole. Three hundred pairs per day can be riveted, either in a channel or on the surface. The outsole tackers are for laying out soles. The nails clinch, are thoroughly buried in the insole, and always hold the sole. E 1-15. 533
- 188 May, Withey, & Drake, Lynn, Mass.—Shoe drying machine. F 2-6. 533
- 189 Stimpson, Edwin B., New York, N. Y.—Shoe machinery. E 1-6 and 14. 533
- 190 Hanan & Dewees, New York, N. Y.—Cutting dies and punches, shoe patterns, and lasts. D 2-7. 533
- 191 Hautin Sewing Machine Co., New York, N. Y.—Shoe sewing machine. E 2-11. 533
- 191^a Saurbier, H., & Sons, Newark, N. J.—Saddlers', tanners', and shoemakers' tools. F 1-2. 533
- 191^b Barnett, G. & H., Philadelphia, Pa.—Shoe rasps and files. D 2-2. 533
- 191^c American Cable Screw Wire Co., Boston, Mass.—Screw, cable screw wire, and tacking machines. E 2-10. 533
- 191^d Sturtevant, B. F., Boston, Mass.—Steam blowers and peg machine. F 2-1-2. 533
- 191^e Whittemore, D., Boston, Mass.—Shoe and harness machines. F 1-5, 6, and 7. 533
- 191^f Heaton, David, Providence, R. I.—Button fastener. E 2-3. 533
- 192 S. W. Jamison Boot & Shoe Crimping Machine Co., New York, N. Y.—Steam boot and shoe crimping machine. E 2-6 and 13. 533
- 192^a Wheeler & Wilson Manufacturing Co., Bridgeport, Conn.—Shoe sewing machines. E 2-4 and 11. 533
- 192^b Smith, W. M., Philadelphia, Pa.—Device for driving sewing machines. E 2-2. 533
- 192^c Stephens, W. A., Philadelphia, Pa.—Sole screwing machine. E 2-13. 533

Shoe Machinery.

- 180 Tapley Heel Burnishing Machine Association, Boston, Mass.—Heel-burnishing machine. E 1-7 and 15. 533
- 180^a Stowe, A. F., Worcester, Mass.—Splitting, rolling, boot shaping, and side welt machines. F 2-1. 533
- 180^b Morse, Eddy, & Co., Boston, Mass.—Wax thread, tripp sewing, burnishing, leveling, and sole cutting machines. F 2-1. 533
- 180^c Union Edge Setter Co., Lynn, Mass.—Edge burnisher for boots. E 1-15. 533
- 180^d Hall, M. H., Philadelphia, Pa.—Cutting machine for boots and shoes. F 2-4. 533
- 180^e Domestic Sewing Machine Co., New York, N. Y.—Boot and shoe sewing machines. E 2-9. 533
- 181 Tubular Rivet Co., Boston, Mass.—Rivets for boots, shoes, harness, belting, etc. F 2-6. 533

For classes of exhibits, numbered at end of entries, see Classification, Part I., pp. 27-45.

Leather-Working Machinery and Tools, Leather.

- 192^d Kafer & De Lacy, Trenton, N. J.—Steam burnishing iron heater. E 2-7. 533
- 193 Goodyear & McKay Sewing Machine Association, Boston, Mass.—Shoe sewing machines. E 1-8 and 16. 533
- 194 Graves, L. S., Rochester, N. Y.—Machines for stripping, splitting, rolling and moulding, and heel pressing. E 2-7 and 14. 533
- 196 Cutlan Shoe Sewing Machine Co., Philadelphia, Pa.—Turned shoe sewing machine, channeiler and edge turner. F 1-8. 533
- 197 Redifer, S. S., Philadelphia, Pa.—Shoe lasts, patterns for dies. D 2-5. 533
- 198 Miller, Thomas L., Philadelphia, Pa.—Beveling, channeling, moulding, and sewing machines for shoes. F 1-8. 533
- 200 Cushman, C. S., Philadelphia, Pa.—Leather and shoe stitching attachment. E 1-12. 533
- 201 Evans, Thomas R., Philadelphia, Pa.—Boot and shoe tree, lengthener, stretcher, and lasts. D 2-5. 533
- 202 Smith, J. Barton, & Co., Philadelphia, Pa.—Rasps and files for shoemakers and manufacturers. E 2-13. 533
- 203 Graf, Leopold, Newark, N. J.—Shoe burnishing and polishing machine. F 2-4. 533
- 203^a Tuck, S. V., Brockton, Mass.—Shoe knives and tools. D 2-6. 533
- 203^b Tingley, John, Philadelphia, Pa.—Rotating detachable shoe heel, and machine for attaching. D 1-5. 533
- Animal and Vegetable Products.**
- 204 Wedekind, Hallenburg, & Bro., Louisville, Ky.—Oak sole leather. B 2-3 and 10. 652
- 205 Trautwein, C., & Co., Louisville, Ky.—Chestnut oak sole leather. B 2-3 and 10. 652
- 206 Stoll, J. B., & Co., Louisville, Ky.—Oak skirting leather. B 2-3 to 10. 652
- 207 Ohio Falls Oak Leather Co., Louisville, Ky.—Oak harness, bridle, and belting leather. B 2-3 and 10. 652
- 208 Conrad, Fabel, & Mooney, Louisville, Ky.—Oak sole leather. B 2-3 to 10. 652
- 209 Schellberg, B. F., Germania P. O., Ala.—Rough leather. A 2-7. 652
- 210 Burt, F. H., & Son, Mannington, W. Va.—Oak sole leather. A 1-6. 652
- 211 Wisconsin Leather Co., Milwaukee, Wis.—Sole, upper, and harness leather. A 1-5, B 2-5. 652
- 212 Hidden, E. S., Milburn, N. J.—Leather boards for shanking insoles and counters by improved process; also, patent excelsior carriage washers from compressed leather fibre. A 2-1. 652
- 213 Hurkamp, J. G., Fredericksburg, Va.—Virginia sumac. A 2-3. 652
- 213^a Baer, A. P., & Co., Baltimore, Md.—Chestnut oak extract; quercitron and chestnut oak bark. A 1-5. 652
- 214 Leas & McVitty, Philadelphia, Pa.—Oak sole leather. A 2-6. 652
- 215 Keen & Coates, Philadelphia, Pa.—Oak-tanned sole leather for finest boot and shoe work. A 2-7. 652
- 216 Williams', Chas. B., Sons, Philadelphia, Pa.—Oak-tanned slaughter sole leather. A 2-6. 652
- 217 Horton, Crary, & Co., Sheffield, Pa.—Hemlock sole leather. A 1-5. 652
- 218 Shriver, A. K., & Sons, Union Mills, Md.—Oak sole leather. A 1-5. 652
- 219 Sommerville, Jas. N., Bellefonte, Pa.—Oak sole and belt leather. A 1-6. 652
- 220 Downing & Price, Wilmington, Del.—Oak sole and belt leather. A 1-6. 652
- 221 DeLong Bros., Philadelphia, Pa.—Oak rough slaughter leather. A 2-7. 652
- 222 Spanogle & Pennabaker, Philadelphia, Pa.—Oak sole leather. A 2-6. 652
- 223 Hibernia Tannery, Blaine, Pa.—Buenos Ayres sole leather. A 2-5 and 6. 652
- 224 Hench, Geo., Centre, Pa.—Oak sole leather. A 2-5 and 6. 652
- 225 Hench, A. L., Alum Banks, Pa.—Hemlock sole leather. A 2-5 and 6. 652
- 226 McNeal & Black, Man's Choice, Pa.—Slaughter sole. A 2-5 and 6. 652
- 227 Mapleton Tannery, Mapleton, Pa.—Texas sole. A 2-5 and 6. 652
- 228 Rife, Henry J., Philadelphia, Pa.—Sole and harness leather, and finished calfskins. A 2-5. 652
- 229 Forepaugh, W. F., & Bro., Philadelphia, Pa.—Oak-tanned whole hides. A 1-4. 652
- 230 Leas, Wm. B. Shirley, Tannery, Philadelphia, Pa.—Oak sole leather. A 1-4. 652
- 231 Hoffman, Jacob, Philadelphia, Pa.—Oak sole leather. A 2-5. 652
- 232 Rosensteel, W. H., Johnstown, Pa.—Union crop leather. A 1-7. 652
- 233 Hardenburgh, Hartwell, & Co., English Centre, Pa.—Sole leather. A 1-5. 652
- 234 Howard, J. W. & A. P., & Co., Corry, Pa.—Hemlock sole leather. A 1-5. 652
- 235 Greenawalt, J. & J. K., Harrisburg, Pa.—Oak sole, harness, wax upper, kip, and calf leather. A 2-6. 652
- 236 Wilkinson, J. P., & Bro., Unionville, Pa.—Oak sole and harness leather. A 2-7. 652
- 237 Underhill & Noble, Athens, Pa.—Hemlock sole leather. A 1-7. 652
- 238 Ray, Daniel P., Tyrone, Pa.—Union crop sole leather. A 2-7. 652
- 239 Webb, Wm. B., Frankford, Pa.—Leather aprons for worsted machinery, picker, band, and lace leather. A 2-7. 652

Leather.

- 240 Bechtel, John A., & Son, Newport, Pa.—Oak sole leather. A 2-6. 652
- 241 Mosser & Keck, Allentown, Pa.—Union crop backs. A 2-7. 652
- 242 Genseman, Miller, & Co., Pinegrove, Pa.—Oak slaughter sole leather. A 2-7. 652
- 243 Rippman, C. A., Newport, Pa.—Slaughter sole and rough skirting leather. A 2-7. 652
- 244 Kerper, Henry, Reading, Pa.—Oak rough leather. A 2-7. 652
- 244a Spaulding, Edward, Boston, Mass.—Hemlock sole leather. A 1-5. 652
- 244b Chatfield, Underwood, & Co., New York, N. Y.—Oak sole and rough leather. A 2-4. 652
- 244c Thorne, McFarland, & Co., New York, N. Y.—Hemlock sole leather, from Thorndale, Laporte, and Torvanda tanneries. A 1-7. 652
- 244d Faust, Alvin, D., & Son, Upper Dublin, Pa.—Oak sole and rough leather. A 2-7. 652
- 244e Corbin, A., & Co., New Milford, Pa.—Hemlock sole leather. A 1-7. 652
- 245 Bare, John, Mt. Union, Pa.—Union crop sole leather. A 2-7. 652
- 246 Baer, Arthur P., & Co., hide & leather dealers, Nos. 7 & 9 Cheapside, Baltimore, Md., proprietors of Schlosser Tannery.—Slaughter oak sole leather. Vienna medal. A 1-4. 652
- 247 Deford & Co., First National & Battle Run Tanneries, Baltimore, Md.—Slaughter sole leather. A 2-4. 652
- 248 Appold, Geo., & Sons, Baltimore, Md.—Slaughter oak sole leather. A 2-4. 652
- 249 Jenkins, Staylor, & Co., Baltimore, Md.—Oak sole leather, from the Baltimore Star, Mt. Vernon, Swift-Run, and Prospect tanneries. A 2. 652
- 249a Halsey, Saml., & Son, Newark, N. J.—Patent and enameled leather. B 1-5. 652
- 249b Buck, C., Fleming, Pa.—Oak sole leather. A 2-7. 652
- 249c Maynard, Ely & Roso, Baltimore, Md.—Calf and kip skins. D 2. 652
- 249d Lapham, Smibert, & Co., Chicago, Ill.—Sole leather. A 1-6. 652
- 249e Robertson & Hoople, New York, N. Y.—Hemlock sole leather. A 1-7. 652
- 249f Frantz, D., & Son, Louisville, Ky.—Oak sole leather. A 2-3. 652
- 250 Decker, David, Wellsburg, N. Y.—Union back sole leather. A 2-4. 652
- 251 Palmer & Decker, Elmira, N. Y.—Union back sole leather. A 2-4. 652
- 252 Kinley, Adam, Breesport, N. Y.—Union crop sole leather. A 2-5. 652
- 252a Shultz, Southinck, & Co., New York, N. Y.—Hemlock and Union crop sole leather. A 1-8. 652
- 253 Osterhout, W. H., Ridgway, Pa.—Hemlock sole leather. A 1-8. 652
- 254 Wilcox Tanning Co., Wilcox, Pa.—Hemlock sole leather. A 1-8. 652
- 255 Innes, Adam, Granville Centre, Pa.—Union slaughter backs sole leather. A 1-8. 652
- 256 Innes, Adam, Grovers, Pa.—Crop sole leather. A 1-8. 652
- 257 Childs & Bloomer, Nicholson, Pa.—Slaughter crop sole leather. A 1-8. 652
- 258 McKinstry & Childs, Schultsville, Pa.—Slaughter crop leather. A 1-8. 652
- 259 Hoyt, J. B., & Co., New York, N. Y.—Oak-tanned leather belting. A 1-4. 652
- 260 Hoyt Bros., New York, N. Y.—Hemlock sole leather. A 2-3. 652
- 261 Brown, E. T., & Co., 82 Gold street, New York, N. Y.; Luzerne Tannery, James Davis & Co., Pittston, Pa.—Union crop sole leather; very solid, fair color. A 2-4. 652
- 262 Lee, W. Creighton, Salladaybush & Tioga Tanneries, New York, N. Y.—Hemlock sole leather. A 1-7. 652
- 263 Hubbard & North, Oswego, New York, N. Y.—Hemlock sole leather. A 1-6. 652
- 264 Wells, Henry F., Germania Tannery, Ludleytown, N. Y.—California hemlock sole leather. A 1-6. 652
- 265 Kenyon, J. A., & Co., Trout Creek Tannery, Cannonville, N. Y.—Texas hemlock sole leather. A 1-6. 652
- 266 Bulkley, J. E., & Sons, New York, N. Y.—Hemlock sole leather. A 1-8. 652
- 267 Horton, G. B., & Co., New York, N. Y.—Hemlock sole leather. A 1-7. 652
- 268 Lapham, H. G., Tunkhannock Tannery, Tunkhannock, Pa.—Union back sole leather. A 2-4. 652
- 269 Rockwell Bros., Clarendon Tannery, Warren, Pa.—Hemlock sole leather. A 1-7. 652
- 270 Costello, P. & P., Camden Tannery, Camden, N. Y.—Hemlock sole leather. A 1-7. 652
- 271 Beach & Dodge, Harrisville, Lewis Co., N. Y.—Hemlock sole leather. A 2-7. 652
- 271a Prichett & Baugh, Philadelphia, Pa.—Oak sole leather from Strasburg, Path, and Franklin tanneries. A 2-3. 652
- 271b Kirkpatrick, Kinzey & Co., Philadelphia, Pa.—Union sole leather. A 2-4. 652
- 271c Howell, Joseph & Co., Philadelphia, Pa.—Oak sole leather. A 2-3. 652
- 271d Hersey, Washburn, & Co., Boston, Mass.—Hemlock sole leather. A 1-3. 652
- 271e Steinwand, Chas., Philadelphia, Pa.—Calf and kip skins. B 2-13. 652
- 272 Adams & Shafer, New York, N. Y.—Sole leather. A 1-8. 652
- 273 Thomas Extract Co., Elmira, N. Y.—Sole leather and belting leather, tanned with Thomas's clarified extract of hemlock bark exclusively, and with other tanning materials, in various percentages. A 2-5. 652

Leather.

- 274 Perry, F. H., & Co., Limestone, N. Y.—Hemlock sole leather. A 1-7. 652
- 275 Lampert, Henry, Rochester, N. Y.—Sole and upper leather. E 2-9. 652
- 276 Devereaux, A., & Son, Deposit, N. Y.—Hemlock sole leather. A 1-5. 652
- 277 Spaulding, Edward, Boston, Mass.—Hemlock sole leather. A 1-5. 652
- 279 Proctor, Thos. E., Boston, Mass.—Hemlock sole leather, curried leather, and splits. A 1-5. 652
- 280 Fairbrother, H. L., & Co., Pawtucket, R. I.—Belting lace and hame string leather. A 1-4. 652
- 281 Jewett & Keating, Buffalo, N. Y.—Hemlock sole leather. A 1-6. 652
- 282 Williams, C. H., & G. L., Buffalo, N. Y.—Hemlock sole leather. A 1-6. 652
- 283 Rumsey, A., & Co., Buffalo, N. Y.—Hemlock sole leather. A 1-6. 652
- 284 Gardner, N. H., & Co., Buffalo, N. Y.—Hemlock sole leather. A 1-6. 652
- 285 Schoellkopf, J. F., & Son, Buffalo, N. Y.—Hemlock sole leather. A 1-6. 652
- 286 Rose, Adolf, Buffalo, N. Y.—Hemlock sole leather. A 1-6. 652
- 287 Bush & Howard, Buffalo, N. Y.—Hemlock sole leather. A 1-6. 652
- 288 Nepper, E. & D., Cincinnati, O.—Oak sole leather. A 2-5. 652
- 289 Elases & Pritz, Cincinnati, O.—Oak sole leather. A 2-5. 652
- 290 Ballauf, Louis, Cincinnati, O.—Oak sole leather. A 2-5. 652
- 291 Steigler, A., & Co., Cincinnati, O.—Oak sole, harness, and skirting leather. B 2-11. 652
- 292 Kessler, Henry, Cincinnati, O.—Oak sole and harness leather. A 2-5. 652
- 293 Lang & Wanner, Cincinnati, O.—Oak sole and harness leather. A 2-5. 652
- 294 Bardes, Louis C., Cincinnati, O.—Harness leather. B 2-4. 652
- 295 Lawrence, John H., Cincinnati, O.—Skirting, calf, seating, and bridle leather. B 2-11. 652
- 296 Martin & Riedle, Cincinnati, O.—Russet leather. B 2-11. 652
- 297 Freiberg, Henry, Cincinnati, O.—Harness leather. B 2-11. 652
- 298 Lappe & Hax, Pittsburg, Pa.—Oak butts and rough skirting leather. A 2-4. 652
- 300^c Schuman, John W., Louisville, Ky.—Oak harness leather. B 2-3-10. 652
- 300^d Rockenback, H., New Albany, Ind.—Harness leather. 2-3-10. 652
- 301 Woelfel, Fred'k, Alleghany City, Pa.—Harness leather. B 2-12. 652
- 301^a Halsey, Samuel, & Son, Newark, N. J.—Patent and enameled leather. B 1-5. 652
- 301^b Hahn, H., & Stumpf, East Newark, N. J.—Wax calfskins. B 2-11. 652
- 301^c Wetzlar, Albert, New York, N. Y.—Calf, kip, wax upper and split leather. B 2-5. 652
- 301^d Steinmand, Charles, Philadelphia, Pa.—Calf and kip skins. B 2-13. 652
- 301^e Straus, M., Newark, N. J.—Leather. B 2-9. 652
- 301^f Baltimore Calfskin Association, Baltimore, Md.—Calfskins rough, finished, and in the hair. B 2-6. 652
- 301^g Loeb & Bros., Philadelphia, Pa.—Waxed calfskins. B 2-11. 652
- 301^h Maynard, Ely, & Rose, Baltimore, Md.—Finished calf and kip skins. B 2-11. 652
- 302 Kiefer, Stiefel, & Co., Alleghany City, Pa.—Harness leather. B 2-12. 652
- 303 Holstein, A., Alleghany City, Pa.—Harness leather. B 2-5. 652
- 304 Lappe & Hax, Alleghany City, Pa.—Harness leather. B 2-5. 652
- 305 Lappe, J. C., Alleghany City, Pa.—Harness leather. B 2-5. 652
- 306 Callery, Jas., & Co., Pittsburg, Pa.—Harness and saddlers' leather. B 2-5. 652
- 307 Braun, Frederick, Philadelphia, Pa.—Calf and kip skins. B 2-13. 652
- 308 Ludy, C., & Sons, Philadelphia, Pa.—Finished oak calfskins. B 2-11. 652
- 309 Wensley, Jas., Philadelphia, Pa.—Shoe uppers. B 2-13. 652
- 310 Schuman, F., & Son, Philadelphia, Pa.—Calf and kid leather. B 1-6. 652
- 311 Chambers, Edwin, West Chester, Pa.—Finished calfskins. B 2-6. 652
- 312 Mardorf, C., Freeport, Pa.—Harness, calf, veal kip, and upper leather. B 2-13. 652
- 313 Hollinger, Amos, Lancaster, Pa.—Oak harness leather. B 1-4. 652
- 314 New York Manufacturing Leather Co., New York, N. Y.—Leather cloth for upholstering and carriages. B 2-5. 652
- 315 Moffat, David, & Co., New York, N. Y.—Oak-tanned harness leather. B 2-7. 652
- 316 Michel, A. M., New York, N. Y.—Buff, grain, and calf skins; harness leather; boots and shoes. B 2-5. 652
- 317 Brown, Elijah T., & Co., 82 Gold street, New York, N. Y.—Cromwell's finished calfskins, sold in this market twenty years; have a high reputation in foreign markets. B 2-12. 652
- 318 Shattuck & Binger, New York, N. Y.—Tanned alligator skins, black and colored. B 2-12. 652

Harness, Kip, and Calf.

- 299 Groetzinger, A. & J., Alleghany City, Pa.—Oak sole leather. A 2-4. 652
- 300 Alexander, E. H., Alleghany City, Pa.—Imitation French calf and kip skins. B 2-13. 652
- 300^a Wunderlich, Reinhard, New Albany, Ind.—Harness leather. B 2-3-10. 652
- 300^b Day, Theodore, New Albany, Ind.—Wax leather. B 2-8-10. 652

For location of objects, indicated by letter and figure, see Notation, p. 105; ground plan, p. 103.

Leather.

- 319 Studwell, Sanger, & Co., New York, N. Y.—Imitation goat, splits and buff; finished calf, russet and union backs. B 2-12 and A 2-6. 652
- 320 Haubner & Heller, New York, N. Y.—Finished calf and kip skins. A 2-3. 652
- 321 Thomas Extract Co., Elmira, N. Y.—All kinds of light leather tanned with Thomas's clarified extract of hemlock bark exclusively, and with other tanning materials in various percentages. Thomas's bark granulating mill. B 2-12. 652
- 322 Weed, J. B. & F. M., & Co., Binghamton, N. Y.—Imitation goat, split, kip, and harness leather. B 2-12. 652
- 323 Miller, J. & J., & Co., Boston, Mass.—Hemlock extract and leather tanned by same. B 2-2. 652
- 324 Osborne, F., jr., & Co., Boston, Mass.—New Orleans kip leather, plain and buffed. B 2-2. 652
- 325 Butler, Dunn, & Co., Boston, Mass.—Buff leather made from slaughter hides. B 2-1. 652
- 326 Thompson, B. F., & Co., Boston, Mass.—Buff and split leather; also, imitations of goat, kid, and morocco insides, of grain leather. B 1-1. 652
- 326a Scofield & Stevenson, New York, N. Y.—Calfskins, harness, wax upper, grain and welt leather. B 2-5. 652
- 326b Beiser, A. & J., New York, N. Y.—Cordovan leather. A 2-2. 652
- 326c Karrer, Joseph & Aaron, Detroit, Mich.—Calf and kip leather. B 2-12. 652
- 326d Herring, W. P., & Co., Gouverneur, N. Y.—Rough hemlock calfskins. B 2-7. 652
- 326e Schaff, Wm., & Co., Louisville, Ky.—Harness leather. B 2-3-10. 652
- 326f England & Bryan, Philadelphia, Pa.—Finished shoes kirting, waxed upper and split leather. A 2-1. 652
- 327 Cummings, John, & Co., Boston, Mass.—Imitation goat, polish grain, calf, split, and buff leather. B 2-2. 652
- 327a Stengel, George, Newark, N. J.—Patent leather. B 1. 652
- 327b Spanogle, Samuel, Nassville, Pa.—Rough kip and calf leather. B 2. 652
- 327c Barth, A., & Co., Louisville, Ky.—Harness, skirting, and wax leather. B 2, 3-10. 652
- 327d Mooney, W. W. & J. E., Columbus, Ind.—Sole, harness, skirting, and belt leather. B 2, 3-10. 652
- 328 Guild, Josiah F., Boston, Mass.—Pebble grain, imitation goat, buff, and split leather. B 2-9. 652
- 329 Proctor, Thomas E., Boston, Mass.—Curried leather and splits. B 2-8. 652
- 330 Way, John S., & Co., Bridgeport, Conn.—Leather, buffalo robes. A 2-1. 652
- 331 Zipp, Philip C., Baltimore, Md.—Calf, kip, and grain leather. B 2-6. 652
- 332 Appold, George, & Sons, Baltimore, Md.—Chestnut, oak-tanned calf skins. B 2-4. 652
- 333 Sharp, Tudor, & Co., Baltimore, Md.—Oak buff upper leather, and rough skirting. A 2-2. 652
- 334 Cunningham & Co., Nashville, Tenn.—Oak harness and rough leather. B 2-1. 652
- 336 Wisconsin Leather Co., Milwaukee, Wis.—Harness, wax upper, and split leather. B 2-5. 652
- 337 National Leather Co., Detroit, Mich.—Whip, lace, and upper leather, calfskins and robes. A 2-2. 652
- 338 Weil, J., & Bros., Chicago, Ill.—Upper, harness, kip, and calf leather. B 2-8. 652
- 339 Walker, Oakley, & Co., Chicago, Ill.—Wax calf union tannage, imitation goat grains, wax upper, card leather. B 2-8. 652

Morocco and Sheep.

- 340 Foster, A. J., & Co., Boston, Mass.—Grain leather, goat and sheep skins. B 2-14. 652
- 341 Ely, Henry G., & Co., New York, N. Y.—Imitation goat pebbled leather, finished wax-split leather. B 2-14. 652
- 342 Rockwell, J. S., & Co., New York, N. Y.—Sheep leather. Manufacturers of colored and russet linings; pebbled sheep in all colors; white and colored skivers for shoe manufacturers; hatters' skivers; trunk and bag leather and linings; bookbinders' and pocket-book makers' leather of every kind; suspender and organ leather; sumac and alum roans and skivers. This exhibit is entirely of sheep leather. B 1-16. 652
- 343 Guion, Geo. G.—New York, N. Y.—Morocco leather. B 1-7. 652
- 344 Howell, T. P., & Co., Newark, N. J.—Harness, patent, Russia, and pocket-book leather, sheepskin mats, and roans. B 1-8. 652
- 345 Meyer, Richard, New Durham, N. J.—Superior buck skins, for pianoforte, shoe, glovemakers, and others. B 1-14. 652
- 346 Pusey, Scott, & Co., Wilmington, Del.—Kid, straight-grain pebbled, and French morocco. B 2-7. 652
- 347 Jones, W., & Co., Wilmington, Del.—Morocco leather. B 2-14. 652
- 348 Bush, Wm., & Co., Wilmington, Del.—Morocco leather. B 1-8. 652
- 349 Larrabee, E., & Sons, Baltimore, Md.—Colored roans and linings, buff splits and wax uppers. B 1-15. 652
- 350 Wentz & Clark, Philadelphia, Pa.—Morocco leather. B 1-14. 652
- 351 Bockius, Geo., Philadelphia, Pa.—Morocco leather. B 1-5, and G 1. 652
- 352 Wood, Geo., Philadelphia, Pa.—Morocco and sheep leather. B 1-13. 652
- 353 Schollenberger, Wm., & Sons, Philadelphia, Pa.—Calf, kid, sheep alum, and roan leather; satchels, pocket books, and fancy leather goods. B 1-12. 652
- 354 Amer, Wm., & Co., Philadelphia, Pa.—Morocco leather. B 1-4. 652
- 355 O'Callaghan, Francis O., Philadelphia, Pa.—Skivers and sheep skins. B 1-13. 652
- 356 Hummel, G. W., & Co., Philadelphia, Pa.—Morocco leather. B 1-12. 652

Leather, Saddlery, Furs.

- 357 McNeely & Co., Philadelphia, Pa.—Morocco leather, sheepskins, and skivers. B 1-4. 652
- 358 Adams & Keen, Philadelphia, Pa.—Morocco and kid leather. B 1-14. 652
- 359 Bronx Wool & Leather Co., New York, N. Y.—Morocco and sheep leather. B 1-15. 652
- 360 Locher & Atkinson, Baltimore, Md.—Morocco. B 1-6. 652
- 361 Martin, A. B., & Co., Lynn, Mass.—Kid and goat morocco leather. B 1-6. 652
- 362 Block, A., & Co., Philadelphia, Pa.—Colored sheepskins. B 1-6. 652
- 363 Seavey, Foster, & Bowman, Philadelphia, Pa.—Machine silk twist. D 1-6. 652
- 2 Panisheff, John, Mournshkine, Government of Nijnii Novgorod, district of Makarieff.—Sheepskins, dressed and half dressed. 652
- 3 Alafozoff & Alexandroff, Kazan.—Russian leather. 652
- 4 Mikhailoff, Alexis, Moscow.—Furs, sable, ermine, Korsard fox, Siberian squirrel. 652
- 5 Grunwald, Morice, Riga.—Furs, and stuffed fur animals. 652
- 6 Komaroff, Nicetas, Moscow.—Sheep and lamb skins, dressed. 652
- 7 Solin Bros., Nijnii Novgorod.—Seal grease. 652
- 8 Ossipoff, Michael, Kieff.—Tallow. 652

GREAT BRITAIN.

West of Centre Aisle, Sect. C, Col. 3 to 4.

- 1 Brookes, W., & Sons, Walsall, England.—Saddlery. 296
- 2 Wilson, Walker, & Co., Leeds, England.—Colored skivers, calf, roans, moroccos, and kids, in every style of finish and for all purposes. 652
- 3 Edinburgh Western Tanning Co., Edinburgh, Scotland.—Hog skins for saddlery. 652
- 4 Hooper, Cleve, jr., London, Eng.—Colored skivers and basils, materials for tanning and making glue. 652
- 5 Hooper, C. W., & Sons, London, Eng.—Materials for tanning and making glue. 652
- 6 Angus, George, & Co., Liverpool, Eng.—Oak sole leather. (*In U. S. section.*) A 2-3. 652

GERMANY.

West of Centre Aisle, Sect. C, Col. 2 to 3.

- 1 Wolf, S., Mainz.—Shoes. 251
- 2 Spicharz, P. J., Offenbach.—Calf, glove, and French kid. 652
- 3 Simon, C., & Son, Kirn.—Colored and black moroccos, and calfskins. 652
- 4 Meyer, E., Berlin.—Colored glove kid. 652
- 5 Bruning, H. W., Neumunster.—Smooth and grained calf, kid and upper leather. 652
- 6 Schaller, G., Laher Baden.—Colored and black moroccos. 652
- 7 Kaumanus, F. H., Ehrenbreitstein, B. A.—Sole leather, rheinish oak slaughter sole. 652

RUSSIA.

West of Centre Aisle, Sect. C, Col. 1 to 3.

- 1 Bauerfeind, Adolphus, Warsaw.—Russian and calf leather. 652

- 9 Zinovieff, Alexander, St. Petersburg.—Boot legs and vamps. 652
- 10 Tembler, K., & Schwede, L., Warsaw.—Manufactured leather. 652
- 11 Tehernish, E., Shartash Village, Government of Perm, district of Ekaterinburg.—Manufactured leather. 652
- 12 Sorakin, Tihlon, Moscow.—Colt leather. 652
- 13 Sevebreunikoff, Simon, Mourashkinagon, Nijnii Novgorod, district of Makarieff.—Horse leather. 652
- 14 Savin, Theodore, Ostashkoff, Government of Tver.—Russian leather and blacked boot legs. 652
- 15 Rene, John, St. Petersburg.—Sole leather, boot legs, and vamps. 652
- 16 Pervoff, Stephen, Poshekhonze, Government of Faraslow.—Calf leather and boot legs. 652
- 17 Ostrom Bros., Uleaborg, Finland.—Sole leather. 652
- 18 Muller, Edward, St. Petersburg.—Boot legs and vamps. 652
- 19 Long, Frederick, St. Petersburg.—Calf leather, boot legs, and vamps. 652
- 20 Koorikoff, P., St. Petersburg.—Leather. 652
- 21 Hufner, Rudolph, St. Petersburg.—Boot and Russian leather. 652
- 22 Emelianoff, Alexander, St. Petersburg.—Boot legs. 652
- 23 Efinoff, ——— St. Petersburg.—Boot legs and vamps. 652
- 24 Company of the Wladimir Tannery, St. Petersburg.—Sole leather. 652
- 25 Broosnitzine, Nicolas, & Sons, St. Petersburg.—Sole and boot leather and boot legs. 652
- 26 Bensenson, John, St. Petersburg.—Boot legs. 652

For location of objects, indicated by letter and figure, see Notation, p. 105; ground plan, p. 103.

DESCRIPTION OF BUILDINGS AND SPECIAL EXHIBITS.

No. 1. MAIN BUILDING.

See Part I., page 23.

No. 2. MACHINERY HALL.

See Part III., page 9.

No. 3. STOKES & PARRISH MACHINE SHOP, etc.

Size, 112 feet by 60 feet.

STOKES & PARRISH, Philadelphia.

Constitutes a part of Annex No. 2 to Machinery Hall, and is intended to execute repairs and machine work for the exhibitors. It is located south of Machinery Hall.

No. 4. AMERICAN BOILER HOUSE.

Is situated south of Machinery Hall, near the Hydraulic Annex, and furnishes steam for the American Section.

No. 5. CORLISS BOILER HOUSE.

Architects, PETTIT & WILSON, Philadelphia.—Size, 40 feet by 80 feet.

CORLISS STEAM ENGINE COMPANY, Providence, R. I.

Is built of composite stone and wood, and furnishes steam for the Corliss engine in Machinery Hall from twenty vertical tubular boilers, aggregating 1400 horsepower. It is situated south of Machinery Hall.

No. 6. ENGLISH BOILER HOUSE.

Size, 24 feet by 71 feet.

A composite wood and stone building, furnishing steam to English and other foreign exhibitors in Machinery Hall, and situated to the south of it.

No. 7. SHOE AND LEATHER EXHIBITION BUILDING.

See Part III., page 105.

No. 8. CENTENNIAL BOARD OF FINANCE OFFICE.

Architect, H. J. SCHWARZMANN.—Size, 140 feet by 212 feet.

A one-story frame building, situated on the left hand side of the main entrance to the Exhibition grounds, and occupied by the Board of Finance for the transaction of daily business.

No. 9. U. S. CENTENNIAL COMMISSION OFFICE.

Architect, H. J. SCHWARZMANN.—Size, 192 feet by 140 feet.

Located on the right hand side of the main entrance to the Exhibition grounds. It is built of wood, one story high, and is used as a business office by the Centennial Commission.

No. 10. CENTENNIAL NATIONAL BANK.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 72 feet by 40 feet.

E. A. ROLLINS, President.

Situated at the northwest corner of the Main Exhibition Building, and east of the Centennial Commission Office. It is one story high, built of wood, and is the medium for transacting the financial affairs of the Exhibition.

No. 11. WEIMER'S MACHINE WORKS, LEBANON, PA.

This outdoor exhibit is located south of Machinery Hall, between the Shoe and Leather Building, and Stokes & Parrish Machine Shop, and consists of bells, car dumps, carts for coal, iron bars, and steel coil tuyere.

No. 12. BARTHOLDI'S FOUNTAIN.

See Part II., page 146.

Architect, BARTHOLDI, of Paris.—Size, basin, 26 feet in diameter; height, 30 feet, statue, 11 feet.

Situated in the Esplanade in front of the main entrance to the grounds.

No. 13. CATHOLIC TOTAL ABSTINENCE FOUNTAIN.

See Part II., page 146.

Architect, HERMAN KIRN, Philadelphia.

Situated at the junction of Fountain Avenue and the Avenue of the Republic, at the northwestern corner of Machinery Hall. In design it is a circular platform, with four arms projecting at right angles, terminating in four smaller circular platforms. From the centre of the large circle rises a marble rockwork sixteen feet high, with a diameter of eighteen feet at base, on which stands a statue of Moses smiting the rock. The water descends from numerous fissures into a basin forty feet in diameter. On each of the circular platforms is a drinking fountain, twelve feet in height and eight feet eight inches in diameter, surrounded with statues nine feet high, representing Father Mathew, Charles Carroll, Archbishop John Carroll, and Commodore John Barry. It has been erected by contributions made by the numerous societies forming the Catholic Total Abstinence Union of America.

No. 14. FULLER, WARREN, & CO.'S STOVE BUILDING.

Size, 60 feet by 45 feet.

FULLER, WARREN, & CO., New York city, Chicago, Ill., Cleveland, O., and Troy, N. Y.

Located at the east end of Machinery Hall, and facing the Fountain of the Catholic Total Abstinence Society. It contains samples of stoves, heaters, and ranges in operation; is built of wood, one story high, surmounted by a cupola.

No. 15. GILLENDER & SONS' GLASSWARE BUILDING.

Architect, JAMES H. WINDRIM.—Size, 60 feet by 90 feet.

GILLENDER & SONS, Philadelphia.

A one-story frame house, situated west of Machinery Hall, on the walk to the Fifty-second Street entrance, where glass in process of manufacture is shown.

No. 16. CAMP OF WEST POINT CADETS.

Located on the eastern slope of George's Hill, at the western end of Fountain Avenue. The tents accommodate 300 cadets, with officers and band.

No. 17. IRON PIPE.

ANDREW O'NEILL, Ansonia, Conn.

This is an outdoor exhibit, situated south of Machinery Hall, and consists of water and gas pipes, showing patent process of jointing.

No. 18. LIBERTY STOVE WORKS.

Architect, C. C. PHILLIPS.—Size, 45 feet by 34 feet.

CHARLES NOBLE & CO., Philadelphia.

A one-story frame building, located west of Machinery Hall, and south of the Catholic Total Abstinence Fountain, on Fountain Avenue; containing different varieties of heaters, stoves, and ranges manufactured by Noble & Co.

No. 19. SAWMILL ANNEX.

Size, 276 feet by 80 feet, and

No. 20. BOILER HOUSE.

Architects, PETTIT & WILSON, Philadelphia.

Size, 48 feet by 30 feet.

UNITED STATES CENTENNIAL COMMISSIONERS.

Exhibit direct-acting steam saw machines and gang saws. Are on Fountain Avenue, west of Machinery Hall, and consist of a one-story frame open building, and a boiler house attached.

No. 21. RAILROAD ENGINE HOUSE.

This building is used for storing and repairing the engines of the Narrow-Gauge Railroad Company, and is located west of Machinery Hall.

No. 22. ST. CECILIAN ORGANS.

T. C. KNAUFF, Philadelphia, Pa.

This exhibit consists of miniature organs, and some clocks made in 1676, 1776, and 1876. The building is frame, one story high, and in design resembles an organ. It is situated south of Mineral Annex, No. 1, near eastern entrance to Main Building.

No. 23. AUTOMATIC RAILROAD.

Size, 20 feet by 150 feet.

CHARLES W. HUNT, New York.

Illustrations of the mode of unloading vessels by means of a railroad worked by a self-acting apparatus. Is situated west of Machinery Hall.

No. 24. MONUMENT—THE AMERICAN SOLDIER.

NEW ENGLAND CO., Hartford, Conn.

This is a colossal monument situated between the Main Building and Art Gallery, on Avenue of the Republic. It is made of Westerly granite, is 21 feet 6 inches high, weighs 30 tons, and is the largest statue of modern times.

No. 25. GUNPOWDER PILE DRIVER.

Size, 35 feet by 12 feet.

GUNPOWDER PILE-DRIVING CO., Philadelphia.

Is built in the open air to exhibit the operation of pile-driving by means of gunpowder. It is situated southwest of Machinery Hall, between it and the barrier.

No. 26. STARR'S IRON WORKS.

JESSE W. STARR & SON, Camden, N. J.

The space allotted to Messrs. Starr & Son is occupied with gas works, pipes, special castings, stop-valves, lamp-posts, and fire hydrants. It is located southwest of Machinery Hall, close to the barrier.

No. 27. WEST END RAILWAY OFFICE.

This is a two-story frame building, situated west of Machinery Hall and north of Railroad engine house, on line of narrow-gauge road, and designed for the transaction of the Company's business.

No. 28. PNEUMATIC TUBES.

A. BRISBANE.

These tubes are placed on a platform, showing the process of transmitting messages and packages by this method. The exhibit is situated west of the gas machine, near fence on Elm Avenue.

No. 29. EXHIBIT OF NEW ENGLAND GRANITE CO., HARTFORD, CONN.

Situated in front of Board of Finance office, and consists of a Corinthian monument, 46 feet high, crowned with the statue of Hope. A canopy, 40 feet high, surmounted by spire and cross, under canopy a figure indicative of Memory. A Gothic monument with four polished columns at corners of die; a model of statue representing soldier of 1776 (life size); an individual memorial crowned with cross; a Gothic column, surmounted by spire and turrets; a Scotch granite polished monument, 16 feet high, with circular dome terminating in a finial; an individual memorial; a small monument, terminating in an urn; and a rustic monument, with ivy-circled column surmounted with cross.

No. 30. PATENT RAILROAD CROSSING.

This exhibit is located on line of narrow-gauge road near Elm Avenue, and west of Machinery Hall. It is designed to keep dirt from accumulating between the rails and planks of crossing.

No. 31. NEVADA QUARTZ MILL.

Size, 60 feet by 43 feet.

STATE OF NEVADA.

Exhibits the process of manipulating ores and precious metals. It is a one-story frame building, situated south of Machinery Hall.

No. 32. STORE HOUSE.

A one-story brick building, 10 feet by 10, used for the storage of oil for the machinery department. It is between the Nevada quartz mill and the barrier.

No. 33. FRICTION DRUM.

I. S. MUNDY, Newark, N. J.

Situated west of gas machine, near Elm Avenue, and consists of an improved portable friction drum.

No. 34. U. S. HOISTING MACHINE.

STOKES & PARRISH.

This exhibit adjoins the machine shop of Stokes & Parrish, south of Machinery Hall, and consists of a derrick with engine and boiler attachment.

No. 35. CHILIAN AMALGAMATING MACHINERY.

COMMISSION FOR CHILI.

Contains working models of amalgamating machinery used in working ores, and has a boiler house with small cylinder boilers. Is situated west of Machinery Hall.

No. 36. CAMPBELL PRINTING PRESS BUILDING.

Architect, ALEXANDER B. BARY.—Size, 88 feet by 144 feet.

CAMPBELL PRINTING PRESS AND MANUFACTURING CO., Brooklyn, N. Y.

The various printing presses manufactured by this company are exhibited in operation; the power is furnished by a thirty (30) horse-power engine and boiler. Specimens of type printing from the date of the invention, and of sunlight printing, are shown, and a complete printing office, of the fashion of 1776, is also in operation.

No. 37. OLD LOCOMOTIVE AND CARS.

EXHIBITED BY PENNSYLVANIA RAILROAD CO.

This exhibit is situated on line of Narrow-Gauge Railroad, west of Machinery Hall, and consists of the engine "John Bull," with tender and two passenger cars, standing upon the rails and stone sleepers of the first piece of track laid for the Camden & Amboy Railroad, in 1831; also, the first iron prow used on ships in crossing the Atlantic Ocean.

No. 38. CAR HOUSE.

Size, 140 feet by 44 feet.

Situated west of Machinery Hall, on line of Narrow-Gauge Railroad; designed for the exhibition of cars.

No. 39. POLICE STATION.

This building is situated southwest of Glass Factory, and is used by the Centennial Guard for quarters, etc.

No. 40. AVERILL CHEMICAL PAINT CO.

Size, 36 feet by 42 feet.

Contains exhibits of the Averill Chemical Paint ready for use, and applied. The building is constructed on the Rogers patent, has no frame work, and is put together with bolts and iron tongues. It is west of the Liberty Stove Works, on Fountain Avenue.

No. 41. OFFICIAL CATALOGUE AND NEWSPAPER ADVERTISING OFFICE.

Size, 20 feet by 30 feet.

CENTENNIAL CATALOGUE COMPANY—S. M. PETTENGILL & Co., New York, Philadelphia, and Boston.

A one-story building, occupied jointly by the Centennial Catalogue Company, and S. M. Pettengill & Co., Newspaper Advertising Agents. Contains bound volumes and files of the principal newspapers of the country, specimen numbers of old newspapers, photographs of editors and publishers, etc. Situated south of the east end of Machinery Hall.

S. M. Pettengill & Co., established 1849, are agents for all the newspapers of the United States and Canada, which are received and filed at their spacious and conveniently located offices, 37 Park Row, New York; 701 Chestnut Street, Philadelphia; 10 State Street, Boston, and upon the Centennial grounds. They have built up a large business by faithful attention to the interests of their customers, for whom they save time, trouble, and expense. Their long experience and large facilities are put at the service of those who consult them respecting the best methods of advertising.

No. 42. STOKES & PARRISH BOILER HOUSE.

Size, 10 feet by 12 feet.

Contains a boiler and engines; situated east of the southern central entrance of the Main Building.

No. 43. EHRET'S WATER-PROOF ROOFING.

M. EHRET, JR., Philadelphia, Pa.

A circular pavilion, showing fire and water-proof roofing. It is located to the east of the central southern entrance of the Main Building.

No. 44. TOMBSTONES.

This exhibit is situated south of the Main Building, near central entrance, and consists of tombstones, inclosed by ornamental iron fence.

No. 45. TERRA-COTTA PIPES.

Exhibited by E. W. Rittenhouse & Bro., Baltimore, Md. Comprises drain pipes of different sizes, elbows, angles, etc. Southwest of Machinery Hall, and adjoining the Gas Machine.

No. 46. MINERAL ANNEX, 1 and 2.

An extension of the Main Building, to the east of its south central entrance. It contains the greater part of the American exhibits in Department I. (Mining and Metallurgy), which are catalogued in Part I., pages 47 to 60.

No. 47. FIRE-PROOF VENTILATED BUILDING.

Architect and Builder, ROBERT IRWEST.—Size, 13 feet by 13 feet.

This is a one-story building composed of hollow bricks, peculiar in construction. Located south of Main Building and Annex No. 2.

No. 48. HEWITT & BRENNAN'S SWINGS.

These swings are known as aerial chairs, and are operated by means of a treadle with foot-pressure, leaving the hand entirely free. They number six, and are situated on Agricultural Avenue, immediately south of the American Restaurant, and south of Main Building, where the exhibit is known as aerial chairs.

No. 49. ORNAMENTAL STONE WORK.

An exhibit of brown stone, representing a double entrance to dwelling, elaborately carved, with rough dressed trimmings. Located south of St. Cecilian Organ and Main Building Annex No. 1.

No. 51. UNITED STATES GOVERNMENT BUILDING.

See Part III., page 72.

No. 51½. BARTHOLDI ELECTRIC LIGHT.

Is situated immediately west of Cook, Son & Jenkins' Pavilion, on border of lake, and consists of arm of statue to be erected in New York harbor.

No. 52. UNITED STATES ARMY POST HOSPITAL.

See Part III., page 73.

No. 52½. HOWE MONUMENT.

This monument was erected by the Howe Machine Co., to the memory of Elias Howe, Jr., the first inventor of sewing machines in this country. It was designed by Mr. Ellis, and cast by Wood Bros., of Philadelphia, and is situated at the western end of the lake, opposite northern central entrance to Machinery Hall.

No. 53. UNITED STATES HOSPITAL TENT.

See Part III., page 73.

No. 53½. JERUSALEM BAZAAR.

Situated on south side of Fountain Avenue, and due north of Turkish Bazaar. Designed for sale of olive wood.

No. 54. UNITED STATES LABORATORY.

See Part III., page 73.

No. 54½. PHILADELPHIA "TIMES" PAVILION.

Architects, WILSON BROS. & Co., Philadelphia.—Size, 28 feet by 17 feet.

A. K. McCLURE, Editor.

The Centennial business office of the "Times," a daily paper, issued morning and evening, and printed on a Hoe perfecting press in Machinery Hall. It is a one-story frame building, located on Belmont Avenue, opposite and east of the lake.

No. 55. PENNSYLVANIA STATE BUILDING.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 97 feet by 55 feet.

A two-story frame building, with a tower, of Gothic style. It faces the lake, between Fountain Avenue and the Avenue of the Republic; contains reception-rooms and offices for the use of the State Commissioners and visitors.

No. 55½. HUNGARIAN WINE PAVILION.

Architect, H. J. SCHWARZMANN.

JACOB KOHN, Manager.

This structure is circular in form, situated on State Avenue, north of the Japanese and Mississippi buildings, and devoted to the sale of Hungarian wines exclusively.

No. 56. OHIO STATE BUILDING.

Architects, HEARD & SONS, Cleveland, O.—Size, 45 feet by 44 feet, and Annex, 60 feet by 40 feet.

A two-story stone pavilion, located at the junction of State and Belmont Avenues. It supplies accommodation for the State Commissioners.

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| <p>1 Hoffman, A. O., Thompson, Wm., and others, Springfield, O.—Springfield limestone, course No. 16. 102</p> <p>2 Mc Nally, Wm. G., Cleveland, O.—Coat of arms of Ohio, carved from Berea stone. 102</p> <p>3 Berea Stone Co., Berea, O.—Berea sandstone, course Nos. 1 and 2. 102</p> <p>4 Hurst, J. R., Cleveland, O.—Independence sandstone, course No. 4. 102</p> <p>5 Ford, O. D., Cleveland, O.—Euclid sandstone, course No. 3. 102</p> <p>6 Halderman, L., & Son, Cleveland, O.—Amherst stone, course No. 5 and window No. 4. 102</p> <p>7 Wagner, John, Cleveland, O.—Independence sandstone, course No. 6. 102</p> <p>8 Amherst Stone Co., Cleveland, O.—Amherst stone, course No. 7. 102</p> <p>9 Black River Stone Co., Cleveland, O.—Stone from Grafton, Ohio, course No. 8 and window No. 10. 102</p> <p>10 Paul, John, & Co., Massillon, O.—White sandstone from Massillon, Ohio, course No. 9. 102</p> <p>11 Wilson & Hughes Stone Co., Cleveland, O.—Amherst stone, course No. 10 and window No. 9, and Independence stone, course No. 19. 102</p> <p>12 Clough Stone Co., Amherst, O.—Amherst stone, course No. 11, and one-half front entrance. 102</p> <p>13 Worthington & Sons, Amherst, O.—Amherst stone, course No. 12, and one-half front entrance. 102</p> <p>14 Ohio Stone Co., Cleveland, O.—Amherst stone, course No. 13. 102</p> | <p>15 McDermott, J., & Co., Cleveland, O.—Berea stone, course No. 14 and window No. 8. 102</p> <p>16 Coshocton Stone Co., Coshocton, O.—Sandstone, course No. 15 and window No. 2. 102</p> <p>17 Stitt, Price, & Co., Columbus, O.—Columbus limestone, course No. 16. 102</p> <p>18 Finnegan, M., Cincinnati, O.—Cincinnati stone, window No. 3. 102</p> <p>19 Finnegan, J. H., Cincinnati, O.—Cincinnati stone, course No. 18. 102</p> <p>20 Montgomery, R. M., Youngstown, O.—Sandstone, part of course No. 20. 102</p> <p>21 Caldwell & Tod, Youngstown, O.—Stone from Tod quarry, part of course No. 20. 102</p> <p>22 Byers & McIlhainy, Youngstown, O.—Stone from Youngstown, part of course No. 20. 102</p> <p>23 Mauser & Haid, Youngstown, O.—Stone from Youngstown, part of course No. 20. 102</p> <p>24 Hamilton, Homer, Youngstown, O.—Stone from Youngstown, part of course No. 20. 102</p> <p>25 Wartherst & Co., Massillon, O.—Stone from Massillon, course No. 21. 102</p> <p>26 Stocking, Z. S., Mansfield, O.—Red sandstone from Mansfield, two vestibule windows. 102</p> <p>27 Bosler, Marcus, Dayton, O.—Dayton limestone, part of gable end and three windows. 102</p> |
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| <p>28 Huffman, Wm., Dayton, O.—Dayton limestone, part of front gable and three windows. 102</p> <p>29 Diamond Glass Co., Ravenna, O.—Double-thick glass, from ground white sandstone, in windows. 214</p> <p>30 American Inlaid Wood Co., Cleveland, O.—Inlaid wood floor, ladies' parlor. 227</p> <p>31 Garry Iron Roofing Co., Cleveland, O.—Sections of corrugated iron roof. 227</p> <p>32 American Sheet & Boiler Plate</p> | <p>Co., Cleveland, O.—Section iron roofing tile. 227</p> <p>33 House & Davidson, Cleveland, O.—Pair front doors. 227</p> <p>34 Champion Fence Co., Kenton, O.—Wrought and malleable iron fence and gate. 283</p> <p>35 Buringer Bros., Dayton, O.—Ohio coat of arms of galvanized iron, in gable. 291</p> <p>36 Heard & Sons, Cleveland, O.—Architectural design of building. 441</p> |
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No. 56½. CENTENNIAL POLICE STATION.

This building is situated immediately north of State Avenue and Hungarian Wine Pavilion, and is used as quarters, etc., of Centennial Guards.

No. 57. INDIANA STATE BUILDING.

Size, 50 feet by 42 feet.

A two-story frame building, on State Avenue, opposite the United States Government buildings, containing accommodations for the State Commissioners and for visitors from Indiana.

The exhibit consists of a chair made of one hundred different kinds of wood from one county. Specimens of block and coking and cannel coal; flag from natural bed of limestone; black walnut; model of Bailey gun, and a painting by Cox, of the Sierra Valley. The walls are occupied with panels, presenting in brief form the growth and industries of representative counties and cities. In the reading-room is a large map showing railroad system, with margin presenting agricultural and manufacturing statistics.

No. 57½. SPONGE FISHERS OF TURKEY.

This building contains an exhibit of sponge and fruit, situated on south side of Fountain Avenue, and north of Vermont State building and Turkish Café.

No. 58. ILLINOIS STATE BUILDING.

Architects, WHEELOCK & THOMAS.—Size, 60 feet by 40 feet.

Situated on State Avenue, north of the United States Government Buildings; the headquarters of the Illinois Commissioners.

No. 58½. BETHLEHEM BAZAAR.

Located on Fountain Avenue, adjoining Jerusalem Bazaar, and intended for sale of olive wood.

No. 59. WISCONSIN STATE BUILDING.

Size, 50 feet by 40 feet.

For the accommodation of the State Commissioners. Located on State Avenue, north of the United States Government Exhibition Buildings.

No. 59½. SCREW FOG-HORN AND BELL.

Situated at northwest corner of Belmont and State Avenues. Exhibit consists of one caloric engine, which pumps air for fog-horn; tank for air; and stationary engine.

No. 60. MICHIGAN STATE BUILDING.

Size, 48 feet by 53 feet.

On State Avenue; built of native woods and stone; interior with raised panel work; marble wainscoting; parquette floors, all highly finished. Contains reception, Commissioners', dressing, parcel, three reserve rooms, and ladies' parlor.

No. 61. NEW HAMPSHIRE STATE BUILDING.

Size, 30 feet by 40 feet; two projections, 9 feet by 15 feet each.

In the style of an Italian villa, two stories in height, and containing ten rooms, the roof protected by an awning and used for an outlook. This exhibit consists of views of White Mountains scenery, and home of General John Stark, the hero of Bennington.

No. 62. CONNECTICUT STATE BUILDING.

Architect, D. R. BROWN, from a design by DONALD G. MITCHELL.—Size, 30 feet by 40 feet.

This cottage is erected in the old Colonial style, somewhat modified, and is designed for the use of the citizens and exhibitors of the State of Connecticut. It is situated on State Avenue, not far distant from the United States Government Exhibition Buildings. Exhibit consists of the Royal Arms, which, before the revolution, hung above the Speaker's chair in the House of Representatives, at Hartford, painted in 1724. Rustic chess stand, ham, nutmegs, frames, etc., made from the wood of the Charter Oak. Ancient furniture, clock, tile, settee, etc., etc.

No. 63. MASSACHUSETTS STATE BUILDING.

Size, 85 feet by 56 feet.

Situated on State Avenue, opposite the New York State Building; is built of wood, two stories high, and contains offices and rooms for Commissioners and visitors.

No. 64. DELAWARE STATE BUILDING.

Size, 54 feet by 34 feet.

Built in the Swiss-Gothic style, from native woods of the State. It is occupied by the State Commissioners, the first floor being used for reception-rooms, while the second floor is devoted to business purposes. Is situated on State Avenue, north of the British Commission, opposite the New York State Commission.

No. 65. MARYLAND STATE BUILDING.

Size, 92 feet by 60 feet.

For the use of the State Commissioners and visitors. Situated on State Avenue, north of the British Government buildings, and is built of wood, two stories high. This exhibit consists of minerals, woods, building stone, specimens of art by pupils of Maryland Institute and School of Art and Design, portraits of Governors, three engines by Baltimore & Ohio Railroad, models of fish-house and hatching-house.

No. 67. JAPANESE DWELLING.

Architect, MATSUO-EHE, Tokio.—Size, 102 feet by 48 feet.

This building, usually called the Japanese Government Building, is intended as a dwelling-house for Japanese workmen. The wood and other articles that enter into its composition, and also the vases and flowers in the surrounding garden, were imported from Japan, and all the work has been done by Japanese artisans. It is situated south of the British buildings.

No. 68. WEST VIRGINIA STATE BUILDING.

Size, 115 feet by 40 feet.

Northwest of the Catholic Total Abstinence Fountain, built of wood, two stories high. Headquarters for State Commissioners and visitors from West Virginia. The exhibit consists of twenty pyramids of coal, mineral waters, ores, agricultural products, oils, tobacco, building stone, veneers, salt, glass, and a memorial shield made of seventy-eight varieties of wood, viz.:

Minerals, Ores, Stone, Mining Products.

- 1 Central Virginia Copper Mine, Virginia.—Copper ores, iron pyrites, and collection of minerals found on line of Chesapeake & Ohio Railroad. 100
- 2 Stack, I. I., Virginia.—Hematite ore. 100
- 3 Lancaster Furnace & Mining Co., Taylor county, West Va.—Carbonate of iron. 100
- 4 McCreery, W., Raleigh county, West Va.—Hematite ore. 100
- 5 Harvey, R. T., Putnam county, West Va.—Iron ore. 100
- 6 Dickinson, H., Pendleton county, West Va.—Hematite ore. 100
- 7 Miller, George, Pendleton county, West Va.—Hematite ores. 100
- 8 Boggs, J. C., Pendleton county, West Va.—Hematite ore. 100
- 9 Davis, Madam, Deneza, Pendleton county, West Va.—Hematite ores. 100
- 10 Garloe, A. E., Marion county, West Va.—Carbonate of iron. 100
- 11 Brown, T. L., Kanawha county, West Va.—Black band iron ore. 100
- 12 Hamilton, Jas., Jefferson county, West Va.—Barytes. 100
- 13 Melville, A. W., Jackson county, West Va.—Iron ore. 100
- 14 Bond, E., Harrison county, West Va.—Iron ore. 100
- 15 McMechen, S. A., Hardy county, West Va.—Iron ores. 100
- 16 Alexander, W. A., Greenbrier county, West Va.—Calc spar. 100
- 17 Lewis, F., & Co., Grant county, West Va.—Calc spar and iron ores. 100
- 18 Hill, Wm., Fayette county, West Va.—Iron ore. 100
- 19 Wilson, Lewis, Barbour county, West Va.—Carbonate of iron. 100
- 20 Stout, H. L., Phillippi, West Va.—Carbonate of iron. 100
- 21 Nickell, G. W., Greenbrier county, West Va.
a Iron ore. 100
b Coal. 100
- 22 Hovey, W. M., Kanawha county, West Va.
a Iron ores. 100
b Coals. 101
- 23 McLean, J. L., Putnam county, West Va.
a Carbonate of iron. 100
b Bituminous coal. 101
- 24 Great Western Mining & Manufacturing Co., Ky.
a Iron ore. 100
b Coal. 101
- 25 Boteler, A. R., Jefferson county, West Va.
a Hematite ore. 100
b Marble. 102
- 26 Ruffner, L., & Lewis, J. D., Kanawha county, West Va.
a Black flint. 100
b Building sandstone. 102
- 27 Armstrong, A., Taylor county, West Va.
a Carbonate of iron. 100
b Building sandstone. 102
- 28 Capon Iron Works, Hardy county, West Va.
a Iron ores. 100
b Limestone. 103
- 29 White, C. S., Hampshire county, West Va.
a Iron ores. 100
b White glass and sand. 104
- 30 Bloomery Iron Works, Hampshire county, West Va.
a Iron ores. 100
b Fire clay. 104
- 31 Shimp, Jas., Hardy county, West Va.
a Iron ores. 100
b Potters' clay. 104
- 32 Muenchmeyer, H. & L., Wood county, West Va.
a Iron ore. 100
b Potters' clay. 104
- 33 Cantley, R. K., Greenbrier county, Va.
a Flint. 100
b Semi-bituminous coal. 102
c Limestone and silicious coral. 103
- 34 Kingwood Gas, Coal, & Iron Co., Preston county, West Va.
a Carbonate of iron. 100
b Coal. 101
c Fire clay. 104
- 35 Clay, Cecil, Greenbrier county, West Va.
a Iron ore. 100
b Building sandstones. 102
c Clay. 104
d Mineral waters. 101
- 36 Elk River Iron & Coal Co., Braxton county, West Va.
a Iron ore. 100
b Limestone. 103
c Sandstone for furnaces. 104
- 37 Mendenhall, U., Morgan county, West Va.
a Hematite ore. 100
b Limestone. 103
c White glass sand. 104
- 38 Willey, W. T., Monongahela county, West Va.
a Iron ores. 100
b Coals. 101
c Building sandstone. 102
d Limestone. 103
e Fire clay. 104
- 39 Peterkin, G. G., Greenbrier county, West Va.
a Iron ores and black oxide of manganese. 100
b Mineral waters. 107
- 40 Johnson, J. F., Pendleton county, West Va.
a Hematite ores. 100
b Mineral water. 107
- 41 Dulin, C., Wirt county, West Va.—Petroleum. 101
- 42 Volcano Oil & Coal Co., Wood county, West Va.—Bituminous coal. 101
- 43 Hale & Porter, Wirt county, West Va.—Petroleum. 101
- 44 Aspenwall & Low, Wayne county, West Va.—Cannel coal. 101
- 45 Ferguson, Waye, Wayne county, West Va.—Bituminous and cannel coal. 101
- 46 Barnes, J. H., Taylor county, West Va.—Bituminous coal. 101
- 47 McGreggor, Dr., Ritchie county, West Va.—Petroleum and Ritchie mineral. 101

- 48 Beckley, A., Raleigh county, West Va.—Bituminous coal. 101
- 49 Prince, G. H., Raleigh county, West Va.—Bituminous coal. 101
- 50 Raymond Coal Co., Putnam county, West Va.—Bituminous coal. 101
- 51 Austen Coal Co., Preston county, West Va.—Coal and coke. 101
- 52 Hill, M. L., Ohio county, West Va.—Bituminous coal. 101
- 53 Virginia Coal Co., Mineral county, West Va.—Semi-bituminous coal. 101
- 54 Hartford City Coal & Salt Co., Mason county, West Va.—Bituminous coal. 101
- 55 Gaston Coal Mines, Marion county, West Va.—Gas coal. 101
- 56 Aspinwall & Low, Lincoln county, West Va.—C. O. I. 101
- 57 Falling Rock Coal Co., Kanawha county, West Va.—Cannel coal. 101
- 58 Lewis, J. D., Kanawha county, West Va.—Coal. 101
- 59 Enterprise Coal Co., Kanawha county, West Va.—Splint coal. 101
- 60 Kanawha Semi-Cannel Coal Co., West Va.—Coal. 101
- 61 Mill Creek Cannel Coal Co., Kanawha county, West Va.—Cannel coal. 101
- 62 Lewiston Coal Co., Kanawha county, West Va.—Coal. 101
- 63 Monongahela Gas Coal Co., Harrison county, West Va.—Gas coal. 101
- 64 Despard Gas Coal Co., Harrison county, West Va.—Gas coal. 101
- 65 Murphy's Run Coal Mine, Harrison county, West Va.—Gas coal. 101
- 66 Letterman, W. H., Fayette county, West Va.—Bituminous coal. 101
- 67 Cole, B., Fayette county, West Va.—Bituminous coal. 101
- 68 Coal Valley Coal Co., Fayette county, West Va.—Gas coal. 101
- 69 Gauley, —, Kanawha Coal Co., Fayette county, West Va.—Coal and coke. 101
- 70 Longdale Coal & Iron Co., Fayette county, West Va.—Coal and coke. 101
- 71 Nuttallberg Coal Co., Fayette county, West Va.—Coal and coke. 101
- 72 Stanton Rock Coal Co., Brooke county, West Va.—Bituminous coal. 101
- 73 Brown, T. L., Boone county, West Va.—Cannel coal. 101
- 74 Peytona Cannel Coal Co., Boone county, West Va.—Cannel coal. 101
- 75 Ball, A., Boone county, West Va.—Cannel coal. 101
- 76 Corrathers, L., Taylor county, West Va.
a Cannel coal. 101
b Fire clay. 104
- 77 Radcliff, R. S., Marion county, West Va.
a Bituminous coal. 101
b Limestone. 103
- 78 Hall, W. W., Pleasants county, West Va.
a Petroleum. 101
b Brine. 107
- 79 Boggs Run Mining Co., Ohio county, West Va.
a Bituminous coal. 101
b Building sandstone. 102
c Limestones. 103
- 80 Hudson, J. & D., Hancock county, West Va.
a Bituminous coal. 101
b Building sandstone. 102
c Limestone. 103
- 81 Browse, R. H., Pleasants county, West Va.—Building sandstone. 102
- 82 Waddle, J. & M., Ohio county, West Va.—Building sandstone. 102
- 83 Osborne, J., Monroe county, West Va.—Marble. 102
- 84 Camden, P. B., Lewis county, West Va.—Building sandstone. 102
- 85 Rall, R., Jefferson county, West Va.—White marble. 102
- 86 Strider, S. W., Jefferson county, West Va.—Black marble. 102
- 87 Strider, J. S., Jefferson county, West Va.—Black and white marble. 102
- 88 Withrow, Jas., Greenbrier county, West Va.—Marbles. 102
- 89 Miller, J. H., Fayette county, West Va.—Building sandstone. 102
- 90 Lanham, Gabriel, Taylor county, West Va.
a Building sandstone. 102
b Limestone. 103
- 91 Laidley, J. B., Cabell county, West Va.
a Building sandstone. 102
b Brine. 107
- 92 Lanham, Zadock, Taylor county, West Va.—Limestone. 103
- 93 Gwinn, M., Summers county, West Va.—Hydraulic limestone. 103
- 94 Lang, A. J., Ohio county, West Va.—Hydraulic limestone and cement. 103
- 95 Thompson, O. D., Ohio county, West Va.—Hydraulic limestone. 103
- 96 Wells, J., Ohio county, West Va.—Limestone. 103
- 97 Potomac Cement Mills, Jefferson county, West Va.—Hydraulic limestone and cement. 103
- 98 Mann, M., Greenbrier county, West Va.—Limestone. 103
- 99 Donnaghe, A. P., Wood county, West Va.—Potters' clay. 104
- 100 Pickering, N. A., Wirt county, West Va.—Potters' clay. 104
- 101 Johnson, D. D., Tyler county, West Va.—Fire clay. 104
- 102 Glade Fire Brick Co., Marion county, West Va.—Fire clay. 104
- 103 Wolfe, A., Hardy county, West Va.—White glass sand. 104
- 104 Wells, N., Brooke county, West Va.—Potters' clay. 104
- 105 Williamson, J. R., Barbour county, West Va.—White sand for glass. 104
- 106 Seatt, J., Raleigh county, West Va.—Millstone rock. 106
- 107 Sawtall, G., Ohio county, West Va.—Whetstones. 106
- 108 Simpson, I. E., Wood county, West Va.—Mineral water. 107
- 109 Sweet Chalybeate Springs county, West Va.—Mineral water. 107
- 110 Kanawha Salt Co., Kanawha county, West Va.—Brines and bitterns. 107
- 111 Alexander, E. S. & M. S., Hardy county, West Va.—White sulphur water. 107

- 112 Duffy, J. W., Hardy county, West Va.—Sulpho-chalybeate water. 107
- 113 Parrow, N. D., Hardy county, West Va.—Mineral waters. 107
- 114 Peyton, G. L., & Co., Greenbrier county, West Va.—Mineral water. 107
- 115 Humphreys, A. R., Greenbrier county, West Va.—White sulphur water. 107
- 116 McPherson, Joel, Greenbrier county, West Va.—Mineral water. 107
- 117 Williams, J. V., Grant county, West Va.—Calcareous marl. 107
- Metallurgical Products.**
- 118 Capon Iron Works, Hardy county, West Va.—Slag, bloom, wrought iron and cold blast charcoal iron. 111
- 119 Bloomery Iron Works, Hampshire county, West Va.—Cold blast charcoal iron. 111
- 120 Elk River Iron & Coal Co., Braxton county, West Va.—Slag and cold blast charcoal iron. 111
- Chemical Manufactures.**
- 121 Kanawha Salt Co., Kanawha county, West Va.—Salt. 203
- 122 Sharp & Staples, Wood county, West Va.—Lubricating and refined oils. 201
- 123 Camden Consolidated Oil Co., Wood county, West Va.—Oils. 201
- 124 Lerner, H., Mason county, West Va.—Bromine. 201
- 125 Hale, E. W., Wirt county, West Va.—Parmenter oil. 201
- 126 Smith, P. P., Lewis county, West Va.—Yellow ochre. 202
- 127 Boteler, A. R., Jefferson county, West Va.—Yellow ochre. 202
- 128 Scott, H., Hardy county, West Va.—Yellow ochre. 202
- 129 Fisher, W., Hardy county, West Va.—Yellow ochre. 202
- 130 Wood, A. M., Hardy county, West Va.—Yellow ochre. 202
- 131 Peters, W. L., Cabell county, West Va.—Mineral paint. 202
- Ceramics—Pottery, Porcelain, Glass.**
- 132 Glade Fire-brick Co., Marion county, West Va.—Fire brick. 207
- 133 Donnaghe, A. P., Wood county, West Va.—Crockery. 210
- Furniture and Objects of General Use in Construction and in Dwellings.**
- 134 Schafer B., Wood county, West Va.—Patent office desks. 217
- Fabrics of Vegetable, Animal, or Mineral Materials.**
- 135 Robson, Mary E., Fayette county, West Va.—Basket. 239
- Educational Systems, Methods, and Libraries.**
- 136 Gray, W., Marshall county, West Va.—Schoolwork of Bunwood Public School, Marshall county, West Va. 300
- 137 Young, J., Mason county, West Va.—Schoolwork of Mason county public schools. 300
- 138 McGregor, Dr., Ritchie county, West Va.—Schoolwork of Ritchie county public schools. 300
- 139 Staley, T. J., Tyler county, West Va.—Work from Buckhannon public school. 300
- 140 Radcliff, R. S., Marion county, West Va.—Schoolwork of Fairmount public schools, Marion county. 300
- 141 Ruffner, L., & Lewis, J. D., Kanawha county, West Va.—Schoolwork of public schools, Charleston, Kanawha county. 300
- Engineering, Architecture, Maps, etc.**
- 142 Johnson, H. H., Hampshire county, West Va.—Embossed maps of the United States and West Virginia, for use of the blind. 335
- Sculpture.**
- 143 Crawford, G. B., Brooke county, West Va.—Ornamental bracket of native woods. 405
- 144 Doddridge Music & Art School, Wheeling, West Va.—Oil paintings. 410
- 145 Henderson, D. E., Jefferson county, West Va.—Oil painting. 410
- Photography.**
- 146 Donnaghe, A. P., Wood county, West Va.—Photograph of Burning Spring school. 430
- 147 Pickering, N. A., Wirt county, West Va.—Photograph of Elizabeth High School. 430
- 148 City of Wheeling, West Va.—Photographic views of free schools. 430
- 149 Lerner, H., Mason county, West Va.—Photograph of Clifton public school. 430
- 150 Kanawha Salt Co., Kanawha county, West Va.—Photograph of Union public school, Charleston, Kanawha county. 430
- 151 Turner, G. H., Jefferson county, West Va.—Photograph of Shepperd College, Jefferson county. 430
- 152 Bloomery Iron Works, Hampshire county, West Va.—Photograph of Deaf, Dumb, and Blind Asylum, Hampshire county. 430
- 153 Peters, W. L., Cabell county, West Va.—Photograph of Marshall College. 430
- 154 Wells, N., Brooke county, West Va.—Photograph of public schools. 430
- Aerial, Pneumatic, and Water Transportation.**
- 155 Young, J., Mason county, West Va.—Model of steamboat. 595
- Arboriculture and Forest Products.**
- 155 Kyle, Henry, Wetzel county, West Va.—Sections of woods. 600
- 157 Peterson, W. F., Wetzel county, West Va.—Sections of wood. 600
- 158 Johnson, D. D., Tyler county, West Va.—Timber. 600
- 159 Armstrong, A., Taylor county, West Va.—Timber. 600

160 McCreery, W., Raleigh county, West Va.—Samples of timber. 600	192 Bartlett, P. W., Harrison county, West Va.—Wheat. 620
161 Beckley, A., Raleigh county, West Va.—Cross sections of timber. 600	193 Rider, B. D., Harrison county, West Va.—Corn, wheat, oats and buckwheat. 620
162 Prince, G. H., Raleigh county, West Va.—Woods. 600	194 Bartlett & Riley, Harrison county, West Va.—Wheat. 620
163 Dall & Callaway, Putnam county, West Va.—Stakes and hoop poles. 600	195 Green, R. H., Harrison county, West Va.—Wheat. 620
164 Browse, R. H., Pleasants county, West Va.—Specimens of woods. 500	196 Waters, G., Harrison county, West Va.—Corn. 620
165 Banjoy, N. I., Pendleton county, West Va.—Laurel wreath and vine. 600	197 Hickman, J., Harrison county, West Va.—Corn. 620
166 Hammer, B., Pendleton county, West Va.—Section of locust wood. 600	198 Bassett, D., Harrison county, West Va.—Wheat and corn. 620
167 Hammer, Jacob, Pendleton county, West Va.—Sections of wild cherry and yellow pine. 600	199 Morrison, D., Harrison county, West Va.—Corn. 620
168 Johnson, J. F., Pendleton county, West Va.—Sections of various woods. 600	200 Sayre, J., Jackson county, West Va.—Corn. 620
169 Mestrezall, W., Monongahela county, West Va.—Walnut board. 600	201 Hopkins, A. D., Jackson county, West Va.—Wheat. 620
170 Fairchild, Lawhead, & Co., Monongahela county, West Va.—Woods used in wagon building. 600	202 Fisher, J. W., Gilmer county, West Va.—Corn. 620
171 Ruffner, L., & Lewis, J. D., Kanawha county, West Va.—Cross sections of twenty-one varieties of timber. 600	203 Wilson, H., Hardy county, West Va.—Oats. 620
172 McKnight & Rohrer, Jefferson county, West Va.—Axe handles and felles. 600	204 Bean, Peter, Hardy county, West Va.—Buckwheat. 620
173 Clay, Cecil, Greenbrier county, West Va.—Specimens of woods. 600	205 McNeal, R., Hardy county, West Va.—Corn. 620
174 Letterman, W. H., Fayette county, West Va.—Samples of woods. 600	206 Maslin, Thos., Hardy county, West Va.—Corn. 620
175 Heald, D., Fayette county, West Va.—Molasses hogshead shook. 600	207 Williams, G. P., Hardy county, West Va.—Wheat. 620
176 Guard, Jas., Fayette county, West Va.—White oak stave. 600	208 Bean, J., Hardy county, West Va.—Oats and wheat. 620
177 Abbott, J. M., Fayette county, West Va.—Holly. 600	209 Handley, H., Greenbrier county, West Va.—Oats, corn, timothy, orchard grass, and orchard grass seed. 620
178 Cassidy, R. B., Fayette county, West Va.—Maple. 600	210 Alexander, W. A., Greenbrier county, West Va.—Wheat. 620
179 Miller, J. H., Fayette county, West Va.—Woods. 600	211 Koontz, G., Jefferson county, West Va.—Corn. 620
180 Sinsel, J. B., Fayette county, West Va.—Samples of ash. 600	212 Turner, G. H., Jefferson county, West Va.—Wheat. 620
181 Elk River Iron & Coal Co., Braxton county, West Va.—Charcoal. 600	213 Flemming, R. E., Marion county, West Va.—Corn and wheat. 620
182 Brown, S. H., Fayette county, West Va.—Veneers. 601	214 Gray, W., Marshall county, West Va.—Corn on stalk. 620
183 Peters, W. L., Cabell county, West Va.—Poplar boards, polished. 601	215 Waddle, J. & M., Ohio county, West Va.—Corn. 620
Agricultural Products.	
184 Leigh, Wm., Berkeley county, West Va.—Corn. 620	216 Wilson, G. W., Ohio county, West Va.—Corn. 620
185 Downer, J. E., Cabell county, West Va.—Corn on stalk. 620	217 Dyer, J. P., Pendleton county, West Va.—Corn. 620
186 Settle, J. G., Fayette county, West Va. a Wheat, buckwheat, and corn. 620 b Tobacco. 623	218 Cunningham, S., Pendleton county, West Va.—Corn. 620
187 Marrs, John, Fayette county, West Va.—Oats. 620	219 Millar, Wm. C., Pendleton county, West Va.—Wheat. 620
188 Robson, H. A., Fayette county, West Va.—Corn. 620	220 Harris, T. M., Ritchie county, West Va.—Corn. 620
189 Blake, L., Fayette county, West Va.—Corn. 620	221 Browse, R. H., Pleasants county, West Va.—Corn and wheat. 620
190 Dickinson, M., Fayette county, West Va.—Corn. 620	222 Williams, J. S., Taylor county, West Va.—Corn and wheat. 620
191 Rice, J. P., Harrison county, West Va.—Wheat. 620	223 Riley, John, Taylor county, West Va.—Wheat. 620
	224 Sheppard, L., Wirt county, West Va.—Corn. 220
	225 Settle, W., Fayette county, West Va. a Corn. 620 b Tobacco. 623

226 Dempsey, J. E., Fayette county, West Va.		236 Carter, W., Fayette county, West Va.—Tobacco.	623
<i>a</i> Wheat, corn, oats, and timothy.	620	237 Dempsey, J. A., Fayette county, West Va.—Tobacco.	623
<i>b</i> Tobacco.	623	238 Ballard, G. W., Lewis county, West Va.—Tobacco.	623
227 Harvey, William T., Fayette county, West Va.		239 Johnson, D. D., Taylor county, West Va.—Tobacco.	623
<i>a</i> Rye, wheat, and corn.	620	240 Staley, T. J., Tyler county, West Va.—Tobacco.	623
<i>b</i> Tobacco.	623	241 Seamon, H., Wheeling, West Va. —Tobacco and cigars.	623
228 Hashbarger, A. P., Fayette county, West Va.			
<i>a</i> Oats.	620	Animal and Vegetable Products.	
<i>b</i> Tobacco.	623	242 Oschbacher, John, & Son, Wood county, West Va.—Grape wine.	660
229 Sinclair, G. W., Taylor county, West Va.—Beans.	621	243 Muenchmeyer, H. & L., Wood county, West Va.—Grape wine.	660
230 Keesey, I. B., Fayette county, West Va.—Laurel root.	622		
231 O'Neal, Chevront, & Co., Dod- dridge county, West Va.—Tobacco.	623	Textile Substances of Vegetable or Animal Origin.	
232 Crager, Joe, Fayette county, West Va.—Tobacco.	623	244 Browne, R. H., Pleasants county, West Va.—Flax.	666
233 Cassady, R. B., Fayette county, West Va.—Tobacco.	623	245 Settle, J. G., Fayette county, West Va.—Flax.	666
234 Nugen, J., Fayette county, West Va.—Tobacco.	623		
235 Braughan, J. J., Fayette county, West Va.—Tobacco.	623		

No. 69. CANADIAN LOG HOUSE.

Size, 75 feet by 56 feet.

CANADIAN COMMISSION.

See Part IV., page 134.

Is one story high, constructed of logs, and located close by the British Government buildings. It constitutes an exhibit of the timbers of Canada.

No. 70. MISSOURI STATE BUILDING.

Architect, L. C. MILLER, St. Louis.—Size, 58 feet by 48 feet, with tower.

Location, State Avenue, George's Hill. Headquarters of Board of State Centennial Managers, organized by State Legislature; President, Thomas Allen; Secretary, J. L. Tracy. Exhibits in Main Hall, Education Department, Mineral Annex, Agricultural Hall.

Nos. 71, 72, 73. BRITISH GOVERNMENT BUILDINGS.

Architect, THOMAS HARRIS, of London.—Size, No. 1, 5000 sup. feet; No. 2, 1200 sup. feet.

These edifices have been erected for the use of the members of the Royal Commission. The large one is the residence of the Commissioners and delegates, while the smaller furnishes accommodations for the members of the staff. They are built in a picturesque, half-timbered style, essentially English, and are located north of Machinery Hall. A bake-house and laundry are also attached to the above.

No. 74. NEW YORK STATE BUILDING.

Architects, CROFF & CAMP.—Size, 60 feet by 34 feet.

The Commissioners of the State of New York have offices in this building. It is a two-story structure, surrounded by about half an acre of ground. It is situated on State Avenue, north of the British buildings.

No. 75. COLONEL LIENARD'S GEORAMA.

Designer, COL. LIENARD, Paris.—Size, area 1250 square feet.

An open-air exhibit, models of the cities of Paris and Jerusalem, in gypsum. The contour of the ground is shown, and the streets appear fully delineated. It is in the centre of Fountain Avenue, at the head of the lake.

No. 76. POP-CORN BUILDINGS.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 41 feet by 32 feet each.
J. A. BAKER, Dayton, Ohio.

One of these buildings is situated on Fountain Avenue opposite the northern extremity of the lake; the other is on Agricultural Avenue, east of and opposite the New England Farmers' Home and Modern Kitchen. They are devoted exclusively to the sale of pop-corn, and are built of wood, one story high.

No. 77. CIGAR STANDS.

The stands are located at various points north of the Avenue of the Republic, and west of Belmont Avenue.

No. 78. SODA WATER STANDS.

These stands are situated at various points north of the Avenue of the Republic, and west of Belmont Avenue.

No. 79. TUNISIAN CAFÉ AND BAZAAR.

A decorated pavilion with stained glass windows, designed for the display of Tunisian products. Situated on Fountain Avenue, north of Pennsylvania State building.

No. 80. CHRISTOPHER COLUMBUS MONUMENT.

Located at corner of Belmont and Fountain Avenues. It was erected by the Columbus Monument Association. It is of colossal size, and represents the Genoese navigator in a standing posture, with the right hand resting on a globe, and the left holding a chart; an anchor and rope indicating his occupation.

No. 81. DRINKING FOUNTAIN.

Size, 25 feet in diameter.

Erected by the SONS OF TEMPERANCE of Pennsylvania.

This fountain is built of wood, the structure inclosing it being circular in form, and it is situated at the junction of Fountain and Belmont Avenues. The Singer & Falcott drinking fountain is a marble fountain situated between the Bethlehem Bazaar and Tunisian Café.

No. 82. "TROIS FRÈRES PROVENÇAUX" RESTAURANT.

Architect, LEHMAN, of Paris.—Size, 177 feet by 110 feet.

LOUIS GOYARD, Proprietor.

A two-story frame structure, situated on the corner of Belmont and Fountain Avenues. It has large garden surroundings, and is a duplicate of the restaurant of the same name in Paris as regards its management.

No. 83. NEW YORK "TRIBUNE" BUILDING.

Architect, E. E. RATH.—Size, 30 feet by 21 feet.

NEW YORK TRIBUNE, New York.

A small octagonal wooden building, with verandas and a high tower-like roof. It is located close to the French Restaurant and the lake, and is used as an office for the correspondents and reporters of "The Tribune."

No. 84. WORLD'S TICKET OFFICE.

Architect, H. J. SCHWARZMANN.—Size, 60 feet square.

COOK, SON & JENKINS, London, New York, and Philadelphia.

Situated immediately north of the eastern end of Machinery Hall. It is hexagonal in form, and contains a main hall and four private offices. Tickets to all parts of the world are offered for sale, and ornamental articles manufactured in Palestine are exhibited.

No. 85. PRESSED FUEL COMPANY'S BUILDING.

Polygon, 24 feet in diameter.

E. F. LOISEAU, Philadelphia.

Constructed of iron and situated in a garden plot on the Avenue of the Republic, west of the lake and opposite to Machinery Hall. It exhibits the fuel in a state of combustion, to demonstrate its economy and adaptability.

No. 86. SPANISH GOVERNMENT BUILDING.

Decagonal, 50 feet in diameter.

A one-story frame building, situated on the Avenue of the Republic, west of the Catholic Total Abstinence Fountain. Intended as headquarters of the Spanish soldiers.

86½. SPANISH EXHIBITION BUILDING.

Architect, ALEXANDER B. BARY.—Size, 80 feet by 100 feet.

Constructed of wood, in a style similar to Machinery Hall; adjacent to Spanish Engineers' Pavilion.

Educational Systems, Methods, and Libraries.

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| <p>1 Goig & Co., Jaime, Alcira, Province of Valencia.—Books for primary instruction. 300</p> <p>2 Rodriguez Mañanes, Pedro, Zamora.—Explanation of engravings and patterns for cutting garments. 300</p> <p>3 Fábregas y Bru, José, Havana, Island of Cuba.—Writing des. 300</p> <p>4 Superior Normal School, Salamanca.—Programme for children's schools. 300</p> <p>5 Illera y Marúz, Manuel, Salamanca.—Rational programme for lectures in normal school. 300</p> <p>6 Rodriguez Martin, Vicente, Sequeros, Province of Salamanca.—Lineal designs. 300</p> <p>7 Sanchez, Pilar, Sevilla.—Objects for the instruction of children. 300</p> <p>8 Board of Primary Instruction, Vitoria, Province of Alava.—Treatise on primary instruction. 300</p> <p>9 Azpiazu, José Antonio de, Vitoria, Province of Alava.—Method of penmanship. 300</p> <p>10 Solano y Viton, Pablo, Valencia.—Books for primary instruction. 300</p> <p>11 Aguilar, Simon, Valencia.—Books for primary instruction. 300</p> <p>12 Solis, Prudencio, Valencia.—Books for primary instruction. 300</p> <p>13 Perales, Baltasar, Valencia.—Books for primary instruction. 300</p> <p>14 Montells y Nadal, Jacinto, Sevilla.—Books for primary instruction. 300</p> <p>15 Gazapo y Loma, Juan Manuel, Madrid.—Syllable book. 300</p> <p>16 Collado, Cayetano, Madrid.—Intuitive instruction. 300</p> <p>17 Borja y Alarcon, Pedro, Madrid.—Geographical stick. 300</p> <p>18 Ladies' Seminary, Madrid.—Work by pupils, and writing by the professors. 300</p> <p>19 Molinero, Enrique, Madrid.—Alphabets. 300</p> <p>20 Gonzalez y Luna, Ildefonso, Jaen.—Specimen of penmanship. 300</p> | <p>21 Diaz y Martinez, Manuel, Jerez de la Frontera, Province of Cádiz.—Apparatus for primary instruction. 300</p> <p>22 College of Messrs. Peffort, Barcelona.—Work done by pupils. 300</p> <p>23 National Institute for the Deaf and Dumb, and Blind, Madrid.—Method of instruction. 300</p> <p>24 Nebreda y Lopez, Carlos, Madrid.—Works for the instruction of the deaf and dumb, and blind. 302</p> <p>25 Institute for the Deaf and Dumb, and Blind, Sevilla.—Documents of the college. 302</p> <p>26 Campillo y Correa, Narciso, Madrid.—Rhetoric and poetry. 306</p> <p>27 Cornellas y Grau, Clemente, Madrid.—French grammar, etc. 306</p> <p>28 Escolapios of San Antonio, Madrid.—Books. 306</p> <p>29 Garcia Ayuso, Francisco, Madrid.—Arabian grammar, study of philology, etc. 306</p> <p>30 Garriga Marrill, Pedro, Madrid.—Tachigraphy. 306</p> <p>31 Giol y Soldevilla, Isidro, Madrid.—Course of photography 306</p> <p>32 Galdó, Manuel Maria José de, Madrid.—Manual of natural history. 306</p> <p>33 Institute of Secondary Instruction of San Isidro, Madrid.—Memoirs. 306</p> <p>34 Martinez Cubells, Enrique, Madrid.—Lessons in geometry. 306</p> <p>35 Montero Montero, Antonio, Madrid.—Programmes, catalogues, etc., of the polytechnic school. 306</p> <p>36 Monreal y Ascaso, Bernardo, Madrid.—Course of geography, and history of Spain. 306</p> <p>37 Moya, Ambrosio, Madrid.—Lessons in arithmetic. 306</p> <p>38 National Library, Madrid.—Books published, and awarded works. 306</p> <p>39 Institute of Secondary Instruction of the Noviciate, Madrid.—Complete collection of memoirs. 306</p> <p>40 Pereda y Martinez, Sandalio de, Madrid.—Programme of natural history. 306</p> <p>41 Puerta, Gabriel de la, Madrid.—Treatise on chemistry, medicine, etc. 306</p> |
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- 42 Ramos Lafuente, Madrid.—Text-book for instruction in natural and physico-chemical sciences. 306
- 43 Salvador y Aznar, Felipe, Madrid.—Manual of book-keeping, etc. 306
- 44 Suaña y Castellet, Emeterio, Madrid.—Course of Latin. 306
- 45 Sanchez Casado, Félix, Madrid.—Bachelor's guide. 306
- 46 Fernandez Cardin, Joaquin Maria, Madrid.—Elements of mathematics. 306
- 47 Vallin y Bustillo, Acisclo F., Madrid.—Text-books of secondary instruction. 306
- 48 Vicuña, Gumersindo, Madrid.—Facultative works. 306
- 49 Institute of Secondary Instruction, Pamplona, Province of Navarra.—Memoirs, catalogues, plans, etc. 306
- 50 Literary University, Oviedo.—Books. 306
- 51 Institute of Secondary Instruction, Palencia.—Memoirs and treatises. 306
- 52 Literary University, Salamanca.—Memoirs, catalogues, discourses, etc. 306
- 53 Institute, Santander.—Books, speeches, catalogues, and photographs. 306
- 54 Menendez & Pintado, Marcelino, Santander.—Geometrical album. 306
- 55 Institute, Segovia.—Text-books. 306
- 56 Literary University, Sevilla.—Opening speeches. 306
- 57 Loscos, Francisco, Castelseras, Province of Teruel.—Herbarium for the study of botany. 306
- 58 Respaldiza, Domingo, Valladolid.—Books. 306
- 59 Garcia Arboleya, José, Havana, Island of Cuba.—Logarithm tables. 306
- 60 Cerero, Rafael, Havana, Island of Cuba.—Treatise on the science of engineering. 306
- 61 Nautical School, Barcelona.—Text-books of the Director. 306
- 62 Fine Art School, Barcelona.—Programmes of instruction. 306
- 63 School of Industrial Engineers, Barcelona.—Tables and projects. 306
- 64 Cornet y Mas, Cayetano, Barcelona.—Compendium of Spanish tachigraphy. 306
- 65 Briz, Francisco Pelayo, Barcelona.—Collection of popular songs. 306
- 66 Miralles & Peris, Manuel, Barcelona.—Plan of studies in a mercantile college. 306
- 67 Veterinary School, Leon.—Memoirs dedicated to the Exhibition at Philadelphia. 306
- 68 Faculty of Medicine, Madrid.—Works. 306
- 69 Mata y Fontanet, Pedro, Madrid.—Medical works and treatises. 306
- 70 Cabello y Aso, Luis, Madrid.—Architectural essays and works. 306
- 71 Grande, José Maria, Madrid.—Works on singing. 306
- 72 Master of San Juan, Aureliano, Madrid.—Treatise on general anatomy. 306
- 73 Busto y Lopez, Andrés, Madrid.—Chirurgical pathology. 306
- 74 Quijano, Lopez, Carlos, Madrid.—Treatise on chirurgical operations. 306
- 75 Cortejarena & Aldebó, Francisco de, Madrid.—Manual of obstetrics. 306
- 76 Sanchez y Merino, Ramon, Madrid.—General treatise on fevers. 306
- 77 Santero y Moreno, Tomás, Madrid.—Medical clinic. 306
- 78 Fernandez de Figares, Manuel, Granada.—Manual of experimental physics. 306
- 79 Local Institute of Secondary Instruction, Baeza, Province of Jaen.—Photographs of its interior and exterior. 306
- 80 Mingote, Policarpo, Leon.—Course of geography. 306
- 81 Ruiz de la Peña, Francisco, Leon.—Latin translation, grammatical system, etc. 306
- 82 Prieto, Anastasio, Logroño.—Regulation for the Normal School. 306
- 83 Saenz Navarrete, José, Logrono.—Documents referring to the foundation and progress of his college. 306
- 84 Royal Academy, Madrid.—Collection of its works. 306
- 85 Carreras, Mariano, Madrid.—Political economy. 306
- 86 Fernandez de Castro, Manuel, Madrid.—Treatise on electricity, metallurgy, etc. 306
- 87 Cortázar, Daniel, Madrid.—Treatise on mathematics. 306
- 88 Comeleran, Francisco A., Madrid.—Treatise on the Latin language. 306
- 89 Chamorro, Rafael, Madrid.—System of explaining heat, light, electricity, etc. 306
- 90 Page, Eugenio Roman, Badajoz.—Register of property. 306
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- 92 Magza y Jaime, Juan, Barcelona.—Elementary treatise on physiology. 306
- 93 Superior Normal School of Masters, Barcelona.—Books. 306
- 94 Fernandez Fontecha, Francisco, Cádiz.—Course of astronomy and navigation. 306
- 95 Foly y Velasco, Federico, Cádiz.—Text-books. 306
- 96 Oferrall, Javier, Cádiz.—French selections. 306
- 97 Moreno y Espinosa, Alfonso, Cádiz.—Compendium of universal history. 306
- 98 Rubio y Diaz, Vicente, Cádiz.—Elements of mathematics. 306
- 99 Literary University, Santiago, Province of La Coruña.—Books. 306
- 100 Pimentel y Donaire, Miguel, Madrid.—Legislative collection on primary instruction. 306
- 101 Vilella y Font, Sebastian, Madrid.—Fables of Fedro. 306
- 102 Saco y Arce, Juan A., Orense.—Grammar. 306
- 103 Lasala Martinez, Atanasio, Orense.—Elements of arithmetic and algebra. 306
- 104 Gaité Nuñez, Joaquin, Orense.—Elements of arithmetic and geography. 306
- 105 Luciro Gonzalez, Juan, Orense.—Works on philosophy. 306
- 106 Antiguiedad, Celestino, Palencia.—Books on primary instruction. 306

- 107 Normal School, Palencia.—Books on primary instruction. 306
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- 151 Gonzalez Domingo, Cecilio, Salamanca.—Invitations for the Exhibition at Philadelphia. 306
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- 153 Normal School, Toledo.—Works on teaching. 306
- 154 Normal School, Valencia.—Works on teaching. 306
- 155 Casan Alegre, Joaquin, Valencia.—Universal history. 306
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- 160 Villegas, Enrique, Córdoba.—Books for primary instruction. 306
- 161 Ollero, Andrés F., Cuenca.—Treatise on education. 306
- 162 Normal School, Guadalajara.—School memoirs. 306
- 163 Diego, Pedro de, Madrid.—History of Spain. 306
- 164 Besson, Eduardo Augusto, Burgos.—Books for elementary instruction. 306
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- 166 Aguilar Mayor, Mariano, Lérida.—Books for primary instruction. 306
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- 168 Central Normal School, Madrid.—Books for primary instruction. 306
- 169 Vallin y Bustillo, Acisclo, Madrid.—Books for primary instruction. 306
- 170 Carderera, Mariano, Madrid.—Books on primary instruction. 306
- 171 Cuenca, Hermenegildo, Cádiz.—Reading books for schools. 306

- 172 Normal School, Avila.—Books. 306
- 173 Normal High School, Barcelona.—Books. 306
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- 175 Araño y Majó, Miguel, Barcelona.—Books on primary instruction. 306
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- 178 Economical Society of Friends of the Country, Sevilla.—Catalogue and memoirs. 306
- 179 Society for the Protection of Animals and Plants, Cádiz.—Publications. 306
- 180 Royal Academy of History, Madrid.—Books. 306
- 181 Royal Academy of Fine Arts, Madrid.—Books. 306
- 182 Academy of Physical & Moral Sciences, Madrid.—Publications. 306
- 183 Academy of Medicine, Madrid.—Spanish Pharmacopœia. 306
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- 185 Astronomical & Meteorological Observatory, Madrid.—Annual and meteorological observations. 306
- 186 Spanish Society of Natural History, Madrid.—Annals. 306
- 187 Mineral Society, Salamanca.—Memoir. 306
- 188 Mercantile Athenæum, Madrid.—Books, rules, and periodicals. 306
- 189 Spanish Society of Professors of Sciences, Madrid.—Rules and reviews. 306
- 190 Economical Society, Madrid.—Copies of the pamphlet "El Centenario" and of the Review. 306
- 191 Association for the Protection of Young Artisans, Madrid.—Memoirs. 306
- 192 Academy of Sciences, Havana, Island of Cuba.—Documents and works. 306
- 193 Royal Academy of Sciences & Arts, Barcelona.—Books and dissertations. 306
- 194 Athenæum of Barcelona.—Reports. 306
- 195 Society of Industrial Engineers, Barcelona.—Publications. 306
- 196 Royo, Mariano, Zaragoza.—Treatise on irrigation. 306
- 197 Castelvi, Bartolomé, Zaragoza.—Books. 306
- 198 Chao, Alejandro, Havana, Island of Cuba.—Life of Lord Byron. 306
- 199 Royal Academy of Sciences & Arts, Barcelona.—Rules and memoirs. 306
- 200 Catalanian Agricultural Institute of San Isidro, Barcelona.—Rules and reviews. 306
- 201 Economical Society of Friends of the Country, Barcelona.—Papers. 306
- 202 Society of Barcelona of Friends of Instruction, Barcelona.—Rules, memoirs, and documents. 306
- 203 Academy of Tachigraphy.—Documents. 306
- 204 Society of Patrons of National Production.—Documents. 306
- 205 Geographical & Statistical Institute.—Publications. 306
- 206 Reynal, Lorenzo, Tarragona.—Synopsis of the English language. 306
- 207 Cuchí, Tomás, Tarragona.—Special treatises. 306
- 208 Ford y Cusido, widow of, Tarragona.—Commercial Review. 306
- 209 Gil Sumbiela, Luis, Valencia.—Treatise on stenography. 306
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- 211 Borao, Gerónimo, Zaragoza.—Dictionary. 306
- 212 Cuesta, Pedro, Zaragoza.—Works on medicine and pharmacy. 306
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- 214 Mondria, Mariano, Zaragoza.—Works on medicine and pharmacy. 306
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- 221 Gonzalez-Regueral, Severiano, Pontevedra.—"La Reforma," periodical. 306
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- 224 Navarro Izquierdo, Luciano, Salamanca.—Treatise on geometry. 306
- 225 Oscariz y Lasaga, Victor, Santander.—Pamphlets of literary studies. 306
- 226 Royal Academy of Seville.—Speeches, catalogues, and poetry. 306
- 227 Society of Andalusian Bibliophiles.—Books. 306
- 228 Gironés & Orduña, Seville.—Poetry. 306
- 229 Valdaraque, Rafael, Seville.—Poetry. 306
- 230 Asensio y Toledo, José Maria, Seville.—Literary works. 306
- 231 Sanchez, Pilar, Seville.—"Ernestina," geographical novel. 306
- 232 Meseguer, Manuel, Amposta, Province of Tarragona.—Text-books. 306
- 233 Alvarez, Romualdo, Tortosa, Province of Tarragona.—Works on instruction. 306
- 234 Avela, Eduardo, Madrid.—Farmers' almanacs. 306
- 235 Florez, José Maria, Madrid.—Books and maps. 306
- 236 Yeves, Carlos, Madrid.—Books and periodicals. 306

- 237 Maffei, Eugenio, Madrid.—Mineral bibliography. 306
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- 243 Massat, Alfredo, Cartagena, Province of Murcia.—Description of metaliferous soil. 306
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- 245 Perez, Joaquin, Orense.—Descriptive pamphlet of the steeple of the cathedral. 306
- 246 Alvarez Gimenez, Emilio, Pontevedra.—Studies on dramas and comedies. 306
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- 250 Direction General of Cavalry, Madrid.—Work on breeding horses. 306
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- 252 Direction of Hydrography, Madrid.—Books. 306
- 253 Medina & Navarro, Madrid.—Periodicals and books. 306
- 254 Cámara, Miguel, H. de, Madrid.—“La Guirnalda,” periodical. 306
- 255 Monasterio, Mariano, Madrid.—Work on construction. 306
- 256 Vergara, Mariano, Madrid.—“El Averiguador,” periodical. 306
- 257 Frontaura, Carlos, Madrid.—“Los Niños,” review. 306
- 258 Galdós & Cámara, Madrid.—National episodes. 306
- 259 Utor, Luis Maria, Madrid.—Modern agriculture. 306
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- 261 Llacayo, Augusto, Madrid.—Books on medicine and military surgery. 306
- 262 Almirante, José, Madrid.—Dictionaries. 306
- 263 Perojo, José del, Madrid.—“Contemporary Review.”
- 264 Eguilaz Yanguas, Leopoldo, Madrid.—Study on the value of Arabic letters in the Spanish alphabet. 306
- 265 Carderera, Mariano, Madrid.—Dictionary of education. 306
- 266 Murillo, Mariano, Madrid.—Bulletin of the library. 306
- 267 Fernandez de Castro, Manuel, Madrid.—Electricity and railroads. 306
- 268 Fernandez Peña, Pedro, Madrid.—Geographical atlas. 306
- 269 Garcia Blanco, Antonio M.—Madrid.—Text works. 306
- 270 Codera, Francisco, Madrid.—Work on numismatic errors. 306
- 271 Rada y Delgado, Juan de Dios de la, Madrid.—Work on “Vertu and Antiquities.” 306
- 272 Aldama, Lucas de, Madrid.—Treatise on industry and mines. 306
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- 274 Mata y Fontanet, Pedro, Madrid.—Scientific and literary works. 306
- 275 Suarez, Victoriano, Madrid.—Scientific and literary works. 306
- 276 Aguilera y Martinez, Eusebio, Nalda, Province of Logroño.—School books and special treatises. 306
- 277 Gomez Ayaza, Nicolás, Logroño.—Text-books, and “El Riojano,” periodical. 306
- 278 Martinez Aleson, Tiburcio, Logroño.—Work on teaching children. 306
- 279 Soto Freire, Manuel, Lugo.—History of Galicia and introductory manual. 306
- 280 Panero Martinez, Manuel, Lugo.—“The Heart of Childhood.” 306
- 281 Perez Villamil, Ramon Antonio, Lugo.—Pamphlet on weights and measures. 306
- 282 Rodriguez Villa, Antonio, Madrid.—Étiquette of the house of Austria. 306
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- 284 Cortés y Morales, Balbino, Madrid.—Dictionary of legislation and jurisprudence. 306
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- 291 Rey y Gorrindo, Pedro, Córdoba.—Theory of unknown quantities. 306
- 292 Surós, Antonio, Gerona.—Text and school books. 306
- 293 Obradors y Font, Sebastian, Gerona.—Treatise on Latin roots. 306
- 294 Lozano de Vilches, Enriqueta, Granada.—Literary works. 306
- 295 University, Granada.—Works, speeches, and memoirs. 306
- 296 Ribot, Estéban & Bros., Granada.—Memoir. 306
- 297 Vidal Domingo, Antonio, Huesca.—History and geography. 306
- 298 Serra y Navarro, Mariano, Jaen.—Report on the condition of agriculture in Jaen. 306
- 299 Board of Public Instruction, Lérida.—Books. 306
- 300 Prieto, Atanasio, Logroño.—Treatise on arithmetic. 306
- 301 Corral y Pastor, Aniceto, Alesanco, Province of Logroño.—Compendium of Castilian grammar. 306

- 302 Diez, Domingo, Logroño.—Key to moral theology, etc. 306
- 303 Provincial Institute, Búrgos.—Statistics, memoirs, etc. 306
- 304 Beson, Eduardo Augusto de, Búrgos.—Scientific works. 306
- 305 Dupuy, L., Santiago, Cádiz.—Books on silk industry. 306
- 306 Astronomical Observatory, San Fernando, Province of Cádiz.—Annals and almanacs. 306
- 307 Miró, Juan, Jerez de la Frontera, Province of Cádiz.—Books for instruction. 306
- 308 Vallarino, Baltasar, Cádiz.—Book, "The Anchor Weighed." 306
- 309 Leon Mainez, Ramon, Cádiz.—"Cronica de los Cervantistas," review. 306
- 310 Gonzalez, Manuel, Gran Canaria, Canary Islands.—Natural history. 306
- 311 Berthelot, Sabino, Canary Islands.—Plans, designs, and books on natural history. 306
- 312 Torres y Gonzales, Bernardino, Tomelloso, Province of Ciudad-Real.—Treatment of intestinal strangulation. 306
- 313 Torres y Fernandez, Santos, Tomelloso, Province of Ciudad-Real.—Treatment of inguinal ruptures. 306
- 314 Puente y Rocha, Juan de Dios de la, Córdoba.—Memoir on birds, useful or destructive to agriculture. 306
- 315 Massa y Sanguineti, José, Córdoba.—Elementary lessons in physics and chemistry. 306
- 316 Loma y Corradi, Blas de, Alicante.—Review of public instruction. 306
- 317 Herreros Berenguer, Mariano, Alicante.—On the decimal system. 306
- 318 Chastron, Leon, Alicante.—Works of D. Leon Chastron. 306
- 319 Carratalá & Gadea, Alicante.—Typographical album. 306
- 320 Garcia Arias y Usano, Benito, Avila.—Biblical pictures. 306
- 321 Pou, Luis, Palma, Balearic Islands.—Book, "La Sal." 306
- 322 Vidal y Roger, Andrés, Barcelona.—Weekly periodical. 306
- 323 Jover y Puig, Antonio, Barcelona.—Books on tachigraphy. 306
- 324 Bastinos, Antonio J., Barcelona.—Books on labor, instruction, and education. 306
- 325 Rius, Antonio, Barcelona.—Italian grammar. 306
- 326 Pasarans y Viñals de Pujol, Elisa, Barcelona.—Books. 306
- 327 Maspons y Labrós, Francisco, Barcelona.—Popular Catalonian tales. 306
- 328 Pelayo Briz, Francisco, Barcelona.—Catalonian works. 306
- 329 Lopez Fabra, Francisco, Barcelona.—"Don Quixote de la Mancha." 306
- 330 Paula Folch, Francisco, Barcelona.—Medical books. 306
- 331 Tolrá, José, & Co., Barcelona.—Pamphlets. 306
- 332 Porcar y Tió, Jaime, Barcelona.—Works on education and morals. 306
- 333 Llerens Bros., Barcelona.—Dictionaries. 306
- 334 Lladós y Rius, Magin, Barcelona.—"El Porvenir de la Industria" (periodical). 306
- 335 Moreno y Roig, Barcelona.—History of the Church, etc. 306
- 336 Matallana, Mariano, Barcelona.—Manual for conversation on railroads. 306
- 337 Casals, Miguel, Barcelona.—Monthly publications. 306
- 338 Milá y Fontanal, Manuel, Barcelona.—Poetry. 306
- 339 Horticultural Society, Barcelona.—Horticultural Review. 306
- 340 Trilla & Serra, Barcelona.—"La Madeja" (periodical). 306
- 341 Alvarez Carretero, Antonio, Búrgos.—Books. 306
- 342 Hernandez Martin, Antonio, Búrgos.—Works on the instruction of the deaf and dumb. 306
- 343 Avila, Calixto, Búrgos.—Guide of Búrgos and Jura de Santa Gadea. 306
- 344 Archillas y Lopez, Ricardo, Baeza, Province of Jaen.—Paper read at the opening of the Baeza Institute. 306
- 345 Ginez de los Rios, Hermenegildo, Baeza, Province of Jaen.—Memoirs and projects. 306
- 346 Serra y Navarro, Mariano, Jaen.—Memoir on the condition of agriculture in the province. 306
- 347 Torres y Puig, Alejandro, Baeza, Province of Jaen.—Memoir. 306
- 348 Direction of Customs, Madrid.—Ordinances, models, and documents. 306
- 349 Alvarez de Araujo y Cuéllar, Angel, Madrid.—Books. 306
- 350 Gaspar, Editors, Madrid.—Collection of books from the Universal Museum. 306
- 351 High Normal School of Masters, Salamanca.—Memoir. 306
- 352 Guichot, Joaquin, Seville.—History of the town of Seville, etc. 306
- 353 Gozart y Seva, Printers, Alicante.—Catholic seminary. 306
- 354 Camilo Jover, Nicasio, Alicante.—"El Constitucional" (Liberal daily paper). 306
- 355 Suso, Manuel, Alicante.—"La Revelacion" (spiritual periodical). 306
- 356 Corporation of Barcelona.—Reports of public schools. 306
- 357 Provincial Institute for Secondary Instruction, Palma.—Memoirs. 306
- 358 Sanchez Almonacid, Mariano, Cuenca.—Memoirs of the Institute. 306
- 359 Ballester, Guillermo, Madrid.—Memoirs and regulations of the Hispano-Roman College. 306
- 360 Director of the Institute for Secondary Instruction, Fontevédras.—Memoirs. 306
- 361 Institute for Secondary Instruction, Seville.—Books, catalogues, and reports. 306
- 362 Alará, Mariano, Vilarrodona, Province of Tarragona.—Statistical data. 306
- 363 Provincial Institute, Tarragona.—Memoirs. 306
- 364 Institute for Secondary Instruction, Toledo.—Memoirs. 306
- 365 Navarro Reverter, Juan, Valencia.—"From the Turia to the Danube," memoirs of the Vienna Exhibition. 306

- 366 Institute for Secondary Instruction, Zamora.—Memoirs. 306
- 367 Naranjo y Garza, Felipe, Madrid.—Works on mineralogy. 306
- 368 National Archæological Museum, Madrid.—Historical descriptive information. 306
- 369 Colmeiro, Manuel, Madrid.—History of political economy in Spain. 306
- 370 Commission of Naturalists of the Pacific, Madrid.—Works on natural history. 306
- 371 Gascon, Domingo, Madrid.—“Guía del Peluquero” (periodical). 306
- 372 Tuero, José Maria, Madrid.—Book, “Hurricanes.” 306
- 373 Borja y Alarcon, Pedro, Madrid.—Studies on the application of photography to topography. 306
- 374 High Normal School of Masters of the Province, Salamanca.—Books, models, plans, designs, etc. 306
- 375 Normal School of Masters, Seville.—Memoirs. 306
- 376 Solis, Prudencio, Valencia.—Atlas of lineal designs. 306
- 377 Moreno Villena, Pedro, Valencia.—Treatise on political economy. 306
- 378 Calleja Sanchez, Julian, Valladolid.—Works on anatomy. 306
- 379 School of Fine Arts, Valladolid.—Works by pupils. 306
- 380 Veterinary School, Zaragoza.—Historical relation and statistical dates. 306
- Institutions and Organizations.**
- 381 Diaz Acevedo, Cleto, Havana, Island of Cuba.—Procedure for the preservation of objects of natural history; zoological objects. 311
- 382 His Majesty the King of Spain, Madrid.—Sacred music. 313
- 383 Romero Andia, Antonio, Madrid.—Operatic music. 313
- 384 Inzenga, José, Madrid.—“Echoes from Spain” (popular songs). 313
- 385 Ocon, Eduardo, Málaga.—Popular Spanish songs. 313
- 386 Iniguez, Buenaventura, Seville.—Musical methods for singing. 313
- Scientific and Philosophical Instruments and Methods.**
- 387 Gallardo Bastant, Luis, Barcelona.—Equinoctiometer. 320
- 388 Astronomical Observatory of San Fernando, Cádiz.—Instruments. 320
- 389 Coello y Quesada, Francisco, Madrid.—Maps of Spain and its possessions. 320
- 390 Collantes de Teran, Francisco, Seville.—System of classification of autonomous medals. 320
- 391 Foulon, José, Las Cortes de Sarriá, Province of Barcelona.—Electric indicator. 320
- 392 Lamana y Gonzalez, Saturnino, Logroño.—Metric decimal indicator. 321
- 393 Bartolomé & Agustin Castelvi, Zaragoza.—Grain measures. 322
- 394 Onis, Juan de, Masnou, Province of Barcelona.—Chronometer. 323
- 395 Flonis y Pujol, Juan, Masnou, Province of Barcelona.—Nautical chronometer. 323
- 396 Aguirre, Francisco, Soria.—Clock. 323
- 397 Gallardo Bastant, Luis, Barcelona.—Electric piles. 325
- 398 Aguirre, Francisco, Soria.—Electric piles. 325
- 399 Echenique y Torres, Florencio, Zaragoza.—Portable telegraphic apparatus for campaigns. 326
- 400 Jorba, José, Barcelona.—Piano attachment. 327
- 401 Guarro, Mariano, Barcelona.—Piano. 327
- 402 Sancho Velasco, Agapito, Burgos.—Music boxes. 327
- 403 Arias, Vicente, Ciudad-Real.—Guitars. 327
- 404 Flores Laguna, José, Madrid.—Music boxes. 327
- 405 Romero y Andia, Antonio, Madrid.—Clarionet and system. 327
- Engineering, Architecture, Maps, etc.**
- 406 Garriga y Roca, Miguel, Barcelona.—Architecture. 330
- 407 Isabella II. Canal, Madrid.—Photographs of works. 330
- 408 Gonzalez del Valle, Manuel, Segovia.—Model of a bridge. 330
- 409 Alvear y Lara, Francisco, Havana, Island of Cuba.—Project for the supply of potable water. 330
- 410 Revenga, Antonio, Valencia.—Design of brakes. 332
- 411 Corps of Military Engineers, Madrid.—Books, plans, models. 333
- 412 Bernaldez, Emilio, Madrid.—Military books. 333
- 413 Heriz, Enrique, Barcelona.—Models of barks, with pamphlet. 334
- 414 Tranque y Cassi, Lorenzo, Barcelona.—Map of physical geography. 335
- 415 Paz Mosquera, Manuel de la, Jaen.—Topographical map of the province. 335
- 416 Provincial Deputation, Lugo.—Geometrical map of the Galician provinces. 335
- 417 War Depository, Madrid.—Maps and plans. 335
- 418 Direction of Hydrography, Madrid.—Hydrographic atlas. 335
- 419 Gonzalez del Valle, Manuel, Segovia.—Plan of provincial high roads. 335
- 420 Observatory of the Royal College of Belen, Havana, Island of Cuba.—Meteorological observations. 335
- Physical, Social, and Moral Condition of Man.**
- 421 Lopez y Gomez, Salvador, Seville.—Work on gymnasiums. 340
- 422 Mutual Aid Society, Orense.—Rules. 343
- 423 Feu, P., & Sons, Madrid.—Collection of medals. 344
- 424 National Mint, Madrid.—Antique and modern coins. 344
- 425 Cervera, Valerio, Madrid.—“The Permanent Suffrage” (pamphlet). 345

- 426 **Typographical Establishment of Oliva, Salamanca.** 345
 427 **Provincial Hospitality, Seville.**—Rules of the building, pictures, etc. 346
 428 **Provincial Board of Agriculture, Industry, and Commerce, Santander.**—Memoirs, catalogues, and programmes. 349

Painting.

- 429 **Bibilioni, José, Barcelona.**—Design in Indian ink. 411
 430 **Sanchez, Pedro, Cádiz.**—Aquarelles. 411
 431 **Guisasola, Federico, Pontevedra.**—Aquarelles. 411

Engraving and Lithography.

- 432 **Provincial Academy of Fine Arts, Cadiz.**—Drawings by the pupils. 420
 433 **Provincial Deputation, Cádiz.**—Calligraphic picture. 420
 434 **Lopez Valdemoro Ortiz de Lazcano, Madrid.**—Crayon drawing. 420
 435 **Aramburu, Ricardo, Seville.**—Crayon picture. 420
 436 **Reynoso, Emilio, Havana, Island of Cuba.**—Calligraphic works. 420
 437 **Gelabert, R., & Bro., Barcelona.**—Engravings. 421
 438 **Lemus, Eugenio, Madrid.**—"Danaë," engraved on copper. 421
 439 **Maura, Bartolomé, Madrid.**—"Surrender of Breda," engraved on copper. 421
 440 **Martinez Espinosa, Juan, Madrid.**—Engravings. 421
 441 **Salcedo, Pedro, Morata, Province of Madrid.**—Plan of the Escorial. 421
 442 **Arnanz, José, Havana, Island of Cuba.**—Stone engraving. 421
 443 **Vidal y Roger, Andrés, Barcelona.**—Music, engraved and printed. 422
 444 **National Calcography, Madrid.**—Cuts. 422
 445 **Solá y Roca, Ramon, Barcelona.**—Cuts. 423
 446 **Mencha y Rodriguez, Faustino, Logroño.**—Lithographed figure. 423
 447 **Carderera y Solano, Valentin, Madrid.**—Spanish iconography. 423
 448 **Fortanet, T., Madrid.**—Printed books. 423
 448^a **Museum of Artillery, Madrid.**—Collection of plates. 423
 449 **Ariza y Campano, José, Seville.**—Typographic picture. 423
 449^a **Gonzalez y Montblanch, Modesto, Barcelona.**—Lithography. 423
 450 **Mateu, José Maria, Madrid.**—Chromo-lithographic plates. 424
 451 **Arnanz, José, Havana, Island of Cuba.**—Chromo-lithographs and oleographs. 424
 451^a **Blasquez, E.**—Album of chromos. 424

Photography.

- 452 **Mariezcurrera, Heribert, Barcelona.**—Photographs. 430
 453 **Nobas, Narciso, Barcelona.**—Photographs. 430
 454 **Moragas, Manuel, Gracia, Province of Barcelona.**—Photograph of astronomical clock. 430

- 455 **Casiñol, Leopoldo, Jerez de la Frontera, Province of Cádiz.**—Heliocromo. 436
 456 **Napoleon, A. F., & Son, Barcelona.**—Photographs. 430
 457 **Provincial Commission, Lugo.**—Photographic reproductions of buildings. 430
 458 **Rodriguez Cortes, César, Lugo.**—Photographic reproduction of engravings. 430
 459 **Spreafico, José, Málaga.**—Album, with views. 430
 460 **Alviach & Co., Madrid.**—Photographs. 430
 461 **Julía y Garcia, Eusebio, Madrid.**—Photographs. 430
 462 **Laurent, J., & Co., Madrid.**—Photographs. 430
 463 **Diaz Otero, Eduardo, Madrid.**—Photographs. 430
 464 **National Mint, Madrid.**—Photographs. 430
 465 **Institute of Secondary Instruction, Seville.**—Photographic view. 430
 466 **Sebastia Vila, Pedro, Seville.**—Photographs. 430
 467 **Arce, Inocencio, Barcelona.**—Photograph. 430
 468 **Economical Society of Friends of the Country, Seville.**—Photographs. 430
 469 **Arce, Inocencio, Barcelona.**—Photolithographic reproductions. 432
 470 **Almela y Vinet, Francisco, Seville.**—Application of varnish to photographs. 432

Industrial and Architectural Designs, Models, and Decorations.

- 471 **Mestres, José O., Barcelona.**—Architectural monuments. 441
 472 **Soler, Federico, Barcelona.**—Commemorative project. 441
 473 **Guastavin, Rafael, Barcelona.**—Architectural plans. 441
 474 **Garriga y Roca, Miguel, Barcelona.**—Architectural plans and designs. 441
 475 **Tenas, Ramon, Barcelona.**—Project of a church. 441
 476 **Rovira y Rabassa, Antonio, Barcelona.**—Project of a monument. 441
 477 **Alonso, Arsenio, Madrid.**—Project of a triumphal arch. 441
 478 **Duque, Eugenio, Madrid.**—Projects of monuments. 441
 479 **Marin Baldo, José, Madrid.**—Project of a monument at Colon. 441

Decoration with Ceramic and Vitreous Materials, Mosaic and Inlaid Work.

- 480 **Bustamente & Gallo, Madrid.**—Mosaic in wood. 450
 481 **Rodriguez, Desiderio, Cienfuegos, Cuba.**—Inlaid table. 452
 482 **Cuevas, Fernandez, Pascual, Bribiesca, Province of Burgos.**—Pictures of birds, made with their feathers. 454
 483 **Ruiz, Manuel, Cádiz.**—Picture of human hair, and picture made of wafers. 454
 484 **Lozano y Villarejo, Mateo, Madrid.**—Album. 454

- 485 Serranoy Arenas, Purificacion, Havana, Island of Cuba.—Fancy work. 454
- 486 Camacho de Diaz, Soledad, Havana, Island of Cuba.—Paper work made by means of scissors. 445
- Arboriculture and Forest Products.**
- 487 Forest District of Avila.—Collection of woods. 600
- 488 Medinaceli, Duchess, widow of, Las Navas y Valdemagueda, Province of Madrid.—Trunk of pine tree. 600
- 489 Claròs, José Maria, La Calera, Province of Badajoz.—Cork. 600
- 490 Molano, Pedro, Badajoz.—Cork. 600
- 491 Carrion, Barcarrota, Province of Badajoz.—Cork. 600
- 492 Castellanos, Eduardo, Burguillos, Province of Badajoz.—Cork. 600
- 493 Tos, José, Badajoz.—Corks. 600
- 494 Garriga Francisco, Domingo, San Quirse de Besora, Province of Barcelona.—Arboriculture. 600
- 495 Corps of Forest Engineers, of various towns of the Province of Burgos.—Collection of woods. 600
- 496 Provincial Commission of Burgos.—Pine hoops. 600
- 497 Santa Marta, Marquis of, Cáceres.—Cork and manufactures. 600
- 498 Montenegro, Pedro L., Cáceres.—Cork and manufactures. 600
- 499 Torrevias Tunels, Martin, Mesas de Ibor, Province of Cáceres.—Cork and manufactures. 600
- 500 Diaz Agero, José, Malladas y Fresno, Province of Cáceres.—Corks. 600
- 501 Torre Diaz, Count of, Jerez de la Frontera, Province of Cádiz.—Cork. 600
- 502 Castro Chirino, Alonzo, Isle of Hierro, Canary Islands.—Wood. 600
- 503 Dominguez Mendez, Benigno, Isle of Hierro, Canary Islands.—Wood. 600
- 504 Delgado, Francisco, Isle of Gran Canaria, Canary Islands.—Wood. 600
- 505 Melian, Juan, Isle of Gran Canaria, Canary Islands.—Wood. 600
- 506 Gonzalez, Manuel, Isle of Gran Canaria, Canary Islands.—Pine wood. 600
- 507 Provincial Board of Agriculture, Castellon.—Cork. 600
- 508 San Bernardo, Count of, Hornachuelos, Province of Córdoba.—Cork. 600
- 509 Lopez Seoane, Victor, Coruña.—Collection of woods. 600
- 510 Gúito y Vall-Ilovera, José, Romaña, Province of Gerona.—Cork. 600
- 511 Institute of Secondary Instruction, Province of Huelva.—Woods. 600
- 512 Martin Carnes, Eulogio, Aracena, Province of Huelva.—Woods. 600
- 513 King, Guillermo, & Co., Higuera de Aracena, Province of Huelva.—Cork. 600
- 514 Corporation of Bollullus del Condado, Province of Huelva.—Cork. 600
- 515 Chief Engineer of Woods & Forests, Province of Jaen.—Wood. 600
- 516 Tuñon de Lara, Mateo, Carolina, Province of Jean.—Natural and prepared cork. 600
- 517 Provincial Institute, Province of Lugo.—Woods. 600
- 518 Corps of Forest Engineers, Madrid.—Woods, ashes, coal, and barks. 600
- 519 Iscar, Fernando, Término de Cabaco, Province of Salamanca.—Cork. 600
- 520 Catáneo, Francisco, Segovia.—Woods. 600
- 521 Gonzalez de Salcedo, F., Constantina, Province of Seville.—Cork. 600
- 522 Corporation of Poveda, Province of Soria.—Yew wood. 600
- 523 Corporation of Gallinero, Province of Soria.—Beech wood. 600
- 524 Corporation of Villaciervos, Province of Soria.—Juniper wood. 600
- 525 Corporation of Talvaira, Province of Soria.—Pine wood. 600
- 526 Corporation of Cortos, Province of Soria.—Oak wood. 600
- 527 Corporation of Navaleno, Province of Soria.—Pine wood. 600
- 528 Corporation of Molinos del Duero, Province of Soria.—Pine and poplar wood. 600
- 529 Campos, Manuel Maria, Havana, Island of Cuba.—Construction woods. 600
- 530 Inspection General of Woods & Forests, Havana, Island of Cuba.—Construction woods. 600
- 531 Uriá & Pinilla, Navia de Luarca, Province of Oviedo.—Charcoal linget. 600
- 532 Inspection of Woods & Forests, San Juan, Puerto Rico.—Woods. 600
- 533 Gonzalez, Manuel, Aquadilla, Puerto Rico.—Ornamental woods. 601
- 534 Quiroga Lopez, Benigno, Province of Lugo.—Construction and ornamental woods. 601
- 535 Inspection General of Woods & Forests, Havana, Island of Cuba.—Ornamental woods. 601
- 536 Verdú Perez, Joaquin, Monóvar, Province of Alicante.—Bastard saffron. 602
- 537 Monroig, daughter and heir of Ramon, Barcelona.—Dye-stuffs. 602
- 538 Sande Olivares, Jerónimo, Garrovillas, Province of Cáceres.—Dyers' weed. 602
- 539 Aguilera, Francisco, Priego, Province of Córdoba.—Sumac. 602
- 540 Lozano y Escobar, Romualdo, Buenache, Province of Cuenca.—Sumac. 602
- 541 Gallego, Domingo, Buenache, Province of Cuenca.—Sumac powder. 602
- 542 Corporation of Romancos, Province of Guadalajara.—Sumac. 602
- 543 Ayuso de las Heras, Angel, Valdearenas, Province of Guadalajara.—Madder root. 602
- 544 Acero, Antonio, Jaen.—Sumac. 602
- 545 Guerra M. de Soto, Anacleto, Portillo, Province of Valladolid.—Madder root. 602
- 546 Velicia, Félix, Traspinedo, Province of Valladolid.—Sumac. 602
- 547 Inspection General of Woods & Forests, Havana, Island of Cuba.—Dye woods. 602
- 548 Medinaceli, Duchess, widow of, Madrid.—Resinous products. 603
- 549 Gonzalez, Manuel, Las Palmas, Canary Islands.—Resins. 603
- 550 Avilés y Merino, Francisco, Córdoba.—Fennel resin. 603

- 551 Corps of Forest Engineers, Salas, Province of Burgos.—Resinous products. 603
- 552 Corporation of Armallanes, Province of Guadalajara.—Pitch. 603
- 553 Corporation of Mountain Engineers, Madrid.—Resins. 603
- 554 Ferrandiz, Juan, San Vicente, Province of Alicante.—Salt wort. 604
- 555 Gonzalez Conde, Diego, Mahora, Province of Albacete.—Saffron. 602
- 556 Delgado, José, Tarazona, Province of Albacete.—Dried saffron. 602
- 557 Perez, Albert, & Co., Monóvar, Province of Alicante.—Anis. 602
- 558 Gonzalez, Manuel, Gran Canaria, Canary Islands.—Seeds. 602
- 559 Castro y Chirino, Alonzo de, Isle of Hierro, Canary Islands.—Seeds. 602
- 560 Cabezuélas, Count of, Campo de Criptana, Province of Ciudad-Real.—Saffron. 602
- 561 Rodriguez, Antonio, Manzanares, Province of Ciudad-Real.—Saffron. 602
- 562 Rodriguez, Luis, Manzanares, Province of Ciudad-Real.—Saffron. 602
- 563 Gonzalez y Rubio, Máximo, Ciudad-Real.—Saffron. 602
- 564 Muñoz Mendez, Eugenio, Humanes, Province of Guadalajara.—Apricot seed. 605
- 565 Barnuevo, Manuel, Murcia.—Pine seed. 605
- 566 Onis, Federico, Cantalapedra, Province of Salamanca.—Flax seed. 605
- 567 Fernandez, Manuel, Templeque, Province of Toledo.—Saffron. 605
- 568 Corporation of Baños, Province of Cáceres.—Chestnut burrs. 605
- 569 Sanz Pasaodos, Julian, Portillo, Province of Valladolid.—Pine tree cones. 605
- 570 Sanz, Mariano, Pedrajaz de San Estéban, Province of Valladolid.—Pine seed. 605
- 571 Tablares, Felipe, Megues de Iscar, Province of Valladolid.—Pine seed. 605
- 576 Jordana y Morera, Ramon, Inspector-General of Woods & Forests, Province of Manila.—Work on the production of the public forests of the Philippine Islands. 366
- 577 Vidal & Soler, Sebastian, Chief-Engineer of Woods & Forests, Province of Manila.—Books on forestal, woods, and climate of the Philippine Islands. 366
- 578 Inspection-General of Woods & Forests.—Books on arboriculture. 366
- 579 Loyzaga & Co., Province of Manila.—"El Comercio" (evening paper), "Revista Mercantil" (semi-monthly paper). 366
- 580 Ramirez & Girandier, Province of Manila.—"El Diario de Manila" (daily periodical). 366
- 581 Gonzalez & Moreno, Province of Manila.—"Manual del Viajero" (The Travelers' Manual). 366
- 582 The Future of the Philippines, Province of Manila.—"El Porvenir Filipino" (periodical). 366
- 583 Ramirez & Girandier, Province of Manila.—"La Ilustracion" (semi-monthly paper). 366
- 584 Gimenez & Preysler, Province of Manila.—"El Oriente" (semi-monthly illustrated paper). 366

Institutions and Organizations.

- 585 Prieto, Federico, Tabaco, Province of Albay.—Human skulls. 312
- 586 Sales, Juan, Province of Manila.—Models of negroes, Spanish mestizos, Philippine Indians, etc. 312
- Engineering, Architecture, Maps, etc.
- 587 Inspection-General of Public Works, Manila, Province of Manila.—Plans of public works. 330
- 588 Municipal Athenæum, Province of Manila.—Meteorological observations. 335

Physical, Social, and Moral Condition of Mar.

- 589 Nueva Cáceres, Bishop of, Province of Nueva Cáceres.—Books on religious instruction. 348

Aerial, Pneumatic, and Water Transportation.

- 590 Inspection-General of Woods & Forests.—Models of boats and vessels. 594
- 591 Jackson, Eduard, Province of Manila.—Model of lorchas and life-boats. 594
- 592 Arsenal of Cavite, Province of Cavite.—Models of boats and vessels. 594

PHILIPPINE ISLANDS.

Educational Systems, Methods, and Libraries.

- 572 Municipal School for Girls, Province of Manila.—Programme, etc., and pupils' work. 300
- 573 College of St. Tomas, Province of Manila.—Tables, designs, etc. 300
- 574 College of San José, Province of Manila.—Books and drawings. 300
- 575 Municipal Athenæum for Children, Province of Manila.—Album, programme of instruction, and books. 300

No. 87. UNITED STATES SIGNAL OFFICE.

This exhibit consists of a field telegraph train, with battery, wire wagons, lance trucks, a portable signal tower, and other signaling appliances. It is situated on State Avenue, opposite the English Government buildings.

No. 88. TENNESSEE STATE HEADQUARTERS.

A circular tent, containing specimens of minerals, also a portable charcoal stove patented and exhibited by Rice Moore, of Nashville, Tennessee. Situated on State Avenue, between the Maryland and Iowa buildings.

No. 89. MISSISSIPPI STATE BUILDING.

Size, 42 feet by 25 feet.

Situated on State Avenue, opposite and west of the Japanese Dwelling. The wood used in this structure is from the State of Mississippi, and numbers some hundred varieties in all.

No. 90. GEORGE'S HILL RESTAURANT.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 112 feet by 72 feet.
TALMAN & KOHN, Philadelphia.

Located in the western portion of the grounds, on George's Hill, in the vicinity of the State buildings. It is a one-story structure, built of wood, and is also called the Hebrew Restaurant.

No. 91. BISHOP RICHARD ALLEN'S MONUMENT.

Size, base 6 feet by 6 feet; height, 16 feet.

Erected in memory of the Rev. Richard Allen, founder and first bishop of the African Methodist Episcopal Church; situated between Fountain and State Avenues, west of the United States Government Buildings.

No. 92. BOSTON "DAILY ADVERTISER," AND BOSTON "HERALD."

Size, 29 feet by 16 feet.

A one-story frame building, situated on Fountain Avenue opposite northwest corner of Machinery Hall; used as the headquarters of the correspondents and attaches of the newspapers erecting it.

No. 93. AMERICAN NEWSPAPER EXHIBITION.

Architect, M. J. MORILL, Brooklyn, N. Y.—Size, 70 feet by 46 feet.
GEO. P. ROWELL & CO., New York City.

A two-story frame structure of Swiss architecture, on Fountain Avenue, near the lake. It contains a large hall, and a reading-room supplied with newspapers from all parts of the United States. In April, 1876, the United States published regularly 8129 newspapers, a number which exceeds the combined issues of all the other nations of the earth. Regular files of most of these newspapers, and sample copies of all, are alphabetically arranged for exhibition, and a printed catalogue of the whole may be obtained for twenty-five cents. Messrs. George P. Rowell & Co. conduct an agency for the reception of advertisements for all American newspapers, at their office, No. 41 Park Row, New York.

No. 94. CALIFORNIA STATE BUILDING.

Size, 55 feet by 105 feet.

A two-story frame building, situated on State Avenue, opposite the British Government buildings. It contains accommodations for the State Commissioners and visitors, also a large hall for the purpose of exhibiting specimens of the agricultural productions of California.

No. 95. CENTENNIAL FIRE PATROL, No. 1.

This building is situated at the corner of Belmont and State Avenues, and contains two steam fire engines and one truck.

No. 96. TURKISH CAFÉ.

Architect, PIERRE MONTANI.—Size, 51 feet by 65 feet.

TURKISH COMMISSION.

An octagonal frame building, with a coffee-room, parlors, and bazaars, situated on a walk between Fountain Avenue and the Avenue of the Republic, near their junction north of Machinery Hall.

No. 97. FRANK LESLIE'S PAVILION.

This building is situated at eastern end of lake, on Belmont Avenue, adjoining the office of Cook, Son, & Jenkins. It is octagonal in shape, Moorish in design, and highly ornamented. It is used as an office of Frank Leslie's publications.

No. 98. IOWA STATE BUILDING.

Size, 40 feet by 53 feet.

This is a two-story frame building, with portico in front and bay windows on both sides, located on State Avenue between the Missouri and Tennessee buildings, and used as a headquarters for Commissioners from this State.

No. 99. RHODE ISLAND STATE BUILDING.

Architects, WM. R. WALKER and T. J. GOLD, Providence, R. I.

A building of combined Swiss and Gothic architecture, situated on State Avenue, north of the Mississippi State building.

No. 100. VERMONT STATE BUILDING.

Architect, LAMOS, Ticonderoga, Vt.

A building of Doric architecture, northwest of Machinery Hall, and near Fountain Avenue. It contains an Estey organ, from Brattleboro', Vt., and files of Vermont newspapers.

No. 101. MEMORIAL HALL (ART GALLERY).

See Part II., page 9.

No. 102. ART ANNEX.

See Part II., page 10.

No. 103. THE B'NAI B'RITH MONUMENT.

Erected by the Israelites to religious liberty, and situated between the Art Gallery and its annex.

No. 104. PHOTOGRAPHIC EXHIBITION BUILDING.

See Part II., page 137.

No. 105. VIENNA BAKERY, OR COMPRESSED YEAST BUILDING.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 146 feet by 105 feet.

GAFF, FLEISCHMANN, & CO., Blissville, Long Island, N. Y.

Designed to exhibit the advantages of using compound yeast in baking. It also contains a coffee house.

No. 106. ANNEX TO MAIN BUILDING (CARRIAGES, STOVES, etc.).

See Part I., page 374.

No. 107. SWEDISH SCHOOL-HOUSE AND METEOROGRAPH.

Architects, ISÆUS & JACOBSSON.—Size, 40 feet by 50 feet.

Situated in the Swedish Government grounds, north of the Main Exhibition Building. A one-story frame house, containing school-rooms and the interior arrangements of a Swedish school-house. The framework for the building was imported from Sweden, and is on exhibition by G. O. Wengstion, of Stockholm.

METEOROGRAPH.—A one-story latticed structure east of Swedish school-house, surmounted by semi-globular cups, connected with apparatus in the interior, showing the velocity of the wind.

No. 108. JAPANESE BAZAAR.

This building is situated on Lansdowne drive, immediately north of Department of Public Comfort, and is designed for sale of Japanese wares.

No. 109. JUDGES' HALL.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 152 feet by 113 feet.

A two-story frame building, situated north of the Main Exhibition Building, containing ten committee rooms and four private rooms for the judges; also one large hall in the centre, and a smaller hall in the rear. It is intended for the accommodation of the International Board of Judges. The President of the Centennial Commission and the Chief of the Bureau of Awards have offices in this building.

No. 110. CENTENNIAL PHOTOGRAPHIC ASSOCIATION BUILDING.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 150 feet by 30 feet.

The Photographic Association have erected a one-story frame building, located north of the Main Exhibition Building on the east side of Belmont Avenue. It contains one room for the exhibition of photographs, and three rooms for photographers for working purposes.

No. 111. SHEET METAL PAVILION.

Size, 22 feet by 40 feet.

Architect, E. C. RYER.

Situated on Lansdowne drive and Belmont Avenue, opposite lake. Marshall Bros. & Co., Girard Avenue below Front Street, Philadelphia, Pa., exhibit the utilization of galvanized and leaded sheets in the construction of this building. American polished, cleaned, and refined sheets, galvanized cemetery and house work, and corrugated iron. The building itself is a specimen of the workmanship of the Kittredge Cornice and Ornament Co., Salem, O., and illustrates the application of sheet metal to architectural purposes.

No. 112. GERMAN EMPIRE PAVILION.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 83 feet by 33 feet.

Constructed of stone, one story high, furnishing accommodations for the Imperial Commissioners as well as German visitors. It is located on Lansdowne drive, between Belmont and Agricultural Avenues.

No. 113. PENNSYLVANIA RAILROAD OFFICE.

Architect, J. M. WILSON, Engineer of Bridges and Buildings, Pennsylvania Railroad Co.—Octagon, 75 feet in diameter.

A two-story frame building, situated on the northeast corner of Belmont Avenue and the Avenue of the Republic, adjoining the Judges' Hall. It is designed for the general ticket office of the four great trunk lines, viz.: New York Central, Erie, Baltimore & Ohio, and Pennsylvania Railroads. Tickets are sold to all points, and information is furnished regarding routes of travel.

No. 114. OFFICE U. S. CENTENNIAL COMMISSION.

The western wing of the Public Comfort Building. It contains offices and committee rooms, and conveniences for newspaper correspondents.

No. 115. BRAZILIAN EMPIRE PAVILION.

This structure is of wood, situated on Lansdowne drive, adjoining the German Government building, and intended for use of the Brazilian Commission.

No. 116. THE DAIRY ASSOCIATION BUILDING.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 76 feet by 25 feet; pavilion, 80 feet by 30 feet.

Situated on the north side of Lansdowne Valley, southwest of Horticultural Hall. It is a two-story rustic building, and the surrounding grounds are laid out as a garden in which is a pavilion for the additional accommodation of visitors.

No. 117. RESTAURANT LAFAYETTE.

Architect, H. J. SCHWARZMANN.—Size, 130 feet by 30 feet.

This is a two-story wooden building, located northwest of the Art Gallery, between Lansdowne drive and the brook. It is conducted on the French plan.

No. 118. DEPARTMENT OF PUBLIC COMFORT.

Architects, BALDERSTON & HUTTON, Philadelphia.—Size, 264 feet by 112 feet.

DEPARTMENT OF PUBLIC COMFORT COMPANY, Limited.

W. MARSH KASSON, Chairman, Philadelphia.

Located on the corner of the Avenue of the Republic and Agricultural Avenue, opposite the northwestern corner of the Main Exhibition Building, and fronting the Esplanade. It is a two-story frame building, containing a reception room and ladies' parlor, free to all, barber shop, coat and baggage room, lunch counter, and lavatories. Tickets for places of amusement are on sale, and a daily register of all visitors is kept. The western section of the building is occupied by the President of the Centennial Commission. Office desk room is afforded to exhibitors. The centre portion of the building is surmounted with an open-air gallery, giving a view of the grounds.

No. 119. EMPIRE TRANSPORTATION COMPANY'S BUILDING.

Architects, WILSON BROS. & Co., Philadelphia.—Size, 70 feet by 60 feet.

EMPIRE TRANSPORTATION Co., Philadelphia.

This structure is located north of the eastern end of the Main Exhibition Building, and exhibits by models the method of transportation used by the Empire Transportation Company and its auxiliaries in the United States.

No. 120. FRENCH GOVERNMENT PAVILION.

Architect, DE DARTEIN, France.—Size, 100 feet by 50 feet.

DEPARTMENT OF PUBLIC WORKS, France.

Is constructed of brick and iron, and exhibits models in relief and designs of all the public works of France executed during the last few years; also a collection of books and publications relative thereto. It is situated west of the Art Gallery, on Lansdowne drive.

No. 121. CENTENNIAL FIRE PATROL.

Architect, H. J. SCHWARZMANN.—Size: (1.) 60 feet by 58 feet. (2.) 84 feet by 74 feet.

The Fire Patrol is accommodated in two buildings, built of wood, one story high,

containing halls for the engines, stalls for the horses, and dormitories for the firemen. The smaller house is at the northeast corner of the Main Exhibition Building, and the larger at the intersection of Lansdowne drive and Belmont Avenue. They are supplied with steam fire engines, hose trucks, ladders, and patent fire extinguishers.

No. 122. THE PENNSYLVANIA EDUCATIONAL HALL.

Architects, PETERS & BURGER.—Size, 148 feet by 100 feet.

The object of this Hall is the exhibition of the educational interests of the State of Pennsylvania. It is situated north of the Art Gallery, fronting on the Lansdowne drive. The building is octagonal in shape, and contains thirty-two alcoves for the display, a large assembly room, and a reception room. The following summary represents the exhibits:

1 Representations of kindergarten, primary, grammar, and high schools, with their appropriate furniture, fittings, text-books, apparatus, and work.

Systems of graded schools, with views and models of buildings, charts of statistics, specimens of apparatus, and volumes of scholars' work.

Schools of counties, with county and township maps of school-houses, photographs of buildings, charts of statistics, and scholars' work; plans of school buildings, with systems of heating, lighting, and ventilating, and designs.

Department of Public Instruction charts, showing statistics and outline of public school system, reports, forms, certificates, and laws.

Text-books, school furniture and merchandise, school apparatus and philosophical apparatus; school ornamentation, consisting of a fountain, a series of Rogers' groups, vases, hanging baskets, statues, engravings, etc. 300

2 Academies and Seminaries, with pictures of buildings, specimens of apparatus, cabinet collections, drawings, and paintings.

Universities and colleges, with pictures of buildings, maps of grounds, views of interior rooms, charts of history and statistics, courses of study, text-books, and productions of professors and alumni.

Technical schools and departments, with drawings, casts, models of bridges, specimens of apparatus, etc. 301

3 Normal Schools.—Views of buildings and grounds, models, courses and methods of study, catalogues and reports, charts of statistics, and students' work.

Schools of Design.—Drawings, models, etc.

Commercial Schools.—Specimens of penmanship, etc. 302

4 Institution for the Blind.—Apparatus for teaching, intellectual and industrial work done by the blind.

Institution for the Deaf and Dumb.—Apparatus and methods of teaching. 303

5 Orphan Schools.—Views of buildings, scholars' intellectual and industrial work, books of record, forms and charts.

School for the Feeble-minded.—Text-books, apparatus, methods, etc. 346

6 Sunday-schools.—Collections of Sunday-school material, incentives, maps, charts, forms, and models. 348

7 Peirce's Union Business College, 39 South Tenth street, Philadelphia, Pa. Thomas May Peirce, M.A., Principal and Proprietor; Rev. John Thompson, Business Manager, Residence, 2002 Brandywine street.

BRIEF DESCRIPTION OF THE OBJECTS ON EXHIBITION. *I. Penmanship:* (A.) Seven (7) sets of resolutions engrossed by order of the Philadelphia Board of Public Education, at different times during the past five years, and borrowed from the owners for the purpose of showing the high order of talent employed by the college. (B.) The improvement in writing of fourteen hundred (1400) pupils of the college, showing the success of the penman as a teacher. (C.) A "reward of merit" engrossed by the penman, the like of which is given once a month to the pupil who makes the most improvement in writing during the month. (D.) A large piece of "Specimens of Spencerian Penmanship," and a set of resolutions, complimentary of the Principal, written by the penman, and a "deceiving picture" made with pen, brush, and pencil, by the professor of drawing, each illustrating the power and ability of the executor. (E.) A piece of ornamental penmanship with a bouquet in the centre drawn with the pen, which with the drawings in the work done for the Board of Education, show the penman's skill in pen-drawing. *II. Book-keeping:* (A.) A case of samples of merchandise used by the pupils of the college in the transaction of business among themselves in the Actual Business Department, thus furnishing each pupil with an original and independent set of transactions for his books. (B.) Samples of college currency used in the payment of bills, together with copies of the various business papers used by the students. *III. Course of Instruction:* (A.) A small piece of lettering naming the subjects taught. (B.) A diploma setting forth the subjects of examination for graduation. *IV. Objects of Institution and Classes who patronize it:* A large piece of penmanship setting forth the same in detail.

PARTICULAR MERIT WHICH THE EXHIBITOR CLAIMS FOR HIS EXHIBIT.—*I.* The highest order of talent in the penman in all the departments of work done with the pen. *II.* Superior plans for the improvement of the writing of pupils in addition to the excellence of the teacher. *III.* Ingenious and successful plans for teaching book-keeping and imparting a sound, practical, and economical preparation of young men for business life. 343

No. 123. TELEGRAPHIC BUILDING.

Architects, BALDERSTON & HUTTON, Philadelphia.—Size, 80 feet by 75 feet.

DEPARTMENT OF PUBLIC COMFORT COMPANY, Limited.

W. MARSH KASSON, Chairman, Philadelphia.

The reception room of the Public Comfort building opens from the east into the telegraphic department, which furnishes communication with every portion of the world. Is a one-story frame building opposite the northwest corner of the Main Exhibition Building, fronting the Esplanade. All of the instruments and appliances of the latest design are on exhibition and in use.

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| <p>1 Philips, Wm. J., Philadelphia, Pa.—Printing telegraph instrument, combining the bell, dial, and printing telegraph in one instrument.</p> <p>2 Phillips, Eugene F., Providence, R. I.—Covered wire for telegraphic purposes.</p> <p>3 Gray, Elisha, Chicago, Ill.—Electro-harmonic telegraph, including apparatus for transmitting tunes and eight or more messages simultaneously.</p> <p>4 Atlantic & Pacific Telegraph Co., Philadelphia, Pa.—Automatic and duplex telegraph apparatus.</p> <p>5 Gray & Barton, Western Electric Telegraph Co., Chicago, Ill.—Printing telegraph instrument, with unison attachment.</p> | <p>6 Frost & Hanline, Philadelphia, Pa.—Automatic thermostat for fire-alarm telegraph.</p> <p>7 Brooks, David, Philadelphia, Pa.—Underground cables for telegraph wires.</p> <p>8 Gamewell, J. N., & Co., New York, N. Y.—American fire-alarm telegraph, with non-interference repeaters and signal-boxes, and mechanical gong apparatus.</p> <p>9 American District Telegraph Co., Philadelphia, Pa.—District telegraph signal-boxes, with self-starting registers for messengers, guides, and interpreters.</p> <p>10 Philadelphia, Reading, & Pottsville Telegraph Co., Philadelphia.—Duplex and Morse telegraph apparatus.</p> |
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No. 124. AMERICAN FUSEE COMPANY'S BUILDING.

Size, 14 feet by 14 feet.

W. R. DAVENPORT, New York.

Situated on Lansdowne drive, north of the Judges' building.

No. 125. GLASS MAGAZINE.

Architect, H. J. SCHWARZMANN.—Size, 40 feet by 40 feet.

KLAUTSHECK, THOMAS, & STUART, Philadelphia.

This magazine is erected adjoining the Photographic Association Building, opposite the lake. It is constructed mainly of glass from the factories of the above firm, and contains a full assortment of plate and window glass, and glass shades for the accommodation of exhibitors; is two stories high, and is connected by a bridge with Belmont Avenue.

No. 126. MOORISH VILLA.

Constructed in Morocco by native workmen; exhibited by Dr. Max Schmidl, for the display of native products and fancy articles; conducted by Abd el Kader ben Katib. It is situated on Lansdowne drive, opposite Sheet Metal Pavilion.

No. 127. AMERICAN BIBLE SOCIETY PAVILION.

Architect, I. C. SIDNEY.—Size, 17 feet by 23 feet.

Located near Lansdowne Valley, south of Horticultural Hall, close to the bridge; oval in shape, and surmounted by a carved roof with a projecting cornice. It bears the inscription, "The Bible without note or comment." In front is an open Bible, and over it the text from Jeremiah xxii. 29: "O earth, earth, earth, hear the word of the Lord." Only Bibles and Testaments are sold.

No. 128. HUNTERS' CAMP.

"FOREST AND STREAM" PUBLISHING CO., N. Y., WM. C. HARRIS, Manager.

This camp illustrates sportsmen's life in the backwoods, and contains what is known as a permanent camp, built of logs and bark, with all the appurtenances of hunting and fishing, including portable boats, sporting firearms, rods and fishing

tackle ready for use, portable cooking apparatus, specimens of game birds, a kennel of sporting dogs, etc., etc. An additional feature is a lake or pond stocked with game fish, and a running stream containing brook trout. It is located in the ravine south of Horticultural Hall.

No. 129. OFFICE WATER DEPARTMENT.

A frame building situated on Belmont Avenue, next to the Glass Magazine.

No. 130. SODA WATER STANDS.

These are located at various points east of Belmont Avenue and south of Fountain Avenue.

No. 131. CIGAR STANDS.

These are situated at various points east of Belmont Avenue and south of Fountain Avenue.

No. 132. SINGER SEWING MACHINE BUILDING.

Architect, JAMES VAN DYKE, Elizabeth.—Size, 81 feet by 56 feet.
SINGER MANUFACTURING CO., New York City.

Contains an exhibit of every style of machine manufactured by the Singer Manufacturing Company, and samples of work. It is constructed of wood, and is located on Lansdowne drive, north of the Art Gallery.

No. 133. MEDICAL DEPARTMENT.

Architect, H. J. SCHWARZMANN.—Size, 65 feet by 32 feet 6 inches.

This department is instituted for the immediate gratuitous relief of accidents and sudden cases of illness occurring within the Exhibition grounds. It is located in Lansdowne ravine, equidistant from the Main Building and Horticultural Hall, and contains two wards of three beds each, for male and female patients. An ambulance is provided for the removal of patients to their homes or to city hospitals.

Officers.

WILLIAM PEPPER, M.D., Medical Director.

THEODORE HERBERTE, M.D., Secretary and Resident Physician.

JACOB ROBERTS, M.D., Member of Staff.

S. W. GROSS, M.D., Member of Staff.

H. C. WOOD, M.D., Member of Staff.

R. G. CURTIN, M.D., Member of Staff.

HAMILTON OSGOOD, M.D., Member of Staff.

DE FORREST WILLARD, M.D., Member of Staff.

No. 134. PORTUGUESE GOVERNMENT BUILDING.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 55 feet by 51 feet.

A one-story wooden structure, with cupola, located on the northeast corner of Agricultural Avenue and Lansdowne drive, and used to accommodate Commissioners and visitors from Portugal.

No. 135. BANKERS' EXHIBIT.

Architect, JAMES H. WINDRIM, Philadelphia.—Size, 69 feet by 41 feet.

Erected by the banks, bank officers, and bankers of the country for the exhibition of coins and currency. It is located east of the Art Gallery, and between the Photographic Gallery and the Vienna Bakery.

No. 136. FRENCH GLASS EXHIBIT.

R. DE BERGNE.

This building is constructed entirely of glass, and situated on Lansdowne drive, adjoining Moorish Villa. Is designed to show window glass, tiles, marble, onyx, etc.

No. 137. KINDERGARTEN.

Located north of Carriage Annex on Lansdowne drive, designed to show object teaching. Is a wooden structure, one story high.

No. 138. CENTENNIAL POLICE STATION.

Situated at northeast corner of Main Building, designed for accommodation of police, with cells for prisoners.

No. 139. PHILADELPHIA PAVILION.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 88 feet by 66 feet.

For the accommodation of the municipal government of the city of Philadelphia. It contains a hall and parlors, and a room devoted to the use of the Park Commission. It is a one-story frame building, situated on Lansdowne drive, east of Horticultural Hall.

No. 140. MUSIC PAVILION.

Pavilion with ornamented dome, situated in Lansdowne Ravine, near the bridge. For use of bands.

No. 141. BURIAL CASKET BUILDING.Architect, N. B. GLEASON, Rochester, N. Y.—Size, 42 feet by 22 feet.
SCHUYLER & ARMSTRONG and S. STEIN, Proprietors.

The exhibit consists of various designs of funeral caskets, shrouds, etc. It is a one-story frame house with turrets, and is situated on Lansdowne drive near the bridge, and north of Art Gallery Annex.

No. 142. PERFORATED METALS.

This is a one-story brick building with skylight, located between the Carriage Annex and Lansdowne drive, and designed to show the practicability of using perforated window blinds in dwellings.

No. 143. RUBBER ROOFING.

This building is situated on Lansdowne drive, between the Carriage Annex and Pennsylvania Educational Hall. It is octagonal in shape, and surmounted by a tower ten feet high. The exhibit consists of rubber roofing.

No. 144. OFFICE OF CUBAN ACCLIMATION GARDEN.

See Part IV., page 134.

Architect and Manager, JULES LACHAUME.—Size, 12 feet by 25 feet.

This structure is designed to show tropical produce, seeds, vegetable physiology, and rustic work, and is situated directly south of Horticultural Hall.

No. 145. NAVAL GROUP.

This bronze statue is situated on the plaza immediately west of Art Gallery.

No. 146. DYING LIONESS.

This bronze work of art is in the plaza due east of Art Gallery.

No. 151. HORTICULTURAL HALL.

See Part IV., page 147.

No. 152. AGRICULTURAL HALL.

See Part IV., page 9.

No. 153. WOMEN'S PAVILION.

See Part III., page 85.

No. 154. FROBEL'S KINDERGARTEN.

Architect, JAMES P. SIMS.—Size, 45 feet by 18 feet.

Situated northeast of the Women's Pavilion. Contains specimens of school work, and illustrates the operation of kindergarten teaching.

No. 155. NEW JERSEY STATE BUILDING.

Architect, CARL PFEIFFER, New York.—Size, 56 feet by 82 feet.

A two-story wooden building erected for the accommodation of the New Jersey State Commissioners, containing offices and private rooms. It is situated on Belmont Avenue, adjacent to the Women's Pavilion. Messrs. Hall & Son, of Perth Amboy, N. J., furnished the brick in the chimney, and Messrs. Maurer & Brevier, of Perth Amboy, the tiles used in the roofing of the building.

No. 156. THE "SOUTH" RESTAURANT.

Architects, H. J. SCHWARZMANN.—Size, 182 feet by 92 feet.

E. MERCER, Atlanta, Ga.

Situated on the northwest corner of State and Belmont Avenues, and is a one-story frame building.

No. 157. KANSAS AND COLORADO STATE BUILDING.

Architect, E. F. KARR.—Size, 132 feet square.

This structure is intended for the accommodation of the Commissioners from the States of Kansas and Colorado, and also for exhibition purposes. It is a two-story wooden building, containing an exhibition hall, private rooms and offices, and is situated east of the Southern Restaurant. The Kansas exhibit consists of agricultural products, minerals, silk cocoons, building stone, cotton, plaster of Paris, birds and animals.

The Colorado exhibit embraces mineral, geological, and ornithological specimens, petrifications, views of Colorado scenery, the Maxwell cabinets of minerals, birds and animals of the Rocky Mountains, etc.

No. 158. NEW ENGLAND FARMER'S HOME AND MODERN KITCHEN.

Size, 49 feet by 35 feet.

MISS E. B. SOUTHWICK, Boston.

A representation of a New England farmer's home 100 years ago, combined with a modern kitchen, thus illustrating 1776 and 1876. It is one story high, and situated on the corner of State and Agricultural Avenues.

No. 159. THE AMERICAN RESTAURANT.

Architects, H. J. SCHWARZMANN, HUGH KAFKA.—Size, 300 feet by 200 feet.

TOBIASON & HEHLBRUN, Philadelphia.

Situated between Agricultural and Horticultural Halls. The seating capacity is five thousand. The banquet room accommodates six hundred guests. The waiters

speak various languages. There is a pavilion devoted to ice cream, etc. A bill of fare will be served either *à la carte* or *table d'hôte*.

No. 160. GERMAN RESTAURANT.

Architect, H. J. SCHWARZMANN.—Size, 200 feet by 150 feet.

PHILIP J. LAUBER, Philadelphia.

Contains three acres for garden arrangements, and is situated north of Horticultural Hall, on Lansdowne drive.

No. 161. TEA AND COFFEE PRESS EXTRACT BUILDING.

Architects, HAYES & McIVOR, Elmira, N. Y.—Size, 100 feet by 45 feet.

A two-story frame building, composed of four observatories connected by verandas. Located opposite the southeast corner of the Agricultural Building, and devoted to the exhibition of the process of making coffee, tea, and other extracts, by means of pressure caused by the expansion of the materials used.

No. 162. BUTTER AND CHEESE FACTORY.

Size, 100 feet by 116 feet.

A model factory, three stories high, built of wood, and situated east of the Agricultural Building, between it and Lansdowne drive.

No. 163. SODA WATER STANDS.

These structures are located at various points east of Belmont and north of Fountain Avenues.

No. 164. CIGAR STANDS.

These stands are found at various points east of Belmont and north of Fountain Avenues.

No. 165. FARM WAGON ANNEX.

See Part IV., page 135.

No. 166. POMOLOGICAL ANNEX.

See Part IV., page 135.

No. 167. BREWERS' BUILDING.

See Part IV., page 136.

No. 168. APIARY.

See Part IV., page 140.

No. 169. PACIFIC GUANO COMPANY'S PAVILION.

MR. JOHN M. GLIDDON, Manager.

This is, in style, similar to a Moorish kiosk. The exhibit consists of various products of the soil, guano in its various processes of manufacture, models of company's works at Wood's Hole and Chisolius Island, fossil remains, etc., while several acres of ground, in close proximity to their pavilion, are planted in cotton, cane, tobacco, etc., to demonstrate the efficacy of their manufacture. The building is situated on Fountain Avenue, east of Women's Pavilion.

No. 170. ANNEX TO HORTICULTURAL HALL, OR SPECIAL FLOWER PAVILION.

This building is made of glass and iron, located immediately north of Horticultural Hall, and is intended for the display of specialties in flowers.

No. 171. WIND MILLS.

See Part IV., page 140.

No. 172. "PRACTICAL FARMER" (NEWSPAPER OFFICE).

See Part IV., page 140.

No. 173. HAY PRESS.

One Dedrich portable engine, six horse-power, for running hay presses. The presses take in loose hay, baling and banding 20 tons to the hour, or 280 bales.

No. 174. CENTENNIAL POLICE STATION.

A frame building situated east of Hay Press and Agricultural Hall, intended for accommodation of Centennial Guards.

No. 175. SAFETY ELEVATED RAILWAY.

ROY STONE, Proprietor.

This railroad is situated over Belmont Ravine, north of Horticultural Hall. It was designed by Roy Stone, and first erected at Phoenixville, Pa. Examined and fully approved by eminent engineers. Brought here as an exhibit and for conveyance of passengers under the concession to West End Railroad Co. Intended for rapid transit in cities, or for very cheap country railroad for passengers and freight.

No. 176. BOILER HOUSE.

Situated east of Agricultural Hall, and furnishes steam for engine in that building.

No. 177. VIRGINIA STATE BUILDING.

A frame structure one story high, with veranda all around, situated on State Avenue east of the Kansas and Colorado building, facing Horticultural grounds.

**No. 178. THE PROTECTIVE FIRE APPARATUS COMPANY
OF NEW YORK.**

Size, 8 feet by 10 feet.

This is a one-story wooden building, situated on Agricultural Avenue, west of Agricultural Hall, and is designed to display fire extinguishers.

No. 179. POP-CORN STAND.

Situated at corner of Agricultural Avenue, near station of Narrow-Gauge Railroad.

**No. 180. FOUNTAIN OF THE JORDAN L. MOTT IRON
WORKS OF NEW YORK.**

Located east of Horticultural Hall. This is an iron fountain 45 feet in diameter and 26 feet high. There are four figures at the base, and the top is surmounted by the design of "Venus Rising from the Sea."

In the interior of the different buildings are located several fountains of varied designs.

INDEX OF EXHIBITORS.

DEPARTMENT V. AND SPECIAL BUILDINGS.

A.

- Abbe, Mrs., Cushions, 89.
 Abbey, L., Vestments, 99.
 Abbott, Mrs. E. F., Dressing stand, 92.
 Abbott, J. M., Holly, 129.
 Abendroth & Root, Boiler, 52.
 Abendroth & Root Mfg. Co., Boiler, 37.
 Abookoff Steel Foundry, Axles, etc., 70.
 A. C. C., Embroidered cushion, 101.
 Acero, A., Sumac, 140.
 Ackerman, Mary, Painting, 94.
 Adams, Miss Elizabeth, Painting, 94.
 Adams, J., & Co., Life boat, etc., 50.
 Adams, J. L., Tobacco cutter, 59.
 Adams & Keen, Leather, 116.
 Adams & Shaler, Leather, 113.
 Adelskold, C., Model, 66.
 Adler & Clement, Shoes, 106.
 Administration of Mining District, Plan, 69.
 Admiralty Electroplate Establishment, 69.
 Admiralty Tyova Works, Tackle, etc., 70.
 Agrarian Committee, Machine, 67.
 Agricultural Department U. S., 79.
 Agriculture, Board of, Memoirs, 134.
 Aguilar, Mayor M., Books, 134.
 Aguilar, S., Books, 132.
 Aguilera, F., Sumac, 140.
 Aguilera y Martinez, School books, 136.
 Aguirre, F., Clock, 138.
 Aiken, Henry, Hydrostatic machine, 26.
 Air Burning Co., Ironing table, 55.
 Alafoozoff & Alexandroff, Leather, 116.
 Alagoás, Province of, Embroidered work, 102.
 Alará, Mariano, Book, 137.
 Alauzet, Printing presses, 60.
 Albright, A., Harness, 109.
 Albright & Stroh, Coal separator, 17; Fire
 plugs, etc., 41.
 Alcott, T. J., Water wheel, 36.
 Aldama, L. de, Book, 136.
 Alexander Bros., Belting, 38, 53.
 Alexander, Miss E., Illumination, 97.
 Alexander, E. H., Skins, 114.
 Alexander, E. S. & M. S., Sulphur water, 127.
 Alexander, W. A., Calc spar, 126.
 Alexander, W. A., Wheat, 129.
 Alexandroosky, Air bags, 70.
 Alisoff, M., Machine, 69.
 Allen, Mary W., Chess table, 87.
 Allen, S. B., Steam governor, 40.
 Allen, T., President Missouri Com'n, 130.
 Allen's, Josiah J., Sons, Anti lamina, etc., 39.
 Alléoud, E., Pumps, 62.
 Allis, E. P. & Co., Engine, 38; Boiler feed
 regulator, 39; Separator, 49.
 Allis, E. S., & Co., Saw-mill machinery, 22.
 Allison & Bannan, Engines, 41.
 Allison, W. C., & Sons, Tubing, etc., 45.
 Almeida, A. B. d', Counterpane, 101.
 Almela y Vinet, F., Photographs, 139.
 Almirante, J., Dictionaries, 136.
 Alonso, Arsenio, Plan, 139.
 Alsing, J. R., Model, 65.
 Alter, F., & Co., Boots, 106.
 Alvarez Carretero, Antonio, Books, 137.
 Alvarez de Araujo y Cuéllar, Angel, Books,
 137.
 Alvarez Gimenez, E., Studies, 136.
 Alvarez, Romualdo, Books, 135.
 Alvear y Lara, F., Water supply, 138.
 Alves, M. R., Toilet covers, 102.
 Ambler, W., Machines, 54.
 Amer, Wm., & Co., Leather, 115.
 American Buttonhole Overseaming & Sewing
 Machine Co., Machines, 30; Work, 89.
 American Cable Screw Wire Co., 111.
 American Diamond Rock Boring Co., 17.
 American District Telegraph Co., 147.
 American Dredging Co., Dredges, 52.
 American Engine Co., Engines, 34.
 American File Co., Files, 28.
 American Fusee Co., Fusees, 147.
 American Inlaid Wood Co., 124.
 American Life Saving Suit Co., 51.
 American Meter Co., Meters, 19.
 American Novelty Shoe Co., Shoes, 107.
 American Oil Cabinet Co., 39.
 American Paper Car Wheel Co., 47.
 American Road Steamer Co., 35.
 American Saw Co., Saws and machines, 24.
 American Sheet & Boiler Plate Co., 124.
 American Ship Windlass Co., 52.
 American Shoe Tip Co., Toe protector, 111.
 American Steamship Co., Models, 52.
 American Tube Works, 44.
 American Tubular Iron & Steel Ass'n, 38.
 American Twist Drill Co., 23, 52.
 American Watch Tool Co., Lathes, 24.
 American Whip Co., Whips, etc., 110.
 American Wooden Shoe Co., Shoes, 108.
 Amersfoordt, Mrs. H. M., Oratorio, 100.
 Ames & Frost, Dovetailing machine, 19.
 Ames Iron Works, Engines, 34.
 Ames Manufacturing Co., Engine lathes, 25.
 Amherst Stone Co., Stone, 123.
 Amoskeag Manufacturing Co., Engines, 53.
 Andersdotter, M., Embroidery, 100.
 Anderson, Miss Ellen D., Shutter fastener, 87.
 Anderson, J. P., Graters, 49.
 Andersson, A., Paintings, 100.
 Andrew, J. E. H., Tobacco machines, 56.
 Andrews, E., Saw sharpener, 19.
 Andrews, W. D., Boiler, 52.
 Angel Rehuet, widow of, Book, 135.
 Angus, G., & Co., Leather, 116.
 Ankarsums Works, Switches, 66.
 Annear, J., Blacking, 105.
 Anthony, Miss Margaret M., Painting, 93.
 Anthony, Mrs. Sarah E., Embroidery, 89.
 Antiguedad, C., Books, 133.
 Appert-Mandart, Hooks and clasps, 61.
 Appleby Bros., Steam cranes, 55.
 Appold, G., & Sons, Leather, 113, 115.
 Aquometer Steam Pump Co., 40.
 Aramburu, Ricardo, Picture, 139.
 Aranjó, G. M. d', Handkerchief, 101.
 Araño y Majó, Miguel, Books, 135.

Arbel, L., Wheels, etc., 61.
 Arbey, F., Machines, 60.
 Arboga Foundry & Machine M'fg Co., 66.
 Arce, Inocencio, Photograph, 139.
 Archbold, S., Meter, 42.
 Archer & Brownell, Machine, 49.
 Archillas y Lopez, R., Book, 137.
 Arias, V., Guitars, 138.
 Ariza y Campano, José, Picture, 139.
 Armallanes, Corporation of, Pitch, 141.
 Armstrong, A., Minerals, 126, 128.
 Armstrong, Brother, & Co., Cork cutter, 21.
 Armstrong Heater Manufacturing Co., 35.
 Armstrong, J. M., Music plates, 33.
 Army Arsenal, Rio de Janeiro, Guns, 68.
 Arnanz, José, Engraving, 139.
 Arnold, Mrs. John H., Pincushion cover, 89.
 Asbestos Patent Fibre Co., Steam joints, 39.
 Asensio y Toledo, J. M., Books, 135.
 Ashcroft, E. H., Gauges, etc., 39.
 Asile de la Providence, Plans of buildings, 99.
 Aspinwall & Low, Coal, 127.
 Association for the Protection of Young Artisans, Madrid, Memoirs, 135.
 Assumpção, M. M., Handkerchief, 101.
 Astronomical & Meteorological Observatory, Madrid, Observations, 135.
 Astronomical Observatory of San Fernando, Annals, etc., 137; Instruments, 138.
 Athenæum of Barcelona, Reports, 135.
 Atkins, E. C., & Co., Saws, 19.
 Atkinson, L. H., Crayon portrait, 96.
 Atlantic & Pacific Telegraph Co., 147.
 Atlas Manufacturing Co., Burr picker, 29.
 Atterberg, A. J., Drawing, 66.
 Atwater, Miss C. A., Paper lace, 90.
 Atwood Railway Wheel Co., 47.
 Aub, Hackenburg, & Co., Silk, 107.
 Aubin & Baron, Bolting mill, 61.
 Auerbach, Mrs. Annie T., Embroidery, 89.
 Auger, E., Ship models, 59.
 Aultman, Miller, & Co., Dynamometer, 39.
 Austen Coal Company, Coal and coke, 127.
 Automatic Book Sewing Machine Co., 33.
 Automatic Gas Governor Co., 19.
 Automatic Scale Co., 46.
 Avela, Eduardo, Almanacs, 135.
 Averill Chemical Paint Co., Paint, 18, 121.
 Avery, J. G., Thread, 28; Wool spinner, 29.
 Avila, Calixto, Book, 137.
 Avila Normal School, Books, 135.
 Avilés y Merino, F., Resin, 140.
 Ayllon, R., Music, 134.
 Ayuso de las Heras, A., Madder, 140.
 Azpiazu, J. A. de, Penmanship, 132.

B.

Babbitt, F. S., Lathe, 22.
 Babcock Manufacturing Co., Engines, 43.
 Babcock & Wilcox, Boiler, 34.
 Babson & Dwight, Fire escapes, 43.
 Bach, Jennie & Flora, Table cover, 88.
 Bache, Miss J., Crayon picture, 96.
 Bacheller, C. H., & Co., Boots, 106.
 Backus, Q. S., Bit braces, etc., 28.
 Bacon, Mrs. L. C., Shades, 90.
 Badger, Mrs. C. M., Paintings, 95.
 Baer, A. P., & Co., Bark, 112; Leather, 113.
 Bagge, C., Embroidery, 100.
 Bagger, L., Printing press, 32.
 Baggs, J. T., Sawing machine, 21.
 Bagley & Sewall, Force pumps, 41.
 Bahia, Arsenal at, Drum, tools, 68.
 Bahia, Ladies of Province of, Flowers, 102.
 Bailey, H. F., Paper cuttings, 90.
 Bailey Wringing Machine Co., 27.
 Bailly Bailliére, C., Books, 134, 136.
 Baily & Co., Elevator, 42.
 Bain, J. W., Type writer, 33.
 Bainbridge, E., Lamp, 56.
 Baird, Mrs. A. G., Moss picture, 100.
 Baird & Huston, Boiler, 35; Engines, 37, 51.

Baird, Prof. S. F., Commissioner, 72.
 Baird, W., & Co., Cutter, 54.
 Baker, Chas. H., Tuyeres, 18.
 Baker, G. W., Machine, 111.
 Baker, J. A., Architect, 131.
 Balderston & Hutton, Architects, 147.
 Baldwin, P., Ship model, 59.
 Ball, A., Coal, 127.
 Ball, C. A., & Co., Trucks, 46.
 Ball, Edwin P., Stamping machine, 18.
 Ball, Mrs. S. P., Smoothing iron, 87.
 Ballard, G. W., Tobacco, 130.
 Ballauf, L., Leather, 114.
 Ballester, Guillermo, Memoirs, 137.
 Baltimore Calfskin Association, Calfskins, 114.
 Baltimore Car Wheel Co., 47.
 Baltimore Pearl Hominy Co., 49.
 Bancroft, E. F., & Co., Boots, 108.
 Bancroft, Sarah H., Bathing chair, 87.
 Banister & Tichenor, Shoes, 106.
 Banjoy, N. L., Wreath, 129.
 Bankers' Exhibit, Coins, etc., 148.
 Banks, Miss F. M., Carved organ, 91.
 Banolas, R., & Co., Fire extinguishers, 64.
 Baños, Corporation of, Burrs, 141.
 Barber & Harris, Water wheel, 58.
 Barber & Son, Flume, 36.
 Barcelona, Corporation of, Reports, 137.
 Barcelona, Normal High School, Books, 135.
 Barcelona, Society of Friends of Instruction, Memoirs, etc., 135.
 Barcelona, Society of Industrial Engineers, Publications, 135.
 Barclay, Mrs., Berlin wool work, 99.
 Bardes, L. C., Leather, 114.
 Bare, J., Leather, 113.
 Barker, E. W., Car coupler, 48.
 Earnard, A. B., Mangles, 31.
 Barnard & Leas M'fg Co., Scourers, 49.
 Barnes, C. C., Pump, 58.
 Barnes, J. H., Coal, 126.
 Barnes, W. F. & John, Lathes, 19.
 Barnett, G. & H., Files and rasps, 27, 111.
 Barnett, O., Castings, 27.
 Barney, Mrs. Sarah E., Paintings, 95.
 Barnuevo, M., Seed, 141.
 Barnum Richardson Co., Car wheels, 47.
 Barr, R. J., Steam trap, 53.
 Barrett, Elizabeth G. B., Poems, 91.
 Barrett, Mrs. T. M., Carved cabinet, 92.
 Barrill, J., Ship model, 59.
 Barrios, C., Works, 134.
 Barrows & Boyd, Shoes, 106.
 Barth, A., & Co., Leather, 115.
 Bartlett & Doak, Boots, 106.
 Bartlett, H. A., & Co., Blacking, 105.
 Bartlett, J. W., Sewing machines, 30.
 Bartlett, P. W., Wheat, 129.
 Bartlett & Riley, Wheat, 129.
 Bartolomé & A. Castelvi, Measures, 138.
 Barton, C. S., Indicator, 46.
 Barton, I., Crayon picture, 96.
 Bary, A. B., Architect, 120.
 Bass, J. P., Burnisher, 33.
 Bassett, D., Wheat, 129.
 Bashor, T. C., & Co., Engine valve, 44.
 Bastet Magnetic Engine Co., 38.
 Bastida, P. de la, Books, 134.
 Bastinos, Antonio J., Books, 137.
 Batcheller, E. & A. H., & Co., Shoes, 107.
 Bates, B., Carbonators, 44.
 Bates, Mrs. Edward, Hand spinning, 87.
 Bates, James, Elevator, 43.
 Batley, John, & Co., Shaping machine, 26.
 Battle Creek Machinery Co., Machine, 20.
 Bauerfeind, A., Leather, 116.
 Baugh & Sons, Grinding mills, 17.
 Baxter, C. M., Band saws, 19.
 Baxter Steam Engine Co., 37, 53.
 Bayless, John, Tuyere, 23.
 Bay State Shoe & Leather Co., 106.
 Beach & Dodge, Leather, 113.
 Beach, Edith, Child's rug, 88.
 Beach, H. L., Scroll-sawing machine, 20.

- Beach, Mrs. John S., Book, 91.
 Beamisdarfer & Eby, Rock drills, 17.
 Bean, H. & B. F., Mail pouch holder, etc., 48.
 Bean, J., Wheat, 129.
 Bean, Joseph H., Gas machine, 19.
 Bean, P., Buckwheat, 129.
 Beatty, Francis S., Transfer machines, 55.
 Beautey, H., Dragging apparatus, 59.
 Beccari, A. G., Newspaper, 100.
 Bechtel, J. A., & Son, Leather, 113.
 Beck, C., Paper box machinery, 33.
 Becker, A., Card clothing, 57.
 Becker & Sons, Balances, etc., 46.
 Beckley, A., Coal, 127; Timber, 129.
 Beckwith Sewing Machine Co., 30.
 Bede & Co., Machine, 64.
 Bedell, O. T., Wrench, 27.
 Beesley & Sons, Shearer, 54.
 Begin, P. N., Headlight, 50.
 Beiser, A. & J., Leather, 115.
 Belfield, H., & Co., Valves, etc., 39.
 Bell, Lucy A., Portrait of Gov. Bell, 93.
 Bell, Mrs., Colored crayons, 95.
 Bellé, R., Needles, 62.
 Benkert, C., & Son, Boots, 107.
 Benson, J., Boot legs, 116.
 Benson, A. M., Stave machinery, 22.
 Bent, S. S., Grate bars, 34.
 Bentel, Margedant, & Co., Machines, 21.
 Berea Stone Co., Sandstone, 123.
 Bergström, J. W., Screw cutting machine, 65.
 Bernaldez, E. Books, 138.
 Berteau, S., Machine, 67.
 Berthelot, Sabino, Books, etc., 137.
 Beson, Eduardo Augusto de, Works, 137.
 Besson, E. A., Books, 134.
 Beuthner Bros., Carders, 62.
 Beverly, Mrs. O., Knitted shawl, 99.
 Bevington & Winters, Glass furnace, 27.
 Beyer Bros., Machines, 61.
 Bianchini, E., Cork carvings, 100.
 Bibb, B. C., & Son, Fireplace heater, 39.
 Bilibioni, José, Design, 139.
 Bickerton, Mrs. A. B., Wax flowers, 97.
 Bickford, D., Knitting machines, 31.
 Bieunemback & Bro., Chair of cast iron, 68.
 Biglow, H. B., & Co., Boilers, 34.
 Biggs, B. F., & Wells, Pump, 41.
 Billings & Spencer Co., Hardware, 27; Sewing machine shuttles, 30.
 Bing, J., Mangle, 31; Water wheel, 36; Brake shoe, 46.
 Bird, J., Press, 50.
 Birkinbine, H. P. M., Valves, 43.
 Birkinbine, J., Fire hydrant, 44.
 Birrenback & Bros., Hand mill, etc., 68.
 Bixby, S. M., & Co., Blacking, 105.
 Bjorkman, C. R., Drawing, 66.
 Black River Stone Co., Stone, 123.
 Blaisdell, J. H., & Co., Machine, 21.
 Blake Crusher Co., Crushers, 17.
 Blake, G. F., Manufacturing Co., Pump, 41.
 Blake, L., Can, 129.
 Blake Manufacturing Co., Pumps, 53.
 Blake, M. J. S., Surgical instrument, 90.
 Blakemore, Mrs. J. W., Painting, 95.
 Blancke, C. W. J., & Co., Gauges, 62.
 Blandy, H. & F., Engines, 37.
 Blanke, E. A. R., Packing, 62.
 Blasquez, E., Chromos, 139.
 Blauvelt, Mrs. Mary, Gauge, 88.
 Bliss, Mrs. Lydia S., Panel, 94.
 Bliss & Williams, Presses, 25.
 Block, A., & Co., Skins, 116.
 Bloomery Iron Works, 126, 128.
 Blyth, Miss, Table top, 100.
 Boa Viagem, Baroness da, Pillow shams, 101.
 Bockius, Geo., Leather, 115.
 Bodemer, G., Spinning apparatus, 62.
 Bodine Manufacturing Co., Turbine, 36.
 Boeck, C., Combing machines, 57.
 Boese, C., & Co., Capping machines, 50.
 Boggs, J. C., Ore, 126.
 Boggs Run Mining Co., Coal, 127.
 Bolen, Crane, & Co., Press, 42.
 Bolinders, J. & C. G., Machine M'fg Co., 65.
 Bolles, J. N., Boring machinery, 17; Engine, 37; Models, 50.
 Bollinger, O. J., Water wheel, 36.
 Bollulos del Condado, Corporation of, 140.
 Bond, E., Iron ore, 126.
 Bondi, B., Drawings on stone, 96.
 Bonney, Sarah E., Muff, 88; Birds, 98.
 Boomer & Boschert Press Co., 33.
 Booth, H., & Co., Machine, 54.
 Borao, Gerónimo, Dictionary, 135.
 Borja y Alarcon, P., Studies, etc., 132, 138.
 Borrell, M., Arts, 134.
 Borzina, L., Water color, 101.
 Bosler, M., Limestone, 123.
 Boston & Fairhaven Iron Works, Presses, 32.
 Boston Piston Meter Co., Meter, 42.
 Boteler, A. R., Ore, 126; Ochre, 128.
 Bourdin, Motor, 61.
 Bourne, Miss B., Paintings, 100.
 Bowes, E., & Son, Pumps, 58.
 Bowron, Wm. M., Furnace, 18.
 Bowser, J. C., Engine and boiler, 110.
 Boyd, G., Coffee roaster, 50.
 Boyd, Mrs. Kate, Painting, 94; Designs, 97.
 Boyer, W. P., & Co., Blacking, 105.
 Boynton & Bancroft, Soles, 106, 108.
 Boynton, E. B., Saws, 20.
 Boynton, Mrs. E. E., Tea kettle, 87.
 Bradford, Anne H., Painting, 95; Shells, 97.
 Bradford, H., Coal separator, 17.
 Bradford, W. H., Models, 56.
 Bradlee & Co., Cable chains, 50.
 Bradley, Miss A. J., Crystallization forms, 90.
 Bradley, J., & Co., Excavating apparatus, 41.
 Bradley Manufacturing Co., Hammers, 23.
 Bradley, Mrs. N. M., Suspenders, 89.
 Brainard, C. R., Copy distributor, 33.
 Brainard, Miss M. M., Wood carving, 91.
 Brainard Milling Machine Co., 27.
 Branch, Crookes, & Co., Saws, 25; Hanger, 38.
 Branche, H., Tools, 60.
 Brandon Manufacturing Co., Scales, etc., 46.
 Brashear, Miss Lillie, Flower stand, etc., 92.
 Braughan, J. J., Tobacco, 130.
 Braun, F., Skins, 114.
 Bravo, Miss Sophia, Pincushion cover, 89.
 Bray, M. H., Marine algae, 98.
 Brayton, G. B., Engine, 37.
 Brazil Commission, Flowers, 102.
 Brazil, P., Cider mill, etc., 58.
 Breed, A. F., Shoes, 108.
 Breed, F. W., Shoes, 108.
 Breed, W. F., Dole, & Co., Shoes, 108.
 Breguet, Machines, 60.
 Brehmer, E. F. A., Machine, 65; Stamps, 66.
 Bridgewater Iron Co., Forgings, 44.
 Brierly, Sons, & Reynolds, Signals, 56.
 Briggs, N. A., Washing machine, 31.
 Brisbane, A., Pneumatic tubes, 119.
 Briz, F. P., Songs, 133.
 Broadbent, T., Hydro extractor, 55.
 Broadbooks & Co., Folding chairs, 24.
 Broxley, J., & Sons, Carpets, 98.
 Bronx Wool & Leather Co., 116.
 Brooke, H., Glass moulds and presses, 27.
 Brookes, W., & Sons, Saddlery, 116.
 Brooks, C. S., Cutting system, 88.
 Brooks & Cooper, Anvils, 54.
 Brooks, D., Cables, 147.
 Brooks, E. A., Shoes, 106.
 Brooks Locomotive Works, 45.
 Broosnitzine, N., & Sons, Leather, 116.
 Brosse, Madame S. C., Models, 88.
 Brothers, Mrs. H., Wax flowers, 97.
 Brotherson, Mrs. H. B. M., Poem, 91.
 Brown, Miss, Needlework, 99.
 Brown, Aug. P., Boiler fixture, etc., 39.
 Brown, A. P., & Co., Shoes, 106.
 Brown, B. F., & Co., Blacking, 105.
 Brown & Carver, Card cutters, 33.
 Brown, C. H., & Co., Engine, 38.
 Brown, Edward, Pyrometers, 39.

- Brown, E. T., & Co., Leather, 113, 114.
 Brown, Miss Fanny G., Sofa pillow, 89.
 Brown & Fergus, Steam injector, 40.
 Brown, Nettie, Guipure, 88.
 Brown, S. H., Veneers, 129.
 Brown & Sharpe, Milling machines, 23.
 Brown, Son, & Co., Water wheel, 36.
 Brown, T. L., Iron ore, 126; Coal, 127.
 Brownscombe, Jennie, Painting, 94.
 Brownscombe, J., Designs, 97.
 Browse, R. H., Sandstone, 127; Wood and iron, 129; Flax, 130.
 Bruce's, G., Son, & Co., Type, 33.
 Bruning, H. W., Leather, 116.
 Brunon Bros., Wheels, etc., 61.
 Brush, G., Engine, 58.
 Brush, Miss Jennie, Lambroquins, 88, 90.
 Bryan & Snyder, Silverware, 18.
 Bryant, Miss, Drawing on stone, 96.
 Bryant, G. B., Car wheels, axles, 47.
 Bryant, J. L., & Co., Life boat, 50.
 Brydon, R., Car, 58.
 Bubier, S. M., & Sons, Boots, 106.
 Buck, C., Leather, 113.
 Buck, I. D., Washing machine, 31.
 Buck, Martin, Boring machine, 22.
 Buckeye Engine Co., Shingle machine, 21, 37.
 Buerman, A., Saddlery, 109.
 Buffalo Scale Co., Scales, 46.
 Buffalo Steam Gauge & Lantern Co., 39.
 Buffum, C., Boots, 108.
 Bulfinch, Miss Ellen S., Book rack, 87.
 Bulkeley, J. E., & Sons, Leather, 113.
 Bullard, Miss, Painting, 95.
 Bullock, C. K., Machinery, 48.
 Bullock Printing Press Co., Presses, 32.
 Bullock, T. H., & Co., Bellows, 23.
 Bulmer & Sheppard, Brick machine, 57.
 Burdie, Mrs. A. S., Moss roses, 90.
 Burgess Proof Press Co., Proof press, 33.
 Burgess & Sons, Belting, 38, 53.
 Burgess, Warren, Blowpipe, 26.
 Burgos, Province of, Woods, 140.
 Burgos, Provincial Comn. of, Hoops, 140.
 Buringer Bros., Ohio coat of arms, 124.
 Burr, Wm. B., & Co., Cork machine, 19.
 Burlough Rock Drill Co., 41.
 Burnet, William, Lubricator, 39.
 Burnham, N. F., Water wheel, 36.
 Burnham, Parry, Williams, & Co., Locomotives, 45.
 Burns & Degnan, Side saddle, 110.
 Burr & Co., Tackle blocks, 50.
 Burr, Wm. H., Apparatus, 19.
 Burt, C. S. & S., Shingle-sawing machine, 21.
 Burt, Edwin C., Shoes, 106.
 Burt, F. H., & Son, Leather, 112.
 Burt, Miss Helen, Paintings, 93; Drawing, 96.
 Burt, Martha, Painting, 94; Crayon, 95.
 Burt & Mears, Shoes, 106.
 Burt & Putnam, Washer, 31.
 Burton, Mrs. Mary H., Drawing, 95.
 Burton, S., & Son, Engine, 53.
 Burton, Susie, Tapestry picture, 88.
 Bush & Howard, Leather, 114.
 Bush & Smith, Wood-working machinery, 21.
 Bush, W., & Co., Leather, 115.
 Buss, Charles, & Sons, Saws, 19.
 Bustamente & Gallo, Mosaic, 139.
 Bustin, Robert, Fire escapes, 22, 58.
 Busto y Lopez, A., Treatise, 133.
 Butler Braider Co., Braiding machinery, 30.
 Butler, Brown, & Co., Ring travelers, 28.
 Butler, Dunn, & Co., Leather, 115.
 Butterfield, W., & Co., Fastener, 107.
 Butterworth, H. W., & Sons, Drying machines, 28; Iron, 37.
 Butterworth, J., & Son, Rag picker, etc., 29.
 Button, L., & Son, Fire engine, 44.
 Buzby, A. G., Water motor, 36.
 Buzzell, J. G., & Co., Machines, 111.
 Byers & McIlhainy, Stone, 123.

C.

- Cabello y Aso, L., Essays, 133.
 Cabezuclas, Count of, Saffron, 141.
 Cain, P. O., & Co., Moulds, 49.
 Caldwell, Miss Hattie D., Cross, 92.
 Caldwell & Mather, Melting furnace, 18.
 Caldwell & Tod, Stone, 123.
 Calkins Champion Washer Co., 31.
 Calleja Sanchez, J., Works, 134, 138.
 Caller, Alice, Panel, 93; Painting, 94.
 Callery, J., & Co., Leather, 114.
 Calvo y Pereyra, Works, 134.
 Camacho de Diaz, S., Paper work, 140.
 Camara, M. H. de, Periodical, 136.
 Camden Consolidated Oil Co., 128.
 Camden, P. B., Sandstone, 127.
 Cameron, Hon. J. D., Secretary of War, 72.
 Camilo Jover, Nicasio, Newspaper, 137.
 Camozzi & Schlösser, Railway switch, 62.
 Campbell & Clute, Table, 30.
 Campbell, G., Saw forges, 57.
 Campbell Printing Press Co., Presses, 32.
 Campillo y Correa, N., Rhetoric, 132.
 Campos, M. M., Woods, 140.
 Canadian Commission, Lumber, 130.
 Cañarte, B. R., Album, 69.
 Candee, Mrs. C. T., Pansies, 90.
 Canfield, M. B. & I., Shoes, 106.
 Canfield Manufacturing Co., Packing, 39.
 Cannon, J. D., Boat, 51.
 Cantley, R. K., Minerals, 126.
 Capon Iron Works, Ores, 126, 128.
 Capron Water Wheel Co., 36.
 Carderera, M., Books, 134; Dictionary, 136.
 Carderera y Solano, Iconography, 139.
 Carl, F., Model, 110.
 Carlisle & Elliott, Safety lock, 42.
 Carlisle, Mason, & Co., Chain, 37.
 Carlos, A. de, & Son, Publications, 136.
 Carnell, F. L. & D. R., Steam hammer, 23; Brick machine, 26.
 Carnell, Geo., Pug mill, 26.
 Carpenter, J. M., Taps and dies, 44.
 Carpenter, Mrs. M. P., Sewing machine, 31.
 Carr, A., Steam pumps, 41.
 Carr, Calvin, & Co., Cornice machinery, 18.
 Carratalá & Gadea, Albums, 137.
 Carrá, E., Machine, 61.
 Carreras, M., Treatise, 133.
 Carrier, Miss, Lace work, 99.
 Carrion, B., Cork, 140.
 Carroll, Mrs. Andrew J., Shawl, 89.
 Carroll, S., Compass, 59.
 Carson, Mrs. C. A., Easel, 100; Banner, 101.
 Carter, J., Frame, 54.
 Carter, W., Tobacco, 130.
 Carver Cotton Gin Co., Machines, 111.
 Car Wheel Co. of Toronto, 58.
 Casals, Miguel, Publications, 137.
 Casan, Alegre, History, 134.
 Casinó, L. J. de la F., Chromo, 139.
 Cassidy, R. B., Maple, 129; Tobacco, 130.
 Castellanos, E., Cork, 140.
 Castellon, Prov. Board of Agri., Corks, 140.
 Castelvi, Bartolome, Books, 135.
 Castro, Chirino A., Wood, 140.
 Castro y Chirino, A. de, Seeds, 141.
 Catalanian Agri. Ins. of San Isidro, Rules, 135.
 Catáneo, F., Woods, 140.
 Calkins, Frances M., Histories, 91.
 Cavite, Arsenal of, Boat models, 141.
 Caw, A., Pumps, 53.
 Cayuta Wheel & Foundry Co., Wheels, 47.
 Cazaubon, D., Siphons, 61.
 Ceará, Province of, Ladies of, Flowers, 102.
 Celluloid Emery Wheel Company, 25.
 Celluloid Harness Trimming Company, 109.
 Centennial Photographic Ass'n., Photographs, 144.
 Central Normal School, Books, 134.
 Central Virginia Copper Mine, 126.
 Cerero, R., Treatise, 133.
 Cervera, V., Pamphlet, 138.

- Chadeayne & Christian, Rubber boots, 109.
 Chairmen of Wards in Phila., 86.
 Chalmers, Spence, & Co., Felting, 34, 53.
 Chamberlain, Mrs., Water colors, 99.
 Chamberlain, Mrs. A. H., Drawings, 96.
 Chambers, Bro., & Co., Brick machine, 26;
 Newspaper folder, etc., 33.
 Chambers, E., Calfskins, 114.
 Chamorro, R., Book, 133.
 Champion Fence Co., Iron fence, 124.
 Champion Fire Extinguishing Co., 43.
 Champney, Mary H., Stockings, 88.
 Chandler, A. G., Carved wood work, 97.
 Chandler, Hon. Z., Secretary of Interior, 72.
 Chao, Alejandro, Book, 135.
 Chapin, Miss, Photograph, 97.
 Chaplin, Miss Christine, Painting, 95.
 Chapman, H., Hydro extractor, 41.
 Chapman, Miss Laura M., Lap table, 87.
 Chapman Valve Manufacturing Co., 45.
 Chard & Howe, Lubricator, 39.
 Charland, W., Ship model, 59.
 Charlton, J., Clamp, 38.
 Chase, B. F., Glass blowing machines, 27.
 Chase, F. D., Deck irons, 42.
 Chase M'fg Co., Pipe cutting machine, 24.
 Chase, Pliny E., Foot lathes, 25.
 Chase Turbine M'fg Co., Machines, 20, 36.
 Chastron, Leon, Books, 137.
 Chatfield, Underwood, & Co., Belting, 38;
 Leather, 113.
 Chatillon, J., & Sons, Scales, 46.
 Chaudron, J., Apparatus, 64.
 Chauveau, Engines, 60.
 Chaves, M. G. M., Embroidery, 101.
 Cheeny, Miss Daisy, Tidy, 89.
 Chenailier, Evaporator, 62.
 Chesney, R. M., Scroll-saw machine, 20.
 Child, C. C., Presses, 32; Paper cutter, 33.
 Childs & Bloomer, Leather, 113.
 Chilean Commission, Machinery, 120.
 Chisholm, R. N., Car coupler, 58.
 Chomet, I. A., Swinging berths, 50.
 Chretien, J., Automatic apparatus, 61.
 Christoffel, T. B., Tube cleaners, etc., 39.
 Cicile, Larbre, Bottle cleaners, 61.
 Cincinnati School of Design, Metal work, 90;
 Wood carving, 91.
 Cincinnati Shoe Manufacturing Co., 106.
 Clafin, A., & Co., Boots, 107.
 Clafin, W. M., Shoes, 107.
 Clagne, Randall, & Co., Machine, 33.
 Clapp, Mrs. F. W., Photograph, 96.
 Clapp & Jones M'fg Co., Fire engines, 44.
 Clark, Miss A. F., Fire screen, 98.
 Clark Bros., Pipe tongs, 27.
 Clark Bros. & Co., Hardware, 27.
 Clark, John A., Drip pan, 24.
 Clark, Miss S. A., Paintings, 101.
 Clark, Rufus F., Cylinder oiler, 39.
 Clark, Standfield, & Co., Models, 56.
 Clark Thread Co., Spool machine, 21, 28.
 Clarke, Kate W., Painting, 93.
 Clarke, R., Lasts, 57.
 Clarós, J. M., Cork, 140.
 Clay, C., Minerals, 126; Woods, 129.
 Cleveland Machine Works, Gig, 29.
 Cleveland Paper Box Machine Co., 33.
 Cleveland Patent M'fg Co., Cutters, 25.
 Cleveland Screw & Tape Co., Screws, 27.
 Cleveland Steam Gauge Co., Gauges, 39.
 Clinton, L., Crayon, 96.
 Clothier, Miss Minnie J., Lace, 88.
 Clough Stone Co., Stone, 123.
 Clough & Williamson, Machine, 24.
 Coal Valley Coal Co., Coal, 127.
 Coats, J. & P., Machines, 54.
 Cobb, Z., & Sons, Engine, 37; Steel springs,
 etc., 46.
 Coblenze, Electrotypes, 6.
 Cochrane, J., Cleats, 48.
 Codera, F., Treatise, 136.
 Coe, A. G., & Co., Wrenches, 27.
 Coe, C. W., Screw cutter, 24.
 Coello y Quesada, F., Maps, 138.
 Coffin, C. A., & Co., Shoes, 108.
 Coffin & Woodward, Pumps, 41, 52.
 Cohen, C. J., Envelope machine, 34.
 Cohnfeld, S., Apparatus, 70.
 Colburn, L. J., Confectionery, 49.
 Coldbrook Rolling Mills Co., Nails, 59.
 Cole, B., Coal, 127.
 Cole, W. D., Stuffing, 105.
 Colford, H., Spark catchers, 59.
 Collantes de Teran, F., Book, 138.
 Collard, Miss Isora, Book racks, 92.
 College of Messrs. Peffort, Work, 132.
 Collier, L., Confectioners' machines, 56.
 Collier, Miss Lizzie M., Teapot rest, 92.
 Collignon Bros., Cane-seat work, 87.
 Collins, Miss C. L., Case, 97.
 Colodday, Jos. O., & Bro., Lathe, 22.
 Coloddo, C., Instruction, 132.
 Colford, Miss Helen, Book covers, 92.
 Colmeiro, M., History, 138.
 Colt's Patent Fire Arms Manufacturing Co.,
 Engines and boilers, 35.
 Columbia Car Spring Co., Car springs, 48.
 Colvin, Margaret P., Washing machine, 87.
 Colwell & Bro., Sugar refiner, 49.
 Colwell Lead Co., Pipe, etc., 45.
 Coman, Mrs. C. B., Charcoal sketch, 96.
 Combined Power Co., Geared machinery, 22.
 Comeleran, F. A., Treatise, 133.
 Comens, L., Wax flowers, 100.
 Commission of Naturalists, Madrid, Books,
 138.
 Compton, G., Cotton loom, 98.
 Conant, Miss C. W., Painting, 93.
 Conant, Mrs. Orpha, Hat, 88.
 Conceiro, G. M., Treatise, 136.
 Conde & Co., Pumping engine, 41.
 Condit, Hanson, & Van Winkle, Machine, 18.
 Congdon, Miss C. A., Afghans, 89.
 Conklin, N. A., Mill, 49.
 Conner, Miss E., Lace, 99.
 Connery, J. W., Boilers, 34.
 Connihen, E., & Co., Preservative, 105.
 Connolly & Power, Shoes, 107.
 Connolly, Mrs. I., Illuminations, 101.
 Conrad, Fabel, & Mooney, Leather, 112.
 Conservatory of Arts, Books, 134.
 Constant, Wine press, 61.
 Constant, Mrs., Leather work, 99.
 Convent of Sacred Heart, Plan, 99.
 Coogan, O., Machine, 111.
 Cook, A. B., & Co., Pulleys, 38.
 Cook, Miss H. M., Painting, 93; Book, 97.
 Cook & Pulver, Lubricators, 53.
 Cook, Son, & Jenkins, Ornaments, 131.
 Cooke, J., & Co., Lamps, 56.
 Cooper, Miss Alice, Prie-dieu, 92.
 Cooper, John H., Model, 23.
 Cooper, Jones, & Cadbury, Lathes, 23;
 Pumps, 40; Plumbers' supplies, 45.
 Cooper, R., Shoe, 106.
 Coore, E. R. N., & Co., Nail machine, 57.
 Cope, E. T., & Sons, Water wheel, 36.
 Copping, G. H., Lozenge machine, 59.
 Corbin, A., & Co., Leather, 113.
 Cornell University Machine Shop, Lathe, 24;
 Engine, 37.
 Cornellas y Grau, C., Grammar, 132.
 Cornely, E., Machines, 60.
 Corner & Cooper, Cotton stamps, 29.
 Cornet y Mas, C., Compendium, 133.
 Cornwell, Mrs. Elmira, Chart, 88.
 Corps of Engineers, Madrid, Books, 134.
 Corral y Pastor, A., Publication, 136.
 Corrathers, L., Coal, 127.
 Corrientes, Provincial Com. of, Oars, 69.
 Cort, Mrs. C. A. van, Torpedo boat, 51.
 Cortazar, D., Treatise, 133.
 Cortezarena & Aldebo, Manual, 133.
 Cortes y Morales, B., Dictionary, 136.
 Cortos, Corporation of, Wood, 140.
 Coshocton Stone Co., Sandstone, 123.
 Cosmopolitan Emery Wheel Co., 24.

- Costa, M. E. da, Collar of linen thread, 101.
 Costa, T. C. da, Pumps, 68.
 Costello, P. & P., Leather, 113.
 Cotman, W., Ship models, 59.
 Cottrell & Babcock, Press, 32.
 Couture, Machines, 60.
 Couvrette & Frigon, Stern model, 59.
 Coux des Roseaux, Oil cups, etc., 61.
 Covell, Miss A. C., School models, 90.
 Cowen, Mrs. S. J., Book case, 87; Books, 91.
 Cox, F., Model, 52.
 Cox, H. W., Pumps, 58.
 Cox & Sons, Tools, 25; Water wheel, 36.
 Coxe Bros. & Co., Coal breaker, 17.
 Crabb, W., Hackles, etc., 29.
 Crager, J., Tobacco, 130.
 Craig & Brevoort, Condensers, 40.
 Cramer, Miss, Embroidery, 99.
 Crane, Abby T., Wood engravings, 96.
 Crane Bros. M'fg Co., Engines, etc., 41.
 Crane & Co., Bits, 109.
 Crawford, Miss, Tatting flounce, 99.
 Crawford, G. B., Bracket, 128.
 Creed, E., Boots, 106.
 Crespo y Pozas, L., Studies, 136.
 Cresson, G. V., Pulleys, 38.
 Crichton, A. K., Illuminated books, 98.
 Crittenden, L. S., Horse blanket, etc., 110.
 Croff & Camp, Architects, 130.
 Croft, Wilbur, & Co., Pans, 49.
 Crosby Steam Gauge Company, 44.
 Crossley, Harry A., Stair jointer, 20.
 Crossman, M., Hand car, 46.
 Crotta, G., Music, 100.
 Crouch & Fitzgerald, Trunks, 109.
 Crowell, J. W., & Co., Vessel models, 51.
 Cruickshank, A. B., Cleats, 56.
 Cruz, Ruiz C., Grammar, 136.
 Cuau, Injector, 61.
 Cuban Acclimation Garden, Seeds, etc., 149.
 Cuchi, Tomas, Treatise, 135.
 Cuenca, H., Books, 134.
 Cuesta, Pedro, Works, 135.
 Cuevas, Fernandez Pascual, Pictures, 139.
 Cuevas, J. A., Table, 134.
 Culmer Spring Co., Railway springs, 47.
 Culver, Mrs. J. O., Art cabinet, 93.
 Cumbie & Donald, Model, 49.
 Cuming, M. A., Hat press, 31.
 Cummings, Geo. L., Grindstone frames, 25.
 Cummings, J., & Co., Leather, 115.
 Cunningham & Co., Leather, 115.
 Cunningham, Alice H., Decorated china, 95.
 Cunningham, S., Corn, 129.
 Curtis & Co., Saw, 19.
 Curtis, Jessie, Drawings, 95.
 Curtis & Mitchell, Paper cutters, 33.
 Cushing, N. B., Punching machines, 24.
 Cushman, Ara, & Co., Shoes, 107.
 Cushman, C. S., Stitching attachment, 112.
 Cutlan Shoe Sewing Machine Co., 112.
 Cutler, Misses N. M. & M. A., Glove box, 91.
 Cutter, J. D., & Co., Silk loom, 28.
- D.**
- Dailey, M. E., Trestle, 58; Ship model, 59.
 Dall & Callaway, Stakes, 129.
 D'Allessandro, B., Life preserver, 67.
 Dalsheimer Bros., Shoes, 107.
 Dalsheimer, Leon, & Bro., Shoes, 108.
 Dane, J. F., Shoes, 107.
 Danforth Locomotive & Machine Co., Silk machinery, 28; Locomotives, 45.
 Daniels, T. E., Fire escape, 43.
 Darrah, Sophia T., Painting, 94.
 Dart, E., & Co., Pumps and engines, 40.
 Daschback, E. J., Gas machine, 19.
 Date, J., Diving apparatus, 58.
 Daughaday, J. W., & Co., Printing press, 32.
 Dausch, J. G., Watchmakers' tools, 62.
 Davenport, E. W., Painting, 95; Water color, 97.
 Davenport, Fairbairn, & Co., Car wheels, 47.
 Davey, Mrs. Israel, Slate stand tops, 87;
 Jewelry, 89; Arbutus, 98.
 Davey, Paxman, & Co., Boiler, etc., 55.
 David Bros., Forges, 60, 61.
 Davidson Rubber Co., 109.
 Davis, C. S., Cotton goods finisher, 28.
 Davis & DuBois, Tallow engine cups, 39.
 Davis, Georgic A., Drawings, etc., 95.
 Davis, J. B., Water heater, 40.
 Davis, Madam, Ores, 126.
 Davis, Mrs. J. A., Marking in ink, 96.
 Davis & Richmond, Slate machine, 26.
 Davis Sewing Machine Co., 30.
 Davis, Whitcomb, & Co., Shoes, 160.
 Dawley & Derby, Lasts, 108.
 Day, George H., Lime screens, 18.
 Day, T., Leather, 114.
 Dayton, Miss M. G., Photographs, 96.
 De al, M., & Co., Brush smutter, etc., 48.
 De Bergne, R., Glass, tiles, etc., 149.
 De Caidry, W. A., Sec. U. S. Ex. Board, 72.
 Dechamp, C., Boiler apparatus, 61.
 Decker, D., Leather, 113.
 Decrow, A. W., Treadle, 31; Brake, etc., 46.
 De Dartien, Architect, 145.
 Deford & Co., Leather, 113.
 Degener & Weiler, Printing presses, 32.
 De Haven, A. R., & Son, Shoes, 107.
 Delgado, F., Wood, 140.
 Delgado, J., Saffron, 141.
 Dell, J. C., Scales, 46, 49.
 De Long Bros., Leather, 112.
 Delrez, Felix, Cards, 64.
 Dempsey, J. A., Tobacco, 130.
 Dempsey, J. E., Cercals, 130.
 Dennis, T. H. P., & Co., Valves, 56.
 Dennison, J. N., Steam fire engine, 43.
 Denroche, S. B., Illuminated maps, 98.
 Deny, L., Refiner, 60.
 De Pilgrom, Miss V., Bedstead, 92.
 Deplanque, Son, sr., Emery millstones, 61.
 Derkx-Schloffer, I. F., Types, 64.
 Derriey, C., Typography, etc., 60.
 Dervaux, A., Feeding apparatus, 64.
 Desmond, T., Gig, 50.
 Desmottis, Quenessen, & Le Brun, Apparatus, 60.
 Despard Gas Coal Company, Coal, 127.
 Desper, W. F., & Co., Meters, 43.
 Dethiou, Gilles, & Co., Cards, 64.
 De Tombay, A., Models, 64.
 Devereaux, A., & Son, Leather, 114.
 De Waru, L. E., Shoes, 107.
 Dexter Spring Co., Carriage spring, 36.
 Diamond Glass Co., Glass, 124.
 Diamond State Iron Co., Bars, 48.
 Dias, H. J., Embroidered cushion, 101.
 Diaz Acevedo, C., Zoology, 138.
 Diaz Agero, J., Corks, 140.
 Diaz Otero, Eduardo, Photographs, 139.
 Diaz y Martinez, M., Instruction, 132.
 Dick, C. J. A., Bronze ingots, 23.
 Dickson, A. M., Shell work, 97.
 Dickerson, Mrs. Y. G., Camp chair, 87.
 Dickinson, H., Ore, 126.
 Dickinson, M., Corn, 129.
 Dickson, J., & Co., Engraving on rubber, 32.
 Dickson M'fg Co., Locomotives, 45, 46.
 Diego, P. de, History, 134.
 Dienelt & Eisenhardt, Carpet loom, 29.
 Diest, E. van, Bed cover, 100.
 Diez, Domingo, Book, 137.
 Dinning, H., Ship models, 59.
 Direction of Customs, Madrid, Statistics, 134; Models, etc., 137.
 Direction of Hydrography, Books, 136, 138.
 Director of the Colony of Paraná, Fringe, 102.
 Director of the Institute for Secondary Instruction, Memoirs, 137.
 Disston, Henry, & Sons, Saws, 19.
 Disston, T. S., Blower, 42.
 Dixon, Maria R., Painting, 94.
 Dixon, Smith, & Co., Belting, 58.

Dixon, W. T., & Bro., Shoes, 106.
 Dodd, A. W., & Co., Oils, 105.
 Dodd, Mrs. Wm., Casket, 92; Table, 93.
 Doddridge Music & Art School, Paintings, 128.
 Dodge, Mrs. A. C., Counterpane, 90.
 Doherty, Miss Clara, Fruit plate, 92.
 Dohle, H., Shoes, 108.
 Dolne, L., & Co., Belting, 64.
 Domange, Lemierre, & Co., Belting, 61.
 Domestic Sewing Machine Co., 31, 111.
 Dominguez Mendez, B., Wood, 140.
 Dominick, Mrs. G., Wall pocket, 92.
 Donaldson, Lucy, Panels, 93.
 Donlevy, Alice, Painting, 95; Wood engraving, 96; Design, 97.
 Donnaghe, A. P., Clay, 127; Crockery, 128.
 Donnelly, Miss A., Flower stand, 92.
 Doriot, Constant, Foot lathe, 25.
 Dornan Bros. & Co., Power loom, 29.
 Dougherty, S. H., Belts, 109.
 Douglas, W. & B., Pumps, 41, 44.
 Douglass Manufacturing Co., Edge tools, 19.
 Dove, Florence A., Water colors, 94.
 Dowling, T. W., Scroll saw, 19.
 Downer, J. E., Corn, 129.
 Downing & Price, Leather, 112.
 Drake, Miss Ada P., Jardinier, 92.
 Draper, G., & Son, Spinning frame, 29.
 Dreisbach, W., & Co., Bars, 107.
 Dress Reform Co., Shoes, 106.
 Drown, Mrs. C. L., Glass signs, 97.
 Drury, Mrs. L., Dress cutting system, 87.
 Dubois, W. & F. Joseph, Machine, 64.
 Dücke, Baron F. F. von, Drawing, 62.
 Dudgeon, Richard, Punches, 24; Engine, 37; Hydraulics, 42.
 Duffy, J. W., Mineral water, 128.
 Dugoujon, sr., Saws, 60.
 Du Laney, G. L., & Co., Sewing machine, 30.
 Dulin, C., Petroleum, 126.
 Duncannon Iron Co., Nail machines, 22.
 Dunlap, Miss Sarah, Wall pocket, 92.
 Dunn, P., Nail machine, 57.
 Dunn & Samson, Ship models, 59.
 Dunning, Miss, Tray, 90.
 Dunning, Miss M., Tile painting, 95.
 Dunston Engine Works Co., Breaker, 54.
 Dupuy, L., Books, 137.
 Duque, Eugenio, Plans, 139.
 Durafort, Soda water machine, 61.
 Durand, F., & Marais, Brick machines, 60.
 Durieux & Co., Wheels, etc., 64.
 Durrschmidt, Mill stones, 61.
 Durvie, Machine, 61.
 Dutcher Temple Co., Loom temples, 28.
 Dyer, J. P., Corn, 129.
 Dyer, Miss Fannie E., Child's apron, 88.
 Dyson Needle Co., Needles, 31.

E.

Eagle Meter Co., Meter, 42.
 Eagle Odorless Excavating Co., 41.
 Eames, Charles J., Boiler plates, 23.
 Eames Vacuum Brake Co., Brake, 46.
 Earle, Benj. A., Wood oiling machine, 22.
 Earls, R. H. C., Crayon, 96.
 East New York Boot, Shoe, and Leather Manufacturing Co., Shoes, 106.
 Eastabrook, Wires, & Co., Screws, 108.
 Eaton, Cole, & Burnham Co., Brass goods, 27.
 Eaton & Ayer, Bobbins, etc., 29.
 Eaton, Hon. J., Com. of Education, 72.
 Eau Claire Lumber Co., Bridge, 52.
 Eccles, J., Coupling, 38, 42, 48.
 Echenique y Torres, F., Telegraph, 138.
 Eckfeldt & Richie, Belting, 38.
 Economical Society of Friends of the Country, Barcelona, Papers, 135.
 Economical Society of Friends of the Country, Seville, Catalogue, 135; Photograph, 139.
 Economical Society, Madrid, Pamphlet, 135.
 Edgemoor Iron Co., Rotary puddler, 18.

Edinburgh Western Tanning Co., Skins, 116.
 Edoux, L., Special system, 61.
 Edson's Steam Recording Gauge Mfg. Co., 40.
 Edson, T. P., Life preserver, 98.
 Edson, M. B., Gauges, 53.
 Edwards, E. B., Axle rolls, 24.
 Efinoff, Vamps, 116.
 Eguilaz Yanguas, L., Study, 136.
 Ehrenpohl, C., Embroideries, 100.
 Ehret, M., Waterproof roofing, 121.
 Eicholt, John H., Gas generator, 18.
 Eickmeyer Hat Blocking Machine Co., 31.
 Ekman, C., Wheels, 66.
 Elsas & Pritz, Leather, 114.
 Electro Magnetic Machine Mfg. Co., 60.
 Elizalde, J. A., Geometry, 134.
 Elk River Iron & Coal Co., 126, 128, 129.
 Elleson, A., Fancy work, 99.
 Ellis, C. R., Heater, 35.
 Ellis, W. I., Blower, 55.
 Ely, H. G., & Co., Leather, 115.
 Emelianoff, A., Boot legs, 116.
 Emerson, R. W., & Co., Shoes, 108.
 Emerson Stone Saw Co., Circular saw, 25.
 Emerson's, T., Sons, Shoes, 108.
 Empire Portable Forge Co., Forges, 23.
 Empire Transportation Co., Models, 145.
 Employment Society, Afghan, 88.
 Enfer, A., jr., Forges, etc., 61.
 Enfer, E., Forges, 60, 61.
 Engineer's Shop, St. Petersburg, 70.
 England & Bryan, Leather, 115.
 Englis, J., & Son, Steamship models, 51.
 English, W., Canoe, 59.
 Enterprise Coal Co., Coal, 127.
 Entrekin, W. G., Enameler, 30.
 Epouse, Miss L., Fancy work, 99.
 Erie City Iron Works, 34, 38.
 Erskine, M. A., & Co., Shoes, 106.
 Ervien, C. W., & Bro., Engines, 37.
 Escolapias of San Antonio, Books, 132.
 Estrada, A., Types, 69.
 Eureka Bark Mill Co., Bark mills, 22.
 Eureka Fire Hose Co., 43.
 Eureka Manufacturing Co., Lathe, 19.
 Evans, Dalzell, & Co., Pipes and tubing, 44.
 Evans, T. R., Boots, 106; Lasts, etc., 112.
 Everaert, J., & Sisters, Laces, 100.
 Ewart Manufacturing Co., Drive chains, 47.
 Excelsior Brick & Stone Co., Model, 20.
 Excelsior Gas Machine Co., 19.
 Exeter Machine Works, Boiler, 35; Blowers, 42, 52.

F.

Fabregas y Bru, J., Desk, 132.
 Faculty of Medicine, Works, 133.
 Fagersta Iron and Steel Works, Axles, 66.
 Fagersta Manufacturing Co., Saw blades, 65.
 Fairbairn, Kennedy, & Naylor, Borer, 54; Carding engine, 55.
 Fairbanks, Miss I., Lace, 99.
 Fairbanks & Ewing, Scales, etc., 46.
 Fairbrother, H. L., & Co., Belting, 43; Leather, 114.
 Fairchild, Lawhead, & Co., 129.
 Fales, G. S., Belt, 53.
 Fales, Jenks, & Son, Combined fly frame, 28.
 Falk, Louis, Fire escape, 43.
 Falley, L., & Co., Boots, 106.
 Falling Rock Coal Co., Coal, 127.
 Fargo, C. H., & Co., Boots, 106.
 Faria, M. D. de, Cushion, 102.
 Farnham, Mrs. Sarah A., Painting, 94.
 Farquhassen, Miss W., Painting, 100.
 Farr, George, Model, 26.
 Farrar, J. B., Shoes, 108.
 Farrell, Misses, Lace, 99.
 Farrell, Mrs. K., Worsted work, 99.
 Fauchinetti, A., Painting, 101.
 Faure & Kessler, Apparatus, 60.
 Faust, A. D., & Son, Leather, 113.

- Fay, J. A., & Co., Wood-cutting mach'y, 20.
 Fay, Sarah R., Blanket, 88.
 Fearon, T., Boats, 50.
 Feary, T., & Sons, Shoes, 106.
 Felder, C., Plaiting machines, 31.
 Fergus, J. & D., Bottling machine, 44.
 Ferguson, Edith, Painting, 94.
 Ferguson, Mrs. Mary L., Paintings, 93.
 Ferguson, W., Coal, 126.
 Fernandez, Cardin, Mathematics, 133.
 Fernandez de Castro, M., Treatise, 133; Electricity and railroads, 136.
 Fernandez de Figares, Manual, 133.
 Fernandez, Fontecha, Astronomy, 133.
 Fernandez, M., Saffron, 141.
 Fernandez, Peña P., Atlas, 136.
 Ferrandiz, J., Salt wort, 141.
 Ferrari, B., Apparatus, 67.
 Ferre, S. P., Printing press, 32.
 Ferreira, M., Crochet case, 102.
 Ferrell & Jones, Steam pump and engine, 41.
 Ferris & Miles, Machine tools, punching machines, 23; Blowing engine, 42.
 Feu, P., & Sons, Medals, 138.
 Fichtenberg, Powder bellows, 18.
 Field, Miss E. C., Panel, 93.
 Fields, W., Coal wagon, 37; Steel rails, 47; Models, 50.
 Fine Art School, Programmes, 133.
 Fine Arts, Provincial Acad. of, Drawings, 139.
 Finnegan, J. H., Stone, 123.
 Finnegan, M., Stone, 123.
 Firmenich, J., Boiler, 35.
 First & Prybil, Carving machine, 19.
 Fish, Warren L., Sewing machines, 31.
 Fisher, J., & Co., Clipping-plate machine, 57.
 Fisher, J. W., Corn, 129.
 Fisher & Norris, Rail joints, 48; Vises, 52.
 Fisher, W., Ochre, 128.
 Fisk, J. E., Machine, 111.
 Fisse-Thirion & Co., Machine, 61.
 Fitchburg Machine Company, Lathes, 25, 52.
 Fitts, B., Whistle, 53.
 Fitts, E. E., Globes, 90.
 Flagg, S. G., & Co., Carriage hardware, 17; Gray iron, 22; Fittings, 45.
 Flanagan, W. J., & Co., Wrenches, 27.
 Flather & Co., Engine lathes, 25.
 Fleck, A., Steam engine, 58.
 Fleming, G., & Sons, Engine, 58.
 Fleming, R. E., Wheat, 129.
 Fleming, T., & Son, Teeth, 54.
 Fletcher & Dwyer, Burnishers, 105.
 Fleury, J. M., Mill, 60.
 Flint, C. M., Saw mill, 22.
 Flonis y Pujól, Juan, Chronometer, 138.
 Florence Sewing Machine Company, 30.
 Flores Arrate, L., Books, 134.
 Flores Laguna, J., Music boxes, 138.
 Florez, José Maria, Book, etc., 135.
 Flower, J., & Bro., Hydrant, nut machine, 44.
 Flower, W., Life saving apparatus, 51.
 Flynt, Mrs. Olivia P., Under garments, 88.
 Fogg, Houghton, & Coolidge, Shoes, 107.
 Foley, Miss M. F., Bas reliefs, 101.
 Follensbee, G. S., Pump, 41.
 Folsom, A., Wind wheel, 36.
 Foley y Velasco, Books, 133.
 Fontaine, H., Engines, 60.
 Fontyn, G., Shoes, 107.
 Forbes, J. W., Quartz battery, 37.
 Force, Mrs. F. H., Cabinet, 93.
 Ford, O. D., Sandstone, 123.
 Ford y Cusido, widow of, Review, 135.
 Forepaugh, W. F., & Bro., Leather, 112.
 Forest District of Avila, Woods, 140.
 Forsaith, S. C., & Co., Spring hammers, 23; Folding machine, 33.
 Forstner, Benjamin, Wood auger, 19.
 Forsyth, Mrs. S. M., Hosiery, 88.
 Fortanet, T., Books, 139.
 Foss & Pevey, Cotton card, 29.
 Foster, A. J., & Co., Leather, 115.
 Foster & Quiggle, Shoes, 108.
 Foulds, Thomas, jr., Elevator, 43.
 Foulon, J., Indicator, 138.
 Fowler, F. G., Propeller, 39.
 Fox, Jane Ann, Dish drainer, 87.
 Fraile y Valles, Arithmetics, 134.
 Fraley, Miss Mollie E., Painting, 93.
 Francis, F., Ship model, 51.
 Francis & Loutrel, Folding machine, 33.
 Franklin, Mrs. Anna L., Water color, 95.
 Frantz, D., & Son, Leather, 113.
 Franz & Pope Knitting Machine Co., 30.
 Freal, Machines, 61.
 Freeborne, Sarah M., Sculpture, 91.
 Freeland, R., Soap machinery, 57.
 Freeman, Miss F., Sculpture, 101.
 Freiberg, H., Leather, 114.
 French, A., & Co., Car springs, 47.
 French, Elizabeth J., Magnetic appliances, 91.
 French Government, Models, 145.
 French, Julie Blanche, Bedsteads, 87.
 French, Mrs. B., Autumn leaves, 100.
 Frere, Miss C. F., Water colors, 98.
 Frick & Co., Portable engine, 34.
 Friedland, M., Pumps, 70.
 Froebel's Kindergarten, School work, 150.
 Frontaura, C., Review, 136.
 Frost & Hanline, Thermostat, 147.
 Fuchs, Helene, Dress, 89.
 Fuente, V. de la, Biography, 136.
 Fuller, Warren, & Co., Stoves, 118.
 Fulton Foundry Company, Turn-table, 17.
 Furbush, M. A., & Son, Carding machines, 29.
 Fürst, B., Needlework, 100.

G.

- Gadd, T., Cams, 54.
 Gaff, Fleischmann, & Co., Yeast, 143.
 Gaité Nuñez, J., Books, 133.
 Galdo, M. M. J. de, Natural history, 132.
 Galdós & Cámara, Books, 136.
 Gale, A. D., Harness, etc., 110.
 Gallardo Bastant, L., Equinoctiometer, 138.
 Gallego, D., Sumac, 140.
 Galligher, Bernard, Drills, 23.
 Gallinero, Corporation of, Wood, 140.
 Galloway, W. & J., & Sons, Boilers, 55.
 Gally, M., Printing presses, 32, 33.
 Gama, D., Towels and pillow shams, 101.
 Gamewell, J. N., & Co., Telegraph, 147.
 Garcia Arboleya, J., Tables, 133.
 Garcia, A. F., Publications, 136.
 Garcia Arias y Usano, Benito, Pictures, 137.
 Garcia Ayuso, F., Grammar, 132.
 Garcia Blanco, A.M., Text books, 136.
 Garcia Maceira, A., Treatise, 134.
 Garcia, N., Books, 134.
 Gardella, L., Plan, 69.
 Gardiner Drill Co., Machines, 17.
 Gardiner, Miss Mary Jane, Cutter, 88.
 Gardner Bros., Shoes, 108.
 Gardner, Miss J., Tools, 49.
 Gardner, N. H., & Co., Leather, 114.
 Garlaudat, Refrigerating apparatus, 61.
 Garloe, A. E., Carbonate of iron, 126.
 Garmont, W., Ship model, 59.
 Garretson, I. H., Brick machine, 26.
 Garriga Francisco, D., Arboriculture, 140.
 Garriga, M., Tachigraphy, 132.
 Garriga y Roca, M., Plans, etc., 138, 139.
 Garrison, A., & Co., Chilled rolls, 22.
 Garry Iron Roofing Company, Roof, 124.
 Gascon, D., Periodical, 138.
 Gas Motor Factory, Motors, 62.
 Gaspar, Editors, Books, 137.
 Gasparini, G., Machine, 67.
 Gastaldo, J., Cataract, 134.
 Gaston Coal Mines, Coal, 127.
 Gates, Allen, & Bro., Shoes, 107.
 Gates, J., Belt, 53.
 Gates, J., & Sons, Belting, 38.
 Gauley, Coal, 127.

- Gaussart, Machines, 61.
 Gavit Machine Works, Paper machine, 29.
 Gawthrop, A., & Son, Hydraulic rams, 41.
 Gay, Miss A., Crayon, 96.
 Gaya y Marzal, C. M., Publication, 136.
 Gazapo y Loma, J. M., Book, 132.
 Geddes, Mrs., Tapestry, 99.
 Gehreckins, C. O., Packing, 62.
 Gelabert, R., & Bro., Engravings, 139.
 Gemmel, Miss A., Piano cover, 99.
 General Transatlantic Co., Model, 61.
 Genseman, Miller, & Co., Leather, 113.
 Geographical and Statistical Institute, Publications, 135.
 George & Du Laney, Screw machinery, 24.
 Gerlach, Peter, & Co., Stave machine, 19.
 German Sewing Machine Factory, 62.
 Gerosa, A., Embroideries, 100.
 Gervais, E., Machines, 61.
 Getchett, J. S., Capstan, 52.
 Gibbs Loom Harness & Reed Co., 28.
 Gibson, F. N., Machine, 111.
 Giffard & Berger, Machines, 61.
 Gilbert & Barker, Gas machine, 18.
 Gilbert, C., Machine, 49.
 Gilbert, Lucia M., Painting, 93.
 Gildersleeve, S., & Sons, Ship models, 51.
 Gillender & Sons, Glassware, 118.
 Gillis & Geoghegan, Boiler feeder, 35.
 Gillmore, J. C., & Co., Trunks, 109.
 Gilly, J. L., Cars, 46.
 Gilpin, Mrs., Fancy work, 99.
 Gil Sumbiela, Luis, Treatise, 135.
 Gil y Justo Mone, J., Method, 134.
 Gimenez & Preysler, Newspaper, 141.
 Gimson & Colman, Knitting machines, 55.
 Ginez de los Rios, H., Memoirs, 137.
 Gingras, E., Ship models, 59.
 Giol y Soldevilla, I., Photography, 132.
 Girard, A., Canoe, 59.
 Gironés & Orduña, Poetry, 135.
 Gittens, J. K., Insoles, 107.
 Gittings, Mrs. J., Illuminated poem, 97.
 Glade Fire Brick Co., Fire clay, 127, 128.
 Gladwin, C. P., Engines, 37.
 Glass, W., Boat, 51.
 Glassford, Mrs., Paintings, 99.
 Gleason, John, Lathe, 22.
 Globe Manufacturing Co., Printing presses, 33.
 Glöeckner Bros., Blocks, etc., 62.
 Gloucester Iron Works, Pipes, 44.
 Goddard, Miss L., Glass screen, 98.
 Goig & Co., Books, 132.
 Golcher Bros., Bridle winkers, 110.
 Gold, T. J., Architect, 143.
 Goldberg, I., Types, 70.
 Goldie, G., Rowing machine, 51.
 Goldie & McCullough, Water wheel, 58.
 Golding & Co., Printing presses, 32.
 Goldmark, J., Elevators, 42.
 Goldsborough, Mrs. G. R., Lock, 90.
 Gomersall, Alfred, Engines, etc., 43.
 Gomez Ayazza, N., Text books, 136.
 Gonzalez Conde, D., Saffron, 141.
 Gonzalez de Salcedo, F., Cork, 149.
 Gonzalez del Valle, M., Model, 138.
 Gonzalez Domingo, C., Invitations, 134.
 Gonzalez Hidalgo, J., Works, 134.
 Gonzalez, M., Woods, resins, 140; Seeds, 141.
 Gonzalez, Manuel, Book, 137.
 Gonzalez Marti, M., Manual, 134.
 Gonzalez & Moreno, Manual, 141.
 Gonzalez-Regueral, S., Periodicals, 135.
 Gonzalez y Luna, I., Penmanship, 132.
 Gonzalez y Montblanch, M., Lithography, 139.
 Gonzalez y Rubio, M., Saffron, 141.
 Goodall, Braun, & Waters, Panel planer, 22.
 Goodrich, J., jr., Boots, 108.
 Goodrich & Porter, Shoes, 108.
 Goodrich & Whitehouse, Shoes, 108.
 Good Shepherd, Convent of, Plan, 99.
 Goodwin, A. H., Ferns, etc., 97.
 Goodwin, Wm. W., & Co., Gas meters, 18.
 Goodyear & McKay Sewing Mach. Ass'n., 112.
 Goodyear Rubber Co., Belt, 53, 109.
 Gordon, G. P., Printing presses, 32.
 Gordon, Margaret S. G., Paintings, 95.
 Gorham, W. B., & Co., Presses, 32.
 Gossamer Rubber Co., Coats, etc., 109.
 Gould, Roscoe J., Dovetailing machine, 22.
 Goulding, Johnston, & Co., Hoop machine, 22.
 Gould's Manufacturing Co., Pumps, etc., 42.
 Goyard, F., Crucibles, 60.
 Goyard, L., Restaurant, 131.
 Gozapo y Loma, J. M., Books, 132.
 Gozart y Seva, Plan, 137.
 Graells, F., Books, 133.
 Graf, L., Machine, 112.
 Graf, L., & Bro., Boots, 106.
 Graham, J. S., & Co., Grooving machine, 20.
 Granada, University of, Publications, 136.
 Grande, J. M., Works, 133.
 Grant, D. Conrad, Ice plow, 51.
 Grant, G. B., Calculating machines, 33.
 Grant, Mrs. J., Mitts, etc., 99.
 Graves, Ball, & Co., Lasts, 106.
 Graves, L. S., Machines, 114.
 Graves, Miss D., Painted candles, 98.
 Graves, Miss L., Panels, 94.
 Graves, Mrs. J., Table top, 100.
 Gray Bros., Shoes, 107.
 Gray & Barton, Telegraph instruments, 147.
 Gray, E., Telegraph instruments, 147.
 Gray, J., Hammond, Screw machinery, 25.
 Gray, Mrs. John H., Chenille work, 89.
 Gray, W., Schoolwork, 128; Corn, 129.
 Great American Brick Machine Co., 26.
 Greatorex, Eliza, Paintings, 93; Pen and ink sketches, 96; Illustrations, 97.
 Great Western Mining & Mfg Co., 126.
 Green, E., & Son, Fuel economizer, 55.
 Green, R. H., Wheat, 129.
 Greenawalt, J. & J. K., Leather, 112.
 Greene, Miss, Needlework, 98.
 Greenlee, Bro., & Co., Sash machine, 21.
 Greenwich Machine Works, 22, 39.
 Greenwood & Batley, Machines, 54, 55.
 Greer, S. Y., Fire hose, etc., 43.
 Gregg Impact Brick Machine Co., Model, 26.
 Gregg, Isaac, jr., & Co., Brick machine, 26.
 Gregg, Wm. L., Brick machine, 26.
 Grenier, F., Pilot boat, 59.
 Grier, W. W., Hydraulic ram sentinel, 36.
 Griffin, J. K., Car coupler, 58.
 Griffith & Wedge, Engine, 37.
 Griffiths, John W., Machines, 20; Model, 51.
 Grinnel, L., Ice yacht, 50.
 Griscorn & Co., Mills, 49.
 Griswold, Mrs. Ellen D., Sash fixture, 87.
 Grootzinger, A. & J., Leather, 114.
 Grosvenor, J. A., Steam pump, 41.
 Grothe, H., Models, 62.
 Grout, Miss S. A., Paintings, 95.
 Gruber, John P., Gas works, 19.
 Grunwald, M., Furs, 116.
 Guard, J., Stave, 129.
 Guarro, M., Piano, 138.
 Guastavin, Rafael, Plans, 139.
 Gueret Bros., Machine, 61.
 Guerin, T., Water measurer, 42.
 Guerra, M. de Soto, A., Madder, 140.
 Guichot, Joaquin, Book, 137.
 Guilbert, Mrs., Hand sewing, 89.
 Guild, Mrs. Emma C., Sketch, 91.
 Guild, J. F., Leather, 115.
 Guinet, A., & Co., Looms, 60.
 Guion, Geo. G., Leather, 115.
 Guisasaola, Federico, Aquarelles, 139.
 Güitio y Vall-lovera, J., Cork, 140.
 Gumpel, C. G., Rudder, 56.
 Gunpowder Pile Driver Co., 42.
 Gurley, Miss Clara, Desk, 92.
 Gutta Percha Co., Hose, 53.
 Gutta Percha & Rubber Mfg Co., 43.
 Gwinn, M., Limestone, 127.
 Gwynne, J. & H., Models, 55.
 Gwynne & Co., Pumps, 55.

H.

- Haas, J., Knitting machine, 31.
 Haase, J. A., Clamps, 27; Car step, 46.
 Hacker, J. C., & Co., Leather goods, 109.
 Haedrick, H. G., & Sons, Harness, etc., 110.
 Hagner Drug Milling Co., Chasing mills, 18.
 Hahn, H., & Stumpf, Calfskin, 114.
 Halderman, L., & Son, Stone, 123.
 Hale, E. W., Oil, 128.
 Hale & Porter, Petroleum, 126.
 Hale, Sarah Josepha, Books, 91.
 Hales, F., Autumn leaves, 98.
 Hall, M. H., Machine, 111.
 Hall, W. W., Petroleum, etc., 127.
 Hallet, Hervey H., Harness saddle, 110.
 Hallock, M., Wood engraving, 96.
 Halloway, Charles T., Fire engine, etc., 43.
 Halsey, S., & Son, Leather, 113, 114.
 Ham, Miss Amanda S., Rag rug, 87.
 Hamburg American Sewing Machine Co., 62.
 Hamburg American Steamship Co., Model, 62.
 Hamilton, H., Stone, 123.
 Hamilton, J., Barytes, 126.
 Hamilton, S. M., Brick kiln, 26; Cement, 52.
 Hamilton Steeled Wheel Co., Car wheels, 48.
 Hamilton Web Co., Boot webs, 107.
 Hamlin, G. A., Machine, 25.
 Hamly, Wm., Horse collars, etc., 110.
 Hammer, B., Wood, 129.
 Hammer, J., Pine, 129.
 Hammett, L. C., Printers' rollers, 32.
 Hammond, H., & Co., Steel hammer, 23.
 Hammond, Mrs., Needle work, 99.
 Hampson, Whitehill, & Co., Engine, 37.
 Hampton Emery Co., Emery, 52.
 Hanan & Dewees, Dies, etc., 111.
 Handley, H., Oats, 129.
 Hanmore, J. W., Felting, 35, 53.
 Hanna, C. T., Dryer, 49.
 Hannahan, J., Bits, 57.
 Hansell, W. S., & Sons, Harness, etc., 110.
 Harbert, Elizabeth B., Books, 91.
 Harbert & Raymond, Saw mill, 22.
 Harbor Master, Office of the, Model, 69.
 Hardenburgh, Hartwell, & Co., 112.
 Harding, Miss C., Embroideries, 98.
 Hardy Machine Co., Card grinder, 25.
 Hardy Patent Pick Co., Picks, 54.
 Hare, Miss E. A., Photograph, 97.
 Harkinson, R., Hooks for tanners, 111.
 Harlan & Hollingsworth, Ship models, 51.
 Harley, E. G., Darner, 99.
 Harman, Mrs. E. F., Dress designer, 88.
 Harper, William, jr., Screw propeller, 39.
 Harrington, C. B., Yacht, 51.
 Harris, C. S., Fan, 49.
 Harris, Griffin, & Co., Gas meters, 18.
 Harris, J., & Co., Shingle machine, 57;
 Water wheel, 58; Capstan, 59.
 Harris, Samuel, Sifting machines, 23.
 Harris, Th., Needle sharpener, 57.
 Harris, Thomas, Architect, 130.
 Harris, T. M., Corn, 129.
 Harrisburg Car Manufacturing Co., 46.
 Harrison Boiler Works, Boilers, 34, 52.
 Harrison, E., Mill, 49.
 Harrison, Mrs., Pictures, 100.
 Harrison, M. W., Pen and ink sketch, 96.
 Harrison, S. L., Car axle, 47.
 Harrison, W. H., Elevator, 42.
 Harrold, G. W., Steam trap, 36.
 Hart, Roswell, Machines for hoops, 22.
 Hart, W., jr., Moulding apparatus, 30.
 Hartford City Coal and Salt Co., Coal, 127.
 Hartford Foundry and Machine Co., 37.
 Hartford Steam Boiler Inspection, 35.
 Hartness, J., Balloon, 50.
 Hartshorne, Mrs., Fancy work, 99.
 Harvey, Easton, & Co., Lath mill, 22.
 Harvey, R. T., Iron ore, 126.
 Harvey, W. T., Cereals, 130.
 Hashbarger, A. P., Cereals, 130.
 Haskell, B. C., & Dickerman, Trimmings, 107.
 Haskins Steam Engine Co., 35.
 Hassam, Miss Harriet A., Ribbon, 89.
 Hathaway, Mrs. May, Scarf, 88.
 Hathaway, Mrs. P. V., Native flora, 98.
 Hathorn, Davis, Campbell, & Davcy, 41.
 Haubner & Heller, Skins, 115.
 Haurey, Henry F., Tube brushes, etc., 39.
 Hausler, J., Blacking, 105.
 Hawthay, C. L., & Sons, Dressings, 105.
 Hautin Sewing Machine Co., Machine, 111.
 Havana Academy of Sciences, Works, 135.
 Havens, W. H., Saw tables, 19.
 Hawkins, T. H., Shoes, 108.
 Hawley, A., Dredge, 52.
 Hawley & Branson, Knitting machine, 31.
 Hawley, H. Q., Water motors, 37.
 Haworth, J., Turbines, 36.
 Haynes, T., & Sons, Pump, 55.
 Hazlehurst, Samuel, Brick moulds, 26.
 Hazlewood, M., Painting, 94.
 Heald, D., Shook, 129.
 Heap, J., & Co., Tools, 54.
 Heard & Sons, Design, 124.
 Heaton, D., Button fastener, 111.
 Hedlund, J., Machines, 66.
 Hegreville, P., Shawl, 101.
 Heim, A., Belting, 38, 53.
 Helweg & Co., Boots, 107.
 Hemmer, L. P., Washing machine, 62.
 Hench, A. L., Leather, 112.
 Hench, Geo., Leather, 112.
 Henderson, Annie W., Roses, 94.
 Henderson, C. M., Boots, 107.
 Henderson, D. E., Painting, 128.
 Henderson Hydraulic Car Brake Co., 46.
 Hendey Machine Co., Planer, 24.
 Hendry & Bartholomew, Bird cages, 98.
 Henry, Mrs. Annie M., Paintings, 93.
 Henry, Prof. J., Smithsonian Institute, 72.
 Henshaw, E., Tools, 107.
 Heold, Sisco, & Co., Steam pumps, 41.
 Hepworth, S. S., Extractor, 49.
 Herald, D., Canoes, 59.
 Herezinesk, W., Straps, 70.
 Heriz, E., Models, 138.
 Her Majesty The Queen, Napkins, 98.
 Hermann, G., Machines, 61.
 Hernandez, A., Books, 134.
 Hernandez, Martin Antonio, Works, 137.
 Herreras Berenguer, Mariano, Review, 137.
 Herrick, Caroline K., Panel, 94.
 Herrick, Lizzie A., Carved eggs, 91.
 Herring, W. P., & Co., Skins, 115.
 H. R. H. Princess Louis of Hesse, and H. R.
 H. Princess Christian, Banner screen, 99.
 Hersey, Washburn, & Co., Leather, 113.
 Hertle & Thompson, Wire heddles, 28.
 Heslop, Mrs., Fancy wool work, 99.
 Hesse, C., Metal capsules, 70.
 Hessel, Mrs. C. F., Flower stand, 92.
 Hezel, Herman, Speed indicator, 39.
 Heubel, Miss Melanie, Picture, 89; Wax
 work, 97.
 Heulings, A., Creepers, 107.
 Hewett, Mrs., Book form, 91; Poem, 97.
 Hewitt & Brennan, Swings, 122.
 Hewitt & Follensbee, Machines, 28.
 Hewitt, W., Model, 55.
 Hey, H. T., Gauge, 28.
 Hey, M., Beer pump, 44.
 Heydecke, Wm., Hames, 110.
 Heywood, C. L., & Co., Fire escape ladder,
 43; Bridge guards, 48.
 Hibernia Tannery, Leather, 112.
 Hickman, J., Corn, 129.
 Hickman, Towsley, & Swan, Gas utilizer, 18.
 Hickok, W. O., Paper ruling machines, 32.
 Hicks, J. J., Gauges, 55.
 Hidden, E. S., Leather boards, etc., 112.
 Higgins, H. Van, Meter, 42.
 High Normal School, Books, 138.
 High School of Architecture, Books, 134.
 Highways, School of Engineers of, 134.
 Hill & Clark, Boat hooks, 56.

- Hill, J., Filling box, 28.
 Hill, J. R., & Co., Harness, 110.
 Hill, M. L., Coal, 127.
 Hill, W., Iron ore, 126.
 Hilles & Jones, Slotting machine, 25.
 Hillhouse, Mary, Songs, 91.
 Hillman, L., Measuring machine, 29.
 Hinds, Mrs. F. B., Hair wreath, 97.
 Hine, Franc E., Flowers, 93.
 Hinkley, J., Sweeper, 31.
 Hirst, Miss Claude R., Easel, 92.
 His Majesty the King of Spain, Catalogues, 136; Music, 138.
 Hitchcock Lamp Co., Lamps, 48.
 Hitchcock, S. S., Scales, 46.
 Hoadley Co., Portable engines, 35.
 Hoadley, J. C., & Co., Engine, 53.
 Hoard, Mrs. John W., Tidy, 89.
 Hochlaya, Convent of, Plan, 99.
 Hock, J., & Co., Petroleum motor, 63.
 Hocker, G., Boots, 106.
 Hoe, R. R., & Co., Printing presses, 32.
 Hoffman, A. O., & others, Limestone, 123.
 Hoffman & Hoyt, Copying presses, 33.
 Hoffman, J., Leather, 112.
 Hofmark, Bruno, Belt, 70.
 Holbrook, Harriet Jane, Panels, 93.
 Holcomb, S. N., Hair work, 97.
 Holland Manufacturing Co., Machines, 28.
 Hollinger, A., Leather, 114.
 Hollingshead, Miss H., Picture frame, 92.
 Hollowell, A. D., Illuminated mirror, 98.
 Holmes, C., Painting, 94.
 Holmes, E. & B., Keg machines, 21.
 Holmes, Horatio L., Cap bar, etc., 43.
 Holmes, James, Stave machine, 20.
 Holmes, J. E., Borer, 54.
 Holmes, Payton, & Taylor, Engines, 55.
 Holstein, A., Leather, 114.
 Holyoke Machine Co., Web callender, 29.
 Holzer, Wm., Glassware, 26.
 Homans, Miss S. E., Painted porcelain, 95.
 Home Knitter Co., Knitter for stockings, 31.
 Hook, G., Yacht, 50.
 Hooker, W. D., Steam pumps, 41.
 Hoole, J. R., Perforating machine, 34.
 Hooper, A. S., Portfolio, 98.
 Hooper, C., jr., Basils, 116.
 Hooper, C. W., & Sons, Tanning, 116.
 Hooper, Miss E., Lace work, 99.
 Hooper, Mrs. G. W., Water color design, 95.
 Hoopes, Ellen C., China, 87.
 Hoopes & Townsend, Hardware, 27.
 Hoover, H., & Co., Printing presses, 32.
 Hope & Co., Engraving machine, 28.
 Hope, Miss Mary, Table top, 100.
 Hopkins, A. D., Wheat, 129.
 Hopkins, C., Watch machinery, 32.
 Hopkins, D. A., Journal boxes, 47.
 Hopkins, Florence J., Ferns in ink, 95.
 Horn, W. H., & Bro., Tools, etc., 110.
 Horstmans Bros., Belting, 64.
 Horticultural Society, Review, 137.
 Horton, Crary, & Co., Leather, 112.
 Horton, E., Son, & Co., Lathe, 24.
 Horton, G. B., & Co., Leather, 113.
 Hosmer, Miss H., Marble work, 101.
 Hotchkiss, James, Brick machine, 26.
 Houghton, R. J., Boiler, 34.
 House & Davidson, Doors, 124.
 Houssein Bey, Mrs., Embroidered cover, 101.
 Houston, Smith, & Co., Door mortiser, 22.
 Hovey, W. M., Minerals, 126.
 How, G. C., Slippers, 108.
 How, M., Shoes, 108.
 Howard, George C., Machines, etc., 23, 29, 30, 32, 38, 42.
 Howard Iron Works, Wheel, 24; Cutter, 25.
 Howard, J. W. & A. P., & Co., Leather, 112.
 Howard Manufacturing Co., Machines, 22.
 Howard Safety Boiler M'fg Co., Boiler, 34.
 Howard, Wm. H., Loom frame, 24.
 Howe, H., Injector, 45.
 Howe Machine Co., Machines, 30, 111.
 Howell & Bros., Paper machines, 32.
 Howell, J., & Co., Leather, 113.
 Howell, T. P., & Co., Leather, 115.
 Howes, Babcock, & Co., Brush machine, 48.
 Howland, W. P., Mangles, 31.
 Howobin, W. T., Rollers, 36.
 Hoyt, Andrew J., Steam hammer, 26.
 Hoyt Bros., Leather, 113.
 Hoyt, J. B., Furnace, 35; Belting, 38, 53; Leather, 113.
 Hubbard & Aller, Steam pumps, 40.
 Hubbard, Mabel G., Charcoal sketch, 95.
 Hubbard & North, Leather, 113.
 Hubbard, S. D., Steam pump, 40.
 Huber & McCarter, Meat chopper, 50.
 Hudson, J. & D., Coal, etc., 127.
 Hudson, Mrs. M. A., Point lace, 98.
 Huffer, A., Vacuum pump, 41.
 Huffman, W., Limestone, 124.
 Hufner, R., Leather, 116.
 Huhn, Heinr., & Co., Needles, 62.
 Hull & Belden Co., Hammer, 23; Machine, 31.
 Hull, Mrs. H. M., Picture, 100.
 Hummel, G. W., & Co., Leather, 115.
 Humphreys, A. R., Mineral water, 128.
 Humphreys, Miss L. B., Drawing, 96.
 Hunkins, Mrs. D. Grace, Rolling pin, 87.
 Hunt, C. W., Machine for unloading, 17.
 Hunt, Mrs. Chas. S., Photographs, 96.
 Huntley, Halcomb, & Hine, Bolting cloth, 48.
 Hurd, F., & Co., Shovel, 54; Compressor, 55.
 Hurkamp, J. G., Sumac, 112.
 Hurst, J. R., Sandstone, 123.
 Husquarna Arms Manufacturing Co., 66.
 Hussey, C. A., Engines, 37.
 Huston, Mrs. A. B., Embroidered motto, 89; Mantel, 91; Carved frame, 92.
 Hutchinson, T. C., Anchor, 52.
 Huy, L. M., Interlacings, 101.
 Hyde Bros. & Swift, Oils, 105.
 Hydrostatic and Hydranic Co., Pumps, 41.
 Hyneman, I., Excavating pump, 40.
 Hyslop, John, jr., Tack machine, 22.

I.

- Illera y Maruz, M., Programme, 132.
 Imperial Manufacturing Co., Gas machines, 19.
 Imperial Technical School, Steam engine, 70.
 Improved Steiner Gas Machine Co., 19.
 Inesley, Susan V., Iron stand, 87.
 Ingersoll & Balston, Cotton press, 28.
 Ingersoll Rock Drill Co., Machine, 17.
 Ingham, J., & Sons, Shuttles, 54.
 Ingraham & Beard, Scourer, 49.
 Iniguez, B., Music, 138.
 Inman Steamship Co., Model, 56.
 Innes, A., Leather, 113.
 Inspection General of Public Works, 141.
 Inspection of Woods and Forests, 140, 141.
 Institute for the Deaf and Dumb, 132.
 Institute of Secondary Instruction, 133, 138, 139, 140, 157.
 Inzenga, J., Music, 138.
 Iowa College for the Blind, Fancy work, 90.
 Ipanema Iron Works, Tools, 68.
 Isabella II., Photographs, 138.
 Isaacs & Jacobsson, School house, 144.
 Iscar, F., Cork, 140.
 Israel Bros., Grindstone, 62.
 Itamaraty, Viscountess de, Pin case, 102.

J.

- Jackson, E., Model, 141.
 Jackson, J. L., Steering apparatus, 50.
 Jacob, Ch. Moise, Cushions, 61.
 Jacobina, T. D., Tapestry work, 102.
 Jacquemin, Mrs. E. F., Artificial flowers, 90.
 Jaeger, G. L., Pasting machine, 33.

Jaen, Chief Engineer of, Wood, 140.
 James, B., Spools for silk, 29.
 James, Mrs. J. A., Paintings, 99.
 James, Mary J., Painting, 95; Chess table, 87.
 James, Mrs. T. P., Memorial, 91.
 Jamison, S. S., Water injector, 40.
 Jamison, S. W., Boot & Shoe Crimping Machine Co., Machine, 111.
 Janvier, Mary R., Curiosities, 91, 98.
 Jardine, Mrs. E., Point and net lace, 99.
 Jarecki Manufacturing Co., Brass work, 45.
 Jareño de Alarcon, F., Models, 134.
 Jasper, G. F., Heater and filter, 40.
 Jay, Miss E. C., Stamp moistener, 90.
 Jeffery, T. B., Engines, 37.
 Jeffries, J., & Sons, Locomotive, etc., 48.
 Jenckes, E., & Co., Ring travelers, 29.
 Jenkins Bros. & Co., Shanks, 106.
 Jenkins, Lane, & Sons, Shoes, 107.
 Jenkins, Mrs. R. E., Shoes, 90.
 Jenkins, Staylor, & Co., Leather, 113.
 Jenkins, T. A., Rear Admiral U.S.N., 72.
 Jenkins, Wm. H., & Co., Feeder, etc., 39.
 Jenks, A. S., Bits, 109.
 Jeremias, T., Tissue paper flowers, 97.
 Jerome, W. R., Motor, 37.
 Jersey City Iron Works, Frogs, 48.
 Jersey City Wheel Foundry & Machine Works, Car wheels, 48.
 Jessop, Mrs. Henry, Honiton lace, 89.
 Jesus Maria, Convent of, Plan, 99.
 Jewell, P., & Sons, Belting, 38.
 Jewett & Keating, Leather, 114.
 Joes, Mrs. Arthur C., Miniatures, 94.
 Johns, H. W., Asbestos, 36; Felting, 53.
 Johnson, C. E., Paper feeding machine, 33.
 Johnson, Chas. E., & Co., Railway car, 46.
 Johnson, Clark, & Co., Sewing machines, 30.
 Johnson, D. D., Fire clay, 127; Timber, 128; Tobacco, 130.
 Johnson, H. C., Ship model, 51.
 Johnson, H. H., Maps, 128.
 Johnson, J. F., Ores, 126; Woods, 129.
 Johnson, L., & Co., Slippers, 108.
 Johnson, Misses H. & M., Carvings, 91, 92.
 Johnson, N. M., Boots, 106.
 Johnson, W., Lathe chuck, 28.
 Joint Stock Society for the Manufacture of Machines and Tools, 64.
 Joliet, Convent of, Plan of institution, 99.
 Joliot, S., Car brakes, 61.
 Jones, Anna S., Tatted cushion cover, 88.
 Jones, C. C., Pump, 58.
 Jones, Mrs. D. S., Afghan, 90.
 Jones, Frederick, & Co., Shoes, 107.
 Jones & Holmes, Elevators, 43.
 Jones, J. McA., Boat apparatus, 50.
 Jones, Lamson, & Co., Lathes, 24.
 Jones & Laughlin, Pulleys, 53.
 Jones & Laughlins, Iron, 38.
 Jones, Mrs. M. A., Clothing, 88.
 Jones, W., & Co., Leather, 115.
 Jönsson, H., Fancy articles, 100.
 Jorba, J., Piano attachment, 138.
 Jordan, Miss Laura B., Cabinet, 92.
 Jordana y Morera, R., Work on forests, 141.
 Jover y Puig, Antonio, Books, 137.
 Judkins, Miss E. M., Paintings, 97.
 Juliá y Garcia, Eusebio, Photographs, 139.
 Jullien & Jennar, Axle, etc., 64.
 Juncal, Benito, Treatise, 135.
 Justh, E. L., Shoes, 108.

K.

Kacy, Robert F., Fan blower, 23.
 Kafer & De Lacy, Heater, 112.
 Kafka, H., Architect, 131, 143, 144, 145.
 Kahlke & Detlefsen, Machine, 62.
 Kahnweiler, D., Cork jacket, 51.
 Kampmann, Mrs. L., Hair work, 97.
 Kanawha Salt Co., Brines, etc., 127, 128.
 Kanawha Semi-Cannel Coal Co., Coal, 127.

Karr, E. F., Architect, 150.
 Karr, Wm., Harness, 110.
 Karrer, J. & A., Leather, 115.
 Kasson, C. Valette, Continuous rail, etc., 48.
 Katzenstein, L., & Co., Metallic packing, 39.
 Kaumanus, F. H., Leather, 116.
 Kay, Helena de, Painting, 94; Drawings, 95.
 Keen & Coates, Leather, 112.
 Keene Bros., Shoes, 106.
 Keep, Mrs. John R., Painting, 93.
 Keesey, I. B., Laurel root, 130.
 Kelim, C., Handkerchief, 101.
 Kelley, Miss Lina, Pincushion cover, 89.
 Kelley & Moore, Shoes, 107.
 Kelley, W. E., Boiler, 35, 52; Steam pumps, 40.
 Kellogg, Mrs. D. G. M., Hosiery, 88.
 Kelsey, Phoebe M., Meat tenderer, 87.
 Kelsey, W. A., & Co., Printing presses, 32.
 Kemper, Mrs. Theodore, Tray, 92.
 Kennedy, De Lancy, Punching machine, 25.
 Kennedy, W., & Son, Planer, 57; Water wheel, 58.
 Kenny & McPartland, Shoes, 106.
 Kent, E. E., & Co., Boots, 106.
 Kent, Miss, Painting, 100.
 Kenyon, J. A., & Co., Leather, 113.
 Kenyon, J. H., Meat choppers, 50.
 Kerfoot, Annie, Paintings, 94.
 Kerper, H., Leather, 113.
 Kerr, N. M., & Co., Paper boxes, 33.
 Kesiah, M., Indian work, 90.
 Kessler & Bro., Harness, 110.
 Kessler, H., Leather, 114.
 Keyser, Mrs. E., Clothing, 88.
 Keystone Portable Forge Co., Forges, 23, 52.
 Kidd, Mrs. N. R., Flower stand, 92.
 Kiefer, Stiefel, & Co., Leather, 114.
 Kiehle, R., Sewing machines, 62.
 Kilsheimer, F., Boots, 106.
 Kimball & Morton, Sewing machines, 55.
 Kimberley, N. G., Mills, 54.
 King, C. W., Force pumps, 41.
 King, F. L., Steam engines, 55.
 King, G., & Co., Cork, 140.
 King, Mrs. Henry, Shawl, 80.
 King, Wm. H., Soap press, 18.
 Kingwood Gas Coal & Iron Co., 126.
 Kinley, A., Leather, 113.
 Kirk, G. R., Lubricator, 44.
 Kirkpatrick, Kinzey, & Co., Leather, 113.
 Kitson Machine Co., Cotton openers, 28.
 Klautschek, Thomas, & Stuart, Glass, 147.
 Klein, C. C., Engine, 37.
 Kline, Aaron K., Governor, 39; Coupling, 46.
 Klinghammar, T., Flowers, 100.
 Klippart, Josephine, Painting, 95.
 Knapp Dovetailing Machine Co., 22.
 Knauff, T. C., Organs, 119.
 Kneass, N. B., jr., Music press, 32.
 Knees, C., Patterns, 106.
 Knickerbocker Ice Co., Ice tools, 45.
 Knight, E. H., Wrench, 27.
 Knolt, K., Car, 58.
 Knowles & Bro., Looms, 28.
 Knowles Steam Pump Works, 53.
 Knowlton & Dolan, Water wheel, 36.
 Knowlton, Helen M., Painting, 94.
 Knowlton, John L., Saws, 19.
 Knox, D., Machines, 111.
 Kockum Machine M'fg. Co., Models, 66.
 Koeningberg, J., Model of oven, 18.
 Kohn, Jacob, Wines, 123.
 Kohn, Miss A., Album, 90.
 Komaroff, N., Sheep-skins, 116.
 Koontz, G., Corn, 129.
 Koorikoff, P., Leather, 116.
 Köpings Machine Manuf'g Co., 66.
 Korne & Currie, Harness, 110.
 Kreider, Campbell, & Co., Paint mill, 17; Engine lathe, 24; Engine, 35; Mills, 49.
 Krippendorf & Hart, Shoes, 107.
 Kristinehamm Machine M'fg Co., 66.
 Krom, S. R., Ore crushers, 17.

Krumbhaar, A., Files and rasps, 27.
 Krupp, Fried., Ores, weapons, 63.
 Kuenhold, F. B., Hardware, 109.
 Kuh, S., Straw twister, 29.
 Kurtz, H. I., Lithographs, 32.
 Kyle, H., Woods, 128.

L.

Lachaume, J., Architect, 149.
 Lachine, Convent of, Plan, 99.
 Ladd, Miss Gertie, Book frame, 87; Music, 90.
 Ladd, Miss Marion, Manuscript, 91.
 Ladies Centennial Committee, Worcester,
 Wood carvings, 93; Paintings, 95.
 Ladies of Immanuel Church, Needlework, 88.
 Ladies' Seminary of Madrid, Work, 132.
 Lafferty, H. W. & R., Sugar drainer, 49.
 Laffer, J. A., Brick-making machine, 26.
 La France M'fg. Co., Pumps and engine, 41.
 Lagowitz, J., & Co., Trunks, 109.
 Lahaye, J. J., Car couplings, 46.
 Laidley, J. B., Sandstone, etc., 127.
 Laidley, T. T. S., Ordnance corps, U.S.A., 73.
 Laird, Schober, & Mitchell, Shoes, 107.
 Lalance & Grosjean Manf'g. Co., Fountains,
 44.
 Lamana y Gonzalez, S., Indicator, 138.
 Lambert, P. W., & Co., Leather goods, 109.
 Lamb Knitting Machine Manf'g Co., 30.
 Lamm, J., Fire extinguisher, 43.
 Lammertz, L., Needles, 62.
 Lamos, Architect, 143.
 Lampert, H., Machine, 111; Leather, 114.
 Lancaster Furnace & Mining Co., Ore, 126.
 Lancaster, W., Loom, 54.
 Landis, Mrs. D. C., Pastel painting, 95.
 Lane Bros., Motor, 39.
 Lane & Bodley, Mortisers, 19; Saw mill, 22.
 Lane Manufacturing Co., Saw mills, 20; 36.
 Lane, Miss S. M., Painting, 94.
 Lang, A. J., Cement, etc., 127.
 Lang, W. Bailey, & Co., Tires, 47.
 Lang & Wanner, Leather, 114.
 Lange & Co., Hose, 70.
 Lanham, G., Sandstone, etc., 127.
 Lanham, Zadock, Limestone, 127.
 Lansing, H. S., Gate, 48; Railroad gate, 53.
 Lapham, H. G., Leather, 113.
 Lapham, Smibert, & Co., Leather, 113.
 Lapiere, Z., Boats, 59.
 Lappe & Hax, Leather, 114.
 Lappe, J. C., Leather, 114.
 La Quintinie, A., & Co., Tools, 60.
 Larkum, Mrs. Edward, Tidy, 89.
 Larlwig & Batten, Freezer, 45.
 Larned, Ellen D., History, 91.
 Larrabee, E., & Sons, Leather, 115.
 Lasala Martinez, A., Book, 133.
 Lascole, A., Apparatus, 60.
 Lathrop Anti Friction Co., Sewing ma-
 chine, 31; Lubricator, etc., 39.
 Lattimon, D. I., Suction fan, 22.
 Laumonier, Mrs. C., Traveling bag, 90.
 Laurence, Benjamin, Milling machine, 23.
 Laurent, J., & Co., Photograph, 139.
 Lavers, A. H., Cement tester, 54.
 Lawlor, J. D., Sewing machines, 57.
 Lawrence & Co., Refrigerators, 56.
 Lawrence, Frank, Cupola, 23.
 Lawrence, J. H., Leather, 114.
 Lawrence, W. H., Oil cans, 53.
 Laws, Miss Lizzie T., Flower stand, 92.
 Lawson, P., Roving can, 28.
 Lawson, S., & Sons, Machinery, 55.
 Leão, A. C. de, Pillow shams, 101.
 Leão, M. de, Interlacings, 101.
 Leas & McVitty, Leather, 112.
 Leas, Wm. B., Leather, 112.
 Leavitt, Miss H. J., Crayon, 96.
 Lebanon Manufacturing Co., Coal cars, 46.
 Le Bas, Clutch, 61.
 Lecerf, L., Materials, 60.

Ledgerwood M'fg. Co., Engine, 52.
 Lee, W. C., Leather, 113.
 Leffel, J., & Co., Water wheel, 36.
 Legat, D., Machines, 60.
 Legrand, A., Sleepers, etc., 64.
 Leguina, E., Book, 136.
 Leh, H., & Co., Boots, 106.
 Lehman, Architect, 131.
 Lehman, B. E., Gauge-cocks, etc., 39.
 Leigerot, Mrs. Marie, Thread lace, 88.
 Leigh, W., Corn, 129.
 Lejeune, Machine, 61.
 Leme, R. P., Flowers, 102.
 Lemus, Eugenio, Engraving, 139.
 Lent, A. E., Printing press, 32.
 Leonard, F. L. J., Railway brakes, etc., 64.
 Leonard, Miss Louise, Lace ends, 88.
 Leonard & Silliman, Mill spindle, 29; Eleva-
 tor, 43; Mills, 49.
 Leonard, T. M., Oil cups, 40.
 Leon Maine, Ramon, Review, 137.
 Le Page, W. N., Force pumps, 40.
 Lerida, Board of Instruction of, Books, 136.
 Lerner, H., Bromine, 128.
 Leroy, F., Models, 60.
 Lesjofors Iron & Steel Co., Cables, 66.
 Lesser, G., Steam cylinder, etc., 70.
 Lessner, G., Driller, 69.
 Letterman, W. H., Coal, 127, 129.
 Le Van, W. B., Engine governors, 40.
 Levi & Berg, Blacking, 105.
 Lewis, F., & Co., Ores, 126.
 Lewis, J. D., Coal, 127.
 Lewis, R. E., Machine, 110.
 Lewis, R. S., Iron, etc., 31.
 Lewiston Coal Co., Coal, 127.
 Lewistown Brass & Engine Co., 37, 45.
 Liarsky, N., Road roller, 70.
 Libotte, N., Cages, 64.
 Lienard, Colonel, Georama, 130.
 Liggett, Miss C. S., Engraved cards, 96.
 Lighthouse, J. C., Horse collars, etc., 110.
 Lilly, J., & Co., Printing presses, 55.
 Lilly, Young, Pratt, & Brackett, Shoes, 107.
 Lilpop, Rau, & Lovenstein, Steam engine, 70.
 Limet-Lapareille & Co., Files, 60.
 Linderman, Mrs. Sophia, Paintings, 93.
 Lindlaw, J. E., Fire escape, 43.
 Lion & Guichard, Manometer, 61.
 Lippincott, C., & Co., Soda water apparatus,
 44.
 Literary University, Books, 133, 134.
 Little, Miss, Lace, 89.
 Livingstone, L. M., Tailors' system, 88.
 Llacayo, A., Books, 136.
 Lladós y Ruiz, Magin, Periodical, 137.
 Llerens Bros., Dictionaries, 137.
 Llorente y Lázaro, R., Compendium, 134.
 Loag, S., Designs, etc., 32.
 Lobdell Car Wheel Co., Machine, 24; Iron
 rolls, 29; Engines, 37, 47.
 Local Institute of Secondary Instruction, 133.
 Locher & Atkinson, Morocco, 116.
 Lockwood, F. A., Machine, 111.
 Lockwood, Minnie S., Water color, 95; Illumi-
 nation, 98.
 Lockwood, W. E. & E. D., Machine, 34.
 Loeb & Bros., Calfskins, 114.
 Loeff, P., Model brick kiln, 62.
 Logan, J. M., Model boat, 56.
 Logette, A. Y., Clasps, 61.
 Loiseau, E. F., Pressed fuel, 132.
 Loke, Mrs. C., Footstool, etc., 100.
 Loma y Corradi, Blas de, Reviews, 137.
 Lonergan & McBride, Lubricators, 40.
 Long, Allstater, & Co., Machines, 24.
 Long, D., & Co., Pipes, etc., 45.
 Long, F., Leather, 116.
 Long, J., & Co., Power looms, 28.
 Longdale Coal & Iron Co., Coal, 127.
 Loomis, E., Crayon drawings, 96.
 Loomis, Enrilda, Painting, 94.
 Lopez, Almagro A., Method, 134.
 Lopez, E., Flower stand, 102.

- Lopez, Fabra Francisco, Book, 137.
 Lopez, J. F., Handkerchief, 101.
 Lopez Seoane, V., Woods, 140.
 Lopez Valdemoro Ortiz de Lazcano, Crayon, 139.
 Lopez y Gomez, S., Book, 138.
 Lorchetes, A., Steganographic apparatus, 70.
 Lordy, Howe, & Co., Turning lathe, 57.
 Loscos, F., Herbarium, 133.
 Lotz, F., Machinery, 62.
 Lounds, Carrie A., Crayon, 96.
 Lovegrove & Co., Machine, 24; Boilers, 35; Engine, 37.
 Lovejoy, Mrs. C. P., Fern leaves, 98.
 Lovejoy, Mrs. Perley R., Handkerchief, 89.
 Loving, Mrs. Abigail F., Mittens, 88.
 Lowe & Watson, Boiler, 34, 52.
 Lowell School of Design, Designs, 97.
 Lowell Schools of Drawing and Design, Photographs, 97; Decorations, 98.
 Lowell, Women's Centennial Committee of, Hosiery, 88.
 Loyzaga & Co., Newspapers, 141.
 Lozano de Vilches, E., Books, 136.
 Lozano y Escobar, R., Sumac, 140.
 Lozano y Villarejo, Mateo, Album, 139.
 Lucas, Mrs. Mary, Handkerchief, 88.
 Luce, Miss Caroline, Honiton lace, 88.
 Luciro Gonzalez, J., Works, 133.
 Ludlow Valve Manufacturing Co., 45.
 Ludy, C., & Sons, Calfskins, 114.
 Lugo Provincial Deputation, Map, 138.
 Lugo Provincial Institute, Woods, 140.
 Lukens, J. H., Railway switch stand, 48.
 Lunkenheimer, F., Lubricators, 45.
 Luther, Miss M. M., Painted photograph, 96.
 Luther, Mrs. B. J., Mosses, 98.
 Luz, F. F. da, Embroidery, 101.
 Lyall, J. & W., Motion looms, 29.
 Lyford, Col. S. C., Ordnance corps, 72.
 Lyman, Miss Abby, Water colors, 95.
 Lyman, W., Rowing gear, 50.
 Lynch, A., Harness, 110.
 Lynde, J. D., Boiler, 35; Engine, 37; Governors, etc., 39.
- M.**
- Maas, Albert W. M., Model, 26.
 Mabile, Valère, Railway plant, 64.
 Macabies, Feeder, 61.
 Macarthy, J., Bran picker, 49.
 Macdaniel, Miss F. L., Pressed flowers, 97.
 Macdermott, M., Perforators, 97.
 Macdonald, Dr. C. F., U. S. P. O. Dept., 72.
 Machine Co., Bowmanville, Machines, 57.
 Mackellar, Smiths, & Jordan, Machinery, 33.
 Mackenzie, D., Reader, 54.
 Maclachlan, Hopkins, & Co., Machine, 32.
 Maclay, J. W., Water meter, 43.
 Madrid Academy of Medicine, Book, 135.
 Madrid Academy of Physical and Moral Sciences, Publications, 135.
 Madrid, Arsenal of, Military works, 134.
 Madrid, Corporation of Mountain Engineers, Resins, 141.
 Madrid, Corps of Forest Engineers, Woods, 140.
 Madrid, Corps of Military Engineers, 138.
 Madrid, Direction General of Cavalry, 136.
 Madrid Institute of Instruction, 132.
 Maffei, E., Mineral bibliography, 136.
 Magaz, J., Treatise, 134.
 Magza y Jaime, J., Treatise, 133.
 Maigrou, F. A., Machine, 60.
 Makaroff, T. R. N., Safety mats, 70.
 Maldine, H., Siphons, etc., 61.
 Maldonado Macanaz, J., Book, 134.
 Malleable Iron Fittings Co., Gas fittings, 23.
 Mallory, W. H., Yacht, 51.
 Manes, James, sr., Furnace, 18.
 Mangin, F. H., Child's dress, 101.
 Manheim, Wm., Harness loops, etc., 110.
 Manila Municipal Athenæum, 141.
 Manila Municipal School for Girls, 141.
 Mann, M., Limestone, 127.
 Mann, W. H., Paging machine, 32.
 Manning, R., Winker plates, 109.
 Mansfield Elastic Frog Co., Frogs, 48.
 Mapleton Tannery, Leather, 112.
 Maraini, Madame A., Marble busts, 100.
 Mardorf, C., Leather, 114.
 Marengo, J. & A., Cigarette machine, 59.
 Marichalar, A. y M., History, 136.
 Mariezcurrena, Heriberto, Photographs, 139.
 Marin Baldo, José, Plan, 139.
 Marquand, Miss Laura M., China, 95.
 Marquis, F. H., Ship models, 59.
 Marrs, J., Oats, 129.
 Marsh, Mrs. Charles P., Embroidery, 88.
 Marshall, C., Medical cabinet, 90.
 Marshall, Son, & Co., Machinery, 33.
 Marshall, T. J., & Co., Dandy rolls, etc., 55.
 Marston, J. M., Sawing machines, 20.
 Martin, A. B., & Co., Leather, 116.
 Martin, C., Anchors, 56.
 Martin Carnes, E., Woods, 140.
 Martin, Celestin, Looms, etc., 64.
 Martin, Charles, Steam engine, 58.
 Martin, Mrs. E., Painting, 97.
 Martin, Henry, Brick machine, 26.
 Martin, Mrs. J. H., Flowers, 90.
 Martin & Riedel, Leather, 114.
 Martin, Mrs. S. L., Panels, 93.
 Martin, T. J., Cards, 64.
 Martinez Acubilla, I., Book, 136.
 Martinez Aleson, T., Book, 136.
 Martinez Anguiano, Pedro, Works, 135.
 Martinez Cubells, E., Geometry, 132.
 Martinez Espinosa, Juan, Engravings, 139.
 Marzo y Feo E., Method, 134.
 Masa y Sanguineti, José, Books, 137.
 Maslin, T., Corn, 129.
 Mason, John L., Tnyere, 23.
 Mason, J. S., & Co., Blacking, 105.
 Mason Machine Works, Locomotive, 46.
 Mason, Volney W., & Co., Pulleys, 38; Elevator, 42.
 Maspons y Labrós, Francisco, Books, 137.
 Massachusetts educational exhibit, 96.
 Massachusetts State Com'n, Water craft, 51.
 Massachusetts State Normal Art School, Casts, 91.
 Massachusetts, Women's Centennial Committee of, Books, 91.
 Massat, A., Publication, 136.
 Massey, B. & S., Hammers, 54.
 Mast, P. P., & Co., Boiler, 53.
 Master of San Juan, Treatise, 133.
 Mast Maker's Shop, Models, 70.
 Mata, M. de la, Method, 134.
 Mata y Fontanet, P., Books, 133, 136.
 Matalana, Mariano, Manual, 137.
 Maten, José Maria, Plates, 139.
 Mathieu, Charles, Glass steam engine, 26.
 Matta, C. A. da, Tapestry work, 101.
 Matthewman & Johnson Pump Co., 41.
 Matthews, J., Soda water apparatus, 44.
 Maura, Bartolome, Engraving, 139.
 Maurice, Widow, & Guenin, Machines, 61.
 Mauser & Haid, Stone, 123.
 Mawhinney, H. H., & Co., Shoes, 108.
 Maxim, Nellie, Panel, 93.
 May, Withey, & Drake, Machine, 111.
 Mayer & Stern, Shoes, 107.
 Maynard, Ely, & Roso, Leather, 113, 114.
 Mazen, Mrs. E. M., Paintings, 99.
 McCaffrey & Bro., Files and rasps, 27.
 McCaithy, Miss Eva, Piano cover, 89.
 McCloskey, J., Sewing machines, 31.
 McCloskey, Miss Lizzie, Wall pocket, 92.
 McCollum, L. A., Cracker machine, 50.
 McConnell, J., Radiators, 35.
 McCreery, W., Ore, 126, 129.
 McCutchen, J. F., Engine, 37.
 McDermott, J., & Co., Stone, 123.
 McDonald Mrs. de B., Gobelin tapestry, 99.

- McDowell, Miss W. H., Gothic stand, 92.
 McFadden, P., Harness, 110.
 McFarlane, Thum, & Co., Drill, 57.
 McGilvery, S. W., Ship model, 50.
 McGregory, Dr., Petroleum, 126; Book, 128.
 McIlhenny, George A., Door for gas retorts, 18.
 McKay, A., Boiler, 58.
 McKay Sewing Machine Association, 111.
 McKechnie & Bertrand, Machines, 57.
 McKee, Fuller, & Co., Car wheels, 47.
 McKeough, J. W., Dome, 58.
 McKinstry & Childs, Leather, 113.
 McKnight & Rohrer, Handles, 129.
 McLaughlin, Grover, & Lloyd, Dies, etc., 111.
 McLaughlin, Miss M. L., Bust, 91; Cabinet, 93; Painted panels, 94; Decorations, 95.
 McLean, J. L., Minerals, 126.
 McLean & Bennor Brick Machine Co., 21.
 McMechen, S. A., Iron ores, 126.
 McNab & Harlin Mfg. Co., Valves, etc., 40.
 McNabb, M., Car coupler, 58.
 McNair, Linda H., Book mark, 90.
 McNally, W. G., Ohio coat of arms, 123.
 McNeal & Black, Leather, 112.
 McNeal, R., Corn, 129.
 McNeely & Co., Leather, 116.
 McNeil, G., Heater, 52.
 McPherron, H. E., Wax cross, 97.
 McPherson, J., Mineral water, 128.
 McShane, Henry, & Co., Bells, 39.
 Mechanical Card Factory, Cards, 62.
 Mechanics' Athenæum, Rules, 134.
 Mecutchen, J. G., Smutter, 49.
 Medinaceli, Duchess, Resin wood, 140.
 Medina & Navarro, Books, 136.
 Meeker, D. M., & Sons, Cylinder, 37.
 Megy, Echeverria, & Bazan, Elevators, 61.
 Meiners, C., & Sons, Saw mill, 22.
 Meissner, J. H., Grates, 34.
 Melian, J., Wood, 140.
 Melville, A. W., Iron ore, 126.
 Melvin & McMorris, Artesian well, 17.
 Mencha y Rodriguez, Faustino, Figure, 139.
 Mendenhall, U., Minerals, 126.
 Menendez & Pintado, Album, 133.
 Menon, Mrs. M., Pupils' work, 100.
 Menzies, Miss R. N., Bracket, 92.
 Mercantile Athenæum, Madrid, Books, 135.
 Merchant & Co., Tubes, etc., 45.
 Merckell, Mrs. J. H., Furs, 92.
 Meredith, Hon. Mrs., Painting, 100.
 Meredith, Mrs. L. P., Decorated china, 95.
 Merrill, Chas., & Sons, Drop hammer, 23.
 Merrill & Keizer, Gauge cocks, 44.
 Merrill, Miss Susie, Flower stand, 92.
 Merriman, A. H., Punching press, 24.
 Merritt, A., Boat, 59.
 Merritt, Daniel S., Punch for metals, 25.
 Merritt, Mrs. Jane E., Cape, 83.
 Mervine, Samuel P., jr., Gas regulator, 19.
 Messequer, Manuel, Books, 135.
 Messick, Mrs., Ornamental writing, 96.
 Mestre, A. de, Machines, 61.
 Mestres, José O., Monuments, 139.
 Mestrezall, W., Board, 129.
 Metallurgical Art Works, Bronze castings, 40.
 Metcalf, Miss Flora, Shield, 92.
 Metz, Geo. W., & Sons, Bellows, 23.
 Meyer, C. A., Boots, 107.
 Meyer, E., Kid, 116.
 Meyer, F. W. A., Drawing, 58, 59.
 Meyer, H. C., & Co., Hydrants, faucets, 44.
 Meyer, R., Buckskin, 115.
 Meyers, F., Scales, 46.
 Michel, A. M., Leather, etc., 114.
 Michelot, jr., Stands and cases, 61.
 Mick, W., Hose, 73.
 Middleton, John W., Iron, 22.
 Middleton, N. & A., & Co., Car springs, 47.
 Midvale Steel Works, Steel, 22; Rails, 47.
 Mignon & Rouart, Motors, 60.
 Miiek, B., Straps, 70.
 Mikhailoff, A., Sable, 116.
 Mila y Fontanal, Manuel, Book, 137.
 Miles, G. W., Boat, 50.
 Miles, W. A., Car wheels, 47.
 Military Archives of Rio de Janeiro, Arms, 68.
 Mill Creek Cannel Coal Co., Coal, 127.
 Millar, W. C., Wheat, 129.
 Miller, C. B., Steam generator, 35; Boiler, 52.
 Miller Flanges Co., Flanges, 58.
 Miller, F., Son, & Co., Oils, 105.
 Miller, G., Ores, 126.
 Miller, H. G., Specimens of printing, 90.
 Miller, J. H., Sandstone, 127; Woods, 129.
 Miller, J. & J., & Co., Leather, 115.
 Miller, L. C., Architect, 130.
 Miller, McCulloch, & Ober, Boots, 106.
 Miller, Samuel P., & Sons, Brick machines, 26.
 Miller, T. L., Machines, 112.
 Miller, W. P., Lubricant, 40.
 Miller's Falls Co., Scroll saw, 24.
 Mills, T., & Bro., Freezer, 45; Tools, 49.
 Miltimore Car Axle Co., 47.
 Minas Geraes, Province of, Tools, 68.
 Mineral Society, Salamanca, Memoir, 135.
 Mingote, P., Geography, 133.
 Miralles & Peris, Plan, 133.
 Mirlees, Tait, & Watson, Sugar mills, etc., 56.
 Miró, Juan, Jarez de la Frontera, Books, 137.
 Miró, O., Crochet lace, 101.
 Misericordia School of Rio de Janeiro, Embroidery, 101.
 Mitchell, Mrs. Carrie, Furniture, 87.
 Mitchell, J. E., Grindstones, 23; Blocks, 110.
 Mitchell, J. H., Grindstone boxes, 25; Engines, 37; Deck pump, 41; Grater, 49.
 Mitchell, Mrs., Gum, 100.
 Mitchell, Miss M. A., Leather work, 99.
 Mitchell, Mrs. Nellie D., Painting, 95.
 Mitchell, R., & Co., Bending machine, 57.
 Mitchell & Teeple, Sawing machine, 57.
 Moffat, D., & Co., Leather, 114.
 Mohawk & Hudson Mfg Co., Valves, 44.
 Molano, P., Cork, 140.
 Molinero, Enrique, 132.
 Molinos del Duero, Corporation of, 140.
 Monasterio, M., Work on construction, 136.
 Moncrieff, I., Gauges, steam boiler, 55.
 Mondollot, A., Siphons, etc., 61.
 Mondria, Mariano, Works, 135.
 Monitor Coal Cutter Co., 17.
 Monk, C., Iron moulders' tools, 27.
 Monks, Mary E., Painting, 94.
 Monongahela Gas Coal Co., 127.
 Monreal y Ascaso, B., Geography, 132.
 Monroig, daughter of Ramon, Dye stuffs, 140.
 Montani, Pierre, Architect, 143.
 Montells y Nadal, J., Books, 132.
 Montenegro, P. L., Cork, 140.
 Montero, A., Books, 132.
 Montgomery, R. M., Sandstone, 123.
 Mooney, W. W. & J. E., Leather, 115.
 Moore, Miss A. G., Flower stand, 92.
 Moore, R., Stove, 141.
 Moore, T., Horse collars, 110.
 Moore, W. B., Shoes, 106.
 Moorhouse, R. O., & Co., Engine, 37.
 Moragas, Manuel Gracia, Photograph, 139.
 Morand, Augustus, Brick machine, 21.
 Morane, jr., Press, 61.
 Mordecai, Miss Rosa, Parasol cover, 89.
 Moreau, L., Pumps, 64.
 Moreley, E., Ship models, 59.
 Moreno Villena, P., Treatise, 138.
 Moreno y Espinosa, Compendium, 133.
 Moreno y Roig, Book, 137.
 Morgan & Dore, Shoes, 108.
 Morrill, Hon. L. M., Sec. of Treasury, 72.
 Morris, I. P., Co., Blowing engine, 42.
 Morris, Mary Hay, Painting, 94.
 Morris, Tasker, & Co., Machinery, 18; Tools, 44.
 Morris, Wheeler, & Co., Nail machine, 22.
 Morrison, D., Corn, 129.
 Morrison, J., Gauges, 58.
 Morrison, Mrs., Photographs, 100.
 Morse, Eddy, & Co., Machines, 111.

Morse Twist Drill & Machine Co., 27.
 Moseley, Jerome S., Scroll-saw machine, 20.
 Moseman, C. M., & Bro., Harness, etc., 110.
 Mosler, G. J., Ship wheel, 59.
 Mosser & Keck, Leather, 113.
 Mosser, W. F., & Co., Mill, 18; Wheel, 36.
 Motala Iron & Steel Co., Engine, 65.
 Mott, J. L., Iron Works, Fountain, 152.
 Motts, G., Harness, 110.
 Moulded Heel Stiffening Co., 108.
 Mountain, Mrs. H. B., Mattress, 87.
 Mowbray, G. M., Electric exploders, 17.
 Mower & Bro., Shoes, 108.
 Mower, E. W. & C. F., Shoes, 106.
 Mower, F. B., Boots, 108.
 Moy, T., Engines, etc., 55.
 Moya, A., Arithmetic, 132.
 Moyer, E. P., & Bros., Harness, 110.
 Mudge Hook, Tooth, File, & Rasp Co., 27.
 Mudge, W. R., Leather, 108.
 Muenchmayer, H. & L., Minerals, 126; Wine, 130.
 Muir, T., Car coupler, etc., 58.
 Müller, C., Sewing machines, 62.
 Muller, E., Vamps, 116.
 Muller & Co., Safety fuse, 64.
 Mungon Bros., Levers, etc., 48.
 Muñoz Mendez, E., Seeds, 141.
 Murillo, M., Report, 136.
 Murphy, F., Ventilators, 42.
 Murphy & Harle, Extinguisher, 58.
 Murphy's Run Coal Mine, Coal, 127.
 Murphy's, W. F., Sons, Machine, etc., 33.
 Murray Iron Works Co., 37; Choppers, 50.
 Murrill & Keizer, Regulator, 35.
 Murtland, M. M., Flowers, 94; Crayon, 96.
 Museum of Artillery, Madrid, Plates, 139.
 Mussot, A., Wood-working machinery, 22.
 Mutual Aid Society, Oreense, Rules, 138.
 Myers, S., & Son, Governor, 58.

N.

Napoleon, A. F., & Son, Photographs, 139.
 Naranjo y Garza, F., Works, 138.
 Nash, Mrs. F., Dagger plant ornaments, 99.
 Nashua Iron & Steel Co., Axles, 47.
 Nathan & Dreyfus, Oil cups, 53.
 National Archaeological Museum, Madrid, 138.
 National Boot & Shoe Tip Co., 108.
 National Calcography, Madrid, Cuts, 139.
 National Car Spring Co., 47.
 National Hat Pouncing Machine Co., 31.
 National Institute for Deaf, Dumb, & Blind, 132.
 National Leather Co., Leather, 115.
 National Library of Madrid, 132.
 National Meter Co., 42.
 National Mint, Coins, 138; Photographs, 139.
 National Mint, Machines, etc., 68.
 National Needle Co., Needle machine, 32.
 National Rubber Co., Shoes, hose, etc., 109.
 National Suspender Co., Loom, 30.
 National Tube Works Co., Pipes, etc., 44.
 National Water Wheel Co., 36.
 Natt, Phebe Davis, Painting, 93.
 Natté, M., Flowers, 102.
 Nautical School, Text books, 133.
 Naval Museum, Models, 70.
 Navaleno, Corporation of, Wood, 140.
 Navarro Izquierdo, Luciano, Book, 135.
 Navarro Reverter, Juan, Memoirs, 137.
 Navy Arsenal, Models, etc., 68.
 Navy Department U. S., 76, 78.
 Navy Yard at Rio de Janeiro, Models, 68.
 Naylor, J., Engines, 37.
 Naylor & Jeffries, Carpet-rag looper, 29.
 Neafe & Levy, Propeller wheels, etc., 39.
 Nebreda y Lopez, C., Instruction, 132.
 Needham & Kite, Filter press, 55.
 Nelson, M., Printing machine, 33.
 Nelson, N., Brake, 46.
 Nelson, T., & Co., Water pipe, 57.

Nepper, E. & D., Leather, 114.
 Netto, M. P., Robe de chambre, 101.
 Neut, L., & Dumont, L., Pumps, 61.
 Nevada, State of, Quartz mill, 17, 120.
 Neves, F. Candido das, Stop cocks, 68.
 Neves, I. S. das, Tapestry work, 101.
 Neville, Mrs., Leather work, 99.
 Nevin, Blanche, Models, 91.
 Newbold, Richard S., & Son, Shear, 25.
 New Brunswick Rubber Co., Boots, 109.
 Newbury, A. & B., Printing press, 32.
 Newbury, Miss R., Scent bags, 90.
 Newcomb & Walker, Shoes, 106.
 Newell, Miss Emma, Fruit plate, 92.
 Newell, W. H., Injector valves, 40.
 New England Co., Spooler, etc., 29.
 New England Granite Co., Monument, 120.
 Newkumet, Adam, Crucible, 26.
 Newton, E. P., Machines, 110.
 New York Belting & Packing Co., 39.
 New York Leather M'fg Co., 114.
 New York Needle Co., Needles, 31.
 New York Safety Steam Power Co., 37, 51.
 Niagara Pump Works, Pump, 53.
 Niagara Steam Pump Works, Engine, 38; Pump, 41.
 Nicaise, C., & Co., & Gobert, A., Machine, 64.
 Nichols, B. S., & Co., Steam fire engine, 43.
 Nichols, G. H., & Co., Shoes, 108.
 Nichols, Harris, & Walker, Acid pump, 40.
 Nichols, Pickering, & Co., Rail punches, 24; Springs, 47.
 Nichols, S. B., Fire engine, 53.
 Nicholson File Co., Files, 27.
 Nicholson, Martha A., Panels, 94.
 Nickell, G. W., Minerals, 126.
 Nilson, G., Jacks, 65.
 Nittinger, A., jr., Butchers' machinery, 50.
 Nobas, Narciso, Photographs, 139.
 Noble, Charles, & Co., Stoves, 118.
 Nonotuck Silk Co., Silk machinery, 28.
 Noot, L., Laces, 89.
 Normal School, Cadiz, Books, 134.
 Norman, Miss, Lace work, 99.
 Norris, W. R., Planing machine, 19.
 Northam, C. Gussie, Water color, 94.
 Northampton Emery Wheel Co., Wheel, 25.
 Norwalk Iron Works, Pumps, 40, 53.
 Notre Dame, Congregation of, Plan, 99.
 Nourse, Mrs., Painting, 94.
 Nourse, Mrs. C. S., Drawing, 96; Frame, 97.
 Nourse, Mrs. J. E., Miniature, 94.
 Novelty Gas Machine Co., Gas machine, 19.
 Novelty Paper Box Co., Machines, 33.
 Nova y Lopez, A., Book, 134.
 Noye, J. T., & Son, Mills, etc., 49.
 Noyes, Frank G., Circular saws, 22.
 Nueva Cáceres, Bishop of, Books, 141.
 Nugen, J., Tobacco, 130.
 Nunes, H. M., Cushion, 102.
 Nuñez Robres, L., Music, 134.
 Nunn, Mrs., Point lace, 99.
 Nunn, W. C., Railway signals, 58.
 Nussey & Leachman, Finishing machine, 55.
 Nuttallberg Coal Co., Coal, 127.
 Nye, Mrs. Clement D., Lace necktie, 88.
 Nye, Gourlay, & Co., Steam pump, 41.
 Nye, Miss Mary, Mats, 89.

O.

Oakley & Keating, Washing machine, 31.
 Oakville Manufacturing Co., Pumps, 58.
 Obradors y Font, S., Treatise, 136.
 Observatory, Belen, Instruments, 138.
 O'Callaghan, F. O., Skins, 115.
 Ocon, E., Music, 138.
 Odenheimer, Mrs. B., Painting, 94.
 Oferrall, J., Books, 133.
 O'Hara, C. M., Felting, 35, 53.
 Ohio Falls Oak Leather Co., Leather, 112.
 Ohio Stone Co., Stone, 123.
 Old Colony Rivet Works, Iron planers, 24.

Oldenborgh, Mrs. M. J., Wax work, 100.
 Oliveira, A. H. d', Cushion, 102.
 Oliveira, M. de, Shawl, 101.
 Oliver, F. H., Ship models, 59.
 Oliver, J., Ship models, 59.
 Oliver, S., jr., Shoes, 108.
 Ollero, A. F., Geography, 134.
 Olmstead, Miss Mamie, Painting, 95.
 Olmstead, Mrs. Anna M., Paintings, 95.
 Olson, Christine, Organ, 87.
 O'Neal, Cheuvront, & Co., Tobacco, 130.
 Oneida Steam Engine, Drill chucks, 25.
 O'Neill, A., Pipe, 45; Iron pipe, 118.
 Onis, F., Seed, 141.
 Onis, J. de, Chronometer, 138.
 Oppenheimer, J. D., Hair goods, 30.
 Ordway & Clark, Boots, 108.
 Origone, P., Design, etc., 67.
 Ormsbee, M., Life preservers, 51.
 Orphans' School of St. Thereza, Stole, 101.
 Orum, M. L., Mandrels, 27.
 Osborn, Miss H. Frances, Painting, 94.
 Osborn, H. F., Saddlers' tools, 109.
 Osborne, C. S., & Co., Tools, 110.
 Osborne, F., jr., & Co., Leather, 115.
 Osborne, H., Car axle, 58.
 Osborne, J., Marble, 127.
 Oscariz y Lasaga, Victor, Pamphlets, 135.
 Oschbacher, J., & Son, Wine, 130.
 Osenbruck & Co., Cigar moulds, 62.
 Osgood, J. A., Metallic packing, 40.
 O'Shea, A. J., Registering devices, 32.
 Ossipoff, M., Tallow, 116.
 Osterhout, W. H., Leather, 113.
 Ostrand, H., Drawing, 66.
 Ostrom Bros., Leather, 116.
 Otis Bros. & Co., Engine, 38; Elevator, 43.
 Overend, Rebecca C., Muff, 88.

P.

Pacific Guano Company, Guano, 151.
 Pack, Miss Mary L., Cabinet, 92.
 Packer, C. W., Cutting machines, 33.
 Page, B. & P., Co., Belt, 53.
 Page Belting Co., Belting, 38.
 Page, E. R., Register, 133.
 Page, E. W., Oars, 50.
 Page, Mrs. Elizabeth M., Dirt catcher, 87.
 Page, W. H., & Co., Wood type, 33.
 Paget, Miss N., Needlework, 98.
 Pählman, S., Embroidery, 100.
 Paillet, Corks, 61.
 Palacios, P., History, 136.
 Palmer, Addie C., Ebony panels, 94.
 Palmer, G. H., Army equipments, 109.
 Palmer, Samuel R., Stave machine, 19.
 Palmer, Miss H. M., Parasol cover, 98.
 Palmer, Mrs. John S., Tidy, 89.
 Palmer & Decker, Leather, 113.
 Palmer European Pat. Tenting Co., 28.
 Pancoast & Maule, Steam apparatus, 39.
 Panero, M. M., Treatise, 136.
 Paraná, Ladies of Province of, Bouquet, 102.
 Parcels, T., Yacht, 51.
 Paresi, E. G., Furnace, 67.
 Park, Miss, Tatting and knitting, 99.
 Parker, C., Vises, 27.
 Parker, C. F., & Co., Shoes, 108.
 Parker, Miss M. E., Lace shawl, 98.
 Parkhill, Miss H. R., Ornaments, 90; Sea weeds, 98.
 Parks, J. A., Printing presses, 32.
 Parks & Woolson Machine Co., Machine, 29.
 Parrott, Mrs. Natt., Pillow shams, 89.
 Parrow, N. D., Mineral waters, 128.
 Parshall, C. H., Lubricator, 39.
 Pasaráns y Viñals de Pujol, Elisa, Books, 137.
 Pascual, M. J., Scientific works, 136.
 Pastor, P. H., Sons, Needles, 62.
 Patent Forged Steel Spring Ring Co., 28.
 Patent Water & Gas Pipe Co., Water pipe, 45.
 Patrick, R., Pump, 58.
 Patterson, C. R., Blocks, 21; Fan, 42.
 Patterson, Mrs. S. C., Clock, 91.
 Patton, J. Desha, Governor, 18.
 Paul, J., & Co., Sandstone, 123.
 Paul, Miss Kate, Painting, 93.
 Paul, Mrs. C. F., Honiton collar, 88.
 Paula Folch, Francisco, Books, 137.
 Payne, B. W., & Sons, Engines, 35.
 Paz Mosquera, M. de la, Map, 138.
 Pearson, W., Machine, 31.
 Pease, F. S., Pneumatic pump, 41; Oil, 52.
 Pease, J. H., Historical chart, 45.
 Peck, E. A., Crayons, 96.
 Peck Bros., & Co., Brass cocks, etc., 45.
 Peckert, C. D., & Co., Shoes, 108.
 Peddie, T. B., & Co., Trunks, 109.
 Peet Valve Co., Valves, 44.
 Peirce, M. P., Water wheel, 36.
 Peirce Rotary Tubular Boiler Co., 35, 53.
 Pelayo Briz, Francisco, Works, 137.
 Pelouze, E., & Andouin, P., Condenser, 60.
 Penneypacker, M., Hoisting machine, 42.
 Penniman, Miss E. A., Paintings, 101.
 Pennsylvania Comb'd Iron & Steel Ass'n, 38, 52.
 Pennsylvania Diamond Drill Co., Drill, 17.
 Pennsylvania Railroad Co., Locomotive, 46;
 Old locomotives and cars, 121.
 Pennsylvania, State of, Educational, 146.
 Pennsylvania Steel Co., Ingots, 48.
 Pennsylvania Tack Works, Machines, 22.
 Perales, B., Books, 132.
 Pereda y Martinez, S. de, History, 132.
 Pereira, F. C., Embroidery, 101.
 Pereiro, Rey, Application of sulphur, 136.
 Perez, A., & Co., Anis, 141.
 Perez, J., Descriptive pamphlet, 136.
 Perez M. Miguel, Mariano, Almanac, 135.
 Perez, V. R., Treatise, 136.
 Perisi, A., & Son, Mechanical invention, 67.
 Perkins, Mrs. E. W., Bas-relief, 91.
 Perkins, Fanny, Painting, 94.
 Perley, Miss H. A., Point lace, 99.
 Perojo, J. del, Review, 136.
 Perreux, L. G., Valves, 61.
 Perret, M., Apparatus, 60.
 Perry, E. L., Raft, 50.
 Perry, F. H., & Co., Sole leather, 114.
 Perry, Laura C., Slate panels, 94.
 Pervoff, S., Leather, 116.
 Peterkin, G. G., Minerals, 126.
 Peters & Burger, Architects, 146.
 Peters Calhoun Co., Harness, 109.
 Peters, W. L., Photograph, 128; Paint, 128;
 Boards, 129.
 Peterson, W. F., Woods, 128.
 Pettit, Henry, Architect Machinery Hall, 9.
 Peyton, G. L., & Co., Mineral water, 128.
 Peytona Cannel Coal Co., Coal, 127.
 Phelps, S. L., Crayon, 96.
 Philadelphia Hydraulic Works, Pump, 53.
 Phila., Reading, & Pottsville Tel. Co., 147.
 Phila. & Reading R. R. Co., Locomotive, 46.
 Phillips, W. J., Telegraph, 147.
 Phillips, C. C., Architect, 118.
 Phillips, E. B., Marking in indelible ink, 95.
 Phillips, E. F., Telegraph wire, 147.
 Phillips, Mrs. Richmond L., Table, 87.
 Phillips, S. R., Harness, etc., 110.
 Phinney, S. C. & J. G., Counters, 107.
 Pickering, J., Hoists, 54; Pumps, etc., 55.
 Pickering, N. A., Clay, 127; Photograph, 128.
 Pickering, T. R., Engine governors, 40.
 Pierce, C. D., Well-boring machine, 17.
 Pierce, Miss C., Needlework, 99.
 Pierce, Mrs. M. R., Case, 90; Stands, 98.
 Pierron & Dehaitre, Weaver, 60.
 Pimentel, A., Pamphlets, 136.
 Pimentel y Donaire, M., Books, 133.
 Piper, T., Engine and gauge, 58.
 Pirapitinga, Baroness de, Embroidery, 101.
 Pitman, Miss Agnes, Carvings, 91, 92.
 Pitman, Mrs. & Miss, Carvings, 91, 92.
 Pitts, D. H., Armor, 58; Windlass, 59.

Plaidst, Miss Anna D., Sachet, 89.
 Platt Bros. & Co., Gin, 54.
 Platt, Wm. K., & Co., Fire extinguishers, 43.
 Plumb, Burdick, & Barnard, Machines, 27.
 Plummer, W. E., Machines, 111.
 Pneumatic Dispatch Co., Tube, 42.
 Poillon, C. & R., Yacht model, 51.
 Pollock, Miss, Painting, 94.
 Polytechnic College of Phila., Locomotive, 46.
 Pool, A. A., & Co., Steel arbors, 27.
 Poole, J. M., & Co., Cylinders, 28.
 Poole & Hunt, Paint mixer, 17; Water wheel, 36; Shafting, 38; Pump, 41.
 Pootilof Iron Works Co., Steam engine, 70.
 Pope Manufacturing Co., Scroll saw, 22.
 Popham, J. & E., Peg breaker, 57.
 Popoff, B., Workbench, 69.
 Popper, J. & D., Boiler fittings, 63.
 Porcar y Tió, Jaime, Works, 137.
 Porter, Bell, & Co., Locomotive, 46.
 Porter, C. E., Fountain nozzle, 44.
 Porter, Miss Rebecca T., Painting, 93.
 Porter, Rose, Books, 91.
 Porter, Miss Sarah, Paintings, 95.
 Porter, Mrs. Susan C., Painting, 94.
 Post & Co., Gauges, 39; Car trimmings, 48.
 Postens, E., Soda water apparatus, 44.
 Post Office Department, U. S., 79.
 Potomac Cement Mills, Cement, etc., 127.
 Potter, C., jr., & Co., Printing presses, 32.
 Potter & Hoffman, Packing, 39; Tools, 48; Iron, 52.
 Potts Bros., Boiler iron, 35.
 Pou, Luis, Book, 137.
 Poveda, Corporation of, Wood, 140.
 Powell, R., Improvement in vessels, 50.
 Powell, W., & Co., Valves, lubricators, 44.
 Power, W., & Co., Ship models, 59.
 Powers, S. H., Hand loom, 57.
 Powers, W. P., Belting, 38.
 Pozzi, V., Jewelry, 100.
 Practical Technological Institute, Lathes, 69.
 Pratt, H. J., Last block fastening, 107.
 Pratt, J., Type writing machine, 33.
 Pratt, J. W., Washer, 31.
 Pratt Manufacturing Co., Fish joints, 48.
 Pratt, R. V., Injector, 51.
 Pratt & Whitney, Gun machinery, 25; Boiler feeder, 40.
 Preble, Miss M., Paintings, 98.
 Prentice, A. F., & Co., Lathes, 24, 52.
 Price, Lipssett, & Co., Scales, 46.
 Prichard, Smith, & Co., Boots, 106.
 Prieto, A., Books, 133, 136.
 Prieto, F., Skulls, 141.
 Prince, G. H., Coal, 127; Woods, 129.
 Pritchett & Baugh, Leather, 113.
 Proctor, T. E., Leather, 114, 115.
 Proell, Mrs. G., Pressed flowers, 98.
 Protective Fire Apparatus Co., 152.
 Prouty, A. B., Chucks, 25; Machine, 28.
 Prouty, I., & Co., Boots, 106.
 Providence Machine Co., Machinery, 28.
 Providence Saw Works, Machine, 19.
 Provincial Board of Agriculture, Industry, and Commerce, Publications, 139.
 Provincial Commission, Photographs, 139.
 Provincial Deputation, Picture, 139.
 Provincial Hospitality, Pictures, etc., 139.
 Provincial Institute, Memoirs, etc., 137.
 Pryor, Mrs. H., Fancy work, 99.
 Puente Villancio, José, Book, 135.
 Puente y Rocha, J. de D. de la, Book, 137.
 Puerta, G. de la, Treatise, 132.
 Puffer, A. D., Beer apparatus, 44.
 Purkis, Miss E. W., Tatting, etc., 89.
 Purvis, E., Steam valve, 40.
 Pusey, Jones, & Co., Machines, 23, 30, 31, 33, 38, 51, 110.
 Pusey, Scott, & Co., Leather, 115.
 Putnam Machine Co., Steam engines, 24.
 Putnam & Estey, Emery wheels, 25.
 Pyramid Pin Co., Machines, 32.
 Pyrotechnical Laboratory, Fuses, 68.

Q.

Quebec Advisory Board, Ship models, 59.
 Quigley, Philip, Contractor Machinery Hall, 9.
 Quijano, L., Treatise, 133.
 Quiroga Lopez, Woods, 140.

R.

Racine Hardware M'fg Co., Tools, 25.
 Rada y Delgado, J. de D. de la, Book, 136.
 Radcliff, R. S., Coal, 127; Schoolwork, 128.
 Radde, W., Pipe, 45.
 Raddin, J., Carriage wheels, etc., 48.
 Rafter, Susan L. J., Painting, 93.
 Rall, R., Marble, 127.
 Ralston, Miss Florence, Tidy, 89.
 Ramapo Wheel & Foundry Co., 47.
 Ramborger, A. D., Dental work, 90.
 Ramirez, C., Treatise, 134.
 Ramirez & Girandier, Periodical, 141.
 Ramos Lafuente, Book, 133.
 Ramsay, E., Herbarium and paintings, 100.
 Ramsay, Robert H., Gas machine, 19; Shifting apparatus, 58.
 Rand, A. W., Gas machine, 19.
 Randall, F. M., Pump, etc., 43.
 Randolph, T. F., Ditcher and excavator, 17.
 Ransom, W. A., & Co., Shoes, 106.
 Rappe, Baroness E., Frames, 100.
 Raschid, L., Shoes, 101.
 Rosensteel, W. H., Leather, 112.
 Rath, E. E., Architect, 131.
 Rauer, A., Patterns, 69.
 Ray, D. P., Leather, 112.
 Raymond Coal Co., Coal, 127.
 Raynor, S., & Co., Envelope machine, 34.
 Rebolledo, J. A., Treatise, 134.
 Redding, W. E., Railroad switches, 48.
 Redifer, S. S., Lasts, etc., 112.
 Reed, Annie, Painting, 94.
 Reed, G. H., & Sons, Dressings, 105.
 Reed, H., Tannery, 111.
 Reed, J. A., Boilers, 34.
 Reed, S. G., Portable gas attachment, 23.
 Reeves, John W., Soap machine, 18.
 Reford, J. W., Distilling apparatus, 50.
 Regina, B., Embroideries, 100.
 Reibert, Babetta, Bell pulls, 87.
 Rcimel, L., Uppers, 107.
 Reinhardt, C., Scales, 46.
 Remington, E., & Sons, Sewing machines, 19; Meter, 43.
 Remington, E. H., Painting, 93.
 Renard, Wires and strings, 61.
 Rene, J., Leather, 116.
 Renni, Mrs. C. E., Lace, 99.
 Requa, E. M., Bell, 90.
 Respaldiza, D., Books, 133.
 Restroff & Betman, Polish, 105.
 Reutzel, P. J., Uppers, 108.
 Revenga, A., Brakes, 138.
 Rex & Bockius, Gas generator, 19; Sewing machines, 30; Printing presses, 32.
 Reynal, Lorenzo, Book, 135.
 Reynolds, D. M., Machine, 25.
 Reynolds, S., & Co., Saddlery, 109.
 Reynolds, Mrs. W. H., Flannel skirt, 89.
 Reynoso, Emilio, Works, 139.
 Rey y Gorrindo, P., Treatise, 136.
 Rezende, L. de, Machines, 68.
 Rhett, Roland, Spring motor, 39.
 Rhode Island Locomotive Works, 45.
 Rhodes, T., Yarn beam, 29.
 Ribas, J. S. G., Handkerchief, 101.
 Ribot, E., & Bros., Memoir, 136.
 Rice, J. P., Wheat, 129.
 Rice, Miss Julia H., Table, 92.
 Rice, Miss M., Picture frame, 92.
 Richard, E. O., & Bro., Brakes, 58.
 Richard, J. S., Looms, 62.
 Richards, H. J., Ice yacht, 50.
 Richards, I. P., Punches, 24.
 Richards, Jackson, Piston packing, 39.

- Richards, London, & Kelley, Machinery, 21.
 Richards, Margaret C., Indian work, 91.
 Richardson, D. M., Scourer, 49.
 Richelderfer, J. H., Gaiters, 107.
 Richelieu & Ontario Nav. Co., Models, 59.
 Ricketts, Miss, Paintings, 94.
 Rider, B. D., Wheat, 129.
 Rider Life Raft Co., Rait, 50.
 Rider, Wooster, & Co., Engines, 37.
 Ridge, Elmer, Folding gates, etc., 48.
 Riehl, M., & Sons, Book-cutting machine, 33.
 Riehl Bros., Machine, 19; Scales, etc., 46.
 Ries, A., Harness, 110.
 Rife, H. J., Leather, 112.
 Rigollot, Water cocks, etc., 61.
 Riley, J., Wheat, 129.
 Rio de Janeiro Com'n, Handkerchief, 101.
 Rio Grande do Sul Arsenal, Weapons, etc., 68.
 Rippman, C. A., Leather, 113.
 Risdon, T. H., & Co., Water wheel, 36.
 Rittenhouse, E. W., & Bro., Pipe, 52.
 Ritter, J. R., Apparatus, 43.
 Rius, Antonio, Book, 137.
 Roach, J., & Son, Models, armor plate, 51.
 Roach, J. B., Models, 51.
 Robbins & Kelloggs, Shoes, 107.
 Robbins, L. E., Diagram, 88.
 Robbins, Miss E., Mirror, 98; China, 95.
 Robert y Serrat, José, Book, 135.
 Roberts, A. & P., & Co., Car axles, 47.
 Roberts, Carle, & Co., Hand cutter, 50.
 Roberts, E. A. L., Torpedo, 17; Metal;
 Engine, 37; Pump, 41.
 Roberts, J. M., Hair wreath, 97.
 Roberts, Mrs. J. S., Needlework, 99.
 Roberts, W., Machine, 54.
 Robertson, J., & Co., Pumps, 43.
 Robertson, Mrs., Berlin wool work, 99.
 Robertson & Hoople, Leather, 113.
 Robeson, Hon. G. M., Sec. of the Navy, 72.
 Robidoux, J., & Sons, Scales, 46.
 Robinetz, J. F., Model locomotive, 46.
 Robinson, J. E., Artesian well, 17.
 Robinson, L. W., Sewing machine treadle, 30.
 Robinson, R. M., Anchor, 52.
 Robitaille, T., Boat, 59.
 Robson, H. A., Corn, 129.
 Robson, M. E., Basket, 128.
 Roby, G., Vessels, 56.
 Rochelle, L. N. & A. H., Separator, 59.
 Rockenback, H., Leather, 114.
 Rockville Traverse Card Grinding Co., 28.
 Rockwell Bros., Leather, 113.
 Rockwell, J. S., & Co., Leather, 115.
 Roddey, P. D., & Co., Ventilator, etc., 42.
 Rodney Machine Co., Water wheel, 36.
 Rodriguez, A., Saffron, 141.
 Rodriguez Cortes, César, Photographs, 139.
 Rodriguez, Desiderio, Table, 139.
 Rodriguez, E., Manual, 134.
 Rodriguez, Eduardo Lopez, Method, 135.
 Rodriguez, L., Saffron, 141.
 Rodriguez Mananes, P., Books, 132.
 Rodriguez Martin, V., Designs, 132.
 Rodriguez Villa, A., Treatise, 136.
 Roebbling's Sons, J. A., & Co., Rope, 38.
 Roemer, W., Trunks, 109.
 Rogers, C. B., & Co., Machinery, 21.
 Rogers, E. T., Shoes, 108.
 Rogers Locomotive & Machine Works, 45.
 Rogers, Wm. A., Automatic machine, 25.
 Robon, F., Model, 69.
 Roland, F., & Co., Separator, 49.
 Roman Women, Work of, Rugs, etc., 101.
 Romancos, Corporation of, Sumac, 140.
 Romani, G., Embroideries, 100.
 Romans, Misses, Crochet work, 99.
 Romero y Andia, A., Instruments, 134; Clari-
 onet, music, 138.
 Ronald, J. D., Fire engine, etc., 58.
 Roney, J. B., Machines, 111.
 Rooke, Miss E. E., Macramé lace, 98.
 Rooke, Mrs. H. A., Lace, 98.
 Roots, P. H. & F. M., Blowers, etc., 42; Gas
 valves, etc., 45.
 Rorer, T. I., Belting, 38.
 Rose & McDonald, Roller combs, 32.
 Rose, A., Leather, 114.
 Rose, Adelaide, Paintings, 93.
 Rose, N., Ship models, 59.
 Rosenegger, J., Furnace model, 63.
 Rosensteel, W. H., Leather, 111.
 Rosenthal, H., Horse brushes, 110.
 Rosenthal, I., Stamping apparatus, 32.
 Ross, E., Boat, 59.
 Ross, E. W., & Co., Jointer, 21; Mills, 22, 30.
 Ross, L. E., Spring motion for looms, 28.
 Ross, Thomas, Machine, 26; Crane, 43.
 Rougier, Miss J., Painting, 100.
 Rous, E., Clasps, 60; Pulleys, 61.
 Rousholdt, Miss, Flower painting, 100.
 Rousseau's Railway Signal Co., 48.
 Rovira y Rabassa, Antonio, Plan, 139.
 Rowand, J. R., Brake, 46.
 Rowen, J., Trunks, 109.
 Rowland, T. F., Forgings, 19; Life boat, 51.
 Royal Academy, Madrid, Works, 133.
 Royal Acad. Fine Arts, Madrid, Books, 135.
 Royal Acad. of History, Madrid, Books, 135.
 Royal Acad. of Sciences & Arts, Books, 135.
 Royal Academy, Seville, Speeches, 135.
 Royal Saxony Fire Extinguisher Co., 62.
 Royal School of Art, Needlework, 98.
 Royal Swedish Commission, Models, 66.
 Royer, H., Belting, 38.
 Royo, Mariano, Treatise, 135.
 Rozario, G. M. da, Lace, 101.
 Rubio y Diaz, Mathematics, 133.
 Rue Manufacturing Co., Boiler feeders, 39.
 Ruffner, L., & Lewis, J. D., Sandstone, 126;
 Schoolwork, 128; Timber, 129.
 Ruger, J. W., & Co., Cracker machinery, 50.
 Ruiz, Manuel, Pictures, 139.
 Ruiz de la Pena, T., Translation, 133.
 Ruiz de Salazar, Publication, 136.
 Rumsey & Co., Pumps, 41; Hand fire en-
 gine, 43; Leather, 114.
 Runqvist, C. R., Governors, 65.
 Ruoff, W., Jackscrews, 42.
 Russell, B. G., Copper valve box, etc., 68.
 Russell, Burdsall, & Ward, Bolts, 27.
 Russell, Helen A., Decorated china, 95.
 Russell, S. J., Wood lathes, 19.
 Russell, W. C., Wrench, 27.
 Russell, W. D., Engines, 37.
 Russian Rail Manufacturing Co., Ties, 70.
 Russian Steamboat & Trade Co., Model, 70.
 Ruth, Mrs. S., Sunshade, 90.
 Rutschmann Bros., Hand drill, 27.
 Rutterford, Miss I., Lace work, 99.
 Ryan, James M., Lath, 26.
 Ryder Reciprocal Grate Association, 34.

S.

- Saco Water power Machine Shop, 28.
 Saco y Arce, J., Grammar, 133.
 Saenz Navarette, J., 133.
 Sahler, Miss E., Flowers, 97.
 Sainz, Juan Antonio, Works, 135.
 Salas, Corps of Forest Engineers, Resin, 141.
 Salcedo, Pedro, Morata, Plan, 139.
 Sales, J., Models, 141.
 Sallada & Pearson, Whips, 110.
 Saller, Lewin, & Co., Shoes, 107.
 Salvador y Aznar, F., Manual, 133.
 Sample, McElvoy, & Co., Boiler, 35.
 Samson & Co., Ship models, 59.
 Samuelson, S. H., Machines, 65.
 San Bernardo, Count of, Cork, 140.
 Sanborn, G. H., Paper cutter, 33.
 Sanchez Almonacid, Mariano, Memoir, 137.
 Sanchez Casado, F., Guide, 133.
 Sanchez, P., Objects, 132.
 Sanchez, Pedro, Aquarelles, 139.
 Sanchez, Pilar, Novel, 135.

- Sanchez y Merino, R., Treatise, 133.
 Sancho Velasco, A., Music boxes, 138.
 Sancta Catherina, Province of, Flowers, 102.
 Sandall, J., Valve, 58.
 Sande Olivares, J., Dyers' weed, 140.
 Sandvikens Iron Works, Rod and axles, 65;
 Wheels, 66.
 San Isidoro Institute, Memoirs, 132.
 San José, College of, Manila, 147.
 San José, Municipal School of, Tapestry, 101.
 San Paulo, Convent das Mercês, Branch, 102.
 Sanson, R. B., Cutting machine, etc., 55.
 Santamaria de Paredes, Publications, 136.
 Santa Marta, Marquis of, Cork, 140.
 Santander, Institute of, 133.
 Santero y Moreno, T., 133.
 Santiago del Estero, Prov. Com. of, Loom, 69.
 Santos, Cauto dos, Iron, 68.
 Sanz, M., Pine cones, 141.
 Sanz Pasalodos, J., Pine cones, 141.
 Sartain, Emily, Paintings, 93; Engravings, 96.
 Sauerwein, Loulie C., Paintings, 94.
 Saunders, William, U. S. Agri. Dept., 72.
 Saurbier, H., & Sons, Tools, 111.
 Sausser, Dangler, & Co., Shoes, 107.
 Sauter, C., Cleaning machine, 50.
 Savin, T., Leather, 116.
 Sawtall, G., Whetstones, 127.
 Sawyer, H., Blue, 105.
 Sawyer, J. A., & Son, Planer, 23.
 Sax & Kear, Car wheels, 47.
 Saxby & Farmer, Railway switches, 56.
 Sayre, J., Corn, 129.
 Scales, Mrs., Berlin wool work, 99.
 Scales, R., Tobacco machine, 59.
 Schafer, B., Desks, 128.
 Schaff, W., & Co., Leather, 115.
 Schäffer & Budenberg, Machines, 62.
 Schaller, G., Morocco, 116.
 Schanz, C., Hook and ladder truck, 43.
 Scheiner, J. H., Frogs, 48.
 Schellberg, B. F., Leather, 112.
 Schemedes, J. W. R., Evaporator, 49.
 Schieren, C. A., Belling, 38.
 Schierloh, H., Compound, 23.
 Schiff, W. L., Shoes, 107.
 Schilling, F. A., Engines, 62.
 Schlickeysen, C., Brick machines, 62.
 Schmalz, F. G., Glove machines, 62.
 Schmid, J., Shoes, 107.
 Schmidt, J., Tidy, 90.
 Schmidt, Josephine, Landscapes, 93.
 Schmitt, Madam K., Jewelry, 90.
 Schoellkopf, J. F., & Son, Leather, 114.
 Schoem, W. H., Springs, 47.
 Scholfeld, Socrates, Logging saw, 22.
 Schollenberger, W., & Sons, 115.
 Schon, Mathias, Tire upsetting machine, 24.
 School of the Immaculate Conception, 101.
 School of Mining Engineers, Books, 134.
 School of Mountain Engineers, Books, 134.
 School of Music and Recitation, 134.
 Schools of Drawing and Design, Carved
 frame, 91; Crayons, 96; Photographs, 97.
 Schram, W., Looms, 63.
 Schultz, E., Apparatus, 62.
 Schuman, F., & Son, Leather, 114.
 Schuman, J. W., Leather, 114.
 Schutte & Goehring, Steam jet machinery, 40.
 Schwarzman, H. J., Architect, 85, 131, 143,
 144, 145, 147, 150.
 Scofield, Charles, Shafting machine, 25.
 Scofield & Stevenson, Leather, 115.
 Scott, Mrs. E. M., Painting, 94.
 Scott, H., Ochre, 128.
 Scott, Mrs. John, Guipure barb, 88.
 Scott, Miss S., Toilet box, 90.
 Scott, Mrs. T. R., Handkerchief, 88.
 Scott-Uda, Mrs., Ladder, 53.
 Scudder, Miss Tillie, Cupboard, 92.
 Seamon, H., Tobacco, 130.
 Sears & Warner, Shoe goods, 108.
 Seaton, W., Railway construction, 56.
 Seatt, J., Rock, 127.
 Seavey, Foster, & Bowman, Silk, 116.
 Sebastia Vila, Pedro, Photographs, 139.
 Seco Baldor, J., Book, 134.
 Secor Sewing Machine Co., Machines, 31.
 Seely & Stevens, Pellucidite, 40.
 Segebader, H., Embroideries, 100.
 Segovia, Institute of, 133.
 Sellers, Wm., & Co., Steam hammers, 24;
 Injectors, 36; Registers, 52.
 Sells, H., Cider mill, etc., 58.
 Semenez, R., Boots, 106.
 Semple, M. H., Steam cutter, 33.
 Serra y Navarro, Mariano, Books, 136, 137.
 Serrena y Arenas, P., Fancy work, 140.
 Serrin, Regulator, 61.
 Serzidillo, D. A. M., Cork frame, 102.
 Settle, J. G., Wheat, 129; Flax, 130.
 Sevebreunickoff, S., Leather, 116.
 Seville, Normal School of Masters, 138.
 Sewall, Day, & Co., Rope, etc., 50.
 Sewell, E. W., Ship models, 59.
 Seymour & Whittock, Mortising machines, 21.
 Shaler, Miss Minnie, Carved chess board, 92.
 Shapleigh, Mrs. E. B., Hand made rugs, 87.
 Shapley & Wells, Engines, 37.
 Sharp & Staples, Oils, 128.
 Sharp, Tudor, & Co., Leather, 115.
 Shattuck & Binger, Skins, 114.
 Shaw, C. A., Lasts, 106.
 Shaw, Miss E., Pressed ferns, 98.
 Shaw, J., 2d, & Bro., Shoes, 108.
 Shaw, Mrs. James, jr., Infant's socks, 88.
 Shaw, Thos., Lathe tools, 27; Gauges, 34.
 Shaw, W., Logotypes, 55.
 Shearer, H., Machines, 54.
 Shedd, J. H., Hydrant box, 44.
 Sheffield, Mrs. S. K., Footstool, 89.
 Shellman, Miss M. B., Picture, 97.
 Shephard, Mrs. Emeline, Handkerchief, 88.
 Shepherd, Mrs. E. M., Lace, 89.
 Shepperd, L., Corn, 120.
 Sheridan, E. R. & T. W., Paper cutters, 33.
 Sherman, Miss F. M., Lithograph, 96.
 Sherwood, Amanda S., Griddle greaser, 87.
 Shiloff, L. P., Car lock, etc., 70.
 Shimp, J., Ores, 126.
 Shippin, Mrs. R. R., Porcelain table top, 95.
 Shore Bros., Boiler feed, 34.
 Short, J., Motion loom, 29.
 Short, Mrs. S., Washer, 87.
 Short, S., Mangle, 31.
 Shriver, A. K., & Sons, Leather, 112.
 Shultz, Southinck, & Co., Leather, 113.
 Shuster, J. T., Boiler, 34.
 Shutt, D., Machine-needle threaders, 31.
 Sickles, F. E., Models, 52.
 Siebe & Gorman, Diving apparatus, 56.
 Siemens, C. W., Mills, 54.
 Silcott, Milikan, & Gold, Machine, 29.
 Sill, Miss Anna P., History, 91.
 Silsby M'fg Co., Pump, 40; Engines, 43, 53.
 Silva, M. M., Watch case, 102.
 Silva, Z. C. de, Robe, 101.
 Silveira de Souza, Sisters, Flowers, 102.
 Silver & Deming Manufacturing Co., Ma-
 chine, 20; Drills, 27; Choppers, 50.
 Silver Lake Co., Steam packing, 40.
 Silvina, Tripo di, Tools, 68.
 Simon, C., & Son, Skins, 116.
 Simon, E., & Bro., Trunks, 108.
 Simonds Manufacturing Co., Saws, 27.
 Simonds, N. J., Bevel, 107.
 Simpson, I. E., Mineral water, 127.
 Simpson, J. F., Trunk closer, 109.
 Sinclair, G. W., Beans, 130.
 Singer, J., Car coupler, 46.
 Singer Manufacturing Co., Machines, 31.
 Sinsel, J. B., Ash, 129.
 Sisters of the Visitation, Chenille flowers, 90.
 Skidmore, A. F. & G. C., Barrel coilers, 21.
 Skinner & Wood, Boiler, 36.
 Skuse, M. J. & F. A., Irish point lace, 88.
 Slates, Mrs. E. J., Embroideries, 89.
 Sleuster, J. T., Felting, 53.

- Slielal, F., Horse shoes, 68.
 Slocum, Mrs. M. E., Plant protector, 98.
 Slouth & Mintzer, Engines, etc., 41, 53.
 Small & Fisher, Barrel lifter, 58.
 Smark, J., Drilling machines, 57.
 Smart, J., Pump, 58.
 Smelan, Mrs., Paintings, 99.
 Smith, C. D., Boiler, 35.
 Smith, D., Stokers, 50.
 Smith, D. S., Canoe, 54.
 Smith, E. A., Fire screen, 97.
 Smith, H. B., Machinery, 21; Tools, 52.
 Smith, H. F., Fountain, 58.
 Smith, J., & Co., Fabric machinery, 29.
 Smith, J. A. V., Spreader flies, 29.
 Smith, J. Barton, & Co., Rasps, etc., 112.
 Smith, Julia E., Translation of Bible, 91.
 Smith, J. G., Engine, 58.
 Smith, L. F., Low water indicators, 40.
 Smith, Mrs. O., Range, 87.
 Smith, Oberlin, & Bro., Drills, 24.
 Smith, P. P., Ochre, 128.
 Smith, S. D., Grate bar, 35.
 Smith & Starley, Motors, 55.
 Smith, Wm. M., Machines, 110, 111.
 Smithsonian Institution, U. S., 80.
 Smyth, Mrs. M. H., Embroidery, 89; Indelible ink marker, 95.
 Snider, D. M., Felting, 53.
 Snyder, W. B., Steam engine, 34.
 Society Amante da Instrucçao, Work, 101.
 Society of Andalusian Bibliophiles, 135.
 Society "Centra de Lecturo," Books, 134.
 Society for the Protection of Animals and Plants, Cadiz, Publications, 135.
 Society of Patrons of National Production, Documents, 135.
 Soderberg, M., Mantle, 100.
 Soderqvist, R., Gas apparatus, 65.
 Sola y Roca, Ramon, Cuts, 139.
 Solana y Viton, P., Books, 132.
 Soler, Federico, Project, 139.
 Solin Bros., Grease, 116.
 Solis, P., Books, 132; Atlas, 138.
 Sollers, S. D., & Co., 107.
 Sommerville, J. N., Leather, 112.
 Somoza Piñeiro, Ramon, Book, 135.
 Sorakin, T., Leather, 116.
 Soto Freire, M. L., History, 136.
 Souher, A., Lamps, 64.
 Souza, F. de, Metal fuses, 68.
 Spahn, Emil P., Models, 48.
 Spanish Society of Natural History, 135.
 Spanish Society of Sciences, 135.
 Spanogel, S., Leather, 115.
 Spanogle & Pennabaker, Leather, 112.
 Sparre, J. von, Drill, 62.
 Spaulding, E., Leather, 113, 114.
 Spawn, A. F., & Co., Fire engine, 43.
 Special School for Painting, Sculpture, and Engraving, Madrid, Memoirs, 135.
 Speihlman, G., Meat chopper, 50.
 Spencer, R., Saddle cloths, 110.
 Spicharz, P. J., Kid, 116.
 Spiral Elliptic Spring Works, Machine, 24.
 Spiral Tubing Co., Machine, 28.
 Spofford, Mrs. J. H., Supporter, 87; Saddle, 90.
 Spreafico, José, Album, 139.
 Spring, Mary, Landscapes, 94.
 Springer, Mrs. L. R., Wax work, 97.
 Springfield Iron Works, Wheels, 34, 36.
 Stack, I. I., Ore, 126.
 Stacy, George, Fastenings for stonecutters, 26.
 Stacy Stone Dressing Machine Co., 25.
 Staley, T. J., Tobacco, 130; Schoolwork, 128.
 St. Amand, O., Sewing machines, 57.
 Standard Laundry Machinery Co., Washing machines, 31; Copying machine, 33.
 Standard Machinery Co., Paper machines, 33.
 Standard Steel Works, Tires, 47.
 Stangeland, E., Machine, 49.
 Stansbury, Mrs. J. C., Thread lace, 89.
 Stanton Rock Coal Co., Coal, 127.
 Star Rubber Co., 109.
 Starr, J. W., & Son, Gas works, pipe, 19; Castings, 45, 119.
 Starr, W. M., Water wheel, 36.
 Steam Engine Works, Caboose, 70.
 Steam Generator Manufacturing Co., 34, 52.
 Steam Stone Cutter Co., Machines, 25.
 Stearns Manufacturing Co., Saw mill, 22.
 Stearns, Mrs. A. B., Diagrams, 88.
 Steele Bros., Glass engraving, 27.
 Steele, Mrs. M. W., Toy set, 87.
 Steiger, Mrs. Hannah, Lock barrel cover, 87.
 Steigert, L., Horizontal engine, 34.
 Steigler, A., & Co., Harness leather, 114.
 Steinwand, C., Skins, 113.
 Steinway & Sons, Piano frames, 46.
 Stengel, G., Leather, 115.
 Stephens, Miss Maud, Paintings, 93.
 Stephens, W. A., Machine, 111.
 Stephenson, Mrs. E. J., Inlaid table, 100.
 Stephenson, M., Drills, 57.
 Sterling, Mrs. Charlotte, Dish washer, 87.
 Sterling, Mrs. E. J., Tiles, 97.
 Stern, Miss Jessie, Wall pocket, 92.
 Sternberger, L., Machines, 31; Elevator, 42.
 Sternbergh, J. H., Machines, 17, 23.
 Stevens, Elizabeth M., Painting, 93.
 Stevens Patent Vise Co., Vises, 52.
 Stevens, W. X., Shears, 23.
 Stewart, Alice, Water colors, 94.
 Stewart, J. P., Collars, 110.
 Stewart, Ralph, & Co., Packing machines, 42.
 St. Hyacinthe, Convent of, Plan, 99.
 Stigale, Mrs. E. M., Model, 97.
 Stileman, R. T. H., Water gates, etc., 45.
 Stiles & Barker Press Co., Drop hammers, 23.
 Stiles, Mrs. E. W., Desk, 87; Inkstand, 90.
 Stillman, Watt J., Track guard, 48.
 Stilwell & Bierce, Lathes, 32; Heater, 52.
 Stilwell & Bierce Manufacturing Co., Water wheel, 36; Heater, etc., 39.
 Stimpson, E. B., Machine, 111.
 Stütt, Price, & Co., Limestone, 123.
 St. John Sewing Machine Co., 30.
 St. John's Guild, Embroidery, 88.
 St. Joseph, Convent of, Berlin wool work, 99.
 Stocking, Z. S., Sandstone, 123.
 Stockwell, J. W., Cement-pipe machinery, 26.
 Stoddard & Fifield, Skiving machines, 110.
 Stokes & Parrish, Hoisting machine, 120; Boiler, 121.
 Stoll, J. B., & Co., Leather, 112.
 Stone, Lucy, Women's Journal, 91.
 Stone, Mary L., Block drawing, 95.
 Stoner, J. B., Lighthouse, 50.
 Storrs, L. B., Pressing machines, 31.
 Story, Miss Mary, Chess table, 87.
 Stout, H. L., Carbonate of iron, 126.
 Stout, Mills, & Temple, Water wheels, 36.
 Stow & Burnham, Cable, 38.
 Stowe, A. F., Machines, 111.
 St. Petersburg River Yacht Club, Boats, 70.
 St. Petersburg, Smithery of, Bolts, 69.
 Stranges Cylinder & Machine Co., Lathe, 19.
 Straus, M., Leather, 114.
 Straw, E. A., Fire engines, 43.
 Street, E. A., Pump, 43.
 Stribley & Co., Shoes, 106.
 Stribley, Miss May, Picture frame, 92.
 Strickland, Misses, Embroidery, 99.
 Strider, J. S., Marble, 127.
 Strider, S. W., Marble, 127.
 Stridsberg & Bjork, Saw blades, 65.
 St. Sebastiao, School of, Tapestry, 101.
 St. Tomas, College of, Manila, 141.
 Studley, Mrs. Thos. E., Painting, 93.
 Studwell, Sanger, & Co., Backs, 115.
 Stump, F., & Co., Blacking, 105.
 Sturtevant, B. F., Blower, 42; Apparatus, 110; Machines, 111.
 Suaña y Castellet, E., Latin, 133.
 Suarez, V., Scientific works, 136.
 Suermoudt, Mrs. A., Counterpane, 100.
 Sugg, W., Burners, 54.
 Sullivan Machine Co., Roving cans, 28.

Sulter, F., Propeller screws, 51.
 Sulzer Bros., Engine gear, 63.
 Summer, Mrs. Sallie O., Mittens, 88.
 Superior Normal School, Books, 132, 133.
 Suplee Needle Co., Needles, 30.
 Surber, J. J., Reeds and heddles, 63.
 Suros, A., Books, 136.
 Suso, Manuel, Periodical, 137.
 Sutcliffe, J. S., Separator, 56.
 Sutcliffe, Mrs., Needlework, 99.
 Sutherland, I. G., Boots, 108.
 Swain, Fuller, & Co., Machines, 111.
 Swarzmayer, J., Flying machine model, 50.
 Sweet Chalybeate Springs, Water, 127.
 Sweet, Mrs. J. E., Wax flowers, 97.
 Sweetland, I. B., Elevator, etc., 43.
 Sweetzer, C. S., & Co., Boots, 108.
 Swift, Miss Mary P., Writing desk, 92.
 Swiss Mfg Co., Heating apparatus, 63.
 Symonds, W. S., & Co., Crushing machine, 57.

T.

Tablares, F., Pine seed, 141.
 Tachigraphy, Academy of, Documents, 135.
 Taft, J. C., Sewing machines, 31.
 Taglicht, K., Spark catcher, 63.
 Tait, Thomas, Water wheel, 36.
 Talbot, Miss Eleanor W., Painting, 93.
 Talhouet, Mrs. R., Embroidery, 100.
 Talley, J., jr., Liquid faucet, 44.
 Talvalla, Corporation of, Wood, 140.
 Tandy, G. J., Boiler, 58.
 Taneyhill, Flora, Painting, 93.
 Tapley Heel Burnishing Machine Ass'n, 111.
 Tardy, Mrs. C., Corset, 88.
 Targett, J., Patterns, 107.
 Tarragona, Provincial Institute, Memoirs, 137.
 Tatham & Bros., Hoisting machines, etc., 43.
 Tatum, Miss Lizzie, Flower stand, 92.
 Taws & Hartman, Blasting furnaces, 41.
 Taylor, Hon. R. W., U. S. Treasury Dept., 72.
 Taylor Iron Works, Car wheels, 47.
 Taylor, J. F., Press, 42.
 Taylor, M. B., Whip lashes, 110.
 Taylor, Miss, Drawing on cloth, 89.
 Taylor, W. B. S., Rubber tubing, 109.
 Tazzer, Miss Augusta, Rocking chair, 92.
 Teal, C. A. & W. L., Boiler rolls, 25.
 Tebbetts, C. B., Shoes, 108.
 Tehernish, E., Leather, 116.
 Tember, K., & Schovede, L., Belts, 70;
 Leather, 116.
 Temple, Edward B., Planing machine, 24.
 Temple, Mrs. O. H., Picture frame, 92.
 Tenas, Ramon, Plan of church, 139.
 Terry, Miss J., Fans, 97.
 Teter, W. L., Feed, 49.
 Thames River Worsted Co., Frame, 29.
 Theiberath, C. M., & Bro., Mountings, 109.
 Thermo Electric Generator Co., Batteries, 55.
 Thessier, F., Table apparatus, 61.
 Thierry, E. J., Shoes, 106.
 Thomas Extract Co., Leather, 113, 115.
 Thomas, Mrs. Annie N., Painting, 94.
 Thomine, F., Machine, 60.
 Thompson, B. F., & Co., Leather, 115.
 Thompson, Mrs. J., Bread, 100.
 Thompson & Nowell, Machine, 111.
 Thompson, O. D., Limestone, etc., 127.
 Thomson, Alexander, Governor for gas, 18.
 Thomson Williams' Mfg Co., Engine, 58.
 Thorne, De Haven, & Co., Machines, 24.
 Thorne, J. W., Trunk, 109.
 Thorne, McFarland, & Co., Leather, 113.
 Throops Grain Cleaner Co., 49.
 Thwait, C., Steamship model, 51.
 Tidball, Miss Flora, Bedstead, 92.
 Tiffany, G. S., Brick machine, 57.
 Tiffany, J. C., Oil gas generator, 19.
 Tilzoff, J., Weaving slays, 69.
 Tingley, J., Machine, etc., 112.

Tipton, John, Boat model, 51.
 Tobias & Heilbrun, Restaurant, 150.
 Todd, Miss Lizzie, Embroidery, 88.
 Toledo Pump Co., Pumps, 41.
 Tolles, Sophie M., Portraits, 94.
 Tolra, José, & Co., Pamphlets, 137.
 Tompkins, S. E., & Co., Saddlery, 109.
 Tool Co., Hamilton, Ont., Lathe drills, 57.
 Toole, Mrs. J. C., Table cover, 89.
 Torre Diaz, Count of, Cork, 140.
 Torres y Fernandez, S., Treatise, 137.
 Torres y Garcia, Ramon, Books, 135.
 Torres y Gonzales, B., Book, 137.
 Torres y Puig, Alejandro, Memoirs, 137.
 Torrevas Tunels, M., Cork, 140.
 Torrey, Martha A., Indelible ink marking, 95.
 Torrey, Miss, Lace tidies, 89.
 Tos, J., Corks, 140.
 Townsend, Mrs. G. L., Attachment, 98.
 Towsley, L. D., & Co., Gas utilizer, 18.
 Tracy, Eliashib, Boiler injector, 39.
 Tracy, J. L., Sec. Missouri State Com., 130.
 Traiser, C., Ruling machine, 62.
 Tranque y Cassi, L., Book, 135; Map, 138.
 Trautwein, C., & Co., Leather, 112.
 Treadwell, Mrs. F. C., Dental work, 90.
 Treasury Department, U. S., 78.
 Trempier, Miss M., Machine, 87; Strap, 90.
 Tretzer, A., Engine, 70.
 Tricourt, A., Machine, 61.
 Trilla & Serra, Periodical, 137.
 Troemner, H., Coffee mills, 50.
 Trump Bros., Scroll saws, 19.
 Tryatt, Miss F., Photographs, 97.
 Tryon, G. K., Son, & Co., Car bearings, 47.
 Tscherning, Miss, Painting, 100.
 Tubert y Carrera, Juan, Book, 135.
 Tubular Barrow & Truck Mfg. Co., Hammer,
 23.
 Tubular Rivet Co., Rivets, etc., 111.
 Tuck, S. V., Tools, 112.
 Tucker, Types, 60.
 Tuckerman, Mrs. Lucius, Tablet, 91.
 Tuerk, F. W., Water wheel, 58.
 Tuero, J. M., Book, 138.
 Tufts, J. W., Soda water apparatus, 44.
 Tully, John W., Paints, etc., 118.
 Tully, Mrs. K., Moss picture, 100.
 Tuñon de Lara, M., Cork, 140.
 Tupper, L. B., Grate bars, 34.
 Tupper, W. W., & Co., Grates, 34.
 Turnbull & Samuels, Heel, 108.
 Turner, B. B., & Co., Machines, 64.
 Turner, C., Couplings, 55.
 Turner, G. H., Photograph, 128; Wheat, 129.
 Turner, Parks, & Co., Separator, 49.
 Tuthill, D. S., Railway tracks, 48.
 Tuthill, S. S., Pencil drawing, 96.
 Twiss, N. W., Engines, 37.
 Twombly, Mrs. John H., Painting, 93.
 Tygh, J. F., Machine and moulds, 49.
 Tyner, Hon. J. M., Postmaster General, 72.
 Typographical Establishment of Oliva, 139.

U.

Uhlinger, W. P., Hydro extractor, 31.
 Underhill & Noble, Leather, 112.
 Union Benevolent Society, Clothing, 88.
 Union Car Spring Co., Springs, 48.
 Union Edge Setter Co., Burnisher, 111.
 Union Mfg. Co., Pumps and cisterns, 40.
 Union Rock Drill Co., 17; Compressor, 41.
 Union Stone Co., Emery wheels, 26.
 Union Water Meter Co., Meters, 39.
 United States Attrition Co., Mill, 49.
 United States Bunting Co., Flags, 51.
 United States Corset Co., Power loom, 30.
 United States Hoisting & Conveying Co., 42.
 United States Sewing Machine Co., 31.
 Unruh, J., & Sons, Trunks, 109.
 Upton, Mrs. E. W., Water color, 98.
 Uria & Pinilla, Charcoal, 140.

Utica Steam Gauge Co., Gauge, etc., 39.
Utor, L. M., Work on Agriculture, 136.

V.

Vail, S. S., Boiler, 35.
Vail & Wallace, Water elevator, 41.
Valdaraque, Rafael, Poetry, 135.
Valentine, W. J., Turbines, 36.
Valladolid School of Fine Arts, Books, 138.
Vallandingham, Miss N., Dressing stand, 92.
Vallarino, Baltasar, Book, 137.
Valley Machine Co., Steam pumps, 40.
Vallin y Bustillo, Books, 133, 134.
Valpey & Anthony, Shoes, 106.
Van den Kerchove, P., Engines, 64.
Vanderpool, Mrs. E. N., Fan, 90; Monograms, 97.
Van Haecht, E., Models, 64.
Van Hagen, C., & Co., Iron planers, 24.
Vanhorn & Cranston, Machine, 34.
Vansittart, Mrs. H., Screw propeller, 55.
Vasquez, Chas. L., Gas machine, 19.
Vean, Miss M., Embroideries, 99.
Velicia, F., Sumac, 140.
Ventilating Waterproof Shoe Co., 108.
Verdú Perez, J., Saffron, 140.
Vergara, M., Periodical, 136.
Versé-Spelmans, Brichot, A., & Co., Belting, 64.
Veterinary School, Leon, Books, 134.
Veterinary School, Zaragoza, Books, 138.
Vianna, B. R., Watch case, 102.
Victor Sewing Machine Co., Machines, 30.
Vicuna, G., Works, 133.
Vidal, Domingo, A., Books, 136.
Vidal y Roger, Andres, Periodical, 137; Music, 132.
Vidal y Soler, S., Books, 141.
Viell, Miss, Lace, 99.
Vilella y Font, S., Fables, 133.
Villa, Cav. I., Drawings, 67.
Villaciervos, Corporation of, Wood, 140.
Villar Garcia, Martin, Book, 135.
Villegas, E., Books, 134.
Virginia Coal Co., Coal, 127.
Vital, A., Rollers, 60.
Vitoria Board of Primary Instruction, 132.
Vitrified Wheel & Emery Co., Emery, 24.
Vogel, A. C., Crimping pin, 90.
Vojtěchovsky & Reznicek, Machines, 63.
Volcano Oil & Coal Co., Coal, 126.
Von Behren & Shaffer, Boat oar, etc., 50.
Von Essen, Baron H. H., Veneering iron, 65.
Von Staden, W. G., Rafters, 53.
Vose, Dinsmore, & Co., Car springs, 47.
Vose, Wm. T., Hydropult, 43.
Voster, Sarah H., Painting, 94.
Vulcanized Fibre Co., Rubber goods, 39, 109.

W.

Waas, H. A., Trunk, 109.
Waddle, J. & M., Sandstone, 127; Corn, 129.
Wadsworth, Miss A. E., Painting, 94.
Wagener, J., Sewing machines, 30; Stone, 123.
Wahl, A., Health apparatus, 38.
Walcott, Eloise B., Indian basket work, 89.
Waldron, J. E., Paper printing machine, 32.
Waldron, J. V., & Bro., Trimmings, 109.
Walker, Bros., Scroll-sawing machine, 19.
Walker, J. H. & G. M., Boots, 107.
Walker, James H., Model of gas works, 18.
Walker, Oakley, & Co., Leather, 115.
Walker, Mrs. Victoria, Carriage robe, 89.
Walker, Miss W., Painting, 101.
Walker, W. B., Smoothing irons, 31.
Walker, W. R., Architect, 143.
Wallace & Keller, Turning lathe, 20.
Wallace, Mrs. M. W., Drawings on wood, 96.
Wallace & Sons, Electric machines, 18.

Wallace & Tucker, Fire annihilator, 55; Model, 56.
Walter, G. C., Sewing machine, 110.
Walter, J., Press, 55.
Walton, L. W., Rowlock, 50.
Walton, S., Water wheel, 36.
Walworth Manufacturing Co., Gas machines, 19; Hose, etc., 43; Heating apparatus, 45.
Wanzer & Co., Sewing machines, 57.
War Department U. S., 73, 76.
War Depository, Madrid, Maps, 138.
Ward, Emily Winthrop, Bas-relief, 91.
Ward, Hetta L. H., Ear rings, 90; Painting, 95.
Ward, S. H., Fireplace, 97.
Wardwell, G. J., Engines, 37.
Wardwell M'f'g Co., Sewing machine, 31.
Ware, Mrs. M. L., Flowers, 98.
Waring, J. B., Steam pump, 41.
Waring Rock Drill Co., Drill, 17.
Warner, Mrs. George, Water color, 95.
Warner, Miss Naidine, Painting, 93.
Warren, Mrs. E. J., Bark pictures, 100.
Warren Foundry & Machine Co., Pipe, 44, 45.
Warren, John, Paneling machine, 21.
Warth, A., Cutting machines, 30.
Warthorst & Co., Stone, 123.
Washburn, Mrs. H. B., Painting, 95.
Washburn Car Wheel Co., Wheels, 47.
Washburn Machine Shop, Lathes, 24; Drawing models, 30.
Waterous Engine Works Co., Saw mill, 57.
Waters, C., & Co., Engine governors, 39.
Waters, E., & Sons, Paper boats, etc., 50.
Waters, G., Corn, 129.
Watson, J., Mosses, 98.
Watson, James, Gap lathe, 25.
Watt, F. H., Trunks, 109.
Wattes, Edward, jr., Pocket flasks, 23.
Watts, Hon. F., Com'r of Agriculture, 72.
Way, Agnes C., Painting, 93.
Way, J. S., & Co., Leather, 115.
Weaver & Bardall, Whips, 110.
Weaver, W., Rock drill, 17.
Webb, Wm. B., Leather, 112.
Webb, W. W., Models, 51.
Webster, Mrs. Elizabeth S., Paintings, 93.
Webster, Mrs. R. A., Point lace, 99.
Webster, S., Tank, 58.
Webster, Mrs. S. A., Panels, 93.
Weddleton, J. B., Ship material, 59.
Wedekind, Hallenborg, & Bro., Leather, 112.
Weed, J. B. & F. M., & Co., Leather, 115.
Weed & Co., Cutting machine, 23.
Weed Sewing Machine Co., Machines, 31.
Weeks, Caroline, Portrait, 93.
Weikel & Smith, Coffee roaster, etc., 50.
Weil, J., & Bros., Leather, 115.
Weiller, Julia, Embroidered picture, 89.
Weimer, P. L., Charging apparatus, 18.
Weimer's Machine Works, Carts, etc., 118.
Welby, Belting, 61.
Welch, A., Wagons, 56.
Welch, R. R., Car coupler, 46.
Weld, Mrs. Wm. G., Panels, 88.
Wells Balance Engine Co., Engine, 38.
Wells, Miss Glory Anna, Dish washer, 87.
Wells, H. F., Leather, 113.
Wells, J., Limestone, 127.
Wells, M. D., & Co., Boots, 106.
Wells, N., Clay, 127; Photograph, 128.
Welsh, Mrs. A. S., Embroidery, 89.
Wemner, P. L., Blowing engine, 42.
Wensley, J., Machines, 30; Uppers, 114.
Wenström, W., Turbine, 65.
Wentz & Clark, Leather, 115.
Wertheim, L., Packing, 62.
West Bros., Shoes, 106.
West, Elizabeth J., Marking, 95.
West, Miss J. M., Spatter work, 90.
West, Mrs., Berlin wool work, 99.
West Virginia, State of, Exhibit, 125.
Westcott, C. J., Type machine, 33.
Western File Co., Files, 27.

- Westinghouse Air Brake Co., Brakes, 46.
 Wetherill, R., & Co., Engine, 37.
 Wetzlar, A., Leather, 114.
 Weyhe, W., Pumps, 62.
 Wharton Railroad Switch Co., Switch, 48.
 Wharton, Wm., jr., Machine, 25; R.R. curves, 48.
 Wheeler & Wilson M'fg Co., Sewing machines, 30, 111.
 Wheeling, City of, School views, 128.
 Whelen, R. P., Bits, 109.
 Whistler, T., Life boat, 50.
 White, Mrs. A., Bureau, frame, 92.
 White, C. S., Ores, 126.
 White, Clark, & Co., Pump, 41.
 White, J. J., Fare box, 47.
 White, Mrs. L. S., Confectionery, 98.
 Whiteford, John, Moulding machine, 26.
 Whitehead, Mrs. C. E., White lace, 89.
 Whitesides, Mrs. E. G., Braiding, 89.
 Whitman, Mrs. E. J., Scraper, 87; Buttons, 90.
 Whitner, Mrs. Mary A. E., Multiscope, 91.
 Whitney, A., & Sons, Car wheels, 47.
 Whitney, Anne, Bronze bust, 91.
 Whitney, A. H., Carved wood work, 97.
 Whitney, B. D., Machines, 22, 29.
 Whitney M'fg Co., Sewing machines, 30.
 Whitney, Miss, Pictures, 100.
 Whiton, David E., Gear-cutting machines, 25.
 Whittemore, D., Machines, 111.
 Whittemore, Miss Jennie, Worsted picture, 89.
 Whittier, Miss H. A., Box and tiles, 98.
 Whittington, F. L., Wax flowers, 97.
 Wicaco Screw & Mach. Works, Punches, 25.
 Wickersham & Bro., Oil feeder, etc., 39.
 Wiener & Co., Saddlery, 109.
 Wier, Marshall Arthur, Water meter, etc., 55.
 Wiggan, Mrs. Abby N., Buttonholes, 89.
 Wiklund, W., Pump, 66.
 Wilbraham, T., & Bros., Engines, etc., 42.
 Wilcox & Gibbs Sewing Machine Co., 30.
 Wilcox Tanning Co., Leather, 113.
 Wilder, J. L., Harness, etc., 110.
 Wildgoose, F. H., Steamboat model, 59.
 Wilen, G. C., Boat, 50.
 Wilhelm, Mrs. A. C., Screw button, 90.
 Wilkie & Osborne, Sewing machines, 57.
 Wilkinson, A. J., & Co., Lathe, 28.
 Wilkinson, Miss G., Water colors, 98.
 Wilkinson, Mrs. James A., Yarn, 87.
 Wilkinson, J. P., & Bro., Leather, 112.
 Willard, Mrs. Harriet J., Books, 91.
 Willets, M., Drawing on glass, 96.
 Willey, W. T., Minerals, 126.
 Williams, Chas. B., Sons, Leather, 112.
 Williams, C. H. & G. L., Leather, 114.
 Williams, C. W., M'fg Co., Machines, 57.
 Williams, Mrs. E., Bedstead, 93.
 Williams, Mrs. G. A., Leather table, 87.
 Williams, G. P., Wheat, 129.
 Williams, Mrs. J., Hanging basket, 98.
 Williams, J. S., Tracks, 48; Wheat, 129.
 Williams, J. V., Marl, 128.
 Williams, Mary E., Paintings, 93.
 Williams, R. P., Railroad crossings, 56.
 Williams, S., & Son, Implements, 26.
 Williams, S. S., & Co., Hod elevator, 42.
 Williamson Bros., Portable engine, 34, 53.
 Williamson, J. R., Sand, 127.
 Willamantic Linen Co., Winding machines, 28.
 Willis, C. E., Sewing-machine feed, 31.
 Willoughby, J. D., Steam governor, 40; Pulsometer, 41; Scales, 46.
 Wiley, Mrs. A. W., Penknife work, 91.
 Wilson, B. F., Valves, 35.
 Wilson Bros. & Co., Architects, 145.
 Wilson, Clarke, & Co., Pump, 58.
 Wilson, G. W., Corn, 129.
 Wilson, H., Oats, 129.
 Wilson & Hughes Stone Co., Stone, 123.
 Wilson, J. M., Architect Machinery Hall, 9.
 Wilson, J. P., Vacuum pan, 57.
 Wilson, L., Carbonate of iron, 126.
 Wilson, L. R., Crayon, 96.
 Wilson, Miss M., Penciling, 96.
 Wilson, Mrs. H. C., Bouquet, 97.
 Wilson, Mrs. R., Crayon, 96.
 Wilson, Newton, & Co., Sewing machines, 55.
 Wilson, R. F., Fly nets, 110.
 Wilson Sewing Machine Co., 30.
 Wilson, W. H., Firemen's hats, etc., 43.
 Wilson, Walker, & Co., Leather, 116.
 Wimpfheimer, Mrs. C., Loom, 30.
 Winans, H. N., Boiler powder, 35.
 Windmüller & Meynen, Spools, 62.
 Windrim, J. H., Architect, 72.
 Wingate, Mrs. J. F., Rag rug, 87.
 Wisconsin Leather Co., Leather, 112, 115.
 Wisconsin, Women's Com., Memorial, 91.
 Wisner & Strong, Engine, 37.
 Wiswall, H. M., Rotary pumps, 40.
 Withrow, J., Marbles, 127.
 Wladimir Tannery, Leather, 116.
 Woelfel, F., Leather, 114.
 Wolf, A. N., Water wheel, 36.
 Wolf, M., Types, 70.
 Wolf, S., Shoes, 116.
 Wolfe, A., Sand, 127.
 Wolfenden, Shore, & Co., Loom, 28, 29.
 Woman's Art School, N. Y., Work, 90, 96.
 Women's Executive Committee, Easel, 87; Seal, 88; Volume of Herald, 91.
 Wood, A. M., Ochre, 128.
 Wood, G., Leather, 115.
 Wood, G. W., Lifting jack, 27.
 Wood, J., Steam pump, 40; Frogs, 48.
 Wood, J. W., Leak stopper, etc., 56.
 Wood, Miss Martha J., Paintings, 94.
 Wood, R. D., & Co., Hydrants, pipes, 44.
 Wood, T., Star loom, 28.
 Wood, W. D., & Co., Trimmings, 108.
 Woodbury, J. A., Car wheels, 47.
 Woodruff & Beaumont, Stop valve, 44.
 Woodruff, A. H., Locomotive gear, 40.
 Woodruff, J., Dampers, 39, 53.
 Woods, B. O., & Co., Printing presses, 32.
 Woods, G., & Co., Drying process, 31.
 Woods, S. A., Machine Co., Machinery, 21.
 Woodward, Laura, Painting, 93.
 Woodward, T. B., Mills, 49.
 Woolredge, A. M., Shoes, 108.
 Worcester, E. J., & Co., Drills, 24.
 Wormley, Mrs. A. E., Engravings, 96.
 Worthington, H. P., Engine, 53.
 Worthington & Sons, Stone, 123.
 Wratislau, Miss M., Water colors, 101.
 Wrigglesworth, W. J., Horse collar, etc., 110.
 Wright, J., Motor, 36.
 Wright, P., & Sons, Tools, 54.
 Wright & Rogers, Locomotive, 36.
 Wright, W., Boilers, etc., 55.
 Wrigley, J., Jacquard loom, 28.
 Wulstein, H., Granulator, 49.
 Wunderlich, Reinhard, Leather, 114.
 Wünschmann, R., Machine, 62.
 Wyatt, Charles B., Bevel knife, 26.
 Wyatt, J. L., Ship model, 51.
 Wyman, J. D., Soldering iron, 28.
 Wyman, L. A., Paint mill, 18.

Y.

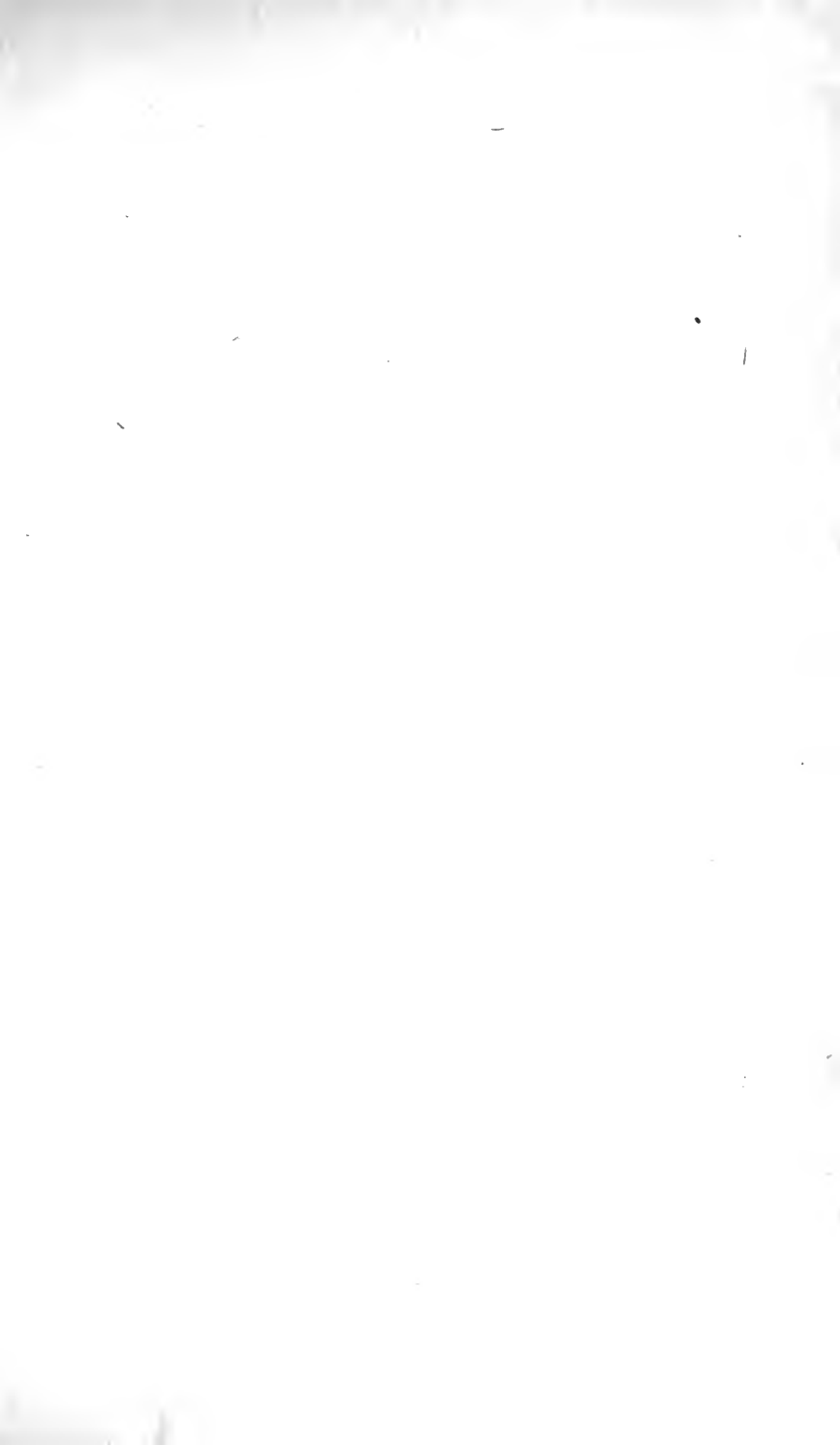
- Yale Lock Man'y, Hoisting machinery, 43, 55.
 Yeager, D. A., Harness, 110.
 Yeves, Carlos, Books, 135.
 Yevleff, A., Skins, etc., 69.
 Yohe, Mrs. D., Mat, 90.
 York M'fg Co., Washer, 31; Wheels, 36.
 Yosefow Sugar M'fg Co., Form, 70.
 Yoster, S. H., Frames of paper cuttings, 97.
 Young, Hugh, Stone-sawing machine, 26.
 Young, J., Model, 128.
 Young, J. & S., Separator, 49.
 Young Ladies' Institute, Pupils' work, 100.
 Young Ladies' Society, Blanket, etc., 89.
 Young, William, Machine, 24; Pumps, 40.
 Yule, G., Wool forming machines, 30.

Z.

Zaffarini, Cav. C., Machine, 67.
Zanini, P., Machine, 67.
Zantzinger, D. W., Steamship model, 51.
Zaun, J., & Son, Shoes, 107.
Zeigler Bros., Shoes, 107.

Zimmerman, Mrs. D., Bead work, 99.
Zimmermann, J., Needles, 62.
Zindgraf & Hohenadel, Paint mill, 18.
Zinovieff, A., Vamps, 116.
Zipp, P. C., Leather, 115.
Zoble, Mrs. S. G., Wood engraving, 96.
Zwietusch, O., Fire extinguisher, 44.

Introduction	1
Chapter I	10
Chapter II	25
Chapter III	40
Chapter IV	55
Chapter V	70
Chapter VI	85
Chapter VII	100
Chapter VIII	115
Chapter IX	130
Chapter X	145
Chapter XI	160
Chapter XII	175
Chapter XIII	190
Chapter XIV	205
Chapter XV	220
Chapter XVI	235
Chapter XVII	250
Chapter XVIII	265
Chapter XIX	280
Chapter XX	295
Chapter XXI	310
Chapter XXII	325
Chapter XXIII	340
Chapter XXIV	355
Chapter XXV	370
Chapter XXVI	385
Chapter XXVII	400
Chapter XXVIII	415
Chapter XXIX	430
Chapter XXX	445
Chapter XXXI	460
Chapter XXXII	475
Chapter XXXIII	490
Chapter XXXIV	505
Chapter XXXV	520
Chapter XXXVI	535
Chapter XXXVII	550
Chapter XXXVIII	565
Chapter XXXIX	580
Chapter XL	595
Chapter XLI	610
Chapter XLII	625
Chapter XLIII	640
Chapter XLIV	655
Chapter XLV	670
Chapter XLVI	685
Chapter XLVII	700
Chapter XLVIII	715
Chapter XLIX	730
Chapter L	745
Chapter LI	760
Chapter LII	775
Chapter LIII	790
Chapter LIV	805
Chapter LV	820
Chapter LVI	835
Chapter LVII	850
Chapter LVIII	865
Chapter LIX	880
Chapter LX	895
Chapter LXI	910
Chapter LXII	925
Chapter LXIII	940
Chapter LXIV	955
Chapter LXV	970
Chapter LXVI	985
Chapter LXVII	1000



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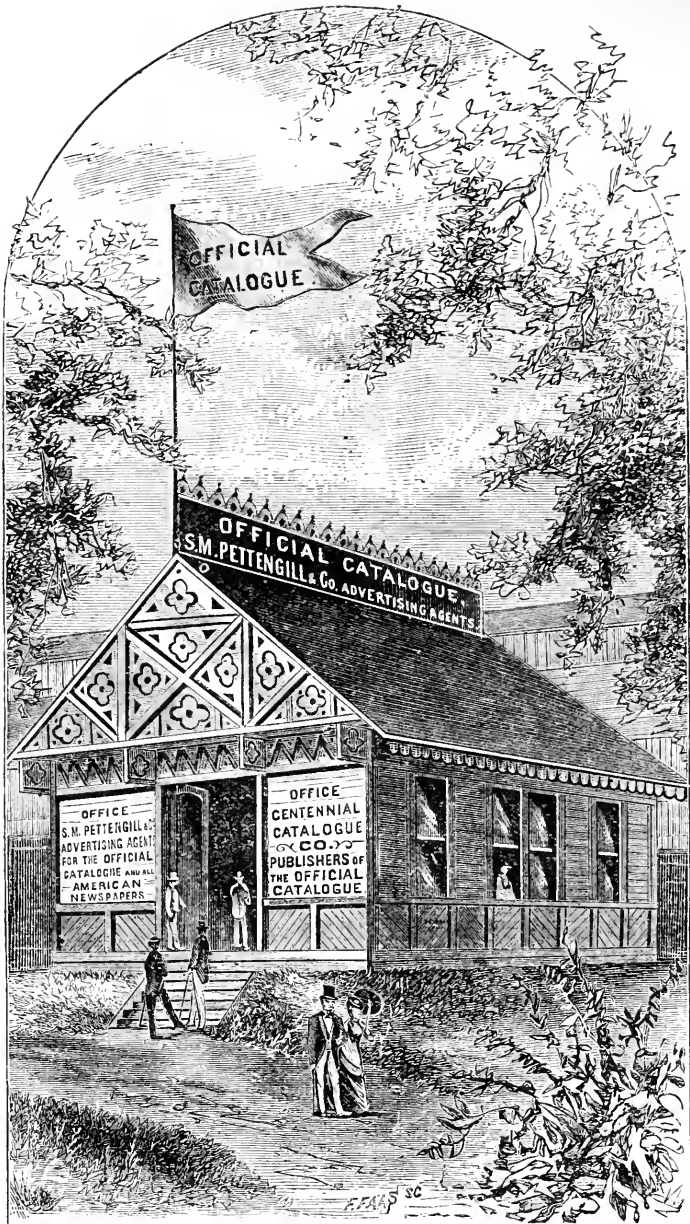
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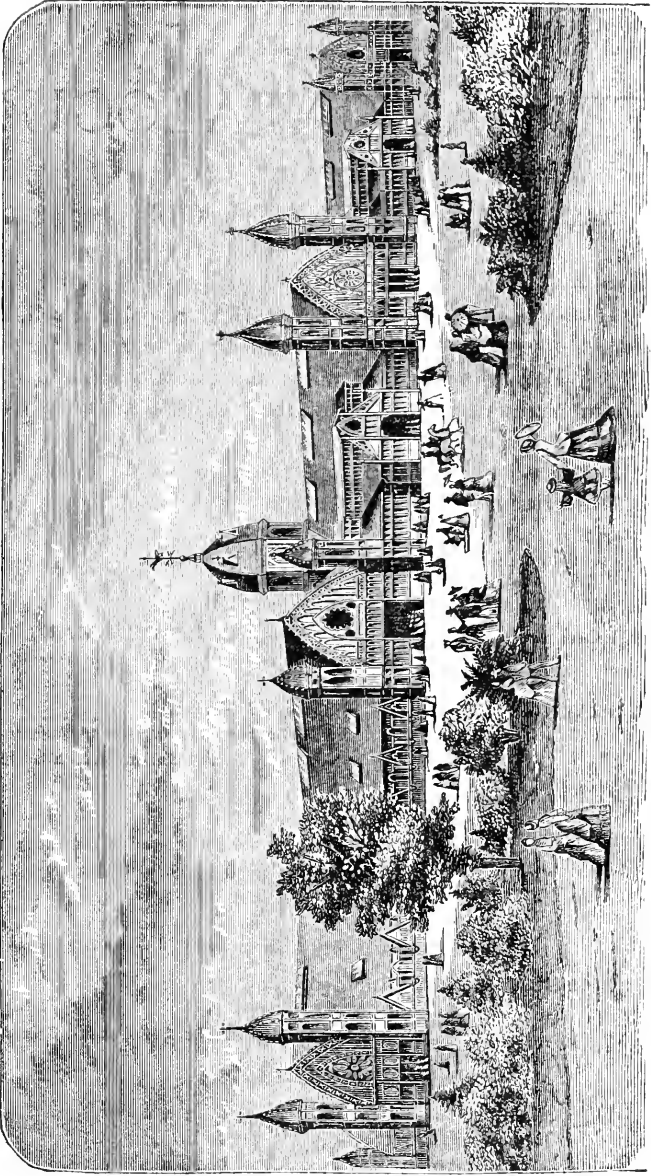
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1876

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AGRICULTURAL AND HORTICULTURAL
HALLS AND ANNEXES.

DEPARTMENT VI.—AGRICULTURE.

DEPARTMENT VII.—HORTICULTURE.

REVISED EDITION.

PHILADELPHIA:

Published for the Centennial Catalogue Company

By JOHN R. NAGLE AND COMPANY.

Printed at the Riverside Press, Cambridge, Mass.

1876.

Entered according to Act of Congress, in the year 1876, by the
UNITED STATES CENTENNIAL COMMISSION,
in the office of the Librarian of Congress, at Washington, D. C.

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CONTENTS.

List of Buildings and Special Exhibits	6
Subject Index, National Exhibits	8
The Agricultural Building	9
Key to the Notation	9
Ground Plan of Agricultural Hall	10
Synopsis of the Classification	11
Classification of Department VI., Agriculture	12
Catalogue of the Department of Agriculture	15
Annexes and Special Exhibits in the Department of Agriculture	134
Stated Displays	141
Live Stock Circular	142
The Horticultural Building	147
Ground Plan of Horticultural Hall	148
Classification of Department VII., Horticulture	149
Catalogue of the Department of Horticulture	151
Statistical Appendix	163

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—The buildings bear the numbers prefixed to them in this table, being the numbers adopted by the Centennial Guide Book Co. (Limited).]

Buildings South of the Avenue of the Republic.

No.	Part	Page
1.	I.	23
2.	III.	9
3.	III.	117
4.	III.	117
5.	III.	117
6.	III.	117
7.	III.	105
8.	III.	117
9.	III.	117
10.	III.	117
11.	III.	118
12.	III.	146
13.	III.	146
14.	III.	118
15.	III.	118
16.	III.	118
17.	III.	118
18.	III.	118
19.	III.	119
20.	III.	119
21.	III.	119
22.	III.	119
23.	III.	119
24.	III.	119
25.	III.	119
26.	III.	119
27.	III.	119
28.	III.	119
29.	III.	120
30.	III.	120
31.	III.	120
32.	III.	120
33.	III.	120
34.	III.	120
35.	III.	120
36.	III.	120
37.	III.	121
38.	III.	121
39.	III.	121
40.	III.	121
41.	III.	121
42.	III.	121
43.	III.	121
44.	III.	122
45.	III.	122
46.	III.	122
47.	III.	122
48.	III.	122
49.	III.	122

Buildings North of the Avenue of the Republic, and West of Belmont Av.

No.	Part	Page
51.	III.	73
51½.	III.	122
52.	III.	73
52½.	III.	122
53.	III.	73
53½.	III.	122
54.	III.	73
54½.	III.	123
55.	III.	123
55½.	III.	123
56.	III.	123
56½.	III.	124
57.	III.	124
57½.	III.	124
58.	III.	124
58½.	III.	124
59.	III.	124
59½.	III.	124
60.	III.	124
61.	III.	125
62.	III.	125
63.	III.	125
64.	III.	125
65.	III.	125
66.	III.	125
67.	III.	125
68.	III.	125
69.	IV.	134
70.	III.	130
71.	III.	130
72.	III.	130
73.	III.	130
74.	III.	130
75.	III.	130
76.	III.	131
77.	III.	131
78.	III.	131
79.	III.	131
80.	III.	131
81.	III.	131
82.	III.	131
83.	III.	131
84.	III.	131
85.	III.	132
86.	III.	132
87.	III.	141
88.	III.	141
89.	III.	142
90.	III.	142
91.	III.	142

BUILDINGS AND SPECIAL EXHIBITS WITHIN THE EXHIBITION GROUNDS.

[NOTE.—Descriptions of the Buildings will be found at the indicated part and page of the Official Catalogue.]

Buildings North of the Avenue of the Republic, and West of Belmont Av.

No.	Part	Page
92. Office of the Boston "Advertiser" and Boston "Herald,"	III.	142
93. Rowell's Newspaper Exhibition Building,	III.	142
94. California State Building,	III.	142
95. Centennial Fire Patrol, No. 1,	III.	142
96. Turkish Café,	III.	143
97. Office Frank Leslie's Publications,	III.	143
98. Iowa State Building,	III.	143
99. Rhode Island State Building,	III.	143
100. Vermont State Building,	III.	143

Buildings East of Belmont Avenue, and South of Fountain Avenue.

101. Art Gallery,	II.	9
102. Art Gallery Annex,	II.	10
103. B'nai B'rith Monument of Religious Liberty,	III.	143
104. Photographic Art Building,	II.	137
105. Vienna Bakery and Coffee House,	III.	143
106. Principal Annex to Main Exhibition Building,	I.	374
107. Swedish Government Building,	III.	144
108. Japanese Bazaar,	III.	144
109. The Judges' Hall,	III.	144
110. Centennial Photographic Co.,	III.	144
111. Sheet-metal Pavilion,	III.	144
112. German Government Building,	III.	144
113. Railroad Ticket Office,	III.	144
114. Office United States Centennial Commission,	III.	145
115. Brazilian Government Build'g,	III.	145
116. The Dairy,	III.	145
117. Restaurant "La Fayette,"	III.	145
118. House of Public Comfort,	III.	145
119. Empire Transportation Co.,	III.	145
120. French Government Building,	III.	145
121. Centennial Fire Patrol, No. 2,	III.	145
122. Penn'a Educational Building	III.	146
123. Telegraph Office,	III.	147
124. American Fusee Company,	III.	147
125. Klautscheck, Thomas, & Stewart's Glass Magazine,	III.	147
126. Moorish Villa,	III.	147
127. American Bible Society,	III.	147
128. Hunter's Camp,	III.	147
129. Office Water Department,	III.	148
130. Soda Water Sta	III.	148

No.	Part	Page
131. Cigar Stands,	III.	148
132. Singer's Sewing Machines,	III.	148
133. Centennial Medical Departm't,	III.	148
134. Portugal Government Building,	III.	148
135. Bankers' Building,	III.	148
136. French Glass Exhibit,	III.	149
137. Kindergarten,	III.	149
138. Centennial Police Station,	III.	149
139. Philadelphia City Building,	III.	149
140. Music Pavilion,	III.	149
141. Burial Caskets,	III.	149
142. Perforated Metal Building,	III.	149
143. Rubber Roofing,	III.	149
144. Cuban Acclimation Office,	III.	149
145. Naval Group,	III.	149
146. The Dying Lioness,	III.	149

Buildings East of Belmont Avenue, and North of Fountain Avenue.

151. Horticultural Hall,	IV.	147
152. Agricultural Hall,	IV.	9
153. The Women's Pavilion,	III.	85
154. The Women's School House,	III.	150
155. New Jersey State Building,	III.	150
156. Restaurant of the South,	III.	150
157. Kansas and Colorado State Building,	III.	150
158. New England Farmer's Home 100 years ago, and Modern Kitchen,	III.	150
159. Great American Restaurant,	III.	150
160. German Restaurant,	III.	151
161. Tea and Coffee Press,	III.	151
162. Butter and Cheese Factory,	III.	151
163. Soda Water Stand,	III.	151
164. Cigar Stand,	III.	151
165. Farm Wagon Building,	IV.	135
166. Pomological Building,	IV.	135
167. Brewers' Building,	IV.	136
168. Model House Apiary,	IV.	140
169. Guano Company,	III.	151
170. Special Flower Exhibit Building,	III.	170
171. Wind Mills,	IV.	140
172. Office "Ohio Farmer,"	IV.	140
173. Hay Press,	III.	152
174. Police Station,	III.	152
175. Elevated Railroad,	III.	152
176. Boiler House,	III.	152
177. Virginia State Building,	III.	152
178. Protective Fire Apparatus,	III.	152
179. Pop-corn Stands,	III.	152
180. J. L. Mott Co. Fountain,	III.	152

SUBJECT INDEX, NATIONAL EXHIBITS.

DEPARTMENT VI. AGRICULTURE.

DEPT. VII. HORTICULTURE.

NATIONS.	Arboriculture and Forest Products.		Pomology.	Agricultural Products.		Land Animals.	Water Animals, Fish Culture, and Apparatus.		Animal and Vegetable Products.	Textile Substances of Vegetable or Animal origin.		Machines, Implements, and Processes of Manufacture.	Agricultural Engineering and Administration.	Tillage and General Management.	Ornamental Trees, Shrubs, and Flowers.		Hot-houses, Conservatories, Graperies.	Garden Tools, Accessories of Gardening.	Garden Designing, Construction and Management.	Statistics of Exhibiting Countries.	Commissioners to the Exhibitions.
	15	15		15	18		18	19		24	25				36	151						153
United States . . .	135	135	136			136	24	135	135	137	139	38	151	153	152	154	153	154	163		
Great Britain . . .	40		40			40	41	41	41	41	43		156						169	173	
† New Zealand . . .			42						42				156						174	177	
† New South Wales . . .									42										178	179	
† Victoria . . .																			181	182	
† S. Australia . . .																			183	184	
† Cape of Good Hope . . .			43			43	43	43											185	186	
† Jamaica . . .		43													156				187	187	
† Bahamas . . .																			188	188	
† Bermudas . . .																			189	190	
† British Guiana . . .																			190	191	
† Ceylon . . .																			191		
† Straights Settlements . . .																			192		
† Gold Coast . . .																			192		
† Mauritius . . .																			193		
† Queensland . . .																			194	195	
† Seychelles Archipelago . . .																			196		
† Tasmania . . .																			196	193	
† Trinidad . . .																			198		
† India . . .																			199		
Canada . . .	44	44	44	44	44	45	45	46	46										202	204	
* France . . .	134	48	48		48	139	49	51	51	52			157	157	157	157	157	157	205	209	
Germany . . .	53		53			53	54	54	54	54									210	215	
Austria . . .	55	55	55		55	55	56	56	56										216	221	
† Switzerland . . .																			222	225	
Belgium . . .																			226	228	
Netherlands . . .	57		57		57	57							158						230	234	
Denmark . . .																			235	236	
Sweden . . .	59		59		59	59		60	60										237	240	
Norway . . .	61		61	61	61	61	61	62	62	62									241	243	
Italy . . .	63	63	63		63	63	66	67	67										244	249	
† Egypt . . .																			250	252	
Tunis . . .																			253	253	
† Orange Free State . . .																			254	255	
† Luxembourg . . .														159					256		
† China . . .																			256	257	
† Japan . . .	128		128		128	129	129		129					129		129	129		258	259	
† Hawaii . . .														159					260	261	
† Brazil . . .	68		68	71	72	72	75	75	75										262	263	
† Argentine Republic . . .	76		77	81	81	81	86		88					159					264	265	
† Chili . . .																			266	267	
† Peru . . .																			268	270	
† Mexico . . .																			271	274	
† Liberia . . .			88		88	88	88		88										275	277	
† Spain . . .		88z	88c	88n	88n	88o	88h	88j	88j	88j				160	160				277	280	
† Philippine Islands . . .	130	130	130	131	131	131	132	133						160							
† Portugal . . .	89	90	92		99	99	120		122										281	284	
† Turkey . . .																			286	288	
† Russia . . .	123	123	123		124	124	126	127	127										289	294	

* Metallurgical exhibit of France, page 48.

† Metallurgical exhibit of Liberia, page 88.

† Countries marked thus, have Agricultural exhibits which are installed in the Main Building and catalogued in Part I.

† A portion of the Chemical exhibit of Brazil, page 75.

No. 152. AGRICULTURAL HALL.

Size, parallelogram, 820 by 540 feet.

Architect, JAMES H. WINDRIM, *Philadelphia*.

Contractor, PHILIP QUIGLEY, *Wilmington, Del.*

Wrought iron furnished by ALLISON & SONS, *Philadelphia*.

Erectors, BELL BROTHERS.

THE Agricultural Exhibition Building stands north of Horticultural Hall, on the eastern side of Belmont avenue. A novel combination of materials is illustrated in its construction. It consists of a long nave crossed by three transepts, all composed of Howe truss arches of Gothic form. The four courts inclosed between the nave and transepts, as also the four spaces at the corners of the building, having the nave and transepts for their sides, are roofed in and form spaces for exhibits. The building covers an area of above ten acres. Stock yards for the exhibition of horses, cattle, sheep, swine, poultry, etc., are in the vicinity of the exhibition grounds.

The contract was made July 26th, 1875, and the building was begun in September 1875, and finished in April, 1876. It cost \$260,000.

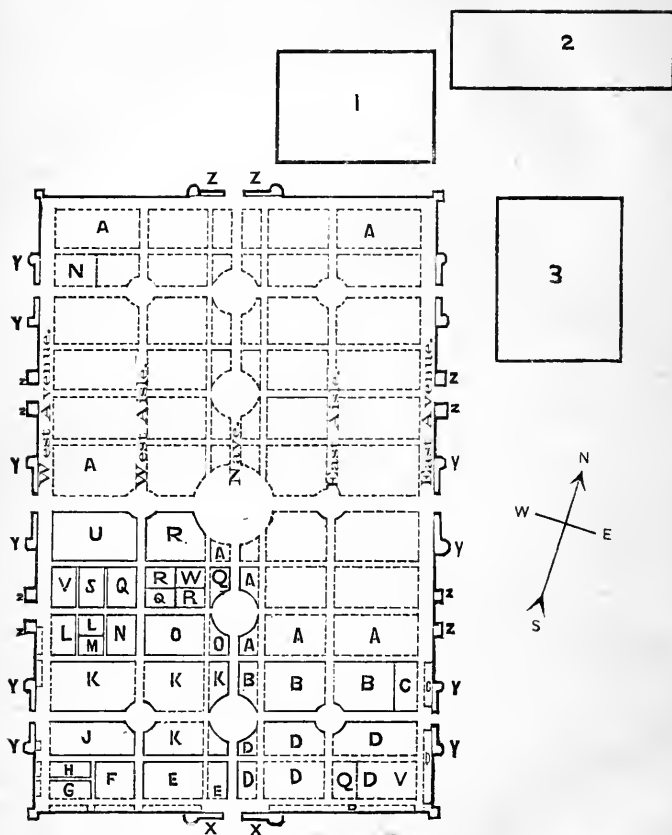
KEY TO THE NOTATION.

THE location of objects in the Agricultural Building is shown by a letter and figure, indicating the nearest column of the building. The letters—A, B, C, to T—designate the successive ranges of columns, proceeding eastward from the western wall across the width of the building; the figures, the number of the column in each range, counting northwardly from the southern wall, the entire length of the building, from 1 to 28. Thus C 5 is the column in the third range from the west, and the fifth from the southern end of the building. The northeasternmost column is T 28.

The class of the classification (see pages 12-14) to which each exhibit belongs is indicated by the small figures at the end of the line.

AGRICULTURAL HALL.

Scale, 225 ft. to 1 in.



A United States.
 B Canada.
 C Liberia.
 D England.
 E Germany.
 F Austria.
 G Japan.
 H Venezuela.
 J Netherlands.

K France.
 L Sweden.
 M Denmark.
 N Norway.
 O Brazil.
 P Belgium.
 Q Portugal.
 R Spain and Phil. Islands.
 S Argentine Republic.

U Russia.
 V Italy.
 W Mexico.
 X Dept. of Public Comfort.
 Y Water-closets.
 Z Offices.
 1. Wagon Building.
 2. Brewers' Building.
 3. Pomological Building.

Total Length, 540 ft. Width, 820 ft. Height, 75 ft.

SYNOPSIS OF THE CLASSIFICATION.

LOCATION.	DEPARTMENTS.	CLASSES.	GROUPS.	
MAIN BUILDING.	I. MINING AND METALLURGY.	100—109	Minerals, Ores, Stone, Mining Products.	
		110—119	Metallurgical Products.	
		120—129	Mining Engineering.	
	II. MANUFACTURES.	II. MANUFACTURES.	200—205	Chemical Manufactures.
			206—216	Ceramics, Pottery, Porcelain, Glass, etc.
			217—227	Furniture, etc.
			228—234	Yarns and Woven Goods of Vegetable or Mineral Materials.
			235—241	Woven and Felted Goods of Wool, etc.
			242—249	Silk and Silk Fabrics.
			250—257	Clothing, Jewelry, etc.
258—264			Paper, Blank Books, Stationery.	
265—271			Weapons, etc.	
272—279			Medicine, Surgery, Prothesis.	
280—284	Hardware, Edge Tools, Cutlery, and Metallic Products.			
285—291	Fabrics of Vegetable, Animal, or Mineral Materials.			
292—296	Carriages, Vehicles, and Accessories.			
III. EDUCATION AND SCIENCE	III. EDUCATION AND SCIENCE	300—309	Educational Systems, Methods, and Libraries.	
		310—319	Institutions and Organizations.	
		320—329	Scientific and Philosophical Instruments and Methods.	
		330—339	Engineering, Architecture, Maps, etc.	
		340—349	Physical, Social, and Moral Condition of Man.	
ART GALLERY.	IV. ART.	400—409	Sculpture.	
		410—419	Painting.	
		420—429	Engraving and Lithography.	
		430—439	Photography.	
		440—449	Industrial and Architectural Designs, etc.	
		450—459	Ceramic Decorations, Mosaics, etc.	
		MACHINERY BUILDING.	V. MACHINERY.	500—509	Machines, Tools, etc., of Mining, Chemistry, etc.
510—519	Machines and Tools for working Metal, Wood, and Stone.			
520—529	Machines and Implements of Spinning, Weaving, etc.			
530—539	Machines, etc., used in Sewing, Making Clothing, etc.			
540—549	Machines for Printing, Making Books, Paper Working, etc.			
550—559	Motors, Power Generators, etc.			
560—569	Hydraulic and Pneumatic Apparatus.			
570—579	Railway Plant, Rolling Stock, etc.			
580—589	Machinery used in Preparing Agricultural Products.			
590—599	Aerial, Pneumatic, and Water Transportation. Machinery, and Apparatus, especially adapted to the requirements of the Exhibition.			
AGRICULTURAL BUILDING.	VI. AGRICULTURE.	600—609	Arbiculture and Forest Products.	
		610—619	Pomology.	
		620—629	Agricultural Products.	
		630—639	Land Animals.	
		640—649	Marine Animals, Fish Culture, and Apparatus.	
		650—662	Animal and Vegetable Products.	
		665—669	Textile Substances of Vegetable or Animal origin.	
		670—679	Machines, Implements, and Processes of Manufacture.	
		680—689	Agricultural Engineering and Administration.	
690—699	Tillage and General Management.			
HORTICULTURAL BUILDING.	VII. HORTICULTURE.	700—709	Ornamental Trees, Shrubs, and Flowers.	
		710—719	Hot Houses, Conservatories, Graperies.	
		720—729	Garden Tools, Accessories of Gardening.	
		730—739	Garden Designing, Construction, and Management.	

CLASSIFICATION.

DEPARTMENT VI.—AGRICULTURE.

ARBORICULTURE AND FOREST PRODUCTS.

- CLASS 600.—Timber and trunks of trees, entire or in transverse or truncated sections, with specimens of barks, leaves, flowers, seed vessels, and seed.
Masts, spars, knees, longitudinal sections of trees, railway ties, ship timber, lumber roughly sawn; as planks, shingles, lath, and staves.
Timber and lumber prepared in various ways to resist decay and combustion; as by injection of salts of copper and zinc.
- CLASS 601.—Ornamental woods used in decorating and for furniture; as veneers of mahogany, rosewood, ebony, walnut, maple, and madrona.
- CLASS 602.—Dyewoods, barks, and galls for coloring and tanning.
- CLASS 603.—Gums, resins, caoutchouc, gutta percha, vegetable wax.
- CLASS 604.—Lichens, mosses, fungi, pulu, ferns.
- CLASS 605.—Seeds, nuts, etc., for food and ornamental purposes.
- CLASS 606.—Forestry.—Illustrations of the art of planting, managing, and protecting forests. Statistics.
- CLASS 607.—Fruit trees and shrubs.

POMOLOGY.

- CLASS 610.—Fruits of temperate and semi-tropical regions; as apples, pears, quinces, peaches, nectarines, apricots, plums, grapes, cherries, strawberries, and melons.
- CLASS 611.—Tropical fruits and nuts, oranges, bananas, plantains, lemons, pine-apples, pomegranates, figs, cocoanuts.

AGRICULTURAL PRODUCTS.

- CLASS 620.—Cereals, grasses, and forage plants.
- CLASS 621.—Leguminous plants and esculent vegetables.
- CLASS 622.—Roots and tubers.
- CLASS 623.—Tobacco, hops, tea, coffee, spices, condiments, herbs.
- CLASS 624.—Seeds and seed vessels.

LAND ANIMALS.

- CLASS 630.—Horses, asses, mules.
- CLASS 631.—Horned cattle.
- CLASS 632.—Sheep.
- CLASS 633.—Goats, alpaca, llama, camel.
- CLASS 634.—Swine.
- CLASS 635.—Poultry and birds.
- CLASS 636.—Dogs and cats.
- CLASS 637.—Wild animals.
- CLASS 638.—Insects, useful and injurious. Honey bees, cochineal, silk-worms.

MARINE ANIMALS, FISH CULTURE, AND APPARATUS.

- CLASS 640.—Marine mammals.—Seals, cetaceans, etc., specimens living in aquaria, or stuffed, salted, preserved in alcohol, or otherwise.
- CLASS 641.—Fishes, living or preserved.
- CLASS 642.—Pickled fish, and parts of fish used for food.
- CLASS 643.—Crustaceans, echinoderms, beche de mer.
- CLASS 644.—Mollusks, oysters, clams, etc., used for food.
- CLASS 645.—Shells, corals, and pearls.
- CLASS 646.—Whalebone, shagreen, fish-glué, isinglass, scounds, fish-oil.
- CLASS 647.—Instruments and apparatus of fishing.—Nets, baskets, hooks, and other apparatus used in catching fish.
- CLASS 648.—Fish culture.—Aquaria, hatching pools, vessels for transporting roe and spawn, and other apparatus used in fish breeding, culture, or preservation.

ANIMAL AND VEGETABLE PRODUCTS.

(Used as food or as materials.)

- CLASS 650.—Sponges, seaweed, and other growths used for food or in the arts.
- CLASS 651.—The dairy.—Milk, cream, butter, cheese.
- CLASS 652.—Hides, furs, and leather, tallow, oil, and lard, ivory, bone, horn, glue.
- CLASS 653.—Eggs, feathers, down.
- CLASS 654.—Honey and wax.
- CLASS 655.—Animal perfumes; as musk, civet, ambergris.
- CLASS 656.—Preserved meats, vegetables, and fruits. Dried, or in cans or jars.
Meat and vegetable extracts.
- CLASS 657.—Flour; crushed and ground cereals, decorticated grains.
- CLASS 658.—Starch and similar products.
- CLASS 659.—Sugar and syrups.
- CLASS 660.—Wines, alcohol, and malt liquors.
- CLASS 661.—Bread, biscuits, crackers, cakes, confectionery, cocoa, chocolate, etc.
- CLASS 662.—Vegetable oils, oil cake.

TEXTILE SUBSTANCES OF VEGETABLE OR ANIMAL ORIGIN.

- CLASS 665.—Cotton on the stem, in the boll, ginned, and baled.
- CLASS 666.—Hemp, flax, jute, ramie, etc., in primitive forms and in all stages of preparation for spinning.
- CLASS 667.—Wool in the fleece, carded, and in bales.
- CLASS 668.—Silk in the cocoon and reeled.
- CLASS 669.—Hair, bristles.

MACHINES, IMPLEMENTS, AND PROCESSES OF MANUFACTURE.

- CLASS 670.—Tillage.—Manual implements, spades, hoes, rakes. Animal power machinery, plows, cultivators, horse-hoes, clod-crushers, rollers, harrows. Steam power machinery, plows, breakers, harrows, cultivators.
- CLASS 671.—Planting.—Manual implements, corn-planters and hand-drills. Animal power machinery, grain and manure drills, corn and cotton planters. Steam power machinery, grain and manure drills.
- CLASS 672.—Harvesting.—Manual implements; grain-cradles, sickles, reaping-hooks. Animal power machinery, reapers and headers. Mowers, tedders, rakes, hay elevators, and hay loaders.
Potato diggers.
- CLASS 673.—Preparatory to marketing.—Thrashers, clover-hullers, corn-shellers, winnowers, hay, cotton, flax, jute, ramie, wine, oil, and sugar making apparatus. Cleaners and smutters. Horse powers.

- CLASS 674.—Applicable to farm economy.—Portable and stationary engines, chaffers, hay and feed cutters, slicers, pulpers, corn mills, farm boilers and steamers, incubators, edged tools, mills, meat choppers.
- CLASS 675.—Dairy fittings and appliances.—Churns for hand and power, butter-workers, cans and pails, cheese-presses, vats, and apparatus, ice-cream freezers, cedar-ware.

AGRICULTURAL ENGINEERING AND ADMINISTRATION.

- CLASS 680.—Laying out and improving farms.—Clearing (stump extractors), construction of roads, draining, irrigating, models of fences, gates, drains, out-falls, dams, embankments, irrigating machinery, stack building and thatching.
- CLASS 681.—Commercial fertilizers, phosphatic, ammoniacal, calcareous, etc.
- CLASS 682.—Transportation.—Wagons, carts, sleds, harness, yokes, traction engines, and apparatus for road making and excavating.
- CLASS 683.—Farm buildings.—Models and drawings of farm houses and tenements, barns, stables, hop-houses, fruit-driers, ice-houses, windmills, granaries, barracks, apiaries, cocooneries, aviaries, abattoirs, and dairies.

TILLAGE AND GENERAL MANAGEMENT.

- CLASS 690.—Systems of planting and cultivation.
- CLASS 691.—Systems of draining and application of manures.
- CLASS 692.—Systems of breeding and stock feeding, training.
- CLASS 693.—Veterinary surgery and appliances.

INDEX TO ADVERTISEMENTS.

	PAGE
Asbestos Materials.....	Facing third page of cover.
Baugh & Sons.....	Third page of cover
Bliss, B. K., & Sons.....	22
Blatchley, Charles G.....	22
Centennial Restaurant.....	161
Corry & Co.....	161
Dreer, Henry A.....	Facing second page of cover.
Drown, W. A., & Co.....	15
French Restaurant.....	161
Gloucester Iron Works.....	23
Graham, Emlen & Passmore.....	23
Haseltine Galleries.....	15
Higgin, Thomas, & Co.....	161
Hooper, Cleeve, Jr.....	161
Landreth, David, & Sons.....	15
Pennsylvania Rail Road.....	154
The Sun Newspaper.....	155
The American Newspaper Union.....	160
West Philadelphia Passenger Railway Company.....	Second page of cover.
Wanamaker's Ready Made Clothing.....	Fourth page of cover.

DAVID LANDRETH & SONS'

Agricultural Warehouse,

21 and 23 South Sixth St., Philadelphia.

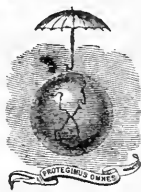
SEED FARMS:

PENNSYLVANIA, NEW JERSEY, VIRGINIA, WISCONSIN.

ESTABLISHED 1810.

W.A. DROWN & CO.

SUPERIOR
UMBRELLAS
AND
PARASOLS.



WAREROOMS:

246 Market Street,
PHILADELPHIA.

498 & 500 Broadway,
NEW YORK.

Manufactories in Philadelphia.

TRADE-MARK.



HASELTINE GALLERIES,

1125 and 1127 Chestnut St., Philadelphia.

UNITED STATES.

Forest Products, Pomology, Agricultural Products.

Arboriculture and Forest Products.

- 1 Begg, Jonathan, Gilroy, Cal.—Collection of coniferae of the Pacific Coast. E 25. 600
- 2 Peirce, Milton P., Wenonah, N. J.—Native wood. E 26. 600
- 3 Western North Carolina Land Company, Charlotte, N. C.; branch office, 32 S. Third st., Philada.—Lands heavily wooded, rich in minerals, and well-adapted to grazing and agricultural purposes. Hard and soft woods in variety, and of gigantic growth; medicinal herbs, magnetic and hematite iron ores, manganese, gold, mica, etc. E 19. 600
- 4 State of Indiana.—Timber, all kinds found in the State. G 20. 600
- 4^a Norcross, Kent, & Co., Philadelphia, Pa.—Shingles and logs. F 26. 600
- 5 State Board of Iowa (collective exhibit), Fairfield, Iowa.—Woods, native and cultivated; wood seeds, soils. C 15. 600
- 5^a Rowand, Hillman, & Son, Kirkwood, N. J.—Charcoal. E 26. 600
- 6 Graham, Dorsett, & Co., New York, N. Y.—Cabinet woods. F 23. 600
- 6^a State of New Jersey.—Native woods. E 17-18. 600
- 6^b State of Wisconsin.—Forest products. F 20-21. 600
- 6^c New Hampshire State Centennial Board.—Native woods. E 20-21. 600
- 6^d Land Department Central Pacific R. R. Co.—Woods. B 15 to 19. 600
- 7 Woods, Perry, & Co., Cleveland, Ohio.—White pine lumber. F 25. 600
- 8 State of Oregon, Portland, Oregon.—Native woods, medicine roots, and bark; shingles. E 22. 600
- 9 Eastern Burnettizing Co., Boston, Mass.—Burnettized lumber for bridges, wharves, railroads, and all positions where wood is liable to decay. F 26. 600
- 10 State of Delaware (collective exhibit), Dover, Del.—Timber in the rough and dressed. F 17. 600
- 11 Albemarle Swamp Land Co., North Carolina.—Cedar and cypress shingles, staves, etc. F 26. 600
- 12 Davis, Wire, & Co., North Carolina.—Ribbed cedar and cypress shingles. F 23. 600
- 13 State of West Virginia (collective exhibit).—Forest products. F 19. 600
- 14 Gove, E., Bath, Maine.—Basswood panels. F 23. 601
- 14^a Cross & Mehling, Grand Rapids, Mich.—Imitation of walnut burl, etc. E 26. 601
- 14^b Macatee & Bro., Front Royal, Va.—Ground sumac. F 28. 602
- 14^c Williams, R. H., Milford, Del.—Quercitron bark. F 26. 602
- 15 Burk, William B., & Co., Philadelphia, Pa.—Corks and sponges. E 25. 603
- 16 Smythe, Earle, & Co., New York, N. Y.—Crude elastic gums, with botanical specimens of same. E 28. 603
- 16^a Day, Austin G., Seymour, Conn.—India-rubber producing plants, from tropical countries; crude India-rubber; crude kerite, or substitute for rubber. H 27-28. 603
- 17 Butz, Alfred L., Philadelphia, Pa.—Machine and hand-cut corks. E 25. 603
- 17^a Delta Moss Co., New Orleans, La.—Southern moss. E 25. 604
- 18 Michigan State Agricultural College (collective exhibit).—Forestry. E 25. 606

Pomology.

- 19 Atlantic Co. for the Culture of Cranberries, Weymouth, N. J.—Cranberries, natural and preserved. J 23. 610
- 20 State Board of Iowa, Fairfield, Iowa.—Apples and pears in wax models. C 15. 610
- 20^a Bannihe, John H., Egg Harbor City, N. J.—Strawberries and plants; grapes. K 14. 610
- 21 Collings, E. Z., Waterford, N. J.—Cranberries in jars, showing different varieties. C 20. 610
- 21^a West Jersey Land & Cranberry Co., Atco, N. J.—Cranberries and vines. C 20. 610
- 21^b Michigan Pomological Society, Detroit, Mich.—Apples. (*Nave of Agricultural Building.*) 610
- 21^c Bonzano, H., New Orleans, La.—Pecan nuts. H 28. 611

Agricultural Products.

- 22 State Board of Iowa, Fairfield, Iowa.—Corn, small grains, grass seeds, vegetable seeds, etc. C 15. 620
- 23 Branson, David H., Guthrieville, Pa.—Indian corn. N 10-11. 620
- 24 Beeson, Jacob, & Co., Detroit, Mich.—Samples of grain. J 17. 620
- 25 State of Massachusetts (collective exhibit), Boston, Mass.—Agricultural products. E and F 23. 620
- 26 Possiponti, Angola, Harrisburg, Pa.—Straw for the manufacture of straw-goods. E 15. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Products.

- 27 Thompson, C. B., Chillicothe, Ohio.—Broom corn. F 15. 620
- 27^a Schaffer, William L., Philadelphia, Pa.—Maize and sheaf. E 16. 620
- 27^b Western Washington Industrial Association, Philadelphia, Pa.—Grains. D 20. 620
- 27^c Seneca County Agricultural Society, Geneva, N. Y.—Grains, grass, seeds, etc. F 16. 620
- 27^d New Hampshire State Centennial Board. E 20-21.
- a* Corn, wheat, barley, rye, oats, buck-wheat, peas, beans, grasses, etc. 620
- b* Potatoes, vegetables. 622
- 27^e State of Wisconsin.—Agricultural products. F 20-21. 620
- 28 U. S. Hullers Oat Co., Williamsport, Pa.—Oats without hull, oat-flour, and feed. H 15. 620
- 28^a Culbertson, J., Brandon, Miss.—Rice and corn. F 15. 620
- 28^b Schoonmaker, Henry, Cedar Hill, N. Y.—Cereals. H 15. 620
- 28^c Hornly, Alex., Craigville, N. Y.—Cereals. G 26. 620
- 28^d Land Department Central Pacific R. R. Co.—Grain. B 15-19. 620
- 28^e Talmadge, Dan., Sons, New York, N. Y.—Carolina rice. G 16. 620
- 28^f Lachicotte, P. R., & Sons, Georgetown, S. C.—Carolina rice. H 16. 620
- 28^g Smith, J. C., Chicago, Ill.—Variety of grains raised in the State. G 22. 620
- 28^h Mohawk & Hudson Manufacturing Co., Hartford, N. Y.—Pressed hay. S 8. 620
- 28ⁱ Montana Territory, Montana.—Cereals. G 15. 620
- 29 State of Indiana (collective exhibit). G 20.
- a* White, red, and amber wheat, oats, rye, barley, Indian corn, grass-seed, etc. 620
- b* Cloverseed, white and colored, butter-beans. 624
- 30 Landreth, D., & Sons, Philadelphia, Pa. H 15.
- a* Cereals, grasses, and tobacco. 620
- b* Field and garden seeds. 624
- The full and entire exhibit the production of their own seed-farms in Pennsylvania, New Jersey, Virginia, and Wisconsin.
- 31 State Michigan Agricultural College. H and I 20 to 21.
- a* Farm products. 620
- b* Seeds of forest trees. 624
- 32 State of Oregon, Portland, Oregon. E 22.
- a* Native grasses, cultivated grasses, grain in the sheaf. 620
- b* Grain in the sack; cultivated grass-seed. 624
- 33 State of Delaware, Dover, Del. F 17.
- a* Cereals. 620
- b* Seeds. 624
- 34 Ohio State Centennial Board (collective exhibit), Cleveland, Ohio. D and E 16.
- a* Grains, grasses. 620
- b* Seeds. 624
- 35 State of West Virginia (collective exhibit). F 19.
- a* Grasses and agricultural products. 620
- b* Tobacco. 623
- c* Wheat, corn, oats, barley, and rye. 624
- 35^a Felten, A. L., Philadelphia, Pa.—Vegetables. (*Centre of nave.*) 621
- 35^b McNaughton & Co., Philadelphia, Pa.—Bermuda vegetables. J and K 17 621
- 36 Bliss, B. K., & Sons, seedsmen, 34 Barclay street, New York, N. Y.—Potatoes. H 15. 622
- Collection of two hundred varieties potatoes. Seed potatoes a specialty. The following well-known varieties were first sent out by this firm: "Early Rose," "Late Rose," "King of the Earlies," "Bresee's Prolific," "Peerless," "Clinton," "Extra Early Vermont," "Compton's Surprise," "Brownell's Beauty," "Snowflake," "Eureka," "Alpha," and "Ruby."
- 37 Murdoch, Aug., New York, N. Y.—American mustard. I 28. 623
- 38 Bourgeois, Edmund, New Orleans, La.—Perique tobacco, sole agent for Grand Point, St. James, La Perique tobacco and Ledoux's Perique cigarettes. G 25. 623
- 39 Weikel & Smith Spice Co., Philadelphia, Pa.—Mustard, spices, celery-salt, blacking. K 14. 623
- 40 Kinney, Francis S., New York, N. Y.—Cigarettes and tobacco. G 25. 623
- 41 Frishmuth Bros. & Co., Philadelphia, Pa.—Leaf tobacco; fine-cut and smoking tobacco. I 24. 623
- 42 Swank, M. J., Philadelphia, Pa.—Cigars. G 25. 623
- 43 Fell, C. J., & Bro., Philadelphia, Pa.—Spices, mustards, crude and manufactured. J 21. 623
- 44 Stewart, Ralph, & Co., Philadelphia, Pa.—Scotch snuff. G 26. 623
- 45 Holbrook, Edward, Louisville, Ky.—Manufactured tobacco. H 25. 623
- 45^a Sorver, Cook, & Co., Philadelphia, Pa.—Tobacco. F 25. 623
- 45^b Pearson, J. R., & Co., Danville, Va.—Tobacco. N 25. 623
- 46 Israel, J. N., 1338 South St., Philadelphia, Pa.—Cigars. Cigar manufacturer and wholesale dealer in leaf, chewing, and smoking tobacco. G 26. 623
- 47 Boyd, G., & Co., Philadelphia, Pa.—Coffee, green and roasted. C 22. 623
- 48 Wardle, George F., Philadelphia, Pa.—Plug chewing tobacco. G 24. 623
- 49 Blackwell, W. J., & Co., Durham, N. C.—Plug, leaf, and smoking tobacco. H 23. 623
- 50 Batchelor Brothers, Philadelphia, Pa.—Cigars, tobacco-plants. G 23. 623
- 50^a Harrauff & Engle, Elizabethtown, Pa.—Tobacco. G 24. 623
- 50^b Goetze, F. A., & Bro., New York, N. Y.—Snuff. F 25. 623
- 50^c Rieders, M. H., New York, N. Y.—Cigarettes. G 24. 623
- 51 Trowbridge, W. H., Danville, Va.—Chewing and smoking tobacco. G 24. 623
- 52 Shelton Tobacco Curing Co., Asheville, N. C.—Tobacco-hanger. G 24. 623

For locations of objects indicated by letter and figure, see Key to Notation, p. 9; ground plan, p. 10

Agricultural Products.

- 53 Wilkens, H., & Co., Baltimore, Md.—Smoking tobacco and snuff. Manufacturers of the well-known brands:—"Commodore," Sweet Eighteen, Golden Eagle, "Dairy Queen," "Seal of Virginia," Always Ahead, Queen of North Carolina and Bullhead; "Excelsior," bright and extra Cavendish; Oriental Turkish and "German Imperial;" "Strassburger Snuff," and coarse French Rappee. H 24. 623
- 54 Cills, Wm., Philadelphia, Pa.—Tobacco packing-box. I 26. 623
- 55 V. Martinez Ybor & Co., Key West, Fla.—Cigars. I 24. 623
- 56 Western North Carolina Land Co., Philadelphia, Pa.—Cereals, fruits, cotton, and tobacco. E 19. 623
- 57 Marburg Bros., Baltimore, Md.—Smoking and leaf tobacco. G 26. 623
- 58 Volinia Farmers' Club, Volinia, Mich.—General farm products, cereals, etc. K 15. 623
- 59 Seidenberg & Co., 84 and 86 Reade st., New York, N. Y. Factory, Key West, Fla.—Key West and Havana cigars. I 23. 623
- 60 Shuck, Samuel, Bedford, Pa.—Antinervous cigars. I 26. 623
- 60^a Stewart, Isaac T., Philadelphia, Pa.—Tobacco. F 25. 623
- 60^b Richey, Henry A., New York, N. Y.—Plug tobacco, etc. H 24. 623
- 60^c Hart, R. T., McComb City, Miss.—Manufactured tobacco. J 25. 623
- 60^d Cusick, Linn, & Co., Philadelphia, Pa.—Tea boxes. I 26. 623
- 60^e Pickering, Thomas R., Portland, Conn.—Connecticut-seed leaf tobacco. H 25. 623
- 61 Watkins, W. M. & C., Milton, N. C.—Plug and fine leaf tobacco. I 25. 623
- 61^a Consolidated Tobacco Co., San Francisco, Cal.—Tobacco. I 24. 623
- 61^b Grant, L. J., & Co., Richmond, Va.—Manufactured tobacco. F 25. 623
- 61^c Jacoby, S., & Co., New York, N. Y.—Cigars. G and H 24. 623
- 61^d Landis, Israel L., Lancaster, Pa.—Tobacco. B 22. 623
- 61^e Cochran & Gillespie, Philadelphia, Pa.—Leaf tobacco. H 25. 623
- 62 Bailey, Samuel M., Richmond, Va.—Plug tobacco. I 25. 623
- 62^a Hancock, Salmon, & Co., Richmond, Va.—Manufactured tobacco, and labels. J 26. 623
- 62^b Lovett, Joseph L., Emile, Pa.—Tobacco. H 24. 623
- 62^c Lottier, Lawrence, Richmond, Va.—Manufactured tobacco. H and I 25. 623
- 63 Mayo, P. H., & Brother, Richmond, Va.—Plug tobacco. H 25. 623
- 64 Holbrook, Harry C., Louisville, Ky.—Plug tobacco. G 25. 623
- 65 Turpin & Brother, Richmond, Va.—Plug tobacco. H 25. 623
- 66 Suehnel, Emil J., Philadelphia, Pa.—Cigars. G 24. 623
- 67 Cohen, John B., Philadelphia, Pa.—Cigars. G 24. 623
- 68 Gulden, Charles, New York, N. Y.—German and French mustards. J 19. 623
- 69 Lorillard, P., & Co., New York, N. Y.—Plug and fine-cut chewing tobacco, smoking tobacco and snuffs. F 24. 623
- 70 Lovell & Buffington, Covington, Ky.—Fine-cut chewing tobacco. G 25. 623
- 71 Kimball, Wm. S., & Co., Rochester, N. Y.—Chewing and smoking tobacco, and cigarettes. E 25. 623
- 72 Felgner, F. W., & Son, Baltimore, Md.—Smoking tobacco. Manufacturers of all kinds of smoking tobacco. H 26. 623
- 72^a Williams, Thomas C., & Co., Richmond, Va.—Plug tobacco. F 25. 623
- 72^b Carroll, John W., Lynchburg, Va.—Chewing and smoking tobacco. H 25. 623
- 73 Gail & Ax, Baltimore, Md.—Smoking and fine-cut chewing tobacco; snuffs. I 26. 623
- 74 Kerbs & Spiess, New York, N. Y.—Cigars. G 26. 623
- 75 Armistead, Louis L., Lynchburg, Va.—Granulated smoking tobacco. I 24. 623
- 76 Mellen, L. F., West Springfield, Mass.—Connecticut-seed leaf tobacco. I 26. 623
- 77 Brito, Joseph Z., & Co., New York, N. Y.—Cigarettes. H 25. 623
- 78 Alces, George, New York, N. Y.—Cigars. H 24. 623
- 78^a Haya, Sanchez, & Co., New York, N. Y.—Cigars. I 24. 623
- 79 Sullivan & Burk, Detroit, Mich.—Cigars of home manufacture. H 26. 623
- 80 Gumpert Bros., Philadelphia, Pa.—Cigars. G 28. 623
- 81 Colburn, A., & Co., Philadelphia, Pa.—Mustard, spices, and washing-blue. G 28. 623
- 82 Bonnett, Schenck, & Earle, New York, N. Y.—Spices and mustard. G 28. 623
- 83 Allen, J. F., & Co., Richmond, Va.—Granulated plug and cut smoking tobacco, plug tobacco, cigarettes. H and I 25. 623
- 84 Dean, William G., New York, N. Y.—Mustard. I 28. 623
- 85 Ledoux, C. Z., St. James Parish, La.—Cigarettes. G 25. 623
- 86 Bamberger, H., & Co., Philadelphia, Pa.—Tea caddies and teas. H 28. 623
- 86^a Dunn, T. J., & Co., Philadelphia, Pa.—Seed and Havana seed cigars. G 25. 623
- 87 Kühn, von, & Silberman, Philadelphia, Pa.—Tobacco pipes. H 25. 623
- 88 Tobacco-Growers of Penn's Manor, Morrisville, Pa.—Unsweetened tobacco This tobacco (known as Duck Island) is grown in Bucks Co., Pa., and adjoining islands. We believe it equal in texture, quality, and flavor to any grown in the United States, except that produced from Havana seed. See circular, to be had at case. I 24. 623
- 89 Buist, Robert, jr., Philadelphia, Pa.—Seeds. G 15. 624

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Land and Water Animals, Animal and Vegetable Products.

- 90 Fulton, Joseph W., Libertyville, Iowa.—Corn, grains, grass, and field seeds, vegetable seeds, etc. C 15. 624
- 91 Meehan, Thomas, Philadelphia, Pa.—Seeds of native hardy trees and shrubs. G 16. 624
- 91^a Commercial Exchange Association, Philadelphia, Pa.—Flour, grain, seeds, etc. H 15. 624
- 91^b State of New Jersey.—Wheat, rye, oats, corn, buckwheat, clover, and grass seeds. E 17-18. 624
- 91^c Van Vranken, J. B., Marcellus, N. Y.—Teasels set in frame. H 15. 624
- 91^d Claussen, Charles A., New York, N. Y.—Clover seed. G 15. 624
- 91^e Johnson, Robbins, & Co., Wethersfield, Conn. Garden seed. G 15. 624
- 92 Thurlow, H., Skaneateles, N. Y.—Teasels. H 15. 624
- 93 Rogers, C. B., Philadelphia, Pa.—Field and garden seeds. I 16. 624
- 94 Red Wing Mills, Red Wing, Minn.—Fife-wheat. I 26. 624
- 95 McLaughlin, J. M., & Son, Skaneateles, N. Y.—Teasels. H 15. 624
- 96 Thorburn, J. M., & Co., New York, N. Y.—Garden, flower, field, and tree seeds. I 16. 624
- 97 Henderson, Peter, & Co., New York, N. Y.—Field and garden seeds. I 16. 624
- 98 Illinois State Board of Agriculture (collective exhibit), Springfield, Ill.—Samples illustrating the agricultural, horticultural, geological, and other resources of the State. G 22. 600-624
- 98^a Myers, Ephraim, Creagerstown, Md.—Tree, shrub, and flower seeds. C 15. 624
- Land Animals.**
- 99 Michigan State Agricultural College, Lansing, Mich. E 25. 635
^a Birds, useful and injurious. 635
^b Insects, useful and injurious. 638
- 99^a Barrett, J. O., Glen Beulah, Wis.—“Old Abe,” the live war-eagle,—carried for three years during the war of the rebellion by the 8th Regt. Wis. Vols. J 17. 635
- 99^b Axe, Edwin C., Philadelphia, Pa.—Stuffed birds. A 23. 635
- 99^c McIlvaine, John H., Philadelphia, Pa.—Birds. E 26. 635
- 100 Beath, J. R., Philadelphia, Pa.—Stuffed birds. K 23. 635
- 100^a Land Dept. Central Pacific R. R. Co.—Birds. B 15-19. 635
- 101 Aldrich, P. W., Readville, Mass.—Stuffed birds. K 23. 635
- 102 Howlett, C. K., Hudson, Ohio.—Stuffed birds of America. K 23. 635
- 103 Brown, Clark D. W., Taxidermist and naturalist, Aurora, Ills.—Stuffed birds artistically arranged, representing the gathering of nations to the Centennial. Orders for groups, artistic or scientific, promptly filled and safely packed. K 24. 635
- 104 Crenshaw, George, Philadelphia, Pa.—Stuffed Hamburg fowls, with their young. K 24. 635
- 104^a Hartley, Richard, Philadelphia, Pa. E 28. 635
^a Birds. 635
^b Insects. 638
- 105 Academy of Natural Sciences, Allentown, Pa. K 23. 635
^a Birds with their nests and eggs. 635
^b Quadrupeds. 637
- 106 Rosenbaum, F., Watertown, Wis. K 23. 635
^a Wisconsin birds. 635
^b Animals of Wisconsin. 637
- 107 Forster, Christian, Hamilton, Ohio. K 24. 635
^a Mounted birds of North America. 635
^b Mounted animals of North America. 637
- 108 Wallace, John, New York, N. Y.—Stuffed animals. K 24. 635
- 108^a Zimmerman, Henry O. R., Georgetown, Del.—Insects. K 24. 638
- 108^b Brown, Miss Nellie, Philadelphia, Pa.—Process of hatching and rearing silkworms without mulberries. A 24. 638
- [Special displays of Live-Stock are arranged to be held during September, October, and November.]
- Water Animals, Fish Culture, and Apparatus.**
- 109 Ward, Henry A., Rochester, N. Y.—Casts of fossils, zoological specimens, mammals, birds, reptiles, fishes, batrachians, etc., stuffed and mounted. K 26-27. 640
- 109^a Crenshaw, George, Philadelphia, Pa.—Stuffed fish. A 23. 641
- 109^b Cuvier Club, Cincinnati, Ohio.—Fish. A 18. 641
- 109^c Gates, H. C., Wilkesbarre, Pa.—Eels and other live fish. A 22. 641
- 110 Seher, H. L., Philadelphia, Pa.—American and imported leeches. A 22. 642
- 111 Haggood & Co., San Francisco, Cal.—Preserved salmon. A 19. 642
- 112 Goodale, S. L., Saco, Maine.—Food extract from the juices of fish. J 23. 642
- 113 Rogers, John S., Gloucester, Mass.—Gelatine, isinglass, and glue made from salt-fish skins. A 22. 646
- 114 Norwood, C., & Son, Ipswich, Mass.—Isinglass. A 22. 646
- 114^a Wahl Brothers, Chicago, Ill.—Glue. K 22. 646
- 115 Müller, Gustave, Chicago, Ill.—Russian isinglass. A 22. 646
- 116 Norwood, C., & Son, Ipswich, Mass.—Isinglass. A 22. 646
- 117 Fox, George, Jr., Philadelphia, Pa.—Split and glued bamboo trout fly rods. A 27. 647
- 118 Shipley, A. B., & Son, Philadelphia, Pa.—Fishing tackle. A 15. 647
- 119 Terrell, J. A., Bloomfield, Ky.—Angler's transparent float. A 26. 647
- 120 Mansfield, G. H., & Co., Canton, Mass.—Braided fishing lines. Manufacturers of braided fishing lines. Waterproof silk lines in all sizes and lengths suitable for fly fishing; oiled, raw, and fancy silk lines; linen and cotton lines, various sizes. We give personal attention to the business, and guarantee full lengths and best quality. Trade-mark on every line. A 26. 647

For locations of objects, indicated by letter and figure, see Key to Notation, p. 9; ground plan, p. 10.

Fish Culture and Apparatus, Animal and Vegetable Products.

- 120^a Cook, L. C., Philadelphia, Pa.—
Trout rod and case. A 27. 647
- 121 Conroy, Bissett, & Malleon, New
York, N. Y.—Fishing rods, reels, lines,
flies, and fishing tackle. A 28. 647
- 121^a McBride, Miss Sarah J., Mum-
ford, Pa.—Artificial flies for fishing. A
19. 647
- 122 City of Gloucester, Essex co., Mass.
—Exhibit of her progress, development,
and industries as the largest fishing port
in the United States. A and B 20 and
21. 647
- 123 Slack, Mrs. J. H., Bloomsbury, N. J.
—Flight of coste trays, combination hatch-
ing box. A 24. 648
- 124 Murphy & Broom, Philadelphia,
Pa.—Aquarium tanks. C 26. 648
- 125 Clarke, N. W., Northville, Mich.
—Fish-hatching apparatus. A 24. 648
- 126 Taxis, E. W., Philadelphia, Pa.—
Aquarium tank. A 21. 648
- 126^a Pacific Guano Co., Boston, Mass.
—Aquarium with living fish. A and B
28. 648
- 126^b Craig, Daniel, Philadelphia, Pa.—
Parlor aquarium. A 21. 648
- Animal and Vegetable Products.**
- 127 Crawford & Walton, Philadelphia,
Pa.—Bleached sponge. F 26. 650
- 128 American Condensed Milk Co.,
New York, N. Y.—Condensed milk.
J 21. 651
- 128^a Sensenberger, Wm., Philadelphia,
Pa.—Rennet. K 17. 651
- 128^b American Condensed Milk Co.,
New York, N. Y.—Preserved milk. J
21. 651
- 129 Napheys, George C., & Son, Phila-
delphia, Pa.—Refined leaf lard. K 20. 652
- 130 Chalmers, James, & Sons, Wil-
liamsville, N. Y.—Gelatine. K 22. 652
- 131 Wilcox, W. J., & Co., New York.—
Refined leaf-lard, lard stearine, and lard
oil. K 21. 652
- 132 Stein, Hirsh, & Co., Chicago, Ill.—
Egg albumen, blood albumen, casein and
dried blood. J 22. 652
- 133 Brown, William H., Peabody,
Mass.—Prepared sizing, glue. K 20. 652
- 134 Franklin Glue Works, Pittsburg,
Pa.—Glue, neats-foot oil. K 20. 652
- 135 Upton, George, Boston, Mass.—
Glue in sheets, broken, ground, and pow-
dered. K 20. 652
- 136 Peter Cooper's Glue Factory, New
York, N. Y.—Glue, gelatine, neats-foot
oil. K 22. 652
- 137 Lister Brothers, Newark, N. J.—
Glue, tallow, etc. C 25. 652
- 138 Cassard Bros. & Co., Baltimore,
Md.—Refined lard. K 21. 652
- 138^a Wahl Brothers, Chicago, Ill.—
Gelatine, neats-foot oil, horns, hoofs, and
bones. K 22. 652
- 138^b Butchers' Slaughtering & Melt-
ing Association, Brighton, Mass.—
Steamed bones, horns, hoofs, etc. K
22. 652
- 138^c Holcomb, E., Grand Rapids, Mich.
—Deer-skin lace leather. K 24. 652
- 138^d Ward, N., & Co., Boston, Mass.—
Cattle bones, tallow, grease, hoofs, neats-
foot oil, etc. A 26. 652
- 138^e Upton, Elijah W., Peabody, Mass.
—Glue. K 19. 652
- 139 Meriam Packing Co., Boston, Mass.
J 20.
a Hides, tallow, etc. 652
b Mess beef, concentrated roast beef, and
canned turtle. 656
- 140 State of Oregon (collective exhibit),
Portland, Oregon. E 22.
a Glue, condensed cider. 652
b Dried fruit. 656
c Farina, flour, and oatmeal. 657
- 140^a Milligan & Higgins Glue Co., N. Y.
—Glue. K 19. 652
- 140^b Stearne, P., Adams, N. Y.—Deer-
heads. E 28. 652
- 141 Mellen & Co., New York, N. Y.—
Renovated live-geese feathers H 17. 653
- 142 Harbison, W. C., New Castle, Pa.
—White Mountain honey. J 23. 654
- 142^a Hurd, Lewis, Kewanee, Ill.—
Fruit honey. J 24. 654
- 143 Fritsch, Joseph, Carlstadt, N. J.—
Sunbleached wax, and candles. J 23. 654
- 144 Lewis, W. K., & Brothers, Boston,
Mass.—Preserves, pickles, catsups, con-
densed milk, canned fruits, meats, and
vegetables. J 22. 656
- 145 Portland Packing Co., Portland,
Maine.—Canned vegetables, fruits, meats,
poultry, and shell-fish. J 23. 656
- 146 Warner, Rhodes, & Co., Philadel-
phia, Pa.—Canned fruits and vegetables,
fresh and preserved. J 24. 656
- 147 Atmore & Son, Philadelphia, Pa.—
Mince-meat and English plum-pudding.
J 24. 656
- 148 Slocum, W. H., & Bro., Philadel-
phia, Pa.—Mince-meat canned goods.
J 23. 656
- 150 Anderson & Campbell, Camden, N.
J.—Canned fruits, vegetables, fruit-butter,
and mince-meat. J 24. 656
- 150^a Bigelow, Jona, Boston, Mass.—
Labeling machine. J 22. 656
- 150^b Macfarlane, N. H., & Co., New
York, N. Y.—Refined lard. K 19. 656
- 150^c Ashbourne, Alex. P., Philadelphia,
Pa. K 17.
a Pulverized cocoanut. 656
b Cocoanut vinegar. 661
- 150^d Armstrong, Herran M., & Co.,
Louisville, Ky.—Pork products K 22.
656
- 151 Boyd, G., & Co., Philadelphia, Pa.
—Dried grain and fruit. C 22. 656
- 153 Reeves, Parvin, & Co., Philadel-
phia, Pa.—Canned vegetables. J 23. 656
- 154 Wright, Joshua, & Son, Philadel-
phia, Pa.—Mince-meat. J 24. 656
- 155 Wilson Packing Co., Chicago, Ill.—
Hermetically sealed cooked meats; corned
beef, ham, tongue, and fresh beef. J 23. 656
- 156 Norris, J. W., & Co., New York,
N. Y.—Aromatic hams, white-sugar cured
and delicately flavored. J 20. 656

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 157 Githens & Rexasmer, Philadelphia, Pa.—Canned fruits and vegetables. J 23. 656
- 158 Du Vivier & Co., New York, N. Y.—Pickles and delicacies. J 20. 656
- 159 Haller, Ella G., New York, N. Y.—Choice fruits. J 21. 656
- 160 Gordon & Dilworth, New York, N. Y.—Preserved domestic and foreign fruits, jellies, canned goods, sauces, syrups, and general table delicacies. J 23. 656
- 161 Chambers, Jos. M., Dover, Delaware.—Canned goods; dessert fruits a specialty. Strawberries, raspberries, cherries, pineapples, peaches, Bartlett pears, tomatoes, etc.
The location (Dover, Delaware) of this canning house gives the all-important advantages which are essential to ensure the superior quality and flavor of canned goods.
The fruit is allowed to fully mature on the trees before being picked, thereby securing a richness of flavor. As the fruit ripens it is carefully picked, pared by hand, and each piece carefully placed in the cans, filling them as full as possible not to mash or bruise the fruit, after which the cans are filled with heavy syrup made from the best granulated sugar.
No deleterious substances or patent preserving-powders used. All lovers of good desserts send for circular. I 24 and J 22. 656
- 162 Snedeker, David, New York, N. Y.—Preserved fruit, vegetables, meat, etc. I 24. 656
- 163 McMurray, L., & Co., Baltimore, Md.—Canned vegetables, fruits, and oysters. J 24. 656
- 163^a Ritter, Philip J., Philadelphia, Pa.—Butter. J 21. 656
- 163^b Annapolis Canning Co., Annapolis, Md.—Canned goods. J 25. 656
- 164 Richardson & Robbins, Dover, Del.—Canned and preserved fruits, potted meats, etc. J 24. 656
- 165 Fruit-Growers' Trade Co. of New Jersey, New York, N. Y.—Cranberries, natural and preserved, canned tomatoes, etc. D 24. 656
- 166 Clarkson, F. M., & Son, Bridgeville, Del.—Evaporated and conserved fruits and vegetables. J 42. 656
- 167 Borden, John G., Brewsters, N. Y.—Condensed milk, coffee, and cocoa, extract of beef, etc. J 22. 656
- 167^a Hazard, E., & Co., New York, N. Y.—Canned fruits. J 22. 656
- 167^b Turner, J., M'f'g Co., New York, N. Y.—Sauce. K 9. 656
- 167^c Greenfield, Nelson, New York, N. Y.—Flavors and coloring for confectionery. K 27. 656
- 167^d Archdeacon, W., Chicago, Ill.—Pickles, preserves, jellies, sauces, and canned goods. J 22. 656
- 167^e Provost, Stephen H., New York, N. Y.—Tomato, walnut, and mushroom sauce. J 24. 656
- 167^f Selser & Brother, Philadelphia, Pa.—Canned fruits and vegetables; catsups. J 25. 656
- 167^g Farmers' Fruit Preserving Co. of Kent co., Del., Lebanon, Del.—Canned fruits and vegetables. J 24. 656
- 167^h Smith, Wright, St. Louis, Mo.—Table sauce. J 22. 656
- 168 American Desiccating Co., Philadelphia, Pa.—Crystallized cocoanut. J 24. 656
- 168^a Knight, C. P., & Bro., Philadelphia, Pa.—Fruit jellies. J 25. 656
- 169 Flood, Wm. M., Philadelphia, Pa.—Mutton in alcohol. A 27. 656
- 170 Gulden, Charles, New York, N. Y.—Tomato catsup, capers, and olives. J 19. 656
- 171 New York Desiccating Co., New York, N. Y.—Prepared cocoanut for pies, cakes, etc. I 24. 656
- 172 Libby, McNeal, & Libby, Philadelphia, Pa.—Canned cooked meats. J 24. 656
- 172^a Schepp, Leopold, New York, N. Y.—Desiccated cocoanut. K 28. 656
- 172^b Cook, J. W. & V., Portland, Oregon.—Canned salmon. J 25. 656
- 173 Reckhow Preserving Co., Paterson, N. J. Office 138 Chambers street, New York, N. Y. Trade mark "Monticello."—Pickles, canned goods, salad cream, table sauces, olives, capers manufactured from the best material. Quality guaranteed as represented. J 22. 665
- 174 New York Hop Extract Co., New York, N. Y.—Hop extract. K 17. 656
- 175 Little Creek Canning Co., Little Creek, Del.—Canned fruits and vegetables. J 23. 656
- 176 Jones, John Winslow, Portland, Maine.—Canned green corn, lobster, mackerel, salmon, and beef. B 24. 656
- 177 Cassard, Geo., Baltimore, Md.—Pepper hams. K 21. 656
- 178 Zane, Norny, & Co., Philadelphia, Pa.—Fruit-preserving powder. J 23. 656
- 179 Annear, John, & Co., Philadelphia, Pa.—Pennsylvania sauce. J 21. 656
- 180 La Croix, James, East Medway, Mass.—Canned vegetables, apples, etc. J 23. 656
- 181 Brooks, C. D., Boston, Mass.—Pickles, preserves, canned goods, etc. J 21. 656
- 182 MacGowan, John K., Philadelphia, Pa.—Table sauce. J 21. 656
- 182^a King, William, Brooklyn, N. Y.—Table sauce. J 20. 656
- 182^b Bechstein & Co., New York, N. Y.—Sugar-cured hams, breakfast bacon, and beef tongues. J 20. 656
- 182^c Black & Krebs, Baltimore, Md.—Sugar-cured hams, refined lard. K 21. 656
- 183 Underwood, W., & Co., Boston, Mass.—Canned meats, fish, fruits, vegetables, etc.; pickles, catsups, sauces, etc. J 24. 656
- 184 Cowdrey, E. T., & Co., Boston, Mass.—Canned vegetables, meats, and fruits, pickles, preserves, and jellies. J 21. 656
- 185 Burnham & Morrill, Portland, Maine.—Canned meats, soups, fish, and vegetables. J 23. 656

Animal and Vegetable Products.

- 186 Harris, Milo, Jamestown, N. Y.—Dried fruits. D 23. 656
- 187 Dingle, Squire, Chicago, Ill.—Pickles, chow-chow, and sauces. J 21. 656
- 188 Holgate, Geo., & Co., Oshkosh, Wis.—Preserved fruits and vegetables; preserved meats in joint. J 23. 656
- 89 Williams, John, South Haven, Mich.—Evaporated fruits and vegetables. D 24. 656
- 190 George, P. T., & Co., Baltimore, Md.—Hams, lard, and lard oil. Pork packers and curers of the Maryland hams, and manufacturers of refined lard and lard-oil. Lard prepared for the Brazil and West India markets a specialty. K 21. 656
- 190^a Evans Bros., Cincinnati, Ohio.—Hams, shoulders, etc. J 15-16. 656
- 190^b Erie Preserving Company, Brant, Erie co., N. Y., and New York city.—Canned fruits and vegetables. K 18 & 19. These "fruits" and "vegetables" are prepared practically in the field where grown. Only fully ripe and carefully-assorted fruits are packed. The tins are uniformly filled full of fruit; the interstices are then filled with spring-water and refined white sugar, which, mingling in the juices of the fruit, forms a heavy, rich syrup.
- "Vegetables." The preserving-houses are located directly in the midst of a rich, fertile agricultural country, upon the shores of Lake Erie, where sweet corn, sweet peas, tomatoes, etc., are grown in great abundance and perfection, the tempering lake breezes exercising a highly beneficial climatic influence. The peculiar delicacy of flavor these vegetables possess is owing to this favored location and their being perfectly fresh, not allowed to wilt or pass through any heating or sweating process; are invariably packed the same day they are picked, usually within two hours after. "Erie sweet corn" is packed, young and tender, solidly in the cans, in its own milk. Nothing goes into the can save the sweet tender corn. It will always be found the same. 656
- 190^c Hemp, Day, & Co., New York, N. Y.—Canned fruits, meats, fish, etc. J 25. 656
- 190^d Perry, F. H., Providence, R. I.—Canned fruits. J 21. 656
- 191 Jacob, Chas., jr., & Co., Cincinnati, Ohio.—Hams, shoulders, breakfast bacon, mess pork, mess and dried beef, beef tongues, etc. J 15-16. 656
- 192 Keck, J. L., & Bros., Cincinnati, Ohio.—Pickled meats, lard, etc. J 15-16. 656
- 193 Kahn & Forbes, Cincinnati, Ohio.—Hams, breakfast bacon, and family mess pork. J 15-16. 656
- 194 Evans, Lippincott, & Cunningham, Cincinnati, Ohio.—Bacon, hams, mess pork, lard, and breakfast bacon. J 15-16. 656
- 195 Davis, S., jr., & Co., Cincinnati, Ohio.—Smoked hams, breakfast bacon, bacon sides, shoulders, and mess pork. J 15-16. 656
- 196 Morrison, James, & Co., Cincinnati, Ohio.—Hams, bacon, mess pork, lard, English meats, etc. J 15-16. 656
- 197 Fell, C. J., & Bro., Philadelphia, Pa. J 21. 656
- ^a Gelatine. 656
- ^b Self-raising flour. 657
- 198 Cereals Manufacturing Co., New York, N. Y.—Crushed wheat, flour, meal, etc. J 28. 657
- 199 Lagomarsino & Cuneo, Philadelphia, Pa.—Macaroni, vermicelli, fancy paste, farina, etc. J 26. 657
- 200 Outcalt, John, Spotswood, N. J.—Hominy, samp, corn flour from corn grown on Monmouth and Princeton battle-fields, Graham flour, wheaten grits, etc. J 26. 657
- 200^a Pillsbury, Charles A., & Co., Minneapolis, Minn.—Flour. J 26. 657
- 200^b Gambrill, C. A., & Co., Baltimore, Md.—Flour. J 25. 657
- 201 Tyrrell, J. F., & Co., New York, N. Y.—Oatmeal. J 27. 657
- 202 Schumacher, Ferd., Akron, Ohio.—Oatmeal, barley, farina, cracked wheat, flour, hominy, meal, feed, and grain. J 26. 657
- 203 Hecker, George V., & Co. (Croton Mills, Cherry st.), New York, N. Y.—Self-raising flour, buckwheat, griddle-cake flour, farina, and cracked wheat. Heckers' Superlative family flours, which received the First Premium at the World's Fair, London; and the World's Fair, New York. Very popular with those desiring "fine bread and biscuit as can be produced."
- Heckers' Self-raising Flour, for Bread, Biscuit, Puddings, Cakes, etc., by adding only cold water or milk. This valuable improvement, introduced in 1850, by Hecker & Brother, was awarded the only Gold Medal given for Self-Raising Flour.
- Heckers' Griddle Cake Self-Raising Flour. For Griddle Cakes, Muffins, Fritters, Waffles, Doughnuts, and for any use where a batter is required.
- Acid used in making Heckers' Self-Raising Flour.
- Heckers' Farina, a delicate and appropriate food for all seasons.
- Heckers' Wheaten Grits, invaluable to dyspeptic and sedentary persons. J 25. 657
- 204 Red Wing Mills, Red Wing, Minn.—Flour. J 26. 657
- 205 Baltimore Pearl Hominy Co., Baltimore, Md.—Breakfast hominy, meal, flour, samp, etc. J 28. 657
- 205^a Deener, Cissel, & Welsh, Georgetown, D. C.—Flour. J 25. 657
- 205^b Pollock, James, Vincennes, Ind.—Flour. J 24. 657
- 205^c Prentzel, Samuel F., Philadelphia, Pa.—Oatmeal and oatina. J 25. 657
- 206 Jewell Brothers, Brooklyn, N. Y.—Plain and self-raising flour, babies' cereal food. J 28. 657
- 206^a Heaton, Edward, New Haven, Conn.—Granum. I and J 15. 657
- 206^b Taylor, A. A., Toledo, Ohio.—Flour. J 24. 657

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 206^c Baldwin, Homer, Youngstown, Ohio.—Flour. J 25. 657
- 206^d Bedell & Conklin, Brooklyn, N. Y.—Meal, flour, hominy, etc. J 25. 657
- 206^e Christian, J. A., & Co. Minneapolis, Minn.—Flour. J 25. 657
- 206^f Porter & Mowbray, Winona, Minn.—Flour. J 24. 657
- 206^g Eisenmayer & Co., St. Louis, Mo.—Flour. J 25. 657
- 206^h Thilenius, G. C., Cape Girardeau, Mo.—Flour. K 23. 657
- 206ⁱ Oswego Milling Co., Oswego, N. Y.—Flour. J 25. 657
- 207 Miller, Charles L., Colon, Mich.—Pumpkin flour. J 28. 657
- 208 Stuart & Douglas, Cedar Rapids, Iowa.—Oatmeal. J 22. 657
- 209 Duryea's Glen Cove Starch Co., Glen Cove, N. Y.—Laundry starch, corn starch, and maizena. J 15-16. 658
- 210 Kingsford, T., & Son, Oswego, N. Y.—Laundry starch, corn starch, etc. J 13-14. 658
- 211 Wood, Julius J., & Co., Columbus, Ohio.—Laundry starch, corn starch for food. J 21. 658
- 212 Erkenbrecher, Andrew, Cincinnati, Ohio.—Starch, plain, perfumed, and flavored, St. Bernhard pure, refined pearl, wheaten, pulverized, "cornena" (copyrighted), corn flour for culinary purposes, "gloss satena" (copyrighted) for laundry use. Manufacturer of perfumed and flavored starch. J 17, 18, 19. 658
- 213 Barnett, William, Philadelphia, Pa.—Wheat starch. J 21. 658
- 213^a Fox, George, Cincinnati, Ohio.—Starch. J 22. 658
- 213^b Stone & Co., Chicago, Ill.—Zoline, starch gloss. K 17. 658
- 214 Miller, H. J., & Co., West Liberty, Ohio.—Maple sugar and molasses. J 25. 659
- 214^a Hutter, Robert, Philadelphia, Pa.—Grape sugar, etc. D 24. 659
- 215 Post, C. C., Burlington, Vt.—Maple sugar and syrup. C 24. 659
- 216 Murdock, Albert L., Boston, Mass. E 25. 659
^a Beet sugar. 659
^b Peat. 660
- 216^a McDonald, M. C., Philadelphia, Pa.—Crystal drips syrup. J 25. 659
- 216^b New Hampshire State Centennial Board.—Sugar. E 20-21. 659
- 217 Nennich, Henry, Philadelphia, Pa.—Vinegar. G 28. 660
- 217^a Agnew, Eisenbeis, & Co., Allegheny, Pa.—Table, pickling, and aromatic vinegars. H 28. 660
- 217^b Boden, H. W., & Co., Milwaukee, Wis.—Vinegar. H 28. 660
- 217^c Hexamer, F. M., New Castle, N. Y. Russet cider. K 13. 660
- 218 Chalvin, H. A., New York, N. Y.—Cordials, syrups, and extracts. K 18. 660
- 219 Hincke, Julius, Egg Harbor City, N. J.—Domestic wines. American grape wines, from Hincke's vineyards, all vintages since 1868, highly recommended for table use, as well as for invalids. K 12. 660
- 219^a Boden, A. F. W., & Co. (A. F. W. Boden, Henry Ricdeburg), 298 Milwaukee st., Milwaukee, Wis.—Vinegar. Manufacturers of cider and white wine vinegar. H 28. 660
- 220 Urbana Wine Co., Hammondsport, N. Y.—Champagne, still wines, and brandy from native grapes. K 12. 660
- 221 Johnson, T. H., Ericsburg, N. J.—Unfermented wines. J 23. 660
- 222 Mills, William H., Sandusky, Ohio.—Still and sparkling domestic wines. K 14. 660
- 223 American Champagne Co., New York, N. Y.—Still and sparkling wines. K 13. 660
- 224 Sattler & Co., Baltimore, Md.—Whisky. K 18. 660
- 224^a Speer, Alfred, Passaic, N. J.—Native wines. K 29. 660
- 224^b Cooley, John E., & Co., Sing Sing, N. Y.—Native wines. K 16. 660
- 224^c Shafer, J. Calvin, New York, N. Y.—Fruit syrups, juices, brandy, and cordial. K 16. 660
- 224^d Brecht, C. F., Philadelphia, Pa.—Wines and brandies. K 12. 660
- 224^e Smith, Isaac, Centre Island, N. Y.—Apple wine. K 7. 660
- 224^f White Elk Vineyards, Keokuk, Iowa.—Wines. K 16. 660
- 225 United Wine-Growers, Egg Harbor, N. J.—Native grape wines. K 8. 660
- 226 American Wine Co., St. Louis, Mo.—Sparkling and still wines. K 14. 660
- 227 Dreyfus, B., & Co., San Francisco, Cal.—California wines and brandies. K 14. 660
- 228 Poeschel, M., & Scherer, Hermann, Mo.—Native wines. K 13. 660
- 229 Kohler & Frohling, San Francisco, Cal.—California wines and brandies. K 10-11. 660
- 230 Keller, J. S., Orwigsburg, Pa.—Wine and whisky. K 13. 660
- 231 Wehr, C. Werk, & Son, Middle Bass Island, Ohio.—Native wines. K 8. 660
- 232 Buena Vista Vinicultural Society, San Francisco, Cal.—Wines and brandy. K 11. 660
- 233 Keller, M., Los Angeles, Cal.—Wines and brandies. K 7. 660
- 234 Pleasant Valley Wine Co., Hammondsport, N. Y.—Champagne, still wines, and brandies. K 14. 660
- 235 Middleton, G. W., & Co., Philadelphia, Pa.—Alcohol, rectified, French, and Cologne spirits; double rectifier. K 16. 660
- 236 Landsberger, J., & Co., San Francisco, Cal.—Champagnes and brandies. J and K 8. 660
- 237 Beller, Jacob, Detroit, Mich.—Native grape wines, currant and elderberry wines. K 7. 660
- 238 Hathaway, Vincent, & Co., Boston, Mass.—Boston ginger ale. K 17. 660
- 239 Hannis Distillery Co., Philadelphia, Pa.—Whisky. K 15. 660
- 240 Hughes, H. R. & M., Pittston, Pa.—Stock ale. K 16 and *Brewers' Building*. 660



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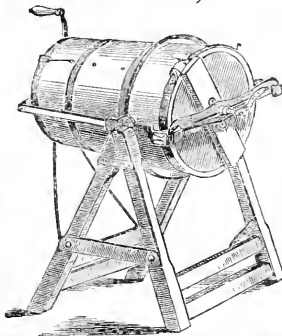
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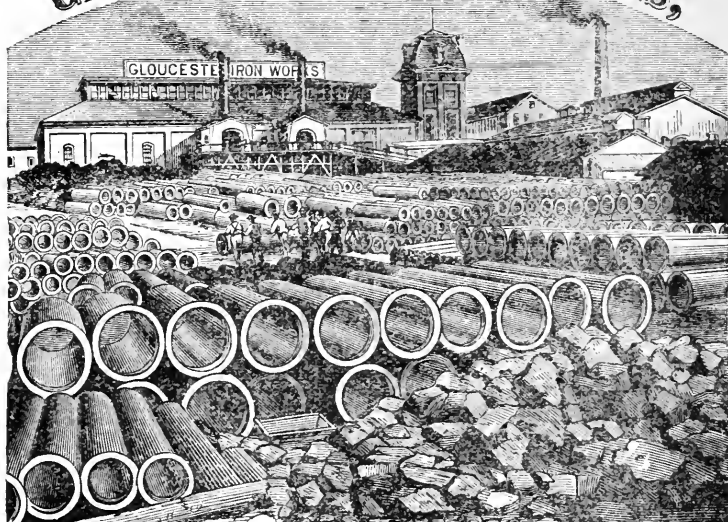
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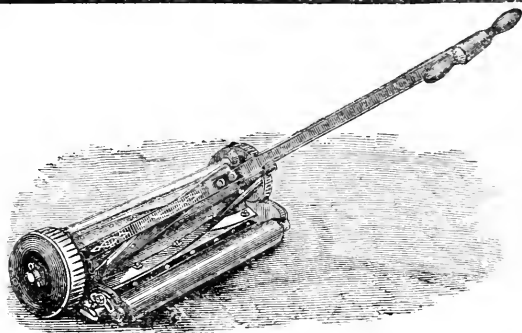
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16 "	One Man,	41 "	22.00	30 "	"	345 "	110.00
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- 241 Pierce, S. S., & Co., Boston, Mass.—Champagne cider. J 23. 660
- 242 Naglee, H. M., San José, Cal.—Brandy. K 10. 660
- 243 Trommer Extract of Malt Co., Fremont, Ohio.—Extract of barley malt. K 18. 660
- 244 Landauer Bros., Philadelphia, Pa.—Rye whisky. K 16. 660
- 245 Levy, James, & Bro., 27 and 33 Sycamore street, Cincinnati, Ohio.—Bourbon and rye whiskies; specialty, Kentucky whiskies, both in bond and tax paid. K 16. 660
- 245a Lawrence, Daniel, & Sons, Boston, Mass.—Fum. K 13. 660
- 245b Le Franc, Charles, San José, Cal.—Wine and brandies. K 14. 660
- 246 Pointe aux Peaux Wine Co., Monroe, Mich.—Native wines. H and J 20. 660
- 247 Goetze, F. A., Jersey City, N. J.—Native wines. K 13. 660
- 248 Huck, John A., Chicago, Ill.—Wines. K 12. 660
- 249 Mahé, Gustave, San Francisco, Cal.—Golden wine. Extract from the report of the Committee of Industrial Exhibition of the Mechanics' Institute, San Francisco, California: "Mr. Mahé's wine is made from what is called the Mission Grape, without any admixture of foreign grapes. It is singularly light and pure, and has obtained the First Premium and only Medal awarded to the California Wine, at the Tenth Industrial Exhibition of the Mechanics' Institute, San Francisco. Mr. Mahé's property consists of about one hundred acres, forty-five of which are planted with vines. Of the seventy thousand feet of vineyard, twelve thousand are in vines nine years old, eight thousand five years old, thirty-five thousand in their fourth year, and the remaining fifteen thousand are three years old. Mr. Mahé estimates that when all these vines are in full bearing (which will be in two or three years' time), they will yield an average of from thirty to thirty-five thousand gallons of wine. In 1874 eighteen thousand feet in bearing yielded eight thousand five hundred gallons. The whole vineyard is planted with the grape known as the California Mission. The cellars, which are two and three floors deep, have a capacity of a hundred thousand gallons in casks and bottles together. The wine is to be kept in the cellar at least three years, that length of time being necessary to give it the greatest part of its valuable qualities, and Mr. Mahé intends to give it to the consumer in glass only, that he may be satisfied it cannot be used in any but its naturally pure state.
- "At the vintage, which is always in October, from the 15th to the 30th, the grapes, as soon as they have been gathered and brought to the press, are stripped from the stems. The stems are carefully thrown aside, and the grapes fall from the stripping machine into a mill, which breaks the grape without crushing the seeds. From this mill the broken grapes fall on the press, from which the juice passes directly through India-rubber pipes into the casks, arranged on the lowest floor to receive it. There the juice fer-
- ments, and is drawn off three times the first year, twice the second year, and once only the third year; and always in January. The third year the wine is bottled in the month of February, and is not offered for use till six months later, about September.
- "The pulp and solid part of the grapes left in the press are subjected to the action of a hydraulic press of sixty thousand pounds' force worked easily by one man. The distillation of the Golden Wine showed the following per centage of alcohol: vintage of 1869, 12 per cent.; vintage of 1870, 11 per cent.; vintage of 1871, 11½ per cent. It contains, therefore, the same proportion of alcohol as the wines of Bordeaux."
- In order to enable the visitors to the Exhibition to appreciate the qualities of the wine of California, we have established in Agricultural Hall, near our exhibit, at the north entrance, a buffet, where an excellent lunch, including a half bottle of Golden Wine, will be daily served up, at the price of one dollar. Our fellow-citizens and our foreign friends are respectfully invited to honor us with a call. L. PONTON DE ARCE, *Manager*. K 14. 660
- 250 Steuben County Vineyard Association, Bath, N. Y.—Native grape wines and brandy. K 12. 660
- 251 Criquei, Joseph, Newark, N. J.—Wine. K 9. 660
- 252 Kelley's Island Wine Co., Kelley's Island, Ohio.—Champagnes and claret wines, etc.; Catawba brandy. K 11. 660
- 253 Perkins, Stern, & Co., New York, N. Y.—California wines and brandies. K 8. 660
- 254 Whitman, Stephen F., & Son, Philadelphia, Pa.—Variety of manufactures in confectionery and chocolate. K 25. 661
- 254a Richardson, J. J., & Co., Philadelphia, Pa.—Confectionery. K 28. 661
- 254b Miller, George, & Sons, Philadelphia, Pa.—Confectionery. K 25. 661
- 255 Baker, Walter, & Co., Boston, Mass.—Chocolate and cocoa preparations. K 25. 661
- 256 Rumford Chemical Works, Providence, R. I.—Yeast powder, cream tartar, acid phosphate, and bread preparation. K 21. 661
- 257 Wilson, Walter G., & Co., Philadelphia, Pa.—Crackers and biscuit. K 23 and 24. 661
- 258 Larrabee, E. J., & Co., Albany, N. Y.—Biscuit, crackers, etc. K 22. 661
- 259 Croft, Wilbur, & Co., Philadelphia, Pa.—Confectionery, lozenges, glace fruit, etc. K 26. 661
- 260 Morse, G. Byron, Philadelphia, Pa.—Plain and fancy cakes, milk and cream biscuits, rolls, buns, pastry, etc. K 26. 661
- 261 Chase & Co., Boston, Mass.—Confectionery. K 28. 661
- 262 Hartman, John, Philadelphia, Pa.—Crackers, cakes, and biscuits. K 24. 661
- 263 Weaver, J. R., Philadelphia, Pa.—Confectionery. K 27. 661
- 264 Schall & Co., New York, N. Y.—Ornamental confectionery. K 25. 661

Animal and Vegetable Products, Textile Substances.

- 265 Mockridge, E., & Co., Philadelphia, Pa.—Azumea, bread, cakes, pastry, etc. K 21. 661
- 266 Greenfried & Strauss, Confectioners, 63 Barclay street, New York, N. Y.—Manufacturers of all kinds of confectionery, such as lozenges, pipe, gumdrops, pan-work, creams, extra imperials, fine almonds, medicated lozenges, chocolates, and pistache goods. Special attention given to the export trade. Goods packed for the South American market in glass and tins. Importers of and dealers in oils and materials for manufacturing confectionery. Manufacturers of XXX powdered sugar. Listas de precios en la lengua castellana à haber en la oficina à Nueva York. K 26. 661
- 267 Dexter, E. M., & Co., Philadelphia, Pa.—Ornamental confectionery. K 27. 661
- 268 Laurent, F., N. W. cor. Arch and Sixth sts., Philadelphia, Pa.—Confectionery and decorative ornaments for cakes. Manufacturer of fine confectionery and ornaments for decorating cakes, such as bride's, centre-pieces, flowers, roses, gum-paste leaves, etc. K 28. 661
- 269 Henry Maillard, New York, N. Y.—Bonbons, chocolate, ornamental confectionery. K 25. 661
- 270 Thorn & Brother, Trenton, N. J.—Crackers, butter, oyster, wine, and scroll biscuit. K 24. 661
- 271 Geilfuss, H., Philadelphia, Pa.—Ornamental confectionery. K 28. 661
- 272 Heide & Wirtz, New York, N. Y.—Almond paste. K 23. 661
- 272a Page, D. L., Philadelphia, Pa.—Candies. K 26. 661
- 272b Palmer Baking-Powder Co., Philadelphia, Pa.—Baking powder. K 24. 661
- 273 Carrick, David, & Co., Philadelphia, Pa.—Crackers, cakes, ship-bread, etc. K 23. 661
- 274 Exton, Adam, & Co., Trenton, N. J.—Butter, oyster, and wine crackers. K 23. 661
- 275 Runkel, H., & Co., Clifton, N. Y.—Chocolate goods and cocoa for confectioners. K 28. 661
- 276 Snider Bros. & Co., Cincinnati, Ohio.—Cream biscuit K 23. 661
- 277 National Yeast Company, Seneca Falls, N. Y.—Dry-hop yeast cakes. K 17. 661
- 278 Smith's Homeopathic Pharmacy, New York, N. Y.—Alkethrepta, soluble chocolate, and chocolate confections. K 27. 661
- 279 Thurston, Hall, & Co., Cambridgeport, Mass.—Boston crackers. K 21. 661
- 280 Schall & Co., New York, N. Y.—Ornamental confectionery, representing the history of the United States. K 25. 661
- 281b Tayler, D. M., Helena, Ark.—Raw cotton. D 25. 665
- 281c Pritchard, A., Galveston, Texas.—Raw cotton. E 24. 665
- 282 Claghorn, Herring, & Co., Philadelphia, Pa.—The cottons of the world. G 18 and 19. 665
- 282a Cheasham, John T., Bethany, Ga.—Cotton plants. F 24. 665
- 282b Campbell, George, Westminster, Vt.—Wool. E 14. 665
- 282c Maxwell, Edward, Delta, La.—Cotton. E 24. 665
- 282d Cotton Exchange, Memphis, Tenn.—Raw cotton. E 24. 665
- 282e Kellogg, Adam, Kellogg's Landing, La.—Bale of cotton. E 24. 665
- 282f McGaughy, B. R., Verona, Miss.—Cotton. E 24. 665
- 282g Gurney, Wm., Charleston, S. C.—Cotton and cotton plant. J 17. 665
- 282h Maxwell & Goodman, Delta, La.—Raw cotton. H 17. 665
- 282i Levy, Edward S., New Orleans, La.—Raw cotton. J 20. 665
- 282j Sledge, McKay, & Co., Memphis, Tenn.—Raw cotton. E 24. 665
- 282k St. Louis Cotton Exchange, St. Louis, Mo.—Raw cotton. D 24. 665
- 282l New Orleans Cotton Exchange, New Orleans, La.—Raw cotton. 665
- 283 State of West Virginia (collective exhibit).—Hemp and flax. F 19. 666
- 284 George Stratford, Jersey City, N. J.—Oakum. I 17. 666
- 285 Davey, W. O., & Sons, Jersey City, N. J.—Oakum. H 17. 666
- 286 Mills', B., Sons, Jersey City, N. J.—Oakum. H 17. 666
- 287 Collyer, Robert H., Chicago, Ills.—China grass. S 10. 666
- 288 State of Oregon, Portland, Oregon.—Wool and woolen fabrics. E 22. 667
- 289 Bond, George W., Boston, Mass.—Commercial wools. I 19. 667
- 290 Northern Ohio Woollen Mills, Cleveland, Ohio.—All-wool shoddies. I 18. 667
- 290a New Hampshire State Centennial Board.—Wool. E 20-21. 667
- 290b Hiatt, E. J., & Brothers, Chester Hill, Ohio.—Merino wool in fleece. F 24. 667
- 291 Wilkens, Theodore, New York, N. Y.—Hair moss for upholstery. E 26. 669
- 292 Mellen & Co., New York, N. Y.—Curled horse hair tickings. H 17. 669
- 293 Herzog, J., & Co., San Francisco, Cal.—"Eureka hair" (patented), good and clean substitute for curled hair. "Will not harbor moths or other vermin," cool and healthy material for mattresses and upholstery. H 17. 669
- 294 Franklin Glue Works, Pittsburg, Pa.—Curled hair. K 20. 669
- 295 Wilkens, William, & Co., Baltimore, Md.—Bristles, horse-hair, fibre, curled hair, etc. H 17. 669

Textile Substances of Vegetable or Animal Origin.

- 281 Murdock, Albert L., Boston, Mass.—Cotton from all countries. E 25. 665
- 281a Mohawk & Hudson Manufacturing Co., Waterford, N. Y.—Pressed cotton. S 8. 665

For locations of objects, indicated by letter and figure, see Key to Notation, p. 6; ground plan, p. 10.

Machines, Implements, and Processes of Manufacture.

Machines, Implements, and Processes of Manufacture.

- 296 Collins & Co., Hartford, Conn.—Axes, hatchets, adzes, machetes, railway and mining tools, plows, etc. N 24. 670
- 297 Myers & Ervien, Office, 13 North Fifth st., Philadelphia, Pa.—Hay-forks, etc.; potato-drags. Manufacturers of hay, manure, spading, coke, charcoal, spall, barley, sluice, tanners', turnip, and oyster forks, potato and manure drags, etc. S 25. 670
- 297^a Gibbs & Lee, New York, N. Y.—Steam spader. M 24. 670
- 297^b Hopkins, A. P., Bentleysville, Pa.—Road-scraper. C 21. 670
- 297^c Kelsey, John, Yardleyville, Pa.—Harrow and scraper. L 26. 670
- 297^d Maxwell, Rowland, & Co., Holmesburg, Pa.—Shovels, spades, and scoops. T 26. 670
- 297^e Estes, William A., South Boston, Mass.—Plow, barrow, and stone truck. L 26. 670
- 298 Holland, Edward, Atlanta, Ga.—Buggy-plow and cultivator. K 24. 670
- 299 Harper, Smith, Philadelphia, Pa.—Steel hoes, rakes, etc. T 26. 670
- 300 Bean, H. & B. F., Pawling, Pa.—Corn-marker, cultivator, grain and seed sower. N 19. 670
- 301 Bateman, E. S. & F., Spring Mills, N. J.—Field and garden cultivators. N 23. 670
- 302 Pepler, Thomas, Hightstown, N. J.—Plow and cultivator. M 24. 670
- 303 Kissell, Blount, & Co., Springfield, Ohio.—Corn cultivator. N 24. 670
- 304 Bucher, Gibbs, & Co., Canton, Ohio.—Plows on revolving tables representing "1776 and 1876." L 24. 670
- 305 Decker, P. H., Chicago, Ill.—Hollow tooth harrow, and roller mold-board plow. P 26. 670
- 306 Ward, Samuel B., Locust Mount, Va.—Plow, rake, etc. L 24. 670
- 307 Cooke & Foulke, Shelbyville, Ill.—Cultivator. M 19. 670
- 308 Park, H. & H., Mt. Victory, Ohio.—Fork, hoe, and broom handles. T 25. 670
- 309 Stuart & Kirkland, Jackson, Miss.—Plows. N 24. 670
- 309^a Michigan Double Stave Barrel Co., Charlotte, Mich.—Barrels, etc. R 28. 670
- 309^b Holland, Ed., Atlanta, Ga.—Buggy-plow. K 24. 670
- 310 Deere & Co., Moline, Ill.—Steel plows, gang and sulky plows, walking corn-cultivators. Q 24. 670
- 311 Morrison Brothers, Fort Madison, Iowa.—Self-cleaning iron and wood beam plow. L 24. 670
- 312 Sheble & Fisher, Philadelphia, Pa.—Hay and manure forks, rakes, potato-hooks, and manure-drags. S 25. 670
- 313 Wallace, Samuel J., Keokuk, Iowa.—Straddle-row cultivator. L 26. 670
- 314 Miller & Wallace, Keokuk, Iowa.—Texas plow. L 26. 670

- 315 Isaacs, Fred. H., Newark, N. J.—Sulky gang-plow. M 25. 670
- 316 Cotton, A. C., Vineland, N. J.—Reversible scuffle-hoe. D 17. 670
- 317 Heydrick, W. H. H., Philadelphia, Pa.—Steam plow, and farm engine. L 23. 670
- 318 Myer, B., Newark, N. J.—Plows. N 25. 670
- 319 New York Manufacturing Co., New York, N. Y. P 17.
^a Plow, cultivator, etc. 670
^b Corn-sheller, root-cutter, etc. 674
- 320 Brewster, Dodge, & Huse, Peru, Ill.—Wheel corn-cultivator, steel plows for old ground and for breaking prairie-sod. Q 26. 670
- 321 Greenwich Machine Works, Greenwich, N. Y.—Cultivator and shovel plow. M 26. 670
- 322 Richmond Plow Works, Richmond, Ind.—Steel plows. L 25. 670
- 323 Moline Plow Co., Moline, Ill.—Wood-beam plows, steel-beam plows, and cultivators. Q 26-28. 670
- 324 Laurence & Chapin, Kalamazoo, Mich.—Plows. M 24. 670
- 325 Muschert, B. F., Morrisville, Pa.—Cultivator plow. M 23. 670
- 325^a Strombeck, Charles W., Syracuse, N. Y.—Harrow. L 27. 670
- 325^b Bidwell, J. C., Pittsburg, Pa.—Plows, and steel castings. S 28. 670
- 325^c Ellis, Minot, Greenfield, Mass.—Swivel plows. L 24. 670
- 325^d Feenders, Harm., Charles City, Iowa.—Clod-crusher. Q 12. 670
- 325^e Causland, McCoy, & Causland, Philadelphia, Pa.—Pick-axe. M 26. 670
- 325^f Lamborn, Lewis, Hamorton, Pa.—Cultivator with attachment for eradicating potato bugs. N 28. 670
- 325^g Cagwin & Young, Joliet, Ill.—Spading-plow. M 23. 670
- 325^h Auburn M'f'g Co., Auburn, N. Y.—Agricultural hand implements. Intersection of aisle N and main transept. 670
- 326 Rogers, C. B., Philadelphia, Pa.—Cultivators, berry and fruit baskets. M 26. 670
- 326^a Kroh, C. & P. G., Kroghville, Wis.—Cultivator. M 24. 670
- 326^b Deats, L. M., & Co., Pittstown, N. J. N 23.
^a Plows. 670
^b Power corn-shellers. 674
- 327 Benson, B. S., Baltimore, Md.—Steam plow. N 9. 670
- 328 Speer, Alexander, & Sons, Pittsburg, Pa.—Iron and steel plows. M and L 28. 670
- 329 South Bend Iron Works, South Bend, Ind.—Chilled plows and attachments, specimens of chilled metal. P 26. 670
- 330 Hull, David H., Syracuse, N. Y.—Machine for stripping and booking tobacco. M 22. 670
- 331 Brous, T. Miles, Philadelphia, Pa.—Plows. M 24. 670

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12 14

Machines, Implements, and Processes of Manufacture.

- 332 Buford, B. D., & Co., Rock Island, Ill.—Plows and cultivators. O 28. 670
- 333 Wyckoff & McDonald, Hightstown, N. J.—Two-horse gang-plow. M 16. 670
- 334 Binder & Schweibing, Mauch Chunk, Pa.—Adjustable corn-plow. L 23. 670
- 335 Estes, William A., Boston, Mass.—Anti-friction plow. N 26. 670
- 336 Travis, A. B., Brandon, Mich. L 22. 670
a Horse wheat-hoe. 670
b Seed-drill. 671
- 337 Root, D., Son & Co., Mount Joy, Pa.—Steel and iron plows, cultivators, and agricultural steels. L 28. 670
- 338 Reynolds, E. D. & O. B., Brockton, Mass. N 25. 670
a Gang plows and attachments, cultivators, harrows, and horse-hoes. 670
b Seed-drills, planters, etc. 671
- 339 Allen, R. H., & Co., New York, N. Y. Q and R 25. 670
a Plows, cultivators, harrows, and horse-hoes. 670
b Seed-sowers. 671
c Corn-sheller and separator. 673
d Horizontal and vertical burr-stones, brick-machines, seed-hullers. 674
- 340 Chicago Plow Co., Chicago, Ill.—Plows and cultivators. P 28. 670
- 342 Avery, B. F., & Sons, Louisville, Ky.—Plows, cultivators, etc. N 28. 670
- 343 Walker, James R., Detroit, Mich.—Iron plow. K 28. 670
- 344 Harnish, Edward P., Felton, Del. L 22. 670
a Cultivator. 670
b Corn-planter. 671
- 345 Gregg & Co., Trumansburg, N. Y. R 20. 670
a Sulky-plow. 670
b Mowing-machine. 672
- 346 Hutchinson, Samuel, Griggsville, Ill.—Adjustable harrow. P 28. 670
- 348 Gifford, Johnson, & Co., Hudson, N. Y.—Pulverizing-cultivators, corn-cultivators, and hilling-plows. O 26. 670
- 349 Carr & Hobson, New York, N. Y.—N, O, and P 28. 670
a Plows and other agricultural implements. 670
b Hay-cutters, corn-shellers, mills, presses, etc. 674
c Churns. 675
- 350 Ames, Oliver, & Sons, North Easton, Mass.—Shovels, spades, scoops, and drainage tools. S 26. 670
- 351 Griffiths, George, Philadelphia, Pa.—Shovels, spades, handles, coal-hods, and pans. These goods are as produced at factory. We exhibit a spade used by Washington's army at Valley Forge. It was dug up by the late Rev. Dr. Brainerd. The handle replaced by one of style used at that date. T 27. 670
- 351*a* Fisher, Samuel, Philadelphia, Pa.—Gang-plow and cultivator-comb. O 26. 670
- 351*b* Orchard City Agricultural Works, Burlington, Iowa. P 28. 670
a Plows. 670
b Rakes. 672
- 351*c* Wayne Agricultural Company, Richmond, Ind. S 25. 670
a Cultivators. 670
b Drills. 671
c Mowers and reapers. 672
- 351*d* Bowers & Stitzer, Hackettstown, N. J. L 11. 670
a Beam-plow. 670
b Churn worked by a dog. 675
- 352 Bergstresser, E. L., Hublersburg, Pa.—Corn-planter. K 18. 671
- 353 Rowland, T., & Sons, Philadelphia, Pa.—Shovels and spades. T 17. 670
- 354 Walton, Silas, Moorestown, N. J.—Garden and field cultivator. L 25. 670
- 355 Rue, J. Chalmers, Englishtown, N. J.—Gang-plow. L 25. 670
- 356 Smith, Peter E., Scotland Neck, N. C. M 24. 670
a Sulky-plow. 670
b Cotton-seed planter. 671
- 357 Bayliss, Edwin, Massillon, Ohio. O 17-18. 670
a Wheel-harrow, iron cultivator, and shovel-plow. 670
b Harvester. 672
- 358 Ward's Fertilizer Co., Boston, Mass. M 26. 670
a Harrows. 670
b Potato-planter and digger. 671
- 359 Brown, Hinman & Co., Columbus, Ohio. T 25. 670
a Weeding-hoes, garden-rakes, manure and spading forks. 670
b Scythe-snaths, grain-cradles, hay-forks, etc. 672
- 360 Mabbett, Truman, Vineland, N. J. O 26. 670
a Hand and horse cultivators. 670
b Berry-crates. 674
- 361 Withington, Cooley, & Co., Jackson, Mich. T 25. 670
a Cast-steel hoes, rakes, and potato-hooks. 670
b Hay and manure forks, scythe-snaths, etc. 672
- 362 Morrison & Fay, Bryan, Ohio. M 25. 670
a Plow. 670
b Corn-sheller. 674
- 364 Brownback, P. N., Limerick Station, Pa. N 16. 670
a Threshing-machine, dust-conveyer, and plows. 670
b Self-acting hay-rake, mower, and reaper. 672
c Sausage-cutter, stuffer, etc. 674
- 366 Higganum Manufacturing Co., Higganum, Conn. L 25. 670
a Plows and agricultural implements. 670
b Corn-shellers, hay-spreaders, etc. 674
c Cider-mills, meat-cutters, etc. 675
- 367 Remington, E., & Sons, Ilion, N. Y. O 19. 670
a Plows, cultivators, hoes, shovels. 670
b Mower, horse and hand rakes. 672
c Cotton-gin. 673
d Milk-cooler. 675
- 368 Pennsylvania Agricultural Works, York, Pa. O and P 24. 670
a Plows, cultivators, and tools for cultivation. 670
b Seed-planter. 671
c Threshing-machines, horse-powers. 673
d Cotton-gins, steam-engines, and agricultural steels. 674

For locations of objects, indicated by letter and figure, see Key to Notation, p. 6; ground plan, p. 10.

Machines, Implements, and Processes of Manufacture.

- 369** New York Plow Co., New York, N. Y. N 21.
a Plows, harrows, rollers, clod-crushers, etc. 670
b Hay-rakes. 672
c Corn-shellers. 673
d Cider and wine mills. 674
- 370** Hillborn, Buckman, & Co., Newtown, Pa. Q 16.
a Plows. 670
b Mower, horse-rake, etc. 672
c Corn-sheller. 673
d Fodder-cutter. 674
- 371** Wheeler & Melick Co., Albany, N. Y. Q 7.
a Ithaca or American wheel horse-rake. 670
b Centennial self-acting wheel horse-rake. 672
c Saratoga or New York wheel horse-rake. 672
d Clover-huller, thresher and cleaner, thresher and shaker, straw-preserving thresher, one and two horse and lever powers. 673
e Feed-mill, cutter, wood-sawing machine, horse pitchforks, etc. 674
f Dog, calf, or donkey power, for churning, etc. 675
- 372** Allen, S. L., & Co., No. 119 South Fourth st., Philadelphia, Pa.—Farm and garden tools. Manufacturers of the Planet, Jr., hand seed-drills and wheel-hoes. Also of improved horse-hoes and cultivators, insect fumigators, etc. M 20. 671
- 373** Farmers' Friend Manufacturing Co., Dayton, Ohio.—Grain-drill and grass-seed sower, grain-drill and broad-cast seed sower combined, grain-drill and fertilizer combined. N 17. 671
- 374** Mast, P. P., & Co., Springfield, Ohio.—Grain-drills and seed-sowers, broadcast seeder and cultivator, riding or walking cultivator, and plow-sulky. M 17. 671
- 375** McSherry, D. E., & Co., Dayton, Ohio.—Grain and seed drills. We claim a positive force-feed, constructed in such a manner as not to allow any grain to pass that is not carried out by the spiral wheel working inside of a cap or case underneath the hopper; provided with a patent washer, which prevents the grain from being broken, and causing a regular flow of seed. It is regulated by the change of cog-wheels, which is simple, durable, and making positive quantities. The quantities per acre are not raised by the roughness of the ground or the box being full or nearly empty. It has also been used successfully in drilling corn, beans, peas, etc. It is provided with a grass-seed box, which can be used either in front or rear of machine. An iron lifter is attached, which is strong, neat, and durable, by means of which the hoes are raised out of the ground, and at the same time throwing the whole machine out of gear. To the drill is attached a long hoe, iron drag-bars which can be changed from single to double rake, or vice versa; added to this is an iron shaft-bar, which is held permanent by bolts, therefore not detracting from the strength of the frame. There is a light, strong frame, constructed with six pieces of timber and an iron axle running the whole width of it. It has a surveyor-chart, that measures the ground actually sown. It

has high wheels, broad tread. We also have a spring hoe, known as the Willoughby patent. Weight of drill about 525 pounds.

The Rice drill has a positive force-feed, constructed with a spiral wheel, provided with two washers or disks, one at each end of feed-wheel, working inside of cap or case underneath the hopper, causing a regular flow of seed. The quantity is regulated by change of cog-wheels, making positive quantities. The frame is constructed of six pieces of timber, making it strong and durable. It is provided with a pair of shafts for one horse only. Has an iron axle running whole width of frame. It has high wheels, broad tread, and weighs about 400 pounds.

Broad-cast seeders. This is a positive force-feed, constructed with a spiral wheel and flange, working inside cap, thereby causing a regular flow of seed, and only allows such grain to pass out as is carried by the wheel. The washers at the side of the wheel protect the grain from being broken or injured. The quantity is regulated by changing cog-wheels, making a positive quantity sown. The roughness of the ground or the box being full or nearly empty has no effect on the discharge of seed. It has six iron spouts for the grain to pass through and scatter in front of the hoes. Has twelve hoes, six inches apart. The points are steel and are reversible; can be regulated to the depth desired. Has iron drag-bars, to which the hoes are attached. These being all under the main frame, with a lifter attached to raise them out of the ground. It has a grass and flax seed attachment, and has an iron axle running the whole width of the frame. Has high wheels, broad tread, and weighs about 450 pounds. M 18. 671

- 376** Campbell, J. & J. A., Harrison, Ohio.—Drill. M 23. 671
- 377** Buist, David, Philadelphia, Pa.—Seed-sower. K 19. 671
- 380** Clarridge, John, Mt. Sterling, Ohio.—Corn and cotton-seed planter. M 17. 671
- 381** S. J. Waite Manufacturing Co., Worcester, Mass. N 22.
a Breast-drill, corner-brace, saw-sett, and lathe. 671
b Apple-parer. 674
- 382** Nash & Brother, New York, N. Y.—Potato-planter. N 19. 671
- 383** Selby, James, & Co., Peoria, Ill.—Corn-planter. M 22. 671
- 383a** Beatty, Matthew O., Concord, N. C.—Cotton-planter, guano-distributor, and cultivator combined. M 23. 671
- 384** Bickford & Huffman, Macedon, N. Y.—Grain-drill and attachments. L 18. 671

Last fall Bickford & Huffman were invited by chief of Centennial bureau to perform seeding of grain for the field trial to take place this year at Philadelphia. Seeding accomplished with following results: Actual measurement of ground 45 $\frac{3}{100}$ acres. Field to be sown with wheat 5 pecks to the acre. Quantity required 56 bushels 54 $\frac{1}{2}$ pounds; quantity sown, 57 bushels 27 $\frac{1}{2}$ pounds—an excess of only 33 pounds upon entire field of 45 $\frac{3}{100}$ acres, or less than $\frac{2}{3}$ pound excess per acre. To account for which, if it need

Machines, Implements, and Processes of Manufacture.

- be accounted for, three headlands, upon which were lapped three tubes, were sown. This result was considered very satisfactory, and demonstrates the accuracy of the quantity-wheel. The fertilizer attachment, which has been transferred to the rear, is an improvement, and makes the distribution even and uniform. The machine is nicely balanced, and the weight removed from the horse's neck.
- 385 Hall, H. L., Chicago, Ill.—Combined seed-sower and cultivator. L 19. 671
- 386 Vandiver Corn-Planter Co., Quincy, Ill.—Corn-planter. M 19. 671
- 387 Stokes, F. N., Urbana, Ohio—Planter, fertilizer, and pulverizer. K 18 and 19. 671
- 387a Cooper, Mark, Union, S. C.—Combined fertilizer, refiner, and seed-planter. M 22. 671
- 387b Brown, H. L. & C. P., Shortsville, N. Y.—Grain-drill, with and without attachments. M 21. 671
- 388 Hoosier Drill Co., Milton, Ind.—Wheat-drill with grass-seed attachment, corn-drill. K 15. 671
- 388a Screw Mower and Reaper Co., Philipsburg, N. J.—R, S, and T 15. 671
a Grain drills. 671
b Mowing and reaping machines. 672
c Hay and stalk cutters. 674
- 390 Johnson & Gere, Owego, N. Y.—Grain-drill and attachments, fertilizer-sower. L 19. 671
- 390a Gibbs & Lee, Brooklyn, N. Y.—Steam spader. M 24. 671
- 390b Rothchild, Joseph, Shelbyville, Ky.—Corn-planter. K 18. 671
- 391 Eagle Manufacturing Co., Davenport, Iowa. M 26. 671
a Walking cultivator. 671
b Sulky rake. 672
- 392 Asay & Wood, Philadelphia, Pa.—Combined corn-planter, fertilizer-distributor, and deflecting cultivator. N 22. 671
- 392a Bliss, B. K., & Sons, seedsmen, 34 Barclay St., New York, N. Y. Randolph's hand seed-sower, for sowing all kinds of garden-seeds with accuracy and despatch, can be easily operated by a lady or child. Highly recommended by experienced gardeners and farmers. Its cost is trifling, compared with the advantages resulting from its use. The saving in time and seeds will undoubtedly repay the outlay in the planting of a single week. \$1.25 each. Sent by mail, postpaid, to any address in the U. S. upon receipt of \$1.50. Randolph's fertilizer distributor, for distributing all kinds of concentrated fertilizers, as phosphates, guano, ashes, plaster, or chemical manures, without touching the material with the hands, a matter of some importance when caustic substances are used. One man can do the work of three by the ordinary method. Price, \$5. B 28. 671
- 393 Crowell, J. B., & Co., Green Castle, Pa.—Grain, guano, and grass-seed drills. L 12. 671
- 394 Willoughby, James D., Philadelphia, Pa.—Grain-drill, with and without fertilizer attachment. L 22. 671
- 395 Sweeney, Hugh M., Worcester, Mass.—Liquid fertilizing machine. I 21. 671
- 396 Springfield Manufacturing Co., Springfield, Ill.—Climax corn-planter. L 19. 671
An excellent two-horse check row corn-planter; six chamber rotary drop; universal wrought-iron coupling; broad steel runners; woven wire open heel; simple in construction; certain in operation. Send for illustrated circular.
- 398 Rentschler, D. & H., Belleville, Ill.—Grain and seed drills. M 19. 671
- 399 Heamer, Andrew J., Pittsfield, Ill.—Hedge-trimmer. M 14. 671
- 400 Seymour, John B., Philadelphia, Pa.—Box-hoe seed-planter. T 8. 671
- 401 Rutschman Bros., Philadelphia, Pa. S 24. 671
a Self-feeding hand-drill. 671
b Meat-chopper. 674
- 402 Keystone Manufacturing Co., Sterling, Ill. L 19. 671
a Corn-planter. 671
b Corn-sheller, cider mill and press. 673
- 403 Esterly, George, & Son, White-water, Wis. P 20 and 21. 671
a Cultivator and seeder combined. 671
b Harvester, self-raking reaper. 672
- 404 Brown, George W., Galesburg, Ill.—N 15. 671
a Corn-planter. 671
b Field corn-stalk cutter. 672
- 405 Goodell Co., Antrim, N. H. T 14. 671
a Broadcast seed-sower. 671
b Apple-parers, peach-parers, cherry-stoners, etc. 674
- 406 Hagerstown Agricultural Implement Manufacturing Co., Hagerstown, Md. R and S 26. 671
a Grain, seed, and fertilizing drills. 671
b Clover huller and cleaner. 673
c Feed-cutter. 674
- 407 Williams Bros., Ithaca, N. Y. P 12. 671
a Fertilizer and grain-sower. 671
b Horse hay-rake. 671
c Portable engine. 671
- 408 Adriance, Platt, & Co., New York, N. Y.—Self-raking reapers and mowers T 15. 671
- 408a Rank, Amos, & Co., Canton, Ohio—Mowers, reapers, etc. K 13. 671
- 408b Perry, John G., Kingston, R. I.—Mowers. P 22. 671
- 408c Johnston, Samuel, Brockport, N. Y.—Automatic harvesters and binders. F 13-14. 671
- 409 Eagle Mowing & Reaping Machine Co., Albany, N. Y.—Mowing and reaping machines. T 18. 671
- 410 Osborne, D. M., & Co., Auburn, N. Y.—Mowing and reaping machines. O 13 and 14. 671
- 411 Wood, Walter A., Hoosac Falls, N. Y. S and T 13-14. 671
a Droppers. 671
b Mowers, reapers, harvesters, etc. 672
- 412 Warder, Mitchell, & Co., Springfield, Ohio.—Reapers and mowers. P 15. 671
- 413 Thomas, John H., & Sons, Springfield, Ohio.—Sulky-spring tooth hay-rake. L 15. 671

For locations of objects indicated by letter and figure, see Key to Notation, p. 6; ground plan, p. 10

Machines, Implements, and Processes of Manufacture.

- 413^a Kelly, William E., New Brunswick, N. J.—Reciprocating screw mowing-machine. R 17. 672
- 413^b Chaplin, C. H., Tecumseh, Mich.—Rake. L 14. 672
- 413^c Schenck, P. C., jr., Neshanic, N. J.—Mower and reaper. K 15. 672
- 413^d Wells, French, & Co., Chicago, Ill.—Potato-digger. R 24. 672
- 413^e Whiton, David E., West Stafford, Conn.—Mowing-machine. R 14. 672
- 413^f Mills, Peck, & Co., Otsego, Mich.—Field and garden hoes. R 28. 672
- 414 Whiteley, Fassler, & Kelly, Springfield, Ohio.—Reapers and mowers. O 15 and 16. 726
- 415 Prout, H. N., Westfield, Mass.—Adjustable hoeing-machine. Q 28. 672
- 416 Ohmer, Augustus J., Hamilton, Ohio.—Hand mowing-machines. M 13. 672
- 417 Dodds, John, Dayton, Ohio.—Sulky horse hay-rakes. M 15. 672
- 418 Barnes, George, & Co., Syracuse, N. Y.—Mower-knives, reaper-sickles, spring keys, and cotters. M 15. 672
- 419 Taylor, B. C., Dayton, Ohio.—Wheel horse hay and grain rake. L 14. 672
- 420 Coates, A. W., Alliance, Ohio.—Lock-lever horse hay-rake. L 15. 672
- 421 Whittemore Bros., Boston, Mass.—Hay-rake and feed-cutter. L 20. 672
- 422 Chadborn & Coldwell, Newburgh, N. Y.—Lawn-mower; smoked-beef cutter. N 13. 672
- 423 Wisner, J. E., Friendship, N. Y.—Self-discharging rake. M 14. 672
- 424 Converse, Bolivar C., Springfield, Ohio.—Reaping-machine. R 16. 672
- 425 Eagle Company, Riverton, Conn.—Grain, grass, and bush scythes, grass-hooks, corn and hay knives. T 25. 672
- 426 Huber Manufacturing Co., Marion, Ohio.—Revolving hay-rake. L 16. 672
- 427 Dutton, R., Yonkers, N. Y.—Reaping and mowing machine. R 25. 672
- 428 Rochester Agricultural Works, Rochester, N. Y.—Reapers and mowers. T 14. 672
- 429 Seiberling, J. F., Akron, Ohio.—Mower and attachments. Q 14. 672
- 430 Whitman & Miles Manufacturing Co., Akron, Ohio.—Mowing and reaping machine knives, sickles, and sections. T 18. 672
- 431 Aultman, Miller, & Co., Akron, Ohio.—Mower with table-rake reaper. Q 15. 672
- 431^a Royce, John S., Cuylerville, N. Y.—Reapers. Q 25. 672
- 431^b Gordon, James F., Rochester, N. Y.—Self-binding harvester. P 17. 672
- 432 Spink, James L., & Co., Minneapolis, Minn.—Mowers and reapers. Q 14. 672
- 433 Bellaire Manufacturing Co., Bellaire, Ohio.—Mower and reaper. P 14. 672
- 434 Russell, C., & Co., Canton, Ohio.—Self-raker, reaper, and mower combined, single mower. R 14. 672
- 435 Tschop, Albert, Harrisburg, Pa.—Self-dumping wheel hay-rake. L 15. 672
- 436 Hewitt, John C., Penns Grove, N. J.—Potato-digger. M 16. 672
- 437 New London Scythe Co., New London, N. H.—Scythes. Q 28. 672
- 437^a Haynes, W. H., North Sudbury, Mass.—Hay-elevator. M 21. 672
- 438 Graham, Emlen, & Passmore Philadelphia, Pa.—Lawn-mower. L 11 and 14. 672
- 439 Nellis, A. J., Pittsburg, Pa.—Harpoon horse hay-fork. Nellis' O. H. H. H. fork and patent method for mowing and stacking hay or straw. Will save the farmer its cost every season. Also manufacturers of agricultural steels, and Nellis' patent cotton-tie steel-tempered by Nellis' process to suit all kinds of soil. Samples free. Address A. J. Nellis & Co., Pittsburg, Pa. S 17. 672
- 440 Field & Carpenter, Port Chester, N. Y.—Self-discharging hay-rake. L 15. 672
- 440^a Ball, Samuel, Cogan's Station, Pa.—Grain-cradle. L 22. 672
- 440^b Strait, H., Troy, N. Y.—Potato-digger. O 26. 672
- 440^c Long, Alistatter, & Co., Hamilton, Ohio. L 14. 672
a Rake, knives, sickles, mower, etc. 672
b Fodder-cutter. 674
- 441 Clegg, Wood, & Co., Dayton, Ohio.—Self-discharging hay-rake. L 15. 672
- 442 Hills' Archimedean Lawn-Mower Co., Hartford, Conn.—Lawn-mowers. N 13. 672
- 443 Norton, James, Hightstown, N. J.—Potato-digger, and Rigg's patent gang-plow, for cultivating corn, cotton, potatoes, etc., manufactured by Wyckoff & McDonald, Hightstown, N. J. M 16. 672
- 444 Fisher, Henry, Canton, Ohio, U. S. A.—Patent prairie-mower knife-grinders, for sharpening harvester-knives; patent farm and plantation bells; patent ladles, hay-knives, harvester-knives, sections, etc. Illustrated descriptive circulars sent free upon application. T 24. 672
- 445 Gibbs & Sterrett Manufacturing Co., Corry, Pa.—Mower and attachments hay-conveyer. Q 17 and 18. 672
- 446 The Johnston Harvester Co., Brockport, N. Y.—Self-raking reaper, harvester, mower, and automatic grain-binder. O 20 and 21. 672
- 447 Pennock Manufacturing Co., Kennett Square, Pa.—Corn-sheller and hay-fork. Q 12. 672
- 448 Wright, James W., Minneapolis, Minn.—Grain-harvester and binder. N 22. 672
- 449 Superior Mower & Reaper Works, A. J. Sweeney & Son, Proprietors, Wheeling, W. Va.—Mowing-machine without cog-wheels or shafts; a worm-wheel or the axle drives a double-threaded steel screw, which directly operates the knife. P 16. 672
- 450 Bradley Manufacturing Co., Syracuse, N. Y.—Self-dumping hay-rake, mower, and self-raking harvester. Q 14. 672

Machines, Implements, and Processes of Manufacture.

- 451 Norwalk Lawn-Mower Co., Norwalk, Conn.—Lawn-mowers. M 14. 672
- 452 Chapman Binder Co., Rochester, Minn.—Reaper and binder. T 17. 672
- 453 Towanda Eureka Mower Co., Towanda, Pa.—Mower and reaper. Q 19. 672
- 454 Bartram Sewing-Machine Co., Danbury, Conn.—Revolving cutter lawn-mowers. M 14. 672
- 455 Perry, Stuart, Newport, N. Y.—Hay-tedder. M 15. 672
- 457 Hand, S. A., Philadelphia, Pa.—Lawn-mower. M 13. 672
- 458 Mayo, M. C., Boston, Mass.—Mowing-machine. T 19. 672
- 459 Nye, S. R., Winchendon, Mass.—Horse-rake. The peculiarities of the S. R. Nye and Improved Bay State Rake are: 1st. The peculiar shape of the teeth, those at each end being brought forward of those in the centre, which prevents the hay from scattering or roping out. This is particularly advantageous when working on a side, hill, or gleaning. 2d. Also the manner of holding each tooth in its proper position laterally by what is called the guide, which prevents them from flopping about. 3d. Each tooth is independent of all others, thereby enabling it to pass over an obstruction twenty inches high without in the least affecting the teeth next by the side of it. 4th. The dumping arrangement, whereby any boy or girl who can drive a horse can rake as well as a man, as it is dumped entirely by the power of the horse. 5th. This rake has been submitted to some of the best mechanical talent in the country, who have pronounced it, with these improvements, to be simple and durable, having the unqualified approbation of farmers everywhere. 4000 of these rakes will be manufactured for the harvest of 1876. L 15. 672
- 460 Treman, Valentine, & Green, Ithaca, N. Y.—Corn sheller and hoe. L 27. 672
- 461 Maule, James S., Lewisburg, Pa.—Mower and automatic reaper. S 17. 672
- 462 Ithaca Agricultural Works, Ithaca, N. Y.—Wheel-rake and attachments. N 15. 672
- 463 Holt, Hiram, & Co., East Wilton, Me.—Grass and bush scythes, hay-knives, etc. T 25. 672
- 464 Read, C. A., Bridgeport, Conn.—Lawn-mower. M 14. 672
- 465 Morgan, D. S., & Co., Brookport, N. Y.—Reaping and mowing machines. P 18. 672
- 466 Goodwin, William F., Stelton, N. J.—Mowing and reaping machine. Q 13. 672
- 467 Kenyon Brothers, Carbondale, Pa.—Potato-digger. M 15. 672
- 468 Mann, H. F., Pittsburg, Pa.—Harvesting and mowing machine. S and T 19. 672
- 469 Gammon & Deering, Chicago, Ill.—Harvester, automatic binder, wind-mill. No class of farm machinery has undergone so many valuable changes by way of improvements during the past forty-three years as the reapers, mowers, and harvesters. This reaper is protected by the patent secured by C. W. & W. W. Marsh in 1858, which saves the labor and annoyance of three men in binding the grain as it comes from the machine. In the Western and Middle States, where the grain is grown most extensively, the Marsh harvester is sold in great numbers. The Marsh harvester, which is popularly known in the West as the King of the Harvest Field, combines the essential features of simplicity, utility, durability, and lightness of draft. As it is the original of the harvester class, which has so completely revolutionized the trade in nearly all classes of these machines, it is but fair to say that the proprietors, who have made this machine such a wonderful success, have spared neither pains nor money in adding from year to year the many improvements so well known in its mechanism and general appearance. The Marsh harvester is a light machine, only weighing 800 pounds. It is made of the best material, all the timber used being seasoned at least three years, every part liable to breakage being especially well and carefully made. It cuts the grain clean, with little waste, takes up, down, and crinkled grain, and draws easily with two horses. The farmer who purchases a Marsh harvester is sure to get a thoroughly tried and popular machine. The Plano Gordon self-binding harvester and automatic wire-binder, which the inventors have been for several years in perfecting, is acknowledged by experienced mechanics a good and highly valuable addition. While the inventors do not claim for the automatic binder perfection, they do claim that the present one works very satisfactorily. A large number are in use in the West and Southwest; and from the numerous testimonials from farmers and local committees appointed to test their merits, there can be no question that the binder is very valuable and fast becoming in general use. The harvester, together with the automatic binder, is in all respects first class, as it works almost to perfection, binds the bundles tight, and does not leave the straw unbound upon the field. It reduces the labor of harvesting to the very minimum, shortens the time in completing the work, is in no way complicated, is not likely to get out of order, and one trial commends it to those desiring to purchase a first-class machine. It is labor-saving, manifestly popular, does clean, economical work, has been fully tested, embodies the improvements of many years, and its work will pay for it in a short time, reducing as it does the cost of harvesting to the farmer. O 20 and 21. 672
- 470 Handy Horse Hay-Fork Co., Conneautville, Pa.—Hand horse hay-fork. L 22. 652
- 471 Otis Brothers & Co., New York, N. Y.—Mowing-machine. The hay-maker is noiseless, light-draft, very strong, and of great cutting power. The knife is actuated by a new mechanical movement consisting of but two pieces. S 22. 672
- 472 Harrison Manufacturing Co., Lansing, Mich.—Rubber-lined knife-head for reapers and mowers. T 17. 672

For locations of objects, indicated by letter and figure, see Key to Notation, p. 6; ground plan, p. 10.

Machines, Implements, and Processes of Manufacture.

- 473 Champion Machine Co., Springfield, Ohio.—Reapers, mowers, rakers, and droppers. Q 15. 672
- 474 Hanes, John, Moorestown, N. J.—Corn-sheller. T 23. 672
- 475 Lewis, James H., Detroit, Mich.—Potato-digger. N 15. 672
- 476 Richardson Manufacturing Co., Worcester, Mass.—Combined mower and reaper, hay-tedder, etc. M 14. 672
- 478 Collyer, Robert H., Chicago, Ill.—Flax machinery. S 10. 672
- 479 Lee, James, jr., Stonersville, Berks Co., Pa.—Hay-tedder with or without rake. Merit: superior manner in which it turns the hay. L 15. 672
- 480 Westfall, D. B., Lyons, N. Y.—Potato-digger. L 16. 672
- 481 Gulick, Edwin, New Brunswick, N. J.—Safety-seat for harvesters and mowers. T 8. 672
- 483 Vermont Farm Machine Co., Bellows Falls, Vt.—Gleaner, horse, hay, and grain rake. K 15. 672
- 484 Dunn Edge Tool Co., West Water-ville, Me.—Scythes, axes, grass-hooks, hay, straw, and corn knives. R 24. 672
- 485 Riggs, M. B., Palmyra, N. Y.—Potato-digger. L 26. 672
- 486 Stevens, Ansel, Gorham, Maine.—Mower. T 21. 672
- 487 McMentry, John, Lexington, Ky.—Reaper and mower. P 17. 672
- 488 McPherson, D., Caledonia, N. Y.—Automatic grain-binder. R 17. 672
- 489 Patrons' Manufacturing Association, Indianapolis, Ind.—Direct draft mower. L 25. 672
- 490 Aultman, C., & Co., Canton, Ohio. Q and R 22. 672
- a "New" Buckeye mower. 672
- b Improved Buckeye mower. 672
- c Improved Buckeye mower and dropper. 672
- d Improved Buckeye mower and table-rake reaper. 673
- 491 Stratton & Cullum, Meadville, Pa.—Hay-loading machines. S 25. 673
- 492 Sandwich Manufacturing Co., Sandwich, Ill.

a Harvester. 672

b Self-feeding corn-sheller. 674

The Adams and French harvester differs from other riding and binding machines in not using canvas or belts, and cuts and elevates grain, wet, green, or dry. There are many good reasons why this harvester is considered by experienced mechanics and farmers to possess many excellences, which have been recently added in the various improvements, some of them being entirely new, giving it very decided advantages. First, it uses no canvas or belts; the vibrating rakes carry the grain uniformly, evenly, and with great accuracy. Second, the raking apparatus is peculiarly constructed, so that it cannot be affected by weeds or dampness; and this feature the farmer will recognize. Third, it has capacity for three binders when time presses; this capacity is of very great importance, as time is money, especially in the Western States, where this machine is mostly sold.

It is manufactured in Sandwich, Ill., and principally sold in Kansas, Nebraska, Illinois, Missouri, Iowa, and Oregon. The Adams patent self-feeding power corn-sheller, known as picker-wheel machine, is a strictly automatic corn-shelling machine. The corn is shelled from the cob in much the same way it would be done by hand, and without subjecting the ears to undue pressure, in consequence of which the cobs are not broken and mixed with the grain and the kernels are not cracked and ground. The annual product of corn is immense; and to properly and expeditiously prepare it for our market is a herculean task, but, aided by these thorough and cleaning shellers, the corn is rapidly made ready, and is in the best possible condition, the quality of the work being above just criticism. To this is added the adaptability of the machines to all qualities of corn, frosted, sound, or soft, and performing a great amount of work in a given time, with a given power, leaving the cob whole, suitable for fuel when needed, and the corn perfectly clean. The self-feeding is a saving of much labor and considerable expense, and commends the machine wherever introduced. The farmers' sheller is a compact little machine, but cannot take the place of the self-feeders being designed for individual use, avoiding the delays of making use of self-feeders, often owned by a number, who are compelled to wait one on another. S and T 20-21.

- 493 Rue, George W., Hamilton, Ohio. N 15. 670
- a Garden-cultivator. 670
- b Potato-digger. 672
- 494 Pritz, A., & Sons, Dayton, Ohio. S 16. 670
- a Grain-drill. 670
- b Field-roller. 671
- c Self-raking reaper and mower. 672
- The Centennial Dorsey self-raking reaper and mower, combined with controllable rake. A. Pritz & Sons, manufacturers, have added to this reaper a perfect controllable self-rake, and one that can be operated by the driver to rake off at will, or the sheaf can be held as long as desired.
- The "Centennial Dorsey" will be made with five rakes, either of which can be made to rake the sheaf or act as a reel, as the driver may see fit. The reaper, when left alone, will make one sheaf every revolution of the rakes, but the driver can instantly and very easily make any rake make a sheaf. In heavy grain a sheaf can be made of any size, from one to five sheaves in every sixteen feet of ground gone over, and in light grain the rakes can be held until the proper amount of grain may be on the platform. The Centennial Dorsey rake being under the control of the driver, any size sheaf can be made. This reaper is strong and durable; has no side draught; has the weight on the rakes and drive-wheel; is easily managed, being entirely automatic and under the control of the driver.
- 495 Harbert & Raymond, Philadelphia, Pa. P 10. 672
- a Mower and hay-rakes. 672
- b Threshing-machine and clover-mill. 673
- c Portable steam-engine, portable saw-mill, and hay-cutters. 674

● Machines, Implements, and Processes of Manufacture.

- 496 Burt, Hildreth, & Co., Harvard, Mass. N 14.
a Burt's Union horse-power. The pivots and axles are all hardened and durable. Large truck wheels, and runs easy and at low elevation. 672
 Lawn mower, recent invention. 672
b Rocking saw-table, pendulum-balanced, rapid and safe, for sawing cord-wood. Wood-splitter, cheap, simple, and efficient. 674
- 497 Cohu, A. B., New York, N. Y. P 28.
a Rake. 672
b Corn-sheller, stalk-cutter, hand-saw-mill. 674
c Churn. 675
- 498 Richardson, William H., Philadelphia, Pa.—Corn-husking machine, machine for cutting standing corn and husking. T 22. 673
- 499 Pitts, H. A., Sons, Manufacturing Co., Chicago, Ill.—Thresher, separator, and cleaner, horse-power. S 19. 673
- 500 New Era Manufacturing Co., Elmwood, Ill.—Grain-grader, grain-separator, smut ball extractor, scourer, and wheat-brush machine. R 23. 673
- 500*a* Hall's Self-Feeding Cotton-Gin Co., Sing Sing, N. Y.—Self-feeding cotton-gin and condenser. K 11. 673
- 500*b* Keller, Henry, Sank Centre, Minn.—Farm mills. T 25. 673
- 500*c* Kibler, N., Pittsfield, Ill.—Farm mills. M 25. 673
- 500*d* Freeman & Clark, Racine, Wis.—Farm mill; grain and seed separator. F 28. 673
- 500*e* Birdsell Manufacturing Co., South End, Ind.—Thresher, cleaner, huller, etc. L 18. 673
- 500*f* Ellis, Hoffman, & Co., Pottstown, Pa.—Endless chain horse-power thresher and cleaner. L 11-12. 673
- 500*g* Lidy, Geo. F., & Co., Waynesboro', Pa.—Fanning-mill, grain and seed separator. T 26. 673
- 501 Albion Coffee-Huller Co., New York, N. Y.—Coffee hulling, polishing, and separating machine. O 22. 673
- 502 Brayley, James, Buffalo, N. Y.—Threshing-machine and double pinion horse-power. T 7 and 8. 673
- 503 Shreiner, J. H., Mechanicsburg, Pa. T 26.
a Grain-drill and shovels. 671
b Grain-fan and seed-separator. 673
- 504 Case, J. I., & Co., Racine, Wis.—Threshing-machine. T 9. 673
- 505 Tubbs, Hoyt, Osceola, Pa.—Grain separator and cleaner, separator and fanning-mill. S 8. 673
- 505*a* Pierpont, Wm., Salem, N. J.—Threshing-machine with grain and seed separator. S 7. 673
- 505*b* Stone, Sarah M., & Porter, Samuel G., Lancaster, Pa.—Grain-fan. T 27. 673
- 505*c* Hulshizer & Larzelere, Doylestown, Pa. P 9.
a Horse-power, thresher and cleaner, thresher and shaker, cutting boxes. 673
b Corn-shellers. 674
- 505*d* New York Manufacturing Co., New York, N. Y.—Wine press. P 17. 673
- 506 Heebner & Sons, Lansdale, Pa.—Horse-powers, threshers, separators, and cleaners. O 7. 673
- 507 Cartrite, Barnard, Norwalk, Ohio.—Fanning-mill, box of grain and fixtures. T 28. 673
- 508 Kenosha Fanning-Mill Co., Kenosha, Wis.—Fanning-mill. S 28. 673
- 509 Miller, A. S., Republic, Ohio.—Fruit-ladder. T 23. 673
- 510 Fay, C. J., Camden, N. J.—Portable hay and cotton press. R 11. 673
- 511 Spence, L., Martin's Ferry, Ohio.—Thresher and cleaner, double cleaner, horse-power, etc. O 8. 673
- 512 Brown Cotton Gin Co., New London, Conn.—Cotton-gin with feeder and condenser; presses. P 21 and Q 12. 673
- 513 Nichols, Shepard, & Co., Battle Creek, Mich.—Grain-thresher, separator, and cleaner. R 7 and 8. 673
- 514 Kenyon, Silas R., Newark, N. J.—Corn-husking machine. S 26. 673
- 514*a* Hafner, John A., Pittsburg, Pa.—Threshing-machine gear and coil springs. K 12. 673
- 514*b* Cockle Separator Manufacturing Co., Milwaukee, Wis.—Separating machines. Q 11. 673
- 515 Hagerstown Steam Engine and Machine Co., Hagerstown, Md.—Grain threshing, separating, cleaning, and bagging machine. R 26. 673
- 516 Harder, Minard, Cobleskill, N. Y.—Railway horse-power, thresher and cleaner, model of railway horse-power. M and N 7. 673
 The two Grand Gold Medals were awarded Harders' two-horse power, and thresher and cleaner, at the great National Implement Trial, Auburn, N. Y., for "slow and easy movement of the horses, fifteen rods less than one and one-half miles' travel per hour; thorough and conscientious workmanship and material in every place; nothing slighted; mechanical execution of the very best kind," as shown by official report of Judges, distributed at column M 7, Agricultural Hall, International Exhibition.
- 517 New Hampshire State Centennial Board. E 20-21.
a Agricultural implements. 673
b Freezers. 674
- 518 Read, Calvin D., & Ellis D., Ayer, Mass.—Corn-sheller. N 22. 673
- 518*a* Wakeman, R., Port Deposit, Md.—Hay or cotton press. M 10 and 11. 673
- 518*b* Scattergood, H. V., Philadelphia, Pa.—Cotton-gin and feeder. L 14. 673
- 518*c* Basset, Nathan, Philadelphia, Pa.—Sifting-machines. T 23. 673
- 518*d* Brown Cotton-Gin Co., New London, Conn.—Cotton-gins. Q 12. 673
- 518*e* New York Cotton-Gin Co., New York, N. Y.—Hand-gin. S 7. 673
- 518*f* Cardwell, J. W., & Co., Richmond, Va.—Rice-thresher. K 7. 673
- 518*g* Jones, John A., Mt. Pleasant, Del.—Potato-assorter. L 27. 673
- 519 Sheeler, Buckwater, & Co., Royers Ford, Pa.—Horse-power and threshing-machine. K 10-11. 673
- 520 Kahnweiler, David, New York, N. Y.—Cotton-seed huller. S 11. 673

For locations of objects, indicated by letter and figure, see Key to Notation, p. 6; ground plan, p. 10

Machines, Implements, and Processes of Manufacture.

- 521 Judkins, Mark D., Osakio, Minn.—Self-sacking grain-separator. T 8. 673
- 522 Shields & Bro., Philadelphia, Pa.—Corn-huskers. B 24. 673
- 523 Westinghouse, G., & Co., Schenectady, N. Y.—Grain-threshing machine. T 25. 673
The exhibitor claims these advantages: a complete cylinder and concave, no loosening of teeth, unusual separating capacity, and perfect cleaning apparatus.
- 524 Pumphrey, W. F., Fairfield, Iowa.—Seed-mill and grain-separator. S 7. 673
- 525 Wood, O. K., & Co., West Chazy, N. Y.—Grain and seed separator and fanning-mill combined. T 23, wall. 673
- 526 Silver & Deming Manufacturing Co., Salem, Ohio. Q 23.
a Endless chain, two horse-power, for general purposes. 673
b Drag sawing-machine, feed-cutters, etc. 674
- 527 Gaar, Scott, & Co., Richmond, Ind. O 9.
a Grain thresher, separator, and cleaner. 673
b Portable farm-engine. 674
- 528 Mankey, Almond D., Washington, Mich. R and Q 9. 674
Mounted railway tread-power and circular wood-saw. Notable features of power, centre balance, elevation easily varied when running, wrought chain, no cogs, centre roller drive, motion controlled by governor, runs steady with belt off, least traverse wheels, remarkable durability, greatest power at given elevation, never removed from trucks. 674
- 529 Blymyer Manufacturing Co., Cincinnati, Ohio. M and N 8. 673
a Thresher and cleaner, corn-cob crushers, etc. 673
b Conc-mills, steam-engine, sugar-evaporator, etc. 674
- 529a Wagoner, Elijah, Westminster, Md.—Feed-cutter and masticator. S 7. 673
- 530 Evans & Baird, West Chester, Pa. T 7 and 8.
a Horse-railway power and thresher. 673
b Dairy churn and power. 675
- 531 Rankin Manufacturing Co., Allegheny, Pa.—Hand and power meat-choppers, sausage-stuffers, portable engine, etc. L 12. 674
- 532 Post, C. C., Burlington, Vt.—Implements for making maple sugar. C 24. 674
- 533 Slocum, W. H., & Bro., Philadelphia, Pa.—Apple-parer and corer, meat-cutter, raisin and currant cleaner. T 23. 674
- 533a Hughes, H. D., Radnor, Pa.—Flour barrel. A 22. 674
- 533b Evans, Wm. P., Malvern, Pa.—Wheat-feeder, oscillating engine, etc. J 25. 674
- 533c Mosher, A. J., Portland, Me.—Bag-holder. A 27. 674
- 533d Best, John, Lancaster, Pa.—Agricultural engines. K 8. 674
- 533e Branden Manufacturing Co., Brandon, Vt.—Howe scales. P 13. 674
- 533f Frederick, L. W., Hall, Ind.—Wagon. S 23. 674
- 533g Fairbanks & Ewing, 715 Chestnut st., Philadelphia, Pa.—Scales (manufacturers, E. and T. Fairbanks & Co., St. Johnsbury, Vermont), railroad track, weigh-lock, hay, coal, platform, and counter scales of all descriptions, fine gold and druggists' scales; also improved testing-machines for ascertaining the strength of metals, etc. Principal warehouses: Boston, New York, Philadelphia, Baltimore, New Orleans, San Francisco, St. Louis, Chicago, Louisville, Cincinnati, Cleveland, Buffalo, Pittsburg, Albany, Montreal, and London, England. L 24. 674
- 533h Day, S. A., & Co., Baltimore, Md.—Automatic incubator for hatching eggs. B 23. 674
- 533i Cooper, J. G., Scranton, Pa.—Wagon-spring brace. S 28. 674
- 533j Donner & Suhl, San Francisco, Cal.—Hay and stalk cutter. M 23. 674
- 533k Skinner & Wood, Erie, Pa.—Boiler and engine. K 8. 674
- 533l Chandier & Taylor, Indianapolis, Ind.—Farm-engine and saw-mill. R 11 and 12. 674
- 534 Boyer, Wm. L., & Bro., Philadelphia, Pa.—Farm grist-mills, railway horse-power, feed-cutter, lawn-mowers, saw-table, broom-winder. R 24. 674
- 535 Nittinger, A., jr., & Son, Philadelphia, Pa.—Butchers' machinery, tools, and supplies. T 24. 674
- 536 J. C. Hoadley Co., Lawrence, Mass.—Portable steam-engines. L 7. 674
- 537 Empire Portable Forge Co., Troy, N. Y.—Portable fan-blowing forges for farms. T 22. 674
- 537a Lee, E. S., & Co., Rochester, N. Y.—Tree pruner. Q and R 25. 674
- 537b West Grove Manufacturing Co., West Grove, Pa.—Liquid atomizer. N 10. 674
- 537c Wharry, John R., Moundsville, West Va.—Vegetable and fruit slicer. N 21. 674
- 538 Ross, John, Williamsburg, N. Y.—Grain-mills, paint and drug mills, etc. R 23. 674
- 539 Hotsenpiller & Co., Springfield, Ohio.—Hominy-mill. M 21. 674
- 540 Corbett, A., Hicksville, N. Y.—Poultry incubator. C 24. 674
- 540a Bergner, George, & Co., Washington, Ill.—Apple and peach parer, apple corer and slicer. R 28. 674
- 540b Smith, John M., & Sons, Philadelphia, Pa.—Cedar water-tank, Scotch mashing-machine, valve for brewers and malt-houses. M 12. 674
- 541 Vanderbilt, Henry S., Washington, D. C.—Lifting-jack. I 17. 674
- 541a Stoddart, J. C., Lockport, N. Y.—Steam calliope. (*East end of Main Transit.*) 674
- 542 Dederick, P. K., & Co., Albany, N. Y.—Hay and cotton presses, bale-tie machines, coal-tubs, dumping-car, brick and tile machine, etc. Q 10. 674

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Machines, Implements, and Processes of Manufacture.

- 544 Furst & Bradley Manufacturing Co., Chicago, Ill.—Plows, harrows, hay-rakes, etc. Breaking and old-ground plows, sulky or riding plows, gang-plows, corn-cultivators, sulky hay-rakes, etc. O 25. 674
- 545 Garst, David W., Washington, D. C.—Dried-beef chopper. S 23. 674
- 546 Munson Brothers, Utica, N. Y.—Wheat-flouring and corn-grinding portable mill, millstone eye, spindles, and oll-tight bush. R 24. 674
- 547 Conrad, E. C., Philadelphia, Pa.—Coffee-machine. D 25. 674
- 548 Sandusky Machine & Agricultural Works, Sandusky, Ohio.—Cylinder corn-sheller. M 16. 674
- 549 Lombard, Daniel, Boston, Mass.—Rice and coffee cleaning mortars, coffee-shelling machine. P 23. 674
- 550 Dickey, A. P., Racine, Wis.—Fanning-mills, for cleaning all kinds of grain, perfectly separating all foul substances; also grades the grain, putting best out at the side of the fan, and balance in front; also cleans and separates all kinds of seeds. Will pay for itself in one season's use. Send for catalogue and prices. T 27. 674
- 550^a Munsel & Dexter, Elizabeth, N. J.—Lifting-jack. I 28. 674
- 551 Toll, Chas. H., Schenectady, N. Y.—Brooms. H 15. 674
- 552 Mansfield Machine Works, Mansfield, Ohio.—Mounted portable steam-engine. P 8. 674
- 553 Mitchell, J. E., Philadelphia, Pa.—Farmers' grindstones, mounted, mower, knife-grinders, scythe and whetstones; grindstone of 1776. N 20. 674
- 554 Hazard, Thomas, Wilmington, Ohio.—Straw-cutters. O 22. 674
- 556 Bruner, M., jr., Fremont, Ohio.—Hay-press. R 11 and 12. 674
- 557 Bailey Wringing-Machine Co., 99 Chambers st., New York, N. Y., American meat and vegetable choppers, for use of families, hotels, and butchers. More than 60,000 now in use. S 24. 674
- 558 Bushfield, W. H., Jersey City, N. J.—Dried-beef cutter. S 23. 674
- 559 Whitmore, D. H., Worcester, Mass.—Apple parer and slicer, meat-cutter, etc. N 22. 674
- 560 Foster, Calvin A., Fitchburg, Mass.—Meat-chopper and apple-parer. S 23. 674
- 560^a Nevins, Wm., Titusville, Pa.—Combined machine for marking, ridging, planting, etc.; potato-digger. L 22. 674
- 561 Pierpont, C., & Co., New Haven, Conn.—Fodder-cutter. P 22. 674
- 562 Fitzhugh, J. R., Philadelphia, Pa.—Hay-elevator. P 19. 674
- 563 Hall's Self-feeding Cotton-Gin Co., New London, Conn.—Self-feeding cotton-gin. T 12. 674
- 564 Bates, Hyde, & Co., Bridgewater, Mass.—Power and hand cotton-gins. R 10. 674
- 566 Bradford, W. A., & Co., Chicago, Ill.—Cider-mill. T 13. 674
- 566^a Wakeman, R., Port Deposit, Md.—Power-press. Q 11. 674
- 566^b Emery, Horace L., Albany, N. Y.—Cotton-gin, lint-cleaner. Q 11. 674
- 566^c Wilson Brothers & Co., Harrisburg, Pa.—Fodder-cutter. O 22. 674
- 566^d Lee, George W., Homeworth, Ohio.—Fodder-cutter. T 25 and A 25. 674
- 566^e Ross, John, Williamsburgh, N. Y.—Flour-mills, farm-mills, paint-mills, and mixers. R 23. 674
- 566^f Esmond & Dunham, New York, N. Y.—Press and compress combined. S 24. 674
- 566^g Cousland & Cousland, Philadelphia, Pa.—Adjustable picks, with movable bits. M 26. 674
- 566^h Cooper, I. G., Scranton, Pa.—Hay and straw cutter. J 7. 674
- 566ⁱ Scharf, Louis, Philadelphia, Pa.—Combined water cooler and filter. F 19. 674
- 566^j Baugh & Sons, Philadelphia, Pa.—Mills for crushing and grinding bones, minerals, woods, etc. K 25. 674
- 567 Dernel, H. F., & Co., Athens, N. Y.—Tools for cutting and storing ice. N 24. 674
- 567^a Belcher & Taylor Agricultural Tool Co., Chicopee Falls, Mass.—Hay-cutters, vegetable-cutters, corn-sheller, and bag-holder. T 21. 674
- 567^b Skinner, E. W., Sioux City, Iowa.—Adjustable sugar-cane crusher. T 12. 674
- 567^c Deas, R. M. H., New York, N. Y.—Drinking-fountain. K 14. 674
- 567^d Purdy, Hiram, Burlington, Iowa.—Cyclone heater, car-door, odorating apparatus. I 28. 674
- 567^e Barrows, Savery, & Co., Philadelphia, Pa.—Steamer for cooking food. L 8. 674
- 567^f Aldrich, Isaiah, Philadelphia, Pa.—Can soldering and capping machine. M 24. 674
- 567^g Morse, Dudley, Norwich, N. Y.—Hay-fork and wagon-jack. H 23. 674
- 567^h Smith, J. G., Fauburg, Ill.—Boiler for cooking. C 24. 674
- 568 Chesley, Plumer, Chelsea, Mass.—Meat-chopper. R 24. 674
- 569 Hanck, S., & Bro., Lebanon, Pa.—Vegetable-cutters. M 22. 674
- 570 Longaker, Thomas F., Philadelphia, Pa.—Stable-hook. C 20. 674
- 571 Schenck, Marcus P., Fulton, N. Y.—Fruit-press, apple and horseradish grater. P 11. 674
- 572 Peabody, George H., Brooklyn, N. Y.—Rice huller and polisher. L 16. 674
- 573 Boomer & Boschert Press Co., Syracuse, N. Y. S and T 12.
^a Power cider-press (double platform), 200 tons capacity, sixty barrels in ten hours. Hand cider-press, power 125 tons. Wine-press, power 60 tons, Nos. 1, 2, and 3. Lard or tanning presses, power 80-120 and 200 tons. 673
^b Apple-grater. 674
 "For presses" for paper, cloth, etc., see Machinery Hall, E 39.

For locations of objects, indicated by letter and figure, see Key to Notation, p. 6; ground plan, p. 10.

Machines, Implements, and Processes of Manufacture.

- 574 Ross, E. W., & Co., Fulton, N. Y. P 22.
a Feed-cutter, straw-cutter for paper-mills. 674
b Crank paddle-churn. 673
- 575 Treat, J. A., Cleveland, Ohio.—L 12.
a Washing boiler, and automatic blind-governor. 674
b Factory churn. 675
- 576 Speakman, Miles, & Co., West Chester, Pa. M 13.
a Corn-sheller, insect-destroyer, pruning-shears, etc. 674
b Butter-worker and butter-printing table. 675
- 577 Pilling, Geo. P., Philadelphia, Pa.—Milking-tubes. M 12. 675
 Silver patent tubes for milking cows without using the hands. No stripping required, saving time and labor. Set of four sent postpaid on receipt of two dollars. Also, capon and veterinary instruments.
- 578 Packer, Charles W., Philadelphia, Pa.—Ice-cream freezers. O 12. 675
- 578*a* Simmons & Sons, Bloomington, Ill.—Ice-cream freezer. M 10. 675
- 578*b* Burkhardt, W. H., & Co., Philadelphia, Pa.—Tank and casks. H 24. 675
- 578*c* Olmstel, John W., Northport, N. Y.—Ice-cream freezer. M 10. 675
- 578*d* Weinhausen, H., New York, N. Y.—Cream gauges, grape-sugar test, wine-testing apparatus, and dairy fixtures. M 12. 675
- 578*e* Conner, W. H., Agnew Mills, Pa.—Churns. M 11. 675
- 579 Koehler, J. G., Philadelphia, Pa.—Cedar-ware, churns, measures, etc. M 10. 675
- 580 Clement & Dunbar, Philadelphia, Pa.—Cedar-ware, churns, and ice-cream freezers. O 11. 675
- 581 Blatchley, C. G., Philadelphia, Pa.—Horizontal ice-cream freezer, cucumber-wood pumps. O 11. 675
- 582 Carter, Henry C., New York, N. Y.—Butter-pail. M 10. 675
- 583 Markham, H. C. & D. C., Lyons Falls, N. Y.—Curd-sink. M 12. 675
- 584 Hollister, King, & Young, Factory Point, Vt.—Shipping boxes. M 12. 675
- 585 Moos, Joseph, Philadelphia, Pa.—Ice-cream refrigerator and ice-cream shipping-apparatus. O 12. 675
- 585*a* Fisher, J. H., Chicago, Ill.—Refrigerator. K 11. 675
- 586 Chick, W. H., & Co., St. Louis, Mo.—Churns, egg-beater, and ice-cream freezers. M 11. 675
- 587 Keen & Hagerty, Baltimore, Md.—Ice-cream freezers, cake-mixer, and egg-beater. O 10. 675
- 588 Emmert, William P., Freeport, Ill.—Butter-churns, tread-power, etc. M 12. 675
- 589 Elliget, James, Cleveland, Ohio.—Bottles, kegs, mugs, and pitchers. M 10. 675
- 590 Reid, A. H., Philadelphia, Pa.—Butter-worker. L 11. 675
- 591 Rogers, Francis P., Philadelphia, Pa.—Milk-cans, pans, buckets, strainers, butter-kettles, etc. L 11. 675
- 591*a* Anchor Manufacturing Co., Philadelphia, Pa.—Barrels and kegs. I 26. 675
- 591*b* Judge, Owen, Scranton, Pa.—Barrel-heads. J 28. 675
- 591*c* Dibble, Andrew J., Franklin, N. Y.—Churns, milk-pans. L 8. 675
- 591*d* Downs, W. H., East Newport, Maine.—Churns. L 11. 675
- 591*e* Hollister, King, & Young, Factory Point, N. Y.—Butter package. M 12. 675
- 591*f* White Mountain Freezer Co., Lancaster, N. H.—Ice-cream freezer, ice-crusher. M 4. 675
- 592 Ellsworth, John T., Barre, Mass.—Oscillating churn. M 11. 675
- 592*a* Finnegan, A. J., Minneapolis, Minn.—Butter-package. M 10. 675
- 592*b* Burkhardt, Geo. J., & Co., Philadelphia, Pa.—Cedar reservoir and dye-tub. M 17. 675
- 592*c* Le Valley, Darius A., Pawtucket, R. I.—Revolving milking-stool. K 17. 675
- 592*d* Bettle, Harbert, Philadelphia, Pa.—Ice cream can holder. L 12. 675
- 592*e* Seed, Frederick, Cincinnati, Ohio.—Churn. L 11. 675
- 593 Guernsey, Daniel, Watertown, N. Y.—Gilt-edge milk-pans and cooler. L 10. 675
- 594 Shaw, Philander, Scituate, Mass.—Butter-working machine, butter-mould, and stamp. M 12. 675
- 595 Cornish & Curtis, Fort Atkinson, Wis.—Rectangular churn and butter-worker; without floats or agitators of any kind; durable, and easy to work. Endorsed by prominent dairymen everywhere. M 11. 675
- 596 Murdock, Albert L., Boston, Mass.—Dairies of the different breeds of cattle. H 17. 675
- 597 Justice, L. B., Philadelphia, Pa.—Machine for making ice cream, water ices, frozen fruits, etc. O 10. 675
- 598 Porter Blanchard's Sons, Concord, N. H.—Churns. N 12. 675
 The celebrated "Blanchard Churn" has been proved and improved and approved for over a quarter of a century, and over a hundred thousand of them are now in successful operation. It is simple, durable, effective, and cheap. Send to the manufacturers for churns, agencies, or descriptive circulars. "Get the best."
- 599 Thompson, S. W., jr., Detroit, Mich.—Barrel-shooks. C 20. 675
- 600 Hardin, L. S., Louisville, Ky.—New method of setting milk for making butter. M 12. 675
- 601 Bartlerond, John W., Churchville, Pa.—Churn, butter-worker, and cream-regulator. M 11. 675
- 602 Smith, Hamilton E., New York, N. Y.—Iron enameled churns. K 11. 675

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Engineering and Administration.

Agricultural Engineering and Administration.

- 603 Ashley, H. A., Springfield, Ohio.—Ditching-machine. D 19. 680
- 603^a Bean, H. & B. F., Pawling, Pa.—Picket fence. D 24. 680
- 603^b Ripley, Theodore, Hallowell, Maine.—Shovel scraper. C 20. 680
- 604 Pressey, G. W., Hammonton, N. J.—Stump-puller and rock-lifter. C 17. 680
- 605 Murdock, John, & Son, Poseyville, Ind.—Wheat ricker. M 15. 680
- 606 Bowen, C. M., Maine Avenue, N. J.—Stump, grub, and rock extractor. D 17. 680
- 607 Randolph, Theodore F., Morristown, N. J. Ditcher and excavator. C 18. 680
- 608 Fay, C. J., Camden, N. J.—Stump and rock lifter. R 11. 680
- 609 Hall, S. W., Elmira, N. Y.—Fencing-machine, machine-made worm-fence, bracket, and wire fences. O 23. 680
- 610 Patterson, William, Salem, N. J.—Wrought-iron road-scraper. D 18. 680
- 611 Cotton, A. C., Vineland, N. J.—Stone and stump extractor. D 17. 680
- 612 Drake & Parmley, Painesville, Ohio.—Fence-post base. D 18. 680
- 613 Rhodes & Waters, Elyria, Ohio.—Post-hole digger. C 19. 680
- 614 Starbuck, Nathan, Wilmington, Ohio.—Mounted ditcher. C 17. 680
- 615 Thompson, Woodard, Gardiner, Me.—Self-loading and unloading hod-road scraper, model of scraper, and model of railway joint. C 19. 680
- 616 Leatherbarrows, John, Philadelphia, Pa.—Wrought-iron and wire fences. D 17. 680
- 617 Pioneer Iron Works, Brooklyn, N. Y.—Portable iron railroad and steam road-roller. D 22. 680
- 617^a Landis, Israel L., Lancaster, Pa.—Fence and gate models, step-ladder. B 22. 680
- 617^b Frey, Abram, Philadelphia, Pa.—Portable fence. B 23. 680
- 617^c Speakman, Thomas, Philadelphia, Pa.—Models of fences. B 23. 680
- 617^d Treat, J. A., Cleveland, Ohio.—Carriage gate. (*Outside of Agricultural Building.*) 680
- 618 Chicago Scraper and Ditcher Co., Chicago, Ill.—Scraper and ditcher for roadmaking, repairing, and excavating. C 20. 680
- 619 Potts, William W., Swedeland, Pa.—Iron-post portable fence. Simple, durable, economical, and storm-proof. Saves time and money. D 23. 680
- 620 Rumford Chemical Works, Providence, R. I.—Fertilizers, bone charcoal, etc. K 21. 681
- 621 Josiah J. Allen's Sons, Philadelphia, Pa.—Guano, bone, and other fertilizers. D 28. 681
- 621^a Fisher, W. A., Bryn Mawr, Pa.—Fertilizers. D 26. 681
- 622 Bradley Fertilizer Co., Boston, Mass.—Fertilizers. H 28. 681
- 622^a Jarvis & Hooper, Detroit, Mich.—Fertilizers. B 26. 681
- 623 Ward's Fertilizer Co., Boston, Mass.—Odorless fertilizers. D 28. 681
- 624 United States Fertilizing & Chemical Co., 104 Chestnut street, Philadelphia, Pa.—Phosphatic salts, bone, and fertilizers. Sole owners of Pratt's patent "acid grinding" process, by which the greatest percentage of available bone phosphate of lime is obtained. The "national soluble bone" manufactured under this process is guaranteed to contain not less than from 28 to 33 per cent. of available bone phosphate of lime. Also manufacturers of agricultural chemicals generally. C 28. 681
- 625 Baugh & Sons, Philadelphia, Pa.—Raw bone superphosphate, ground raw bones; nitrogen. C 28. 681
- 626 Matheys, Charles F., Philadelphia, Pa.—Nitro-phosphate and ground bone. E 26. 681
- 627 Ames, Manning & Ames, Hagerstown, Md.—Buffalo-bone meal for agricultural purposes. C 26. 681
- 628 Crocker, L. L., Buffalo, N. Y.—Fertilizers for grain, tobacco, cotton, etc., plant-food for plants and flowers. C 26. 681
- 629 Peck Brothers, Northfield, Conn.—Bone-dust. D 28. 681
- 630 Franklin Glue Works, Pittsburg, Pa.—Bone-dust, etc. K 20. 681
- 631 White, Geo. E., 159 Front Street, New York, N. Y.—Superphosphates, acid bone-black, raw materials for fertilizers, and agricultural chemicals. This house furnished all the fertilizers purchased by the Centennial Commission for its farms where the mowers and reapers are tested. D 28. 681
- 632 Swift & White, New York, N. Y.—Superphosphate of lime, ground bone, dried ground meat, and refined poudrette. C 25. 681
- 633 Pacific Guano Co., Boston, Mass.—Commercial fertilizers. A and B 28. 681
- 633^a Mapes, Charles V., New York, N. Y.—Guano, bone, phosphate, etc. E 28. 681
- 634 Lister Brothers, Newark, N. J.—Superphosphate of lime, guano, ground bone, bone charcoal, sulphate of ammonia, agricultural salts, and other fertilizers. C 25. 681
- 635 Tygert, J. E., & Co., Philadelphia, Pa.—Bone phosphate and ground bone. C 25. 681
- 636 Atkinson, Empson, Woodstown, N. J.—Machine for cutting and setting up corn, road-scraper. S 28. 681
- 637 Harrisburg Fertilizer Co., Harrisburg, Pa.—Flour of bone, ground bone, superphosphate, animal compost, and lubricators. B 25. 681
- 638 Walton, Whann, & Co., Wilmington, Del.—Artificial fertilizers, bone-meal, and ground bone. C 25. 681
- 639 Kyser, James, & Son, Cleveland Ohio.—Whiffletree, check, and neck-yoke fastenings. M 20. 682

For locations of objects, indicated by letter and figure, see Key to Notation, p. 6; ground plan, p. 10.

Agricultural Engineering and Administration.

- 640 Remington, E., & Sons, Ilion, N. Y.—Carriage gearing. P 20. 682
- 640^a Drown, W. A., Philadelphia, Pa. Umbrellas for wagons, carriages, and mowers. R 17. 682
- 640^b Tibbles, George N., Jersey City Heights, N. J.—Power or speed traction engines. C 17. 682
- 640^c Bradbury, Henry, Philadelphia, Pa.—Packing boxes. I 26. 682
- 641 Higganum Manufacturing Co., Higganum, Conn.—Trucks. L 25. 682
- 642 Allen, R. H., & Co., New York, N. Y.—Farm cart, water barrel, garden barrows, etc. Q and R 25. 682
- 642^a Tubular Barrow & Truck Co., Jersey City, N. J.—Barrow and trucks, coal-ing tubs. R 26-28. 682
- 642^b Fitch, Homer W., & Co., Lithgow, N. Y.—Hay-conveyer. M 25. 682
- 643 Mount, Joseph K., & Co., Hightstown, N. J.—Model hay-conveyer. C 24. 682
- 644 Beecher, C. T., Waterbury, Conn.—Whiffletree gear. N 22. 682
- 645 Cohu, A. B., New York, N. Y.—Wagon-jack. P 28. 682
- 646 State of Massachusetts, Boston, Mass.—Maps and plans of farm buildings. E and F 23. 683
- 646^a Jewett, Solomon W., Rutland, Vt.—Architectural models. D 24. 683
- 647 Osborne Manufacturing Co., New York, N. Y.—Bird and animal cages. D 25. 683
- 648 Bost, Caleb E., Davidson College, N. C.—Beehive. J 28. 683
- 648^a Goldsmith, Francis J., Painesville, Ohio.—Invertible troughs. B 22. 683
- 648^b Losee, Alfred, New York, N. Y.—Folding coop. C 19. 683
- 648^c Isham, Charles R., Peoria, N. Y.—Glass honey-boxes. A 27. 683
- 649 Gay & Bryant, Dresden, Ohio.—Post-hole digger. C 19. 683
- 650 Shields & Bro., Philadelphia, Pa.—Tanned hog's head, hog-rings and holders. B 24. 683
- 651 Collings, E. Z., Waterford, N. J.—Cranberry-plants growing, representing cranberry-bog. C 20. 683
- 652 Boyd, G., & Co., Philadelphia, Pa.—Fruit and grain-dryer. C 22. 683
- 653 Lockwood, James L., & Co., Stamford, Conn.—Portable fruit-drier. C 24. 683
- 654 Leonard, Henry, Basil, Ohio.—Revolving buckeye-ball on pedestal and college building. C 24. 683
- 655 Murphy, R. R., Fulton, Ill.—Honey extractor, for removing honey from the comb. C 24. 683
- 656 Gunther, G., New York, N. Y.—Brass, silver-plated, and japanned bird-cages. C 25. 683
- 656^a Halderman, Frank, Mahanoy City, Pa.—Bird cage. K 7. 683
- 657 Murphy & Broom, Philadelphia, Pa.—Bird-cages, wire garden-furniture, rustic work, etc. C 26. 683
- 658 Wimpfheimer, David, Philadelphia, Pa.—Automatic vinegar apparatus. D 23. 683
- 659 Harris, Milo, Jamestown, N. Y.—Domestic fruit-dryer, model of lumber-kiln and of coal-oil still. D 23. 683
- 660 Ryder, B. L., Chambersburg, Pa.—American drier or pneumatic evaporator. D 24. 683
- 661 Tiffany, O. F., San Francisco, Cal.—Fruit-dryer. C 21. 683
- 661^a Jones Fruit Evaporating Co., Chicago, Ill.—Pneumatic evaporator. C 23. 683
- 661^b Ellsbury & Hayward, Winona, Minn.—Minnesota fruit and illustrations. C 24. 683
- 661^c Cowder & Jones, Norristown, Pa.—Wind-mill with water-wheel. (*Outside of building.*) C 21. 683
- 661^d Chapman, Frank W., Morrison, Ill.—Honey-extractor. A 27. 683
- 661^e Millett, D. Caldwell, Holmesburg, Pa.—Hive and bees. C 25. 683
- 661^f Reynolds, A. J., & Co., Washington, D. C.—Fruit-evaporators. C 22. 683
- 661^g Chapman, John Winslow, Hyannis, Mass.—Barrel-heading, etc. A 22. 683
- 661^h Bradford, H., Philadelphia, Pa.—Cotton-bale ties. H 17. 683
- 661ⁱ Bouscaven, G., Cincinnati, Ohio.—Model of apparatus to extract saccharine juices of plants by diffusion. T 22. 683
- 661^j Deitz, George A., Chico Cal.—California fruit-dryer. C 18. 683
- 661^k Ellis, Charles R., New York, N. Y.—Glass and marble tank. A 20. 683
- 662 Lindermann, O., & Co., New York, N. Y.—Bird and animal cages. D 25. 683
- 663 Williams, John, South Haven, Mich.—Model of evaporator. D 24. 683
- 664 Goodrich, C. C. & F. W., Portland, Conn.—Tobacco-hook with wilting-frame and builders' horse. Harvest your tobacco without laying it on the ground. D 25. 683
- 665 Kappe, W. J. H., Quincy, Ill.—Transportation coop for live poultry. D 25. 683
- 666 Hendryx & Bartholomew, Ansonia, Conn.—Bird cages and trimmings. D 25. 683
- 667 Conrad, E. C., Philadelphia, Pa.—Bird cage. D 25. 683
- 668 O'Neill, Wm. C., & Co., Philadelphia, Pa.—Kegs and barrels made with single staves. F 28. 683
- 669 Elphee, Edmund, Montezuma, N. Y.—Grain-seed wreath-picture, representing the harvest of 1875. H 15. 683
- 669^a Scantlin, Thos., & Sons, Evansville, Ind.—Sugar-evaporator, self-measuring oil-tank. C 23. 683
- 669^b Kennard, Amos, Clearfield, Pa.—Cant-hook for rolling logs in saw-mill. M 14. 683
- 670 Foot, Scovill D., New York, N. Y.—Portable fruit-preserver. I 23. 683
- 671 Vermont Farm-Machine Co., Bel-lows Falls, Vt.—Sugar-evaporator, and fixtures for making sugar. K 15. 683

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Engineering, Administration, Management.

- 672 Wood, Robert, & Co., 1136 Ridge avenue, Philadelphia, Pa.—Ornamental iron and bronze works. Fountains, vases, verandas, stairs, lampposts, improved stable-fittings and furniture, wire-work of every description, wrought and cast iron railings. Also "statuary bronzes"—colossal, heroic, or life-size—in the highest style of art. L 10. 683
- 673 Shaw, Philander, Scituate, Mass.—Beehive, with comb and hive of bees. M 12. 683
- 674 Dana, C. H., West Lebanon, N. H.—Automatic label-machine, labels, punches, and registers for marking live-stock. N 12. 683
This machine is simple in its construction. With it labels of any description can be made with great rapidity for attaching to the animal's ear.
Four thousand labels can be made per hour. They are made of iron-wire rolled flat and washed with tin, and stamped with numbers from one to one thousand, and with any name ordered. Mr. Dana is offering the label machine for foreign countries, and good-will of business.
- 674^a Rose, W. L., Wadesboro', N. C.—Iron cotton-tie. D 24. 683
- 674^b Worrall, E. Penn, West Chester, Pa.—Beehive, showing bees at work. B 19. 683
- 674^c Jackson, James L., New York, N. Y.—Stable fixtures. T 10 and 11. 683
- 675 Deardorff, Isaac N., Canal Dover, Ohio.—Smoke-house stove. It saves fuel, increases volume of smoke, with easy regulation of production and distribution. Removes all danger from fire. N 21. 683
- 676 Betts, Albert C., Troy, N. Y.—Machine for making wire fencing, w. samples. P 23. 683
- 677 U. S. Wind-Engine & Pump Co., Batavia, Ill.—Windmills for pumping water, etc. Q 23. 683
- 678 State of Michigan.—Soils. H and I 20 to 21. 690
- 678^a State of New Jersey.—Soils, sub-soils, greensand marls, calcareous marls, mineral phosphates, fish guano, cancerine, lime, superphosphates, etc. E 17-18. 690
- 678^b Rider, A. J., Atsion, N. J.—Cranberry bog and basket with cranberries. F 26. 690
- Tillage and General Management.**
- 679 Hirner, C. G., Allentown, Pa.—Farmers' Union Cattle-Powder, an artificial food for fattening stock and to increase the quantity and quality of milk and butter. B 28. 692
- 679^a Rynal, P. H., Jackson, Mich.—Horse and cattle food. R 27. 692
- 680 Phillips, J. B., Philadelphia, Pa.—Devices for training and educating horses. B 26. 692
- 680^a May, David T., & Co., New York, N. Y.—Artificial leg of horse, with perforated stocking. B 21. 692
- 681 Miller, Frederick A., Philadelphia, Pa.—Condition powder for live-stock. B 26. 692
- 682 Hoepfner, Martin, 311 Columbia av., Philadelphia, Pa.—Prepared food for cage-birds. Natural food for mocking-birds, thrushes, blackbirds, nightingales, robins, starlings, skylarks, and all soft-billed birds. B 28. 692
- 683 Greenough, J. J., Syracuse, N. Y.—Machine for cleaning animals. B 22. 692
- 684 Long, J. C., jr., Philadelphia, Pa.—Prepared food for mocking-birds; grains and seeds for birds, pigeons, and poultry; bird invigorator; drinking fountains, etc. B 26. 692
- 685 Kirk, Charles H., & Co., Philadelphia, Pa.—Prepared food for horses and cattle. B 26. 695
- 686 Ausable Horse Nail Co., New York, N. Y.—Horseshoe nails. B 24. 693
- 687 Caryl, A. H., & Son, Forge Village, Mass.—Horseshoe nails pointed and finished, also not pointed. These nails are made by hammers from hot rods, and of the best Norway iron. B 24. 693
- 688 Burden, H., & Sons, Troy, N. Y.—Working model of horseshoe machine, samples of horse-shoes, boiler rivets, and merchant iron. A 23. 693
- 689 Tallman, G. W., New York, N. Y.—Elastic hose stocking. B 23. 693
- 690 American Shearer Manufacturing Co., Nashua, N. H.—Shearing and clipping machines. B 22. 693
- 691 Putnam, S. S., & Co., Newport, Mass.—"Government standard" forged and hammer-pointed horseshoe nails. These nails are made from the best Norway iron, are drawn out under hammers when nearly at a welding heat, whereby they are enabled to produce a nail that is tough and stiff, and perfectly reliable in all respects, ready for the blacksmith to drive. B 24. 693
- 692 Lhernault, Auguste, New York, N. Y.—Machine for clipping horses. B 21. 693
- 692^a Russell, William, Cincinnati, Ohio.—Hand and machine made horseshoes, etc. B 23. 693
- 692^b Hull, Theodore, Newark, N. J.—Horseshoes. B 24. 693
- 692^c Davis, H. S., Camden, N. J.—Horseshoes. B 24. 693
- 692^d New Hampshire State Centennial Board.—Agricultural literature. E 20-21. 693
- 692^e Campbell, C. A. J., Philadelphia, Pa.—American trotting-horse shoes. B 23. 693
- 692^f Baker, Joseph P., Melrose, Mass.—Horseshoes, etc. B 24. 693
- 693 Smith, Aaron W., Manchester, N. H.—Jointed horseshoes. B 24. 693
- 694 Atkins, J. L., Nashville, Tenn.—Horseshoes and plates. B 24. 693
- 695 Rhode Island Horseshoe Co., Providence, R. I.—Machine-hammered horseshoes. B 23. 693
- 696 Ward, Henry A., Rochester, N. Y.—Stuffed Bactrian camel and Shetland pony. K 26 and 27. 693
- 697 Gadsden, John W., Philadelphia, Pa.—Veterinary anatomical specimens. A 28. 693

For locations of objects, indicated by letter and figure, see Key to Notation, p. 6; ground plan, p. 10.

Veterinary Appliances.

- 698 National Horse Nail Co., Vergennes, Vt.—Horseshoe nails. R 24. 693
- 699 Gornes, John M., St. Louis, Mo.—Horseshoes. B 24. 693
- 700 Carroll, William, Philadelphia, Pa.—Horseshoes. B 24. 693
- 701 Day, Austin G., Seymour, Conn.—H 27-28.
- a Vulcanized bituminous concrete paving-blocks. 103
- b Kerite manufactured articles; hard-rubber goods. 285
- 701a McElroy & Co., Philadelphia, Pa.—Clay pipes. H and I 25. 254
- 701b Ashbourne & Co., Philadelphia, Pa.
- a Coconut-cream oil and soap. 201
- b Ink from cocconut shell. 202
- c Coconut tooth-powder, cosmetic. 203
- 702 Tower, L. C., Chester, Pa.—Thermometers. A 16. 320
- 703 Collison, H. C., Dover, Del.—Syrup drip for measuring-vessels. S 25. 320
- 704 Wheelock, Jerome, Worcester, Mass.—High-pressure steam engine. *Engine house*, T 16. 552
- 705 Neafie & Levy, Philadelphia, Pa.—High-pressure engine. Engine rooms, T 13. 552

- 705a Canby, George, & Co., Philadelphia, Pa.—Pumps for supplying aquariums with water. A 24. 560
- 705b Knowlton, E. J., Ann Arbor, Mich.—Bathing apparatus. K 7. 594
- 706 Protective Fire Apparatus Co., New York, N. Y.—Apparatus for extinguishing fires. (*South side of Agricultural Hall.*) 594
- Agricultural Hall is protected by this apparatus.*
- The Protective Fire Apparatus consists of four systems:
- System 1. Injecting into burning buildings or compartments of vessels pure carbonic acid gas.
- System 2. Impregnating water with carbonic acid gas as it flows through the main water-pipe or fire-plugs, thereby throwing through the hose upon the fire a continuous stream of carbonic acid gas.
- System 3. Throwing by hose-attachment impregnated water from the apparatus itself.
- System 4. Injecting beneath the surface of oil or fluids carbonic acid gas.
- All for the purpose of extinguishing fire.
- 706a Murtfeldt, Miss, Kirkwood, Mo.—Botanical specimens of Missouri. I 22. 709
- 707 Janes & Kirtland, New York, N. Y.—Ornamental fountain. (*Intersection of nave and main transept.*) 722

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

GREAT BRITAIN.

(South of South Transept, east of Nave.)

Agricultural, Animal, and Vegetable Products.

Arboriculture and Forest Products.

- 1 Nicoll, Donald, London.—Starch and compounds rendering fabrics and timber unflammable; carbon combined with caoutchouc, for the preservation of wood and iron. 600

Agricultural Products.

- 2 Delf, W., Colchester.—Wheat. 620
3 Field, W., Liverpool.—Oats. 620

Animal and Vegetable Products.

- 5 Chapman, Edwin, & Co., London.—Koumiss, a beverage prepared from cow's milk; koumiss extract, for converting milk into koumiss. 651
6 Evans & Stafford, Leicester.—Stilton cheese. 651
7 Hooker, J., London.—A large tin of milk which has been exposed to the air for five years; also desiccated milk, condensed milk, and other preparations made with milk. 651
9 Green, John, London.—Gelatine for cigar-boxes, printers, engravers, and artificial-flower makers. 652
14 Lovey, Edward, Ponsnooth, Cornwall.—Beehives, with samples of honey and wax. 654
15 Schneider, Edward Albert, London.—Liquid essence of beef. 656
16 Nicoll, Donald, London.—Tea and coffee combined with milk and sugar, contained in soluble capsules for distribution in single cups; aerated beverages in vessels to allow rapid distribution in single draughts; preserved food. 656
17 Geyelin & Co., London.—Concentrated animal and vegetable food. 656
18 Goodall, Backhouse, & Co., Leeds.
a Yorkshire relish sauce. 656
b Orange quinine wine. 660
19 Keen, Robinson, Bellville, & Co., London.—Preparations from mustard, barley, oats, etc. 656
20 Pratt, James, London.—Sauce. 656
21 Smith, T. & H., & Co., Edinburgh.
a Essences of coffee and coffee with chicory. 656
b Aerated waters. 660
c Chemical products. 200
d Flavoring extracts. 203
22 Jaap, J., Glasgow.—Curry powders. 656
23 Menier, Emile, London.—Chocolates and cocoas. 656
23a Yuille, Andrew, Glasgow.
a Essences of coffee and chocolate, coffee and milk, condensed milk. 656
b Vinegar. 660
23b Mellin, Gustav, London.—Non-farinaceous food for infants and invalids. 656
25 Mackay, John, Edinburgh.—Fluid flavoring quintessences and articles of diet for table use. 656
26 Ledger, H., & Co., London.—Pure extract of meat. 656
27 Ball, James, London.—Sauce. 656
28 Lea & Perrins, Worcester.—Sauce. 656
37 Crosse & Blackwell, London.—Pickles, sauces, vinegars, jams, jellies, marmalades; potted and preserved meats; preserved fruits, soups, and fish; oils for salads, etc.; preserved provisions, sausages, vegetables, etc. 656
38 Field, W., Liverpool.—Oatmeal. 657
38a Richards & Co., London.—Self-raising flour. 657
39 Hunter, John, & Son, Woodhall Mills, Juniper Green, near Edinburgh.—Oatmeal and pot barley. 657
40 Plunkett, John, & Co., Portland Works, Dublin.—Malt for brewing and distilling, and roasted malt for coloring and flavoring porter and ale. 657
41 McCann, John, Beaumont Mills, Drogheda.—Oatmeal and groats. 657
42 Maw, Thomas, Leeds.—
a Pickles and sauces. 656
b Syrups. 659
c Vinegar. 660
d Lozenges, baking powder. 661
42a Campbell, Thomas, Allentown, Pa.—Malt and whisky. 660
42b Haig, J., & Co., Scotland.—Whisky. 660
43 Corry, William, & Co., Belfast, Ireland.
a Aerated waters from Cromac Springs, Belfast. 660
b Non-metallic valves, plungers, connections, taps, and cylinder-linings. 595
44 Burke, Edward & John, Dublin.—English ales, Dublin stout, Irish and Scotch whiskies. 660
44a Grant, Thomas, The Distillery, Maidstone.—Cherry brandy. 660
44b Cork Distillery Co., Cork.—Whisky. 660
45 Wright, Herbert, & Co., Diamond Brewery, Dover.—Pale ale and stout. 660
46 Ind, Coope, & Co., Burton-on-Trent, Staffordshire.—Ale. 660
46a Inman Brothers, Huddersfield, Yorkshire.—Aerated waters. 660
46b Bewley & Draper, Dublin.—Aerated waters. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Machines, Implements, Engineering, and Administration.

- 47 Bindley & Co., Burton-on-Trent.—Ales. 660
- 47^a Tennent, J. & R., Glasgow.—Bottled ales. 660
- 48 Mott & Co., Leicester.—Cowslip wine. 660
- 49 Muir, Jas., & Son, Calton Hill Brewery, Edinburgh.—Ales. 660
- 49^a Cantrell & Cochrane, Dublin.—Ginger ale, aerated beverages, etc. 660
- 50 Johnson & Co., Canterbury.—Pale ale. 660
- 50^a Murree Brewery Co., Punjab, East India.—Bottled ales. 660
- 51 Pendock Brothers, Bristol.—Cider and perry. 660
- 52 Richardson, Earp, & Slater.—Trent and Northgate Brewery, Newark-upon-Trent.—Ale. 660
- 53 Stevens, Thomas, Wrexham, North Wales.—Ornamental confectionery, birthday and christening cake, meringues, medallions, ornamental sugar-stand; rich cake. 661
- 53^a Fry, Joseph Storrs, & Sons, Bristol.—Chocolate and cocoa, and specimens illustrative of the process of manufacture. 661
- 54 Gissing, Anthony S., & Sons, Eye, Suffolk.—Fancy biscuits, baking powder. 661
- 54^a Allen, Frederick, & Sons, London.—Confectionery and medicated confectionery. 661
- 54^b Smith, Thomas, & Co., London.—Wedding-cakes, ornaments, novelties for parties. 661
- Textile Substances of Vegetable or Animal Origin.**
- 56 The Mill Hill Wool and Rag Extracting Co. (limited), Mill Hill Works, Huddersfield.—Wools made from old rags, etc. 667
- 57 Bowes, John L., & Bro., Liverpool.—Raw materials used in the woollen and worsted trade. 667
- 58 Smith, David, & Co. (limited), Kensington Works, Halifax, Yorkshire.—Cleaned wools and wools extracted from waste products. 667
- Machines, Implements, and Processes of Manufacture.**
- 60 Wills, Arthur Winkler, Park Mills, Birmingham.—Hoes, axes, etc. 670
- 62 Fison, J. P., Teversham Works, Cambridge.—Agricultural machinery: vertical steam engine and boiler, chaff cutter, centrifugal pump, steam threshing-machine and chain harrow, models of portable steam engine, movable hut, centrifugal pump, and furrow plows. 670
- 63 Fussell, James, Sons, & Co., Mell's Iron Works, near Frome, Somersetshire.—Edge tools used in agriculture. 670
- 64 Wilkinson, William, & Sons, Spring Works, Sheffield.—Sheep and garden shears. 672
- 64^a Greening, N., & Sons, Warrington.—Woven wire for rice, flour, and other mills. 673
- 64^b Brown, J. B., & Co., London.—Galvanized wire netting, etc. 673
- 66 Lloyd, T., & Sons, London.—Flour mills, dressing machines, grinding mill, and coffee mills. 673
- 66^a Cheavin, G., Boston, Lincolnshire.—Filters. 673
- 66^b Barnard, Bishop, & Barnards, Norwich.—Galvanized wire netting. 673
- 66^c Needham & Kite, London.—Filter press for clarifying liquids. 673
- 67 Crook, Graham, & Co., Halifax.—Boilers. 674
- 67^a Kay & Hilton, Liverpool.—French burr millstones for wheat grinding. 674
- 68 Clark & Dunham, London.
^a Mill stones and lubricators. 674
^b Chronometers for measuring and weighing grain. 322
- 68^a Wellock, J., & Co., Bradford.—Waterproof material for cart and wagon covers. 682
- 69 Aveling & Porter, Rochester, Kent.—Agricultural locomotive engine, locomotive crane engine, steam road roller wagons for road locomotive engines. 682
- 70 Neighbour, G., & Sons, London.—Beehives and bee furniture. 683
- 71 Barnard, Bishop, & Barnards, Norwich.—Stable fittings. 683
- 72 Lovey, Edward, Cornwall.—Beehives. 683
- 73 Colthurst, Symons, & Co., Bridge-water.—Scouring bricks. 106
- 74 Star Plate Universal Polishing Powder Co., London.—Polishing powder. 106
- 75 Jaap, J., Glasgow.—Artificial yeast. 200
- 76 Higgin, T., & Co., Northwich.—Salt. 200
- 77 Harper, Twelvetras, & Co., London.—Soap powder. 201
- 78 Rawlins & Son, Prescot.—Ultra-marine, smalts, etc. 202
- 79 Eastwood & Co., London.—Red terra cotta chimney shafts. 206
- 80 Phillips, J., & Co., Devonshire.—Terra cotta bricks and drain pipes. 206
- 81 Johnson & Co., Sussex.—Terra cotta. 206
- 82 Edwards, J., & Son, Burslem.—Ironstone white ware and fancy decorated goods. 210
- 83 Edwards, J., Fenton.—Porcelain and ironstone china. 213

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

NEW ZEALAND.

(East Aisle, Columns 1 to 5.)

Agricultural Products, Textile Substances.

Agricultural Products.

- | | | |
|---|--|-----|
| 1 | Banks, E. H., Christchurch.—Oats and other cereals. | 620 |
| 2 | Wood, W. D., Christchurch.—Wheat. | 620 |
| 3 | Cunningham, P., & Co., Christchurch.—Wheat grown in Canterbury. | 620 |
| 4 | Ruddenklan, J. G., Addington, Canterbury.—Wheat. | 620 |
| 5 | Wilkins, Robert, Christchurch.—Perennial rye grass and cocksfoot seed. | 624 |

Textile Substances of Vegetable or Animal Origin.

- | | | |
|---|--|-----|
| 6 | Peter, W. S., Anama, Ashburton, Canterbury.—Merino wool. | 667 |
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|---|---|-----|
| 7 | Bealey, Samuel, Canterbury.—Merino and Romney Marsh wool. | 667 |
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| 8 | Rutherford, A. W., Amuri, Nelson.—Merino wool. | 667 |
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| 9 | Anstey, G. A., Amuri, Nelson.—Merino wool. | 667 |
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| 10 | Wason, J. Cathcart, South Rakai, Canterbury.—Wools. | 667 |
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| 11 | Hall, John, Hororata, Canterbury.—Merino wool. | 667 |
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| 12 | Rickman, F. M., Rangiora, Canterbury.—Romney Marsh wool. | 667 |
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|----|---|-----|
| 13 | Braithwaite, Arthur, Hutt, Wellington.—Romney Marsh wool. | 667 |
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NEW SOUTH WALES.

(East Aisle, Columns 1 to 5.)

Animal and Vegetable Products.

Animal and Vegetable Products.

- | | | |
|---|---|-----|
| 1 | Fallon, James T., Albury.—Wines. | 660 |
| 2 | Munro, A., Bebeah, Singleton.—Wines. | 660 |
| 3 | Carmichael, G. L. & J. B., Porphyry, Williams River.—Wines. | 660 |
| 4 | Brecht, Carl J. P., Rosemount, Denman.—Wines. | 660 |

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| 5 | Powell, Edward, Richmond.—Wines. | 660 |
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|---|--|-----|
| 6 | Parnell, Montague, West Maitland, Hunter River.—Wines. | 660 |
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| 7 | Wyndham, Wadham, Bukkulla, Inverell.—Wines. | 660 |
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|---|---|-----|
| 8 | Wyndham, George, Branxton, Hunter River.—Wines. | 660 |
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|---|--|-----|
| 9 | Doyle, J. F., Kaludah, Lochinvar.—Wines. | 660 |
|---|--|-----|

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

SOUTH AUSTRALIA.

(East Aisle, Columns 1 to 5.)

Machines, Implements, and Accessories of Manufacture.

Machines, Implements, and Accessories of Manufacture.

- | | |
|--|--|
| <p>1 South Australian Commissioners, Adelaide.—Reaping Machine. 672</p> <p>2 South Australian Commissioners, Adelaide.—Castings from South Australian iron ores. 111</p> | <p>3 Saunders, Robert, Manager of the Burra Burra Copper Mine, near Adelaide.—Model of improved ore dresser. 503</p> <p>4 Hancock, H. R., Moonta Copper Mines, near Adelaide.—Jigging machine. 503</p> |
|--|--|

CAPE OF GOOD HOPE.

(South of South Transept, east of Nave.)

Agricultural, Animal, and Vegetable Products, Textile Substances.

Agricultural Products.

- 1 Letterstedt & Co., Cape Town.—Wheat. 620
- 2 Clear, E., Cape Town.—Wheat. 620

Animal and Vegetable Products.

- 3 Dier & Dietz, Port Elizabeth.—Skins. 652
- 4 Barry, Arnold, & Co., Cape Town.—Wheat flour. 657

Textile Substances of Vegetable or Animal Origin.

- 5 Grewar, John W., Uitenhage.—Scoured wool. 667

- 6 Priest, W., Graff Reinnet.—Fleece wool. 667
- 7 Rubidge, C., Graff Reinnet.—Grease wool. 667
- 8 Stewart, A. C., & Co., Port Elizabeth.
a Grease and scoured wool. 667
b Angora hair. 669
- 9 Court, P. W., Port Elizabeth.—“Fidus,” snow-white, and grease wool. 667
- 10 Barry & Nephews, Cape Town.—Washed and scoured wool. 667
- 11 Barry, Arnold, & Co., Cape Town.—Washed and grease wool. 667
- 12 Dier & Dietz, Port Elizabeth.—Wool. 667
- 13 Barry & Nephews, Mossel Bay.—Aloes. 273

JAMAICA.

(South of South Transept, east of Nave.)

Pomology.

Pomology.

- 1 Thompson, Robert, Jamaica.—A succession of fruit by each steamer during the season, including oranges, limes, lemons,

citrons, shaddocks, forbidden fruit, ripleys pines, sugar-loaf pines, black pines, bananas, mangoes, yams, coconuts, breadfruit, etc. 630

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

CANADA.

(East Aisle, Columns 4 to 7.)

Pomology, Agricultural Products, Land and Water Animals.

Arboriculture and Forest Products.

- 1 Munro, D. R., St. Johns, N. B., Canada.—Collection of forest woods, shrubs, etc., evergreen and deciduous, indigenous to the province of New Brunswick, used for shipbuilding, constructional, cabinet, and ornamental purposes, polished, etc. Sixty-seven specimens, accompanied with foliage and cone, interesting and instructive to the student of nature. Collected and prepared by D. R. Munro. 600
- 2 Alder, M., Victoria, B. C.—Charcoal. 600
- 3 Miller, J. & J., New Mills, Restigouche, N. B.—Extract of hemlock bark. 602

Pomology.

- 9 Fisher, M., Victoria, B. C.—Cranberries. 610
- 10 Loggie, A., & Co., New Westminster, B. C.—Cranberries. 610

Agricultural Products.

- 11 Rennie, Wm., Toronto, Ont.
a Grains. 62c
b Seeds. 624
- 12 Murton, H., Guelph, Ont.—Oatmeal. 620
- 13 Wilson, Jas., Fergus, Ont.—Oatmeal. 620
- 14 Martin & Sons, Mount Forrest, Ont.—Oatmeal. 620
- 15 Aspden & Pritchard, London, Ont.—Oatmeal and oats. 620
- 16 Scott & Co., Highgate, Ont.—Oatmeal. 620
- 17 McKay, Thomas, & Co., Ottawa, Ont.—Oatmeal. 620
- * 8 Corn Exchange Association, Toronto, Ont.—Grain and oatmeal. 620
- 19 Weatherston, N., & Co., Toronto, Ont.—Grain. 620
- 20 Charlesworth, M., & Son, Egmondville, Ont.—Bran and shorts. 620
- 21 Morton, Geo., & Son, Kipton, Ont.—Malt. 620
- 22 Osborne, Wm., Hamilton, Ont.—Malt. 620
- 23 Slater, R. P., Galt, Ont.—Malt. 620
- 24 Northwood, Howard, Chatham, Ont.—Malt. 620
- 25 Kerr, J. R., Victoria, B. C.—Grass, oats, and wheat. 620
- 26 Tolmie, Dr., Victoria, B. C.—Wheat in the stalk. 620
- 27 Boyd, J., Victoria, B. C.—Grass and cereals. 620
- 28 Council of Agriculture, Montreal, Quebec.—Cereals. 620

- 29 Brodie & Harvey, Montreal, Quebec.—Corn, oatmeal, and buckwheat. 620
- 30 Advisory Board of P. E. Island, Charlottetown.—Cereals. 620
- 31 Canadian Commission.
a Corn-wheat grown by Indians of British Columbia, and cereals from Manitoba. 620
b Indian or wild tea and wild hops from Manitoba. 623
- 32 Advisory Board of Nova Scotia.
a Cereals. 623
b Seeds. 624
- 33 Ontario Advisory Board, Toronto, Ont.—Cereals from counties of York, Perth, Simcoe, Bruel, Huron, Wellington, Peterboro', Cardwell, Durham, Essex, Hastings, Lincoln, Lanark, Middlesex, Victoria, Russell, Peel, Frontenac, Lennox, Kent, Renfrew, Wentworth, Northumberland, Lambton, Carleton, Prince Edward, Addington, Waterloo, Halton, Brant, Grey, Oxford, and Ontario. 620
- 34 Muirhead & Gray, London, Ont.
a Barley and oatmeal. 620
b Peas. 621
- 35 Girdlestone, C. H., & Co., Windsor, Ont.—Tobacco and cigars. 623
- 36 Downie, W., Saainch, B. C.—Hops. 623
- 37 Moses, D. D., Saainch, B. C.—Hops. 623
- 38 Wain, N., Saainch, B. C.—Hops. 622
- 39 Cook, Isaac, Saainch, B. C.—Hops. 623
- 40 Mann, J. W., Simcoe, Ont.—Grass and turnip seed. 624
- 41 Fuller, S. S., Stratford, Ont.—Flaxseed. 624

Land Animals.

- 42 Carnell, J. H., St. John, N. B.
a Stuffed birds and ducks. 635
b Fur-bearing animals, etc. 637
- 43 Egan, Thomas J., Halifax, Nova Scotia.
a Six cases Canadian birds. 635
b One pair caribou.
c Two caribou heads.
d Two moose heads.
e One black bear. 637
- 44 Norvell, G. F., Hamilton, Ont.—Stuffed birds. 635
- 44a Foley, C., Lindsay, Ont.—Stuffed birds. 635

Water Animals, Fish-Culture, and Apparatus.

- 45 Loggie, A., & Co., New Westminster, B. C.—Salmon and trout. 641
- 46 Advisory Board of Nova Scotia.—Fishes. 641

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products, Textile Substances.

- 47 Crowe, A. H., Halifax, N. S.—Fishes. 641
- 47^a McLeod, R.—Medusa head, star fish. 641
- 48 O'Leary, H., Richibucto, N. B.
^a Salmon. 641
^b Lobsters. 643
- 49 Mack, J. N., Halifax, N. S.—Smoked alewives. 642
- 50 Barber, J., Halifax, N. S.
^a Canned mackerel. 642
^b Canned lobsters. 643
- 51 Deas, J. S., Fraser River, B. C.—Canned salmon. 642
- 52 Noble, R. B., Richibucto, N. B.
^a Mackerel, etc. 642
^b Lobster. 643
- 53 Bain, J. D., Restigouche, N. B.
^a Mackerel. 642
^b Lobsters. 643
- 54 Holbrook & Cummington, New Westminster, B. C.—Canned salmon. 642
- 56 Christian, P., Halifax, N. S.—Canned lobsters. 643
- 57 Geological Survey, British Columbia.—Clam-shells used by Indians. 645
- 58 Erwin & Wise, British Columbia.—Isinglass. 646
- 59 Pitts, D. H., Halifax, N. S.—Reel for cod-fishing. 647
- Animal and Vegetable Products.
- 60 Sharp, J. S., St. John, N. B.—Butter. 651
- 61 McLeod, R. E., & Co.—Cheeses. 651
- 62 Harvey, J., & Co., Hamilton, Ont.—Sheep-skins. 652
- 63 Crowe, A. H., Halifax, N. S.—Fish oils. 652
- 64 Netz, Christian.
^a Lard. 652
^b Pork and sausages. 656
- 65 Hatheway, F. A., St. John, N. B.—Moose and caribou heads. 652
- 66 Barnhill, B. B., St. John, N. B.—Moosehead. 652
- 67 Langley & Co., Victoria, B. C.—Oil. 652
- 68 Loggie, A., & Co., New Westminster, B. C.—Oolachan or pure oil. 652
- 69 Doel, W. H., Toronto, Ont.—Hen's nest. 653
- 70 Walsh, B., Halifax, N. S.—Pork. 656
- 71 Woodrell, W., Halifax, N. S.—Beef. 656
- 72 Belcher, J. W., Halifax, N. S.—Fruits in sugar. 656
- 73 Canadian Meat & Produce Co., Sherbrooke, Quebec.—Canned meats. 656
- 74 Bain, J. D., Restigouche, N. B.—Beef and soups. 656
- 75 Graham, John, Sussex, N. B.—Spiced rolled bacon. 656
- 76 Canadian Commission.
^a Dried Indian berries. 656
^b Indian bread. 661
- 76^a Guthrie & Hevenor, St. John, N. B.
^a Fruit preserves. 656
^b Raspberry vinegar. 660
- 77 Mewhort, Jos., Montreal, Quebec.—Self-raising flour. 657
- 78 Parkyn, Jas., Montreal, Quebec.—Flour. 657
- 79 McDougall, John, Bowmanville, Ont.—Flour. 657
- 80 Wadsworth, J. P., Meaford, Ont.—Flour. 657
- 81 King, Joseph G., Port Hope, Ont.—Three samples gilt-edged, patent process flour; three samples gilt-edged flour; three samples patent process flour; three samples flour. 657
- 82 Corn Exchange Association, Toronto, Ont.—Flour. 657
- 83 Weatherston, N., & Co., Toronto, Ont.—Flour and meal. 657
- 84 Charlesworth, M., & Son, Egmondville, Ont.—Flour. 657
- 85 Brodie & Harvie, Montreal, Quebec.—Self-raising flour. 657
- 86 Catelli Bros., Montreal, Quebec.—Vermicelli and macaroni. 658
- 87 Spinnelli, M. R., Montreal, Quebec.—Macaroni and vermicelli. 658
- 88 Troop, O. V., & Co., Mammoth Vinegar Works, St. John, New Brunswick.—Vinegar. The various grades of vinegars from this factory are readily sold for medicinal, pickling, and culinary purposes in the maritime provinces. 660
- 89 Febur, Michel Le, Montreal, Quebec.—Vinegar. 660
- 90 McLeod, McNaughton, & Co.—Ales and porter. 660
- 91 Blackwood, R., & Co., Montreal, Quebec.—Champagne, cider, etc. 660
- 92 Croskill, G. H., Halifax, N. S.—Cordials. 660
- 93 Costin, P., Halifax, N. S.—Champagne cider. 660
- 94 Knight, J., Halifax, N. S.—Liquors. 660
- 95 Smith, R., & Co., Brantford, Ont.—Bottled wines. 660
- 96 Canada Wine-growers Association, Toronto, Ont.—Wines and brandies. 660
- 97 Hastings, James, Toronto, Ont.—Wines. 660
- 98 Farrell, A. P., Cayuga, Ont.—Wine. 660
- 99 Wilson, Charles, Toronto, Ont.—Ginger ales. 660
- 100 Waterhouse, Joseph, Chatham, Ont.—Ales and porter. 660
- 101 Labatt, John, London, Ont.—Ales and porter. 660
- 102 Davis, Thos., & Bro., Toronto, Ont.—Ales and porter. 660
- 103 Birely & Co., Hamilton, Ont.—Vinegar. 660
- 104 Casci, V., Toronto, Ont.
^a Wines. 660
^b Plaster work. 400
- Textile Substances of Vegetable or Animal Origin.
- 105 Nicol Bros., Belmont, Ont.—Flax. 666
- 106 Stahlschmidt & Co., Victoria, B. C.—Wool. 667

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Machines, Implements, Engineering and Administration.

- 107 Canadian Commission.—Indian wool from British Columbia. 667
- 108 Harvey, J., & Co., Hamilton, Ont.—Wool. 667
- Machines, Implements, and Processes of Manufacture.**
- 109 Richardson, Thos., Fergus, Ont.—Plow. 670
- 110 Acton Plow Co., Acton, Ont.—Plow. 670
- 111 Ross, George, Chatham, Ont.—Plows. 670
- 112 Monroe & Hogan, Seaforth, Ont.—Plow. 670
- 113 Duperon, Chas., Stratford, Ont.—Harrow. 670
- 114 Gillis, George, Gananoque, Ont.—Harrow, cultivator, and harrow and-cultivator combined. 670
- 115 Bell, Charles, Parkhill, Ont.—Plow. 670
- 116 Wilson & Piper, Strathroy, Ont.—Combined sulky-harrow and hay-rake. 670
- 117 Wilkinson, George, Aurora, Ont.—Furrow plows, wrought frame and iron plows. 670
- 118 McDonald, A. S., Osgoode, Ont.—Cylinder cultivator. 670
- 119 McLaurin, Edmund, Trafalgar, Ont.—Plow. 670
- 120 Yeandle, Thomas, Stratford, Ont.—Plows. 670
- 121 Grant, Peter, Clinton, Ont.—Horse-power pitchfork. 670
- 122 Connell Bros., Woodstock, N. B.—Plow. 670
- 123 Dennis, Rowland, London, Ont.
a Plow. 670
b Potato-digger. 672
- 124 Dow, John, Gananoque, Ont.—Harrow and cultivator. 670
- 125 Harris, J., & Co., St. John, N. B.
a Plows. 670
b Mower, hay-rake, and potato-diggers. 672
c Thresher. 673
d Hay-cutter. 674
- 126 Watson, John, Ayr, Ont.
a Plows, roller. 670
b Horse-power grain-drill, turnip-drill. 671
c Grain-choppers, corn-sheller. 673
d Straw-cutters, root-cutter and pulper. 674
- 127 Vessot, J. & S., Joliette, Quebec.—Combined sower, harrow, and roller. 671
- 128 Mann, James W., Simcoe, Ont.—Turnip-drill. 671
- 129 Martin, Stephen, Osgoode, Ont.—Potato-digger. 672
- 130 Gray, A. G., St. John, N. B.—Mower. 672
- 131 McKenzie, Wm., Charlottetown, P. E. I.—Potato-digger. 672
- 132 Harris, A., Son, & Co., Brantford, Ont.—Mower, reaper, and rake. 672
- 133 Sawyer, L. D., & Co., Hamilton, Ont.—Mower, reaper. 672
- 134 Green Bros., Waterford, Ont.—Single reaper. 672
- 135 Bawtenheimer, P. M., Hamilton, Ont.—Potato-digger. 672
- 136 Head, Thos., Dundas, Ont.—Potato-digger. 672
- 137 Elliott, Thos., Peterboro', Ont.—Combined hay-rake and loader. 672
- 138 Forsyth & Co., Dundas, Ont.—Combined mower and reaper, single reaper. 672
- 139 Sharmon & Foster, Stratford, Ont.
a Mower and reaper combined. 672
b Thresher and separator. 673
- 140 Massey Mfg. Co., Newcastle, Ont.
a Mowing-machine and horse-rake. 672
b Grain-crusher. 673
- 141 Sells, Hugh, Vienna, Ont.—Cider-mills and presses. 673
- 142 Armstrong, E. F., Goderich, Ont.—Fanning-mill. 673
- 143 Haggert Bros., Brampton, Ont.—Horse-power separator. 673
- 144 Bricker, Jac., Berlin, Ont.—Threshing-separator. 673
- 145 Champion, A., Arkona, Ont.—Thresher and boiler. 673
- 146 Wilson, Thos., Richmond Hill, Ont.—Fanning-mill. 673
- 147 Gerolamy, Wm. A., Owen Sound, Ont.—Fanning-mill. 673
- 148 Abell, John, Woodbridge, Ont.
a Separator with carriers. 673
b Portable engine. 674
- 149 Anderson, Alex., London, Ont.—Straw-cutters and hay-knives. 674
- 150 Luke & Tolton Bros., Guelph, Ont.—Straw-cutter, etc. 674
- 151 Maxwell, David, Paris, Ont.—Power and hand straw-cutters, root-cutters, and pulpers. 674
- 151a James, Jos., Forest, Ont.—Bag-holder. 674
- 152 Ashley & Smith, Belleville, Ontario.—Manufacturers and sole assignees for the dominion of Canada of Fraser's patent improved cheese-hoops and gang-press. From five to fifteen cheeses may be pressed with one screw, each cheese receiving its full power; and one man can put ten cheeses to press after the hoops are filled as quickly as one man with the old press can put two cheeses to press. 675
- 153 Pitts, D. H., Halifax, N. S.—Horizontal churn. 675
- Agricultural Engineering and Administration.**
- 154 Strong, J. E., Newtonbrook, Ont.—Farm gate. 680
- 155 Marcon, W. H., Guelph, Ont.—Crushed bones. 681
- 156 Attwood, A. C., London, Ont.—Beehive, etc. 683
- 157 Purdy & Green, Portland, N. B.—Lime. 103
- 158 Canadian Commission.
a Tripoli earth from British Columbia. 104
b Head of a Wauptee Indian, Manitoba. 312
- 159 Borthwick, W., Ottawa, Ont.—Mineral waters. 107
- 160 Gray, Young, & Sparling, Seaforth, Ont.—Salt. 200

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Engineering and Administration.

161 International Salt Co., Goderich, Ont.—Salt. 206	167 Anderson, Alex., London, Ont., Canada.—Bread-knives. 281
162 Coleman & Gowinlock, Seaforth, Ont.—Salt. 200	168 Stephen, Alex., & Son, Halifax, N. S.
163 Harrison & Evans, Goderich, Ont. —Salt. 200	<i>a</i> Brooms. 286
164 Rigg, Ben., Stratford, Ont.—Soap. 201	<i>b</i> Pails. 289
165 McKelvey, Jas., St. Catharines.— Refrigerators. 224	169 Brazil, Peter B., Barric, Ont.
166 Canadian Commission.	<i>a</i> Sleigh. 295
<i>a</i> Indian yarn from B. C. 235	<i>b</i> Snow-plow. 574
<i>b</i> Indian blankets from B. C. 237	170 Bruce, Robt., St. Catharines, Ont. —Tree-pruner. 720

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

FRANCE.

West of Nave, Columns 3 to 7.)

Metallurgy, Mining Engineering, Agricultural Products.

Minerals, Ores, Stone, Mining Products.

- 1 Laroche, A., Saulxures, Vosges.—Coal. 101
- 2 Asphalt Mining Co., Pyrimont-Seysel, Ain.—Asphaltum. 101
- 3 Biron & Son, Paris.—Stone staircase and samples of colored Echaillon stone. 102
- 4 Cornu, Eugène, & Co., Paris.—Marble and Algerian onyx. 102
- 5 Marga, Eugene, Paris.—Samples of marble. 102
- 6 Parfonry & Lemaire, Paris.—Marble for furniture. 102
- 7 Pont-Ollion, Nicolet, Grenoble, Isere.—Cements. 103
- 8 Thorrand & Co., Grenoble.—Cement. 103
- 9 Soullier & Brunot, Teil, Ardèche.—Hydraulic lime. 103
- 10 Lime, Cement, & Plaster Manufacturing Co., Paris.—Limes, cements, plasters, and bricks. 103
- 11 Hydraulic Lime Stock Co., Montélimar, Drôme.—Lime, cement, and artificial paving blocks. 103
- 12 Holl, Samuel J., Dieppe, Seine-Inferieure.—Chalk. 103
- 13 Pinson, Paris.—Shell, ivory, mother of pearl, and artificial stone. 103
- 14 Pavin de la Farge, L. & E., Viviers, Ardèche.—Hydraulic lime and Portland cement. 103
- 15 Louquety & Co., Boulogne-sur-Mer.—Cements. 103
- 16 Lauzun & Co., Bourg St. Andeol, Ardèche.—Artificial stone pavement, mosaics, granite, and artificial marble. 103
- 17 Mailfert & Mathelin, Chatillon-sur-Seine, Côte d'Or.—Moulding sand for foundries. 104
- 18 Deplanque, jr., Maisons, Alfort, Seine.—Emery in grains and powder. 106
- 19 Roger, Son, & Co., La Ferté-sous-Jouarre, Seine and Marne.—Millstones. 106
- 20 Fauqueux, A., La Ferté-sous-Jouarre, Seine and Marne.—Millstones. 106
- 21 Lithographic Stone Quarry Co., Paris.—Lithographic stone. 106
- 22 Clément, Clément, & Co., Paris.—Diamonds. 106
- 23 Durrschmidt, Lyons.—Emery in grains and powdered. 106
- 24 Bertrand, Jules, & Co., La Ferté-sous-Jouarre, Seine and Marne.—Millstones. 106

- 25 Bailly & Co., La Ferté-sous-Jouarre, Seine and Marne.—Millstones. 106
- 26 Weyl & Co., Paris.—Mineral waters from Aulus Springs. 107

Metallurgical Products.

- 27 Desmoutis, Quenessen, & Le Brun, Paris.—Platinum. 110
- 28 Chappée, A., Mans, Sarthe.—Iron pipes for water and gas. 111
- 29 Durenne, A., Paris.—Monumental fountain. 111
- 30 Martin, Pierre Emile, Sireuil, Charente.—Iron and steel. 111
- 31 Terrenoire, La Voulte, & Besseges, Lyons.—Iron and steel castings. 111
- 32 Marseilles Gas Co., Marseilles.—Spiegelisen iron. 111
- 33 Marquise Foundry and Construction Works, Paris.—Iron pipes and chandeliers. 111
- 34 Secrétan, E., Paris.—Copper. 112

Mining Engineering.

- 36 Davey, Bickford, Watson, & Co., Rouen.—Safety fuse for mines. 120
- 37 Cosset, Dubrulle, Lille, Nord.—Safety lamps for miners. 120
- 38 Galibert, A., Paris.—Apparatus for breathing amid suffocating gases. 120

Arboriculture and Forest Products.

- 1 Delmas, Augustin, Toulouse.—Natural woods. 600
- 2 Gouturon, Mezin, Lot-and-Garonne.—Corks. 602

Pomology.

- 3 Charozé Bros., La Pyramide, Maine-and-Loire.—Fruits. 610

Agricultural Products.

- 4 Barthe, G., Paris.—Corn. 620
- 5 Dumoutier, Ch., Claville, Eure.—Agricultural products. 620
- 6 Thoreau, E., & Son, Chateau de la Chêze, Maine-and-Loire.—Barley. 620
- 7 Gutmann & Bloch, Paris.
a Barley. 620
b Hops and malt. 623
- 8 Fos, Miss J., Paris.—Medicated cigarettes. 623

Water Animals, Fish Culture, and Apparatus.

- 9 Colin, jr., Nantes.—Preserved fish. 641

For classes of exhibits indicated by numbers at end of entries. see Classification, pp. 12-14.

Animal and Vegetable Products.

- 10 Dupland, E., Ville-en-Bois, Loire-Inférieure.—Preserved sardines. 641
- 11 Jacquier & Saupiquet, Nantes.—Sardines in oil. 641
- 12 Maille & Tandeau, Paris.—Anchovies in oil. 641
- 13 Maré, C., Nantes.—Sardines. 641
- 14 Peltier & Paillard, Paris.—Sardines in oil. 641
- 15 Philippe & Co., Nantes.—Sardines in oil. 641
- 16 Terrien, Palais, Belle-Ile-en-Mer.—Sardines in oil. 641
- 17 Caillebotte & Dumagnou, Paris.—Sardines and pickled fish. 642
- 18 Dufour, A., & Co., Bordeaux.—Sardines. 642
- 19 Peltier & Paillard, Paris.—Sardines in oil. 642
- 20 Clement & Co., Paris.—Pearls. 645
- Animal and Vegetable Products.**
- 21 Coupiac, E., Roquefort Cheese-Factory, Roquefort, Aveyron.—Cheese. 651
- 22 Bageau, H., Paris.—Waterproof glue for leather. 652
- 23 Corbel, Eug., & Co., Nantes.—Leather. 652
- 24 Clavé, Bertrand, Coulommiers, Seine-and-Marne.—Leather. 652
- 25 Burel, J., Paris.—Peltry; kid-skins. 652
- 26 Bayvet Bros., Paris.—Morocco, sheep, calf, goat, and kid skins. 652
- 27 Basset & Co., Paris.—Kid for shoes. 652
- 28 Allain, Jules, Paris.—Kid for shoes. 652
- 29 Leven, M., senior & junior, Paris.—Calf-skin. 652
- 30 Fortier, Beaulieu, Paris.—Leather for furniture. 652
- 31 Tréfousse & Co., Chaumont, Haute-Marne.—Leather and dyes for leather. 652
- 32 Sueur, F., jr., Paris.—Leather. 652
- 33 Sorro Bros., Millan, Aveyron.—Calf-skin. 652
- 34 COLLECTIVE EXHIBIT OF THE LEATHER MANUFACTURERS OF SAINT-SAËMS, SEINE INFÉRIEURE.—LEATHER. 652
- Lefebvre, Felix.
- Lecourtois, Arthur.
- Lemonnier, Jules.
- Sergent, Edmond.
- Fache-Havé & Brother.
- Frigot, Emile.
- Lefebvre, Florentin.
- Binet, Hippolyte.
- Lenormand, Emile.
- Morisset, Mrs.
- Blot, Eugène.
- Dumesnil, Paul.
- 35 Revillon Bros., Paris.—Peltries. 652
- 36 Daubin & Co., Paris.—Lard. 652
- 37 Duchesne Bros., Paris.—Morocco leather. 652
- 38 Peltier & Paillard, Paris.—Preserved meats. 656
- 39 Passion, Marc, Paris.—Preserved food. 656
- 40 Ségur & Obier, Périgueux, Dordogne.—Preserved food and paté de foie gras. 656
- 41 Vicat, J. H., Paris.—Mustard and pickles. 656
- 42 Terrien, senior, Palais, Belle-Ile-en-Mer.—Preserved food. 656
- 43 Maré, C., Nantes.—Green peas. 656
- 44 Lenoir, A., Paris.—Preserved game, poultry, etc.; patés. 656
- 45 Lecourt, Francois, Paris.—Preserved food. 656
- 46 Landrin, Augustin, Paris.—Preserved fruits and vegetables. 656
- 47 Lamarche & Veillon, Paris.—Preserved game and patés de foie gras. 656
- 48 Jacquier & Saupiquet, Nantes.—Preserved food. 656
- 49 Henry, Louis, Paris.—Patés de foie gras. 656
- 50 Groult, jr., Paris.—Conserves. 656
- 51 Tivollier, Auguste, Toulouse.—Paté de foie gras. 656
- 52 Fau, J., Bordeaux.—Prunes. 656
- 53 Escoffier, J., Nice.—Preserved fruits. 656
- 55 Dronne, L. F., Paris.—Paté de foie gras and preserved meats. 656
- 56 Dione, A. C., Paris.—Preserved food. 656
- 57 Lamarche & Veillon, Paris.—Paté de foie gras. 656
- 58 Deriviere, Julien, Paris.—Preserved food. 656
- 59 Dardelle & Co., Paris.—Preserved and dried vegetables. 656
- 60 Cormier & Véron, Paris.—Preserved food. 656
- 61 Colin, Joseph, Nantes.—Preserved food. 656
- 62 Chevallier, Appert, Paris.—Preserved food. 656
- 63 Caillebotte & Dumagnou, Paris.—Preserves 656
- 64 Boyer, P., & Co., Gignac, Hérault.—Truffles, capers, and olives. 656
- 65 Bornibus, Alexandre, Paris.—Mustard and pickles. 656
- 66 Bonfils Bros. & Co., Paris.—Preserved truffles. 656
- 67 Philippe & Co., Nantes.—Preserved food. 656
- 68 Fiton & Nouvialle, Bordeaux.
- a Preserved food and fruits. 656
- b Liqueurs. 660
- 68a Barthe, G., Paris.—Flour. 657
- 69 Ecorcheville & Legrand, Paris.
- a Preserved fruits. 656
- b Confectionery. 661
- 70 Dufour, A., & Co., Bordeaux.
- a Prunes. 656
- b Wines. 660

Vegetable Products, Wines, Liquors.

- 71 Dandicolle & Gaudin, Bordeaux.
a Preserved food. 656
b Wines and liquors. 660
- 72 Rousseau Bros., Paris.
a Preserved fruits. 656
b Liquors. 660
- 73 Maille & Tandean, Paris.
a Mustard, pickles, and anchovies in oil. 656
b Vinegar. 660
- 74 Lesage & Paignard, Paris
a Preserves. 656
b Confectionery. 661
- 75 Louit Bros. & Co., Bordeaux.
a Preserves and mustard. 656
b Vinegar. 660
c Chocolates. 661
- 76 Mauprivez, A., Paris.—Tapioca. 658
- 77 Say, C., Paris.—Refined Sugar. 659
- 78 Déjardin, E., Paris.—Orange syrup. 659
- 79 Antheaume & Sons, Bourget-les-Paris, Seine.
a Glucose. 659
b Caramels. 661
- 80 Lefèvre & Rémondet, Savigny-les-Beaune, Côte d'Or.—Sparkling wines. 660
- 81 Combier, J., Saumur, Maine-and-Loire.—Liquors. 660
- 82 Chenu, Laffitte, & Co., Bordeaux.—Wines. 660
- 83 Brizard & Roger, Bordeaux.—Liquors. 660
- 84 Passier, A., Sautenary, Cote d'Or.—Wines. 660
- 85 Otard, Dupuy, & Co., Cognac.—Brandies. 660
- 86 Pinet, Castillon, & Co., Cognac.—Brandies. 660
- 87 Perrier, J., & Co., Chalons-sur-Marne.—Champagne wines. 660
- 88 Montigny, de, & Co., Reims.—Champagne wines. 660
- 89 Montheuil, Franc, senior, Bordeaux.—Wines. 660
- 90 Montebello, Alfred de, & Co., Mareuil-sur-Ay, Marne.—Champagne wines. 660
- 91 Meukow, A. C., Cognac.—Brandies. 660
- 92 Merman, G., Bordeaux.—Wines. 660
- 93 Merman & Maitre, Bordeaux.—Wines. 660
- 94 Merman, Jules, & Co., Bordeaux.—Wines. 660
- 95 Mayer, Albert, Paris.—Liquors. 660
- 96 Mercier, Eug., Epernay.—Champagne wines. 660
- 97 Reignard, Paris.—Wines. 660
- 98 Promis, Justin, Bordeaux.—Wines and brandies. 660
- 99 Poligny Society of Agriculture, Science, & Art, Poligny, Jura.—Wines. 660
- 100 Poitevin, Ch., & Co., Bordeaux.—Wines. 660
- 101 Roullé, E., Bordeaux.—Wines. 660
- 102 Rojat, Jules, Nimes, Gard.—White wine vinegar. 660
- 103 Roederer, Théophile, & Co., Rheims—Champagne wines. 650
- 104 Rivière, Gardrat, & Co., Cognac.—Brandies. 660
- 105 Ricaumont, de, & Co., Libourne.—Wines. 660
- 106 Sabatier-Granier & Son, Manduel, Gard.—Wines and brandies. 660
- 107 Rouyer, Guillet, & Co., Saintes, Charente Inferieur.—Brandies. 660
- 108 Roussillon, J., & Co., Epernay, Marne.—Champagne wines. 660
- 109 Fontaine, Sarget de la, Bordeaux.—Wines. 660
- 110 Soudée, Paris.—Wines and brandies. 660
- 111 Tarbouriech, Louis, Cette, Hérault.—Wines. 660
- 112 Marchand Bros., Paris.—Liquors. 660
- 113 Lossy & Co., Reims.—Champagne wines. 660
- 114 Lentilhac, de, Ballargeaux, St. Aulaye.—Wines. 660
- 115 Launay, de, & Co., Paris.—Champagne wines. 660
- 116 Larronde Brothers, Bordeaux.—Wines and brandies. 660
- 117 Lamart, A., Beaumetz-les-Loges, Pas-de-Calais.—Liquors. 660
- 118 Labrunie, P. A., Bordeaux.—Wines. 660
- 119 Javerzac, Viremondoy, & Co., Pont-de-Bordes, Lot-and-Garonne.—Wines and brandies. 660
- 120 Irroy, Ernest, & Co., Reims.—Champagne wines. 660
- 121 Guilhou, A., senior, Bordeaux.—Wines. 660
- 122 Guichard-Potheret & Son, Chalon-sur-Saone.—Wines. 660
- 123 Hivert, Pellevoisin, & Godet, La Rochelle.—Brandies. 660
- 124 Anthoine, Paris.—Wines. 660
- 124^a Benoit, Charles, Reims.—Champagne wines. 660
- 125 Barral, J. L., Paris.—Wines. 660
- 126 Beaucourt, Fortuné, Margaux-Medoc, Gironde.—Wines. 660
- 127 Bellot, Jules, & Co., Cognac, Charente.—Brandy. 660
- 128 Beuverand, de, & Poligny, de, Chassagne, Côte d'Or.—Wines. 660
- 129 Bollinger, J., Ay-Champagne, Marne.—Champagne wine. 660
- 130 Bontou, jr., Bordeaux.—Wines. 660
- 131 Boulle, E., Bordeaux.—Wines. 660
- 132 Bourgoin-Jamain, jr., Beaune, Côte d'Or.—Wines. 660
- 133 Boutelleau & Co., Barbezieux near Cognac.—Brandies. 660
- 134 Brugalieres, Etienne, Floressas, Lot.—Wines. 660
- 135 Chabouseau & Payen, Levallois-Perret, Seine.—Liquor. 660
- 136 Chateau d'Issan, Roy, G., Margaux, Gironde.—Wines. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Wines, Liquors, Vegetable Products, Agricultural Machines.

- 137 Chiapella, Jérôme, Bordeaux.—Wines. 660
- 138 Claveille, Jules, Bordeaux.—Wines. 660
- 139 Clerc, J. B., Bordeaux.—Wines. 660
- 140 Collin, Ad., Chalons-sur-Marne.—Champagne wines. 660
- 141 Coudert, G., & Son, Limoges, Haute-Vienne.—Brandies. 660
- 142 Cunliffe, Dobson, & Co., Bordeaux.—Wines. 660
- 143 Curlier Bros. & Co., Paris.—Brandies. 660
- 144 Cusenier, E., & Co., Ornans, near Pontarlier.—Liquors. 660
- 145 Delizy & Doistau, jr., Pantin, Seine.—Liquors. 660
- 146 Thoreau, E., & Son, Chateau de la Chêze, near Saumur.—Champagne and red wines. 660
- 147 Tivet, B., Bordeaux.—Liquors and bitters. 660
- 148 Agricultural Union, Chateau-neuf, Charente.—Brandies. 660
- 149 Gourry & Co., Cognac.—Brandies. 660
- 150 Goerg, I., & Co., Chalons-sur-Marne.—Champagne wines. 660
- 151 Giojuzza & Giobertini, Paris.—Wines. 660
- 152 Gerin, E., Saint Jean d'Angéley, Charente.—Brandy. 660
- 153 Garros, J. L., Bordeaux.—Wines. 660
- 154 Garnier, P., Noyon, Oise.—Liquors. 660
- 155 Gadrat, D. G., & Co., Cognac.—Brandies. 660
- 156 Frois, Leo, & Co., Bordeaux.—Wines. 660
- 157 Fournier, Jules, Epernay, Marne.—Champagne wines. 660
- 158 Fournier, A., Chateau de Figeac, Gironde.—Wines. 660
- 159 Fouchez, L., & Co., Cognac.—Brandies and liquors. 660
- 160 Dessandier, F., & Co., Jarnac-Cognac.—Brandies. 660
- 161 Detrie-Grandjean, Saint Loup-sur-Semouse, Haute Saone.—Kirschwasser. 660
- 162 Ditely, E., Paris.—Wines. 660
- 163 Dolin, Mrs., Chambéry, Haute Savoy.—Vermouth. 660
- 164 Druelle, Reims.—Champagne wines. 660
- 165 Dubois, E., & Co., Saint Jean d'Angéley, near Cognac.—Brandies. 660
- 166 Duquênél, Paris.—Wines and brandies. 660
- 167 Duret, Jules, & Co., Cognac.—Brandies. 660
- 168 Durozier, M., & Co., Cognac.—Liquors. 660
- 169 Laplante, Edard de, Guyotville, near Algeria.—Wines. 660
- 170 Faure, J., & Co., Cognac.—Brandies. 660
- 171 Faurie, J., sr., Narbonne.—Wines. 660
- 172 Ferret, Bros., & Co., Macon.—Wines. 660
- 173 Fil, Francois, Narbonne, Aude.—Wines. 660
- 174 Fisse, Thirion, & Co., Reims.—Champagne wines. 660
- 175 Seignouret Bros.—Bordeaux.
a Wines and brandies. 660
b Olive oil. 662
- 176 Mestrezat & Co., Bordeaux.
a Wines and brandies. 660
b Olive oil. 662
- 177 Reinhardt, L., & Co., Paris.—Bonnons. 661
- 178 Biardot, Alphonse, Paris.—Confectionery. 661
- 179 Chenu, P., Paris.—Confectionery. 661
- 180 Combet, Joseph, Paris.—Confectionery. 661
- 181 Ménier, Paris.—Chocolates. 661
- 182 Nègre, Joseph, Grasse, Alpes Maritimes.—Confectionery. 661
- 183 Lombart, Paris.—Chocolates. 661
- 184 Marge, jr., Lyons.—Patés. 661
- 185 Mottet, J., & Co., Marseilles.—Olive oil. 662
- 185a Chudaca, Léon, Alger.—Oil. 662
- 186 Plagniol, James de, Marseilles.—Olive oil. 662

Textile Substances of Vegetable or Animal Origin.

- 187 Chabert, J., & Co., Chomérac, Ardèche.—Raw silk. 668
- 188 Boudon, Louis, St. Jean-du-Gard, Gard.—Raw silk. 668
- 189 Arlès, Dufour, Lyons.—Raw silk. 668
- 190 Thomas, F., Pont des Charettes, Gard.—Cocoons and raw silk. 668
- 191 Pellet, A. P., St. Jean-du-Gard, Gard.—Raw silk. 668

Machines, Implements, and Processes of Manufacture.

- 192 Rabache, A., Clunay-sur-Odon, Calvados.—Double plow. 670
- 193 Couture, Paris.—Stripping machines for textiles. 673
- 194 Druelle, Reims.—Corking apparatus for champagne wines. 673
- 195 Denny, Louis, Paris.—Cylinder press for sugar. 673
- 196 Maurice & Guenin, Epernay.—Corking machines. 673
- 197 Mabile Bros., Amboise, Indre and Loire.—Wine and oil presses. 673
- 198 Logette, Ay, Marne.—Clasps for bottles, and machines for using them. 673
- 199 Gervais, E., Bordeaux.—Corking machines. 673
- 200 Fréal, Epernay, Marne.—Machines for filling bottles. 673
- 200a Dubois, Emile, St. Jean d'Angéley.—Bottling machine. 673
- 201 Fisse, Thirion, & Co., Reims.—Iron clasps and bottling apparatus. 673

Agricultural Machines, Engineering.

- 202 Mercier, Eug., Epernay.—Apparatus for vine-culture and for the manufacture of sparkling wines. 673
- 203 Malignand, Ed., jr., Paris.—Alcohol tester. 673
- 204 Pernollet, Jh., Paris.—Sieves, sorters, and root knives. 673
- 205 Tricourt, A., Reims.—Wine manufacturing machines. 673
- 206 Chenaillier, Paris.—Evaporator. 673
- 207 Cicile, Larbre, Reims, Marne.—Machines for cleaning bottles. 673
- 208 Dornon, L., Lyons.—Gauzes for bolting-rooms and sieves. 674
- 209 Perard, V., Paris.—Sheep-shearing machine. 674
- 210 Fauqueux, A., La Ferté-Sous-Jouarre, Seine and Marne.—Millstones. 674
- 211 Durvie, Ivry-la-Bataille, Eure.—Mechanical kneading-trough. 674
- 212 Scheidecker, Ch., Paris.—Shearing machines. 674
- 213 Roger, jr., & Co., La Ferté-Sous-Jouarre, Seine and Marne.—Millstones. 674
- 214 Sensfelder, Arcueil, Seine.—Shearing machines. 674
- 215 Aubin & Baron, Paris.—Millstones. 674
- 216 Bailly & Co., La Ferté-Sous-Jouarre, Seine and Marne.—Millstones. 674
- 217 Bertrand, J., & Co., La Ferté-Sous-Jouarre.—Millstones. 674
- Agricultural, Engineering, and Administration.**
- 218 Coignet, senior & junior, & Co., Paris.—Manure. 681
- 219 Midi Phosphate Manufacturing Co., Paris.—Phosphate of lime. 681
- 220 Jacquand, senior & junior, Lyons.—Animal charcoal, phosphates, etc. 681
- 221 Solfatare de Pozzuoli Manufacturing Co., Paris.—Artificial manure. 681
- 222 Sensfelder, Arcueil, Seine.—Artificial manure. 681
- 223 Tancrede Bros., Paris.—Animal charcoal. 681
- 224 Desfeux, Ph., Paris.—Models of agricultural sheds. 683
- 225 Brot, Leopold, Paris.
a Furniture and mirrors with double shutters and triple front. 217
b Mirrors with gilt frames. 219

For classes of exhibits, indicated by numbers at end of entries, see Classification pp. 12-14.

GERMANY.

(West of Nave, Columns 1 to 4.)

Forest, Agricultural, Vegetable, Animal Products.

Arboriculture and Forest Products.

- 1 Körper & Co., Mannheim.—Resinous products in a manufactured state. 603

Agricultural Products.

- 1^a Aly, August, Hamburg.—Barley, oats, grits, buckwheat, etc. 620
 2 Noll, Joh. Balth., Giessen.—Cigars. 623
 3 Grosskopf, L., Koenigsberg.—Cigarettes. 623
 4 Eckstein, A. M., & Sons, Göttingen.—Tobacco and cigarettes. 623
 5 Gaus, August, Baden-Baden.—Tobacco and cigarettes. 623
 6 Landfried, P. J., Rauenburg.—Cigars. 623
 7 Scherzinger, W., Stollhofen.—Tobacco and cigarettes. 623
 8 Lotzbeck Bros., Lahr.—Snuff and tobacco. 623
 9 Naumann, L., Dresden.—Spices. 623
 10 Muller, A., Dresden.—Cigarettes. 623

Animal and Vegetable Products.

- 13 Körper & Co., Mannheim.—Grease and oil. 652
 16 Dessauer, A., Aschaffenburg.—Parchment glue. 652
 17 Winter, Fr., Offenbach-on-Main.—Glue. 652
 21 Leipsic Malt Factory, Schkeuditz, near Leipsic.—Malt. 656
 22 Moskopf, Th., Fahr, near Neuwied.—Mustard. 656
 24 Naumann, L., Dresden.—Extracts, essences, etc. 656
 28 Schörke, A., Gorlitz.—Grape sugar, assorted syrups. 659

COLLECTIVE EXHIBIT OF GERMAN WINES. 660

- 29 Altenkirch, F., Lorch.
 30 Dahlen, J. F. J., Lorch.
 31 Germersheimer, Jac., Lorch.
 32 Dahlen, F. K., Lorch.
 33 Travers, Franz, Lorch.
 34 Wittemann, Peter, Lorch.
 35 Fendel, H. J., Lorch.
 36 Jung, Joh. Ant., Assmanshausen.
 37 Brück, Erwin, Assmanshausen.
 38 Grün, Wilh., Assmanshausen.
 39 Kerber, Pet. Jos., Assmanshausen.
 40 Aumüller, Jac., Rüdesheim.
 41 Brandmüller, J. B., Rüdesheim.
 43 Dietrich & Co., Rüdesheim.

- 44 Dilthey, Sahl, & Co., Rüdesheim.
 45 Ehrhardt, C., Rüdesheim.
 46 Ehrhardt, J., Rüdesheim.
 48 Jung, J. J., Rüdesheim.
 49 Jung & Co., Rüdesheim.
 50 Krass, J. A., Rüdesheim.
 51 Meuschel, J. W., sr., Rüdesheim.
 52 Schulz & Reuter, Rüdesheim.
 53 Winkel & Rothenbach, Rüdesheim.
 54 Burgeff, N., Geisenheim.
 55 Höhl Bros., Geisenheim.
 56 Lade, Fritz, Geisenheim.
 57 Quitman, A., Geisenheim.
 58 Rothe & Thorndike, Geisenheim.
 59 Metternich, Prince von, Johannisberg.
 60 Forst, J., Johannisberg.
 61 Klein, Joh., Johannisberg.
 61^a Germont, L. F., Winkel.
 62 Müller, Gottl., Winkel.
 63 Cunibert, Baron von, Oestrich.
 64 Peez, Ernst, Oestrich.
 65 Rasch, Oestrich.
 66 Steinheimer, C. J. B., Oestrich.
 68 Lauer & Krämer, Eltville.
 69 Nilkens, A., Eltville.
 70 Preusel & Bachmann, Eltville.
 72 Schmidt & Kett, Eltville.
 73 Kindlinger, V., Neudorf.
 74 König, J. B., Rauenthal.
 75 Siegfried, Rauenthal.
 76 Rosenstein, B., Wiesbaden.
 77 Zais, Wilhelm, Wiesbaden.
 78 Diener, H., Hochheim.
 80 Feist Bros. & Sons, Frankfurt-on-Main.
 81 Kehrmann, Fr., Coblenz.
 82 Buhl, F. P., Deidesheim.
 82^a Jordan, L. A., Deidesheim.
 82^b Schellhorn, Walbillich.
 83 Feis, Louis, Deidesheim.
 84 Eckel Bros., Deidesheim.
 85 Seyler, Fr., Deidesheim.
 86 Frölich, F. A., Edenkoben.
 87 Vornberger, J. M., Würzburg.
 87^a Labroise Bros., Neustadt-on-Hardt.
 88 Lang, F. J., Würzburg.
 89 Oppmann, J., Würzburg.
 91 Valckenberg, P. J., Worms.
 92 Langenbach, J., & Sons, Worms.
 93 Bach, A. H., Mayence.
 95 Dreydelsohn & Co., Mayence.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Wines, Textile Substances, Machines, Implements.

- 95^a Saarbach, E., & Co., Mayence.
 96 Jäger & Son, Rüdesheim.
 97 Meyer & Coblenz, Bingen.
 98 Orb & Weiss, Westhofen.
 99 Herbster, J., Sulzburg.
 100 Durlacher, S., & Sons, Kippenheim.
 101 Schütt, A., Bühl.
 102 Rössler, A., Neuweier.
 103 Brogssitter, P. F., Ahrweiler.
 103^a Kessler, C. E., & Co., Esslingen.
-
- 104 Häusler, C. S., Hirschberg, Silesia.—Wine and cider. 660
 105 Rhenish Sparkling Wine Co., Schierstein.—Wine. 660
 106 Henckell & Co., Mayence.—Wine. 660
 107 Lindecke, A. G., Magdeburg.—Wines. 660
 107^a Wetterhahn, G., Mayence.—Wines. 660
 108 Bäcker & Fier, Treves.—Liqueurs and brandies. 660
 109 Behrens, Th., Kiel.—Wines and brandies. 660
 10 Boyens, P. W., Tönning.—Liqueurs and spirits. 660
 111 Brumby, G., Luckau.—Bitters. 660
 112 Dammann, L., & Cordes, Thorn.—Spirits, bitters, essences, etc. 660
 113 Hoffmann, M. & J., Pfalzberg.—Liqueurs. 660
 114 Kadach, J., Berlin.—Bitters and cherry-juice. 660
 115 Keiler, J. S., Dantzig.—Liqueurs. 660
 116 Landauer & Macholl, Heilbronn.—Liqueurs. 660
 117 Stein, G. & L., Offenburg.—Liqueurs. 660
 118 Stibbè, H., Cologne.—Liqueurs and essences. 660
 119 Underberg-Albrecht, H., Rheinberg.—Bitters. 660
 120 Drouven, Jac., & Co., Coblenz.—Liqueurs, arrack punch-syrup. 660
 121 Gilka, J. A., Berlin.—Liqueurs and spirits. 660
 122 Lehment, Fr. & C., Kiel.—Liqueurs and spirits. 660
 123 Köpp, Th., & Son, Wesel.—Spirit of vinegar and extracts. 660
 24 Ulex, G. F., successors, Neuhausen-the-Oste.—Bitters. 660
 125 Kantorowicz, H., Posen.—Liqueurs and fruit juices. 660
 126 Lazar Brothers, Königsberg, Prussia.—Fruit juices. 660
 127 Naumann, Fr., Delitzsch.—Liqueurs and fruit juices. 660
 128 Bernhardt, A., Breslau.—Essences and liquors. 660
 129 Schneider & Schorn, Magdeburg.—Essence of Jamaica rum. 660
 130 Buck Bros., Lübeck.—Vinegar. 660
- 131 Stengel, W., Leipzig.—Potato brandy. 660
 132 Meyer, Edward, Stadthagen.—Herb-bitters. 660
 133 Ackermann, Louis, Berlin.—Liqueurs. 660
 133^a Kirchner, A., & Co., Deedesdorf.—Liquors. 660
 134 Wiedenbrug, H. T., Barmbeck.—Liqueurs. 660
- COLLECTIVE EXHIBIT OF BAVARIAN HOPS, BEER, AND LITERATURE RELATING THERETO. 660
- 135 Dreifuss & Binswanger, Nuremberg.
 136 Sahlmann Bros., Fürth.
 137 City Council of Spalt.
 138 Carl, J., Nuremberg.
 139 Homann, C., Nuremberg.
 140 Bottinger, H. F., Würzburg.
 141 Bötterville, Baron von Mering.
 142 Geisel, L., Neustadt-on-the-Hardt.
 143 Pschorr Brewery, Munich.
 144 Baron von Thüngen Brewery, Weissenbach.
 145 Weltz, H., Speier.
-
- 146 Bavarian Joint-Stock Brewery, Aschaffenburg.—Beer. 660
 146^a Sick, Chr., Speier.—Beer. 660
 147 Dortmund Brewery, Aix-la-Chapelle.—Beer. 660
 148 Friedrichshöhe Joint-stock Brewery, Berlin.—Beer. 660
 149 Hildebrand, J., Pfungstadt.—Beer. 660
 150 Overbeck, Peter, Dortmund.—Beer. 660
 152 Berlin Brewing Co., Tivoli, Berlin.—Beer. 660
 152^a Roeper, J. F., Neuwied.—Macaroni, vermicelli, tapioca, etc. 661
 152^b Stollwerk Bros., Cologne.—Chocolates, etc. 661
- Textile Substances of Vegetable or Animal Origin.
- 154 Mens, R. von, Carlsdorf, Silesia.—Merino wool. 667
 155 Stein, H., & Co., Frankfurt-on-Main.—Spun horse-hair. 669
- Machines, Implements and Processes of Manufacture.
- 156 Mayer & Co., Kalk, near Cologne.—Winnowing and sorting machine. 672
 157 Royal Wurtemberg Furnaces, Friedrichsthal.—Scythes, choppers, etc. 674
 158 Joacks & Behrns, Lubeck.—Model of a set of millstones. 674
- Agriculture Engineering and Administration.
- 161 Raumer, C. von, Kunnersdorf, Silesia.—Works and models relating to drainage and irrigation. 681

AUSTRIA.

(West of West Aisle, Columns 1 to 4.)

Forest, Agricultural, Animal and Vegetable Products.

Arboriculture and Forest Products.

- 1 Weissmann, David, Adlersberg, & Isaac Leib, Perchinsko, Galicia.—Sounding-board wood. 600
- 2 Frankl, I. G. & L., Vienna.—Austrian timber for furniture manufacturers. 600

Pomology

- 4 Zierotin, Countess Gabriel von, Charles Pohl, chief gardener, Blanda, Moravia.—Gooseberry and currant bushes, two different fruits growing on the same stem. 610
- 6 Markó & Weyden, Budapest.—Turkish prunes. 611

Agricultural Products.

- 7 Lyka, Demeter, Pázmánd, Hungary.—Wheat. 620
- 8 Solnitzky & Mittler, Brunn.
a Malt and barley. 620
b Pulses. 621
- 9 Gogl, Dr., jr., Zeno, Krems.—Mustard. 623
- 10 Chleborad, Franz, Ladislav, Mraiditz.—Hops. 623
- 12 Tanzer Bros., Prague.—Hops. 623
- 13 Schwarz & Sons, Benjamin, Auscha, Bohemia.—Hops. 623
- 14 Schary, Johann Michael, Prague.—Hops. 623

Water Animals, Fish Culture and Apparatus.

- 18 Topich, Antonio, Lissa, Dalmatia.—Preserved fish. 641

Animal and Vegetable Products.

- 19 Kreitner & Sons, David, Hohenbruck, Bohemia.—Leather. 652
- 20 Ieleinek, Adolph, Lieben, Bohemia.—Glove leather. 652
- 22 Ianesch, Edward, Klagenfurt, Karnten.—Leather. 652
- 23 Hoffman, I. and S., Klagenfurt, Karnten.—Leather. 652
- 24 Foges, I., Gaudenzdorf, near Vienna.—Leather, calf and goat skins. 652
- 25 Eckstein, H. M., Lieben.—Kid leather. 652
- 26 Cernsteln, Anton V., Pardubitz, Bohemia.—Cow leather and calf skin. 652
- 27 Breuer, Miromil, Elbeteintz, Bohemia.—Patent leather. 652
- 30 Suess, A. H., & Sons, Vienna.—Leather. 652

- 31 Schmitt, Franz, Rehberg, near Krems.—Leather. 652
- 32 Schmalzl, George, Gaudenzdorf, near Vienna.—Leather, skins. 652
- 33 Neuner, Christof, Klagenfurt and Trieste.—Leather. 652
- 34 Mehlshmidt, Franz, Prague.—Kid leather. 652
- 34^a Nachtmann, Jacob, Tannwald.
a Honey. 654
b Raspberry syrup. 659
c Wine and liquors. 660
- 36 Tschurtsenthaler, Alois, Botzen.—Conserved and dried fruits. 656
- 37 Sandpichler, Leopold, Gorz.—Candied fruit. 656
- 37^a Gfall, Josef Anton, Innsbruck.—Condensed meat and milk. 656
- 38 Kaufmann, M., Brunn.—Moravian malt. 657
- 39 Solnitzky & Mittler, Brunn.
a Barley. 657
b Malt. 660
- 41 Rosenthal, I., Vienna.—Wheat, wheaten flour. 657
- 42 Chiozza, Luigi, Cervignano, near Trieste.—Maize products. 658
- 43 Frizzi, Luigi, Trient.—Wine. 660
- 45 Auchmann, F., Marburg, Styria.—Champagne. 660
- 47 Achleb, Josef, The Farms, Kvasnei.—Liquor. 660
- 47 Abeles, Heinrich, Vienna.—Wine. 660
- 48 Magazzin, Matteo, Zara.—Liquors. 660
- 49 Luxardo, Girolamo, Zara, Dalmatia.—Liquors. 660
- 51 Lord & Co., F., Vienna.—Liquor. 660
- 53 Siebenbürger Wine Association, Klausenburg.—Wines. 660
- 54 Cosmacendi, Anton, Zara.—Liquors. 660
- 55 Mumelter, Alois, Bozen.—Tyrol wines. 660
- 56 Kriehuber, Alois Edler von, Marburg, Styria.—Wine. 660
- 57 Königstädtler Bros., Neusatz, Hungary.—Spirit alcohol. 660
- 58 Ganz, Joseph, Dornberg, near Gorz.—Wine. 660
- 59 Fischer, Johann, jr., & Franz Hubert, Presburg, Hungary.—Champagne. 660
- 60 Dreher, Anton, Kleinschwechat, near Vienna.—Beer. 660
- 61 Dalbello, Antonio, Spalato, Dalmatia.—Liquor. 660
- 62 Brewery Administration, Budweis, Bohemia.—Beer. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products, Textiles, Implements.

- 64 Borhegyi Bros., Gaya, Moravia.—Wine. 660
- 65 Wretzl, Michael, Marburg, Styria.—Wine. 660
- 66 A. Schwartzler's Successors, Edward & Emmerich Grossinger, Vienna.—Wine. 660
- 67 Sessler, Moritz & Leopold, Tyrnau, Hungary.—Malt. 660
- 68 Schnabel, Julius, Orávitza, Hungary.—Slivovitz brandy. 660
- 69 Schenkel, August, Gut Lukaufzen, near Luttenberg.—Wine. 660
- 70 Scarizza Giovanni, Spalato, Dalmatia.—Liquors. 660
- 70^a Stampalia, Tommaso, Zard.—Maraschino. 660
- 71 Romer & Son, I., Vienna.—Wine. 660
- 72 Reiser, Dr. Othmar, Vienna.—Wine. 660
- 74 Prima Societa Enologica Dalmatia, Spalato, Dalmatia.—Wine. 660
- 75 Pokorny, Franz, Agram, Croatia.—Fruit distillery, wine. 660
- 76 Perko, Francis, Marburg, Styria.—Wine. 660
- 77 Noziczka, L. C., & W. Umgelter, Brunn.—Malt. 660
- 78 Mittler & Co., Brunn.—Malt. 660
- 79 Strakosch, Ignaz, Gross Seelovitz, Moravia.—Liquor essences. 660
- 80 Neuman & Sons, Emanuel, Waitzen, Hungary.—Vinegar essences. 660
- 81 Spreng, Fridolin, Graz.—Biscuits. 661
- 82 Brichta, Jacob, Trencsin, Hungary.—Juniper berries and oil. 662
- 83 Russ & Co., M. H., Prague.—Hops. 666
- 83^a Zeschks, L., Agram.—Rags. 666
- 84 Land & Forest Economy District Union, Neustadt, Moravia.—Flax. 666
- 85 Narbuth, Johann, Palanka, Hungary.—Hemp. 666
- 86 Károlyi, Count Alois, Stampfen, Hungary.—Sheep wool in fleeces and rolls. 667
- 87 Hunyady, Count Emerich, Uermenyi, Hungary.—Wool fleeces. 667
- 88 Sheep-wool Washing Co., Budapest.—Cleaned wool. 667
- Machines, Implements, and Processes of Manufacture.**
- 89 Auer, Josef, Senftenberg, near Krems.—Vine shears, gardeners' and insect scissors, pruning saw, and sheep shears. 670
- 91 Austrian Commission, Vienna.—Scythes and sickles. 672
- 92 Mosdorfer, Balthasar, Weiz, Styria.—Sickles. 672
- 93 Reibstein, Ignaz, Bubenc, Bohemia.—Beehives and utensils. 674
- Agricultural Engineering and Administration.**
- 94 Wärmer, Sigmund, Vienna.—Drain pipes. 680
- 95 Konnstein, Gottfried, Prague.—Ether and essences. 681
- 96 Sheep-wool Washing Co., Budapest.—Potash. 681
- 97 Haas & Rosenfeld, Gaya.—Ether. 681

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

(N. B.—Other Austrian Exhibits in this Department are installed in the Main Building, and catalogued in that volume.)

SWITZERLAND.

(NOTE.—*The Agricultural Exhibit of Switzerland is installed in the Main Building, and catalogued in that volume.*)

BELGIUM.

(NOTE.—*The Agricultural Exhibit of Belgium is installed in the Main Building, and catalogued in that volume.*)

NETHERLANDS.

(*West of West Aisle, Columns 3 to 5.*)

Agricultural, Animal, Vegetable Products.

Arboriculture and Forest Products.

- 1 Thyssen, C. J. F.—Sieve frames. 600
 2 Kleintjes, J., Rotterdam.—Plant 100 years old. 601
 3 Hulskamp, F. A., Amsterdam.—Cork. 604

Agricultural Products.

- 4 Dutch Agricultural Society (collective exhibit).—Agriculture, horticulture, arboriculture. 620
 5 Agricultural Association (collective exhibit), Geldrian.—Agricultural products. 620
 6 Zeeland Association for Encouragement of Agriculture & Cattle-Breeding (collective exhibit), Middleburg.—Seeds, dye-woods, plants, and photographs of cattle. 620
 7 Bouma, N. G. & J. G., Sneek.—Buckwheat. 620
 8 Poel, Cz. P. van der, Brielle.
a Wheat, barley, oats. 620
b Cabbage. 621
c Seeds. 624
 9 Post, C. G. van der, Gouda.—Cigars. 623
 10 Bleckmann, A. & B. C., & Van der Poel, H., Arnhem.—Cigars. 623
 11 Mignot, A. J., & de Block, A. A. M., Eindhoven.—Cigars. 623
 12 Jagt, P. G. van der, & Francois, J., Utrecht.—Cigars. 623
 13 Koppen, H. T., & Son, Leerdam.—Cigars. 623

Water Animals, Fish Culture and Apparatus.

- 14 Maas, A. E., Scheveningen.—Boats, nets, hooks, etc. 647

Animal and Vegetable Products.

- 15 Heil, L. W., Haarlem.—Edam cheese. 651
 16 Goede, D., Alkmaar.—Cheese. 651
 17 Vliet, A. van, Bergambacht.—Cheese and butter. 651
 18 Jong, de, M. & K., Hoorn.—Edam cheese. 651
 21 Draisma van Valkenburg, S., Leeuwarden.—Liver-oil containing iodine and iron. 652
 22 Heijnsbergen, P. van, Zaandam.—Liver-oil containing iron. 652
 23 Klütgen, J. H., Rotterdam.—Bedfeathers. 653
 24 Visser, J., Amersfoort.—Brown and white wax. 654
 25 Surie, Widow J. W., & Son, & Co., Rotterdam.—Preserved eatables. 656
 26 Nieuwenhuijs, J. H., jr., & Co., Amsterdam.—Conserved eatables in tins, boxes, and bottles. 656
 28 Hoogenstraaten, D. A. J., Leiden.—Vegetables and fruit in cans and boxes. 656
 29 Wolff, M. B., Amersfoort.—Flour, ground and unground. 657
 30 Schober, J. H. S., Utrecht.—Flour. 657

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 12-14.

Animal and Vegetable Products.

- | | | | |
|--|-----|---|-----|
| 31 Van Marken, J. C., jr., Delft. | | 52 Hoppe, P., Amsterdam.—Gin, liquors, and distillations. | 660 |
| a Corn. | 657 | 53 Bols, de Erven Lucas, Amsterdam.—Fine liquors. | 660 |
| b Alcohol. | 660 | 54 Oostra, G. Wildervank, Groningen.—Liquor and elixir. | 660 |
| c Corn cakes. | 661 | 55 Hofman, A. J. T., Woerden.—Liquors, bitters, extracts, and spirits. | 660 |
| d Oil. | 662 | 56 Wynand, Fockink, Amsterdam.—Fine liquors. | 660 |
| 32 Grootes, Pz. M., Westzaan.—Cacao, chocolate, and chokolatine. | 658 | 57 Houtman, A., & Co., Schiedam.—Gin. | 660 |
| 33 Driessen, C. A., J. P., & H. T., Rotterdam.—Cacao, chocolate, and cacao-butter. | 658 | 58 Valk, J. van der, & Co., Delfshaven.—Gin made of grain double distilled. | 660 |
| 34 Haagen, R. C. van, Utrecht.—Cacao, cacao-butter, and chocolate. | 658 | 59 Zuijlekom, van Levert, & Co., Amsterdam.—Fine liquors, bitters, gin, brandy, etc. | 660 |
| 35 Egberts, B. H., Dalfsen.—Succory. | 658 | 60 Meder, J. J., Schiedam.—Swan gin. | 660 |
| 36 Duijvis, J., Koog-aan-de-Zaan.—Starch. | 658 | 61 Levert & Co., Amsterdam.—Liquors. | 660 |
| 37 Veenhoven, Schuringa, & Co., Wildervank.—Potato-flour. | 658 | 62 Rademakers, A. C., Delfshaven.—Gin. | 660 |
| 38 Sloet van Marxveld, G., Baron, Volleghoven.—Syrup in bottles. | 659 | 63 Smits, F. H. M., Breda.—Strong beer. | 660 |
| 39 Verweij, N., & Co., Tiel.—Sugar of grape and potato-meal. | 659 | 64 Van Dulken, Weiland, & Co., Rotterdam.—Gin, brandy, and alcohol. | 660 |
| 40 De Bont, M. J., Amsterdam.—Confectionery and chocolate, in forms and moulds. | 659 | 65 Lensvelt, G., Gravenhage.—Table-biscuit, cake, ship-bread. | 661 |
| 41 Visser, J., Amersfoort.—Brown and white mead. | 660 | 66 Ulrich, W. D., Rotterdam.—Ship-biscuit. | 661 |
| 42 Pollen, L. P. M., Rotterdam.—Liquors. | 660 | 67 De Jongh, Wz. D., Dordrecht.—Vegetable oils and seed cakes. | 662 |
| 43 Schade van Westrum, J. C., Schiedam.—Gin. | 660 | 68 Kruijmulder, Cz. D., Amsterdam.—Vegetable oils. | 660 |
| 44 Kiderien, E., Delfshaven.—Alcohol and potash. | 660 | 69 Dutch Association for Encouragement of Flax Industry, Rotterdam.—Flax and linseed. | 661 |
| 45 Bal, J. J., Middelburg.—Red currant wine. | 660 | 70 Gorter Brothers, Dokkum.—Flax. | 666 |
| 46 Catz, S., Pekel, A.—Bitters and liquors. | 660 | 71 Van Casteel, A. F., Rotterdam.—Holland, Freeland, and Iceland flax. | 666 |
| 47 Groen, Gz. J. B., Amsterdam.—Bitters and wine. | 660 | 72 Mulder, L., Arnhem.—Agricultural newspaper. | 306 |
| 48 Stibbe, Lz. G., Kampen.—Fine liquors and bitters. | 660 | | |
| 49 Nolet, J. J. G., Schiedam.—Gin and spirits. | 660 | | |
| 50 Bootz, Erven Wed, F. A., Amsterdam.—Liquors. | 660 | | |
| 51 Blankenheijm, J. J. M., & Ledé, C. A. E. van, Rotterdam.—Gin. | 660 | | |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

DENMARK.

(NOTE.—The Agricultural Exhibit of Denmark is installed in the Main Building, and catalogued in that volume.)

SWEDEN.

(West Avenue, Columns 6 to 10.)

Forest, Agricultural, Animal, and Vegetable Products.

Agriculture, Arboriculture, and Forest Products.

- 1 New Gellivara Co. (limited), Lulea.
—Fir timber grown at the latitude of 67°
N.; specimens of lumber. 600

Agricultural Products.

- 3 Fogelmark, Sixten, Ava, Lulea.—
Cereals. 620
- 4 Hagendahl, C. A., Orebro.
a Cereals. 620
b Seeds. 624
- 5 Hofmeister, Ch., Ingelstad, Kristian-
stad.—Cereals. 620
- 6 Hulthenberg, C. A., Borgholm.—Bar-
ley. 620
- 6a New Gellivara Co. (limited), Lu-
lea.—Agricultural products. 620
- 7 Kalmar Agricultural Society, Wes-
tervik.—Cereals. 620
- 8 Norbotten Agricultural Society,
Lulea.—Agricultural products. 620
- 10 Platen, Count Carl von, Örbyhus.—
a Cereals. 624
b Seeds of forage plants. 620
- 12 Scheële, G. von, Kilanda, Göteborg.
a Cereals. 620
b Grass seeds. 624
- 14 Stenström, O. E., Gardsjö, Karlstad.
—Cereals. 620
- 15 Upsala Agricultural Society, Up-
sala.
a Cereals. 620
b Seeds. 624
- 16 Westerbottens Agricultural Society,
Umea.—Cereals. 620
- 17 Westmanlands Agricultural Society,
Stenby, Strömsholm.
a Cereals. 620
b Seeds. 624
- 19 Orebro Agricultural Society, Orebro,
Nora.—Cereals. 620
- 21 Berggren, D. & J., Stockholm.—To-
bacco. 623
- 22 Dahl, P., Carlshamn.—Snuff. 623
- 23 Hennig & Papenhagen, Kalmar.—
Chicory. 623

Water Animals, Fish Culture, and Apparatus.

- 27 Amundson, Mrs. C. M., Uddevalla.—
Oyster anchovy. 642
- 28 Andersson, Gustaf, Fjellbacka.—An-
chovy and sardines. 642
- 29 Bergström, H. C., Lysekil.—An-
chovy and herrings. 642

- 30 Ericsson, N. O., Tangen, Lysekil.—
Anchovies and herrings. 642
- 31 Hallgren, J. J., Gullholmen, Oroust.
—Anchovies and herrings. 642
- 32 Royal Swedish Commission, Stock-
holm.
a Pickled fish. 642
b Instruments and apparatus for fishing. 647
- 33 Lundgren, P. W., Stockholm.—Pre-
served fish. 642
- 34 Lysell, Aug., Lysekil.—Anchovies.
642
- 35 Nilsson, Edv., Grebbestad.—Pre-
served mackerel. 642

Animal and Vegetable Products.

- 38 Wästfelt, Carl C., Kölingsholm
Mullsjö.—Rennet. 651
- 40 Ericsson, Anders, Stockholm.—Calf-
skins. 652
- 41 Johannesson, C. S., Stockholm.—
Leather. 652
- 44 Prommel, C. J., Göteborg.
a Preserved fruits. 656
b Confections. 661
- 45 Wikström, Zacharias, Stockholm.—
Preserved vegetables. 656
- 46 French Steam Flour Mills, Lands-
krona.—Flour and grit. 657
- 47 Scheële, G. von, Kilanda, Göteborg.
—Flour and other products of grinding. 657
- 48 French Steam Flour-Mills, Ystad.
—Flour and other products of grinding. 657
- 52 Berg, C. G., Karlshamn.—Punch and
whisky. 660
- 53 Bergen, J. N. von, & Son, Karls-
hamn.—Punch. 660
- 54 Broddelius & Akerman, Göteborg.—
Punch. 660
- 55 Cederlund's, J., Sons, Stockholm.—
Punch. 660
- 56 Creutz, A., Mariefred.—Punch. 660
- 57 Dahlheim & Engström, Stockholm.
—Punch. 660
- 59 Högstedt & Co., Stockholm.—Punch.
660
- 60 Moboda Manufacturing Co., Moboda.—Spirits made from lichens. 660
- 61 Tulldahl, A. H., Landskrona.—Pale
ale. 660
- 62 Petterson, Otto, Stockholm.—Punch.
660
- 63 Platin, C. G., & Co., Göteborg.—
Punch. 660
- 64 Thalín, Waldemar, Nyköping.—
Punch. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Machines, Implements, Engineering, and Administration.

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| <p>65 Wallis, A. B., Dybeck, Ystad.—
Aie. 661</p> <p>65^a Ullander, A., Upsala.—Punch. 660</p> <p>66 Feith, H. J., & Son, Upsala.—Bis-
cuits. 661</p> <p>67 Royal Swedish Commission, Stock-
holm.—Dried bread. 661</p> <p>Machines, Implements, and Processes
of Manufacture.</p> <p>69 Eklundh, L. P., Ulricehamn.—
Plows. 670</p> <p>70 Göteborg Machine Co. (limited),
Göteborg.—Plows. 670</p> <p>72 Petterson, C. E., Elfdalen.—Scythes.
672</p> <p>73 Andersson, J., Orebro.—Cow and
sheep bells. 675</p> | <p>74 Atterling, C., Orebro.—Dairy appa-
ratus. 675</p> <p>75 Kallinge Iron Works, Malmö.—
Dairy utensils of iron and pewter. 675</p> <p>76 Rehnström, W., Köping.—Drawing
of dairy-houses and utensils. 675</p> <p>Agricultural Engineering and Ad-
ministration.</p> <p>79 Friestedt, A. W., Stockholm.—Com-
mercial fertilizers. 681</p> <p>80 Betou, P. D. in de, Stockholm.—Arti-
ficial manures. 681</p> <p>81 Superphosphate Manufacturing Co.,
Stockholm.—Fertilizers. 681</p> <p>84 Löfvenskiöld, Ch., Mariestad.—
Drawings of farm-houses. 682</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

NORWAY.

(West of West Aisle, Columns 6 to 10.)

Forest, Agricultural, Animal, and Vegetable Products, Fish Culture.

Arboriculture and Forest Products.

- 1 Holst, Chr., Ladegaardsøen, Christiania.—Samples of Norwegian wood. 600
- 4 Holmen's Sawing & Planing Mills, Drammen.—Grooved and tongued flooring boards and mouldings. 600
- 5 Koldfossen's Bobbin Works, near Bergen.—Blocks and bobbins of birch and alder, condenser props, etc. 600
- 6 Thams & Co., M., Orkedal.—Trunks of trees, planks, battens, staves, cornices, cases, etc. 600

Agricultural Products.

- 7 Schirod, Chr., Aker.—Wheat, rye, corn, and barley. 620
- 8 Holst, Chr., Ladegaardsøen, Christiania.—Cereals in ear and seeds. 620
- 9 Agricultural School, Aas near Christiania.
a Oats, rye, and barley. 620
b Seeds. 624
- 10 Rosenkrone, Baron, Rosendal.—Grain. 620
- 11 Stend Agricultural School.
a Corn. 620
b Potatoes. 622
- 11*a* Brovold, T.—Grain. 620
- 11*b* Torkildsen, J.—Grain. 620
- 11*c* Svanoë, Chr.—Grain. 620

Land Animals.

- 12 Holst, Chr., Ladegaardsøen, Christiania.—Photographs of Telmark cows and description of the race. 631

Marine Animals, Fish Culture and Apparatus.

- 13 Museum of Bergen, Bergen.
a Mammals. 640
b Fishes. 641
c Crustaceans. 643
d Mollusks, oysters, etc., stuffed and in alcohol 644
- 15 Bergens Røgeri, Bergen.—Red herrings. 642
- 16 Board of Commerce, Bergen.
a Herrings, cods, lings, saithes, tusks, haddocks, etc., pickled and dried. 642
b Fish-oil, fish-roses. 646
- 17 Board of Commerce, Alesund.
a Dried and salted fish. 642
b Collection of fishing tackle. 647
- 18 Hjul & Platou, Christiania.—Anchovies. 642
- 19 Johnsen, Chr., Christiansund.—Salted and dried cod. 642

- 21 Mohn, Peter, Bergen.—White herrings. 642
- 22 Nordrock, Wm., Christiania.—Anchovies. 642
- 23 Tellefsen, Mrs. Rina, Christiania.—Anchovies. 642
- 24 Smith, Mrs. Gina, Christiania.—Anchovies. 642
- 25 Soyland, L. B., Flekkefjord.—Preserved fish. 642
- 26 Dons, Henrik, Christiania.—Fish and anchovies. 642
- 27 Helgesen, H. A., Aalesund.—Preserved salmon, lobsters, etc. 542
- 28 Ronneberg, Carl A., Aalesund.—Salt fish. 642
- 29 Hjorth, Fr., Fredrikstad.—Anchovies. 642
- 30 Lund, Georg, Christiania.—Anchovies. 642
- 31 Thorne, Chr. Aug., Moss.—Anchovies. 642
- 32 Egidius, Peter, Bergen.—Herring and anchovies. 642
- 33 Bordewich & Co., Lyngvær.—Fishmeal, fish-glue, caviar, fish-oil. 646
- 34 Dahl, Jens. O., Havøen.—Cod and herring nets, cod-lines. 647
- 35 Erichsen, Thomas, Bergen.—Fish-hooks. 647
- 36 Fagerheim Net Company, Bergen.—Salmon and herring seines, cod, mackerel, and herring nets. 647
- 37 Kraasby Brothers, Aalesund.—Bait for cod-lines. 647
- 38 Falck, Ytter, Christiania.—Norwegian fishing sled with implements. 647
- 39 Bergen Glass Works, Bergen.—Buoys and floats for fishing nets and lines. 647

Animal and Vegetable Products.

- 40 Rosing's, A., widow, Christiania.
a Condensed milk. 651
b Crackers of fishmeal. 661
- 40*a* Stend Agricultural School.—Butter. 651
- 41 Lund, Georg, Christiania.—Preserved old cheese. 651
- 42 Klem, Hansen, & Co., Trondhjem.—Leather and belting. 652
- 43 Meyer, Samuel B., Bergen.—Leather. 652
- 44 Hallen, J. P., Christiania.—Leather. 652
- 45 Fossen's Tannery, Flekkefjord.—Leather. 652

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 12-14

Animal and Vegetable Products, Implements, Engineering.

- 46 Dalen's Tannery, Flekkefjord.—Leather. 652
- 48 Haar & Wesnaes, Stavanger.—Preserved meats, etc. 656
- 49 Helgesen, H. A., Aalesund.—Preserved meats, etc. 656
- 50 Stavanger Preserving Company, Stavanger.—Preserved meats, beef, fowls, fish, milk, cream, etc. 656
- 51 Dons, Henrik, Christiania.—Preserved meats, game, poultry, soups. 656
- 52 Tellefsen, Mrs. Rina, Christiania.—Preserved game. 656
- 53 Norwegian Condensed Milk Company, Christiania.—Condensed milk. 656
- 54 Thorne, Chr. Aug., Moss.—Preserved meat and vegetables. 656
- 55 Norwegian Preserving Co., Mandal.—Preserved meats and vegetables. 656
- 56 Christiania Brewery, Christiania.—Pale ale. 660
- 57 Dahl, E. C., Trondhjem.—Pale ale. 660
- 58 Forseth, O. N., & Co., Christiania.—Pale ale. 660
- 59 Frydenlund Brewery, Christiania.—Pale ale. 660
- 60 Hamar Brewery, Hamar.—Pale ale. 660
- 61 Kongsberg Brewery, Kongsberg.—Pale ale. 660
- 63 Lysholm, Jorgen B., Trondhjem.—Norwegian brandy and punch. 660
- 64 Poulsen, H., & Co., Christiania.—Arrack punch. 660
- 65 Ruud, J. A., Christiania.—Pale ale from Moss brewery, Norwegian corn brandy. 660
- 66 Aass, P. L., Drammen.—Beer. 660
- 68 Wriedt, Chr., Drammen.—Beer. 660
- 69 Tandberg, Frants, Drammen.—Norwegian cordials. 660
- 70 Salicath, Oscar, Christiania.—Sugar-drops and punch. 660
- 71 Anisdahl, R. O., Skien.—Drops and peppermint. 662
- Machines, Implements, and Processes of Manufacture.**
- 72 Cathrineholm's Foundry, Fredrickshald.—Agricultural implements. 670
- 72a Stend Agricultural School.—Plows. 670
- 73 Rosing, Ulrik, Christiania.—Mask for killing cattle. 674
- Agricultural Engineering and Administration.**
- 74 Norwegian Fish Guano Company, Christiania.—Fish guano. 681
- 75 Bordewich & Co., Lyngvær.—Fish guano. 681
- 76 Foyn, Sven, Tonsberg.—Fish guano. 681
- 77 Holst, Chr., Ladegaardsøen, Christiania.—Norwegian artificial manure. 681
- 77a Foyn, Sven, Tonsberg.—Whale oil, stearine. (*See Department II., Main Building.*) 201
- 77b Board of Commerce, Aalesund.—Models of fishing boats. 594
- 77c Museum of Bergen, Bergen.—Models of fishing boats; fisherman's hut and ice store. 594

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

ITALY.

(West of East Avenue, Columns 1 to 4.)

Fruits, Agricultural, Animal, Vegetable Products.

Arboriculture and Forest Products.

- 1 Favare, Marquis Delle, Palermo.—
Sumac leaves. 602
- 2 Romano, Gaetano, Palermo.—Su-
mac. 602
- 3 Cernigliano, Vizzi Carmelo, Trapani.
—Sumac leaves. 602
- 4 Castorina & Parlato, Catania.—Su-
mac. 602
- 5 Scala, Baron Sciacca della, Palermo.
—Sumac. 602
- 6 Aula, Domenico, & Co., Trapani.—
Sumac. 602
- 7 Special Committee of Salerno, Sa-
lerno.—Manna. 603
- 8 Chamber of Commerce and Arts, of
Bari.—Sweet almonds, mustard seed. 605
- 9 Parlato, Luigi, Syracuse, Sicily.—
Almonds. 605
- 10 Niceforo, Nicola, Catania.—Hazel
nuts. 605
- 11 Elia, Antonino, & Sons, Catania.—
Pistachio almonds, flax seed, hazel nuts,
mustard seed. 605
- 12 Agricultural Committee of Palermo.
—Collection of seeds. 605
- 13 Mazzullo, Cav. Luigi, Messina.—
Dried nuts. 605
- 14 Council of Polizzi, Generosa, Paler-
mo.—Avellane nuts. 605

Pomology

- 15 Rossi, Cav. Cesard Leopardi, Comi-
so, Syracuse.—Olives. 611
- 16 Crispo, Monceada Carlo, Catania.—
Lemons, oranges. 611
- 17 Chamber of Commerce and Arts, of
Bari.—Olives. 611
- 18 Lanzara, Raffaele, Salerno.—Lem-
ons, oranges. 611

Agricultural Products.

- 19 Ciaccio, F. Paul, Palermo.—Various
grains. 620
- 20 Agrarian Colony of S. Martino, Pa-
lermo.—Grains. 620
- 21 Grande Latino, Baron Corrado, &
Bros., Avola, Palermo.—Grain prod-
ucts. 620
- 22 Porcari, Baron Angiolo, Palermo.—
Grain products. 620
- 23 Fornasa, Vincenzo, Cologna Veneta,
Verona.—Various cereals. 620
- 24 Ferrarini Bros. & Co., Formigine,
Modena.—Rice. 620

- 25 Malinverni, Secondo, Vercelli, No-
vara.—Rice. 620

- 26 Scocchiolini, Adone, Rome.—Mus-
tard. 623

Water Animals, Fish Culture and
Apparatus.

- 27 Avellino, Antonio, Leghorn.—Sar-
dines in oil. 642
- 28 Stiassi, Filippo, Bologna.—Eels 642

Animal and Vegetable Products.

- 29 Agrarian Committee of Chiavari
a Cheese. 651
b Fruits. 656
c Wine and vinegar. 660
- 30 Guscetti, E., Milan.
a Parmesan and Gorgonzola cheese. 651
b Sausages. 656
- 31 Baldini, Agostino, & Co., Pescaia,
Lucca.—Sole leather. 652
- 32 Aste, D. Stefano, Public Slaughter
House, Florence.—Albumen. 652
- 33 Casarino, Mariellus, St. Gottard,
Genoa.—Leather. 652
- 34 Fornari, Antonio J. Batta, Fabriano,
Ancona.—Leather. 652
- 35 Mercurelli, Pietro, Fabriano, An-
cona.—Sole and colored leather. 652
- 36 Baluffi, Nicola, & Co., Ancona.—
Dressed hides, leather for saddlery. 652
- 37 Varale, Antonio, Biella, Turin.—
Dressed hides. 652
- 38 Banfi, Giuseppe Flavio, Milan.—
Glue. 652
- 39 Fibbi, Raffaele, Fabriano, Ancona.
—Glue and size. 652
- 40 Fino, Luigi, & Co., Turin.—Albu-
men. 653
- 41 Tramontani, D., Bologna.—Hon-
ey. 654
- 42 Brolo, Duke Federigo Lancia di,
Palermo.—Honey of orange flower. 654
- 43 Scala, Baron Sciacca della, Palermo.
—Honey and wax. 654
- 44 Morandi, Pietro, Milan.
a Wax. 654
b Liquors. 660
- 45 Reali, Giuseppe & Gavazzi, Ercole,
Venice.—Wax. 654
- 46 Bartolucci-Godolini Brothers,
Rome.—Honey. 654
- 47 Acclimatization and Agricultural
Society of Palermo.
a Honey. 654
b Fruits in alcohol. 656

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14

Animal and Vegetable Products, Wines.

- 48 Giannelli, Raffaello, Sienna.
a Honey. 654
b Juniper berries. 656
- 49 Massardo, Nicolo, Sampierdarena, Genoa.—Preserves. 656
- 50 Figatner, Enrico, Milan.—Dried meat. 656
- 51 Troia, Alfri, Syracuse.—Paste for soup. 656
- 52 Contessini, Gerini & Co., Leghorn.—Candied fruits. 656
- 53 Curry, Giacomo, Leghorn.—Preserves. 656
- 54 Bougleuse Bros. & Co., Leghorn.—Paste for soup. 656
- 55 Klein, Enrico, Leghorn.—Candied fruits. 656
- 56 Samoggia, Gaet. & Brothers, Bologna.—Bologna sausages and salted meats. 656
- 57 Lanzarini Brothers, Bologna.—Sausages and salted meats. 656
- 58 Colombini, Ulisse, Bologna.—Sausages and salted meats. 656
- 59 Serrazanetti, Giovanni Anzola, Bologna.—Tomato sauce and preserved tomatoes. 656
- 60 Nenzioni Brothers, Bologna.—Preserved tomatoes. 656
- 61 Zappoli Brothers, Bologna.—Bologna sausages and salted meats. 656
- 62 Grillini, Nanni & Co., Bologna.—Sausages and salted meats. 656
- 63 Zanetti, Guido, Bologna.—Sausages and salted meats. 656
- 64 Bordoni, Natale & Co., Bologna.—Sausages and salted meats. 656
- 65 Bassi, Medando, & Ugo Brothers, Bologna.—Sausages and salted meats. 656
- 66 Tacconi, Paolo, Bologna.—Sausages and salted meats. 656
- 67 Orsi, Raphael, Bologna.—Sausages and salted meats. 656
- 68 Frigieri, Giuseppe, Modena.—Hams, bologna sausages, etc. 656
- 69 Bellantani, Giuseppe, Modena.—Bologna sausages and salted meats. 656
- 70 Zironi, Giovanni, Fiorano, Modenes.—Salted meats. 656
- 1 Forni, Alessandro, Bologna.—Sausages and salted meats. 656
- 72 Molinari Brothers, Modena.—Bologna sausages. 656
- 73 Special Committee of Salerno.—Paste for soup. 656
- 74 Napoli, Francesco, Salerno.—Preserved tomatoes. 656
- 75 Peracchi, Enrico, Parma.—Tomato sauce. 656
- 76 Domenici, Annibale, Pontasserchio, Pisa.—Pork, meat, and bologna. 656
- 77 Frosini, Edoardo, & Brother, Pontasana, Pisa.—Paste for soup. 656
- 78 Gentili, Ferdinando, Pontasserchio, Pisa.—Paste for soup. 656
- 79 Carulli, David, Cremona.—Bologna and salted meats. 656
- 80 Castino, G. B., & E. Scotto, Turin.—Paste for soup. 656
- 81 Stiassi, Filippo, Bologna.—Mortadelle and other bologna sausages, eels. 656
- 82 Pinardi, Pietro, Gottolengo, Brescia.—Mustard and preserves. 656
- 83 Gardenghi, Enrico, Modena.—Sausages, meats, zamponi. 656
- 84 Greco, Marco, Bologna.—Liquors. 656
- 85 Tosi, Bellucci, Giacomo, Modena.—Preserves. 656
- 86 Luca, de, Francesco, Termini, Palermo.—Paste for soup. 656
- 87 Russo, Biagio, Termini, Palermo.—Paste for soup. 656
- 88 Cammarato, Carmelo, Palermo.—Paste for soup. 656
- 89 Bruno, Giuseppe, Palermo.—Preserves. 656
- 90 Verdone & Patera, Palermo.—Sauces and conserves. 656
- 91 Merlo, Vincenzo, Baron, Palermo.—Dried figs. 656
- 92 Sciacca della Scala, Baron, Palermo.—Dried figs. 656
- 93 Guli, Salvatore, Cav., Palermo.—Candied fruits. 656
- 94 Ferrari, Sebastiano, Rome.—Paste for soup. 656
- 95 Palazzo, Duke del, Catania.—Paste for soup. 656
- 96 Amato Brothers, Catania.—Candied fruits. 656
- 97 Caliri, Salvatore, Messina.
a Candied fruits. 656
b Liquors. 660
- 98 Botti, Alessandro, Chiavari, Genoa.
a Dried fruits. 656
b Wine. 660
- 99 Borna Brothers, Treviso.
a Pickles. 656
b Vinegar. 660
- 100 Guglielmini, Andrea, Salerno.
a Dried fruits. 656
b Wine. 660
- 101 Rinaldo, Raffaele, Salerno.
a Dried fruit. 656
b Wine. 660
- 102 Agosti Brothers, Bagnoria, Rome.
a Dried prunes. 656
b Vermouth, wines, liquors. 660
- 103 Viscardi, Geremia, Bologna.
a Preserved fruits. 656
b Small biscuits. 661
- 104 Chamber of Commerce & Arts, Bari.
a Dried figs. 656
b Wine. 660
c Chocolate. 661
- 105 Simone, Raffaele, de Torre Anunziata, Naples.—Lest flour paste. 657
- 106 Lazzaro, Salvatore, Messina.—Liquors. 660
- 107 Marzi Brothers, Poggibonsi, Siena.—Wines. 660
- 108 Castiglioni, Domenico, Parma.—Wines. 660
- 109 Cagleari, Giuseppe, Piacenza.—Wines and liquors. 660
- 110 Ghizzoni, Luigi, Piacenza.—Liquors. 660

Wines and Liquors.

- 111 Clerici, Costantino, Milan.—Vermouth. 660
- 112 Torelli, Lenaf Luigi, Count, Milan.—Wines. 660
- 113 Italian Enological Committee, Turin.—Wine and vermouth. 660
- 114 Ricci, Emiliano, Sienna.—Liquors. 660
- 115 Torricelli, Andrea, Florence.—Various liquors. 660
- 116 Minutillo, Giovanni, Palermo.—Liquors. 660
- 117 Guli, Salvatore Luigi di, Palermo.—Wines. 660
- 118 Giacone, Pietro, Palermo.—Marsala wines. 660
- 119 Martillaro, Mar. Carlo, Palermo.—Wines. 660
- 120 Catanzaro, Giuseppe, Termini, Palermo.—Wines. 660
- 121 Florio, Ignazio, & Vincenzo, Palermo.—Marsala wines. 660
- 122 De Nava, Giuseppe di P., Reggio, Calabria.—Wines. 660
- 123 Gabaldoni, Andrea Carlo, Varese Ligure, Sestri Levante.—Wines. 660
- 124 Epological Society of Scandiano.—Wine. 660
- 125 Malatesti, Augusto, Modena.—Wine. 660
- 126 Enological Society of Savigliano.—Wine. 660
- 127 Buton, G., & Co., Bologna.—Liquors. 660
- 128 Rossi, Leopardi Cav. Cesard, Comiso, Syracuse.—Wine. 660
- 129 Maltese, Felice, Mayor of Vittorio Scoglitti, Sicily.—Wines. 660
- 130 Greco-Cassia, Cav. Luigi, Syracuse.—Wine. 660
- 131 Vitale, Tommaso, Palermo.—Nespole liquor. 660
- 132 Albiate, Edward, Duke, Palermo.—Casks of duca. 660
- 133 Zeni, Niccolo, Ferrara, Rosolio.—Cordial made from cocoa. 660
- 134 Caretti Brothers, Rome.—Vermouth and liquors. 660
- 135 Strutt, Arthur I., Rome.—Wine. 660
- 136 Bisco, Luigi, & Co., Brescia.—Liquors. 660
- 137 Tarussi, Luigi, & Brothers, Leghorn.—Vermouth, wine. 660
- 138 Vitiello & Torrese, Torre del Greco, Naples.—Wines. 660
- 139 Anselmi & Marassi, Naples.—Alcohol. 660
- 140 Del Bono, Enrico, Syracuse.—Wine. 660
- 141 Giordano, Gio. Batta, Vittorio, Sicily.—Wine. 660
- 142 Terranova Commilesi, G. B., Vittorio, Sicily.—Wine. 660
- 143 Maltese, Alessandrello, Vittorio, Sicily.—Wine. 660
- 144 Targia, Arezzo della, Syracuse.—Liquors, curacao. 660
- 145 Mezio, Calcedonio, Syracuse.—Wine. 660
- 146 Scuderi, Giuseppe, Catania.—Wine. 660
- 147 Mancini, Antonino, Catania.—Wine. 660
- 148 Euplio, Reina, Catania.—Wine. 660
- 149 Paterno, Castello di Bisiari Giuseppe, Catania.—Wine. 660
- 150 Contarella, Franco, Baron, Catania.—Wine. 660
- 151 Romeo, Michele, Catania.—Wine. 660
- 152 Rossi, Tedeschi Francesco, Catania.—Wine. 660
- 153 Mannino, Francesco, Baron, Catania.—Wine. 660
- 154 Crispo, Moncada Carlo, Catania.—Wine. 660
- 155 Grasso, Carmelo, Catania.—Liquors. 660
- 156 Carpanetti, Luciano, Bologna.—Liquors. 660
- 157 Paci, Cesare, Florence.—Wine. 660
- 158 Liccioli, Filippo, Florence.—Wine. 660
- 159 Agrarian Committee for Thirty Exhibitors, Florence.—Wine. 660
- 160 Ottaviani Brothers, Messina.—Wines. 660
- 161 Salvo, Salvatore di, Giarre Moscati, Messina.—Wines. 660
- 162 Salvo, Salvatore de, Messina.—Wines. 660
- 163 Pasali, Gaetano, Fermo, & Cottignano, Ascoli Piceno.—Liquors. 660
- 164 Solinas, Arras Giuseppe, Sassari.—Wines. 660
- 165 Giacobini, Coriolano, Fano, Pesaro.—Liquors. 660
- 166 Leno, de Coronie, Nicolo S. Demetrio, Corone, Calabria Citra.—Wine. 660
- 167 Agostini, Della Seta, Count Alfredo, Pisa.—Wine. 660
- 168 Lullato, G. Batta, Como.—Liquors. 660
- 169 Bonei Cassuccini Ottavio, Sienna.—Wine. 660
- 170 Zigliani, Cammillo, Bergamo.—Vinegar and essence of vinegar. 660
- 171 Magnaghi, Girolamo, Alexandria.—Vermouth. 660
- 172 Rossi, Vittorio, Asti, Alexandria.—Vermouth. 660
- 173 Berteza, Stefano, Alexandria.—Elixirs, wines, liquors. 660
- 174 Borelli, Luigi, Asti, Alexandria.—Eau-de-vie. 660
- 175 Metzger Brothers, Asti, Alexandria.—Beer. 660
- 176 Boschiero, Cav. Giovanni, Asti Alexandria.—Wines. 660
- 177 Mossone, Antonio, Andorne, Turin.—Liquors. 660
- 178 Martini, Sola, & Co., Turin.—Vermouth. 660
- 179 Genta, Giovanni, Turin.—Vermouth. 660
- 180 Poglione, Widow, & Sons, Brà Cuneo.—Wine. 660

Wines, Vegetable Products, Agricultural Implements.

- 181 Cavallone, Giovanni, Crescentino, Novara.—Vermouth 660
- 182 Bellardi, Dom. & Co., Turin.—Vermouth and liquor 660
- 183 Cinzano, Franco. & Co., Turin.—Vermouth. 660
- 184 Casoni, Giuseppe, Finale, Emilia.—Liquors. 660
- 185 Napoli, Giuseppe, Baroniss. Salerno.—Wine. 660
- 186 Palmieri, Benedetto ot Gius.. Salerno.—Wine. 660
- 187 Lanzara, Raffaello, Salerno.—Wine. 660
- 188 Murino, Nicola, Salerno.—Wine. 660
- 189 Agnini, Tommaso, Finale, Emilia.—Liquors. 660
- 190 Bellosi, Gio. Batto, Scandiano, Emilia.—Liquor 660
- 191 Musi, Luigi, Bologna.—Liquors. 660
- 192 Savorini, Francesco, S. Ionn Pasiao, Bologna.—Liquors. 660
- 193 Ronzani, Camillo, Bologna.—Beer. 660
- 194 Tucci, Savo Benedetto, Rome.—Wine. 660
- 195 Jacobini Brothers, Rome.—Wine. 660
- 196 Rospigliosi Clemente, Prince, Rome.—Wine. 660
- 197 Stella, Cav. Musio, Syracuse.—Wine. 660
- 198 Reggio, Arancio Francesco, Augusta, Sicily.—Liquors 660
- 199 Salibra, Antonino, Syracuse.—Wine and liquor 660
- 200 Bonanno, Michele, Baron, Syracuse.—Wine. 660
- 201 Maltese, Felice Vittorio, Sicily.—Wine. 660
- 202 Cassale Brothers, Syracuse.—Wine and liquor 660
- 203 Melfi, G. E., S. Antonino, Baron, Chiaramonte, Syracuse.—Wine. 660
- 204 Lanza, Cav. Salvatore, Syracuse.—Wine. 660
- 205 Adorno Puma, Cav. Gaet., Syracuse.—Wine. 660
- 206 Bruschetti, C. Vincenzo, Camerino, Maurata.—Wine. 660
- 207 Piombino, Prince of, Foligno, Umbria.—Wine. 660
- 208 Farinola, M. Paolo, Florence.—Wine. 660
- 209 Albergotti, Geo. & Agostino Bros., Arezzo.—Wine. 660
- 210 Uffredugi, Giacomo, Perugia, Umbria.—Wine. 660
- 211 Rospigliosi, Clemente, Prince, Lampovechio, Florence.—Wine. 660
- 212 Galimberti, Giuseppe, Milan.—Liquors and vermoutl 660
- 213 Marini & Poggi, Milan.—Liquors, stomachic and febrifuge exirs. 660
- 214 Zannini & Galliani, Milan.—Liquors and extract of tamarind. 660
- 215 Isolattelli & Co., Milan.—Vermouth and liquors. 660
- 216 Cordini, Gaetano, & Brivio, Busto Arsizio, Milan.—Vermouth and liquors. 660
- 217 Branca Brothers & Co., Milan.—Vermouth, liquors, alcohol. 660
- 218 Facheris, Enrico, Lodi, Milan.—Wines and vinegar. 660
- 219 Vittone, Domenico, Milan.—Vermouth and liquors. 660
- 220 Ricasoli, Bettino, Baron, Florence.—Wines. 660
- 221 Montini, Pasquale, Fabriano, Ancona.—Vermouth and liquors. 660
- 222 Brenna, Santo, Como.—Liquors. 660
- 223 Nistri, Ferdinando, Florence.—Liquors. 660
- 224 Mostardini, Adolfo, Florence.—Liquors. 660
- 225 Cita, Francesco, & Co., Naples.—Liquors. 660
- 226 Marini, Ambrogio, Milan.—Liquors. 660
- 227 Scala, Giuseppe, Naples.—Wines. 660
- 228 Galloni, Luigi, Rome.—Wines. 660
- 229 Evoli, Ma. Giovanni, Rome.—Liquor. 660
- 230 Scala Pasquale, Naples.—Wine. 660
- 231 Francica Brothers, Naples.—Wine. 660
- 232 Barra, Luigi, Naples.—Wine. 660
- 233 Patalano, Orazio, Ischia Island, Naples.—Wine. 660
- 234 Masetti, Piero Pompeo, Count, Florence.—Wine. 660
- 235 Siccoli, Guido, Florence.—Wine. 660
- 236 Fantozzi, Cesare, Foligno, Umbria.—Liquors. 660
- 237 Burchi, Serafino, Pisa.
a Liquors. 660
b Candies. 661
- 238 Villiani, Dante, Pistoga.
a Liquors. 660
b Cakes, small biscuits. 661
- 239 Tamburini, Gaetano, Bologna.—Torrone and candies. 661
- 240 Cantelli, Giuseppe, Casapulla, Caserta.—Torrone. 661
- 241 Cerri, Luigi, Cremona.—Torrone with almonds. 661
- 242 Pirrone, Antonino, Messina.—Sea biscuits. 661
- 243 Andronico, Giuseppe, Nice, Messina.—Biscuits and paste for sea. 661
- 244 Loreti, Gioacchino, Rome.—Candy, cakes, and chocolate. 661
- 245 Moriondo & Gariglie, Turin.—Chocolate and confectionery. 661
- 246 Pagni, Faustino, & Co., Pontedera, Pisa.—Biscuits, English style. 661

Textile Substances of Vegetable or Animal Origin.

- 247 Facchini, Pietro F., & Co., Bologna.—Raw and combed hemp. 666
- 247a Kluftinger, L., Bologna.—Raw and combed hemp. 666

Agricultural Implements and Engineering.

Machines, Implements, and Processes
of Manufacture.

- 248 Cagliesi, Raffaele, Ancona.—
Plow. 607
- 249 Tomaselli, Giacomo, Cremona.—
Plows. 670
- 250 Toriatti, Luigi di Gio., Venice.—
—Harrow. 670
- 251 Porri, Luigi, Pisa.—Plow-share. 670
- 252 Rossi, Ercole, Parma.—Plow. 670
- 253 Calzoni, Alessandro, Bologna.—
Agricultural machine. 670
- 254 Gattola, Nicola, Bari.—
Plow. 670

- 255 Biggi, Giovanni, & Co., Piacenza.—
Hand reaping machine. 672
- 256 Uliengo, Giovanni, Biella, Novara.—
—Butter machine. 675

Agricultural Engineering and Ad-
ministration.

- 257 Filopanti, Quirico, Bologna.—Plan
of General Garibaldi's system of irriga-
tion relating to the River Tiber. 680
- 258 Tramontani, D., Bologna.—Bee-
hive. 683

Collective Exhibit.

- 259 Special Committee of Messina.—
Samples of Sicilian products for exporta-
tion.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

BRAZIL.

West of Nave, Columns 6 to 10.

Forest and Agricultural Products.

Arboriculture and Forest Products.		30 Perdigao.—Resins.	603
1 Leao, Hermelino de.—Coal obtained from pine heart.	600	31 Province of Para.	
2 Muricy, Dr.—Pine heart.	600	<i>a</i> Resins and caoutchouc.	603
3 Araujo & Silva.—Samples of woods.	600	<i>b</i> Nuts.	605
4 Juparana, Baron of.—Samples of woods.	600	32 Province of St. Catharina.	
5 Faria, Souza.—Samples of woods.	600	<i>a</i> Samples of woods.	600
6 Villa-Franca, Baron of.—Samples of woods.	600	<i>b</i> Resins.	603
7 Provincial Commission of S. Paulo.—Samples of woods.	600	33 Province of Amazonas.	
8 Cavalcanti.—Samples of woods from Alagoas.	600	<i>a</i> Samples of woods.	600
9 Province of Rio de Janeiro.—Samples of woods.	600	<i>b</i> Samples of indigo.	602
10 Castro, Borja.—Samples of woods used at the custom-house dock works, Rio de Janeiro.	600	<i>c</i> Isca-de-tracoa, made by ants, and caoutchouc.	603
11 Penitentiary, Rio de Janeiro.—Show-cases made of Brazilian woods.	600	<i>d</i> Seeds.	605
12 Couceiro.—Samples of woods in mosaic.	600	34 Province of Alagoas.	
13 Barbôsa, F.—Samples of woods.	600	<i>a</i> Samples of woods.	600
14 Muricy & Leao, Drs.—Samples of woods from Parana.	600	<i>b</i> Gums and resins.	603
16 Province of Bahia.—Samples of woods and medicinal leaves.	600	35 Province of Ceara.—Resins and caoutchouc.	603
17 Leite, Severino.—Ticus leaves.	600	36 Costa, Gaudencio da.—Caoutchouc from Para.	603
18 Silva, Domingos.—Samples of woods from Macahé.	600	37 Province of Pernambuco.	
19 Province of Parana.—Lumber and timber.	600	<i>a</i> Woods.	600
20 Bueno, Pimenta.—Samples of woods from Para.	600	<i>b</i> Dyeing wood.	602
21 Rocha, Ignacio da.—Pine lumber from Parana.	600	<i>c</i> Gums.	603
22 Province of Goyaz.		<i>d</i> Nuts.	605
<i>a</i> Paparo or paper tree and samples of wood.	600	38 Province of Rio-Grande-do-Norte.—Wax-dust, resins, gum, and caoutchouc.	603
<i>b</i> Resins.	603	39 Province of Minas-Geraes.—Resins.	603
23 Colony Itajahy.—Samples of woods for construction and furniture.	600	40 Araujo, Castro.—Wax on the branch.	603
24 Barbôsa, J. F.—Samples of woods.	600	41 Sarafana, Felix.—Wax on the branch.	603
25 Gama, Azarias.—Cipó-pão (wood).	601	42 Rebello, Dr.—Dyeing barks.	603
26 Municipality of S. Francisco.—Ornamental woods.	601	43 Andrade, Ildefonso de.—Barks.	603
27 Municipality of S. José.—Ornamental woods.	601	44 Martins, J. A.—Barks and leaves of the Eucalyptus giganteus.	603
28 Oliveira P. M. de.—Cumaté (dyeing wood).	602	45 Sardinha.—Resins.	603
29 Province of Ceara.		46 Silva, T. R. da.—Resins.	603
<i>a</i> Dyeing wood.	602	47 District of Principe.—Resins.	603
<i>b</i> Resins and gum.	603	48 Portugal, F. P. d'Azevedo.—Balsams.	603
<i>c</i> Berries of mamona.	605	49 District of Que'ruque.—Resins.	603
		50 Commission for Acari.—Resins.	603
		51 Paes-Leme, Rosalina.—Linseed.	605
		Agricultural Products.	
		52 Scheffer, Melchior.—Barley in ear and threshed.	620
		53 Martins, Ant.—Barley.	620
		54 Schamalake.—Barley.	620
		55 Richter, Frederico.	
		<i>a</i> Cereals.	620
		<i>b</i> Mustards and tobacco.	623

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 12-14.

Agricultural Products.

- 56 Leao, Hermelino de.
a Rye, wheat, oats, linseed, and maize. 620
b Beans. 621
c Seeds. 624
- 57 N——. N——.
a Maize on the cob; carnauba straw. 620
b Tea from S. Paulo; coffee from Bahia. 623
- 58 Province of Parana.
a Wheat and rye. 620
b Medicinal plants. 621
c Manioc tubers. 622
d Mate, a substitute for tea; coffee, tobacco, cigarettes. 623
- 59 District of Lages.—Cereals. 620
- 60 Colony Santa-Maria da Soledade.
a Rye, oats, and barley. 620
b Seeds and linseed. 624
- 61 Commission General for the National Exhibitions.
a Rice, corn, and barley. 620
b Medicinal plants. 621
c Spices, coffee, maté. 623
d Seeds. 624
- 62 Sampaio, J. M. Leite.—Unhulled rice. 620
- 63 Gomes, Cordeiro.—Unhulled rice. 620
- 64 Mello, J. C. de.—Rice. 620
- 65 Mendes, Olinte.—Corn. 620
- 66 Carvalho, B. Rocha.—Rice. 620
- 67 Souza, Bento de.—Wheat. 620
- 68 Valle, R. J. Ferreira.—Unhulled rice. 620
- 69 Municipality of Lage.—Wheat. 620
- 70 District of Quebranguelo.—Beans and ground. 621
- 71 District of Votuverava.—Medicinal plants. 621
- 72 Correa, Laurenço.—Medicinal plants. 621
- 73 Freitas, G. de Sz.—Medicinal plants. 621
- 74 Araujo, A. J. Roiz d'.—Medicinal plants. 621
- 75 Araujo, J. P. de Souza.—Medicinal plants. 621
- 76 Piratinga, L. Tebiriçá.—Medicinal plants. 621
- 77 Foggia, Z. M.—Medicinal plants. 621
- 78 Barbosa, Norberto.—Medicinal plants. 621
- 79 Guimarães, J. F.—Medicinal plants. 621
- 80 Dias, C. Falcao.—Medicinal plants. 621
- 81 Barros, Dr. J. J. d'Albuquerque—Medicinal plants. 621
- 82 Athayde, M. E. de Sz.—Almacega (leica-leicariba). 621
- 83 Philippe, A.—Tears of the Virgin (medicinal plant). 621
- 84 Perdigao.
a Medicinal plants. 621
b Bacury seeds. 624
- 85 Province of Ceara.
a Medicinal plants and beans. 621
b Coffee. 623
- 86 Province of Goyaz.
a Medicinal plants. 621
b Tobacco. 623
- 87 Muricy & Leao.
a Beans. 621
b Seeds. 624
- 88 Leao, Ermelindo de.
a Beans. 621
b Ginger and snuff. 624
- 89 Province of Para.
a Barley. 620
b Cocoa, ginger, and tobacco. 623
- 90 Province of Alagoas.
a Medicinal plants. 621
b Vanilla and other seeds. 624
- 91 Province of S. Paulo.
a Medicinal roots. 621
b Chocolate. 623
- 92 Araujo, Rodrigues de.—Medicinal plants. 622
- 93 Moura, Ferreira de.—Potatoes. 622
- 94 Dr. Muricy.
a Sweet flag. 622
b Spices and tobacco. 623
c Seeds. 624
- 95 Brant, J. F. d'Andrade.—Manioc roots. 622
- 96 Heredia, Sa, Dr.—Heredia root. 622
- 97 Municipality of Cametá.—Cocoa. 623
- 98 Triste, J. M. d'Araujo.—Cloves of India. 623
- 99 Portella, F. Fernandes.—Vanilla. 623
- 100 Guimarães, M. A., & Pedrozo, H.—Vanilla aromatica. 623
- 101 Padua, A. de.—Vanilla. 623
- 102 Silva & Sons.—Cocoa. 623
- 103 Pinho, L. F. do.—Chocolate. 623
- 104 Lima, Dias.—Chocolate. 623
- 105 Ribeiro, J. A. F.—Chocolate. 623
- 106 Liborio & Ferreira.—Chocolate. 623
- 108 Province of Sergipe.—Coffee. 623
- 109 Province of Parahyba do Norte.—Coffee. 623
- 110 Presidency of Sancta Catharina.—Coffee. 623
- 111 Falcao, J. J. Franco.—Coffee. 623
- 112 Albuquerque, A. de Sa.—Coffee. 623
- 113 Lacerda, A. F. de.—Coffee. 623
- 114 Breves, J. J. de Sz.—Coffee. 623
- 115 Costa, P. M.—Coffee. 623
- 116 Silva, C. J., & Sons.—Coffee. 623
- 117 Carrao, Councillor.—Coffee and tea. 623
- 118 Montenegro, Commander.—Coffee from Nova-Louzan. 623
- 119 Atibaia, Baron of.—Coffee. 623
- 120 Tavares, J. Pinto—Coffee from Parahyba-do-Sul. 623
- 121 Monteiro, P. J.—Coffee from Rio de Janeiro. 623
- 122 Portella, J. T. M.—Coffee from Muribeca. 623
- 123 Bornaud, L.—Coffee from Caravelas. 623
- 124 Magalhaes, F. L. d'Almeida.—Coffee from Triumpho. 623
- 125 Fernandez, C. J.—Coffee from Maragogipe. 623

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Products.

- 126 Belens, J. L.—Coffee. 623
- 127 Reines, N. A. Claudio.—Coffee from Monte Vermo. 623
- 128 Cunha, J. J. Alves da.—Coffee from Rio de Janeiro. 623
- 129 Valein, M. d'Aluiar.—Coffee from Brazil. 623
- 130 Vergueiro, I.—Coffee from Itacaba. 623
- 131 Siqueira, M. B. de.—Coffee and tobacco from Goyaz. 623
- 132 Nogueira, Dr. P. R.—Coffee from S. Paulo. 623
- 133 Barros, L. A. de Sz.—Coffee from S. Paulo. 623
- 134 Krull, Frederika.—Coffee from S. Paulo. 623
- 135 Province of Govaz.—Tobacco and cigarettes. 623
- 136 Colony of Assunuv.—Tobacco leaves. 623
- 137 Presidency of the Province of Bahia.—Cigars. 623
- 138 Pereira & Braga, Cigar Manufactory.—Cigars. 623
- 139 Paes-Leme, Rosalina V.
a Cigars and tobacco from the Colony Blumenau. 623
b Matte from St. Catharina. 623
- 140 S. Joao de Nictherav. Manufactory of.—Cigars and cigarettes. 623
- 141 Moreira, Dr. d'Assis C.—Tobacco from Codó. 623
- 142 Queiróz & Sons.—Tobacco from S. Paulo. 623
- 143 Levy, Salamon.—Snuff from Tette. 623
- 144 Schild, Joao.—Cigars from the Colony Sancta-Cruz. 623
- 145 Herbst, Augusto.—Twist tobacco from the Colony Blumenau. 623
- 146 Rosenstock, G.—Tobacco from the Colony Joinville. 624
- 147 Kopsch, Ch.—Tobacco from the Colony Blumenau. 623
- 148 Merck, Maxim.—Tobacco from the Colony Blumenau. 623
- 149 Vander-Berg.—Tobacco leaves from the ex-Colony Sancta-Cruz. 623
- 150 Seidler, C.—Leaf tobacco. 623
- 151 Kalden, Baron of.—Leaf tobacco from the Colony Sancto-Anzeio. 623
- 152 Ketterman, V.—Leaf tobacco from the Colony Sancto-Anzeio. 623
- 153 Dietrich, A.—Leaf tobacco from the Colony Joinville. 623
- 154 Faria, B. de.—Tobacco from Bahia. 623
- 155 Grava, Fr. L. Sa.—Tobacco from Cachocira. 628
- 156 Aranha, J. D.—Tobacco and cigarettes. 623
- 157 Ferreira, E. A.—Cigarettes. 623
- 158 Ferreira, Candido I.—Cigars from Cachocira. 623
- 159 Paraíso, D. V.—Carolina tobacco. 623
- 160 Cerqueira & Co.—Snuff, cigars, and cigarettes. 623
- 161 Mendouca, M. J.—Tobacco from Goyaz. 623
- 162 Pinheiro, J. E.—Tobacco from Pará. 623
- 163 Jardim, J. R. de Moraes.—Tobacco from Goyaz. 623
- 164 Menezes, Rev. M. de.—Tobacco. 623
- 165 Nascimento, Rev. A. F.—Tobacco. 623
- 166 Panitz, J. C.—Tobacco from S. Leopoldo. 623
- 167 Senna, N. B. de.—Tobacco from Mucury. 623
- 168 Santos, M. A. dos.—Tobacco. 623
- 169 Silva, A. Ignacio da.—Rolled tobacco. 623
- 170 Constantino, J.—Tobacco from Balpuedy. 623
- 171 Souza, M. L. de.—Cigarettes from Parana. 623
- 172 Ribas, J. L. Sá.—Twist tobacco. 623
- 173 Cokin, E.—Twist tobacco. 623
- 174 Gonsalves, J. P.—Cigars. 623
- 175 Gama, T. J. de Sz.—Cigars. 623
- 176 Abreu, J. Monteiro d'.—Cigars. 623
- 177 Borba, N. M.—Cigarettes. 623
- 178 Miranda, J. B. de.—Cigarettes. 623
- 179 Perneta, F. D.—Cigarettes. 623
- 180 Ribas, A. L. d'Andrade.—Cigarettes and matte. 623
- 181 Ramos, L. F.—Cigarettes. 623
- 182 Lepage, J.
a Cigarettes. 623
b Seeds. 624
- 183 Miranda-Russo, F. A.—Tea from S. Paulo. 623
- 184 Rego-Freitas, A. P. de.—Tea from S. Paulo. 623
- 185 Neves, J. Ribeiro.—Tea from S. Paulo. 623
- 186 França, F. A. Galvao da.—Tea from S. Paulo. 623
- 187 Xavier, J. Ribeiro.—Tea from S. Paulo. 623
- 188 Mosqueira, A. L. M.—Tea from Minas-Geraes. 623
- 189 Correa, Ildelfonso.—Matte. 623
- 190 Province of Minas-Geraes.—Matte. 623
- 191 Leao, Major V. F. de.—Matte in leaves, dried, and powdered. 623
- 192 Pacheco, D. dos Santos.—Matte leaves. 623
- 193 Braga, J. M. da Silva.—Matte leaves. 623
- 194 Torres, G. d'A.—Matte. 623
- 195 Bley, J.—Matte. 623
- 196 Xavier, A. de Paula.—Matte. 623
- 197 Torres, M. d'A.—Matte. 623
- 198 Cercal, M. d'Oliveira.—Matte in leaves. 623
- 199 Portugal, P. P. d'Azevedo.—Matte. 623
- 200 Sepper, H.—Matte. 623
- 201 Cortez, P. de Siqueira.—Matte. 623

For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Products, Land Animals.

- 202 Macedo, Tiburcio de.—Matte. 623
- 203 Diarson, J.—Matte. 623
- 204 Souza, Bento de.—Matte. 623
- 205 Constanca, Maria, & Sons.—Coffee and cocoa. 623
- 206 Correa, Pereira.—Matte. 623
- 207 Luz, Ferreira de.—Matte. 623
- 208 Camargos, Baron de.—Tea and coffee. 623
- 209 Province of Sancta Catharina.—Coffee. 623
- 210 Guimaraes, Ant.—Coffee from La Guayra. 623
- 211 Friburgo & Sons.—Coffee. 623
- 212 Nobrega, J.—Coffee from Boa Esperanca. 623
- 213 Munhoz, Caetano.—Matte. 623
- 214 Ayrosa, M. A.—Coffee. 623
- 215 Rocha-Leao, M. da.—Coffee. 623
- 216 Costa-Pereira, A. B. da.—Coffee from Piedade. 623
- 217 Gama, P. N. Nogueira da.—Coffee from Concordia. 623
- 218 Juparana, Baron of.—Coffee from Sta. Monica. 623
- 219 Rio-Novo, Viscountess of.—Coffee from Uniao. 623
- 220 Pripodi, Silvino.—Coffee. 623
- 221 Jardien, Gomes de.—Coffee. 623
- 222 Bella-Vista, Baron of.—Coffee. 623
- 223 Machado, Marcondes.—Coffee. 623
- 224 Vieira, Ant.—Coffee. 623
- 225 Magalhaes, Almeida.—Coffee. 623
- 226 Barros, Teixeira da.—Coffee. 623
- 227 Lima, Freitas.—Coffee. 623
- 228 Jordao, Miranda.—Coffee. 623
- 229 Costa, Maria da.—Coffee. 623
- 230 Camargo, Pompen de.—Coffee from Campinas. 623
- 231 Nogueira, Almeida.—Coffee from Campinas. 623
- 232 Jordao, R.—Coffee. 623
- 233 Vergueiro & Co.—Coffee. 623
- 234 Barros, Souza.—Coffee from S. Paulo. 623
- 235 Camargo, Santos.—Coffee and tobacco. 623
- 236 Amaral, Thereza do.—Coffee from Campinas. 623
- 237 Amaral, Francisco do.—Coffee from Campinas. 623
- 238 Nogueira, Ramos.—Coffee from S. Paulo. 623
- 239 Gaviao, Bernardo.—Coffee from S. Paulo. 623
- 240 Souza, Paula.—Coffee from S. Paulo. 623
- 241 Barros, Raphael de.—Coffee from S. Paulo. 623
- 242 C——, A. M.—Coffee from Iguape. 623
- 243 Jordao, Silverio.—Coffee. 623
- 244 Araguara, Baron de.—Coffee. 623
- 245 Tavares, Pinto.—Coffee. 623
- 246 Souza-Gueiroz, Baron de.—Coffee from S. Paulo. 623
- 247 Commission for the Province of St. Catharina.—Coffee. 623
- 248 Santos, Cornelio dos.—Coffee. 623
- 249 Prados, Viscount of.—Coffee from Minas-Geraes. 623
- 250 Assiz, Ferreira d'.—Coffee from Minas-Geraes. 623
- 251 Ribeiro, Silva.—Coffee from Minas-Geraes. 623
- 252 Alves, Assiz.—Coffee from Minas-Geraes. 623
- 253 Freire, Manuel.—Coffee from S. Paulo. 623
- 254 Carvalho, Zacharias de.—Coffee from Sergipe. 623
- 255 Freire & Bros.—Coffee. 623
- 256 Breve, Souza.—Coffee. 623
- 257 Jaguary, viscount of.
a Coffee. 623
b Beans. 624
- 258 Rocha-Ferreira, D. da.—Tobacco. 623
- 259 Parana, D. V.—Tobacco. 623
- 260 Commission for the Province of Maranhao.—Coffee and tobacco. 623
- 261 Colony of Blumenau.—Tobacco and cigars. 623
- 262 Colony of Itajahy.—Twisted tobacco and mate. 623
- 263 Figueredo, Pinto de.—Twisted tobacco. 623
- 264 Province of Amazonas.
a Medicinal plants. 621
b Cloves and tobacco. 623
- 265 Veiga.—Tobacco from Rio de Janeiro. 623
- 266 Oliveira, Coelho d'.—Tobacco from Minas-Geraes. 623
- 267 Province of Matto Grosso.—Tobacco and cigars. 623
- 268 Province of Rio-Grande-do-Sul.—Tobacco in leaf, and mate dust. 623
- 269 Pinto & Bro.—Leaf tobacco. 623
- 270 Testa, Umbellino.—Tobacco and coffee from Bahia. 623
- 271 Souza, Vasconcellos de.—Tobacco from Bahia. 623
- 272 Viotti.—Cigarettes. 623
- 273 Paulo Coroeiro, J.—Snuff. 623
- 274 Rocha, Correa da.—Snuff. 623
- 276 Novaes, Souza.—Cigarettes. 623
- 277 Province of Bahia.—Cigars. 623
- 278 Agner, Luiz.—Matte. 623
- 279 Martins, Luiz.—Tea. 623
- 280 Rodovalho, P.—Matte. 623
- 281 Fluminense Agriculture Institute.—Tea made from coffee-leaves. 623
- 282 Central Exportation Co.—Matte. 623

Land Animals.

- 284 Moreira, Dr. Nicolau J.—Butterfly. "Porta Esbemos" (*Attacus aurata leptaopterus*).
- 285 Rezende, Lutz de.—Silkworms and moths.
- 286 Wirmond, Ernesto E.—Collection of insects.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- Water Animals, Fish Culture, and Apparatus.**
- 287 Province of Parana.—Isinglass. 646
- Animal and Vegetable Products.**
- 288 Province of Matto-Grosso.
a Quinine. 650
b Hides and furs. 652
- 289 Agricultural Institute.
a Sage. 650
b Flour. 657
c Arrowroot. 658
- 290 Province of Allagoas.
a Indigo-plant and vegetable dyes; caroba, quinine, etc. 650
b Hides and furs. 652
c Vegetable milk. 656
- 291 Province of S. Paulo.
a Camomile. 650
b Hides and leather. 652
c Liqueurs, aguardente, etc. 660
d Chocolate. 661
- 292 Commission General for the International Exhibitions, Rio de Janeiro.
a Turtle butter and cheese. 651
b Skins, hides, and leather. 652
c Wax. 654
d Preserved beef and tongues. 656
e Sugar. 659
f Wines and liquors. 660
g Vegetable oils. 662
- 293 Juliano, Fr.—Cheese. 651
- 294 Carneiro, B. Rodriguez.—Cheese. 651
- 295 Ubatuba, Dr.
a Condensed milk. 651
b Extract of mint. 656
- 296 Cabral, J. F. D.—Milk of Mangabeira. 651
- 297 Moraes Rozeira, M. G. de.—Cheese. 651
- 298 Leao, Dr. A. E.—Cheese. 651
- 299 Director of Paranápanema.—Butter. 651
- 299*a* Oliveira, Ignacio de.—Glue. 652
- 300 District of Principe.
a Skins and hides. 652
b Wax. 654
- 301 Andrade, J. C. Paes de.—Glue. 652
- 302 Ubatuba, D. M. P. S.—Tallow, lard, and oil. 652
- 303 Maciel, D. F.—Steer skins. 652
- 304 Cortez, P.—Steer hide. 652
- 305 Botelho, A. C. A.—Skin of a Boa aquatica. 652
- 306 Athayde, M. E. S.—Skins. 652
- 307 Feydel Son, I.—Tanned and raw hides. 652
- 308 Andrade, I. J.—Hides and skins. 652
- 309 Costa Eymoe & Co.—Hides, leather, and soles. 652
- 310 Klippel & Brother.—Hides and soles. 652
- 311 Perneta.—Stag-horns. 652
- 312 Colony of Blumenau.—Various products. 652
- 313 Province of Amazonas.—Hides and furs. 652
- 314 Province of Goyaz.—Hides, furs, and leather. 652
- 315 Province of Ceara.
a Hides and furs. 652
b Dried beef. 656
c Confectionery. 661
- 316 Province of Rio Grande do Sul.
a Leather. 652
b Preserved tongue and beef. 656
- 317 Province of Rio Grande do Norte.
a Oil and tallow. 652
b Powdered honey-wax. 654
- 318 Province of Parana.
a Hides, furs, and ox-horns. 652
b Wax. 654
c Manioc flour and fecula. 657
d Aguardente from sugar-cane, and liquor from maté herb and quince. 660
- 319 Long & Co.—Wax. 654
- 320 Miro, D. Maria.—Wax. 654
- 321 Safarana, A. T.—Beeswax and wax candles. 654
- 322 Province of Goyaz.—Beeswax. 654
- 323 Araujo, J. Pereira de Sz.—Yellow wax. 654
- 324 Araujo, J. A. Vieira.—Honey. 654
- 325 Xavier, A. de Paula.—Honey. 654
- 326 Xavier, D. Leocadia de P.—Wax. 654
- 327 Mendes, J. Olinto.—Honey and wax. 654
- 328 Macedo & Azeredo.—Wax. 654
- 329 Province of Ceara.—Sun-dried beef and confectionery. 656
- 330 Canoza, Rosalina R. Botelha.—Preserved vegetables. 656
- 331 Vasconcellos, F. P. de.—Preserved vegetables. 656
- 332 Castro, M. José de.—Sweetmeats. 656
- 333 Silva, Leal, & Santos.—Preserves. 656
- 334 Guttier & Wagner.—Preserved fruits. 656
- 335 Province of Para.—Preserved meats. 656
- 336 Santos & Ferreira.—Preserved vegetables, marmalade, and fruit-butter. 656
- 337 Province of Maranhao.
a Rice. 656
b Vegetable oils. 662
- 338 Province of Pernambuco.
a Dried fruits. 656
b Manioc and arrow-root flour. 657
c Sugar. 659
d Aguardente from sugar-cane. 660
e Cocoa oil. 662
- 339 Tamancoo Factory.—Crushed rice. 657
- 340 Schimmelpfung, A.—Rye flour. 657
- 341 Dezincoourt.—Arrowroot flour. 657
- 342 Alvarenga, Dr.
a Flour. 657
b Tapioca. 658
- 343 Leao, Hermelindo de.—Rice. 657
- 344 Murucy, Dr.—Maize and rye-flour. 657
- 345 Directory Board of the Colony of Angelina.—Corn-flour from the colony. 657
- 346 Silva, Carneiro da.—Manioc-flour. 657
- 347 Tripodi, Silvino.—Rice. 657

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 348 Cordeiro, jr.—Rice on the branch. 657
- 349 Tarranbac, J.—Arrowroot flour. 657
- 350 Carvalho, Lima.—Manioc and orris-root flour. 657
- 351 Province of Sancta Catharina.—Flour, rice, and arrowroot flour. 657
- 352 Guimaraes, Antonio.
a Rice. 657
b Aguardente from sugar-cane, orange, etc. 660
- 353 N——N——.
a Rice. 657
b Farinas. 658
c Vinegar. 660
- 354 Silva, M. C., & Sons.—Tapioca. 657
- 355 Perelra, J. J.—Farina of manioc. 657
- 356 Colony of Angelina.—Wheat flour. 657
- 357 Silva, J. J. Correa da.—Farina of manioc and tapioca. 657
- 358 Province of Parana.
a Feculas. 657
b Matté liquor. 660
- 359 Province of Pernambuco.—Manioc and arrowroot flour. 657
- 360 Leao & Alves Grist Mill.—Wheat flour. 657
- 361 Pirapitinga, Baron of.—Polvilho (a starch). 658
- 362 Province of Sancta Catharina.—Polvilho (a starch). 658
- 363 Flemnense Agricultural Institute.—Polvilho (a starch). 658
- 364 Pirapitinga, Baron of.—Tapioca and orris-root. 658
- 365 Constanca, Maria, & Sons.—Tapioca and orris-root. 658
- 366 Pinheiro, Thomaz.—Sugar. 659
- 367 Carvalho & Oliveira.—Syrup of ipecac. 659
- 368 Diaz, Isidoro.—Sugar and syrup. 659
- 369 Maua, Viscount of.—Refined sugar. 659
- 370 Dezincourt.—Crystallized sugar. 659
- 371 Barros, Bernardino de.—Brown and white sugar. 659
- 372 Barros, Fernandes de.—Sugar. 659
- 373 Costa & Co.—Refined sugar. 659
- 374 Costa, Ribeiro de.—Sugar. 659
- 375 Souza, Alves de.—Sugar. 659
- 376 Vianna, Paula.—Sugar. 659
- 377 Boa-Viagem, Baron of.—Sugar. 659
- 378 Wanderley, Barros.—Sugar. 659
- 379 Villa-Franca, Baron de.—Sugar. 659
- 380 Leao, Souza.—Sugar. 659
- 381 Virgens, Bernardo da.—Sugar. 659
- 382 Bastos, Rodriguez.—Sugar. 659
- 383 Braga & Co.
a Syrups. 659
b Liqueurs; aguardente, cognac, etc. 660
- 384 Province of Bahia.
a Refined sugar. 659
b Chocolate of musgo. 661
- 385 Barroso, Paula.
a Sugar. 659
b Aguardente from sugar-cane. 660
- 386 Castro, Ribeiro de.
a Sugar. 659
b Brandy from sugar-cane. 660
- 387 Virgens, M. B. das.—Sugar. 659
- 388 Mansell, Carré, & Co.—Sugar. 659
- 389 Braga & Co.—Syrups. 659
- 390 Colony of Iatahy.—Sugar-cane brandy. 660
- 391 Braga & Brother.—Brandy, liquors, and alcohol. 660
- 392 Vellez Perdigao, D.—Alcoholic drinks and pineapple vinegar. 660
- 393 Freyung, Otto.—Liquors. 660
- 394 Belache.—Liquors. 660
- 395 Bella Vista, Baron of.—Sugar-cane brandy and orange liquor. 660
- 396 Amaral Raposó, J. do.—Liquors. 660
- 397 Carreira, F. L.—Wines and brandies. 660
- 398 Carneiro, F. Lucas.—Pao wine. 660
- 399 Bastos & Camacho.—Liquors and cordials. 660
- 400 Teixeira, A. de A.—Tonic liquors. 660
- 401 Bouilly, José.—Pao wine. 660
- 402 Votuvera Commission.—Pao wine. 660
- 403 Silva, J. H. da.—Brandy and wines. 660
- 404 Falcao, Paulino P.—Sugar-cane brandy. 660
- 405 Souza, M. I. M. de.—Brandy and Laranginha. 660
- 406 Mendes, J. Olinto.—Liquor. 660
- 407 Menezes, B. A. de.—Quince liquor. 660
- 408 Xavier, A. P.—Honey wine, alcohol, and brandy. 660
- 409 Castelnuova, T.—Absinthe. 660
- 410 Moraes Rozeira, M. G. de.—Wines. 660
- 411 Vasconcellos, Francisco P. de.—Orange wine and alcoholic drinks. 660
- 412 Marizon, F. M. Celli de.—Laranginha. 660
- 413 Araujo, Ignacio de.—Liquors. 660
- 414 Oliveira, Roiz de.—Liquors. 660
- 415 Carvalho, Leitao de.—Laranginha and gin. 660
- 416 Falcao, Piris.—Aguardente. 660
- 417 Raposó, Amaral.—Wines and liquors. 660
- 418 Pinto, Oliveira.—Aguardente from sugar-cane and caju wine. 660
- 419 Azevedo, Pereira de.—Aguardente. 660
- 420 Carvalho, M. de.—Gin. 660
- 421 Jeremoabo, T.—Aguardente from honey. 660
- 422 Schulmann & Co.—Wine and vinegar from sugar-cane. 660
- 423 Pimenta, Mattos.—Hesperidina-Yaguarembó. 660
- 424 Oliveira, C., & Sons.—Wine and aguardente from sugar-cane; vinegar from pine apple. 660
- 425 Frey, Otto.—Liquors. 660

Animal and Vegetable Products, Textile Substances.

- 426 Vasconcellos, P. de.—Orange wine. 660
- 427 Cattermolle, Erdman.—Wines and liquors. 660
- 428 Alves & Co.—Liquors. 660
- 429 Barroso, Carvalho.—Alcohol. 660
- 430 Silveira, N.—Aguardente. 660
- 431 Pinheiro, Thomaz.—Laranginha. 660
- 432 Caipora, Guimaraes.—Laranginha. 660
- 433 Bella-Vista, Baron of.—Aguardente. 660
- 434 Province of Para.—Guarana. 660
- 435 Pereira, Estevo.—Laranginha, aguardente from sugar-cane. 660
- 436 Itabapoana, Baron de.—Laranginha. 660
- 437 Silva, Carneiro da.—Laranginha. 660
- 438 Rebello, Silva.—Liquor from coffee and other plants. 660
- 439 Mamede.—Caju wine for medicinal purposes. 660
- 440 Macedo, J. de.—Liquors. 660
- 441 Le Page.—Wines and Vinegar. 660
- 442 Viotti.—Peach liquor. 660
- 443 Vianna, Oliveira.—Aguardente. 660
- 444 Biagem, Boa, Baron da.—Aguardente. 660
- 445 Sardinha.—Wine. 660
- 446 Pinho, Francisco do.—Chocolate. 661
- 447 Leao, Hermelino de.—Farina biscuit. 661
- 448 Murici, Dr. Leao, Ermelindo de.—Tapioca biscuits. 661
- 449 Silva, Leal, & Santos.—Vermicelli. 661
- 450 Province of Bahia.—Musgo chocolate. 666
- 451 Pinho, Francisco do.—Chocolate. 666
- 452 Dias, J. D.—Vegetable oils. 662
- 453 Cohin, Eliezer.—Oil of copahiba. 662
- 454 Cavalcante, J. B.—Oil of andiroba. 662
- 455 Barbósa, J. E. C.—Oil of batiputa. 662
- 456 Braga, J. F. C.—Oil of copahiba. 662
- 457 Veiga, J. A. da.—Oil of togo. 662
- 458 Silva, T. R. da.—Cocoanut oil. 662
- 459 Jorge, M. F. A.—Cocoanut oil. 662
- 460 Stechel, Frederico.—Oils. 662
- 461 Barreto, Jr.—Oils of copahiba, andiroba, etc. 662
- 462 Falcao, Dias C.—Oils. 662
- 463 Ferreira Valle, R. J.—Cocoanut oil. 662
- 464 Vycira, M. L.—Cocoanut oil. 662
- 465 Vycira, S. A.—Andiroba oil. 662
- 466 Province of Maranhao.—Oil of anaja. 662
- 467 District of Paulo Affonso.—Caju nut oil. 662
- 468 Province of Ceará.—Oils. 662
- 469 Presidency of the Province of Bahia.—Ricinus and cocoanut oil. 662
- 470 Perdigao.—Vegetable oils. 662
- Textile Substances of Vegetable or Animal Origin.**
- 471 Mello, Correio de.—Brown cotton. 665
- 472 Hayer, Martin.—Cotton. 665
- 473 Moreira, Collares.—Cotton from Maranhao. 665
- 474 Province of Ceara.—Cotton. 665
- 475 Province of Matto Grosso.—Guinea cotton. 665
- 476 Province of Parahyba.—Cotton. 665
- 477 Province of Rio Grande do Norte.—Cotton. 665
- 478 C—, J. T. A.—Cotton from S. Paulo. 665
- 479 Barros, Souza.—Cotton from S. Paulo. 665
- 480 Maylasky.—Cotton from Soracaba. 665
- 481 B—, A. A.—Cotton from S. Paulo. 665
- 482 A—, J. C.—Cotton from S. Paulo. 665
- 483 Province of Alagoas.—Vegetable wool. 665
- 484 Province of Pernambuco.
a Russian cotton. 665
b Tow. 666
c Bristles. 669
- 485 Province of Parana.
a Cotton. 665
b Flax. 666
c Wool. 667
d Animal hair. 669
- 486 Province of Maranhao.—Ginned cotton. 665
- 487 Municipality of Quebranguelo.—Cotton in the boll and twisted. 665
- 488 Province of San Paulo.—Cotton. 665
- 489 Miranda, M. M. de.—Ginned cotton. 665
- 490 Athayde, M. E. Souza.—Cotton on the stem. 665
- 491 G. B. T., Rio de Janeiro.—Cotton on the stem. 665
- 492 Soares, O. J.—Cotton. 665
- 493 Merch, Maximiliano.—Cotton. 665
- 494 Paes Leme, Rosalina.—Cotton. 665
- 495 Silva, F. J. Xavier da.—Cotton. 665
- 496 Colony Itajahy.—Cotton. 665
- 497 Mello, J. Correia de.—Cotton, called creoulo. 665
- 498 Brava, Fray Luiz da.—Cotton. 665
- 499 Colony of Sancta Maria de Solidade.—Cotton. 665
- 500 Colony Blumenau.—Cotton. 665
- 501 Decker, Isaac.—Cotton. 665
- 502 Valle, Raymundo J. F.—Cotton on the stem. 665
- 503 Commission for Carnaru.—Grey cotton. 665

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Textile Substances, Machinery, Engineering, Administration.

- 504 Barros, Diogo A. de.—Cotton in skeins. 665
- 505 J. C. A., Limeira.—Cotton. 665
- 506 Commission General for the National Exhibitions, Rio de Janeiro.
a Hemp and other vegetable fibres. 666
b Horse-hair and other hair. 669
- 507 Province of Pernambuco.
a Vegetable fibres. 666
b Bristles. 669
- 508 Province of Sancta Catharina.—Tucum thread and paina. 666
- 509 Commission for Votureava.—Isca de Rocoira. 666
- 510 Province of Amazonas.—Piassaba fibres. 666
- 511 Barros, L. Gomes de.—Cipo matta gente for withes. 666
- 512 Muricy, Dr.—Cipo florao. 666
- 513 Leao, Rego Barros S.—White embira. 666
- 514 Palma, Ant. J. da.—Red embira. 666
- 515 Lacerda, A. F. de.—Piattaba fibres. 666
- 516 Bley, J.—Fibres of the *Urtica speciosa*. 666
- 517 Barros, A. Aguiar de.—Vegetable fibres. 666
- 518 Guimaraes, M. A.—Betas and fibres of tucum. 666
- 519 Oliveira, P. M. de.—Tapuru. 666
- 520 Tabora Ribas, M.—Isca of Urupe. 666
- 521 Bofim, F. Theodoro do.—Fibres of the *Anona silvatica*. 666
- 522 Killian, J. E.—Vegetable fibres. 666
- 523 Ferreira, S. P., & Negrao, J. de S.—Fibres of the *Cecropia pellata*. 666
- 524 Leao, Agostinho de.—Paina. 666
- 525 Cruz, B. A. da, & Bomfun, Florindo T.—Fibres of bombax and of the *Copifera officinalis*. 666
- 526 Portella, Felix F.—Vegetable hair. 666
- 527 Ferreira & Co., Gasper P.—Fibres of the umbanba tree. 666
- 528 Bomfin, F. Theodoro do, and others.—Vegetable fibres. 666
- 529 Paes Leme, Rosalina.—Flax. 666
- 530 Keller, Philippe.—Flax. 666
- 531 Kalden, Baron of.—Prepared flax. 666
- 532 Ackermann, Carlos, & Bladern, G.—Prepared flax. 666
- 533 Barros, F. Fernandes de.—Fibres of tucum. 666
- 534 Leao, E. de.—Flax. 666
- 535 Almeida, A. Rufino de.—Vegetable fibres. 666
- 536 Province of Ceará.—Fibres of tucum and paina. 666
- 537 Steele, J.—Jute. 666
- 538 Leite, Severino.—Vegetable hair and wool. 666
- 539 Lang & Co.—Hemp and flax. 666
- 540 Province of Para.—Jute. 666
- 541 Province of Bahia.—Vegetable hair. 666
- 542 Province of S. Paulo.—Paina. 666
- 543 Villa-Franca, Baron of.—Paina. 666
- 544 Agricultrual Institute.—Wool. 667
- 545 Schimmelpfeng, A.—Wool. 667
- 546 Wirmond, Ernesto.—Wool. 667
- 547 Province of Paraná.
a Wool. 667
b Hair. 669
- 548 Province of Alagoas.—Vegetable wool. 667
- 549 Santos Reis & Co., Pedro A. dos.—Reeled silk. 668
- 550 Mello Netto, Franc de Paula.—Cocoons. 668
- 551 Schrazer, Paulo.—Cocoons. 668
- 552 Eugenia & T.—White silk. 668
- 553 Morvira, Nicolau J.—Cocoons. 668
- 554 Moreira, Nicolau.—Silk-worms. 668
- 555 Reis, Luciano.—Silk in the cocoon and reeled. 668
- 556 Resende, Luiz de.—Silk-worms, cocoons, reeled silk, and apparatus for reeling silk. 668

Machines, Implements, and Processes of Manufacture.

- 557 Bierremback & Brother.—Plows. 670
- 558 Antunes, J. A.—Machine for preparing coffee. 674
- 559 Blanchet, J.—Small plows. 670
- 560 Province of S. Paulo.—Plows. 670
- 561 Province of Parana.—Plows. 670

Agricultural Engineering and Administration.

- 562 Province of Amazonas.—Guano. 681
- 563 Muricy & Leao.—Guano. 681

Chemicals.

- 564 Yeiga, F. Aprigio da.—Pharmaceutical products. 200
- 565 Lepage, F. J.—Pharmaceutical products. 200
- 566 Dias, Duarte.—Drugs. 200
- 567 Province of Ceara.—Medicinal oils. 200
- 568 Alves, Leao.—Pharmaceutical preparations. 200
- 569 Dias, C. Falcon.—Pharmaceutical preparations. 200
- 570 Braga, jr.—Pharmaceutical preparations. 200
- 571 Military Hospital of Rio de Janeiro.—Pharmaceutical preparations. 200

Fabrics of Vegetable, Animal, or Mineral Materials.

- 572 Province of Amazonas.
a Brooms. 286
b Cordage of rattan. 287

ARGENTINE REPUBLIC.

(West of West Aisle, Columns 9 to 13.)

Arboriculture and Forest Products.

Arboriculture and Forest Products.

- 1 Commission of the Chaco Argentine Territory.**
a Collection of natural and polished woods. 600
b Indigo plant and curupai bark. 602
- 2 Gallegos, Miguel, Chaco Argentine Territory.**—A cane; samples of wood. 600
- 3 Aguilar, Francisco D., Province of San Juan.**—Flowers made from carob tree wood; chica wood; collection of woods to be presented to the National Department of Agriculture. 600
- 4 Laugan, Juan, Province of San Juan.**—Collection of woods. 600
- 5 Provincial Commission, Province of Santa Fé.**
a Collection of woods, polished lignumvitæ. 600
b Laurel bark and tanning materials. 602
- 6 Echevarria, Cecilio, Province of Santa Fé.**
a Collection of woods; polished samples. 600
b Dyes. 602
- 7 Provincial Commission, Province of Cordoba.**
a Collection of woods; polished samples. 600
b White carob tree and molle seed. 605
- 8 Cornejo, John, Province of Salta.**
a Cherimoya seed. 600
b Palo Santo resin. 603
- 10 Provincial Commission, Province of Salta.**
a Collection of seeds and woods. 600
b Dyeing and tanning materials. 602
- 11 Villar, Salvador, Province of Jujui.**
a Collection of woods. 600
b Socondo and pastilla bark. 602
c Palm, lignumvitæ, quina-quina and pacara seeds, etc. 605
- 12 Provincial Commission, Province of Catamarca.**
a Collection of woods. 600
b Dyeing and tanning materials. 602
c Visco and lignumvitæ seeds, etc. 605
- 13 Provincial Commission, Province of La Rioja.**
a Collection of woods. 600
b Tar, carob resin, and Lata incense. 603
c Yareta plant, containing much resin. 604
d Collection of seeds. 605
- 14 Cecenarro, Vicente, Province of Catamarca.**—Viscote wood. 600
- 15 Lafone, Quevedo, Samuel Province of Catamarca.**—Black carob wood. 600
- 16 Andalgalá Commission, Province of Catamarca.**
a Cactus. 600
b Dyeing and tanning products. 602

- 17 Provincial Commission, Province of Tucuman.**
a Samples of wood in logs, partly polished. 600
b Cebil bark for tanning, Socondo. 602
- 18 Provincial Commission, Province of Mendoza.**
a Samples of wood in logs. 600
b Chanar bark for cleaning cloth and Re-tortuno for tanning. 602
c Gums and resins. 603
- 19 Videla, Victor, Province of San Luis.**
a Collection of woods; polished samples. 600
b Barks for tanning. 602
- 20 Provincial Commission, Province of Corrientes.**—
a Collection of polished and unpolished woods. 600
b Bark of black laurel and curupay tree, used for tanning, etc. 602
c Peanuts, and creeping plant called curuhay guazu. 605
- 21 Roibon, Enrique, Province of Corrientes.**—Caroba wood. 600
- 22 Resoagli, Luis, Province of Corrientes.**—Collection of woods; boxes. 600
- 22a River Bermejo Navigation Co., Chaco, Argentine Territory.**—Palo santo wood. 600
- 23 Bella Vista Sub-Commission, Province of Corrientes.**
a Collection of woods. 600
b Orange seed, chichita, suspiros, peanuts. 605
- 24 Ferrer, Vicente, Province of Corrientes.**—Sticks of different woods. 600
- 25 National Department of Agriculture, Province of Corrientes.**—Samples of Uruguay wood. 600
- 26 Justice of the Peace of Ensenada, Province of Buenos Ayres.**—Collection of woods. 600
- 27 Valdes, Emiliano, & Cipriano, Province of Buenos Ayres.**
a Collection of currommanuel and other woods. 600
b Mushrooms grown on willow bark. 604
- 28 Agricultural School of Santa Catalina, Province of Buenos Ayres.**—Beehives made of black acacia. 600
- 29 Roibon, Federico, Province of Corrientes.**—Pictures of trees in water-colors. 600
- 30 Boero, José, & Poletti, Antonio, Province of Buenos Ayres.**—A rack made of twenty-five kinds of wood. 600
- 31 Iniguez, Manuel, Province of Buenos Ayres.**—Specimens of woods. 600

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Arboriculture, Forest, and Agricultural Products.

- 32 Provincial Commission, Province of Santiago del Estero.
a Collection of woods in logs. 600
b Collection of dyeing woods, etc. 602
- 33 Provincial Commission, Province of Entre-Rios.—Samples of polished woods. 600
- 34 Elola, P., Province of Entre-Rios.—Collection of woods. 600
- 35 Berdue, Martin, Province of Entre-Rios.—Box made of different woods. 600
- 36 Parana Commission, Province of Entre-Rios.
a Collection of woods. 600
b Roots and barks; cochineal and dyeing materials. 602
c Turpentine. 603
- 37 Roman, José, Province of Buenos Ayres.—Carob and mandubay wood. 600
- 38 Garrigos, J. M., Province of Buenos Ayres.—Collection of woods. 600
- 39 Gallino, J. A., Province of Entre-Rios.—Collection of woods. 600
- 40 Echebehere, Pedro, Province of Buenos Ayres.—Collection of woods. 600
- 41 Fontes, Vicente, & Neyra, Sisto, Province of Buenos Ayres.—Collection of woods. 600
- 42 Calderon, Pedro, Province of Buenos Ayres.—Collection of woods. 600
- 43 Gonzalez, Meliton, Province of Buenos Ayres.—Collection of woods. 600
- 45 Provincial Commission, Province of San Luis.
a Dyeing and tanning products. 602
b Gum and resin. 603
- 46 Medina, Luis R., Province of Catamarca.
a Visco and coco woods. 600
b Coconut bark. 602
- 47 Hurley, Tomas, Province of Catamarca.—Dyeing products. 602
- 47*a* Vidal, M. A., Province of San Juan.—Quillo and retortuno for dyeing. 602
- 47*b* Caicedo, A., Province of San Juan.—Retortuno for dyeing. 602
- 47*c* Correa, B., Province of San Juan.—Retortuno root for dyeing. 602
- 47*d* Rodriguez, V., Province of San Juan.—Retortuno root for dyeing. 602
- 47*e* Poblete, F., Province of San Juan.—Romerrillo. 602
- 48 Sievert, Max, Province of Salta.
a Silk and wool dyed with the product of the lapacho tree; other dyeing products. 602
b Peat. 604
- 49 Gonzales, Joaquin, Province of La Rioja.
a Sacanza and roots for dyeing. 602
b Guano, etc. 603
- 50 Wurffbain, Gustavo, Province of La Rioja.
a Roots for tanning and dyeing, cleansing substances replacing soap, jume for making soap. 602
b Cotton-seed. 605
- 51 Gelos, Martin, Province of La Rioja.—Dyeing and tanning products. 602
- 52 Fava, Carlos, Province of Corrientes.—Cochineal and indigo-plant. 602
- 53 Lopez, Feliciano, Province of Corrientes.—Mbui plant, for dyeing silk and wool. 602
- 54 Pujol, Eliza, Province of Corrientes.—Root of isopyou, for dyeing; coloring roots. 602
- 55 Poisson, J. T., Province of Corrientes.—Urucu-seed, for dyeing. 602
- 56 Ritsch, Felipe, Province of Mendoza.—Roots for tanning. 602
- 57 Ocampo & Acosta, Province of Cordoba.—Bark, seed, and other products for tanning. 602
- 59 Ubach de Colon, José, Province of Entre-Rios.—Sarsaparilla, carob-bark, and other tanning and dyeing products. 602
- 60 Sub-commission of the Department of Diamante, Province of Entre-Rios.—Cochineal, carob-bark, and other dyeing and tanning materials. 602
- 61 Soler, Ventura, Province of Entre-Rios.—Laurel and carob-bark and other dyeing and tanning materials. 602
- 62 Rodriguez, Severo, Province of San Juan.
a Resins of chilca, etc. 601
b Carob and myrrh seed. 605
- 63 Balban, Nonasca, Province of Catamarca.—Carob-resin and black resin. 603
- 64 Flores, Nicanor, Province of Salta.—Tar. 603
- 65 Sollá, Juan, Province of Salta.—Yareta, a resinous plant. 603
- 66 Riso, Petrona, Province of Catamarca.—Cherimolia seed. 605
- 66*a* Flemming, Miguel, Province of Salta.—Tipa and tarco seed. 605
- 67 Machado, Ruben, Province of Catamarca.—Mistol and carob tree seed. 605
- 67*a* Goyri, Bernardo, Province of Entre-Rios.—Samples of seeds. 605
- 68 Ponce, Isidora, Province of Catamarca.—Molle seed. 605
- 69 Esparsa, José, Province of Catamarca.—Seed of acacia aroma, for dyeing and medicinal purposes. 605
- 70 Miranda, José, Province of Catamarca.—Acacia for feed, and for hedges. 605
- 71 Albarez, Francisco, Province of La Rioja.—Walnuts. 605
- 72 Larrahona, Pedro, Province of La Rioja.—Malingasta nuts. 605
- 73 Chaves, Crisologo, Province of La Rioja.—Tusca seeds. 605
- 74 Peluffo, Vicente, & Co., Province of Buenos Ayres.—Collection of seeds. 605

Agricultural Products.

- 75 Imaz Bros., Province of Buenos Ayres.—Wheat. 620
- 76 Unzué, Saturnino, Province of Buenos Ayres.—Wheat and corn. 620
- 77 Grego, A., Province of Buenos Ayres.—Wheat. 620
- 78 Diaz, Eugenio, Province of Buenos Ayres.—Wheat. 620
- 79 Traverso, Juan, Province of Buenos Ayres.—Wheat. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 12-14.

Agricultural Products.

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| 80 Bruno, Domingo, Province of Buenos Ayres.—Wheat. 620 | 108 Rodriguez, Victor, Province of San Juan.—Junquille grass. 620 |
| 80 ^a Vidal, Augustin, Province of Buenos Ayres.—Wheat. 620 | 109 Sarmiento, Juan L., Province of San Juan.—Yellow and white corn; wheat. 620 |
| 81 Alonso, Manuel, Province of Buenos Ayres.—Wheat. 620 | 110 Correa, Benidicto, Province of San Juan.—Corn and wheat. 620 |
| 82 Ibarra, Venero, Province of Buenos Ayres.—Wheat. 620 | 111 Mazo, Julian, Province of San Juan. 620 |
| 83 Provincial Commission, Province of Buenos Ayres.—Wheat. 620 | <i>a</i> White and red corn. 620 |
| 83 ^a Cornejo, John, Province of Salta.—Sugar cane. 620 | <i>b</i> Lima beans. 621 |
| 84 Bertolate, G., Province of Buenos Ayres.—Wheat. 620 | 112 Amafil, Benigno, Province of San Juan.—Yellow corn. 620 |
| 85 Buffa, Augustin, Province of Buenos Ayres.—Wheat. 620 | 113 Frias, Salvador, Province of San Juan.—White corn, barley, wheat. 620 |
| 86 Lanzon, N., Province of Buenos Ayres.—Wheat. 620 | 114 Vidal, Marco A., Province of San Juan.—Red corn, white wheat. 620 |
| 87 Malvichini, N., Province of Buenos Ayres.—Wheat. 620 | 115 Jones, Fabian, Province of San Juan.—Red corn; wheat. 620 |
| 88 Costa, Bartolo, Province of Buenos Ayres.—Wheat. 620 | 116 Aguilar, Juan M., Province of San Juan.—Red corn; wheat. 620 |
| 89 Justice of the Peace of Jarez, Province of Buenos Ayres.—Wheat. 620 | 117 Ruiz, Clemente, Province of San Juan. 620 |
| 90 Justice of the Peace of Patagones, Province of Buenos Ayres.—Wheat, barley, and corn. 620 | <i>a</i> Red corn, wheat. 620 |
| 91 Guerin, N., Province of Buenos Ayres.—Wheat. 620 | <i>b</i> Beans. 621 |
| 92 Mildred, Juan, Province of Buenos Ayres. 620 | <i>c</i> Lucern seed. 624 |
| <i>a</i> Wheat and barley. 620 | 118 Jofré, Roman, Province of San Juan.—Red corn. 620 |
| <i>b</i> Lucern seed. 624 | 119 Rufino, Geronimo C., Province of San Juan. 620 |
| 93 Justice of the Peace of Bahia Blanca, Province of Buenos Ayres.—Wheat, barley, and corn. 620 | <i>a</i> White corn. 620 |
| 94 Burgos, R., Province of Buenos Ayres.—Wheat. 620 | <i>b</i> Beans and peas. 621 |
| 95 Acuña, Francisco, Province of Buenos Ayres.—Barley and corn. 620 | 120 Figueroa, Tomas, Province of San Juan.—White corn. 620 |
| 96 Peluffo, Angel, Province of Buenos Ayres. 620 | 121 Ruiz, G., Province of San Juan.—White corn. 620 |
| <i>a</i> Barley. 620 | 122 Balaguer, Tristan, Province of San Juan.—Corn. 620 |
| <i>b</i> Lima beans. 621 | 123 Rosa, Rosaurco de la, Province of San Juan. 620 |
| <i>c</i> Seeds; hemp and flax, lucern, lentils, palmacristi, etc. 624 | <i>a</i> Corn. 620 |
| 97 Agricultural School of Santa Catalina, Province of Buenos Ayres.—Corn and grasses. 620 | <i>b</i> Lucern seed. 624 |
| 98 Arce, Invencio, Province of Buenos Ayres.—Corn. 620 | 124 Baca, John, Province of San Juan.—Corn, wheat. 620 |
| 99 Justice of the Peace of Zarate, Province of Buenos Ayres.—Corn. 620 | 125 Lloveras, Lisandro, Province of San Juan.—White corn. 620 |
| 100 Martinez, Hercules, Province of Buenos Ayres.—Corn. 620 | 126 Cordero, Pedro J., Province of San Juan. 620 |
| 102 Valdez, Emiliano, Province of Buenos Ayres.—Corn. 620 | <i>a</i> White corn. 620 |
| 104 Agricultural School of Santa Catalina, Province of Buenos Ayres.—Fresh beans; lentils. 620 | <i>b</i> Peas, barley, and wheat. 621 |
| 105 Valdes, Emiliano & Cipriano, Province of Buenos Ayres. 620 | <i>c</i> Lucern seed. 624 |
| <i>a</i> Barley, sugar-cane, straw, etc. 620 | 127 Castro, Pedro, Province of San Juan.—White corn. 620 |
| <i>b</i> Garlic. 621 | 128 Bates, Benjamin, Province of San Juan. 620 |
| 106 Galarani, Carlos, Province of Buenos Ayres. 620 | <i>a</i> Wheat. 620 |
| <i>a</i> Flax, barley, corn, wheat, maize, and cattle-feed. 620 | <i>b</i> Canary seed. 624 |
| <i>b</i> Beans. 621 | 133 Bodarata, Juan, Province of San Juan.—Barley. 620 |
| 107 Government of the Province of San Juan.—Grasses, straw, maté herb, etc. 620 | 134 Ramirez & Co., Province of San Juan. 620 |
| | <i>a</i> Barley, white corn. 620 |
| | <i>b</i> Lima beans, peas, etc. 621 |
| | 137 Day, Frederica, Province of San Juan.—Wheat. 620 |
| | 138 Muñoz, Brancisco, Province of San Juan.—Wheat. 620 |
| | 139 Ledesma, H., Province of San Juan.—Wheat. 620 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Products.

- 140 Provincial Commission, Province of Salta.
a Corn, peanuts, barley, wheat, melons, sugar-cane, etc. 620
b Tobacco. 623
c Onion and lucern seed. 624
- 141 Flemming, Miguel, Province of Salta.
a Wheat and corn. 620
b Potatoes. 622
- 142 Toro, Ignacio, Province of Salta.—Wheat, barley, corn, and lucern seed. 620
- 143 Gonzalez, Joaquin, Province of La Rioja.—Corn for flowers, and also for flour, wheat, lucern seed. 620
- 144 Davila, Guillermo, Province of La Rioja.
a White corn, sugar corn, wheat. 620
b Lima beans. 621
- 145 Larrohona, Pedro, Province of La Rioja.
a Corn, wheat, and barley. 620
b Lima beans. 621
- 146 Villafane, Nicolasa, Province of La Rioja.
a Corn. 620
b Lima beans. 621
- 147 Illañes, José Manuel, Province of La Rioja.—White corn, barley, wheat. 620
- 148 Provincial Commission, Province of La Rioja.
a Corn, wheat, barley. 620
b Lima beans. 621
c Onion seed. 624
- 149 Gonzalez, Ventura, Province of La Rioja.—Wheat. 620
- 152 Alvarez, Francisco, Province of La Rioja.
a Wheat in stalks. 620
b Lima beans. 621
- 153 Muro, Froilan, Province of Catamarca.
a Corn. 620
b Beans and peas. 621
- 154 Diaz, Ramon, Province of Catamarca.
a Wheat. 620
b Lima beans. 621
- 155 Artaza, Santiago, Province of Catamarca.
a Wheat. 620
b Beans and peas. 621
- 156 Provincial Commission, Province of Catamarca.
a Corn, wheat, barley, and grasses. 620
b Lima beans. 621
c Indian pepper, tobacco, cigars, etc. 623
- 157 Molina, José, Province of Catamarca.
a Corn, wheat. 620
b Beans. 621
- 158 Vega, G., Province of Catamarca.—White corn. 620
- 159 Artasa, Manuel, Province of Catamarca.—Corn, etc. 620
- 160 Miranda, José A., Province of Catamarca.—White corn. 620
- 161 Sub-commission of the Department of Ancasti, Province of Catamarca.
a Corn. 620
b Lima beans, etc. 621
- 162 Sub-commission of the Department of Alto, Province of Catamarca.—White corn. 620
- 163 Alvarez, S., Province of Catamarca.—Wheat. 620
- 164 Ahamada, B., Province of Catamarca.—Wheat. 620
- 165 Riso, Ventura, Province of Catamarca.—Geneva wheat. 620
- 166 Herrera, Miguel, Province of Catamarca.—Wheat. 620
- 167 Aguilar, Olegaria, Province of Catamarca.—Wheat. 620
- 168 Tula, Nabor, Province of Catamarca.—Wheat, lucern seed. 620
- 169 Sub-commission of Belen, Province of Catamarca.
a Corn, wheat. 620
b Beans. 621
- 170 Sub-commission of the Department of Pachin, Province of Catamarca.
a Small corn, wheat, Geneva seed, white and yellow corn. 620
b Lima beans. 621
- 171 Sub-commission of the Department of Santa Maria, Province of Catamarca.—Corn and wheat. 620
- 172 Alric, Antonio, Province of San Luis.—Corn, wheat, and barley 620
- 173 Provincial Commission, Province of San Luis.
a Corn, wheat, barley, and cattle feed. 620
b Beans. 621
- 174 Arrondo, Agustin, Province of Entre-Rios.—Wheat. 620
- 175 Paraña Commission, Province of Entre-Rios.
a Corn, etc. 620
b Beans and peas. 621
c Potatoes. 622
d Tobacco. 623
- 176 Gualaguaychu Sub-commission, Province of Entre-Rios.—Wheat, corn, etc. 620
- 177 Goyri, B., Province of Entre-Rios.—Corn. 620
- 178 Balugera, Domingo, Province of Entre-Rios.—Rice and corn. 620
- 179 Crespo, Manuel, Province of Entre-Rios.—Paraná wheat. 620
- 180 Uruguay and Paraná Commission, Province of Entre-Rios.
a Collection of seeds and cereals. 620
b Collection of seeds. 624
- 181 Meyer, Edmundo, Province of Santa Fé.—Wheat and barley. 620
- 182 Ceretti, L., Province of Santa Fé.—Wheat. 620
- 183 Lubary, T., Province of Santa Fé.—Wheat. 620
- 184 Colonia San Carlos Sub-commission, Province of Santa Fé.—Barley. 620
- 185 Nickisch, Manuel, Province of Santa Fé.
a Corn. 620
b Lima beans, etc. 621
- 186 Iturrapse Co., Province of Santa Fé.—Wheat. 620
- 187 Bergerè, Dr., Province of Santa Fé.—Peanuts. 620
- 188 Blanchaud, Miguel, Province of Santa Fé.
a Peanuts, corn, and wheat. 620
b Chick-peas. 621
c Leaf tobacco. 623
- 189 Beken, Federico, Province of Santa Fé.—Wheat. 620
- 190 Schuling, German, Province of Santa Fé.—Corn. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Products.

- 191 Pillier, N., Province of Santa Fé.—Wheat. 620
- 192 Carignano Bros., Province of Santa Fé.—Wheat. 620
- 193 Vaivas, Carlos, Province of Santa Fé.—Wheat. 620
- 194 Provincial Commission, Province of Santa Fé.—Dry lucern, corn. 620
- 195 Frischi, Cristino, Province of Santa Fé.—Wheat. 620
- 196 Arminchiardi, Juan, Province of Mendoza.—Wheat. 620
- 197 Fourcade, Pedro, Province of Mendoza.—Wheat. 620
- 198 De la Cruz Videla, Juan, Province of Mendoza.—Wheat. 620
- 199 Roman, Medardo, Province of Mendoza.
a Wheat. 620
b Lima beans. 621
- 200 Sanchez, Modesto, Province of Mendoza.—White Lima beans. 621
- 201 Provincial Commission, Province of Mendoza.—Corn. 620
- 202 Agricultural Villa of Mendoza, Province of Mendoza.
a Corn and wheat. 620
b Lima beans and peas. 621
- 203 Provincial Commission, Province of Jujui.
a Rice, corn, and wheat. 620
b Indian pepper, tobacco. 623
- 204 Provincial Commission, Province of Tucuman.
a Corn, rice, wheat. 620
b Sweet potatoes, etc. 622
c Tobacco, cigars, etc. 623
- 205 Commission of the Chaco Argentine Territory.
a Corn, sugar-cane, espartillo grass. 620
b Tapoyua, used as a food; mandioca, for making starch and chipa bread, etc. 622
c Flowers made of saffron; tobacco. 623
- 206 Harbor-master, Chaco Argentine Territory.—Sugar-cane plant, espartillo grass, etc. 620
- 207 Ferré, Vicente, Province of Corrientes.—Sugar-canes. 620
- 208 Commission of the Province of Corrientes.
a Sugar-cane. 620
b Mandioca. 622
c Tobacco, maté herbs, etc. 623
- 209 Bella Vista Sub-commission, Province of Corrientes.
a Corn. 620
b Popi from mandioca. 622
c Tobacco. 623
- 210 Appleyard, Juan B., Province of Corrientes.
a Rice. 620
b Maté herbs. 623
- 211 Provincial Commission, Province of Santiago del Estero.
a Wheat. 620
b Sweet potatoes. 622
- 212 Michelond, Miguel, Province of Santa Fé.—Peach sugar-cane. 620
- 213 Provincial Commission, Province of Cordoba.
a Wheat. 620
b Peas and beans. 621
c Sweet potatoes. 622
d Cigars, pepper, tobacco, mustard, etc. 623
- 214 Ferrando, Juan, Province of Entre-Rios.—Lima beans and peas. 621
- 214^a Aubone, Daniel, Province of San Juan.—Beans. 621
- 215 Escobar, Juan de Dios, Province of San Luis.—Lima beans. 621
- 215^a Farias, José A., Province of San Juan.—Beans, peas, etc. 621
- 216 Pouyet, Miguel, Province of Mendoza.—Collection of garden-seeds, beans, peas, etc. 621
- 216^a Davila, Bonifacio, Province of La Rioja.—Beans. 621
- 217 Denner, Santiago, Province of Santa Fé.
a Lima beans. 621
b Tobacco seed. 624
- 217^a Bascuñan, Francisco, Province of La Rioja.
a Beans. 621
b Lucern seed. 624
- 218 Cordoba, Demetrio, Province of Catamarca.—Lima beans. 621
- 219 Sans, N. Roca, Province of Mendoza.—Potatoes. 622
- 220 Audiello, M., Province of Buenos Ayres.—Potatoes. 622
- 221 Polá, Juan, Province of Salta.—Potatoes, red and sweet oca oxalis. 622
- 222 Delgado, Daniel, Lamincha, Province of Catamarca.—Potatoes. 622
- 223 Maxit, José, Province of Entre-Rios.—Potatoes. 622
- 224 Pfeiffer, Pedro, Province of Santa Fé.—Potatoes. 622
- 225 Rizo, Isidoro, Province of Catamarca.—Coffee. 623
- 226 Bustamante, O., Province of Catamarca.—Tobacco and cut maize leaves for cigarettes. 623
- 226^a Appleyard, T. B., Province of Corrientes.—Tobacco. 623
- 227 Barros, Sebastian, Province of Catamarca.—Cumin and anise. 623
- 227^a Coudert, A., Province of Buenos Ayres.—Cigarettes. 623
- 228 Augier, Uladislao, Province of Catamarca.—Cumin seed. 623
- 229 Alvarez, Cruz, Province of Catamarca.—Cumin seed. 623
- 230 Arrillaga, Javier, Province of Corrientes.—Maté herb packed in tapir skin. 623
- 230^a Esquivel, Peter A., Province of Corrientes.—Cigars. 623
- 231 Vera, Matilde, Province of Corrientes.—Pigeons stuffed with maté; herbs packed in wolf skins. 623
- 232 Alegre, John, Province of Corrientes.—Maté. 623
- 233 Beita, Valentin, & Co., Province of Santa Fé.—Tobacco, coffee, pepper, cinnamon, cumin, cloves, chocolate. 623
- 234 Silva, F., Province of Santa Fé.—Arará (a spice). 623
- 234^a Cobo, L., Province of Tucuman.—Tobacco. 623
- 235 Aragon, S., Province of Santa Fé.—Tobacco. 623
- 237 Invernice, Pedro, Province of Santa Fé.—Spurge. 623

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animals, Animal and Vegetable Products.

- 238 Granada, Salvador, Province of Cordoba.—Chocolate. 623
- 239 Villar, Salvador, Province of Jujui.
a Coffee. 623
b Castor beans, etc. 624
- 240 Carrillos, Pablo, Province of Jujui.—Tobacco. 623
- 241 Baigorra, José, Province of Jujui.—Wild cocoa, etc. 623
- 242 Burela, Serapio, Province of Salta.—Tobacco. 623
- 243 Davalos, Benjamin, Province of Salta.—Tobacco leaves. 623
- 244 Waile, S., Province of Salta.—Cigarettes. 623
- 245 Zolezi, Nicolas, Province of Buenos Ayres.—Snuff and cigars. 623
- 246 Lago & Son, Antonio, Province of Buenos Ayres.—Cigarettes. 623
- 247 Andes, Mendez M. de, Province of Buenos Ayres.—Cigarettes. 623
- 248 Daumas, J., & Co., Province of Buenos Ayres.—Cigarettes and tobacco. 623
- 249 Coll, Vitoria, & Co., Province of Buenos Ayres.—Cigarettes. 623
- 250 Schroeder, Nicolas, Province of Buenos Ayres.—Leaf tobacco and cigars. 623
- 251 Lista, Manuel, & Schröder, T., Province of Buenos Ayres.—Leaf tobacco. 623
- 252 Casanco, Juan, Province of Santa Fé.—Flax and spurge seed. 624
- 253 Peluffo, Vicente, & Co., Province of Buenos Ayres.—Seeds. 624
- 255 Arenales, A. M. Alvarez de, Province of Buenos Ayres.—Jerusalem artichoke seed. 624
- Land Animals.**
- 258 Provincial Commission, Province of Mendoza.—Collection of birds. 635
- 259 Lemos, Abraham, Province of Mendoza.
a Hawk, woodpecker, wild sandpiper. 635
b Lynx, stuffed matabo, etc. 637
c Lizard, scorpions, insects, etc. 638
- 260 Nuñez, Santos, Province of Catamarca.—Humming-bird. 635
- 261 Franco, Luis A., Province of Catamarca.—Humming-bird. 635
- 262 Poblete, Tiburcio, Province of San Juan.—Ostrich skin. 635
- 263 Provincial Commission, Province of San Juan.—Prepared skins of tern, partridge, chimango, crow birds, etc. 635
- 264 Dominguez, José, Province of San Juan.—Prepared skins of banduria. 635
- 265 Rosario Tala, Sub-commission, Province of Entre-Rios.—Stuffed gull and quail. 635
- 267 Provincial Commission, Province of San Luis.
a Nest of hornero. 635
b Lizard skin. 638
- 268 Provincial Commission, Province of Catamarca.
a Matabo and quirquincho shells. 635
b Wasp's nest. 638
- 269 Echevets, Gabriel, Province of Buenos Ayres.—A stuffed wildcat of Balcarce. 637
- 269^r Goyena, John, Province of Buenos Ayres.—Stuffed toad and rabbit. 637
- 269^b Rio, T. R. del, Province of Buenos Ayres.—Toads. 637
- 269^c Fuente, D. G. de la, Province of Buenos Ayres.—Toads. 637
- 270 Gonzalez, Juan, Province of Buenos Ayres.—Polecat and small fox, stuffed. 637
- 271 Valdés, Emiliano & Cipriano, Province of Buenos Ayres.—Stuffed rat. 637
- 272 Rosario Tala, Sub-commission, Province of Entre-Rios.—Stuffed polecat. 637
- 274 Echavarria, Cecilio, Province of Santa Fé.—Vipers. 638
- 275 Commission of the Chaco Argentino Territory.—Rattlesnake and coral viper. 638
- 276 Provincial Commission, Province of Corrientes.—Curiyú viper's skin. 638
- 277 Fernandez, Severo, Province of Corrientes.—Viper skins. 638
- 278 Fava, Carlos, Province of Corrientes.—Viper skins. 638
- 279 Poisson, Juan T., Province of Corrientes.—Viper's skin. 638
- 280 Bella Vista Sub-commission, Province of Corrientes.—Spiders and their silk in cocoons, snakes. 638
- 281 Gonzalez, Pedro J., Province of Corrientes.—Dissected guana (South American lizard). 638
- 282 Diaz, Eulogia, Province of Corrientes.—Stuffed viper. 638
- 283 Jurado, G. Doraliza de, Province of San Luis.—Black wasp's comb. 638
- 284 Escobar, Juan de D., Province of San Luis.—Snake skin. 638
- 286 Laborda, Franklin, Province of San Luis.—Insects, snake, and lizard. 638
- 287 Day, Edmund, Province of Mendoza.—Viper. 638
- 288 Sanchez, Modesta, Province of Mendoza.—Viper. 638
- 289 Iniguez, M. A., Province of Buenos Ayres.—Vipers in alcohol. 638
- Water Animals, Fish Culture and Apparatus.**
- 290 Provincial Commission, Province of Corrientes.—Shells. 645
- 291 Arteaga, Amancio, Province of Santa Fé.—Shells. 645
- 292 Provincial Commission, Province of San Juan.—Baskets. 647
- 293 Machado, Ruben, Province of Catamarca.—Basket of aibé straw. 647
- 294 Provincial Commission, Province of Salta.—Fishing-lines, etc. 647
- Animal and Vegetable Products.**
- 295 Parana Commission, Province of Entre-Rios.
a Sponges. 650
b Colt-grease, shad-oil, leather, skins, etc. 652
c Ostrich feathers. 653
d Sausage, jelly. 656
e Domestic beer, lemonade, and wine. 660

Animal and Vegetable Products.

- 296 Provincial Commission, Province of Salta.
a Cheese. 651
b Viper vicugna, lion, chinchilla, and other skins; soles. 652
c Honey and wax. 654
d Dried peaches and nuts. 656
e Wheat flour. 657
f Mandioca and wheat starch. 658
g Querosilla and sugar-cane syrups and sugar. 659
h Aguardente brandy. 660
- 297 Dubois, B. B., Province of Entre-Rios.—Cheese. 651
- 298 Vasquez, Lucrecio, Province of Cordoba.—Achala cheese. 651
- 299 Vaillard, Hipolito, Province of Santa Fé.—Cheese. 651
- 299*a* Elia, Evaguiel, Province of Buenos Ayres.—Cheese. 651
- 300 Provincial Commission, Province of San Luis.
a Butter. 651
b Lion, hare, fox, buck, otter, and heron skins. 652
c Eggs, condor and ostrich feathers. 653
d Palpa and honey syrups. 659
- 301 Sola, Juan, Province of Salta.
a Cheese. 651
b Paisarana, fruit of the Indian fig. 656
- 302 Linares, Calisto, Province of Salta.—Cheese. 651
- 303 Arias, Francisco, Province of Buenos Ayres.—Sheepskin. 652
- 303*a* Oliden, T., Province of Buenos Ayres.—Marrow oil. 652
- 304 Justice of the Peace of Patagones, Province of Buenos Ayres.
a Sheepskins. 652
b Ostrich feathers. 653
c Cherry liqueur and Chacoli wine. 660
- 305 Balcarce, German, Province of Buenos Ayres.—Sheep, goat, wild boar, otter, deer, weasel, wolf, and wild cat skins, etc. 652
- 305*a* Silges & Ferrando, Province of Buenos Ayres.—Hides and tallow. 652
- 306 Martinez, Luiz, Province of Buenos Ayres.—Hides. 652
- 306*a* Costa, Angel, Province of Buenos Ayres.—Charcoal. 652
- 307 Fraguero, G., Province of Buenos Ayres.—Otter and sheepskins. 652
- 307*a* Ergueta, Manuel, Province of San Luis.—Guaraco's skin. 652
- 307*b* Ledesma Bros., Province of Cordoba.
a Goat skins. 652
b Wheat flour. 657
- 308 Provincial Commission, Province of Buenos Ayres.—Sea-lion skin, ox and colt hide. 652
- 309 Valdez, Emiliano, Province of Buenos Ayres.—Lion-skin, colt, and ox-hides. 652
- 310 Fuente, Diego G. de la, Province of Buenos Ayres.—Aguara skin. 652
- 311 Barrotaran, Juan, Province of Buenos Ayres.—Lamb skins. 652
- 312 Dugan, Tomas, Province of Buenos Ayres.—Sheepskins. 652
- 313 Gomez, Lorenzo, Province of Buenos Ayres.—Flamingo skin from La Laguna de los Padres (Balcarce). 652
- 314 Mora, J., Province of Buenos Ayres.—Sheepskin. 652
- 315 Acuña, P. Garcia, Province of Buenos Ayres.—Cow tripes prepared for export. 652
- 316 Battini, Angel Petro, Province of Buenos Ayres.—Leather. 652
- 317 Duportal, Emilio, Province of Buenos Ayres.—Skins. 652
- 318 Arnault, Augusto, Province of Buenos Ayres.—Domestic cat-skins for the cure of rheumatism. 652
- 319 Escalada & Co., Buenos Ayres.—Tanned and colored kid skins for gloves. 652
- 320 Bernard, Joaquin, Province of Buenos Ayres.—Sheep and lamb skins. 652
- 321 Bellocq Bros., Province of Buenos Ayres.—Calf skins. 652
- 322 Iniguez, A. Manuel, Province of Buenos Ayres.—Charcoal of curumanuel wood. 652
- 323 Jacquemard, Victor, Province of Buenos Ayres.—Animal charcoal. 652
- 324 Majica, E. S., Province of Buenos Ayres.—Prepared blood for refining sugar and clarifying syrups. 652
- 325 Gauthier, Adolfo, Province of Buenos Ayres.—Tallow. 652
- 326 Santillan Bros. & Co., Province of Santiago del Estero.—Leather for boots and lizard leather for gaiters; skins, etc. 652
- 327 Gelos, Martin, Province of La Rioja.—Wild-boar skins. 652
- 328 Gonzalez, Joaquin, Province of La Rioja.—Lion, vicugna, and ai-ai skins. 652
- 329 Provincial Commission, Province of La Rioja.
a Leather, lion, goat, vicugna, and other skins, etc. 652
b Dried peaches, raisins, and pressed olives. 656
c Starch. 658
d Nonogasta syrup. 659
e Wine and brandy. 660
- 330 Commission of the Chaco Argentine Territory.
a Tiger, wolf, deer, cat, and lion skins, etc. 652
b Mandioca starch for making chipa bread. 653
c Guaviranú liquors, sugar cane and orange juices. 660
- 331 Provincial Commission, Province of Catamarca.
a Skins, leather, etc. 652
b Lime and orange sweetmeats. 656
c Flour. 657
- 332 Andalgalá Sub-commission, Province of Catamarca.—Vicugna, alpaca, gray fox, lamb skins, leather, etc. 652
- 333 Vergara, Altillio, Province of Catamarca.—Swan skin. 652
- 334 Tinogasta Sub-commission, Province of Catamarca.—Lion, chinchilla, fox, wild-cat, ferret, and wild-boar skins. 652
- 335 Medina, J., Province of Catamarca.—Ampalagua and otter skins. 652
- 336 Santa Maria Sub-commission, Province of Catamarca.—Vicugna, chinchilla, and fox skins. 652

Animal and Vegetable Products.

- 337 Pachin Sub-commission, Province of Catamarca.—Wildcat, ferret, guana skins, etc. 652
- 338 Belen Sub-commission, Province of Catamarca.
a Alpaca and vicugna skins. 652
b White wine. 660
- 339 Provincial Commission, Province of Tucuman.
a Skins and leather. 652
b Wheat starch. 658
c Sugar. 659
d Biscuits. 661
- 340 Provincial Commission, Province of Entre-Rios.—Swan and deer skins. 652
- 341 Victoria Sub-commission, Province of Entre-Rios.—Chajá skin. 652
- 342 Benites, A., & Co., Province of Entre-Rios.
a Tallow. 652
b Wax and honey. 654
c Preserved meats, beef extracts, etc. 656
- 343 Alluraide, Punte y Carril, Province of Entre-Rios.—Horse hide. 652
- 344 Darcher, Amadeo, Province of Entre-Rios.—Sea-wolf, fox, wildcat, and otter skins, etc. 652
- 345 Barcos, Pedro B., Province of Entre-Rios.—Skins. 652
- 346 Rosario Sub-commission, Province of Entre-Rios.—Buck, otter, ferret, coati, lion, fox, weasel, wildcat skins, etc. 652
- 347 Victoria Sub-commission, Province of Entre-Rios.—Skins. 652
- 348 Aiurralde, Rodolfo, Province of Entre-Rios.—Wildcat skin. 652
- 349 Fuento, Gregorio T. de la, & Del Carril, Pedro A., Province of Entre-Rios.—Sea-wolf, horse, deer skins, etc. 652
- 350 Provincial Commission, Province of Entre-Rios.—Wildcat, fox, otter skins, etc. 652
- 351 Fontes, Vicente M., & Neygra, Sixto, Province of Entre-Rios.—Tiger, lion, wolf, fox, ferret, otter, rabbit, wildcat, and weasel skins. 652
- 352 Goyri, Bernardo, Province of Entre-Rios.—Fox and weasel skins. 652
- 353 Maglioni, Francisco, Province of Entre-Rios.—Carpincho and deer skins. 652
- 354 Ceballos, Desiderio, Province of Salta.—Soles, black and morocco leather. 652
- 354*a* Garcia, Domingo, Province of Rioja.
a Glue. 652
b Grape syrup. 659
- 355 Saenz, Victoriano, Province of Salta.—Tiger skin. 652
- 356 Zorilla, Benjamin, Province of Salta.—Llama skin. 652
- 357 Correras, Segundo, Province of Mendoza.—Lion skin. 652
- 358 Provincial Commission, Province of Mendoza.
a Fox skins. 652
b Ostrich feathers. 653
c Dried peaches, sweatmeats, preserved lemons, etc. 656
- 359 Gomez, Cecilio, Province of Mendoza.—Chanchó wild-boar skin.
- 360 Ribero, Jacinto, Province of San Luis.—Wildcat skins. 652
- 361 Sierra, Ramon de la, Province of San Luis.—Aguará purse and occiput of an ostrich. 652
- 362 Lahiton, Pedro, Province of San Luis.—Tanned hides, morocco, etc. 652
- 363 Ladies' Commission, Province of San Luis.
a Peach preserve, plum, melon, peach, lemon, water-melon, and quince sweetmeats, etc. 656
b Lemon and orange liquors. 660
- 364 Rodriguez, Severo, Province of San Juan.
a Tanned hide. 652
b Musk and peeled raisins. 656
c Wines. 660
- 365 Vidart, Juan A., Province of San Juan.—Lina hides. 652
- 366 Ruiz, Clemente, Province of San Juan.—Merino metis skin. 652
- 367 Moreno, Federico, Province of San Juan.—Ox hide. 652
- 368 Provincial Commission, Province of San Juan.
a Horns and fox skins. 652
b Raisins, preserved fruits. 656
- 369 Rodriguez, Victor, Province of San Juan.
a Horn combs. 652
b Raisins, etc. 656
c Wheat starch. 658
d Wines. 660
- 370 Provincial Commission, Province of Cordoba.
a Horn flasks and combs; lion, wild cat, and goat skins. 652
b Flava wax and honey. 654
c Sweetmeats. 656
d Flour, bran, etc. 657
e Indian fig-syrup. 659
- 371 Iriarte, Carlos, Province of Cordoba.—Tanned goat skins. 652
- 372 Ocampo & Acosta, Province of Cordoba.—Tanned hides. 652
- 373 Provincial Commission, Province of Jujui.
a Vicugna, llama, tiger, and other skins. 652
b Wax and wild honey. 654
c Dried peaches. 656
d Corn and wheat flour. 657
e Sugar. 659
f Querosilla mead. 660
- 374 Dagorret, Modesta, Province of Corrientes.—Tanned viper skin, sole leather, hides, etc. 652
- 375 Provincial Commission, Province of Corrientes.
a Otter skins. 652
b Ostrich feathers. 653
c Wax. 654
d Citron, peanut, lime, and other sweetmeats; cocoanuts. 656
- 376 Bella Vista Sub-commission, Province of Corrientes.—Otter skins. 652
- 377 Echevarria, Cecilio, Province of Santa Fé.
a Wolf, lion, tiger, fox, ostrich, and other skins. 652
b Wax. 654
c Wild fruit, preserved. 656
d Sugar-cane brandy. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 378 Provincial Commission, Province of Santa Fé.
a Wolf, lion, goat, otter, hare, fox, deer skins, etc. 652
b Sweetmeats. 661
- 379 Martinez, Jonas, Province of Catamarca.—Ostrich feathers. 653
- 380 Suarez, R., Province of Santa Fé.—Ostrich feathers. 653
- 381 Soler, Ventura, Province of Entre-Ríos.—Ostrich feathers. 653
- 382 Mavit, José, Province of Entre-Ríos.—Honey. 654
- 383 Invernizzo, J., & Toschini, J., Province of Entre-Ríos.—Wax and honey. 654
- 384 Otero, José, Province of Buenos Ayres.—Honey and wax. 654
- 385 Barraquero, Carmen, Province of Mendoza.
a Wax and honey. 654
b Preserves. 656
 Grape, quince, and cherry syrups. 659
 White wine. 660
- 386 Pouyet, Miguel, Province of Mendoza.
a Honey. 654
b Nuts, almonds, and fruits. 656
c Cognac and wines. 660
- 387 Aragon, J. M., Province of Santa Fé.—Honey. 654
- 388 Iramon, Juan, Province of Santa Fé.—Honey and wax. 654
- 389 Jurado, Doraliza, G. de, Province of San Luis.—Honey. 654
- 390 Albarracin, Saturnino, Province of San Juan.—Wax. 654
- 391 Cortinez, Domitilio, Province of San Juan.—Honey. 654
- 392 Piñero, Aurelio, Province of Córdoba.—Wax. 654
- 393 Passel, Teodoro, Province of Córdoba.—Wax. 654
- 394 Cespedes, José, Province of Mendoza.—Dried apples and figs. 656
- 394*a* Biraben, A., Province of Entre-Ríos.—Preserved meats. 656
- 395 Godoy, Nicolas, Province of Mendoza.—Preserved citrons. 656
- 395*a* Vignolles, Henry, Province of Santa Fé.—Preserved meats and patés. 656
- 396 Sanchez, Modesto, Province of Mendoza.—Preserved grapes. 656
- 397 Chaves, Rosaura, Province of Mendoza.—Olives. 656
- 398 Campos, Enrique, Province of Mendoza.
a Milk-extract. 656
b Orange-wine, anisette. 660
- 399 Rufino, Gerónimo C., Province of San Juan.—Musk-grape raisins. 656
- 400 Ramirez & Co., Province of San Juan.—Raisins. 656
- 401 Sarmiento, J. L., Province of San Juan.
a Raisins. 656
b Brandy. 660
- 402 Bates, Benjamin, Province of San Juan.
a Almonds and raisins. 656
b Flour and bran. 657
- 403 Herrera, P. J., Province of San Juan.—Nuts. 656
- 404 Mazo, Julian, Province of San Juan.—Raisins and figs. 656
- 405 Herrera, José, Province of San Juan.—Almonds. 656
- 406 Tacheret, Carlos, Province of San Juan.—Figs. 656
- 407 Tacheret, Emilio, Province of San Juan.—Figs. 656
- 408 Jones, Fabian, Province of San Juan.—Figs. 656
- 409 Jofré, Ramon, Province of San Juan.
a Figs. 656
b Wines and vinegar. 660
- 410 Frias, Salvador, Province of San Juan.—Musk raisins. 656
- 411 Ruiz, Clemente S., Province of San Juan.—Nuts. 656
- 412 Aguilar, J. M., Province of San Juan.—Carob paste. 656
- 413 Governor of the Province, Province of Jujui.—Nuts. 656
- 414 Bascuñan, Francisco, Province of La Rioja.—Dried figs. 656
- 415 Olivera, Bernardo, Province of La Rioja.—Dried figs. 656
- 416 Gonzales, Ventura, Province of La Rioja.
a Raisins and dried figs. 656
b Nonogasta syrup. 659
c Wine. 660
- 417 Larrohona, Pedro, Province of La Rioja.—Raisins. 656
- 418 Garcia, Domingo, Province of La Rioja.
a Raisins. 656
b Nonogasta syrup. 659
c Wine, brandy, and anisette. 660
- 419 Dávila, Carmen T. de, Province of La Rioja.—Preserved olives, lime and peach preserves, and cayote sweetmeat. 656
- 420 Bustos, Sophia G., Province of La Rioja.—Quince preserve. 656
- 421 Treloar, Guillermo A., Province of La Rioja.
a Carob paste. 656
b Wines. 660
- 422 Moujon, Mercedes I., Province of Catamarca.—Raisins. 656
- 423 Santa Coloma, Isaac, Province of Catamarca.—Raisins, preserves, etc. 656
- 424 Herrera, Ramon, Province of Catamarca.—Musk-raisins. 656
- 425 Delgado, Manuel, Province of Catamarca.—Dried figs. 656
- 426 Medina, Luis R., Province of Catamarca.—Nuts. 656
- 427 Aguero, Patricia, Province of Catamarca.—Musk raisins. 650
- 428 Franco, Luis A., Province of Catamarca.—Candied quinces. 656
- 429 Acosta, Maria E. de, Province of Catamarca.—Candied quinces. 656
- 430 Colodrero, A., Province of Corrientes.—Yatay palm cocoanuts. 656
- 431 Videla, Victor, Province of San Luis.
a White carob and carob paste. 650
b Syrup, etc. 657

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 432 Escobar, Juan D., Province of San Luis.
a Dried figs and peaches. 656
b Wine and carob mead. 660
- 433 Ronchetti, Valentin, Province of Santa Fé.—Pickled partridges. 656
- 434 Nikisch, Manuel, Province of Santa Fé.—Pickled tongues. 656
- 435 Garvino, Signor, Province of Entre-Rios.—Salt meat and tongues; gelatine. 656
- 436 Valdes, Emiliano and Cipriano, Province of Buenos Ayres.—Salt tongues and beef, etc. 656
- 437 Olidon, Tomas, Province of Buenos Ayres.
a Sheep tongue, dried mutton and beef. 656
b Cognac bitters. 660
- 438 Beriso, Juan, & Co., Province of Buenos Ayres.—Dried tongues. 656
- 439 Cambaceres, Antonio, Province of Buenos Ayres.—Jerked beef and salt tongues. 656
- 440 Roverano Bros., Province of Buenos Ayres.—Sweetmeats in syrup. 656
- 442 Colla, Juan, Province of Entre-Rios.—Flour. 657
- 443 Cabilla, A., Province of Entre-Rios.—Grits. 657
- 444 Buada, F., Province of Entre-Rios.—Flour. 657
- 445 Dubois, José B., Province of Entre-Rios.—Flour. 657
- 446 Berizo, Domingo, Province of Entre-Rios.—Flour. 657
- 448 Pillier, N., Province of Santa Fé.—Flour. 657
- 449 Iturraspe & Co., Province of Santa Fé.—Bran, flour. 657
- 450 Wart, Carlos de, Province of Santa Fé.—Flour. 657
- 451 Quelet, Enrique, Province of Santa Fé.—Wheat flour. 657
- 452 Bauer, G., Province of Santa Fé.—Flour. 657
- 453 Lubary, Tomas, Province of Santa Fé.—Flour. 657
- 454 Frank & Lami, Province of Santa Fé.—Flour. 657
- 455 Fristchi, Celestino, Province of Santa Fé.—Wheat flour. 657
- 456 Gallo, B., Province of San Juan.—Flour and bran. 657
- 457 Frias, Salvador, Province of San Juan.—Flour and Chingo flour. 657
- 458 Appleyard, T. B., Province of Corrientes.
a Mandioca flour. 657
b Mandioca starch. 658
- 459 Fourcade, Pedro, Province of Mendoza.—Flour and bran. 657
- 460 Casas, Molino de, Province of Mendoza.—Flour. 657
- 461 Armenchiardi, Juan, Province of Mendoza.
a Corn meal and flour. 657
b Macaroni, vermicelli. 658
- 462 Tillar, Carlos, Province of Jujui.—Flour. 657
- 463 Alric, Antonio, Province of San Luis.—Flour and bran. 657
- 464 Provincial Commission, Province of Santiago del Estero.—Flour. 657
- 466 Navarro, Cornelio, Province of Mendoza.—Wheat starch. 658
- 467 Gazzo, Luis, Province of Santa Fé.—Vermicelli. 658
- 468 Dávila, Nicolasa, Province of La Rioja.—Nonogasta syrup. 659
- 468^a Mendevil, Fidel, Province of Tucuman.—Sugar. 659
- 469 Dávila, Guillermo, Province of La Rioja.—Nonogasta syrup. 659
- 470 Gordillo, Alcibiades, Province of La Rioja.—Nonogasta syrup. 659
- 471 Dominguez, José D., Province of San Juan.—Syrup. 659
- 472 Ovejero, Sisto, Province of Salta.
a Sugar. 659
b White wine. 660
- 473 Figueroa, José E., Province of Catamarca.—Syrup. 659
- 473^a Garcia, S., Province of Tucuman.—Sugar. 659
- 474 Brisuela, Primitivo, Province of Catamarca.—Grape syrup. 659
- 475 Araob, Adelaida, Province of Catamarca.—Grape syrup. 659
- 476 Castello, Guadalupe, Province of Catamarca.—Grape syrup. 659
- 477 Leri, Petrona de, Province of Catamarca.—Grape syrup. 659
- 478 Aguero, Patricia, Province of Catamarca.—Grape syrup. 659
- 478^a Mendez & Keller, Province of Tucuman.
a Sugar. 659
b Wines. 660
- 479 Aybar, J. R., Province of Catamarca.—Grape syrup. 659
- 479^a Arguellos & Oliver, Province of Tucuman.—Loaf sugar. 659
- 479^b Garcia, Fidel, Bros., Province of Tucuman.—Sugars. 659
- 480 Laborda, Franklin, Province of San Luis.—Orange, lemon, currant, banana, and peach syrup. 659
- 481 Bagley, M. S., Province of Buenos Ayres.—Bitters. 660
- 482 Pizzona, Miguel, Province of Buenos Ayres.—White and red wines. 660
- 483 Plá, José, & Co., Province of Buenos Ayres.—Anisette brandy. 660
- 484 Loy, José, Province of Buenos Ayres.—Hesperidina bitters. 660
- 485 Nuttall, Enrique, Province of Buenos Ayres.—Hesperidina bitters. 660
- 486 Calatroni, Pedro, Province of Buenos Ayres.—Banana balm, bittersweet tonic, and liquors. 660
- 487 German Brewery, Province of Buenos Ayres.—Chivilcoy beer. 660
- 488 Hanot, Jorge, Province of Buenos Ayres.—Orange-flower water, Chartreuse and Kerman liquor. 660
- 489 Dominguez, José, Province of San Juan.—Vinegar. 660
- 490 Terramola, Delfin, Province of San Juan.—Wine and vinegar. 660
- 491 Zavalla, Pedro J., Province of San Juan.—Wine. 660

Animal and Vegetable Products, Textile Substances.

- 492 Quiroga, Isidro, Province of San Juan.—White wine. 660
- 493 Quiroga, Abraham, Province of San Juan.—Wine. 660
- 494 Balaguer, Juan E., Province of San Juan.—White and red wine. 660
- 495 Coll, Francisco M., Province of San Juan.—Bordeaux wine. 660
- 496 Doncel, Rosauero, Province of San Juan.—Wine. 660
- 497 Doncel, José E., Province of San Juan.—Trinidad wine. 660
- 498 Carraffa, Vicente, Province of San Juan.—Wines and brandy. 660
- 499 Herrera, Pedro, Province of San Juan.—Brandy. 660
- 500 Baca, Vicente, Province of San Juan.—Brandy. 660
- 501 Castro, Saturnino, Province of San Juan.—Brandy. 660
- 502 Espada, Tadeo, Province of San Juan.—Wine. 660
- 503 Dejorti, Eusebio, Province of San Juan.—Wine. 660
- 504 Lemaistre, Hilario, Province of Mendoza.—Wines, quince, gin, ratafia, and cherry liquors. 660
- 505 Blanco, Eusebio, Province of Mendoza.—Wines. 660
- 506 Guerin, Eugenio, Province of Mendoza.—Wines. 660
- 507 Michel, Salvador, Province of Salta.—Wines. 660
- 508 Flemming, M., Province of Salta.—Wine. 660
- 509 Dávalos, Asuncion, Province of Salta.—Wine. 660
- 510 Morales, Emilio, Province of Salta.—Bitters; cumin, orange and vanilla liquors, cocoa extract, banana balm, cognac, etc. 660
- 511 Flores, Nicanor, Province of Salta.—Wines. 660
- 513 Lopez, Filipe, Province of Salta.—Wines. 660
- 514 Velez, Amadeo, Province of Salta.—Wine. 660
- 515 Alvarez, Francisco, Province of La Rioja.—White wines. 660
- 516 Dávila, Bonifacio, Province of La Rioja.—Wines and anise brandy. 660
- 517 Dávila, Domingo, Province of La Rioja.—Wines. 660
- 518 Gordillo, Alcibiades, Province of La Rioja.—Wines. 660
- 519 Dávila, Guillermo, Province of La Rioja.—Wines. 660
- 520 Chaves, Crisologo, Province of La Rioja.—Wines and anise brandy. 660
- 521 Dávila, Nicolasa V. de, Province of La Rioja.—Wines. 660
- 522 Gonzalez, Zoraida Dávila de, Province of La Rioja.—Mint, coffee, orange, cocoa, and Peruvian bark, liquors. 660
- 523 Muro, Froilan, Province of Catamarca.—Wine. 660
- 524 Augier, Uladislaio, Province of Catamarca.—Wine. 660
- 525 Lafone Queveda, Samuel A., Province of La Rioja.—Wines, cognac, and liquors. 660
- 526 Franco, Luis A., Province of Catamarca.—Wines. 660
- 527 Figueroa, Molas, & Co., Province of Catamarca.—Wine. 660
- 528 Narvaez, Dermidio, Province of Catamarca.—Wines and brandies. 660
- 529 Miranda, José A., Province of Catamarca.—Wine and brandy. 660
- 530 Figueroa, Manuel, Province of Catamarca.—Wine. 660
- 531 Cisnero, Juan B., Province of Catamarca.—Wine and brandy. 660
- 532 Teferina, Daniel, Province of Catamarca.—Wines. 660
- 533 Molina, Mardoqueo, Province of Catamarca.—Wine. 660
- 534 Ageret, H., Province of Corrientes.—Lime and orange liquors. 660
- 535 Villa, Luis, Province of Corrientes.—Sugar-cane juice. 660
- 536 Alzric, Antonio, Province of San Luis.—Soda water and lemonade. 660
- 537 Billar, Salvador, Province of Jupui.—Sugar-cane brandy. 660
- 538 Gibelli, S., Province of Entre-Rios.—Wine. 660
- 539 Clavarino, S., Province of Entre-Rios.—Wine. 660
- 540 Campora, A., Province of Entre-Rios.—Wine. 660
- 541 Conte Gran, Anselmo, Province of Entre-Rios.—Vermouth wine and elixir. 660
- 542 Costa, Luis, Province of Santa Fé.—Cognac, vermouth wine, and liquors. 660
- 543 Defagot, Cipriano, Province of Entre-Rios.—Peach liquor. 660
- 544 Magdelin, Fernando, Province of Santa Fé.—Beer. 660
- 545 Fontam, Luis T., Province of Santa Fé.—Anise liquor. 660
- 546 Bagley, M. S., & Co., Province of Buenos Ayres.—Biscuits and crackers. 661
- 546^a Konig, Richard, & Co., Province of Buenos Ayres.—Sweetmeats. 661
- 547 Bromvers, Enrique, Province of Buenos Ayres.—Crackers and biscuits. 661
- 548 Masset, Gustavo, Province of Buenos Ayres.—Crackers. 661

Textile Substances of Vegetable or Animal Origin.

- 550 Rizo, Isidoro, Province of Catamarca.—Palo borracho cotton. 665
- 551 Provincial Commission, Province of Catamarca.—Cotton and raw palo borracho cotton. 665
- 551^a Silva, Florentius, Province of Santa Fé.—Cotton. 665
- 552 Colina, J. N., Province of Rioja.—Cotton grown in Vinchina. 665
- 553 Dávila, Guillermo, Province of La Rioja.—Cotton. 665

Textile Substances.

- 553^a Ledesma, Dr., Province of Tucuman.
a Cotton. 665
b Goat's hair. 669
- 554 Alvarez, Francisco, Province of La Rioja.—Cotton. 665
- 555 Wurffbain, Gustavo, Province of La Rioja.—Cotton. 665
- 559 Molina, Mardoqueo, Province of La Rioja.—Cotton and cotton pods. 665
- 557 Provincial Commission, Province of Salta.
a Cotton. 665
b Chaguar thread and bark, yuchan fibre. 666
c Bristle rope and fabrics for sieves. 669
- 557^a Echevarria, Cecilio, Province of Santa Fé.
a Cotton. 665
b Angora wool. 667
- 558 Fava, Carlos, Province of Corrientes.—Cotton. 665
- 559 Bella Vista Sub-commission, Province of Corrientes.
a Raw cotton. 665
b Wool. 667
- 560 Commission of the Chaco Argentine Territory.—Cotton. 665
- 561 Provincial Commission, Province of San Luis.
a Cotton. 665
b Wool. 667
- 562 Invernizzo, John, & Toschini, J., Province of Entre-Rios.
a Cotton. 665
b Cocoons and spun silk. 668
- 563 Parana Commission, Province of Entre-Rios.
a Fibres and rope. 666
b Wild silk cocoons. 668
- 564 Provincial Commission, Province of Corrientes.—Ropes made of caraguatá fibre. 666
- 564^a Posadas, G., Province of Buenos Ayres.—Fibre ropes, and lines. 666
- 655 Torres, Esteban N., Province of Corrientes.—Caraguatá fibres. 666
- 566 Gelabert, Miguel, Province of Corrientes.—Caraguatá fibre cord. 666
- 567 Roibon, Enrique, Province of Corrientes.—Caraguatá cord. 666
- 568 Lescano, José D., Province of Corrientes.—Caraguatá leaves. 666
- 569 Gelos, Martín, Province of La Rioja.—Feather-grass. 666
- 570 Carreras, Rosaura C., Province of Mendoza.—Chard thread. 666
- 571 Provincial Commission, Province of Mendoza.—Hemp and ropes. 666
- 572 Commission of the Province of Santiago del Estero.—Prepared chaguar fibre. 666
- 573 Billar, Salvador, Province of Jujui.—Chaguar and yuchan ropes. 666
- 574 Galarani, Carlos, Province of Buenos Ayres.—Spun flax and flax-straw. 666
- 575 Meyer, E., Province of Santa Fé.—Hemp. 666
- 576 Cataneo, Juan, Province of Santa Fé.—Raw flax. 666
- 577 Stegman, Jorge, Province of Buenos Ayres.—Wool. 667
- 577^a Fortunny, Louis, Province of Buenos Ayres.—Wool. 667
- 578 Morgan, N., Province of Buenos Ayres.—Wool. 667
- 579 Peredieu & Bradley, Province of Buenos Ayres.—Wool. 667
- 579^a Provincial Commission, Province of San Luis.—Wool. 667
- 580 Martinez & Laplaceta, Province of Buenos Ayres.—Wool. 667
- 581 Molina, Juan C., Province of Buenos Ayres.—Alpaca wool. 667
- 582 Guevara, Edelmira L. de, Province of Buenos Ayres.—Fleece of Angora goat. 667
- 583 Guerrero, Carlos T., Province of Buenos Ayres.—Wool. 667
- 584 Duportal, Emilio, Province of Buenos Ayres.—Wool. 667
- 585 Chas, Francisco, Province of Buenos Ayres.—Fleece of Negretti lamb. 667
- 586 Nazar & Co., Romulo, Province of Buenos Ayres.—Wool. 667
- 587 Latham, Wilfred, Province of Buenos Ayres.—Merino wool, etc. 667
- 588 Movas, José, Province of Buenos Ayres.—Wool. 667
- 589 Durand, Augusto, Province of Buenos Ayres.—Wool. 667
- 590 Castes, Mariano Artayeta, Province of Buenos Ayres.—Wool. 667
- 591 Unsué, Mariano, Province of Buenos Ayres.—Wool. 667
- 592 Classen, Enrique, Province of Buenos Ayres.—Wool. 667
- 593 Tucker, T. E. C., Province of Buenos Ayres.—Wool. 667
- 594 Iraizo, Geronimo, Province of Buenos Ayres.—Wool. 667
- 595 Frers, German, Province of Buenos Ayres.—Wool. 667
- 596 Justice of the Peace of Patagones, Province of Buenos Ayres.—Wool. 667
- 597 Clarke, Carlos, Province of Buenos Ayres.—Wool. 667
- 598 Huergo, Aureliano, Province of Buenos Ayres.—Wool. 667
- 599 Valdes, Emiliano & Cipriano, Province of Buenos Ayres.—Wool. 667
- 600 Zubiaurre, Ovidio, Province of Buenos Ayres.—Wool. 667
- 601 Gutierrez, Gervasio, Province of Buenos Ayres.—Wool. 667
- 602 Perez, Enrique, Province of Buenos Ayres.—Wool. 667
- 603 Corrales, I. W., Province of Buenos Ayres.—Wool. 667
- 604 Gregoire, N., Province of Buenos Ayres.—Wool. 667
- 605 Provincial Commission of the Province of Buenos Ayres.—Wool. 667
- 606 Camblood, M., Province of Buenos Ayres.—Wool. 667
- 607 Bonnement, I. B., Province of Buenos Ayres.—Wool. 667
- 608 Bernard, Joaquin, Province of Buenos Ayres.—Wool. 667

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Textile Substances, Engineering and Administration.

609 Schweikart, Andrés, Province of Buenos Ayres.—Wool. 667	625 ^b Massuchi, Martin, Province of Buenos Ayres.—Spun silk. 668
610 McClymont, Guillermo, Province of Buenos Ayres.—Wool. 667	625 ^c Sub-commission of San Carlos, Province of Santa Fé.—Spun silk. 668
611 Hale, Samuel B., Province of Buenos Ayres.—Wool. 667	625 ^d Bequer, T., Province of Buenos Ayres.—Silk cocoons. 668
612 Galarani, Carlos, Province of Buenos Ayres.—Wool. 667	625 ^e Pouyet, Miguel, Province of Mendoza.—Silk cocoons. 668
613 Vazquez, Lucrecio, Province of Cordoba.—Wool. 667	626 Justice of the Peace of San Vicente, Province of Buenos Ayres.—Horse-hair. 669
614 Gomez, Fecundino, Province of Mendoza.—Wool. 667	627 Provincial Commission, Province of Buenos Ayres.—Cow-hair. 669
615 Gonzalez, Daniel, Province of Mendoza.—Wool. 667	628 Lagraña, Cipriano, Province of Buenos Ayres.—Angora hair. 669
616 Davila, Bonifacio, Province of La Rioja.—Wool. 667	Agricultural Engineering and Administration.
617 Gavino, Domingo, Province of Entre-Rios.—Wool. 667	629 Carenon, E., & J. Lacroze, Province of Buenos Ayres.—Model of a pump. 680
618 Dennis, Francis Antonio, Province of Entre-Rios.—Wool. 667	630 Silveyra, Agustin, Province of Buenos Ayres.—Artificial manure. 681
619 Fuente, Gregorio F. de la, Province of Entre-Rios.—Wool. 667	631 Jacquemard, Victor, Province of Buenos Ayres.—Artificial manure. 681
620 Correa, Benito, Province of San Juan.—Wool. 667	632 Mujica, E. S., Province of San Juan.—Artificial manure from boiled and dried blood. 681
621 Rodriguez, Estanislao, Province of San Juan.—Alpaca wool. 667	632 ^a Provincial Commission, Province of Salta.
622 Zavalla, Lorenzo, Province of San Juan.—Angora wool. 667	<i>a</i> Hair sieves. 224
624 Newton, Ricardo, Province of Buenos Ayres.—Silk, spun and in cocoons. 668	<i>b</i> Horse-hair rope. 287
625 Peluffo, Angel, Province of Buenos Ayres.—Silk in cocoons. 668	
625 ^a Victorica, Henry, Province of Buenos Ayres.—Cocoons. 668	

LIBERIA.

(East Avenue, Columns 4 to 7.)

COLLECTIVE EXHIBIT.

Minerals, Animal and Agricultural Products.

Morris, Edward S., & Co., St. Paul's River & Philadelphia, Pa.	<i>g</i> Gums. 603
<i>a</i> Iron ore. 100	<i>h</i> Coffee, green and roasted; cocoa, ginger, and spices. 623
<i>b</i> Fresh and sweet palm-oil hermetically sealed in glass jars, for medical and family use; palm-oil in casks; palm kernel oil; soap made of fresh and sweet palm-oil. 201	<i>i</i> Palm kernels. 624
<i>c</i> Indigo. 202	<i>j</i> Ivory. 652
<i>d</i> African curiosities. 312	<i>k</i> Palm kernel meal. 657
<i>e</i> Coffee-hulling machinery. 585	<i>l</i> Arrow-root. 658
<i>f</i> Cam-wood, hardwoods. 600	<i>m</i> Sugar. 659
	<i>n</i> Cotton. 665
	<i>o</i> Flax from the Island of St. Helena, ramie. 666

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

SPAIN.

(Nave, South of Main Transept, Columns 13, 14.)

Pomology.

Pomology.

- 1 Jover, Francisco, Alhama, Province of Almeria.—Grapes. 610
- 2 Daza y Ruiz, Francisco, Purchena, Province of Almeria.—Grapes. 610
- 3 Romero, Manuel Carbonero, Purchena, Province of Almeria.—Grapes. 610
- 4 Sanchez Bros. & Granados, Ochanes, Province of Almeria.—Grapes. 610
- 5 Ibañez, Luis Gallego, Cazorla, Province of Jaen.—Pears. 610
- 6 Economical Society of Friends of the Country, Valencia.—Paintings of grapes. 610
- 7 Bernabeu y Diego, Juan B., Jabea, Province of Alicante.—Almonds. 611
- 8 Scals, José, Jijona, Province of Alicante.—Almonds. 611
- 9 Piña, Juan Bautista, Monforte, Province of Alicante.—Almonds. 611
- 10 Soriano, Isidro Martinez, Monóvar, Province of Alicante.—Almonds. 611
- 11 Verdu y Perez, Joaquin, Monóvar, Province of Alicante.—Almonds. 611
- 12 Perez, Albert, & Co., Monóvar, Province of Alicante.—Almonds. 611
- 13 Feliú y Rodriguez, José, Benisa, Province of Alicante.—Almonds. 611
- 14 Linares, José Ramon, Albanchez, Province of Almeria.—Almonds. 611
- 15 Trelly y Chacon, Miguel del, Berja, Province of Almeria.—Almonds. 611
- 16 Martín, Francisco Regaña, Cabeza, de Vaca, Province of Bajadoz.—Walnuts. 611
- 17 Feliú, Juan, Palma, Balearic Islands.—Almonds. 611
- 18 Wallés, Edmundo, Ibiza, Balearic Islands.—Almonds. 611
- 19 Fuster, Francisco, Palma, Balearic Islands.—Almonds. 611
- 20 Fuster, Miguel, Palma, Balearic Islands.—Almonds. 611
- 21 Mulet, Antonio, Palma, Balearic Islands.—Almonds. 611
- 22 Melian y Artilés, Matias, Las Palmas, Canary Islands.—Almonds. 611
- 23 Provincial Board of Agriculture, Castellon.—Walnuts and acorns. 611
- 24 Berruezo, José Antonio, Villarel, Province of Castellon.—Almonds. 611
- 25 Garcés, Vicente, Castellon.—Almonds. 611
- 26 Soldevilla, Tomás Moragrega, Castellon.—Pomegranates. 611
- 27 Lara, Rafael J. de, Cordoba.—Oranges, lemons, and citrons. 611
- 28 Veja de Armijo, Marquis of, Cordoba.—Oranges and lemons. 611
- 29 Corporation of Palma del Rio, Province of Cordoba.—Walnuts. 611
- 30 Cabezas y Saravia, José, Cordoba.—Hazelnuts. 611
- 31 Cruz Durán, Juan de la, Aracena, Province of Huelva.—Walnuts and chestnuts. 611
- 32 Sala, Emilio de, Huelva.—Almonds. 611
- 33 Montemayor, Maria, Moguer, Province of Huelva.—Almonds. 611
- 34 Cueva, Fernando de la, Huelva.—Almonds. 611
- 35 Carnes, Eulogio Martin, Aracena, Province of Huelva.—Walnuts. 611
- 36 Caras, Serafin, Huesca.—Walnuts. 611
- 37 Moreno, Rufino, Cazorla, Province of Jaen.—Walnuts. 611
- 38 Bulnes, Francisco de Paula, Cazorla, Province of Jaen.—Walnuts. 611
- 39 Corporation of Ponferrada, Province of Leon.—Walnuts and chestnuts. 611
- 40 Corporation of Congosto, Province of Leon.—Chestnuts. 611
- 41 Fernandez, Tomás, Armunia, Province of Leon.—Walnuts. 611
- 42 Prado, Maximo Alonso, Leon.—Walnuts, chestnuts, and hazelnuts. 611
- 43 Agelét, Ramon, Lérida.—Walnuts. 611
- 44 Jover, Luisa de, Province of Lérida.—Almonds. 611
- 45 Ignes, Pedro, Cervera, Province of Lérida.—Hazelnuts. 611
- 46 Corporation of Lorenzano, Province of Lugo.—Walnuts. 611
- 47 Quiroga Vasquez, Quiroga, Province of Lugo.—Chestnuts. 611
- 48 Huelin, Guillermo, & Son, Málaga.—Almonds. 611
- 49 Provincial Deputation, Murcia.—Almonds. 611
- 50 Roca Bros., Murcia.—Pomegranates. 611
- 51 Yañez, Francisco Vila, Viana, Province of Orense.—Chestnuts and walnuts. 611
- 52 Vaamonde, Ramon María, Puirgin, Province of Orense.—Chestnuts and walnuts. 611
- 53 Rey, Manuel Pereiro, Orense.—Hazelnuts. 611
- 54 Candedo, Manuel, Coles, Province of Orense.—Hazelnuts. 611

Pomology.

- 55 Diaz, Francisco, Trandeiros, Province of Orense.—Walnuts. 611
- 56 Rodriguez, Manuel Iglesias, Celanova, Province of Orense.—Fruits. 611
- 57 Provincial Board of Agriculture, Industry and Commerce, Oviedo.—Chestnuts, walnuts, and hazelnuts. 611
- 58 Rios, Eugenio Montero, Pontevedra.—Oranges, lemons, and citrons. 611
- 59 Brabo, Bernardo, Fregeneda, Province of Salamanca.—Almonds. 611
- 60 Paulino, Felipe Perez, Fregeneda, Province of Salamanca.—Almonds. 611
- 61 Hortal, Ignacio, Fregeneda, Province of Salamanca.—Almonds. 611
- 62 Garcia, José Sanchez, Fregeneda, Province of Salamanca.—Almonds. 611
- 63 Corbalan, Juan, Sancelle, Province of Salamanca.—Almonds. 611
- 64 Viesca, Marquis of, Fregeneda, Province of Salamanca.—Almonds. 611
- 65 Miguel, Ramon, Hinojosa, Province of Salamanca.—Almonds. 611
- 66 Rivero, Tomás, Hinojosa, Province of Salamanca.—Almonds. 611
- 67 Garrido, Juan, Valero, Province of Salamanca.—Walnuts. 611
- 68 Martin, Lorenzo Calvo, Mogarraz, Province of Salamanca.—Walnuts. 611
- 69 Bellido, Narciso, Zorita, Province of Salamanca.—Walnuts. 611
- 70 Sanchez, Antonio Capita, Mairena, Province of Sevilla.—Oranges. 611
- 71 Viñas, Antonio, Reus, Province of Tarragona.—Almonds. 611
- 72 Magriña, Antonio, Gadesa, Province of Tarragona.—Almonds. 611
- 73 Peira y Mach, Agustin, Scala Dei, Province of Tarragona.—Almonds, walnuts, and hazelnuts. 611
- 74 Franch & Segriá, Uldemolins, Province of Tarragona.—Hazelnuts. 611
- 75 Escoda, Antonio, Vilaseca, Province of Tarragona.—Hazelnuts. 611
- 76 Bufill, B., Reus, Province of Tarragona.—Almonds. 611
- 77 Gasull, Bartolomé, Province of Tarragona.—Almonds and hazelnuts. 611
- 78 Consul & Virgili, Tarragona.—Hazelnuts. 611
- 79 Domingo, Dimas, Reus, Province of Tarragona.—Almonds and raisins. 611
- 80 Prieto, Eusebio, Reus, Province of Tarragona.—Walnuts. 611
- 81 Gil, Francisco, Reus, Province of Tarragona.—Almonds and hazelnuts. 611
- 82 Pellicer, Francisco, Porrera, Province of Tarragona.—Almonds and hazelnuts. 611
- 83 Sostres, Francisco Reus, Province of Tarragona.—Hazelnuts. 611
- 84 Viguera y Monllió, Francisco, Uldemolins, Province of Tarragona.—Almonds. 611
- 85 Montaña, Francisco Roca, Cambrils, Province of Tarragona.—Almonds. 611
- 86 Margales, Francisco Escoda, Vandellós, Province of Tarragona.—Almonds. 611
- 87 Puigercós y Anglès, Francisco, Uldemolins, Province of Tarragona.—Almonds. 611
- 88 Llurba, Francisco, Uldemolins, Province of Tarragona.—Almonds. 611
- 89 Fumaña Bros., Reus, Province of Tarragona.—Almonds and hazelnuts. 611
- 90 Prius, Francisco, Reus, Province of Tarragona.—Hazelnuts. 611
- 91 Comas, Francisco, Reus, Province of Tarragona.—Hazelnuts. 611
- 92 Pfeiffer, Herman, Reus, Province of Tarragona.—Hazelnuts. 611
- 93 Coll, José, Valls, Province of Tarragona.—Walnuts. 611
- 94 Miret y Segriá, José, Uldemolins, Province of Tarragona.—Walnuts. 611
- 95 Domenech y Monte, José, Vilaseca, Province of Tarragona.—Almonds. 611
- 96 Grau y Vilanova, José, Maria, Maspujols, Province of Tarragona.—Hazelnuts. 611
- 97 Anlestia, José, Ciurana, Dosaiguas, Province of Tarragona.—Hazelnuts. 611
- 98 Illas, José Montagut, Reus, Province of Tarragona.—Hazelnuts. 611
- 99 Forasté y Ferré, Juan, Vilaseca, Province of Tarragona.—Almonds. 611
- 100 Magriña, Luis, Falset, Province of Tarragona.—Hazelnuts. 611
- 101 Magriña, Manuel Serrano, Tibisa, Province of Tarragona.—Hazelnuts. 611
- 102 Artells, Miguel, Reus, Province of Tarragona.—Almonds and hazelnuts. 611
- 103 Bassedas y Andreu, Miguel, Reus, Province of Tarragona.—Hazelnuts. 611
- 104 Magriña, Mariano, La Selva, Province of Tarragona.—Hazelnuts. 611
- 105 Salvadó, Mateo, Tarragona.—Hazelnuts. 611
- 106 Abelló y Boada, Pablo, Barbara, Province of Tarragona.—Almonds, hazelnuts, walnuts, and pine-nuts. 611
- 107 Fausá, Pablo, La Canonja, Province of Tarragona.—Almonds and hazelnuts. 611
- 108 Sirvent y Oliver, Pedro, Reus, Province of Tarragona.—Almonds and hazelnuts. 611
- 109 Montoliu, Plácido Maria de, Tarragona.—Hazelnuts. 611
- 110 Anguera y Anglès, Falset, Province of Tarragona.—Hazelnuts and almonds. 611
- 111 Escolá y Franch, Ramon, Reus, Province of Tarragona.—Hazelnuts and almonds. 611
- 112 Monlleó, Ramon, Uldemolins, Province of Tarragona.—Almonds. 611
- 113 Siscar, Ramon, La Canonja, Province of Tarragona.—Hazelnuts. 611
- 114 Roy, Ponseti & Co., Tarragona.—Hazelnuts and almonds. 611
- 115 Soberano & Co., Reus, Province of Tarragona.—Hazelnuts and almonds. 611
- 116 Salvadó, Salvador, Riudoms, Province of Tarragona.—Hazelnuts. 611
- 117 Freixá, Sebastian, Reus, Province of Tarragona.—Hazelnuts. 611

Pomology, Agricultural Products.

- 118 Robres, Sebastian Garcia de, Scala Dei, Province of Tarragona.—Almonds. 611
- 119 Barcuys, Tomás, Maspujols, Province of Tarragona.—Hazelnuts. 611
- 120 Esteve, A., Widow & Son of, Reus, Province of Tarragona.—Hazelnuts, almonds, and walnuts. 611
- 121 Society of Agriculture, Valencia.—Walnuts and acorns. 611
- 122 Lassala y Palomares, Vicente, Masia de la mar.—Province of Valencia.—Almonds. 611
- 123 Fernandez, Tomás Vicente, Fuentesauco, Province of Zamora.—Walnuts. 611
- 124 Poey, Juan, Habana, Cuba.—Oranges. 611
- Agricultural Products.**
- 125 School of Agriculture, Vitoria, Province of Alava.—Cereals. 620
- 126 Maroni, José, Hellin, Province of Albacete.—Wheat. 620
- 127 Guerrero, José, Hellin, Province of Albacete.—Summer wheat. 620
- 128 Espinosa, Juan, Hellin, Province of Albacete.—Wheat. 620
- 129 Dios Aguado y Alarcon, Juan de, Corral Rubio, Province of Albacete.—Cereals. 620
- 130 Guevara, Vicente Ladron de, Tobará, Province of Albacete.—Wheat. 620
- 131 Ramos, Juan Bautista, Alicante.—Summer wheat. 620
- 132 Sellés, Joaquín, Elche, Province of Alicante.—Maize. 620
- 133 Gimenez, Fco Sanchez, Alicante.—Wheat. 620
- 134 Perez, Joaquin Verdú, Monóvar, Province of Alicante.—Wheat, barley, and maize. 620
- 135 Sanchez, José, Alicante.—Barley. 620
- 136 Gil, Joaquín, Alicante.—Wheat. 620
- 137 Scals, José, Gijona, Province of Alicante.—Wheat. 620
- 138 Linares, José Ramon, Albanchez, Province of Almería.—Maize and wheat. 620
- 139 Daza, Francisco, Purchena, Province of Almería.—Cereals. 620
- 140 Perez, Mariano Valverde, Fontiveros, Province of Avila.—Summer wheat. 620
- 141 Rodriguez, Francisco Mariano, Fontiveros, Province of Avila.—Barley. 620
- 142 Sainz, Matias, Donvidas, Province of Avila.—Summer wheat. 620
- 143 Coca, Juan de, Langa, Province of Avila.—Summer wheat and barley. 620
- 144 Sacristan, Tomás, Sinlabajos, Province of Avila.—Summer wheat. 620
- 145 Diaz, Gaspar, Cabezas del Pozo, Province of Avila.—Summer wheat. 620
- 146 Guerra, Blas, Cabezas del Pozo, Province of Avila.—Summer wheat. 620
- 147 Paradinas, José, Cabezas del Pozo, Province of Avila.—Summer wheat. 620
- 148 Rodriguez, Bernardo Nava, Langa, Province of Avila.—Summer wheat. 620
- 149 Paradinas, Gregorio, Bernuy Zapardiel, Province of Avila.—Winter barley. 620
- 150 Astorga, Pedro Gonzalez, Gutierrez Muñoz, Province of Avila.—Winter barley. 620
- 151 Astorga, Agapito Gonzalez, Gutierrez Muñoz, Province of Avila.—Summer wheat. 620
- 152 Rodriguez, Roberto, Villamayor, Province of Avila.—Summer wheat. 620
- 153 Garcia, Isidro Sanchez, Horcajo de las Torres, Province of Avila.—Summer wheat. 620
- 154 Calafate, Antolin Fernandez, Horcajo de las Torres, Province of Avila.—Summer wheat. 620
- 155 Lambas, Manuel, Palacios de Goda, Province of Avila.—Summer wheat. 620
- 156 Saiz, Cleto Lopez, Palacios de Goda, Province of Avila.—Summer wheat. 620
- 157 Castro, Eusebio Ramiro, Arévalo, Province of Avila.—Summer wheat. 620
- 158 Navajas, Felipe Saenz, Arévalo, Province of Avila.—Summer wheat. 620
- 159 Moreno, Cayetano, Villalba de los Barros, Province of Badajoz.—Wheat and barley. 620
- 160 Rebollo, Demetrio, Cabeza de Vaca, Province of Badajoz.—White wheat. 620
- 161 Molano, Pedro, Badajoz.—Wheat and barley. 620
- 162 Gregori, Tomás, Badajoz.—Wheat and barley. 620
- 163 Venegas, Juan, Valle de Matamoras, Province of Badajoz.—Wheat. 620
- 164 Lopo, Casimiro, Badajoz.—Wheat and barley. 620
- 165 Lopo, Felix, Badajoz.—Wheat and barley. 620
- 166 Amador, Alfonse, Guareña, Province of Badajoz.—Red wheat. 620
- 167 Sanchez, María Romero, Cabeza de Vaca, Province of Badajoz.—Lammas wheat and barley. 620
- 168 Ortiz, Eugenio, Villagarcía, Province of Badajoz.—Wheat, barley, and oats. 620
- 169 Moreno, José Salvador, Cabeza de Vaca, Province of Badajoz.—Oats. 620
- 170 Borralló, María, Cabeza de Vaca, Province of Badajoz.—Rye. 620
- 171 Soler y Siguier, José, Mahon, Balearic Islands.—Summer wheat. 620
- 172 Detlós, Gertrudis de, Ripoll, Province of Barcelona.—Maize. 620
- 173 Vila, Juan, Martorell, Province of Barcelona.—Wheat. 620
- 174 Bosh y Gausa, Luis, Barcelona.—Wheat. 620
- 175 Subirach, Mariano, Vich, Province of Barcelona.—Barley. 620
- 176 Gariga, Francisco Domingo, San Quirce de Bassora, Province of Barcelona.—Cereals. 620

Agricultural Products.

- 177 Doderó y Ponte, José, Pomar de Badalona, Province of Barcelona.—Carrobs. 621
- 178 Gordojueta, Remigio, Miranda de Ebro, Province of Burgós.—Red wheat. 620
- 179 Abad, Gregorio, Aranda de Duero, Province of Burgós.—White wheat. 620
- 180 Villanueva, Felipe de, Carcedo de Burgós, Province of Burgós.—Wheat. 620
- 181 Moral, Santiago, & Bros., Burgós.—Lammas wheat. 620
- 182 Mate, Antonio, Burgós.—Wheat. 620
- 183 Gonzalez, Dionisio, La Molina, Province of Burgós.—Wheat. 620
- 184 Horcajo, Marcos, Lerma, Province of Burgós.—Wheat and rye. 620
- 185 Quintana y Ruiz, Fidel, Burgós.—Cereals. 620
- 186 Fernandez, Primitivo, Burgós.—Winter barley. 620
- 187 Alonso, Julian, Lerma, Province of Burgós.—Common barley. 620
- 188 Provincial Deputation, Burgós.—Oats. 620
- 189 Corporation of Miranda de Ebro, Province of Burgós.—Maize. 620
- 190 Beson, Eduardo A. de, Burgós.—White maize. 620
- 191 Provincial Commission of Miranda de Ebro, Burgós.—Red and summer maize. 620
- 192 Roman, Simon, Cáceres.—Cereals. 620
- 193 Lubian, Saturnino, Plasenzuela, Province of Cáceres.—Wheat and barley. 620
- 194 Perez y Romero, Francisco Garcia, Jerez de la Frontera, Province of Cadiz.—Canary seed, St. Peter's corn, and maize. 620
- 195 Pley y Bondigue, Francisco, Puerto-Real, Province of Cadiz.—Maize. 620
- 196 Corporation of Chiclana, Province of Cadiz.—Wheat, barley, and maize. 620
- 197 Corporation of Tarifa, Province of Cadiz.—Wheat, barley, and canary seed. 620
- 198 Vega Grande, Count of, Las Palmas, Canary Islands.—Maize. 620
- 199 Society of Friends of the Country, Las Palmas, Canary Islands.—Maize. 620
- 200 Ponce de Leon, Juan, Las Palmas, Canary Islands.—Cereals. 620
- 201 Provincial Commission of Tenerife, Canary Islands.—Cereals. 620
- 202 Escribano, José, Vinaróz, Province of Castellon.—Carrobs. 621
- 203 Provincial Board of Agriculture, Castellon.—Cereals. 620
- 204 Rubisco, Cayetano Clemente, Ciudad-Real.—Wheat and barley. 620
- 205 Cabezuelas, Count of, Campo de Criptana, Province of Ciudad-Real.—Cereals. 620
- 206 Loro, Francisco, Daimiel, Province of Ciudad-Real.—Maize. 620
- 207 Sanchez, Sotero, Daimiel, Province of Ciudad-Real.—Panic-grass. 620
- 208 Criado, José Gomez, Villa del Rio, Province of Córdoba.—Wheat. 620
- 209 Corporation of Cabra, Province of Córdoba.—Wheat. 620
- 210 Valverde, Francisco, Aguilera, Priego, Province of Córdoba.—Wheat. 620
- 211 Priego, Rafael Molina, Province of Córdoba.—Wheat. 620
- 212 Sarmiento, Antonio Alba, Priego, Province of Córdoba.—Wheat. 620
- 213 Serrano, Tomás, Priego, Province of Córdoba.—Wheat. 620
- 214 Vallejo, Rafael, Córdoba.—Wheat. 620
- 215 Corporation of Bujalance, Province of Córdoba.—Black wheat. 620
- 216 Escribano, Luis, Pozoblanco, Province of Córdoba.—Wheat. 620
- 217 Prieto, Sabastian, Encinas-Reales, Province of Córdoba.—Wheat. 620
- 218 Ariza y Ariza, José, Baena, Province of Córdoba.—Wheat. 620
- 219 Gimenez, José María, Baena, Province of Córdoba.—Wheat. 620
- 220 Navarro, Rafael, Córdoba.—Barley and wheat. 620
- 221 Hoces, Ana de, Córdoba.—Black wheat. 620
- 222 Galan, Alfonso Blanco, Dos Torres, Province of Córdoba.—Wheat. 620
- 223 Matilla, Carlos, Córdoba.—Wheat. 620
- 224 Conde, Juan, Córdoba.—Canary-seed, wheat, and barley. 620
- 225 Corporation of Lucena, Province of Córdoba.—Wheat. 620
- 226 Cabanar y Blanco, Rafael, Córdoba.—Barley. 620
- 227 Estrada, Ramon, Córdoba.—Wheat and barley. 620
- 228 Puentes y Roldan, Felipe, Córdoba.—Barley. 620
- 229 Santaló, Estéban, Córdoba.—Wheat. 620
- 230 Fernandez, Antonio, Córdoba.—Wheat. 620
- 231 Barbudo, Francisco de P., Córdoba.—Barley and wheat. 620
- 232 Barrionueva, Fernando, Córdoba.—Black wheat and barley. 620
- 233 Sisternes, Manuel, Córdoba.—Black wheat. 620
- 234 Carmona, Salvador, Montemayor, Province of Córdoba.—Wheat. 620
- 235 Fernandez, Gumersindo, Hinojosa, Province of Córdoba.—Red wheat. 620
- 236 Sanchez, Manuel, Belmez, Province of Córdoba.—Wheat. 620
- 237 Aurea y Rivera, Antonio, Belmez, Province of Córdoba.—Wheat. 620
- 238 Pacheco, Rafael Granados, Benameji, Province of Córdoba.—Barley. 620
- 239 Velasco, Bernardo Dominguez, Benameji, Province of Córdoba.—Wheat. 620
- 240 Corporation of Hornachuelos, Province of Córdoba.—Wheat. 620
- 241 Malgarejo, Maria Josefa, San Clemente, Province of Córdoba.—Wheat. 620

Agricultural Products.

- 242 Plaza y Garrejo, Felipe, Villarejo de Fuentes, Province of Cuenca.—Wheat. 620
- 243 Redondo, Peregrin, Valverde de Júcar, Province of Cuenca.—Wheat. 620
- 244 Bautista, Mariano, Olmedilla de Alarcon, Province of Cuenca.—Wheat. 620
- 245 Torre, Pablo dela, Tarancon, Province of Cuenca.—Summer wheat. 620
- 246 Salazar y Cuebas, Pio, Santa Maria de los Llanos, Province of Cuenca.—Summer wheat. 620
- 247 Melgarejo, Manuel, San Clemente, Province of Cuenca.—Summer wheat. 620
- 248 Hellin, Desiderio, San Clemente, Province of Cuenca.—Summer wheat. 620
- 249 Bruse, José Maria, Cuenca.—Common barley. 620
- 250 Massó y Soler, Félix, Blanes, Province of Gerona.—Wheat and maize. 620
- 251 Marti, Diego Garcia, Guadalajara.—Wheat. 620
- 252 Muñoz, Marcelino, Sigüenza, Province of Guadalajara.—Wheat and barley. 620
- 253 Medrano, Félix, Guadalajara.—Barley. 620
- 254 Reyes y Rich, Juan A., Guadalajara.—Barley. 620
- 255 Lopez, José Maria, Huelva.—Wheat and white maize. 620
- 256 Riera y Fernandez, José, Huelva.—Wheat. 620
- 257 Soldán, Antonio, La Palma, Province of Huelva.—Wheat and barley. 620
- 258 Carrasco, José Maria, Bonares, Province of Huelva.—Wheat. 620
- 259 Cerero y Barreda, Emilio, Trigueros, Province of Huelva.—Wheat. 620
- 260 Orta, Pedro de, Cartaya, Province of Huelva.—White maize. 620
- 261 Vargas, José Rafael, Escacena del Campo, Province of Huelva.—Wheat. 620
- 262 Lanzas, Juan Antonio, Alcubierre, Province of Huesca.—Red wheat. 620
- 263 Gabarres, Mariano, Alcubierre, Province of Huesca.—Red wheat. 620
- 264 Gabarres, José, Alcubierre, Province of Huesca.—Red wheat. 620
- 265 Lapiedra, Joaquin, Sariñena, Province of Huesca.—Red wheat. 620
- 266 Lasierra, Francisco, Pallazueia, Province of Huesca.—Red wheat. 620
- 267 Lasierra, Joaquin, Pallazuela, Province of Huesca.—Summer wheat. 620
- 268 Otal, José Maria, Castillo de Carbmo, Province of Huesca.—Wheat, maize, and barley. 620
- 269 Nasarre, Voto, Lupiñen, Province of Huesca.—Red wheat. 620
- 270 Altemir, José, Sariñena, Province of Huesca.—Red wheat. 620
- 271 Oliver, D. L., Huesca.—Hard wheat, black oats, and barley. 620
- 272 Villalta y Uribe, Antonio Fernandez, Torre, Don Gimeno, Province of Jaen.—Wheat. 620
- 273 Herreros, Juan Ignacio, Iznatoraf, Province of Jaen.—Wheat. 620
- 274 Abolafia, Antonio Diaz, Jaen.—Yellow maize. 620
- 275 Anievas, Justo Maria, Jaen.—White maize. 620
- 276 Jontoja, Manuel, Jaen.—Wheat. 620
- 277 Prado, Maximo Alonso, Leon.—Cereals. 620
- 278 Nuñez, Lino, Sahagun, Province of Leon.—Lammas wheat. 620
- 279 Santos, Pablo, Fuentes de los Oteros, Province of Leon.—Summer and lammas wheat. 620
- 280 Corporation of Pajares de Oteros, Province of Leon.—Barley and rye. 620
- 281 Corporation of Valdefresno, Province of Leon.—Wheat, barley, and rye. 620
- 282 Corporation of Valverde del Camino, Province of Leon.—Wheat, barley, and rye. 620
- 283 Corporation of Vega de Infanzones, Province of Leon.—Barley and rye. 620
- 284 Corporation of Arganza, Province of Leon.—Wheat, barley, and rye. 620
- 285 Corporation of Mansilla Mayor, Province of Len.—Wheat, barley, and rye. 620
- 286 Corporation of Mansilla de las Mulas, Province of Leon.—Wheat, barley, and rye. 620
- 287 Corporation of Congosto, Province of Leon.—Wheat, barley, and rye. 620
- 288 Corporation of Penferrada, Province of Leon.—Wheat, barley, and rye. 620
- 289 Fernandez, Tomás, Armunia, Province of Leon.—Wheat, barley, and rye. 620
- 290 Corporation of Páramo del Sil, Province of Leon.—Maize. 620
- 291 Corporation of Encinedo, Province of Leon.—Rye. 620
- 292 Corporation of Magaz, Province of Leon.—Rye. 620
- 293 Corporation of Omaña, Province of Leon.—Wheat. 620
- 294 Alós, Francisco, Balaguer, Province of Lérida.—Wheat. 620
- 295 Oliveres, Mauricio, Torreserona, Province of Lérida.—Wheat. 620
- 296 Lafont, Andrés, Borjar, Province of Lérida.—Wheat. 620
- 297 Lopez, Manuel, Puigvert, Province of Lérida.—Barley. 620
- 298 Ball, José, Agramunt, Province of Lérida.—Barley and wheat. 620
- 299 Ron, Ramon, Vinaixa, Province of Lérida.—Wheat. 620
- 300 Viela, Ramon Terez de, Tòrrega, Province of Lérida.—Barley. 620
- 301 Andreu, Roque, Tòrrega, Province of Lérida.—Wheat. 620
- 302 Jover, Luisa de, Tòrrega, Province of Lérida.—Wheat. 620
- 303 Corporation of Agramunt, Province of Lérida.—Wheat and barley. 620
- 304 Corporation of Puigvert, Province of Lérida.—Barley. 620
- 305 Corporation of Vinaixa, Province of Lérida.—Wheat. 620

Agricultural Products.

- 306 Corporation of Las Borjas, Province of Lérica.—Wheat. 620
- 307 Pinós, José Maria, Malpartida, Province of Lérica.—Common wheat. 620
- 308 Paradela, Domingo, Castroverde, Province of Lugo.—Barley and rye. 620
- 309 Laje, Domingo Antonio, Corgo, Province of Lugo.—Rye. 620
- 310 Vasquez, José Leoncio, Mondoñedo, Province of Lugo.—Husked maize. 620
- 311 Freire, Manuel Soto, Pantón, Province of Lugo.—Maize. 620
- 312 Ferreiro y Hermida, Antonio, Alfox, Province of Lugo.—Yellow maize. 620
- 313 Armesto, Ramon, Puebla del Brolon, Province of Lugo.—Wheat. 620
- 314 Corporation of Lorenzana, Province of Lugo.—Yellow maize. 620
- 315 Legaspi, Juan, Villalba, Province of Lugo.—Rye. 620
- 316 Pallares, Count of, Villalba, Province of Lugo.—Wheat. 620
- 317 Montenegro, Manuel Pardo, Fox, Province of Lugo.—Yellow maize. 620
- 318 Pillado, Eliseo Martinez, Fox, Province of Lugo.—Wheat and early maize. 620
- 319 Martinez, Ramon Antonio, Sarria, Province of Lugo.—Yellow maize, wheat, and barley. 620
- 320 Mendez, José Perez, Sober, Province of Lugo.—Barley and wheat. 620
- 321 Calatrava, Francisco Garcia, Alcobendas, Province of Madrid.—Wheat, barley, and oats. 620
- 322 Gago, Juan Borrego, Ronda, Province of Malaga.—Wheat. 620
- 323 Romero, Joaquin Perez, Santa Maria de la Rabida, Province of Orense.—Cereals. 620
- 324 Rodriguez, Manuel Iglesias, Celanova, Province of Orense.—Cereals. 620
- 325 Rey, Manuel Pereiro, Province of Orense.—Cereals. 620
- 326 Diaz, Francisco, Trandeiras, Province of Orense.—Rye. 620
- 327 Vila, Francisco, Viana del Bollo, Province of Orense.—Rye. 620
- 328 Vaamonde, Ramon Maria, Pungin, Province of Orense.—Maize. 620
- 329 Romero y Romero, José, Ginzo de Limia, Province of Orense.—Rye. 620
- 330 Anta, Ignacio, Orense.—Rye and maize. 620
- 331 Iglesias, Ramon, Beiro, Province of Orense.—Rye and maize. 620
- 332 Board of Agriculture, Industry, and Commerce, Oviedo.—Wheat and maize. 620
- 333 Durango, Manuel Martinez, Palencia.—Barley. 620
- 334 Gregorio, Sotero, Palencia.—Wheat and barley. 620
- 335 Gutierrez, Juan Francisco, Palencia.—Wheat and barley. 620
- 336 Dominguez, Miguel, Palencia.—Barley. 620
- 337 Sevilla, José, Fuentes de Nava, Province of Palencia.—Wheat. 620
- 338 Rodriguez, Tomás, Fuentes de Nava, Province of Palencia.—Wheat. 620
- 339 Pombo, Pedro, Fuentes de Nava, Province of Palencia.—Wheat. 620
- 340 Solorzano, Juan, Baltanas, Province of Palencia.—Oats. 620
- 341 Gutierrez, Simon, Monzon, Province of Palencia.—Rye. 620
- 342 Tabarés, Federico Rodriguez, Torremorjon, Province of Palencia.—Wheat. 620
- 343 Escudero, Felipe, Cisneros, Province of Palencia.—Wheat. 620
- 344 Herrero, Agustin, Mazariegos, Province of Palencia.—Wheat. 620
- 345 Herrero, Pedro Romero, Amuscol, Province of Palencia.—Wheat. 620
- 346 Prieto, Basilio, Herrero, Herrera de Valdecañas, Province of Palencia.—Wheat. 620
- 347 Monedero, Joaquin, Cevico de la Torre, Province of Palencia.—Wheat. 620
- 348 Palacin, Deogracias, Palenzuela, Province of Palencia.—Wheat. 620
- 349 Piñeiro, Ramon Somoza, Merza, Province of Pontevedra.—Cereals. 620
- 350 Onis, Federico, Cantalapiedra, Province of Salamanca.—Cereals. 620
- 351 Peña, Josefa Gonzalez de la, Mancera de Abajo, Province of Salamanca.—Wheat. 620
- 352 Cabrera, Victoriano, Cantalapiedra, Province of Salamanca.—Wheat. 620
- 353 Bellido, Narciso, Zorita de la Frontera, Province of Salamanca.—Wheat. 620
- 354 Blazquez, Agustin, Tordillos, Province of Salamanca.—Wheat. 620
- 355 Rodriguez, Zacarias, Cantalapiedra, Province of Salamanca.—Wheat, barley, and rye. 620
- 356 Merino, Miguel, Cordobilla, Province of Salamanca.—Wheat. 620
- 357 Pineda, Eduardo de, Los Huelmos, Province of Salamanca.—Wheat and barley. 620
- 358 Fuentes, José, La Pinilla, Province of Salamanca.—Wheat and rye. 620
- 359 Rodriguez, Julian, Doñinos, Province of Salamanca.—Wheat and barley. 620
- 360 Sanchez, Francisco, Las Torres, Province of Salamanca.—Wheat. 620
- 361 Martin, Saturnino, Cilleros el Hondo, Province of Salamanca.—Wheat. 620
- 362 Hernandez y Nieto, Francisco, Bóveda del Rio al Mar, Province of Salamanca.—Wheat. 620
- 363 Paradinas, Acacio, Cantalapiedra, Province of Salamanca.—Wheat and barley. 620
- 364 Mulas, Sinforiano, Villar de Gallimazo, Province of Salamanca.—Wheat. 620
- 365 Martin, Santiago, Tarazona, Province of Salamanca.—Wheat. 620
- 366 Perez, Domingo, Aldeatejada, Province of Salamanca.—Wheat. 620
- 367 Andrés, Leon, Tarazona, Province of Salamanca.—Wheat. 620

Agricultural Products.

- 368 Mayoral, Andrés, Los Huelmos, Province of Salamanca.—Wheat. 620
- 369 Garcia, Rafael, Cantalapedra, Province of Salamanca.—Summer wheat and barley. 620
- 370 Toribio, Antonio Martin, Villares de la Reina, Province of Salamanca.—Summer wheat and barley. 620
- 371 Corporation of Vetigudino, Province of Salamanca.—Wheat. 620
- 372 Mozas, Antonio Alfonso de las, Province of Salamanca.—Summer wheat. 620
- 373 Poveda, Paulino, Pedroso, Province of Salamanca.—Lammas wheat, barley, and rye. 620
- 374 Delgado, Miguel Gonzalez, Ragama, Province of Salamanca.—Summer wheat. 620
- 375 Terreros, Santiago Juanes, Villares de la Reina, Province of Salamanca.—Summer wheat. 620
- 376 Diaz, Gaspar, Villaflores, Province of Salamanca.—Summer wheat. 620
- 377 Liaño, Martin Gomez de, Peñaranda de Bracamonte, Province of Salamanca.—Summer wheat. 620
- 378 Hernandez, Antonio, Malpartida, Province of Salamanca.—Summer wheat. 620
- 379 Escribano, Francisco, Dehesa de Terrados, Province of Salamanca.—Summer wheat. 620
- 380 Marcos, Estéban, Parada de Rubiales, Province of Salamanca.—Summer wheat. 620
- 381 Carbayo, Luis, San Cristobal de la Cuesta, Province of Salamanca.—Summer wheat. 620
- 382 Samaniego, Manuel Garcia, Salamanca.—Summer wheat. 620
- 383 Sanchez, Felipe Perez, Fregeneda, Province of Salamanca.—Summer wheat. 620
- 384 Paulino, Diego Perez, Fregeneda, Province of Salamanca.—Wheat. 620
- 385 Garcia, Angel, Cantalapedra, Province of Salamanca.—Barley. 620
- 386 Torre Ajero, Mariano & Cipriano de la, Arollo de Cuellar, Province of Segovia.—Wheat, rye, and barley. 620
- 387 Gonzalez, Ezequiel, Segovia.—White wheat. 620
- 388 Lopez, Mariano, Balisa, Province of Segovia.—Wheat and barley. 620
- 389 Satnyen, Pedro, Riaza, Province of Segovia.—Cereals. 620
- 390 Hernandez, Juan, Villacastin, Province of Segovia.—Lammas wheat. 620
- 391 Gordo, Feliciano, Villacastin, Province of Segovia.—Summer wheat. 620
- 392 Palatin y Moreno, Fernando, Sevilla.—Maize. 620
- 393 Andrade, Manuel Zayas, Arahal, Province of Sevilla.—Wheat. 620
- 394 Gonzalez, Rafael, Sevilla.—Maize. 620
- 395 Miura y Fernandez, Bentonto, Sevilla.—Seed wheat. 620
- 396 Pantion, Manuel Fernandez, Sevilla.—Maize. 620
- 397 Ojeda y Gomez, Juan, Sevilla.—Maize. 620
- 398 Maza, Juan Gomez de la, Olivares, Province of Sevilla.—Barley. 620
- 399 Silva y Perez, José, Olivares, Province of Sevilla.—Maize. 620
- 400 Perez, José, Olivares, Province of Sevilla.—Barley. 620
- 401 Ojeda, Juan Maria Rodriguez, Olivares, Province of Sevilla.—Wheat. 620
- 402 Cotan y Muñoz, Manuel, Olivares, Province of Sevilla.—Wheat. 620
- 403 Cotan, Antonio Garcia, Olivares, Province of Sevilla.—Wheat. 620
- 404 Estrada y Lasarte, Manuel, Osuna, Province of Sevilla.—Barley. 620
- 405 Ramirez, Manuel Tamayo, Osuna, Province of Sevilla.—Barley. 620
- 406 Castro y Torres, Francisco, Osuna, Province of Sevilla.—Wheat. 620
- 407 Morillas, Ramon Farfan, Cantilana, Province of Sevilla.—Wheat. 620
- 408 Rivas y Morillas, Antonio, Cantilana, Province of Sevilla.—Barley. 620
- 409 Teruel, Pedro, & Bro., Cantilana, Province of Sevilla.—Wheat. 620
- 410 Sanchez, Benito Navarro, Mairena del Alcor, Province of Sevilla.—Wheat. 620
- 411 Lozano, Manuel Seda, Mairena de Alcor, Province of Sevilla.—Barley. 620
- 412 Mendez, Antonio, Mairena del Alcor, Province of Sevilla.—Seed wheat. 620
- 413 Puente, Salvador & Alejandro Linares, Burguillos, Province of Sevilla.—Wheat. 620
- 414 Martinez Sainz Bros., Sevilla.—Wheat. 620
- 415 Caso-Galindo, Count of, Carmona, Province of Sevilla.—Wheat. 620
- 416 Dos Fuentes, Viscount of, Carmona, Province of Sevilla.—Wheat. 620
- 417 Vallejo, José, Mairena del Alcor, Province of Sevilla.—Canary seed. 620
- 418 Rosa y Silva, José de la, Villamanrique, Province of Sevilla.—Maize. 620
- 419 Puig, Juan, La Rinconada, Province of Sevilla.—Seed wheat. 620
- 420 Alba, Diego Sanchez, Lebrija, Province of Sevilla.—Summer wheat. 620
- 421 Vasquez y Rodriguez, Ignacio, Aznalcazar, Province of Sevilla.—Barley and wheat. 620
- 422 Mendez, Felipe, Mairena del Alcor, Province of Sevilla.—Wheat and barley. 620
- 423 Auñon y Leon, Antonio, Moron, Province of Sevilla.—Wheat and barley. 620
- 424 Villalón y Torres, Andrés, Moron, Province of Sevilla.—Barley and canary seed. 620
- 425 Amores, Manuel, Salteras y Olivares, Province of Sevilla.—Barley and St. Peter's corn. 620
- 426 Serrano, Miguel Perez, Olivares, Province of Sevilla.—Wheat. 620
- 427 Leon, Manuel Gimenez, Carmona, Province of Sevilla.—Wheat. 620
- 428 Orejuela, Joaquin de, Utrera, Province of Sevilla.—Wheat, barley, and maize. 620

Agricultural Products.

- 429 Búrgos, Felipe de, Utrera, Province of Sevilla.—Wheat, barley, and maize. 620
- 430 Rivas, Pedro, Utrera, Province of Sevilla.—Wheat. 620
- 431 Cuadra, Enrique de la, Utrera, Province of Sevilla.—Cereals. 620
- 432 Cuéllar, José Antonio, Utrera, Province of Sevilla.—Wheat, barley, and maize. 620
- 433 Riarola, Rafael, Utrera, Province of Sevilla.—Wheat and barley. 620
- 434 Crespo, Rafael, Utrera, Province of Sevilla.—Wheat and barley. 620
- 435 Saavedra, Francisco, Utrera, Province of Sevilla.—Wheat. 620
- 436 Dominguez, Pedro, Utrera, Province of Sevilla.—Maize. 620
- 437 Rojo, Damian, Soria.—Wheat. 620
- 438 Corporation of Villar de Maya, Province of Soria.—Wheat, barley, and oats. 620
- 439 Corporation of Almanzan, Province of Soria.—Wheat, rye, and barley. 620
- 440 Gimenez, Justo, Valderrodilla, Province of Soria.—Wheat. 620
- 441 Corporation of Rioseco, Province of Soria.—Wheat. 620
- 442 Corporation of Baraona, Province of Soria.—Wheat and barley. 620
- 443 Carretero, Pedro, Utrilla, Province of Soria.—Wheat. 620
- 444 Ballano, Faustino, Aguaviva, Province of Soria.—Wheat. 620
- 445 Velasco, Francisco, Aguaviva, Province of Soria.—Lammas wheat. 620
- 446 Flour Association of Reus, Province of Tarragona.—Wheat. 620
- 447 Virgili, Pablo, Tarragona.—Urgel wheat, maize, barley, oats, and millet. 620
- 448 Plana, Antonio, & Bro., Reus, Province of Tarragona.—Wheat. 620
- 449 Sedo, Juan Vilanova, Reus, Province of Tarragona.—Wheat. 620
- 450 Avila & Marti, Reus, Province of Tarragona.—Wheat. 620
- 451 Saperas, Francisco, Reus, Province of Tarragona.—Wheat. 620
- 452 Marti, Bornas & Co., Reus, Province of Tarragona.—Wheat. 620
- 453 Forasté y Ferré, Juan, Villaseca, Province of Tarragona.—Wheat. 620
- 454 Jausa, Pablo, La Canonja, Province of Tarragona.—Maize. 620
- 455 Domingo, Dimas, Reus, Province of Tarragona.—Maize and barley. 620
- 456 Gatell y Folch, Juan, Altafulla, Province of Tarragona.—Maize. 620
- 457 Mas Blanch, Julio C. de Esteve de, Amposta, Province of Tarragona.—Rice. 620
- 458 Corporation of Amposta, Province of Tarragona.—Rice. 620
- 459 Bignell, Jaime, San Carlos de la Rapita, Province of Tarragona.—Rice. 620
- 460 Soxias y Domenech, Juan, Villaseca, Province of Tarragona.—Maize. 620
- 461 Oller, Pedro, Reus, Province of Tarragona.—Maize. 620
- 462 Montaner, Amalio, Reus, Province of Tarragona.—Panic grass. 620
- 463 Margenat, Antonio Bâges, Reus, Province of Tarragona.—Millet. 620
- 464 Barenys y Magriñá, Juan Bautista, Villaseca, Province of Tarragona.—Barley. 620
- 465 Fonts, Mariano, Reus, Province of Tarragona.—Barley. 610
- 466 Moreno, Manuel Ortiz, Ocaña, Province of Toledo.—Wheat, barley, and oats. 620
- 467 Fernandez, Manuel, Tembleque, Province of Toledo.—Wheat. 620
- 468 Pasaran, Isidoro, Olias del Rey, Province of Toledo.—Wheat. 620
- 469 Esteban, Francisco, Toledo.—Summer wheat. 620
- 470 Negrete, Acisclo Fernandez, Villatobas, Province of Toledo.—Wheat and barley. 620
- 471 Serrano y Fernandez, Federico, Madridejos, Province of Toledo.—Summer wheat. 620
- 472 Mejia, Isaac, Ocaña, Province of Toledo.—Summer wheat and barley. 620
- 473 Redondo, Juan Bautista, Carmena, Province of Toledo.—Wheat and barley. 620
- 474 Indo, Valentin Martinez, Argos, Province of Toledo.—Summer wheat. 620
- 475 Campo, Victoriano Martin del, Madridejos, Province of Toledo.—Summer wheat. 620
- 476 Diego, Fabiande, Guadamur, Province of Toledo.—Summer wheat. 620
- 477 Ortiz, Rufo Moreno, Escalonilla, Province of Toledo.—Summer wheat. 620
- 478 Perez, Luis, Toledo.—Summer wheat. 620
- 479 Huelbes y Ortiz, Emilio de, Ocaña, Province of Toledo.—Summer wheat and oats. 620
- 480 Arrue, Miguel, Benaguacil, Province of Valencia.—Wheat. 620
- 481 Reig y Garcia, Fernando, Puebla de Vallbona, Province of Valencia.—Wheat and maize. 620
- 482 Lasala y Palomares, Vicente, Masía de la Mar, Province of Valencia.—Wheat and yellow maize. 620
- 483 Agricultural Society of Valencia, Valencia.—Rice, maize, barley, and oats. 620
- 484 Valdovi, Rafael Gonzalez, Torrente, Province of Valencia.—Maize. 620
- 485 Ferrandis y Soler, José, Onteniente, Province of Valencia.—Maize. 620
- 486 Montealegre, Widow & Son of, Medina del Campo, Province of Valladolid.—Common wheat. 620
- 487 Corporation of Medina del Campo, Province of Valladolid.—Common red wheat. 620
- 488 Rico, Antonio Ceinos, Fontihoyuelo, Province of Valladolid.—Common red wheat. 620
- 489 Monedero, Eusebio, Valoria la Buena, Province of Valladolid.—Wheat. 620

Agricultural Products.

- 490 Monedero, Ventura, Valoria la Buena, Province of Valladolid.—Summer wheat. 620
- 491 Lozano, Juan, Molacillo, Province of Zamora.—Summer wheat. 620
- 492 Silva, Genaro, Montamarta, Province of Zamora.—Wheat. 620
- 493 Falcon, Felipe, Benavente, Province of Zamora.—Wheat. 620
- 494 Alejano, Salvador Fernandez, Fuentesauco, Province of Zamora.—Summer wheat. 620
- 495 Temprano, José, Vardemarban, Province of Zamora.—Summer wheat. 620
- 496 Marron, José Victor, Alcañices, Province of Zamora.—Wheat. 620
- 497 Rodriguez y Rodriguez, Fernando, Villamayor, Province of Zamora.—Wheat. 620
- 498 Vecinos, Isidoro, Molacillos, Province of Zamora.—Wheat and barley. 620
- 499 Garcia, Miguel, Fuentes Pradas, Province of Zamora.—Summer wheat and common barley. 620
- 500 Angas, Francisco, Candasnos, Province of Zaragoza.—Wheat. 620
- 501 Sasót, Joaquin, Candasnos, Province of Zaragoza.—Wheat. 620
- 502 Grós, José Avio, Candasnos, Province of Zaragoza.—Wheat. 620
- 503 Claver, Marianó, Peñalba, Province of Zaragoza.—Wheat. 620
- 504 Rosas, Manuel, Bujaraloz, Province of Zaragoza.—Summer and acclimated wheat and rye. 620
- 505 Rozas, Eusebio, La Almolda, Province of Zaragoza.—Wheat. 620
- 506 Sampér, Joaquin, Bujaraloz, Province of Zaragoza.—Wheat. 620
- 507 Grós, Mariano, Bujaraloz, Province of Zaragoza.—Wheat. 620
- 508 Peisen, José J., Balfarta, Province of Zaragoza.—Wheat. 620
- 509 Pállas, José, Bujaraloz, Province of Zaragoza.—Wheat. 620
- 510 Escamilla, Segundo, Bujaraloz, Province of Zaragoza.—Wheat. 620
- 511 Buil, José, Castejon de Monegros, Province of Zaragoza.—Wheat. 620
- 512 La Viñaza, Count of, Epila, Province of Zaragoza.—Wheat. 620
- 513 Loring Bros., Malaga.—Wheat. 620
- 514 School of Agriculture, Vitoria, Province of Alava.—Leguminous plants and esculent vegetables. 621
- 515 Aguado, Juan de Dios, Corral Rubio, Province of Albacete.—Lentils and blue vetch. 621
- 516 Ruiz, Santiago, Hellin, Province of Albacete.—Rice. 621
- 517 Verdu y Perez, Joaquin, Monóvar, Province of Alicante.—Esculent vegetables. 621
- 518 Daza y Ruiz, Francisco, Purchena, Province of Almería.—Kidney beans. 621
- 519 Linares, José Ramon, Albánchez, Province of Almería.—Chick-peas. 621
- 520 Perez, Mariano Valverde, Fontiveros, Province of Avila.—Chick-peas. 621
- 521 Rodriguez Francisco Mariano, Fontiveros, Province of Avila.—Chick-peas. 621
- 522 Sainz, Matias, Donvidas, Province of Avila.—Chick-peas. 621
- 523 Lambas y Gutierrez, Gregorio, Palacios de Goda, Province of Avila.—Chick-peas. 621
- 524 Gonzalez, Manuel, Barco de Avila, Province of Avila.—French peas. 621
- 525 Soto, José Diaz, Cabeza de Vaca, Province of Badajoz.—Chick-peas. 621
- 526 Moreno, Cayetano, Villalba de los Barros, Province of Badajoz.—Chick-peas. 621
- 527 Paredes, Carlos, Guareña, Province of Badajoz.—Beans. 621
- 528 Venegas, Juan, Valle de Matamoros, Province of Badajoz.—Kidney beans. 621
- 529 Tortades, José de, Vich, Province of Barcelona.—Kidney beans. 621
- 530 Fontordera, Juan de, Vich, Province of Barcelona.—Kidney beans. 621
- 531 Mascaró, José, Vich, Province of Barcelona.—Spanish peas. 621
- 532 Picó, Mariano de, Vich, Province of Barcelona.—Leguminous plants and esculent vegetables. 621
- 533 Prat, José, Vich, Province of Barcelona.—Lupine. 621
- 534 Lerda y Daniel, José, Vich, Province of Barcelona.—Spanish peas. 621
- 535 Soler y Stussa, Valentin, Barcelona.—Esculent vegetables. 621
- 536 Garriga, Francisco Domingo, San Quirse de Besora, Province of Barcelona.—Esculent vegetables. 621
- 537 Provincial Deputation of Búrgos.—Pipirigallo (*Hedysarum onobrythidis*) and galgana (*lathyrus cicera*). 621
- 538 Commission of the Province of Búrgos.—Esculent vegetables. 621
- 539 Arribas, Indalecio Anton, Lerma, Province of Búrgos.—True bitter vetch. 621
- 540 Garcia y Garcia, Francisco, Miranda de Ebro, Province of Búrgos.—Kidney beans. 621
- 541 Morales, Luis, Miranda de Ebro, Province of Búrgos.—Lentils. 621
- 542 Garcia, Antonio Gimenez, Guijo de Santa Barbara, Province of Cáceres.—Chick-peas and kidney beans. 621
- 543 Sande Olivares, Jerónimo de, Garrovillas de Alconetar, Province of Cáceres.—Chick-peas. 621
- 544 Martin, Ramon, Olvera, Province of Cádiz.—Chick-peas. 621
- 545 Perez, Francisco García, Jerez de la Frontera, Province of Cádiz.—Chick-peas, beans and Spanish peas. 621
- 546 Corporation of Tarifa, Province of Cádiz.—Beans. 621
- 547 Provincial Commission, Isle of Tenerife, Canary Islands.—Chick-peas. 621
- 548 Leon, Juan Ponce de, Isle of Gran Canaria, Canary Islands.—Kidney beans and chick-peas. 621
- 549 Quevedo, José C., Isle of Gran Canaria, Canary Islands.—Kidney beans and chick-peas. 261

Agricultural Products.

- 550 Vega Grande, Count of, Isle of Gran Canaria, Canary Islands.—Kidney beans. 621
- 551 Provincial Board of Agriculture, Castellon.—Esculent vegetables. 621
- 552 Rubisco, Cayetano Clemente, Ciudad Real.—Beans. 621
- 553 Las Cabezuelas, Count of, Campo de Criptana, Province of Ciudad-Real.—Beans. 621
- 554 Cabanas y Blanco, Rafael, Córdoba.—Esculent vegetables. 621
- 555 Matilla, Carlos, Córdoba.—Lupine and Spanish peas. 621
- 556 Prieto, Sebastian, Encinas Reales.—Chick-peas and beans. 621
- 557 Corporation of Cabra, Province of Córdoba.—Esculent vegetables. 621
- 558 Gimenez, José María, Baena, Province of Córdoba.—Beans and chick-peas. 621
- 559 Barrionuevo, Fernando, Córdoba.—Moorish beans. 621
- 560 San Bernardo, Count of, Córdoba.—Moorish beans. 621
- 561 Vallejo, Rafael, Córdoba.—Moorish beans. 621
- 562 Pacheco, Rafael Granados, Benamejo, Province of Córdoba.—Beans. 621
- 563 Poyato, Manuel, Zuheros, Province of Córdoba.—Chick-peas. 621
- 564 Escribano, Luis, Pozoblanco, Province of Córdoba.—Chick-peas. 621
- 565 Blanco, Alfonso, Dos-Torres, Province of Córdoba.—Chick-peas. 621
- 566 Torrico, Manuel, Hinojosa, Province of Córdoba.—Chick-peas. 621
- 567 Sanz y Calatañazor, Jerónimo Córdoba.—Chick-peas. 621
- 568 Conde, Juan, Córdoba.—True bitter vetch. 621
- 569 Carrillo, Librado, Priego, Province of Córdoba.—White kidney beans. 621
- 570 Massó y Soler, Felix, Blanes, Province of Gerona.—Esculent vegetables. 621
- 571 Sanchez, Juan Francisco, Sigüenza, Province of Guadalajara.—Flesh-colored kidney beans. 621
- 572 Gil, Santiago, Sigüenza, Province of Guadalajara.—White kidney beans. 621
- 573 Heras, Angel Ayuso de las, Valdearenas, Province of Guadalajara.—Kidney beans. 621
- 574 Reyes y Rich, Juan, Guadalajara.—Beans. 621
- 575 Soldan, Antonio, La Palma, Province of Huelva.—Esculent vegetables. 621
- 576 Riera y Fernandez, José, Huelva.—Esculent vegetables. 621
- 577 Carrasco, José María, Bonares, Province of Huelva.—Beans. 621
- 578 Otal, José María, Castillo de Carabineros, Province of Huesca.—Chick-peas and beans. 621
- 579 Paula Bulnes, Francisco de, Cazoria, Province of Jaen.—Chick-peas. 621
- 580 Vasquez, Francisco, Cazoria, Province of Jaen.—Chick-peas. 621
- 581 Quesada y Salazar, Pedro de, Valdepeñas, Province of Jaen.—Chick-peas. 621
- 582 Quesada, Carlos Garcia de, Valdepeñas, Province of Jaen.—Chick-peas. 621
- 583 Estéban y Balen, Andrés, Navas de San Juan, Province of Jaen.—Chick-peas. 621
- 584 Herreros, Juan Ignacio, Iznatorof, Province of Jaen.—Chick-peas. 621
- 585 Higueras, José, Los Villares, Province of Jaen.—Lentils. 621
- 586 Prado, Máximo Alonso de, Leon.—Esculent vegetables. 621
- 587 Corporation of Vega de Infanzones, Leon.—Kidney beans. 621
- 588 Corporation of Valdefresno, Province of Leon.—Chick-peas and kidney beans. 621
- 589 Corporation of Arganza, Province of Leon.—Chick-peas and kidney beans. 621
- 590 Corporation of Congosto, Province of Leon.—Chick-peas and kidney beans. 621
- 591 Corporation of Mansilla Mayor, Province of Leon.—Chick-peas and kidney beans. 621
- 592 Corporation of Villaturriel, Province of Leon.—Chick-peas and kidney beans. 621
- 593 Corporation of Valverde del Camino, Province of Leon.—Chick-peas and kidney beans. 621
- 594 Corporation of Mansilla de las Mulas, Province of Leon.—Chick-peas and kidney beans. 621
- 595 Corporation of Ponferrada, Province of Leon.—Chick-peas and kidney beans. 621
- 596 Corporation of Encinado, Province of Leon.—Kidney beans. 621
- 597 Corporation of Pajares de los Oteros, Province of Leon.—Chick-peas. 621
- 598 Corporation of Magaz, Province of Leon.—Kidney beans. 621
- 599 Corporation of Omaña, Province of Leon.—Kidney beans. 621
- 600 Fernandez, Tomás, Armunia, Province of Leon.—Kidney beans and chick-peas. 621
- 601 Nuñez, Lino, Sahagun, Province of Leon.—Kidney beans. 621
- 602 Santos, Pablo, Fuentes de los Oteros, Province of Leon.—Kidney beans. 621
- 603 Oliveres, Mauricio, Torreserona, Province of Lérida.—Kidney beans on the vine. 621
- 604 Lu, Ambrosio, Albesa, Province of Lérida.—Kidney beans. 621
- 605 Jovér, Luisa de, Tárrega, Province of Lérida.—Kidney beans. 621
- 606 Ignés, Pedro, Cervera, Province of Lérida.—Blue vetch. 621
- 607 Freire, Manuel Soto, Pantón, Province of Lugo.—Chick-peas and beans. 621
- 608 Pillado, Elisèo Martinez, Foz, Province of Lugo.—Beans. 621
- 609 Martinez, Ramon Antonio, Sarriá, Province of Lugo.—Kidney beans. 621

Agricultural Products.

- 610 Moreno, Ramon Armesto, Puebla del Brollon, Province of Lugo.—Colored kidney beans. 621
- 611 Valcárcel, Teresa Pardo, Sariñao, Province of Lugo.—Chick-peas. 621
- 612 Corporation of Puebla de Brollon, Province of Lugo.—Beans. 621
- 613 Mendez, Alejo Perez, Monforte, Province of Lugo.—Chick-peas. 621
- 614 Calatrava, Francisco Garcia, Alcobendas, Province of Madrid.—Chick-peas. 621
- 615 Pascual, Elías, Alfarnate, Province of Málaga.—Chick-peas. 621
- 616 Marin, Juan F. Garcia, Caravaca, Province of Murcia.—Kidney beans. 621
- 617 Anta, Ignacio, Orense.—Beans. 621
- 618 Rodriguez, Manuel Iglesias, Celanova, Province of Orense.—Esculent vegetables. 621
- 619 Rodriguez y Gomez, Camilo, Ginzo de Limia, Province of Orense.—Chick-peas. 621
- 620 Rey, Manuel Perciro, Rivela, Province of Orense.—Kidney beans. 621
- 621 Iglesias, Ramon, Canedo y Veiro, Province of Orense.—Kidney beans. 621
- 622 Provincial Board of Agriculture, Oviedo.—Kidney beans and peas. 621
- 623 Llanos, Andrés, Saldaña, Province of Palencia.—Chick-peas and French peas. 621
- 624 Carrasco, Antolin Galan, Carrion, Province of Palencia.—Chick-peas. 621
- 625 Carande, Isidoro, Nogal de las Huertas, Province of Palencia.—Chick-peas. 621
- 626 Garcia, Ignacio, Herrera del Rio Pisuerga, Province of Palencia.—White French peas. 621
- 627 Gallego, Felix, Cevico de la Torre, Province of Palencia.—White French peas. 621
- 628 Gutierrez, Juan Francisco, Palencia.—White French peas. 621
- 629 Monedero, Juan, Quintana del Puente, Province of Palencia.—Carrobs. 621
- 630 Ortega, Demetrio, Palencia.—Beans. 621
- 631 Gutierrez, Calisto, Palencia.—Beans. 621
- 632 Rivas, Galo Ruiz, Province of Palencia.—Peas. 621
- 633 Colambres, Genaro, Perales, Province of Palencia.—True bitter vetch. 621
- 634 Onís, Federico, Cantalapedra, Province of Salamanca.—Esculent vegetables. 621
- 635 Toribio, Antonio Martin, Villares de la Reina.—Chick peas, lentils, and beans. 621
- 636 Carbayo, Luis, San Cristobal de la Cuesta, Province of Salamanca.—Lentils and chick-peas. 621
- 637 Nieto, Francisco Hernandez, Bóveda del Río Almar, Province of Salamanca.—Chick-peas. 621
- 638 Garcia, Rafael, Cantalapedra, Province of Salamanca.—Chick-peas. 621
- 639 Ronco, Gregorio, Ragama, Province of Salamanca.—Chick-peas. 621
- 640 Terrero, Santiago Juanes, Villares, Province of Salamanca.—Chick-peas. 621
- 641 Salvadios, Gaspar Diaz, Villaflores, Province of Salamanca.—Chick-peas. 621
- 642 Mayoral, Andrés, Los Huelmos, Province of Salamanca.—Chick-peas. 621
- 643 Poveda, Paulino, Pedroso, Province of Salamanca.—Chick-peas. 621
- 644 Garcia, Angel, Cantalapedra, Province of Salamanca.—Peas. 621
- 645 Rodriguez, Zacarias, Cantalapedra, Province of Salamanca.—Carrobs. 621
- 646 Fuentes, José, La Pinilla, Province of Salamanca.—Black peas. 621
- 647 Hernandez, Vicente, Cantalapedra, Province of Salamanca.—Peas. 621
- 648 Iglesias, Angel, Monterrubio de Armuña, Province of Salamanca.—Lentils. 621
- 649 Hernandez, Baldomero, Parada de Rubides, Province of Salamanca.—Beans. 621
- 650 Gomez, Miguel Martin, Baliso, Province of Segovia.—Chick-peas. 621
- 651 Gimenez Isidro, Villacastin, Province of Segovia.—Chick-peas. 621
- 652 Linares, Salvador & Alejandro, Burgillos & Alcalá del Rio, Province of Sevilla.—Beans and Spanish peas. 621
- 653 Velasco, Ramon, Carmona, Province of Sevilla.—Chick-peas. 621
- 654 Olivares, Manuel Garcia, Olivares, Province of Sevilla.—Chick-peas. 621
- 655 Ojeda, Manuel, Sevilla.—Chick-peas. 621
- 656 Leon, Manuel Gimenez, Viso del Alcor, Province of Sevilla.—Chick-peas. 621
- 657 Terán, Francisco Collantes de, Alcalá de Guadaíra, Province of Sevilla.—Chick-peas. 621
- 658 Puig, Juan, Sevilla.—Chick-peas. 621
- 659 Ojeda y Gomez, Juan, Sevilla.—Chick peas. 621
- 660 Orejuela, Joaquin de, Utrera, Province of Sevilla.—Chick-peas and Spanish peas. 621
- 661 Cuadra, Enrique de la, Utrera, Province of Sevilla.—Esculent vegetables. 621
- 662 Amores, Manuel, Salteres y Olivares, Province of Sevilla.—Esculent vegetables. 621
- 663 Perez y Serrano, Miguel, Olivares, Province of Sevilla.—Chick-peas and Spanish peas. 621
- 664 Muñoz y Leon, Antonio, Moran, Province of Sevilla.—Chick-peas. 621
- 665 Mendez, Felipe, Mairena del Alcor, Province of Sevilla.—Chick-peas. 621
- 666 Saavedra, Francisco, Utrera, Province of Sevilla.—Chick-peas. 621
- 667 Lavado, Antonio, Fernandez, Agudulce, Province of Sevilla.—Beans. 621
- 668 Alcaraz, Manuel de, Osuna, Province of Sevilla.—Beans. 621
- 669 Rivas, Pedro de, Utrera, Province of Sevilla.—Beans. 621
- 670 Gonzales, Rafael, Sevilla.—Beans. 621

Agricultural Products.

- 671 Mayorga, Ramon Diaz, Moron, Province of Sevilla.—Beans. 621
- 672 Saavedra, José Maria, Mairena del Alcor, Province of Sevilla.—Beans. 621
- 673 Torres, Andrés Villalon, Moron, Province of Sevilla.—Beans and Spanish peas. 621
- 674 Viñaz, José Maria Gimenez, Mairena del Alcor, Province of Sevilla.—Spanish peas. 621
- 675 Burgòs, Felipe de, Utrera, Province of Sevilla.—Spanish peas. 621
- 676 Cuéllar, José Antonio, Utrera, Province of Sevilla.—Esculent vegetables. 621
- 677 Royo, Damian, Soria.—Blue vetch. 621
- 678 Lenguas, Pablo, Soria.—Blue vetch. 621
- 679 Barenys y Mariné, José, Vilascca, Province of Tarragona.—Beans and peas. 621
- 680 Fausa, Pablo, La Canonja, Province of Tarragona.—Blue vetch, lentils, and Lima beans. 621
- 681 Virgili, Pablo, Tarragona.—Kidney beans, Lima beans, and blue vetch. 621
- 682 Gil, Francisco, Reus, Province of Tarragona.—Beans. 621
- 683 Prieto, Eusebio, Reus, Province of Tarragona.—Spanish peas and blue vetch. 621
- 684 Ollér, Pedro, Reus, Province of Tarragona.—Peas, beans, and true bitter vetch. 621
- 685 Grau y Plá, José, Reus, Province of Tarragona.—Peas, beans, and true bitter vetch. 621
- 686 Montaner, Amalio, Reus, Province of Tarragona.—Beans. 621
- 687 Sorias y Domenech, Juan, Vilaseca, Province of Tarragona.—Kidney beans. 621
- 688 Monner, Juan, La Riera, Province of Tarragona.—Kidney beans. 621
- 689 Pullés, Antonio Morera, & Son, Tarragona.—Chick-peas. 621
- 690 Llerba, Juan Bautista, Ulldemolins, Province of Tarragona.—Chick-peas. 621
- 691 Vidal y Bas, Benito, Province of Tarragona.—Beans. 621
- 692 Fonts, Mariano, Reus, Province of Tarragona.—Beans. 621
- 693 Margenas, Antonio Bages Reus, Province of Tarragona.—Kidney beans. 621
- 694 Perez, Lino, Toledo.—Kidney beans and chick-peas. 621
- 695 Basarán, Isidoro, Olias del Rey, Province of Toledo.—Blue vetch. 621
- 696 Society of Agriculture, Valencia.—Esculent vegetables. 621
- 697 Palomares, Vicente Lassala, Masia de la Mar, Province of Valencia.—Beans and carrobs. 621
- 698 Lassala y Camp, Vicente, Alboraya, Province of Valencia.—Beans. 621
- 699 Alaborts y Alaborts, Carlos, Picasset, Province of Valencia.—Carrobs. 621
- 700 Ferrandis y Soler, Onteniente, Province of Valencia.—Carrobs. 621
- 701 Casta, Joaquin Pardo de la, Taбернаs, Province of Valencia.—Carrobs. 621
- 702 Baldovi, Rafael Gonzalez, Torrente, Province of Valencia.—Carrobs. 621
- 703 Arrue, Miguel, Benguacil, Province of Valencia.—Kidney beans. 621
- 704 Vaca, Francisco Cabeza de, Puente Duero, Province of Valladolid.—Chick-peas. 621
- 705 Lecanda, Eloy, Valbueno de Duero, Province of Valladolid.—Chick-peas. 621
- 706 Cocho, Tiburcio, Santovenia, Province of Valladolid.—Blue vetch and lentils. 621
- 707 Corporation of Fuentesauco, Province of Zamora.—Chick-peas. 621
- 708 Mateos, Facundo Martin, Fuentesauco, Province of Zamora.—Chick-peas. 621
- 709 Bausela, Estéban Garcia, Castroverde, Province of Zamora.—Chick-peas. 621
- 710 Poey, Juan, Habana, Cuba.—Vegetables of the country. 621
- 711 Serez, Eduardo Campos, Alicante.—Carrobs. 621
- 712 Llampallas, Antonio, Masnou, Province of Barcelona.—Carrobs. 621
- 713 Escoda y Teixido, Antonio, Villaseca, Province of Tarragona.—Carrobs. 621
- 714 Freixa, Sebastian, Reus, Province of Tarragona.—Carrobs. 621
- 715 Salvado, Salvador, Rindoms, Province of Tarragona.—Carrobs. 621
- 716 Monserrat y Cavallé, José, San Carlos de la Rápita, Province of Tarragona.—Carrobs. 621
- 717 Ibern y Rovira, José, Torredembarra, Province of Tarragona.—Carrobs. 621
- 718 Montaña, Francisco Roca, Cambrils, Province of Tarragona.—Carrobs. 621
- 719 Corporation of Amposta, Province of Tarragona.—Carrobs. 621
- 720 Bassedos y Andreu, Miguel, Reus, Province of Tarragona.—Carrobs. 621
- 721 Zaforta, Juan Burguez, Palma, Balearic Islands.—Carrobs. 621
- 722 Diego, Francisco Polop, Jativa, Province of Valencia.—Carrobs and photograph of the carob tree. 621
- 723 Diego y Carsi, Ignacio & José, Jativa, Province of Valencia.—Carrobs. 621
- 724 Llandes, Mariano Ontoneda, Jativa, Province of Valencia.—Carrobs. 621
- 725 Practical School of Agriculture, Alaya.—Beet-roots. 622
- 726 Gonzalez, Manuel, Barco de Avila, Province of Avila.—Onions. 622
- 727 Provincial Deputation of Burgos.—Beet-roots and potatoes. 622
- 728 Board of Agriculture of the Province of Castellon.—Garlic. 622
- 729 Montoya, Vicente Llopis, Castellon.—Peanuts. 622

Agricultural Products.

- 730 Lara, Mateo Tuñon de, Andújar y Menjívar, Province of Jaen.—Licorice-root. 622
- 731 Asensio, Ramon, Caravaca, Province of Murcia.—Potatoes. 622
- 732 Vila, Francisco, Viana del Bollo, Province of Orense.—Potatoes. 622
- 733 Rodriguez, Manuel Iglesias, Celanova, Province of Orense.—Tubers. 622
- 734 Rey, Manuel Pereiro, Orense.—Onions. 622
- 735 Carraura, Ramon, Cantalapiedra, Province of Salamanca.—Beet-roots. 622
- 736 Torre Ajero, Mariano & Cipriano de la, Arroyo de Cuellar, Province of Segovia.—Madder-root. 622
- 737 Moreno, Santiago Merino, Berlanga de Duero, Province of Soria.—Onions, garlic, and potatoes. 622
- 738 Fonts, Mariano, Reus, Province of Tarragona.—Garlic. 622
- 739 Redondo, Juan Bautista, Carmena, Province of Toledo.—Potatoes. 622
- 740 Society of Agriculture of Valencia. Licorice-root, peanuts, edible cyperus, and garlic. 622
- 741 Lassala y Camps, Vicente, Alboraya, Province of Valencia.—Edible cyperus. 622
- 742 Dios Quemada, Juan de, & Sons, Vilovia, Province of Valladolid.—Madder-root. 622
- 743 National Manufactory of Tobacco, Alicante.—Tobacco. 623
- 744 Corral, Luis Marrin del, La Laguna, Canary Islands.—Tobacco. 623
- 745 Mendez, Benigno Dominguez, Valverde, Canary Islands.—Tobacco. 623
- 746 Garcia, Domingo, Orotava, Canary Islands.—Tobacco. 623
- 747 Lugo, Luis Benitez de, Orotava, Canary Islands.—Tobacco. 623
- 748 Society "El Porvenir Agrícola," Isle of Gran Canaria, Canary Islands.—Leaf-tobacco and cigars. 623
- 749 Olivares, José del Castillo, Telde, Canary Islands.—Coffee. 623
- 750 Armas, Antonio, Valle de Agaete, Canary Islands.—Coffee. 623
- 751 Barrenengoa, Dámaso, Ciudad-Real.—Coffee. 623
- 752 Ortiz, Juan, Almodóvar del Pinar, Province of Cuenca.—Saffron. 623
- 753 Chillaron, Silvestre, Villarejo de Fuentes, Province of Cuenca.—Saffron. 623
- 754 Redondo, Peregrin, Valverde de Fúcar, Province of Cuenca.—Saffron. 623
- 755 Corporation of Liñola, Province of Lérida.—Chamomile flowers. 623
- 756 Liné y Canes, José, Liñola, Province of Lérida.—Chamomile flowers. 623
- 757 Mar, Ramon, Lérida.—Chamomile flowers. 623
- 758 National Manufactory of Tobacco, Madrid.—Tobacco. 623
- 759 Meric & Co., Colonial Company, Madrid.—Ground coffee. 623
- 760 Menchero, Eduardo, Cartagena, Province of Murcia.—Spanish opium. 623
- 761 National Manufactory of Tobacco, Sevilla.—Tobacco. 623
- 762 Corporation of La Puebla de Eca, Province of Soria.—Saffron. 623
- 763 Corporation of Valtueña, Province of Soria.—Saffron. 623
- 764 National Manufactory of Tobacco, Valencia.—Tobacco. 623
- 765 Leon, José, Rocafort, Province of Valencia.—Tobacco. 623
- 766 Masiá, Francisco, Requena, Province of Valencia.—Saffron. 623
- 767 Gomez, Bernardo, Requena, Province of Valencia.—Saffron. 623
- 768 Piñango, Norberto, Reguena, Province of Valencia.—Saffron. 623
- 769 Central Commission of the Island of Cuba, Habana, Cuba.—Leaf-tobacco. 623
- 770 Bock & Co., Habana, Cuba.—Tobacco. 623
- 771 Allones, Ramon, Habana, Cuba.—Tobacco. 623
- 772 Arrigunaga, Fernando, Habana, Cuba.—Tobacco. 623
- 773 Genér, José, Habana, Cuba.—Tobacco. 623
- 774 Upmann, H. & Co., Habana, Cuba.—Tobacco. 623
- 775 Romero, Juan, Bernabé, Habana, Cuba.—Tobacco. 623
- 776 Morales, José, Habana, Cuba.—Tobacco. 623
- 777 Jané, Manuel, Habana, Cuba.—Tobacco. 623
- 778 Valle, Suarez & Co., Habana, Cuba.—Tobacco. 623
- 779 Tolosa, Enrique, & Bro., Habana, Cuba.—Tobacco. 623
- 780 Asay, Celestino, Habana, Cuba.—Tobacco. 623
- 781 Díaz, Bances & Co., Habana, Cuba.—Tobacco. 623
- 782 Alvarez, Julian, Habana, Cuba.—Tobacco. 623
- 783 Murias, Pedro, & Co., Habana, Cuba.—Tobacco. 623
- 784 Rio, J. P. del, & Co., Habana, Cuba.—Tobacco. 623
- 785 Camiño, Cuesta, & Co., Habana, Cuba.—Cigarettes. 623
- 786 Ortiz, Isidoro, Habana, Cuba.—Cigarettes. 623
- 787 Poey, Juan, Habana, Cuba.—Coffee. 623
- 788 Brotons, Bros., Orihuela, Province of Alicante.—Ground pepper. 623
- 789 Velasco, Cayetano Sabater, Murcia.—Ground pepper. 623
- 790 Laorden, Juan Bernabé, Murcia.—Ground pepper. 623
- 791 Báguena, Joaquin, Murcia.—Ground pepper. 623
- 792 Arjona y Gomez, Jesús, Jaraiz de la Vera, Province of Cáceres.—Ground pepper. 623
- 793 Parrales, Valentin, Jaraiz de la Vera, Province of Cáceres.—Ground pepper. 623

Agricultural Products, Animals, etc.

- 794 Guerra, Felipe Leon, Gata, Province of Cáceres.—Ground pepper. 623
- 795 Enciso, Angel Morales, Jaraiz de la Vera, Province of Cáceres.—Ground pepper. 623
- 796 Jabon, Blas., Jaraiz de la Vera, Province of Cáceres.—Ground pepper. 623
- 797 Brotons, Carlos, Alicante.—Flax-seed. 624
- 798 Soria, Francisco Fuster, Monforte, Province of Alicante.—Carrob seed. 624
- 799 Verdu, Joaquin, Monóvar, Province of Alicante.—Anise and Cumin seed. 624
- 800 Riscal, de Alègre, Marquis of, Alia, Province of Cáceres.—Seeds. 624
- 801 Provincial Board of Agriculture, Castellon.—Lucern seed, flax seed, and carrob seed. 624
- 802 Sanchez, Sotero, Daimiel, Province of Ciudad-Real.—Anise-seed. 624
- 803 Peñalver, José Diaz, Membrilla, Province of Ciudad-Real.—Anise-seed. 624
- 804 Lara, Antonio Crespo, Benameji, Province of Córdoba.—Anise-seed. 624
- 805 Prieto, Sebastian, Encinas Reales, Province of Córdoba.—Anise-seed. 624
- 806 Conde, Juan, Córdoba.—Flax seed and benesed. 624
- 807 Aviléz y Merino, Francisco, Córdoba.—Fleawort and mustard seed. 624
- 808 Chillaron, Silvestre, Villarejo de Fuentes, Province of Cuenca.—Anise-seed. 624
- 809 Hidalgo, Valeriano, Les Hinojosos, Province of Cuenca.—Anise-seed. 624
- 810 Fernandez de Villalta, Antonio, Torre Don Jimeno, Province of Jaen.—Anise and lavender seed. 624
- 811 Corporation of Pozo Alcon, Province of Jaen.—Cumin-seed. 624
- 812 Ferreira, Antonio, Mondoñedo, Province of Lugo.—Furze-seed. 624
- 813 Paradela, Domingo, Castroverde, Province of Lugo.—Linsced. 624
- 814 Provincial Deputation, Murcia.—Seeds. 624
- 815 Fuentes y Ponte, Javier, Murcia.—White sorghum seed. 624
- 816 Onis, Federico de, Cantalapedra, Province of Salamanca.—Carthamus seed. 624
- 817 Virgili, Pablo, Tarragona.—Flax-seed and linsced. 624
- 818 Grau, José, Reus, Province of Tarragona.—Linsced. 624
- 819 Gatell y Folch, Juan, Altafulla, Province of Tarragona.—Beans. 624
- 820 Margenat, Antonion Bagés, Reus, Province of Tarragona.—Flax-seed. 624
- 821 Negrete, Acisclo Fernandez, Villatobas, Province of Toledo.—Anise-seed. 624
- 822 Huelbes y Ortiz, Emilio, Ocaña, Province of Toledo.—Anise and cumin seed. 624
- 823 Valencian Society of Agriculture, Valencia.—Seeds. 624
- 824 Llandes, Mariano Ontoneda, Manuel, Province of Valencia.—Peanut-seed. 624
- 825 Aspiroz, Rafael Vives, Villa Oliva, Province of Valencia.—Peanut-seed. 624
- 826 Orduña, Salvador Navarro, Villa Oliva, Province of Valencia.—Beans. 624
- 827 La Viñaza, Count of, Epila, Province of Zaragoza.—Linsced and flax seed. 624
- 828 Ramirez, Antonio, Alicante.—Linsced. 624
- 829 Sirvent, Antonio, San Vicente, Province of Alicante.—Canary-seed. 624
- 830 Calabuig, Bartolomé, Bañeras, Province of Alicante.—Pine seed. 624
- 831 Molano, Manuel, Badajoz.—Acorns. 624
- 832 Carretero, Agustin, Salvaleon, Province of Badajoz.—Acorns. 624
- 833 Gomez, Antonio Enrique, Montero.—Province of Córdoba.—Acorns. 624
- 834 Corporation of Añora, Province of Córdoba.—Acorns. 624
- 835 Escribano, Luis, Pozoblanco, Province of Córdoba.—Acorns. 624
- 836 Galan, Alfonso Blanco, Dos-Torres, Province of Córdoba.—Acorns. 620
- 837 Desttos, Gertrudis de, San Feliú de Codina, Province of Barcelona.—Pine cone seed. 624
- 838 Corporation of Cartaya, Province of Huelva.—Pine cone seed. 624
- 839 Serrano, José Lorenzo, Zalamea, Province of Huelva.—Acorns. 624

Land Animals.

- 840 Bayla, Juan de la, Santander.
a Rabbit and birds. 635
b Domestic and Angora cats. 636
c Boar. 637
- 841 Riscal de Alegre, Marquis of, Alia, Province of Cáceres.—Eggs, chrysalis and butterfly of the silk worm. 638
- 842 Argona, Jesus, Jaraiz, Province of Cáceres.—Cocoons. 638
- 843 Quevedo, José C., Isle of Gran Canaria, Canary Islands.—Cochineal. 638
- 844 Davidson, Guillermo, & Co., Villa de la Orotova, Canary Islands.—Cochineal. 638
- 845 Torre, Rafael de la, Las Palmas, Canary Islands.—Cochineal. 638
- 846 Corps of Engineers of Woods & Forests, Madrid.—Anatomical pictures of various insects. 638
- 847 Vidaur, Aurelio Lopez, Santander.—Collection of beetles. 638

Marine Animals, Fish Culture, and Apparatus.

- 848 Roca, Bartolomé, Palma de Mallorca, Balearic Islands.—Anchovies in oil. 641
- 849 Garcia & Piñon, Coruña.—Preserved Fish. 641
- 850 Cotrofe, Miguel, Coruña, Preserved fish. 641
- 851 Codes, Tomás Lopez de, Isla Cristina, Province of Huelva.—Salt and pressed sardines. 641
- 852 Provincial Commission, Lugo.—Cured eels. 641

Marine Animals, etc., Animal and Vegetable Products.

- 853 Riego, Vicente, Vivero, Province of Lugo.—Pressed and preserved sardines. 641
- 854 Vicente, Pascual, & Co., Vivero, Province of Lugo.—Pressed and preserved sardines. 641
- 855 Arzadum & Co., Villagarcia, Province of Pontevedra.—Preserved fish. 641
- 856 Martinez, Joaquin, Pontevedra.—Preserved fish. 641
- 857 Otero, Francisco, Grove, Province of Pontevedra.—Pressed sardines. 641
- 858 Mandado, Nicolas, & Sons, Aldán, Province of Pontevedra.—Pressed sardines. 641
- 859 Larravide, Braulio de, Laredo, Province of Santander.—Preserved fish. 641
- 860 Codes, Tomás Lopez de, Isla Cristina, Province of Huelva.—Salt tunny-fish. 642
- 861 Arzadum & Co., Villagarcia, Province of Pontevedra.—Shell-fish, cockles, and sea-sleeves. 644
- 862 Martinez, Joaquin, Pontevedra.—Cockles, mediterranean scallop, and other shell-fish. 644
- 863 Codes, Tomás Lopez de, Isla Cristina, Province of Huelva.—Sardine oil. 646
- 864 Vicente, Pascual, & Co., Vivero, Province of Lugo.—Sardine oil. 646
- 865 Riego, Vicente, Vivero, Province of Lugo.—Sardine oil. 646
- 866 Lopez, Francisco Ramon, Vivero, Province of Lugo.—Sardine oil. 646
- Animal and Vegetable Products.**
- 867 Provincial Deputation, Murcia.—Spunk. 650
- 868 Riudavets y Femenias, Francisco, Mahon, Balearic Islands.—Condensed milk, and coffee and milk. 651
- 869 Fábriques, Guillermo, Mahon, Balearic Islands.—Condensed milk, and coffee and milk. 651
- 870 Visa, Agustin B., Mahon, Balearic Islands.—Coffee and condensed milk. 651
- 871 Clemente, Manuel Martin, Torrejoncillo, Province of Cáceres.—Cheese from sheep's milk. 651
- 872 Provincial Board of Agriculture, Morella, Province of Castellon.—Cheese from sheep's milk. 651
- 873 Coca, José, Maria, Daimiel, Province of Ciudad-Real.—Cheese from sheep's milk. 651
- 874 Villahermosa, Manuel, Manzanares, Province of Ciudad-Real.—Cheese from sheep's milk. 651
- 875 Camacho, Miguel Gonzalez, Manzanares, Province of Ciudad-Real.—Cheese from sheep's milk. 651
- 876 Pozoblanco, Luis Escribano, Province of Córdoba.—Cheese. 651
- 877 Falero y Fajardo, Plácido, Fuente de Pedro Naharro, Province of Cuenca.—Cheese. 651
- 878 Melgarejo, Maria Josefa, San Clemente, Province of Cuenca.—Cheese. 651
- 879 Moron, José Garcia, Cabezas Rubias, Province of Huelva.—Cheese. 651
- 880 Callejon, Francisco Gimenez, Jaen.—Cheese. 651
- 881 Rodriguez, Vicente, Becerreá, Province of Lugo.—Butter. 651
- 882 Vega, Manuel Pardo de la, Rabado, Province of Lugo.—Salt butter. 651
- 883 Novoa, Juan Caraballo & Son, Lobaces, Province of Orense.—Imitation butter. 651
- 884 Board of Agriculture, Industry and Commerce, Oviedo.—Cheese. 651
- 885 Peña, Justo Estévez, Hinojosa del Duero, Province of Salamanca.—Cheese. 651
- 886 Basarán, Isidoro, Olias del Rey, Province of Toledo.—Cheese. 651
- 887 Quiros' Widow & Sons, San Bartolomé de Pinares, Province of Avila.—Hides. 652
- 888 Provincial Commission, Burgos.—Hides. 652
- 889 Martin, Francisco Cazador, Castellon.—Hides. 652
- 890 Barrera, Angel, Lugo.—Hides. 652
- 891 Provincial Deputation, Murcia.—Hides. 652
- 892 Conde, Juan Manuel, Valverde, Province of Orense.—Hides. 652
- 893 Antonio, Manuel de, Salamanca.—Common glue. 652
- 894 Medrano, Segundo Bartolomé, Valdeavellano, Province of Soria.—Sheep skins. 652
- 895 Sotorra, Antonio Cort, Reus, Province of Tarragona.—Hides. 652
- 896 Sans, Jaime, Widow of, Reus, Province of Tarragona.—Catalanian sole-leather. 652
- 897 Rocamera, Jerónimo, Reus, Province of Tarragona.—Catalanian sole-leather. 652
- 898 Allustante, Manuel, Zaragoza.—Call-skins and dressed skins. 652
- 899 Molano, Pedro, Badajoz.—Honey. 654
- 900 Fábregues, Guillermo, Mahon, Balearic Islands.—Nougat of honey and almonds. 654
- 901 Olives, Bernardo José de, Ciudadela, Balearic Islands.—Honey. 654
- 902 Salvadó, José, Barcelona.—Objects of wax. 654
- 903 Domingo, Gregorio de, Santibañez del Val, Province of Burgos.—Honey. 654
- 904 Cepeda, Julian, Yeste, Province of Cáceres.—Honey. 654
- 905 Dominguez, Benigno, Pinar, Canary Islands.—Honey. 654
- 906 Provincial Board of Agriculture, Morella, Province of Castellon.—Honey. 654
- 907 Llausola, Vicente, Castellon.—Wax. 654
- 908 Rubisco, Cayetano, Clemente, Moral de Calatrava, Province of Ciudad-Real.—Wax and honey. 654
- 909 Corporation of Palma del Rio, Province of Córdoba.—Honey. 654
- 910 Mayordomo, Manuel, Fresneda de la Sierra, Province of Cuenca.—Honey. 654

Animal and Vegetable Products.

- 911 Herraiz, Eustasio, Cardenete, Province of Cuenca.—Honey. 654
- 912 Torralba, José, Cardenete, Province of Cuenca.—Honey. 654
- 913 Corporation of Berninches, Province of Guadalajara.—Honey. 654
- 914 Cepeda, Ignacio, Almonte, Province of Huelva.—Honey. 654
- 915 Castillo, Juan Herrera, Cartaya, Province of Huelva.—Honey. 654
- 916 Alvarez, José María, Cartaya, Province of Huelva.—Honey. 654
- 917 Fernandez, Francisco, Cartaya, Province of Huelva.—Honey. 654
- 918 Vazquez, Bartolomé, Villanueva de los Castillejos, Province of Huelva.—Honey. 654
- 919 Serrano, José Lorenzo, Zalamea la Real, Province of Huelva.—Wax. 654
- 920 Mifion, Pedro Alonso, Leon.—Honey. 654
- 921 Martinez, Juan Panero, Astorga, Province of Leon.—Wax. 654
- 922 Monforte, Andrés Andrade, Province of Lugo.—Honey. 654
- 923 Lopez, Manuel Gonzalez, Incio, Province of Lugo.—Honey. 654
- 924 Corporation of Valle de Oro, Province of Lugo.—Wax. 654
- 925 Tato, Manuel, Lugo.—Wax. 654
- 926 Portillo, Serafin Rodriguez, Madrid.—Ornamental wax candles. 654
- 927 Provincial Deputation, Murcia.—Honey. 654
- 928 Velasco, Manuel, Verin, Province of Orense.—Honey. 654
- 929 Robo, Modesto Perez, Verin, Province of Orense.—Wax. 654
- 930 Caramés, José García, Forcarey, Province of Pontevedra.—Wax. 654
- 931 Corbalán, Juan, Saucelle, Province of Salamanca.—Honey. 654
- 932 Sanchez, Rosa Hernandez, La Hinojosa, Province of Salamanca.—Honey. 654
- 933 Garcia, José Sanchez, Fregeneda, Province of Salamanca.—Honey. 654
- 934 Gascon, Andrés Sanchez, Cepeda, Province of Salamanca.—Wax. 654
- 935 Roman, José Palacios, Coronil, Province of Sevilla.—Honey. 654
- 936 Ramos, Eustaquio, Soria.—Honey and wax. 654
- 937 Aguirre, Simon, Soria.—Honey. 654
- 938 Perez, Vicente Antonio, Talavera de la Reina, Province of Toledo.—Wax candles and wax. 654
- 939 Lecanda, Eloy, Valbuena de Duero, Province of Valladolid.—Honey. 654
- 940 Domec, Gregorio, Zuera, Province of Zaragoza.—Honey. 654
- 941 Izquierdo, Nicolás, Zuera, Province of Zaragoza.—Honey. 654
- 842 Poey, Juan, Habana, Cuba.—Honey. 654
- 943 Vegüer y Naguer, Juan, Habana, Cuba.—Honey. 654
- 944 Central Commission, Habana, Cuba.—Honey. 654
- 945 Carratalá, Francisco, San Juan, Province of Alicante.—Olives. 656
- 946 Girones, Manuela, Agost, Province of Alicante.—Olives. 656
- 947 Samper, Ramon, Muchamiel, Province of Alicante.—Olives. 656
- 948 Espinós, Joaquin, & Co., Ondara y Beniarbeig, Province of Alicante.—Muscatel raisins. 656
- 949 Almodóvar, Antonio Sanchez, Alicante.—Preserves. 656
- 950 Bernabeu y Diego, Juan B., Jabea, Province of Alicante.—Raisins. 656
- 951 Verdú y Perez, Joaquin, Monóvar, Province of Alicante.—Dried figs. 656
- 952 Lèrin, Eduardo Campos, Alicante, Dried figs. 656
- 953 Miralles, Clemente, Alicante.—Vegetable preserves. 656
- 954 Garcia, Manuel, Elche, Province of Alicante.—Fig bread and dates. 656
- 955 Benito, Juan Bautista Pina, Monforte, Province of Alicante.—Figs. 656
- 956 Meson, José, Arenas de San Pedro, Province of Avila.—Olives. 656
- 957 Vaca, José, Badajoz.—Ham. 656
- 958 Terron, Jacinto, Badajoz.—Pork sausages and black pudding. 656
- 959 Maria, Juan Martinez Santa, Burguillos, Province of Badajoz.—Dried beef and sausages. 656
- 960 Sanabria, José, Badajoz.—Sausages. 656
- 961 Visa, Agustin, Mahon, Balearic Islands.—Sausages. 656
- 962 Roca, Bartolomé, Palma, Balearic Islands.—Vegetable preserves. 656
- 963 Arrom, Lorenzo, Llubi, Balearic Islands.—Vegetable preserves. 656
- 964 Puig & Llagostera, Barcelona.—Preserved olives. 656
- 965 Trias y Travesa, José, Masnou, Barcelona.—Dessicated vegetables. 656
- 966 Vernis, Jaime, Vich, Province of Barcelona.—Preserved meats. 656
- 967 Luna, José, La Rambla, Province of Barcelona.—Preserved fruits, vegetables, etc. 656
- 968 Parent Bros., Barcelona.—Fruits in liquors and sweetmeats. 656
- 969 Castell, Joaquin Pedrosa de, Esparraguera, Province of Barcelona.—Olives. 656
- 970 Provincial Commission, Miranda de Ebro, Province of Burgos.—Preserved fruits. 656
- 971 Olivares, Jeronimo de Sande, Garrovillas de Alconetar, Province of Cáceres.—Pork sausages. 656
- 972 Garcia, Antonio Gimenez, Guijo de Santa Barbara, Province of Cáceres.—Preserved fruits. 656
- 973 Cuevas, Joaquin de las, Puerto Real, Province of Cadiz.—Sausages. 656
- 974 Provincial Board of Agriculture, Castellon.—Dried figs. 656
- 975 Aguila y Aguila, Santiago, Villarubia de los Ojos, Province of Ciudad-Real.—Olives. 656
- 976 Puzini Bros., Córdoba.—Fruits in syrup. 656
- 977 Lara, Rafael J. de, Córdoba.—Olives. 656

Animal and Vegetable Products.

- 978 San Bernardo, Count of, Córdoba.—Olives. 656
- 979 Cabezas y Sarabia, José, Córdoba.—Olives. 656
- 980 Albeary Ward, Francisco, Montilla, Province of Córdoba.—Prunes. 656
- 981 Plaza, Juan Antonio, Montoro, Province of Córdoba.—Olives. 656
- 982 Alvarez, Rafael Ceballos, Adamúz, Province of Córdoba.—Olives. 656
- 983 Blanco, José María, Santiago, Province of La Coruña.—Quince marmelade. 656
- 984 Cotrofe, Miguel, Coruña.—Preserved meats and birds. 656
- 985 García y Piñon, Coruña.—Preserved meats and birds. 656
- 986 Romero & Ferrin, Coruña.—Alimentary preserves. 656
- 987 Gomez y Gomez, Enrique, Lepé, Province of Huelva.—Figs. 656
- 988 Cruz, Rafael Trianes de la, Huelva.—Figs. 656
- 989 Corporation of Cartaya, Province of Huelva.—Figs. 656
- 990 Vasquez, Bartolomé, Villanueva, de los Castillejos, Province of Huelva.—Figs. 656
- 991 Mesa, Francisco Carrion, Huelva.—Fruits in brandy. 656
- 992 Carnes, Eulogio Martin, Aracena, Province of Huelva.—Hams. 656
- 993 Moreno, Maria, Cazoria, Province of Jaen.—Figs. 656
- 994 Barrutia, Elias, Cazoria, Province of Jaen.—Figs. 656
- 995 Romerotoro, Marquis of, Alcaudete, Province of Jaen.—Dried apples and prunes. 656
- 996 Elvira, José, Logroño.—Peach jam. 656
- 997 Moreno, Juan Miguel, Calahorra, Province of Logroño.—Vegetable preserves. 656
- 998 Ocen, Miguel, Calahorra, Province of Logroño.—Vegetable preserves. 656
- 999 Muro, Paulino, Calahorra, Province of Logroño.—Vegetable preserves. 656
- 1000 Provincial Commission, Jover, Province of Lugo.—Ham. 656
- 1001 Gimenez, Lucio Chapresto, Marbella, Province of Málaga.—Figs. 656
- 1002 Gomez, Antonio J., Málaga.—Muscatel raisins. 656
- 1003 Kreisler, Juan, Málaga.—Raisins. 656
- 1004 Gros, Federico, & Co., Málaga.—Raisins. 656
- 1005 Huelin, Guillermo, & Son, Málaga.—Muscatel raisins. 656
- 1006 Provincial Deputation, Murcia.—Olives. 656
- 1007 Fuentes y Ponte, Javier, Murcia.—Olives. 656
- 1008 Abarca, Gerónimo Vidal, Alhama, Province of Murcia.—Fig bread 656
- 1009 Escudero, Tomás, Corella, Province of Navarra.—Preserved capsicum and tomatoes. 656
- 1010 Gayoso, Tomás Ramon, Rante, Province of Orense.—Peeled and dried chestnuts. 656
- 1011 Rey, Manuel Pereiro, Orense.—Olives. 656
- 1012 Santamarina, José, Verin, Province of Orense.—Olives. 656
- 1013 Anta, Ignacio, Orense.—Peeled and dried chestnuts. 656
- 1014 Romero, Joaquin Perez, Santa Cruz de la Rabada, Province of Orense.—Peeled and dried chestnuts. 656
- 1015 Provincial Board of Agriculture, Industry, and Commerce, Cangas de Tineo, Province of Oviedo.—Ham. 656
- 1016 Diaz, Juan, Oviedo.—Sweetmeats. 656
- 1017 Arcadun & Co., Villagarcia, Province of Pontevedra.—Preserved partridge and veal. 656
- 1018 Martinez, Joaquin, Pontevedra.—Vegetable preserves. 656
- 1019 Onis, Federico de, Cantalapedra, Province of Salamanca.—Fruit syrup. 656
- 1020 Martin, Lorenzo Calvo, Mogarraz, Province of Salamanca.—Figs. 656
- 1021 Paulino, Cipriano Perez, Fregeneda, Province of Salamanca.—Prunes. 656
- 1022 Molina's Widow & Son, Sevilla.—Olives. 656
- 1023 Carmona, Manuel, Sevilla.—Olives. 656
- 1024 Orihuela, Pedro, Sevilla.—Olives. 656
- 1025 Fernandez, Joaquin, Sevilla.—Olives. 656
- 1026 Garcia, Sebastian, Scala Dei, Province of Tarragona.—Dried fruits. 656
- 1027 Gatell y Folch, Juan, Altafulla, Province of Tarragona.—Olives. 656
- 1028 Fonts, Mariano, Reus, Province of Tarragona.—Olives and pimenton (ground fruit of the pepper plant). 656
- 1029 Serra, Olegario, Reus, Province of Tarragona.—Fruits in syrup. 656
- 1030 Esteve, D. A., Widow & Son of, Reus, Province of Tarragona.—Olives. 656
- 1031 Montaner, Amalio, Reus, Province of Tarragona.—Olives. 656
- 1032 Grau y Fló, José, Reus, Province of Tarragona.—Olives. 656
- 1033 Roca Vinardell, Tortosa, Province of Tarragona.—Preserved fruits. 656
- 1034 Pellicer, Francisco, Porrera, Province of Tarragona.—Figs. 656
- 1035 Coll, José, Valls, Province of Tarragona.—Muscatel raisins. 656
- 1036 Basarán, Isidoro, Olias del Rey, Province of Toledo.—Prunes. 656
- 1037 Capsir, José Damian, Puebla de Rugat, Province of Valencia.—Preserved fruits. 656
- 1038 Estellés, Gerardo, Játiva, Province of Valencia.—Muscatel raisins. 656
- 1039 Stárico y Ruiz, Ricardo, Ribarroja, Province of Valencia.—Fig bread. 656

Animal and Vegetable Products.

- 1040 Lassala y Palomares, Vicente, Masía de la Mar, Province of Valencia.—Figs. 656
- 1041 Cañamás, Blas Antonio, Province of Valencia.—Muscatel raisins. 656
- 1042 Artigues, Serapio, Játiva, Province of Valencia.—Muscatel raisins. 656
- 1043 Fabiá, Manuel Andrés, Torrente, Province of Valencia.—Grape syrup. 656
- 1044 Martí, Enrique, Alcira, Province of Valencia.—Vegetable preserves. 656
- 1045 Espinós, Joaquin, & Co., Godella, Province of Valencia.—Muscatel raisins. 656
- 1046 Vives y Aspiroz, Rafael, Villa de Oliva, Province of Valencia.—Muscatel raisins. 656
- 1047 Calabuig, Bartolomé, Bocairente, Province of Valencia.—Muscatel raisins. 656
- 1048 Valencian Society of Agriculture, Valencia.—Dried fruits. 656
- 1049 Garcia, Miguel, Zamora.—Fruits in syrup. 656
- 1050 Perez, Bárbara, Zamora.—Hams and pork sausages. 656
- 1051 Gasca y Beltran, Joaquin, Zaragoza.—Preserved fruits. 656
- 1052 Royo, Mariano, Zaragoza.—Preserved strawberries. 656
- 1053 Costa & Co., Habana, Cuba.—Preserved fruits. 656
- 1054 Bosehi, Juan, & Co., Habana, Cuba.—Preserved fruits. 656
- 1055 Casado, F. N., Malaga.—Raisins. 656
- 1056 Mark, Joah A., Malaga.—Raisins. 656
- 1057 Catala, Antonio, Jabea, Province of Alicante.—Muscatel raisins. 656
- 1058 Bolufer, Cristobal, Jabea, Province of Alicante.—Muscatel raisins. 656
- 1059 Girones y Domenech, Manuel, Alicante.—Sugared almonds. 656
- 1060 Ruidavets y Femenias, Francisco, Mahon, Balearic Islands.—Nougat. 656
- 1061 Visa, Agustin B., Mahon, Balearic Islands.—Nougat. 656
- 1062 Fábregues, Guillermo, Mahon, Balearic Islands.—Nougat. 656
- 1063 Estapé y Cardona, José, Habana, Cuba.—Guava paste. 656
- 1064 Echarrieta, Santiago, San José de las Lajas, Cuba.—Guava paste. 656
- 1065 Gomez, J., & Co., Habana, Cuba.—Confectionery. 656
- 1066 Usano, Martin, Toledo.—Marchpane. 656
- 1067 Martín y Valverde, Laureano, Toledo.—Marchpane. 656
- 1068 Labrador, Cipriano, Toledo.—Marchpane. 656
- 1069 Perez, Abdon Atienza, Tarazona de la Mancha, Province of Albacete.—Wheat flour. 657
- 1070 Sellés, José, Alicante.—Wheat flour. 657
- 1071 Benito, Isidro, Avila.—Wheat flour. 657
- 1072 Lagarza, Eduardo, Badajoz.—Flour. 657
- 1073 Gil Bros. & Rico, Aranda de Duero, Province of Burgos.—Flour. 657
- 1074 Conde & Bros., Cabia, Province of Burgos.—Flour. 657
- 1075 Toval, Antonio, Burgos.—Grits. 657
- 1076 Arqueaga, Rodrigo, Burgos.—Grits. 657
- 1077 Vega Grande, Count of, Isle of Gran Canaria, Canary Islands.—Maize flour. 657
- 1078 Gordo, Julian, Luzaga, Province of Guadalajara.—Flour and bran. 657
- 1079 Fontoya, Manuel, Jaen.—Flour and bran. 657
- 1080 Martos, Juan Francisco, Jaen.—Flour and bran. 657
- 1081 Prado, Maximo Alonso de, Leon.—Flour. 657
- 1082 Provincial Deputation, Murcia.—Maize flour and rice. 657
- 1083 Pombo, Pedro, Abarca, Province of Palencia.—Wheat flour. 657
- 1084 Mora, Celestino Merino de la, Grijota, Province of Palencia.—Flour. 657
- 1085 Vega, Lucas Ortiz, Grijota, Province of Palencia.—Flour. 657
- 1086 Barrios, Marcelo, Grijota, Province of Palencia.—Flour. 657
- 1087 Ascoitia, Higinio de, Grijota, Province of Palencia.—Flour. 657
- 1088 Barrios, Rios & Co., Palencia.—Flour. 657
- 1089 Durango, Manuel Martinez, Husillos, Province of Palencia.—Flour. 657
- 1090 Dulce y Alvarez, Blas, Herrera de Valdecañas, Province of Palencia.—Flour. 657
- 1091 Sanchez, Basilio Igea, Peñaranda de Bracamonte, Province of Salamanca.—Flour. 657
- 1092 Villa Alcazar, Marquis of, Tejares, Province of Salamanca.—Flour. 657
- 1093 Carretero, E., Widow of, Segovia.—Flour. 657
- 1094 Carretero, Martin, Segovia.—Flour. 657
- 1095 Riber, Villa & Puerta, Segovia.—Flour. 657
- 1096 Saperas, Francisco, Reus, Province of Tarragona.—Flour and bran. 657
- 1097 Industrial Flour Mill of Reus, Province of Tarragona.—Flour and bran. 657
- 1098 Gatell y Folch, Juan, Altafulla.—Province of Tarragona.—Maize flour. 657
- 1099 Estéban, Francisco, Toledo.—Wheat flour. 657
- 1100 Huelbes y Ortis, Emilio, Ocaña, Province of Toledo.—Vetch flour. 657
- 1101 Martinez, Gomez & Co., Sueca, Province of Valencia.—Decorticated rice. 657
- 1102 Society "La Edetana," Province of Valencia.—Rice. 657
- 1103 Quemada, Juan de Dios, & Sons, Vitoria, Province of Valladolid.—Wheat flour. 657
- 1104 Hornedo y Velasco, Pedro, Valladolid.—Wheat flour. 657

Animal and Vegetable Products.

- 1105 Pardo, R. & P., Corcos, Province of Valladolid.—Wheat flour. 657
- 1106 La Patilla, Count of, Benavente, Province of Zamora.—Wheat flour. 657
- 1107 Palomar, Nasciso, Zaragoza.—Flour. 657
- 1108 Higuera, Tomàs, Zaragoza.—Flour. 657
- 1109 Segura, José, Sevilla.—Grits. 657
- 1110 Ribera, Guarnier & Bros., Alicante.—Vermicelli and fine pastes. 658
- 1111 Esteve, Juan M., Alicante.—Starch. 658
- 1112 Ponseti y Gomila, José, Mahon, Balearic Islands.—Soup paste. 658
- 1113 Batlló Bros., Barcelona.—Starch. 658
- 1114 Draper y Precios, Salvador, San Martin de Provencals, Province of Barcelona.—Starch. 658
- 1115 Provincial Board of Agriculture, Castellon.—Starch. 658
- 1116 Provincial Deputation, Murcia.—Soup pastes. 658
- 1117 Rey, Manuel Pereiro, Orense.—Fæcula of potatoes. 658
- 1118 Barrera, Pedro Garcia, Ciudad-Rodrigo, Province of Salamanca.—Starch. 658
- 1119 Carnero & Coisa, Salamanca.—Starch. 658
- 1120 Moro, José, Salamanca.—Starch. 658
- 1121 Mirat & Son, Salamanca.—Starch. 658
- 1122 Jarrin, Bernardo, Salamanca.—Soup pastes. 658
- 1123 Martinez Sainz Bros., Sevilla.—Soup pastes and starch. 658
- 1124 Gil, Gregorio, Valladolid.—Starch. 658
- 1125 Cuevas & Garcia, Valladolid.—Vermicelli. 658
- 1126 Castañeda, Romualdo Ruiz, Torralba de Calatrava, Province of Ciudad-Real.—Arrope (a kind of syrup). 659
- 1127 Rey, Luis Jouva, Granada.—Sugar and molasses. 659
- 1128 Torrent, Francisco, Almuñecar, Province of Granada.—Sugar. 659
- 1129 Huelin, Guillermo & Son, Málaga.—Unrefined sugar. 659
- 1130 Provincial Deputation, Murcia.—Jelly and syrup. 659
- 1131 Roca Bros., Murcia.—Pomegranate syrup. 659
- 1132 Mallet, Ildefonso, Zaragoza.—Oriental nectar. 659
- 1133 Central Commission of the Island of Cuba, Habana.—Sugar. 659
- 1134 Iznaga, Natividad, Habana, Cuba.—Sugar. 659
- 1135 Veguer y Nagüer, Juan, Habana, Cuba.—Sugar. 659
- 1136 Poey, Juan, Habana, Cuba.—Sugar and Guarapo, fermented sugar cane liquor. 659
- 1137 Girart, Nicolas, Regla, Cuba.—Sap of the sugar-cane. 659
- 1138 Capsir, José Damian, Puebla de Rugat, Province of Valencia.—Grape syrup. 659
- 1139 Gasco y Beltran, Joaquin, Zaragoza.—Raspberry syrup. 659
- 1140 Garcia Muñoz, Emilia Samá de, Habana, Cuba.—Sugar. 659
- 1141 Skiret Bros., San Juan de Puerto Rico.—Sugar. 659
- 1142 Balanzategui, Canuto, El Ciego, Province of Alava.—Red wine. 660
- 1143 Riscal de Alegre, Marquis of, El Ciego, Province of Alava.—Red wine. 660
- 1144 Tortosa, Joaquin, Hellin, Province of Albacete.—Brandy. 660
- 1145 Gil, Eloy, Hellin, Province of Albacete.—Wine. 660
- 1146 Lopez, Celestino, Tarazona de la Mancha, Province of Albacete.—Brandy. 660
- 1147 Aroca, José, Tarazona de la Mancha, Province of Albacete.—White wine. 660
- 1148 Lopez, Alonso, Tarazona de la Mancha, Province of Albacete.—Brandy. 660
- 1149 Sanchez, José Acacio, Tarazona de la Mancha, Province of Albacete.—Red wine. 660
- 1150 Pedraja, Bernardo Gomez, Tarazona de la Mancha, Province of Albacete.—Red wine. 660
- 1151 Fernandez, Antonio, Tarazona de la Mancha, Province of Albacete.—Red wine. 660
- 1152 Simarro, Miguel, Tarazona de la Mancha, Province of Albacete.—Red wine. 660
- 1153 Lara, Celestino Picazo, Tarazona de la Mancha, Province of Albacete.—Red wine. 660
- 1154 Tendero, Gerónimó, Tarazona de la Mancha, Province of Albacete.—Red wine. 660
- 1155 Picazo, Pedro Bautista, Tarazona de la Mancha, Province of Albacete.—Red wine. 660
- 1156 Serrano, María Rosa, Tarazona de la Mancha, Province of Albacete.—Red wine. 660
- 1157 Dénia, Rafael, Tarazona de la Mancha, Province of Albacete.—Red wine. 660
- 1158 Albi y Ginér, Antonio, Jabea, Province of Alicante.—Muscadel vinegar. 660
- 1159 Ferriz y Martinez, Cristóbal, Campo de Mirra, Province of Alicante.—Wine. 660
- 1160 Rojas Aguado, José, Agres, Province of Alicante.—Wine. 660
- 1161 Gumiel y Garcia, Luis, Aspe, Province of Alicante.—Anise-seed cordial. 660
- 1162 Romany, Vicente, & Sons, Dénia, Province of Alicante.—White wine. 660
- 1163 Albert, Antoliano Perez, Monóvar, Province of Alicante.—Wines and brandies. 660
- 1164 Campos, Eduardo, Alicante.—Wine. 660
- 1165 Alsina, José, Partido de Campello, Province of Alicante.—White and red wine. 660

Animal and Vegetable Products.

- 1166 Alenda, Antonio, & Son, Novelda, Province of Alicante.—Brandy. 660
- 1167 Almodóvar, Antonio Sanchez, Alicante.—Wines. 660
- 1168 Prast, Quereimon Alfonso, Monóvar, Province of Alicante.—Brandy. 660
- 1169 Vidal, Joaquín Calpena, Monóvar, Province of Alicante.—Red wine. 660
- 1170 Muñoz, Lorenzo Fernandez, San Juan, Province of Alicante.—Wine. 660
- 1171 Ortuño y Maestre, Juan Francisco, Salinas, Province of Alicante.—Wine. 660
- 1172 Verdú y Perez, Joaquín, Monóvar, Province of Alicante.—Wines. 660
- 1173 Leach, Giró & Co., Alicante.—White wines. 660
- 1174 Novelda, Tomás Escolano, Province of Alicante.—Brandy. 660
- 1175 Berenguer, Raimundo, Monóvar, Province of Alicante.—Sweet brandy. 660
- 1176 Cerdá, Enrique, Monóvar, Province of Alicante.—Vinegar. 660
- 1177 Verdú y Rico, Monóvar, Province of Alicante.—Vinegar. 660
- 1178 Perez Verdú Brothers, Monóvar, Province of Alicante.—Vinegar and wines. 660
- 1179 Paya, Ciro Perez, Monóvar, Province of Alicante.—Wines. 660
- 1180 Verdú, Marcial, Monóvar, Province of Alicante.—Red wine. 660
- 1181 Verdú y Cortés, Vedasto, Monóvar, Province of Alicante.—Vinegar. 660
- 1182 Verdú y Perez, Luis, Monóvar, Province of Alicante.—Wines. 660
- 1183 Rico, Antonio Perez, Monóvar, Province of Alicante.—Wines. 660
- 1184 Rico y Albert, Alejandro, Monóvar, Province of Alicante.—Wines. 660
- 1185 Verdú, Remedios Perez, Monóvar, Province of Alicante.—Vinegar and wines. 660
- 1186 Albert, Perez, & Co., Province of Alicante.—Vinegar and wines. 660
- 1187 Gisbert y Marco, Francisco, Ibi, Province of Alicante.—Red wine. 660
- 1188 Boculini, Juan Baeza, Alicante.—Red wine. 660
- 1189 Ferrer, Jaime, Alicante.—Vinegar. 660
- 1190 Faes Bros. & Co., Sax, Province of Alicante.—Anise-seed cordial and spirits of wine. 660
- 1191 Coquillat y Sempere, José, Elche, Province of Alicante.—Muscatel wine. 660
- 1192 Amorós, Juan Esteve, Monforte, Province of Alicante.—Wine. 660
- 1193 García, Luis Gumiel, Aspe, Province of Alicante.—Brandies. 660
- 1194 Agulló, Francisco Fuentes, & Bros., Elche, Province of Alicante.—Wines, vinegar, alcohol, and pomegranate wine. 660
- 1195 Pina, Juan Bautista, Monforte, Province of Alicante.—Mistela (national drink). 660
- 1196 Benito, Juan Pina, Monforte, Province of Alicante.—Wine. 660
- 1197 Scals, José, Jijona, Province of Alicante.—Wine. 660
- 1198 Somoza, Ramon Maria Nava, Moraleja Matcabras, Province of Avila.—White wine. 660
- 1199 Soria, Mariano, Nava del Rey, Province of Avila.—Vinegar. 660
- 1200 Davernat & Co., Velez-Rubio, Province of Almeria.—Fig-brandy. 660
- 1201 Abadia, Nicolas, Bros., Velez-Rubia, Province of Almeria.—Wines. 660
- 1202 Vilches & Jover, Alhama, Province of Almeria.—Wines and brandies. 660
- 1203 Trell y Chacon, Miguel del, Berja, Province of Almeria.—Wines. 660
- 1204 Daza y Ruiz, Francisco, Purchena, Province of Almeria.—Wines. 660
- 1205 Romero, Manuel Carbonero, Purchena.—Province of Almeria.—Wine. 660
- 1206 Roca, Bartolomé, Palma, Balearic Islands.—Brandies and wines. 660
- 1207 Viza, Agustin, Mahon, Balearic Islands.—Refined vinegar. 660
- 1208 Prohens, Damian, Felanitx, Balearic Islands.—Anise-seed cordial. 660
- 1209 Jaime, Miguel, Santa Maria, Balearic Islands.—Anise-seed cordial. 660
- 1210 Bisellach, Guillermo, Benisalen, Balearic Islands.—Wines. 660
- 1211 Munar, Gabriel, Benisalen, Balearic Islands.—Wines. 660
- 1212 Mulet, Antonio, Beñalbufar, Balearic Islands.—Malmsey wine. 660
- 1213 La Cenia, Marquis of, Beñalbufar, Balearic Islands.—Muscatel wine. 660
- 1214 Humbert, Nicasio, Llummayor, Balearic Islands.—Wines. 660
- 1215 Ferrant, Manuel, Barcelona.—Vinegar. 660
- 1216 Soler y Stussa, Valentin, Barcelona.—Wines and vinegars. 660
- 1217 Society Burchers, Pedro Miret, San Juan de Vilasar, Province of Barcelona.—Liquors. 660
- 1218 Ballester y de Torres, Laureano, Mediona, Province of Barcelona.—Wines. 660
- 1219 Castells de Mas, Joaquin Pedrosa de, Esparraguera, Province of Barcelona.—Wines. 660
- 1220 Valls, Pedro, & Viñas, Gospar, Esparraguera, Province of Barcelona.—Wines and liquors. 660
- 1221 Llampallas, Antonio, Masnou, Province of Barcelona.—Wines. 660
- 1222 Ventura y Sampere, Amado, Masnou, Province of Barcelona.—Liquors and anise seed cordial. 660
- 1223 Pascual, Miguel, Masnou, Province of Barcelona.—Wines. 660
- 1224 Golar y Sirasol, José, Villanueva y Geltrú, Province of Barcelona.—Red wine. 660
- 1225 Cusi y Ferret, Federico, Villanueva y Geltrú, Province of Barcelona.—Hygienic wine. 660
- 1226 Juandó y Rafecas, Juan, Villanueva y Geltrú, Province of Barcelona.—Wines. 660
- 1227 Marqués, Jerónimo, Villanueva y Geltrú, Province of Barcelona.—Wines. 660

Animal and Vegetable Products.

- 1228 Alegret, Francisco, Villanueva y Geltrú, Province of Barcelona.—Mistela (national drink). 660
- 1229 Solà, Félix, Villanueva y Geltrú, Province of Barcelona.—Red wine. 660
- 1230 Baro y Gibert, José, Villanueva y Geltrú, Province of Barcelona.—Virgin wine. 660
- 1231 Roig y Serra, Juan, Villanueva y Geltrú, Province of Barcelona.—Wines. 660
- 1232 Creux, Teodoro, Villanueva y Geltrú, Province of Barcelona.—Wines. 660
- 1233 Doderó y Ponte, José Oriol, Pomar de Badalona, Province of Barcelona.—Wines. 660
- 1234 Valenti, Joaquin, Cabrera de Mataró, Province of Barcelona.—Wine. 660
- 1235 Sivilla y Martorell, Narciso, Vilafranca de Panadés, Province of Barcelona.—Anise-seed wine. 660
- 1236 Girona, Silvestre, Vilafranca de Panadés, Province of Barcelona.—Anise-seed cordial. 660
- 1237 Olivella, Cristóbal, Vilafranca de Panadés, Province of Barcelona.—Imitation wines. 660
- 1238 Mullol, Buenaventura Rius, Vilafranca de Panadés, Province of Barcelona.—Wines. 660
- 1239 Escofet Nello, Margarita, Widow of, Province of Barcelona.—Macon wine and imitations. 660
- 1240 Font, Salvador, Mataró, Province of Barcelona.—Liquors. 660
- 1241 Palau, Joaquin de, Mataró, Province of Barcelona.—Wines. 660
- 1242 Monte, Pedro Prat del, Barcelona.—Florentine vermouth. 660
- 1243 Fontanals, José Teresa, Barcelona.—Beer. 660
- 1244 Sallés, Salvador, Barcelona.—Wine. 660
- 1245 Plá y Vila, Pedro, Barcelona.—Brandy. 660
- 1246 Oliver Bros., Barcelona.—Wines. 660
- 1247 Codina y Riu, Ramon, San Boy de Llobregat, Province of Barcelona.—Wine. 660
- 1248 Durán, Eduardo, San Vicente, Province of Barcelona.—Wine. 660
- 1249 Girona, Manuel, Villa de Cabals, Province of Barcelona.—Wine. 660
- 1250 Santacana, José, La Granada, Province of Barcelona.—Mistela wine. 660
- 1251 Deu, José, & Co., Masqueja y Martorell, Province of Barcelona.—Wine. 660
- 1252 Fornell y Batllaura, Juan, Abella, Province of Barcelona.—Wine. 660
- 1253 Oliver y Coll, Francisco, Papiol, Province of Barcelona.—Wine, liquors, and vinegar. 660
- 1254 Beltran y Rosell, Manuel, Igualada, Province of Barcelona.—Wine. 660
- 1255 Robira y Grau, Jose, San Martin de Sarroca, Province of Barcelona.—Wines and imitations. 660
- 1256 Barrera, Gabriel, Tayà, Province of Barcelona.—Wine. 660
- 1257 Bosch y Grau, José, Badalona, Province of Barcelona.—Brandy. 660
- 1258 Amelí y Carbonell, José, Sitges, Province of Barcelona.—Wine. 660
- 1259 Puig, José Buenaventura, Sitges, Province of Barcelona.—Muscatel and Malmsey wine. 660
- 1260 Ventalló y Llobateras, Domingo, Tarrasa, Province of Barcelona.—Wines. 660
- 1261 Castellet, Buenaventura, Tarrasa, Province of Barcelona.—Wines. 660
- 1262 Galí, Antonio, Tarrasa, Province of Barcelona.—Wines. 660
- 1263 Pons, Antonio Castells de, Esparraguera, Province of Barcelona.—Wines. 660
- 1264 Castell de Mas, Joaquin Pedrosa de, Esparraguera, Province of Barcelona.—Wine. 660
- 1265 Camprubí, Juan, Barcelona.—Liquor and anise-seed cordial. 660
- 1266 Puig & Llagosteras Bros., Barcelona.—Vinegar. 660
- 1267 Llobet, Antonio Maria, Barcelona.—Wine. 660
- 1268 Patiño, José Maria, Cabeza de Vaca, Province of Badajoz.—Wine. 660
- 1269 Carrasco, Alfonso, Guareña, Province of Badajoz.—Wine. 660
- 1270 Sifredi, Juan Bautista, Almen-dralejo, Province of Badajoz.—Brandy and wine. 660
- 1271 Paredes, Carlos, Guareña, Province of Badajoz.—Muscatel wine. 660
- 1272 Cortés, José Inocente, Guareña, Province of Badajoz.—Pedro Jimenez wine. 660
- 1273 Lopez, Aureliano, Badajoz.—Red and white wine. 660
- 1274 Benito y Reoyo, Genaro, Búrgos.—Brandy. 660
- 1275 Regulez, Dionisio, Miranda de Ebro, Province of Búrgos.—Wine. 660
- 1276 San Roman, Agustin Lopez de, Valle de Mena, Province of Búrgos.—Red and white wine. 660
- 1277 Goya y Lopez, Marcelino, Búrgos.—Vinegar. 660
- 1278 Franco, Ramon Santivañez, Casar de Palomero, Province of Cáceres.—Wine. 660
- 1279 Olivares, Jeronimo Sande, Garrovillas, Province of Cáceres.—Wine. 660
- 1280 Bustamante, Bernardino, Villamiel, Province of Cáceres.—Wine. 660
- 1281 Bacas y Estévez, Ignacio, Cilleros, Province of Cáceres.—Wine. 660
- 1282 Herran & Co., Jerez de la Frontera, Province of Cadiz.—Wine. 660
- 1283 Troya, Ildefonso, Prado del Rey, Province of Cadiz.—Wine. 660
- 1284 Hontoria y Tezanos, Joaquin, Sanlúcar, Province of Cadiz.—Wine. 660
- 1285 Hidalgo y Verjano, Eduardo, Sanlúcar, Province of Cadiz.—Wines and vinegar. 660
- 1286 Blanco, Antonio, Prado del Rey, Province of Cadiz.—Wine. 660
- 1287 Argüeso y Argüeso, Leon de, Sanlúcar, Province of Cadiz.—Wine. 660

Animal and Vegetable Products.

- 1288 Martinez, Antonio, Sanlúcar, Province of Cadiz.—Wine. 660
- 1289 Linares y Obeso, Diego, Sanlúcar, Province of Cadiz.—Wine. 660
- 1290 Urmeneta, Fermin de, Chiclana, Province of Cadiz.—Brandy. 660
- 1291 Sanchez, Antonio, Chiclana, Province of Cadiz.—Wine. 660
- 1292 Rivas, Francisco Martinez de, Chiclana, Province of Cadiz.—Wine. 660
- 1293 Hugues, Guillermo H., Puerto de Santa Maria, Province of Cadiz.—Wine. 660
- 1294 Alvarez, Serafin, Puerto de Santa Maria, Province of Cadiz.—Wine. 660
- 1295 Segundo, Federico, Puerto de Santa Maria, Province of Cadiz.—Wine. 660
- 1296 Rudolph, Federico, Puerto de Santa Maria, Province of Cadiz.—Wine. 660
- 1297 Carli, Ramon, Puerto de Santa Maria, Province of Cadiz.—Wine. 660
- 1298 Pico, José Maria, Puerto de Santa Maria, Province of Cadiz.—Wine. 660
- 1299 Pró, José Maria, Puerto de Santa Maria, Province of Cadiz.—Wine. 660
- 1300 Parilla, José de Puentes, Jerez de la Frontera, Province of Cadiz.—Wine. 660
- 1301 Gonzalez, Biass & Co., Jerez de la Frontera, Province of Cadiz.—Wines. 660
- 1302 Santarelli Bros., Jerez de la Frontera, Province of Cadiz.—Wines. 660
- 1303 Lopez, Juan Antonio, Widow of, Jerez de la Frontera, Province of Cadiz.—Wines. 660
- 1304 Lebrun & Co., La Orotava, Canary Islands.—Wines. 660
- 1305 Davison, Guillermo, & Co., La Orotava, Canary Islands.—Wines. 660
- 1306 Carpenter & Co., La Orotava, Canary Islands.—Wines. 660
- 1307 Bruce, Hamilton, & Co., La Orotava, Canary Islands.—Wines. 660
- 1308 Monteverde, Antonio, La Orotava, Canary Islands.—Wine. 660
- 1309 Tolosa, Fernando, La Orotava, Canary Islands.—Wine. 660
- 1310 Lopez, Juan José Barriuso, La Victoria, Canary Islands.—Wines and brandies. 660
- 1311 Diego, Wood & Co., Las Palmas, Canary Islands.—Wines. 660
- 1312 Castillo y Olivares, José del, Las Palmas, Canary Islands.—Wines. 660
- 1313 Vega Grande, Count of, Las Palmas, Canary Islands.—Wine. 660
- 1314 Avilés, Nicolás, Las Palmas, Canary Islands.—Wine. 660
- 1315 Quevedo y Perez, José C., Isle of Gran Canaria, Canary Islands.—Wines. 660
- 1316 Gourié, Alfonso, Las Palmas, Canary Islands.—Wines. 660
- 1317 Quintana, Juan de, Las Palmas, Canary Islands.—Wine. 660
- 1318 Massieu, Domingo, Balsequillo, Canary Islands.—Wine. 660
- 1319 Peraza, Alejandro, Granadilla, Canary Islands.—Wine. 660
- 1320 Llovera y Llovet, Vicente, Masia de Cucalon, Province of Castellon.—Wine. 660
- 1321 Villores, Marquis of, Torreblanco, Province of Castellon.—Wines. 660
- 1322 Vilanova y Piera, Pascual, Alcalá de Chisvert, Province of Castellon.—Wines. 660
- 1323 Provincial Board of Agriculture, Borriol, Province of Castellon.—Vinegar and wines. 660
- 1324 Ripolles y Perez, Manuel, Castellon.—Brandies. 660
- 1325 Gascó, F. B., Castellon.—Brandy. 660
- 1326 Climent, Vicente, Castellon.—Wines. 660
- 1327 Cloramunt, Hilarion, Vinaroz, Province of Castellon.—Wines. 660
- 1328 Mazorra, Mateo, & Son, Valdepeñas, Province of Ciudad-Real.—Wine. 660
- 1329 Mazarron, Miguel, Valdepeñas, Province of Ciudad-Real.—Wines. 660
- 1330 Mudela, Marquis of, Valdepeñas, Province of Ciudad-Real.—Wines. 660
- 1331 Fraile, Maria de la Asuncion, Valdepeñas, Province of Ciudad-Real.—Wines. 660
- 1332 Peinado y Lasa, Tiburcio, Tomesollo, Province of Ciudad-Real.—Brandy. 660
- 1333 Villena y Parra, Sinforiano, Tomesollo, Province of Ciudad-Real.—Brandy and spirits of wine. 660
- 1334 Ramirez, Primo, Tomesollo, Province of Ciudad-Real.—Brandy and spirits of wine. 660
- 1335 Gijon, Trinidad, Torralba, Province of Ciudad-Real.—Wine. 660
- 1336 Delgado y Palacios, Juan, Ciudad-Real.—Alcohol and anise-seed cordial. 660
- 1337 Ruiz, Romualdo, Torralba, Province of Ciudad-Real.—Wines. 660
- 1338 Medraño, José, Ciudad-Real.—Wine. 660
- 1339 Soria, Marciano de, Valdepeñas, Province of Ciudad-Real.—Wine. 660
- 1340 Avansay, Hipólito, & Son, Valdepeñas, Province of Ciudad-Real.—Wine. 660
- 1341 Blanco y Alcalde, Rafael, Cabra, Province of Córdoba.—Wine. 660
- 1342 Carretero, Pedro, Córdoba.—Wine. 660
- 1343 Molina, Isidro, Rute, Province of Córdoba.—Wine. 660
- 1344 Perez, Diego Eciija, Rute, Province of Córdoba.—Brandy. 660
- 1345 Ruiz, Francisco Moreno, Doña Mencía, Province of Córdoba.—Brandy. 660
- 1346 Calvo, José Maria, Cabra, Province of Córdoba.—Brandies. 660
- 1347 Rubio, José Calvo, Aguilar, Province of Córdoba.—Montilla wine. 660
- 1348 Várgas, Sebastian, Villaviciosa, Province of Córdoba.—Wines. 660
- 1349 Infante, José Escobar, Villaviciosa, Province of Córdoba.—Wine. 660
- 1350 Arribas, Antonio Escobar, Villaviciosa, Province of Córdoba.—Wine. 660

Animal and Vegetable Products.

- 1351 Mòdenes, Juan, R., Baena, Province of Córdoba.—Wines. 660
- 1352 Neges, Francisco de Paula, Baena, Province of Córdoba.—Wine. 660
- 1353 Fernandez, Francisco, Baena, Province of Córdoba.—Wine. 660
- 1354 Salas, Francisco Solano, Montilla, Province of Córdoba.—Montilla wine. 660
- 1355 Jurado, José, Montilla, Province of Córdoba.—Montilla wine. 660
- 1356 Raigon, Antonio, Montilla, Province of Córdoba.—Montilla wine. 660
- 1357 Navarro, Antonio José, Montilla, Province of Córdoba.—Montilla wine. 660
- 1358 Alvear, Carlos, Montilla, Province of Córdoba.—Montilla wine. 660
- 1359 Alvear y Ward, Francisco, Montilla, Province of Córdoba.—Montilla wine. 660
- 1360 Polo, Bartolomé, Montilla, Province of Córdoba.—Montilla wine. 660
- 1361 Canela, José, Lucena, Province of Córdoba.—Montilla wine. 660
- 1361^a Canela, Antonio, Lucena, Province of Córdoba.—Montilla wine. 660
- 1362 Sotomayor, Eduardo Alvarez, Lucena, Province of Córdoba.—Wine. 660
- 1363 Valle, José Muñoz, Lucena, Province of Córdoba.—Wine. 660
- 1364 Valenzuela, José Valle, Lucena, Province of Córdoba.—Wine. 660
- 1365 Algar, José Ruiz de, Lucena, Province of Córdoba.—Wine. 660
- 1366 Gallardo, José, Montilla, Province of Córdoba.—Wines. 660
- 1367 Villalba y Sotomayor, Manuel, Montilla, Province of Córdoba.—Montilla wine. 660
- 1368 La Corte, Marquis of, Cabra, Province of Córdoba.—Wines. 660
- 1369 López, Pedro, Córdoba.—Wine. 660
- 1370 Neyralores, Gerardo, Fao, Province of La Coruña.—White wine. 660
- 1371 Bustindui, José Antonio, San Clemente, Province of Cuenca.—Wines. 660
- 1372 Moreno, Domingo, Tarancon, Province of Cuenca.—Wine. 660
- 1373 Retamoso, Count of, Tarancon, Province of Cuenca.—Wine and brandy. 660
- 1374 Torre y Salto, Antonio de la, Tarancon, Province of Cuenca.—Red wine. 660
- 1375 Valera, Julian Martinez, Chilaron, Province of Cuenca.—Red wine. 660
- 1376 Carné, José, Tarancon, Province of Cuenca.—Red wine. 660
- 1377 Escobar y del Campo, Francisco, Rubielos Bajos, Province of Cuenca.—Red wine. 660
- 1378 Vilaret, Agustin, Blanes, Province of Gerona.—Malmsey wine. 660
- 1379 Descals, Francisco Puig, Rozar, Province of Gerona.—Wine. 660
- 1380 Vega y Tejada, Ezequiel de la, Guadalajara.—Wines. 660
- 1381 Martinez, Gregorio Garcia, Guadalajara.—Wine. 660
- 1382 Reyes, Juan A., Guadalajara.—Wine. 660
- 1383 Muñoz y Mendez, Eugenio, Humanes, Province of Guadalajara.—Wine. 660
- 1384 Martí, Diego Garcia, Guadalajara.—Wines. 660
- 1385 Iñiguez, José, Gibrleon, Province of Huelva.—Wine and brandy. 660
- 1386 Cepeda, Ignacio de, Almonte, Province of Huelva.—Wine and vinegar. 660
- 1387 Roldan, Manuel Moreno, Almonte, Province of Huelva.—Wine. 660
- 1388 Acebedo, Francisco, Almonte, Province of Huelva.—Manzanilla wine. 660
- 1389 Lagarú, Francisco, Almonte, Province of Huelva.—White wine. 660
- 1390 Gonzalez, Nicolás Gomez, Huelva.—Wines and brandy. 660
- 1391 Cueva, Fernando de la, Huelva.—Wines and brandy. 660
- 1392 Diaz y Gomez, Eduardo, Huelva.—Wines. 660
- 1393 Mesa, Francisco Carrion, Huelva.—Brandy and anise-seed cordial. 660
- 1394 Martin & Colombo, Huelva.—Alcohol and brandy. 660
- 1395 Lopez, Luis Maria, Huelva.—White wine. 660
- 1396 Quintero, Juan Garcia, Huelva.—Vinegar. 660
- 1397 Torre y Figueroa, Antonio de la, Huelva.—Red wine. 660
- 1398 Penillos, Garcia & Co., Bollullos, Province of Huelva.—Wines. 660
- 1399 Society "Palma y Quesada," Aguilar, Province of Córdoba.—Wines. 660
- 1400 Garcia y Ruiz, Pedro, Bollullos, Province of Huelva.—Wines. 660
- 1401 Neble, José Maria, Bollullos, Province of Huelva.—Wines. 660
- 1402 Garcia, Pedro, Bollullos, Province of Huelva.—Wines. 660
- 1403 Dominguez, Francisco, Bollullos, Province of Huelva.—Brandies. 660
- 1404 Molina, Federico, Rociana, Province of Huelva.—Wine, vinegar, and arlope (national drink). 660
- 1405 Carrasco, José Maria, Donares, Province of Huelva.—Wine and vinegar. 660
- 1406 Pinzon, Luis H., Moguer, Province of Huelva.—Wine and brandy. 660
- 1407 Gimenez de Tejada Bros., Moguer, Province of Huelva.—Wines and vinegar. 660
- 1408 Gimenez de Tejada, Servando, Moguer, Province of Huelva.—Wines and vinegar. 660
- 1409 Flores, Antonio, Moguer, Province of Huelva.—Wines and brandy. 660
- 1410 Ramirez, Francisco Perez, Moguer, Province of Huelva.—Wines. 660
- 1411 Carmona, José Gomez, Moguer, Province of Huelva.—Wines and alcohol. 660
- 1412 Iñiguez, Rafael, Moguer, Province of Huelva.—Wines. 660

Animal and Vegetable Products.

- 1413 Thorices, Basilio, Moguer, Province of Huelva.—Wines and vinegar. 660
- 1414 Thorices, Francisco R., Moguer, Province of Huelva.—Wines and vinegar. 660
- 1415 Gonzalez, Manuel, Moguer, Province of Huelva.—Wine and vinegar. 660
- 1416 Soldan, Antonio, La Palma, Province of Huelva.—Wines and brandy. 660
- 1417 Martinez, Eduardo, La Palma, Province of Huelva.—Wines. 660
- 1418 Cepeda, Manuel, La Palma, Province of Huelva.—Wines. 660
- 1419 Cueva, Manuel de la, La Palma, Province of Huelva.—Anise-seed cordial and brandy. 660
- 1420 Pinzon, Rafael Iñiguez, Manzanilla, Province of Huelva.—Wines. 660
- 1421 Marquez, Rufino José, Manzanilla, Province of Huelva.—Wines. 660
- 1422 Estrado, Diego P., Manzanilla, Province of Huelva.—Wine. 660
- 1423 Rivera, Antonio Marquez, Manzanilla, Province of Huelva.—Wines. 660
- 1424 Mercado, Manuel, Manzanilla, Province of Huelva.—Wines. 660
- 1425 Rodriguez, José Trigueros, Province of Huelva.—Wines. 660
- 1426 Cecero y Barreda, Emilio, Trigueros, Province of Huelva.—Wine. 660
- 1427 Montiel, Eliezer, Trigueros, Province of Huelva.—Wines. 660
- 1428 Zambrano, José Antonio, Villalba del Alcor, Province of Huelva.—Wines and vinegar. 660
- 1429 Espina, José Maria, Villalba del Alcor, Province of Huelva.—Vinegar. 660
- 1430 Oliver, D. L., Huesca.—Wines. 660
- 1431 Arnal, Dionisio, Castelflorite, Province of Huesca.—Claret. 660
- 1432 Beótegui, Fernando, Sena, Province of Huesca.—Claret. 660
- 1433 Salinas, Francisco, Castelflorite, Province of Huesca.—Wine. 660
- 1434 Laguna, Alejandro, Grañen, Province of Huesca.—Wines and claret. 660
- 1435 Budios, Leon, Sariñena, Province of Huesca.—Wine. 660
- 1436 Sampietra, Antonio, Sariñena, Province of Huesca.—Wine. 660
- 1437 Bastarás, Antonio, Lanaja, Province of Huesca.—Wine. 660
- 1438 Lasheras, Manuel, Alcubierre, Province of Huesca.—Claret. 660
- 1439 Lacruz, Francisco, Alcubierre, Province of Huesca.—Wine and claret. 660
- 1440 Adrid, Antonio, Alcubierre, Province of Huesca.—Claret. 660
- 1441 Calvo, Antonio, Poleñino, Province of Huesca.—Claret. 660
- 1442 Lasier, Joaquín, Pallazuela, Province of Huesca.—Claret. 660
- 1443 Lasier, Francisco, Pallazuela, Province of Huesca.—Claret. 660
- 1444 Lacruz, Antonio, Alcubierre, Province of Huesca.—Red wine. 660
- 1445 Ruata, Juan, Alcubierre, Province of Huesca.—Claret. 660
- 1446 Casamayor, Manuel, Alcubierre, Province of Huesca.—Red wine. 660
- 1447 Vasquez, Francisco, Cazorla, Province of Jaen.—Red wine. 660
- 1448 Marin, José, Cazorla, Province of Jaen.—Red wine. 660
- 1449 Almagro, Sebastian Cañada, Jaen.—San Vicente wine, brandy, and ratafia. 660
- 1450 Las Almenas, Count of, Espeluy, Province of Jaen.—White wine. 660
- 1451 Corporation of Arganza, Province of Leon.—Wines. 660
- 1452 Fernandez, José, Sahagan, Province of Leon.—Wines. 660
- 1453 Martinez, Lucas Prado, Galleguillos, Province of Leon.—Wine. 660
- 1454 Isla, Pedro, Benazolbe, Province of Leon.—Wine. 660
- 1455 Corporation of Valdefresno, Province of Leon.—Red wine. 660
- 1456 Corporation of Armunia, Province of Leon.—Red wine. 660
- 1457 Corporation of Valverde del Camino, Province of Leon.—Red wine. 660
- 1458 Corporation of Villaturiel, Province of Leon.—Red wine. 660
- 1459 Corporation of Valdemimbre, Province of Leon.—Red wine. 660
- 1460 Corporation of Pajares de los Oteros, Province of Leon.—Red wine. 660
- 1461 Corporation of Ponferrada, Province of Leon.—White wine. 660
- 1462 Corporation of Congosto, Province of Leon.—White wine. 660
- 1463 Bustamente, Angel Maria, Astorga, Province of Leon.—Anise-seed cordial. 660
- 1464 Bon, Ramon, Vinaixa, Province of Lérida.—Wine. 660
- 1465 Alós, Francisco, Balaguer, Province of Lérida.—Wine. 660
- 1466 Codina, Ramon, Belloch, Province of Lérida.—Wine. 660
- 1467 Reixados, Antonio, Lérida.—Wine. 660
- 1468 Corporation of Vinaixa, Lérida.—Wine. 660
- 1469 Rubea, Miguel, Barbens, Province of Lérida. 660
- 1470 Lamolla Bros., Lérida.—Anise-seed cordial. 660
- 1471 Ochoa & Bro., Cervera del Rio Alhama, Province of Logroña.—Claret. 660
- 1472 Poves y Quintano, Galo de, Allauri, Province of Logroña.—Red wine. 660
- 1473 Caballero, Andrés, Cenicero, Province of Logroña.—Wine. 660
- 1474 Pascual y Caballero, Pedro, Cenicero, Province of Logroña.—Wine. 660
- 1475 Artacho, Juan Bautista, Cenicero, Province of Logroña.—Wine. 660
- 1476 Bobadilla, Natalio, Fernandez, Cenicero, Province of Logroña.—Wine. 660
- 1477 Bujanda, Pablo, Cenicero, Province of Logroña.—Wine. 660
- 1478 Sotes, Angel, Cenicero, Province of Logroña.—Wine. 660
- 1479 Nalda, Pedro García, Cenicero, Province of Logroña.—Wine. 660

Animal and Vegetable Products.

- 1480 Olavarrieta, Manuel Saenz, Cenicerero, Province of Logroño.—Wine. 660
- 1481 Bazan, V. Celestino, Cenicerero, Province of Logroño.—Wine. 660
- 1482 Mata, Trinidad de la, Alfaro, Province of Logroño.—Anise-seed cordial, liquors, and gin. 660
- 1483 Estéfani, Joaquin Gonzalez, Cuzcurrita, Province of Logroño.—Champagne. 660
- 1484 Cirat y Villafranqueza, Count of, Haro, Province of Logroño.—Medoc. 660
- 1485 Ozalla, Tomás, & Barona, Felix, Treviana, Province of Logroño.—Claret. 660
- 1486 Zubia, Ildefonso, Logroño.—Sherry. 660
- 1487 Andrade, Andrés, Velacha, Province of Lugo.—Red wine. 660
- 1488 Varela, Manuel Diaz, Monforte, Province of Lugo.—Wine. 660
- 1489 Guitian, José, Amandi, Province of Lugo.—Wine. 660
- 1490 Pascual, Widow & Sons of, Madrid.—Champagne and liquors. 660
- 1491 Garcia y Garcia, Manuel, Arganda del Rey, Madrid.—Wine and brandy. 660
- 1492 Cortés, Balbino, Madrid.—Wines. 660
- 1493 San Roman, Agustin Lopez de, Navalcarnero, Province of Madrid.—Red wine and brandy. 660
- 1494 Calatrava, Francisco Garcia, Alcobendas, Province of Madrid.—Muscatel wine and vinegar. 660
- 1495 Navas, Manuel Garcia, Málaga.—Brandy. 660
- 1496 Pino y Gomez, Julio del, Málaga.—Brandy. 660
- 1497 Bueno, Joaquin, & Co., Málaga.—Brandy, wine and liquors. 660
- 1498 Romero, Ramon Garcia, Málaga.—Wine. 660
- 1499 Morales, Pedro, & Co., Ojen, Province of Málaga.—Brandy. 660
- 1500 Muñoz, Atodorado, Chapera, Province of Málaga.—Wines. 660
- 1501 Saenz, I., Ronda, Province of Málaga.—Wines. 660
- 1502 Menchero, Eduardo, Cartagena, Province of Murcia.—Orange wine. 660
- 1503 Ferro, Bartolomé, Cartagena, Province of Murcia.—Wine. 660
- 1504 Gil, Antonio Marsilla, Bullas.—Province of Murcia.—Anise-seed milk and brandy. 660
- 1505 Roca Bros., Murcia.—Wines. 660
- 1506 Spottorno, Bartolomé, Cartagena, Province of Murcia.—Wine. 660
- 1507 Castilla, Camilo, Corella, Province of Navarra.—Wines. 660
- 1508 Gimenez, Babil, Tafalla, Province of Navarra.—Wine and brandy. 660
- 1509 Orduña, Calisto, Cascante, Province of Navarra.—Wines. 660
- 1510 Leizaur y Rodriguez, Gabino, Peralta, Province of Navarra.—Wine. 660
- 1511 Anta y Temes, Federico, Orense.—Wines. 660
- 1512 Bobo, Feliciano Perez, Orense.—Wines. 660
- 1513 Amor, Bernardo, Orense.—Wines. 660
- 1514 Romero, Javier, Orense.—Vinegar and brandy. 660
- 1515 Vasquez, José, Orense.—Wine, vinegar, and brandy. 660
- 1516 Leis, Widow of the Marquis of, Orense.—Wines. 660
- 1517 Montenegro, Antonio, Orense.—Wine. 660
- 1518 Mayo, Ignacio Anta, Orense.—Wine and brandy. 660
- 1519 Diaz, Laureano Balbis, San Ciprian de Viñas, Province of Orense.—Wine. 660
- 1520 Muñoz, Federico Rodriguez, San Ciprian de Viñas, Province of Orense.—Wine. 660
- 1521 Rapela, Laureano Diaz, San Ciprian de Viñas, Province of Orense.—Wine. 660
- 1522 Gogueira y Diaz, Manuel, San Ciprian de Viñas, Province of Orense.—Wines. 660
- 1523 Diaz, Camila, San Ciprian de Viñas, Province of Orense.—Wine. 660
- 1524 Fernandez y Conde, Pedro, San Ciprian de Viñas, Province of Orense.—Wine. 660
- 1525 Novoa, Manual Ramiro, San Ciprian de Viñas, Province of Orense.—Wine. 660
- 1526 Rapela, Manuel, San Ciprian de Viñas, Province of Orense.—Wine. 660
- 1527 Mosquera, Antonio, Coles, Province of Orense.—Wine. 660
- 1528 Mendez, Urbano Moreno, Verin, Province of Orense.—Wine. 660
- 1529 Garcia, Jacobo André, Verin, Province of Orense.—Wine. 660
- 1530 Moreno, Ramon Sanchez, Verin, Province of Orense.—Wine. 660
- 1531 Velasco, Manuel de, Verin, Province of Orense.—Wine. 660
- 1532 Salgado, Pedro Antonio, Barco de Valdeorras, Province of Orense.—Wine. 660
- 1533 Salgado, Carlos, Barco de Valdeorras, Province of Orense.—Wine. 660
- 1534 Salgado, Joaquin Maria, Widow of, Barco de Valdeorras, Province of Orense.—Wine. 660
- 1535 Alba, Telesforo, Barco, de Valdeorras, Province of Orense.—Wine. 660
- 1536 Rivera, Ramon, Sejalbo, Province of Orense.—Wine. 660
- 1537 Gonzalez, Antonio, Sejalbo, Province of Orense.—Wine. 660
- 1538 Riobóo, José Fernandez, Sejalbo, Province of Orense.—Wine. 660
- 1539 Bastos, Manuel Fernandez, Rivadavia, Province of Orense.—Wine. 660
- 1540 Estévez, José Vila, Rua de Valdeorras, Province of Orense.—Wine. 660
- 1541 Mouré, Manuel, Rua de Valdeorras, Province of Orense.—Wines. 660
- 1542 Losada, Maria Josefa, Rua de Valdeorras, Province of Orense.—Wine. 660

Animal and Vegetable Products.

- 1543 Rey, Manuel Pereyro, Canedo, Province of Orense.—Wine. 660
- 1544 Labarta, Miguel, Canedo, Province of Orense.—Wines and vinegar. 660
- 1545 Vila, Francisco, Viana del Bollo, Province of Orense.—Wine. 660
- 1546 Bahamonde, Antonio Varela G., Castello de Miño, Province of Orense.—Wines. 660
- 1547 Gonzalez, Francisco, Petin, Province of Orense.—Wines. 660
- 1548 Diz, Manuel Fernandez, San Ciprian de Viñas, Province of Orense.—Wine. 660
- 1549 Board of Agriculture, Oviedo.—Cider. 660
- 1550 Zarracina, Tomás, Gijon, Province of Oviedo.—Cider. 660
- 1551 Dominguez, Miguel, Palencia.—Wine. 660
- 1552 Herrero, Pedro Romero, Palencia.—Wine. 660
- 1553 Cachurro, Modesto, & Bro., Duernas, Province of Palencia.—Wines. 660
- 1554 Gutierrez, Juan Francisco, Palencia.—Wine. 660
- 1555 Balbas, José, Torquemada, Province of Palencia.—Wine. 660
- 1556 Palomino, Toribio, Torquemada, Province of Palencia.—Wine. 660
- 1557 Mora, José Manuel, Melogar de Yuso, Province of Palencia.—Wines. 660
- 1558 Monedero, Joaquin, Cevico de la Torre, Province of Palencia.—Wine. 660
- 1559 Martin, Francisco Garcia, Duernas, Province of Palencia.—Wines. 660
- 1560 Sutelo & Veiga, Redondela, Province of Pontevedra.—Wines. 660
- 1561 Almansa, Eulogio Troncoso de, Puenteareas, Province of Pontevedra.—Wines. 660
- 1562 Blanco, Joaquin A. Piñeiro, Mourente, Province of Pontevedra.—Wines and vinegar. 660
- 1563 Onis, Federico, Cantalapedra, Province of Salamanca.—Wines. 660
- 1564 Sierra, Viesca de la, Marquis of, Fregeneda, Province of Salamanca.—Port wine. 660
- 1565 Hortal, Ignacio, Fregeneda, Province of Salamanca.—Sweet wines. 660
- 1566 Corbalan, Juan, Saucelle, Province of Salamanca.—Wine. 660
- 1567 Martin, Lorenzo Calvo, Mogarraz, Province of Salamanca.—Wine. 660
- 1568 Hernandez, Ramon, Salamanca.—Rum and liquors. 660
- 1569 Gutierrez, Vicente, Reinosa, Province of Santander.—Gin. 660
- 1570 Cortines, Celis, Santander.—Liquors. 660
- 1571 Rasilla, José, Los Corrales, Province of Santander.—Liquors and wines. 660
- 1572 Ibarra, J. M., & Sons, Sevilla.—Wines. 660
- 1573 Penillos, Garcia & Co., Sevilla.—Wines. 660
- 1574 Valencia, José, Sevilla.—Wines. 660
- 1575 Olmedo, Juan, Sevilla.—Wine, liquor, and vinegar. 660
- 1576 Bordallo, Rodrigo, Sevilla.—Wine, liquors, and brandy. 660
- 1577 Huerta, Constantino de la, Sevilla.—Wine and vinegar. 660
- 1578 La Motilla, Marquis of, Sevilla.—White wine. 660
- 1579 Galindo, Widow of, Valencia, Province of Sevilla.—Wine and liquors. 660
- 1580 Silva & Arcos, Espartinas, Province of Sevilla.—Wines. 660
- 1581 Mayorga, Ramon Diaz, Moron, Province of Sevilla.—White wine and vinegar. 660
- 1582 Alvarez, José, Constantina, Province of Sevilla.—Wine and brandy. 660
- 1583 Rosa y Silva, José de la, Villamanrique, Province of Sevilla.—Wine and brandy. 660
- 1584 Romero, Enrique, Constantina, Province of Sevilla.—Brandy. 660
- 1585 Olmo, Sebastian del, Constantina, Province of Sevilla.—Brandy. 660
- 1586 Salcedo, José J. Gonzalez de, Constantina, Province of Sevilla.—Wine. 660
- 1587 Torres, Juan Lainez, Arahal, Province of Sevilla.—Wine. 660
- 1588 Capdevila, José Diaz, Arahal, Province of Sevilla.—Wine. 660
- 1589 Reina, Manuel Arias, Arahal, Province of Sevilla.—Wine. 660
- 1590 Zerpa, José, Villanueva del Ariscal, Province of Sevilla.—Wine. 660
- 1591 Amores, Manuel, Villanueva del Ariscal, Province of Sevilla.—Wine and vinegar. 660
- 1592 Lucena, Nicolás, Osuna, Province of Sevilla.—Wine. 660
- 1593 Celis, José G. de, Salteras, Province of Sevilla.—Wine. 660
- 1594 Arenas, Antonio Rivas, Cantillana, Province of Sevilla.—Brandy. 660
- 1595 Valle y Villar, Luis del, Lebrija, Province of Sevilla.—Wine. 660
- 1596 Rabio, Juan Miguel, Dos-Hermanos, Province of Sevilla.—Wine. 660
- 1597 Olivencia Bros., Olivares, Province of Sevilla.—Wine. 660
- 1598 Liendo, Manuel, Gines, Province of Sevilla.—Wine. 660
- 1599 Cotan, Antonio García, Olivares, Province of Sevilla.—Vinegar. 660
- 1600 Siscar, Ramon, La Canonja, Province of Tarragona.—Wine. 660
- 1601 Robers, Sebastian Garcia de, Scala Dei, Province of Tarragona.—Wine. 660
- 1602 Peira y Mach, Agustin, Scala Dei, Province of Tarragona.—Wine. 660
- 1603 Gotell y Folch, Juan, Altafulla, Province of Tarragona.—Wine and vinegar. 660
- 1604 Grás, Pedro, Reus, Province of Tarragona.—Wine. 660
- 1605 Boulé, José, Reus, Province of Tarragona.—Wine and garriacha (national drink). 660
- 1606 Soberano & Co., Reus, Province of Tarragona.—Wine. 660

Animal and Vegetable Products.

- 1607 Fumaña Bros., Reus, Province of Tarragona.—Wine. 660
- 1608 Abelló & Son, Reus, Province of Tarragona.—Wine. 660
- 1609 Gil, Francisco, Reus, Province of Tarragona.—Wine. 660
- 1610 Martí y Badia, Ramon, Reus, Province of Tarragona.—Mistela (national drink) and spirits of wine. 660
- 1611 Plá, Francisco, Reus, Province of Tarragona.—Spirits of wine and anise-seed cordial. 660
- 1612 Pujol y Salvat, Francisco, Reus, Province of Tarragona.—Garnacha (national drink) and muscatel wine. 660
- 1613 Esteve, A., Widow & Son of, Reus, Province of Tarragona.—Vinegar and alcohol. 660
- 1614 Sirvent y Oliver, Pedro, Reus, Province of Tarragona.—Wine and spirits of wine. 660
- 1615 Clariano, Rafael, Reus, Province of Tarragona.—Wine. 660
- 1616 Montagut, José, Reus, Province of Tarragona.—Wine and vinegar. 660
- 1617 Fonts, Mariano, Reus, Province of Tarragona.—Wine. 660
- 1618 Avelló y Boada, Pablo, Reus, Province of Tarragona.—Wine. 660
- 1619 Pujol, José Odena, Reus, Province of Tarragona.—Muscatel wine. 660
- 1620 Valero, Francisco, Reus, Province of Tarragona.—Port wine. 660
- 1621 Rocamora, Pablo, Reus, Province of Tarragona.—Anise-seed brandy. 660
- 1622 Domingo, Tomás, Reus, Province of Tarragona.—Brandy and wine. 660
- 1623 Potan y Mico, Antonio, Vimbodi, Province of Tarragona.—Wine. 660
- 1624 Estradé y Alsamora, José, Vimbodi, Province of Tarragona.—Wine. 660
- 1625 Plassa y Alfonso, José, Vimbodi, Province of Tarragona.—Mistela (national drink). 660
- 1626 Roig y Sancho, Isidro, Vimbodi, Province of Tarragona.—Mistela (national drink). 660
- 1627 Aragonés, Ramon Zamora, Poboleda, Province of Tarragona.—Garnacha (national drink) and wine. 660
- 1628 Figuerolo, Juan, Tarragona.—Wine. 660
- 1629 Morera y Pulles, A., & Son, Tarragona.—Wine and imitations, anise-seed cordial, and garnacha (national drink). 660
- 1630 Carey Bros. & Co., Tarragona.—Wine and imitations. 660
- 1631 Montoliu, Placido Maria de, Moredell, Province of Tarragona.—Wine. 660
- 1632 Sardá, Pablo, Tarragona.—Wine. 660
- 1633 Consul & Virgili, Tarragona.—Wine. 660
- 1634 Nogues, Romeu & Co., Tarragona.—Wine and brandy. 660
- 1635 Oliva, Gregorio, Tarragona.—Spirits of wine and brandy. 660
- 1636 Roig, Ponseti & Co., Tarragona.—Wine. 660
- 1637 Compte, Jaime, Torraja, Province of Tarragona.—Wines. 660
- 1638 Bella, Juan, Valls, Province of Tarragona.—Garnacha wine. 660
- 1639 Coll, José, Valls, Province of Tarragona.—Muscatel wine. 660
- 1640 Roca y Murtra, Ramon, Valls, Province of Tarragona.—Spirits of wine and anise-seed cordial. 660
- 1641 Anglès y Font, José, Ulldemolins, Province of Tarragona.—Red wine. 660
- 1642 Montlleo y Mor, José, Ulldemolins, Province of Tarragona.—Mistela (national drink). 660
- 1643 Figuerola, Antonio, Porrera, Province of Tarragona.—Wine. 660
- 1644 Compte, José Amorós, Porrera, Province of Tarragona.—Wine. 660
- 1645 Amorós, Vicente, Porrera, Province of Tarragona.—Wine. 660
- 1646 Montlleo, Jaime, Porrera, Province of Tarragona.—Garnacha wine. 660
- 1647 Pellicier, Francisco, Porrera, Province of Tarragona.—Garnacha wine. 660
- 1648 Simó, Pio, Porrera, Province of Tarragona.—Wines. 660
- 1649 Simó, José Maria, Porrera, Province of Tarragona.—Garnacha wine. 660
- 1650 Lliabera, Joaquin Sabaté, Porrera, Province of Tarragona.—Wine. 660
- 1651 Capdevila é Ibern, José, Torredembarra, Province of Tarragona.—Wine. 660
- 1652 Sanroma y Boada, Domingo, Torredembarra, Province of Tarragona.—Mistela (national drink). 660
- 1653 Llorat y Fontanillas, José, Torredembarra, Province of Tarragona.—Wine. 660
- 1654 Castellarnau, Joaquin de, Perafort, Province of Tarragona.—Wine. 660
- 1655 Mirét, Juan, Vilaseca, Province of Tarragona.—Mistela (national drink). 660
- 1656 March, Juan de, Vilaseca, Province of Tarragona.—Mistela (national drink) and wine. 660
- 1657 Dalmau y Amat, Domingo de, Montbrió de Tarragona, Province of Tarragona.—Wine and mistela (national drink). 660
- 1658 Porqueras, Juan, Vilella Alta, Province of Tarragona.—Malmsey wine. 660
- 1659 Boulé, José, Reus, Province of Tarragona.—Wines. 660
- 1660 Viñas y Pamies, José, Poboleda, Province of Tarragona.—Wine. 660
- 1661 Montaner y Rincon, José, Reus, Province of Tarragona.—Wine. 660
- 1662 Caselles, Pedro, & Co., Reus, Province of Tarragona.—Wine. 660
- 1663 Borrás, S. S., & Lassalle, Reus, Province of Tarragona.—Wines and imitations. 660
- 1664 Ferratges, José Vidiella, Reus, Province of Tarragona.—Wine. 660
- 1665 Salvadó, Mateó, Riudoms, Province of Tarragona.—Wine. 660
- 1666 Sarro y Salat, Antonio, Bárbara, Province of Tarragona.—Brandy. 660
- 1667 Aragonés, Tomás, Cornudella, Province of Tarragona.—Wines. 660

Animal and Vegetable Products.

- 1668 Folch, Joaquin Brú, Cambrils, Province of Tarragona.—Wine. 660
- 1669 Gallisa, Juan Aragonés, Dosaiguas, Province of Tarragona.—Wine. 660
- 1670 Crusat, Bartolomé Llebaria, Dosaiguas, Province of Tarragona.—Wine. 660
- 1671 Cabré, José Nolla, Dosaiguas, Province of Tarragona.—Wine. 660
- 1672 Anlestia, José Ciurana, Dosaiguas, Province of Tarragona.—Wine. 660
- 1673 Aragonés, Juan Sangenis, Dosaiguas, Province of Tarragona.—Wine. 660
- 1674 Magriña, Luis de, Falset, Province of Tarragona.—Wine. 660
- 1675 Anguerá y Angles, Ramon, Falset, Province of Tarragona.—Mistela (national drink) and wine. 660
- 1676 Ortiz, Emilio, Huelvas, Ocaña, Province of Toledo.—Wine. 660
- 1677 Gurrido, Valentin, Ocaña, Province of Toledo.—Wine and brandy. 660
- 1678 Caballero y Cabello, Martin, Ocaña, Province of Toledo.—Wine. 660
- 1679 Basarán, Isidoro, Olias del Rey, Province of Toledo.—Wine. 660
- 1680 Lázaro, Olallo, Talavera de la Reina, Province of Toledo.—Anise-seed cordial. 660
- 1681 Perera & Sons, Sagunto, Province of Valencia.—Wine. 660
- 1682 Requena, Manuel, & Sons, Játiva, Province of Valencia.—Wine. 660
- 1683 Suñer, Enrique, Masanasa, Province of Valencia.—Dr. Suñer's liquor. 660
- 1684 Caruana Bros., Bétera, Province of Valencia.—Wine. 660
- 1685 Comas y Delgado, Rafael, Onteniente, Province of Valencia.—Wine. 660
- 1686 Villar, Manuel, Sagunto, Province of Valencia.—Wine. 660
- 1687 Lluch, Francisco, Sagunto, Province of Valencia.—Wine. 660
- 1688 Valero, Juan, Requena, Province of Valencia.—Wine. 660
- 1689 Pifiango, Norberto, Requena, Province of Valencia.—Wine. 660
- 1690 Omlin, Juan, Requena, Province of Valencia.—Wine. 660
- 1691 Moron, Francisco de P., & Co., Albaida, Province of Valencia.—Brandy. 660
- 1692 Pujol, José Maria, Valencia.—Wine. 660
- 1693 Gisbert, Mariano, Torrente, Province of Valencia.—Wine. 660
- 1694 Irazo, Jaime, Turis, Province of Valencia.—Wine. 660
- 1695 Navarro, Eduardo, Turis, Province of Valencia.—Wine. 660
- 1696 Latorre, Federico, Turis, Province of Valencia.—Wine. 660
- 1697 Artigues, Serapio, Játiva, Province of Valencia.—Wine. 660
- 1698 Olias, Vicente, Chiva, Province of Valencia.—Wine. 660
- 1699 Torner, Juan, Carcagente, Province of Valencia.—Orange wine. 660
- 1700 Ferrandis y Soler, José, Onteniente, Province of Valencia.—Wine. 660
- 1701 Lorenzo Puig Bros., Monsenat, Province of Valencia.—Wine. 660
- 1702 Pieza, Honorato, Monsenat, Province of Valencia.—Wine. 660
- 1703 Pardo, Joaquin, Valencia.—Orange wine. 660
- 1704 Reig y Garcia, Fernando, Puebla, de Vallbona, Province of Valencia.—Wine. 660
- 1705 Albors, Carlos, Picasent, Province of Valencia.—Wine. 660
- 1706 Bodi, Salvador, Carcagente, Province of Valencia.—Orange wine. 660
- 1707 Lassala, Vicente, Llano de Cuarte, Province of Valencia.—Wine. 660
- 1708 Ricart y Sanz, Salvador, Rafelbuñol, Province of Valencia.—Wine. 660
- 1709 Starico y Ruiz, Ricardo, Ribarroja, Province of Valencia.—Wine. 660
- 1710 Bosca y Pascual, Blas, Puebla de Rugat, Province of Valencia.—Wine. 660
- 1711 Calabuyg, Bartolomé, Valencia.—Wine. 660
- 1712 Cañamás, José Damian Capsir, Puebla de Rugat, Province of Valencia.—Wine. 660
- 1713 Domenech, Angel, Valencia.—Wine and orange wine. 660
- 1714 Lavarias, Antonio, Cheste, Province of Valencia.—Red wine. 660
- 1715 Guillen, Valero Navarro, Cheste, Province of Valencia.—Red wine. 660
- 1716 Campos, Vicente, Cheste, Province of Valencia.—Red wine. 660
- 1717 Garcia, Francisco, Cheste, Province of Valencia.—Red wine. 660
- 1718 Tarin, German, Cheste, Province of Valencia.—Red wine. 660
- 1719 Luay, Leoncio, Cheste, Province of Valencia.—Red wine. 660
- 1720 Martí, Salvador, Cheste, Province of Valencia.—Red wine. 660
- 1721 Jordan, Vicente, Cheste, Province of Valencia.—Wine. 660
- 1722 Tamarit, Eulogio, Cheste, Province of Valencia.—Wine. 660
- 1723 Garcia, Pascual, Cheste, Province of Valencia.—Wine. 660
- 1724 Jordan, Manuel, Cheste, Province of Valencia.—Wine. 660
- 1725 Garcia, Luis Campos, Cheste, Province of Valencia.—Wine. 660
- 1726 Ortega, Vicente, Valencia.—Liquors. 660
- 1727 Costa, José Plá, Ollería, Province of Valencia.—Wine. 660
- 1728 Diego, Francisco Polop, Játiva, Province of Valencia.—Brandy, mistela, and wine. 660
- 1729 Nager y Juan, Pedro J., Ollería, Province of Valencia.—Wine. 660
- 1730 Calvo, Francisco, Valencia.—Orange wine. 660
- 1731 Herrera, José, Nava del Rey, Province of Valladolid.—Wine. 660
- 1732 Sañudo, Ramon Trueba, Nava del Rey, Province of Valladolid.—Wine. 660
- 1733 Pimentel, Pedro Antonio, Rueda, Province of Valladolid.—Vinegar. 660

Animal and Vegetable Products.

- 1734 Villalva, Benigno, Corrales de Duero, Province of Valladolid.—Wine. 660
- 1735 Alonso, Bernardo Real, Peñafior, Province of Valladolid.—Wine. 660
- 1736 Prasencio, Mariano, Tudela de Duero, Province of Valladolid.—Wine. 660
- 1737 Zonzúnegui, Angel, Cabezon, Province of Valladolid.—Wine. 660
- 1738 Malfaz, Agustin, Cabezon, Province of Valladolid.—Wine. 660
- 1739 Revila, Antonio, Cabezon, Province of Valladolid.—Wine. 660
- 1740 Ganzalez, Benito, Cabezon, Province of Valladolid.—Wine. 660
- 1741 Villaverde, Rafael, Cabezon, Province of Valladolid.—Wine. 660
- 1742 Sotillo, Manuel, Valladolid.—Wine. 660
- 1743 Redondo Bros., Valladolid.—Wine. 660
- 1744 Zurbano, José, Cabezon, Province of Valladolid.—Wine. 660
- 1745 Red, Baltasar de la, Cabezon, Province of Valladolid.—Wine. 660
- 1746 Pimentel, Casilda Arévalo de, Rueda, Province of Valladolid.—Wine. 660
- 1747 Vaca, Francisco Cabeza de, Puente Duero, Province of Valladolid.—Wine. 660
- 1748 Caballero, Marquis of, Nava del Rey, Province of Valladolid.—Wine. 660
- 1749 Eyries, Agustin, Valladolid.—Wine. 660
- 1450 Diaz, Juan, Valladolid.—Liquors. 660
- 1751 Mesones, Mariano Bayon, Rueda, Province of Valladolid.—Wine. 660
- 1752 Corporation of Medina de Campo, Province of Valladolid.—Wine. 660
- 1753 Diez, Crispulo Paredes, Valladolid.—Liquors. 660
- 1754 Gimeno, Mariano, Rueda, Province of Valladolid.—Wine. 660
- 1755 Board of Agriculture, Valbuena de Duero, Province of Valladolid.—Wine and brandy. 660
- 1756 Cosio y Cuenca, Eloy, Valladolid.—Liquors. 660
- 1757 Diez y Diez, Luis, Valladolid.—Wine. 660
- 1758 Montero, Ramon Bayon, Rueda, Province of Valladolid.—Wine. 660
- 1759 Arias, Francisco Galan, Fuentesauco, Province of Zamora.—Wine. 660
- 1760 Serrano, Manuel, Formoselle, Province of Zamora.—Wine. 660
- 1761 Puga, Sons of, Zamora.—Liquors. 660
- 1762 Requejo, Miguel, Zamora.—Wine. 660
- 1763 Furitero, Leonardo, Toro, Province of Zamora.—Wine. 660
- 1764 Villaboa, Victoriano, Zamora.—Wine. 660
- 1765 Weches, Santiago, Coreses, Province of Zamora.—Wine. 660
- 1766 Temprano, José, Verdemarban, Province of Zamora.—Wine. 660
- 1767 Pernia, Nicasio, Castro Verde, Province of Zamora.—Wine. 660
- 1768 Dieguez, Manuel, Zamora.—Anise-seed cordial. 660
- 1769 Royo, Mariano, Zamora.—Alcohol. 660
- 1770 Porta, Mariano, Zaragoza.—Anise-seed cordial and prepared anise-seed used for its manufacture. 660
- 1771 Pórtoles, Miguel, Zaragoza.—Anise-seed cordial. 660
- 1772 Lichtenstein, Julio, Cariñena, Province of Zaragoza.—Wine. 660
- 1773 Lahoz, Victorio, Escatron, Province of Zaragoza.—Anise-seed cordial. 660
- 1774 Ariño, Antonio, Escatron, Province of Zaragoza.—Anise-seed cordial. 660
- 1775 Lacaze, Juan Pablo, Zaragoza.—Wine. 660
- 1776 Figueras, Iñigo, Zaragoza.—Wine. 660
- 1777 Perez, Mariano, Zaragoza.—Wine. 660
- 1778 Vallier, José, Zaragoza.—Wine. 660
- 1779 Bailo, Angel, Habana, Cuba.—Liquors. 660
- 1780 Zulueta, Julian, Habana, Cuba.—Brandies. 660
- 1781 Soler, L., & Co., Cárdenas, Cuba.—Brandies. 660
- 1782 Central Commission of the Island, Habana, Cuba.—Sherry. 660
- 1783 Domcch, Pedro, Jerez.—Sherry. 660
- 1784 Duff, Gordon & Co., Jerez.—Sherry. 660
- 1785 Loring Bros., Málaga.—Málaga and Montilla wine. 660
- 1786 Schoki, Málaga.—Málaga. 660
- 1787 Vintro y Vila, Agustin, Barcelona.—Preserved yeast. 661
- 1788 Cano, Antonio, Carrion de Calatrava, Province of Ciudad-Real.—Crackers. 661
- 1789 Rivera Guarner, Alicante.—Chocolate. 661
- 1790 Barrengoa, Dámaso de, Ciudad-Real.—Chocolate. 661
- 1791 Blanco, José Maria, Santiago, Province of La Coruña.—Chocolate. 661
- 1792 Leal, Francisco, Coruña.—Chocolate. 661
- 1793 Castro, Enrique Calvo de, Ferrol, Province of La Coruña.—Chocolate. 661
- 1794 Palá, Juan, Huesca.—Chocolate. 661
- 1795 Prado, Máximo Alonzo de, León.—Chocolate. 661
- 1796 Alonso, Pedro Antonio, Mansilla de las Mulatas, Province of Leon.—Chocolate. 661
- 1797 Fernandez, José, Sahagun, Province of Leon.—Chocolate. 661
- 1798 Alonso, Blas, Widow of, Leon.—Chocolate. 661
- 1799 Silva, Tomás Rubio, Astorga, Province of Leon.—Chocolate. 661

Animal and Vegetable Products.

- 1800 Panero y Martinez, Juan, Astorga, Province of Leon.—Chocolate. 661
- 1801 Garcia, Manuel, Lérída.—Chocolate. 661
- 1802 Reixades, Antonio, Lérída.—Chocolate. 661
- 1803 Ruiz, Francisco Enciso de, Munnilla, Province of Logroño.—Chocolate. 661
- 1804 Fernandez, Francisco, & Bro., Lugo.—Chocolate. 661
- 1805 Meric & Co., Madrid.—Chocolate. 661
- 1806 Lopez, Matias, Madrid.—Chocolate. 661
- 1807 Lopez & Vaquez, Madrid.—Chocolate. 661
- 1808 Dubois, L., Widow of, Múrcia.—Chocolate. 661
- 1809 Bobo, Francisco Perez, Orense.—Chocolate. 661
- 1810 Anta y Temes, Federico, Orense.—Chocolate. 661
- 1811 Fernandez, Antonio Maria, Oviedo.—Chocolate. 661
- 1812 Acebal y Menendez, Benito, Oviedo.—Chocolate. 661
- 1813 Ortiz, Tadeo, & Sons, Palencia.—Chocolate. 661
- 1814 Garcia, Benito, Pontevedra.—Chocolate. 661
- 1815 Crespo, José Sanchez.—Chocolate. 661
- 1816 Pies, Federico Sanchez, Salamanca.—Chocolate. 661
- 1817 Nacar, Juan Prieto, Salamanca.—Chocolate. 661
- 1818 Ramos, Eustaquio, Soria.—Chocolate. 661
- 1819 Macaya, Juan, Reus, Province of Tarragona.—Chocolate. 661
- 1820 Gonzalez, José Maria, Talavera, Province of Toledo.—Chocolate. 661
- 1821 Lázaro, Olallo, Talavera, Province of Toledo.—Chocolate. 661
- 1822 Cuevas & Garcia, Valladolid.—Chocolate. 661
- 1823 Escarda, Salustiano Mariño, Benavente, Province of Zamora.—Chocolate. 661
- 1824 Escudero, Dionisio, & Son, Tarragona, Province of Zaragoza.—Chocolate. 661
- 1825 Ascaso, Domingo, Zaragoza.—Chocolate. 661
- 1826 Iriarte, José Maria, Habana, Cuba.—Chocolate. 661
- 1827 Fernandez, José, Matanzas, Cuba.—Chocolate. 661
- 1828 Plana & Co., Habana, Cuba.—Chocolate. 661
- 1829 Amores, Julian, Elche de la Sierra, Province of Alcabete.—Olive oil. 662
- 1830 Maroni, José, Hellin, Province of Alcabete.—Olive oil. 662
- 1831 Sandoval, José Joaquin, Jacarilla, Province of Alicante.—Olive oil. 662
- 1832 Payas, Ciro Perez, Monóvar, Province of Alicante.—Olive oil. 662
- 1833 Rico, Antonio Perez, Monóvar, Province of Alicante.—Oil. 662
- 1834 Verdú, Remedios Perez, Monóvar, Province of Alicante.—Olive oil. 662
- 1835 Albert, L. Perez, & Co., Monóvar, Province of Alicante.—Olive oil. 662
- 1836 Alegret, Emilio Perez, Ibi, Province of Alicante.—Olive oil. 662
- 1837 Pina, Juan Bautista, Monforté, Province of Alicante.—Olive oil. 662
- 1838 Verdú y Perez, Joaquin, Monóvar, Province of Alicante.—Olive oil. 662
- 1839 Moreno, Pedro Contreras, Velez-Rubio, Province of Almeria.—Olive oil. 662
- 1840 Trelle, Miguel del, Berja, Province of Almeria.—Natural olive oil. 662
- 1841 Meson, José, Arenas de San Pedro, Province of Avila.—Olive oil. 662
- 1842 Patiño, José Maria, Cabeza de Vaca, Province of Badajoz.—Olive oil. 662
- 1843 Cáceres, Damian, Guareña, Province of Badajoz.—Olive oil. 662
- 1844 Fernandez, Secundino, Zafra, Province of Badajoz.—Olive oil. 662
- 1845 Delgado, Francisco Gomez, Badajoz.—Olive oil. 662
- 1846 Fluxá y Palet, Miguel, Selva, Balearic Islands.—Oils. 662
- 1847 Zaforteza, Juan Burguez, Buñolas, Balearic Islands.—Oils. 662
- 1848 Puig & Llagostera Bros., Barcelona.—Olive oil. 662
- 1849 Porcar y Tió, Manuel, Barcelona.—Olive oil. 662
- 1850 Fornell, Ramon, & Co., Barcelona.—Olive oil. 662
- 1851 Oliver y Coll, Francisco, Ripoll, Province of Barcelona.—Olive oil. 662
- 1852 Pons, Antonio Castell de, Esparraguera, Province of Barcelona.—Olive oil. 662
- 1853 Ferran, Manuel, Barcelona.—Olive oil. 662
- 1854 Soler y Stussa, Valentin, Barcelona.—Oil. 662
- 1855 Castell de Mas, Joaquin Pedrosa de, Esparraguera, Province of Barcelona.—Olive oil. 662
- 1856 Villegas, Vicente Villarroel, Alcántara, Province of Cáceres.—Olive oil. 662
- 1857 Ayaz, José Diaz, Plasencia, Province of Cáceres.—Olive oil. 662
- 1858 Santivañez, Pedro José, Casar de Palomero, Province of Cáceres.—Olive oil. 662
- 1859 Arjona, Manuel, Jaraiz, Province of Cáceres.—Olive oil. 662
- 1860 Gomez, Juan Crisóstomo Gomez, Villamiel, Province of Cáceres.—Olive oil. 662
- 1861 Botejana, Juan Vicente, Villas Buenas, Province of Cáceres.—Olive oil. 662
- 1862 Hernandez, Juan, Gata, Province of Cáceres.—Natural olive oil. 662
- 1863 Casillas, Ramon, Acebo, Province of Cáceres.—Olive oil. 662
- 1864 Bacás y Estevez, Ignacio, Cilleiros, Province of Cáceres.—Olive oil. 662

Animal and Vegetable Products.

- 1865 Guerra, Felipe Leon, Gata, Province of Cáceres.—Olive oil. 662
- 1866 Cepeda, Julian, Jerte, Province of Cáceres.—Oil. 662
- 1867 Valmorisco, Pedro Navas, Guadalupe, Province of Cáceres.—Olive oil. 662
- 1868 Valiente, Eusebio, Hoyos, Province of Cáceres.—Olive oil. 662
- 1869 Luguiz y Lopez, Francisco, Puerto de Santa Maria, Province of Cadiz.—Olive oil. 662
- 1870 Artiles, Matias Helian, Las Palmas, Canary Islands.—Olive oil. 662
- 1871 Girona y Mato, Ramon, Alcora, Province of Castellon de la Plana.—Olive oil. 662
- 1872 Mascaró, José, Alcora, Province of Castellon de la Plana.—Olive oil. 662
- 1873 Grangell, Pascual, Alcora, Province of Castellon de la Plana.—Olive oil. 662
- 1874 García y Moreno, Julian, Altura, Province of Castellon de la Plana.—Virgin olive oil. 662
- 1875 Escribano, José, Vinaróz, Province of Castellon de la Plana.—Olive oil. 662
- 1876 Arnau & Tomás, Segorbe, Province of Castellon de la Plana.—Olive oil. 662
- 1877 Ricart, Juan Martinez, Segorbe, Province of Castellon de la Plana.—Oil. 662
- 1878 Aguila y Aguila, Santiago del, Villarubia de los Ojos, Province of Ciudad-Real.—Olive oil. 662
- 1879 Medrano, José, Ciudad-Real.—Olive oil. 662
- 1880 Milla, Manuel, Montoro, Province of Córdoba.—Olive oil. 662
- 1881 Infante, Juan de Dios, Villaviciosa, Province of Córdoba.—Olive oil. 662
- 1882 Cantual y Lopez, José, Córdoba.—Olive oil. 662
- 1883 Estrada, Eduardo, Aguilar, Province of Córdoba.—Olive oil. 662
- 1884 Santaló, Estéban, Córdoba.—Olive oil. 662
- 1885 San Bernardo, Count of, Córdoba.—Olive oil. 662
- 1886 Alvarez, Rafael Ceballos, Adadimon, Province of Córdoba.—Olive oil. 662
- 1887 Alguacil, Miguel Pineda, Espejo, Province of Córdoba.—Olive oil. 662
- 1888 Lopez, Espejo, Province of Córdoba.—Olive oil. 662
- 1889 Casado, Francisco, Espejo, Province of Córdoba.—Olive oil. 662
- 1890 Vega y Lopez, Luis, Espejo, Province of Córdoba.—Olive oil. 662
- 1891 Pineda, José Ramirez, Espejo, Province of Córdoba.—Olive oil. 662
- 1892 Medinaceli, Duchess, Widow of, Espejo, Province of Córdoba.—Olive oil. 662
- 1893 Fuente el Salce, Count of, Montoro, Province of Córdoba.—Olive oil. 662
- 1894 Rodriguez, José, Montemayor, Province of Córdoba.—Olive oil. 662
- 1895 Moreno, Sebastian, Montemayor, Province of Córdoba.—Olive oil. 662
- 1896 Uruburu, José, Montemayor, Province of Córdoba.—Olive oil. 662
- 1897 Moreno, José Maria, Montemayor, Province of Córdoba.—Olive oil. 662
- 1898 Corporation of Bujalance, Province of Córdoba.—Olive oil. 662
- 1899 Prieto, Sebastian, Encinas-Reales, Province of Córdoba.—Olive oil. 662
- 1900 Pavon, Pablo, Baena, Province of Córdoba.—Olive oil. 662
- 1901 Bastida, Martin, Montoro, Province of Córdoba.—Olive oil. 662
- 1902 Cabezas y Sarabia, José, Montoro, Province of Córdoba.—Olive oil. 662
- 1903 Piédrola, Rafael, Montoro.—Province of Córdoba.—Olive oil. 662
- 1904 Lara y Pineda, Rafael J. de, Montoro, Province of Córdoba.—Olive oil. 662
- 1905 Saenz, Eusebio, Lucena, Province of Córdoba.—Olive oil. 662
- 1906 Carmona, Joaquina, Lucena, Province of Córdoba.—Olive oil. 662
- 1907 Algár, Francisco, Lucena, Province of Córdoba.—Olive oil. 662
- 1908 Valdecañas, Count of, Lucena, Province of Córdoba.—Olive oil. 662
- 1909 Medinaceli, Duke of, Lucena, Province of Córdoba.—Olive oil. 662
- 1910 Gomez, Antonio Enrique, Montoro, Province of Córdoba.—Olive oil. 662
- 1911 Escribano, Luis, Pozoblanco, Province of Córdoba.—Olive oil. 662
- 1912 Galan, Alfonso Blanco, Dos-Torres, Province of Córdoba.—Olive oil. 662
- 1913 Castillejo, Pedro, Fuente-Ovejuna, Province of Córdoba.—Olive oil. 662
- 1914 Cabello, José Garcia, Santa-Ella, Province of Córdoba.—Olive oil. 662
- 1915 Criado, Dolores, Villa del Rio, Province of Córdoba.—Olive oil. 662
- 1916 Zamora, Pedro Alcalá, Priego, Province of Córdoba.—Olive oil. 662
- 1917 Valverde, Francisco Aguilera, Priego, Province of Córdoba.—Olive oil. 662
- 1918 Castilla, José Eugenio, Priego, Province of Córdoba.—Olive oil. 662
- 1919 Roldan, Manuel, Montoro, Province of Córdoba.—Olive oil. 662
- 1920 Cano, Rafael, Adamuz, Province of Córdoba.—Olive oil. 662
- 1921 Cano, Juan, Adamuz, Province of Córdoba.—Olive oil. 662
- 1922 Estrado y Perjano, Ramon, Adamuz, Province of Córdoba.—Olive oil. 662
- 1923 Lara, Antonio Crespo, Benameji, Province of Córdoba.—Olive oil. 662
- 1924 Rio, Pedro del, Castro del Rio, Province of Córdoba.—Olive oil. 662
- 1925 Sepúlveda, V. Muñoz de, Córdoba.—Olive oil. 662
- 1926 Campo, Francisco Escobar, Rubielos Bajos, Province of Cuenca.—Olive oil. 662
- 1927 Cid, Julian, Tarancon, Province of Cuenca.—Olive oil. 662

Animal and Vegetable Products.

- 1928 Torres, Mariano L., Barchin del Hoyo, Province of Cuenca.—Olive oil. 662
- 1929 Baillo, José Maria, Barchin del Hoyo, Province of Cuenca.—Olive oil. 662
- 1930 Reyes y Rich, Juan A., Guadalaraja.—Olive oil. 662
- 1931 Molina, Federico, Rociana, Province of Huelva.—Olive oil. 662
- 1932 Soldán, Antonio, La Palma, Province of Huelva.—Olive oil. 662
- 1933 Carrasco, José Maria, Bonares, Province of Huelva.—Olive oil. 662
- 1934 Zambrano, José A., Villalba del Alcor, Province of Huelva.—Olive oil. 662
- 1935 Iñiguez, José, Gibraleon, Province of Huelva.—Olive oil. 662
- 1936 Iñiguez, Encarnacion, Gibraleon, Province of Huelva.—Olive oil. 662
- 1937 Morales, Teresa, San Juan del Puerto, Province of Huelva.—Olive oil. 662
- 1938 Santa, Martin Maria, San Juan del Puerto, Province of Huelva.—Olive oil. 662
- 1939 Marquez, Rufino J., Manzanilla, Province of Huelva.—Olive oil. 662
- 1940 Velarde, José Eduardo, Manzanillas, Province of Huelva.—Olive oil. 662
- 1941 Cerero, Luis, Trigueros, Province of Huelva.—Olive oil. 662
- 1942 Montiel, Eliecer, Trigueros, Province of Huelva.—Virgin olive oil. 662
- 1943 Ortá, Manuel de, Trigueros, Province of Huelva.—Olive oil. 662
- 1944 Rodriguez, José Rodriguez, Trigueros, Province of Huelva.—Olive oil. 662
- 1945 Escolar, Angel, Almonte, Province of Huelva.—Olive oil. 662
- 1946 Cepeda, Ignacio de, Almonte, Province of Huelva.—Olive oil. 662
- 1947 Lagares, Francisco, Almonte, Province of Huelva.—Olive oil. 662
- 1948 Pineda, Nicanor Infante, Aracena, Province of Huelva.—Olive oil. 662
- 1949 Oliva, Juan Martin de, Aracena, Province of Huelva.—Olive oil. 662
- 1950 Carnes, Eulogio Martin, Aracena, Province of Huelva.—Olive oil. 662
- 1951 Ramirez, Ignacio Nagales, Aracena, Province of Huelva. 662
- 1952 Barrera, Joaquin Moya, Aracena, Province of Huelva.—Olive oil. 662
- 1953 Cruz, Rivero, Rafael Trianes de la, Huelva.—Olive oil. 662
- 1954 Las Cuebas, Fernando de, Huelva.—Olive oil. 662
- 1955 Mora, Antonio de, Huelva.—Olive oil. 662
- 1956 Figueroa, Eduardo, Huelva.—Olive oil. 662
- 1957 Arnal, Dionisio, Castelflorite, Province of Huesca.—Olive oil. 662
- 1958 Nasarre, Voto, Albalate de Cinca, Province of Huesca.—Olive oil. 662
- 1959 Laguna, Celeste, Sariñena, Province of Huesca.—Olive oil. 662
- 1960 Lapedra Joaquin, Sariñena, Province of Huesca.—Olive oil. 662
- 1961 Las Almenas, Count of, Espeluy, Province of Jaen.—Olive oil. 662
- 1962 Campos, Antonio Lopez, Ubeda, Province of Jaen.—Olive oil. 662
- 1963 Ibañez, Luis Gallego, Cazorla, Province of Jaen.—Olive oil. 662
- 1964 Acapulco, Marquis of, Torre Don Jimeno, Province of Jaen.—Olive oil. 662
- 1965 Villalva, Antonio Fernandez, Torre Don Jimeno, Province of Jaen.—Olive oil. 662
- 1966 Manjon, Juan A., Iznatoraf, Province of Jaen.—Olive oil. 662
- 1967 Salcedo y Gamez, Miguel, Jimena, Province of Jaen.—Olive oil. 662
- 1968 Torres, Manuel Alfonso, Jimena, Province of Jaen.—Olive oil. 662
- 1969 Oliveres, Mauricio, Torreserona, Province of Lérida.—Olive oil. 662
- 1970 Teréz, Ignacio, Tárrega, Province of Lérida.—Olive oil. 662
- 1971 Corporation of Agramunt, Province of Lérida.—Olive oil. 662
- 1972 Corporation of Puigvert, Province of Lérida.—Olive oil. 662
- 1973 Corporation of Las Borjas, Province of Lérida.—Olive oil. 662
- 1974 Corporation of Vinaixa, Province of Lérida.—Olive oil. 662
- 1975 Alos, Francisco, Balaguer, Province of Lérida.—Olive oil. 662
- 1976 Pinós, José Maria, Lérida.—Olive oil. 662
- 1977 Lafont, Andrés, Borjas, Province of Lérida.—Oil. 662
- 1978 Lopez, Manuel, Puigvert, Province of Lérida.—Oil. 662
- 1979 Ball, José, Agramunt, Province of Lérida.—Olive oil. 662
- 1980 Ron, Ramon, Vinaixa, Province of Lérida.—Oil. 662
- 1981 Zubia, Ildefonso, Logroño.—Olive oil. 662
- 1982 Lazan, Marquis of, Cuzcurrita de Rio Tiron, Province of Logroño.—Olive oil. 662
- 1983 Alcalde, Javier, Logroño.—Olive oil. 662
- 1984 Pascual, Elias, Alfarnate, Province of Málaga.—Olive oil. 662
- 1985 Corporation of Teba, Province of Málaga.—Olive oil. 662
- 1986 Garcia, Dolores, Widow of Estor, Murcia.—Olive oil. 662
- 1987 Lopez, José Maria, Caravaca, Province of Murcia.—Oil. 662
- 1988 Coracér Agustin Mascareñas, Verin, Province of Orense.—Olive oil. 662
- 1989 Velasco, Manuel, Verin, Province of Orense.—Oil. 662
- 1990 Ullan, Romualdo, Masueco, Province of Salamanca.—Olive oil. 662
- 1991 Martin, Lorenzo Calvo, Mogarraz, Province of Salamanca.—Olive oil. 662
- 1992 Garcia, José Sanchez, Fregeneda, Province of Salamanca.—Olive oil. 662
- 1993 La Viesca, Marquis of, Fregeneda, Province of Salamanca.—Olive oil. 662
- 1994 Bullon, Agustin, Miranda del Castañar, Province of Salamanca.—Olive oil. 662
- 1995 Corbalan, Juan, Sancelle, Province of Salamanca.—Olive oil. 662

Animal and Vegetable Products.

- 1996 Villaranea, Ramon Miguel, Hinojosa de Duero, Province of Salamanca.—Olive oil. 662
- 1997 Ortál, Ignacio, Fregeneda, Province of Salamanca.—Olive oil. 662
- 1998 Villaranda, Joaquin Romo, Hinojosa de Duero, Province of Salamanca.—Olive oil. 662
- 1999 Gascon, Andrés Sanchez, Cepeda, Province of Salamanca.—Olive oil. 662
- 2000 Paulino, Diego Perez, Fregeneda, Province of Salamanca.—Olive oil. 662
- 2001 Herrero, Julian, Lumbrales, Province of Salamanca.—Olive oil. 662
- 2002 Paulino, Cipriano Perez, Fregeneda, Province of Salamanca.—Olive oil. 662
- 2003 Mendoza, Ignacio Halcon, Lebrija, Province of Sevilla.—Olive oil. 662
- 2004 Cisneros, Honorio de, Constantina, Province of Sevilla.—Olive oil. 662
- 2005 Morejon, Manuel Solis, Cantillana, Province of Sevilla.—Olive oil. 662
- 2006 Arenas, Antonio Rivas, Cantillana, Province of Sevilla.—Olive oil. 662
- 2007 Teruel, Pedro, & Bros., Cantillana, Province of Sevilla.—Olive oil. 662
- 2008 Reina, Cláudio Gimenez de, Arahál, Province of Sevilla.—Olive oil. 662
- 2009 Quintanilla, Antonio Torres, Arahál, Province of Sevilla.—Olive oil. 662
- 2010 Zallas y Trigueros, Miguel, Sevilla.—Olive oil. 662
- 2011 Piñar, Enrique, & Bros., Arahál, Province of Sevilla.—Olive oil. 662
- 2012 Benjumea y Jiló, Eduardo, Arahál, Province of Sevilla.—Olive oil. 662
- 2013 Andrade, Manuel Zayas, Arahál, Province of Sevilla.—Olive oil. 662
- 2014 Puig, Juan, Sevilla.—Olive oil. 662
- 2015 Garcia, Pedro Leanis, Sevilla.—Olive oil. 662
- 2016 Leygonier, Cayetano, Sevilla.—Olive oil. 662
- 2017 Puerta Zayas, Aniceto de la, Sevilla.—Olive oil. 662
- 2018 Serrano, Miguel Perez, Olivares, Province of Sevilla.—Olive oil. 662
- 2019 Masa, Juan Gomez de la, Olivares, Province of Sevilla.—Olive oil. 662
- 2020 Daoiz, Count of, Moron, Province of Sevilla.—Olive oil. 662
- 2021 Daoiz, José, Moron, Province of Sevilla.—Olive oil. 662
- 2022 Angulo, José, Moron, Province of Sevilla.—Olive oil. 662
- 2023 Mendez, Felipe, Mairena del Alcor, Province of Sevilla.—Olive oil. 662
- 2024 La Hasta, Lorenzo Dominguez de, Carmona, Province of Sevilla.—Olive oil. 662
- 2025 Velasco, Ramon, Carmona, Province of Sevilla.—Olive oil. 662
- 2026 Reina, José Martinez de, Dos-Herманas, Province of Sevilla.—Olive oil. 662
- 2027 Ibarra, J. M., & Sons, Dos-Herманas, Province of Sevilla.—Olive oil. 662
- 2028 Sanchez, José Arcos, Coronil, Province of Sevilla.—Olive oil. 662
- 2029 Rosa y Silva, José de la, Villamanrique, Province of Sevilla.—Olive oil. 662
- 2030 La Motilla, Marquis of, Pilas, Province of Sevilla.—Olive oil. 662
- 2031 Martinez, Joaquin, Bros., Utrera, Province of Sevilla.—Olive oil and pressed olives. 662
- 2032 Martinez, Casimiro Carro, Utrera, Province of Sevilla.—Olive oil and pressed olives. 662
- 2033 Orejuela, Francisco de, Utrera, Province of Sevilla.—Olive oil and pressed olives. 662
- 2034 Dominguez, Pedro, Utrera, Province of Sevilla.—Olive oil and pressed olives. 662
- 2035 Bascon, Antonio, Utrera, Province of Sevilla.—Olive oil and pressed olives. 662
- 2036 Peña, José Gonzalez de la, Utrera, Province of Sevilla.—Olive oil and pressed olives. 662
- 2037 Cuadra, Enrique de la, Utrera, Province of Sevilla.—Olive oil and pressed olives. 662
- 2038 Calero, Juan, Utrera, Province of Sevilla.—Olive oil and pressed olives. 662
- 2039 Giraldez, Vicente, Utrera, Province of Sevilla.—Olive oil and pressed olives. 662
- 2040 Riarola, Rafael, Utrera, Province of Sevilla.—Olive oil and pressed olives. 662
- 2041 Franquet y Dara, José, Gandesa, Province of Tarragona.—Olive oil. 662
- 2042 Grau, José Maria de, Mas-Pujols, Province of Tarragona.—Olive oil. 662
- 2043 Sanz y Salvá, Francisco, Mas-Pujols, Province of Tarragona.—Olive oil. 662
- 2044 Llausádo y Pamies, José, Mas-Pujols, Province of Tarragona.—Olive oil. 662
- 2045 Pamies y Ortoneda, Juan, Mas-Pujols, Province of Tarragona.—Olive oil. 662
- 2046 Orovio, Manuel de, Riudoms, Province of Tarragona.—Olive oil. 662
- 2047 Salvadó, Salvador, Riudoms, Province of Tarragona.—Olive oil. 662
- 2048 Salvadó, Mateo, Riudoms, Province of Tarragona.—Olive oil. 662
- 2049 Miret, Juan, Constanti, Province of Tarragona.—Olive oil. 662
- 2050 Domingo, Tomás, Constanti, Province of Tarragona.—Olive oil. 662
- 2051 Montoliú, Plácido Maria de, Morell, Province of Tarragona.—Olive oil. 662
- 2052 Consul & Virgili, Tarragona.—Olive oil. 662
- 2053 Magriña y Suñer, Antonio, Gandesa, Province of Tarragona.—Olive oil. 662
- 2054 March, Juan de, Vilaseca, Province of Tarragona.—Olive oil. 662
- 2055 Corporation of Amposta, Province of Tarragona.—Olive oil. 662
- 2056 Bufill, B., Reus, Province of Tarragona.—Olive oil. 662

Animal and Vegetable Products, Textile Substances.

- 2057 Montagut, José, Illa, Province of Tarragona.—Olive oil. 662
- 2058 Pellicér, José, Reus, Province of Tarragona.—Olive oil. 662
- 2059 Fumaña Bros., Reus, Province of Tarragona.—Olive oil. 662
- 2060 Odena y Pujol, José, Reus, Province of Tarragona.—Olive oil. 662
- 2061 Avello, A., & Son, Reus, Province of Tarragona.—Olive oil. 662
- 2062 Gasull, Bartolomé, Reus, Province of Tarragona.—Olive oil. 662
- 2063 Gil, Francisco, Reus, Province of Tarragona.—Olive oil. 662
- 2064 Morlius, José Maria, Reus, Province of Tarragona.—Olive oil. 662
- 2065 Rincon, José Montaner, Reus, Province of Tarragona.—Olive oil. 662
- 2066 Sirvent y Oliver, Pedro, Reus, Province of Tarragona.—Olive oil. 662
- 2067 Carol, Antonio, & Co., Reus, Province of Tarragona.—Olive oil. 662
- 2068 Esteve, D. A., Widow & Son of, Reus, Province of Tarragona.—Olive oil. 662
- 2069 Basseda y Andreu, Miguel, Reus, Province of Tarragona.—Olive oil. 662
- 2070 Zamora, Francisco, Reus, Province of Tarragona.—Olive oil. 662
- 2071 Peña y Mach, Agustin, Scala-Dei, Province of Tarragona.—Olive oil. 662
- 2072 Garcia, Sebastian, Scala-Dei, Province of Tarragona.—Olive oil. 662
- 2073 Robles, Sebastian Garcia de, Scala-Dei, Province of Tarragona.—Olive oil. 662
- 2074 Gatell y Folchs, Juan, Altafulla, Province of Tarragona.—Oil. 662
- 2075 Siscar, Ramon, La Canonja, Province of Tarragona.—Oil. 662
- 2076 Indo, Valentin Martinez, Argis, Province of Toledo.—Olive oil. 662
- 2077 Redondo, Juan Bautista, Carmena, Province of Toledo.—Oils. 662
- 2078 Basaran, Isidoro, Ollás del Rey, Province of Toledo.—Olive oil. 662
- 2079 Moreno, Manuel, Ortiz, Ocaña, Province of Toledo.—Olive oil. 662
- 2080 Diego, Francisco Polop, Játiva, Province of Valencia.—Olive oil. 662
- 2081 Diego y Carsi, Ignacio & José, Játiva, Province of Valencia.—Oil. 662
- 2082 Calabuyg, Bartolomé, Bocayrente, Province of Valencia.—Olive oil. 662
- 2083 Lasalla y Palomares, Vicente, Masia de la Mar, Province of Valencia.—Olive oil. 662
- 2084 Cañamas, Blas Antonio, Olisa, Province of Valencia.—Olive oil. 662
- 2085 Albors y Albors, Carlos, Picasent, Province of Valencia.—Olive oil. 662
- 2086 Valdobi, Rafael Gonzalez, Torrente, Province of Valencia.—Olive oil. 662
- 2087 Reig y Garcia, Fernando, Puebla de Valbona, Province of Valencia.—Olive oil. 662
- 2088 Ollás, Vicente, Chiva, Province of Valencia.—Olive oil. 662
- 2089 Bremont, Manuel Sanz, Bemfayo de Espioca, Province of Valencia.—Olive oil. 662
- 2090 Latorre, Federico, Turis, Province of Valencia.—Olive oil. 662
- 2091 Carceller, Saturnino, Valencia.—Peanut oil. 662
- 2092 Caruana & Bros., Betera, Province of Valencia.—Olive oil. 662
- 2093 Flores, P. Manuel Serrano, Fermoselle, Province of Zamora.—Olive oil. 662
- 2094 Val, Miguel Hipólito del, Gallur, Province of Zaragoza.—Olive oil. 662
- 2095 La Linde, Baron of, Zaragoza.—Olive oil. 662
- 2096 Bureta, Countess of, Alagon, Province of Zaragoza.—Olive oil. 662
- 2097 Vallier, José, Zaragoza.—Olive oil. 662
- 2098 Baerla, Mariano Perez, Zaragoza.—Olive oil. 662
- 2099 Lopez y Pastor, Luis, Velilla de Ebro.—Olive oil. 662
- 2100 Mendoza, Francisco Estéban, Zaragoza.—Olive oil. 662
- 2101 Arpal, Manuel Vicente, Caspe, Province of Zaragoza.—Olive oil. 662

Textile Substances of Vegetable or Animal Origin.

- 2102 Morand, Pedro, Hellin, Province of Albacete.—Esparto grass. 666
- 2103 Bañon, Francisco Prast, Hellin, Province of Albacete.—Esparto grass. 666
- 2104 Lopez, Benito, Hellin, Province of Albacete.—Esparto grass. 666
- 2105 Guevara, Vicente Ladron de, Tobarra, Province of Albacete.—Hemp. 666
- 2106 Alvarez, Francisco Rodriguez, Province of Albacete.—Esparto grass. 666
- 2107 Leon, Romualdo, Albacete.—Esparto grass. 666
- 2108 Amores, Julian, Elche de la Sierra, Province of Albacete.—Hemp. 666
- 2109 Parras, Enrique, Lietor, Province of Albacete.—Esparto grass. 666
- 2110 Bushnell, Enrique, Hellin, Province of Albacete.—Esparto grass. 666
- 2111 Lopez, José Beltran, Elche, Province of Albacete.—Hemp ropes. 666
- 2112 Campoamor, Ramon de, Alicante.—Esparto grass. 666
- 2113 Brotons Bros., Orihuela, Province of Alicante.—Hemp. 666
- 2114 Lledo y Gomis, Vicente, Campello, Province of Alicante.—Twisted Esparto grass. 666
- 2115 Sandoval, José Joaquin, Jacarilla, Province of Alicante.—Hemp. 666
- 2116 Alhorque & Barkes, Alicante.—Esparto grass. 666
- 2117 Beltran y Lopez, José, Elche, Province of Alicante.—Hemp. 666
- 2118 Spencer & Roda, Enis, Province of Almeria.—Esparto grass. 666
- 2119 Linares, Clemente, Albanchez, Province of Almeria.—Hemp. 666

Textile Substances.

- 2120 Daza y Ruiz, Francisco, Purchena, Province of Almeria.—Flax and hemp. 666
- 2121 Trell, Miguel del, Berja, Province of Almeria.—Esparto grass. 666
- 2122 Calvache, Diego, Carboneras, Province of Almeria.—Palmetto leaves. 666
- 2123 Forestal District, Enis, Province of Almeria.—Esparto grass. 666
- 2124 Molina, Manuel Martinez, Oriá, Province of Almeria.—Tow. 666
- 2125 Gonzalez, Manuel, Barco de Avila, Province of Almeria.—Flax. 666
- 2126 Garriga, Luis, Barcelona.—Rigging and cordage. 666
- 2127 Marquez, Cavalit & Co., Hospitalet, Province of Barcelona.—Hemp thread. 666
- 2128 Provincial Commission, Province of Búrgos.—Hemp and flax. 666
- 2129 Corporation of Briviesca, Province of Búrgos.—Flax. 666
- 2130 La Cruz, Valentin de, Carrascalejo, Province of Cáceres.—Flax. 666
- 2131 Muñoz, José Diaz, Puerto de Santa Cruz, Province of Cáceres.—Flax. 666
- 2132 Sande, Olivares, Jeroñimo de, Garrovillas de Alconetar.—Cyperus. 666
- 2133 Riscal de Alegre, Marquis of, Alia, Province of Cáceres.—Nettle. 666
- 2134 Dabner, Guillermo H., La Laguna, Canary Islands.—Agave. 666
- 2135 Society of Friends of the Country, Las Palmas, Canary Islands.—Agave and ropes of agave. 666
- 2136 Provincial Board of Agriculture, Castellon.—Cordage of hemp, flax, and esparto grass. 666
- 2137 Safon, Antonio, Castellon.—Vegetable hair. 666
- 2138 Armengod, Joaquin, Castellon.—Hemp ropes. 666
- 2139 Aguila y Aguila, Santiago del, Villarrubia, Province of Ciudad-Real.—Hemp. 666
- 2140 Melgarejo, Maria Josefa, San Clemente, Province of Cuenca.—Esparto grass. 666
- 2141 Ribot, Esteban, & Bros., Granada.—Hemp, tow, and ropes. 666
- 2142 Salcedo, Antonio Puche, Guadix, Province of Granada.—Esparto grass. 666
- 2143 Corporation of Almonacid de Zorita, Province of Guadaluajara.—Hemp. 666
- 2144 Castillo y Mesquita, Francisco del, Huelva.—Palmetto leaves, rush mats, ropes, and vegetable hair. 666
- 2145 Oliver, D., Huesca.—Esparto grass. 666
- 2146 Otal, José Maria, Huesca.—Esparto grass. 666
- 2147 Arnal, Dionisio, Castelflorite, Province of Huesca.—White esparto grass. 666
- 2148 Berrio y Torrero, Vicente, Beas de Segura, Province of Jaen.—Hemp and flax. 666
- 2149 Corporation of Huesco, Province of Jaen.—Esparto grass. 666
- 2150 Corporation of Cabra del Santo Cristo, Province of Jaen.—Esparto grass. 666
- 2151 Corporation of Congosto, Province of Leon.—Flax. 666
- 2152 Corporation of Vega de Infantones, Province of Leon.—Flax. 666
- 2153 Corporation of Omaña, Province of Leon.—Flax. 666
- 2154 Corporation of Armunia, Province of Leon.—Flax. 666
- 2155 Corporation of Villaturiel, Province of Leon.—Flax. 666
- 2156 Corporation of Páramo del Sil, Province of Leon.—Flax. 666
- 2157 Corporation of Encinedo, Province of Leon.—Flax. 666
- 2158 Dorado, Manuel, Láncara, Province of Lugo.—Flax. 666
- 2159 Paseiro, Bonifacia, Castroverde, Province of Lugo.—Flax. 666
- 2160 Corps of Engineers of Woods and Forests, Madrid.—Esparto grass. 666
- 2161 Diaz, Antonio, Málaga.—Objects made of hemp. 666
- 2162 Romero, Rafael Escalante, Teba, Province of Málaga.—Esparto ropes. 666
- 2163 Economical Society of Murcia.—Agave. 666
- 2164 Pulgar, Joaquin Perez del, Caravaca, Province of Murcia.—Esparto grass. 666
- 2165 Gonzalez, Tomás Dacal, Frires, Province of Orense.—Flax. 666
- 2166 Rodriguez, Manuel Iglesias, Celanova, Province of Orense.—Flax. 666
- 2167 Romero y Romero, José, Guinzo de Limia, Province of Orense.—Flax. 666
- 2168 Calvo, Lorenzo, Salamanca.—Flax. 666
- 2169 Casado y Febrero, Francisco, Sevilla.—Hemp ropes. 666
- 2170 Igualada, Francisco, Sevilla.—Cordage and sandals of hemp. 666
- 2171 Monner, Juan, La Riera, Province of Tarragona.—Hemp. 666
- 2172 Batllé y Marca, Pedro, Province of Tarragona.—Ropes. 666
- 2173 Valencian Society of Agriculture, Valencia.—Esparto grass, hemp, nettle, and agave. 666
- 2174 Philadelphia Commission of Valencia.—Objects made of hemp. 666
- 2175 Villalva, Benigno, Corrales de Duero, Province of Valladolid.—Hemp. 666
- 2176 Borbujo, Juan, Benavente, Province of Zamora.—Flax. 666
- 2177 Marron, José Victor, Alcañices, Province of Zamora.—Flax. 666
- 2178 La Viñaza, Count of, Epila, Province of Zaragoza.—Flax and hemp. 666
- 2179 Loring Bros., Málaga.—Esparto grass. 666
- 2179a Corps of Engineers of Woods and Forests, Madrid.—Esparto grass. 666
- 2180 Robles, Vicente, Badajoz.—Pelt. 667
- 2181 Moreno, Cayetano, Villalba de los Barros, Province of Badajoz.—Merino wool. 667

Textile Substances, Machines, Engineering, etc.

- 2182 Arenzana, Son of, & Co., Badajoz.—Merino wool. 667
- 2183 Carrasco, Alfonso, Guareña, Province of Badajoz.—Merino wool. 667
- 2184 Espinosa, Fernando Montero de, Badajoz.—Merino wool. 667
- 2185 Patiño, José Maria, Cabeza de Vaca, Province of Badajoz.—Merino wool. 667
- 2186 Provincial Commission, Burjos.—Coarse and fine wool. 667
- 2187 Hernaiz, Francisco, Huerta de Abajo, Province of Burgos.—Merino wool. 667
- 2188 Agero, José Díaz, Moraleja, Province of Cáceres.—Wool. 667
- 2189 Santa Marta, Marquis of, Cáceres.—Wool. 667
- 2190 Montoya, Vicente Llopis, Bojas, Province of Castellon.—Wool. 667
- 2191 Guimera, Giner, Morella, Province of Castellon.—Wool. 667
- 2192 Provincial Board of Agriculture, Morella, Province of Castellon.—Wool. 667
- 2193 Valdeavellano, J. Garcia, Espiel, Province of Córdoba.—Wool. 667
- 2194 Conde, Juan M., Córdoba.—Wool. 667
- 2195 Lozano, Juan Antonio, Belmez, Province of Córdoba.—Wool. 667
- 2196 Cortés y Velarde, Enrique, Fuente Ovejuna, Province of Córdoba.—Wool. 667
- 2197 Torrico, Manuel, Hinojosa, Province of Córdoba.—Wool. 667
- 2198 Yaniz, Ambrosio, Cuenca.—Wool. 667
- 2199 Hernandez, Pedro, Moguer, Province of Huelva.—Wool. 667
- 2200 Soldan, Antonio, La Palma, Province of Huelva.—Wool. 667
- 2201 Otal, José Maria, Almudevar, Province of Huelva.—Wool. 667
- 2202 Gimenez, Francisco, Jaen.—Wool. 667
- 2203 Freires, Manuel Soto, Pantón, Province of Lugo.—Wool. 667
- 2204 Cruz Gomez, Juan de la, Caravaca, Province of Murcia.—Shoddy. 667
- 2205 Garcia y Garcia, Manuel, Salamanca.—Wool. 667
- 2206 Garcia, Mariano, Salvatierra de Tormes, Province of Salamanca.—Wool. 667
- 2207 Diaz, Cándido, Villaflores, Province of Salamanca.—Wool. 667
- 2208 Torroja, Ricardo, Zaratán, Province of Salamanca.—Wool. 667
- 2209 Cabrera, Victoriano, Cantalapiedra, Province of Salamanca.—Wool. 667
- 2210 Onis, Federico de, Cantalapiedra, Province of Salamanca.—Wool. 667
- 2211 Lozoya, Marquis of, Segovia.—Wool. 667
- 2212 Tomé, Gabino, Segovia.—Wool. 667
- 2213 Quintanilla, Antonio, Carmona, Province of Sevilla.—Wool. 667
- 2214 Rosa, José de la, Villamanrique, Province of Sevilla.—Wool. 667
- 2215 Zayas y Trigueros, Miguel, Arhal, Province of Sevilla.—Wool. 667
- 2216 Vasquez, Juan, Sevilla.—Wool. 667
- 2217 Cuadra, Enrique de la, Utrera, Province of Sevilla.—Wool. 667
- 2218 Gonzalez, Ramon, Quintana Redonda, Province of Soria.—Wool. 667
- 2219 Delgado, Manuel, Tejarejo, Province of Soria.—Wool. 667
- 2220 Romero, Angel, Soria.—Wool. 667
- 2221 Perez, Lino, Toledo.—Wool. 667
- 2222 Corporation of Medina del Campo, Province of Valladolid.—Wool. 667
- 2223 Salarich, Joaquin, Vich, Province of Barcelona.—Silk in the cocoon and reeled. 668
- 2224 Riscal de Alegre, Marquis of, Alia, Province of Cáceres.—Cocoons. 668
- 2225 La Viesca, Marquis of, Fregeneda, Province of Salamanca.—Spun silk. 668
- 2226 Paulino, Cipriano Perez, Fregeneda, Province of Salamanca.—Spun silk. 668
- 2227 Villalta y Uribe, Antonio, Jaen.—Cocoons. 668
- 2228 Gonzalez, Pedro, Eutaimo, Province of Orense.—Cocoons. 668
- Machines, Implements, and Processes of Manufacture.**
- 2229 Albornoz, Juan Gil., Avila.—Plows. 670
- 2230 Cruz, Rafael Trianes de la, Huelva.—Models of harrows. 670
- 2231 Corps of Engineers of Woods and Forests, Madrid.—Manual implements. 670
- 2232 Philadelphia Commission of Valencia.—Agricultural instruments. 670
- 2233 Perez, Felipe, Habana, Cuba.—Cultivator. 670
- 2234 Serrano, Juan, Castellon.—Implements for tillage. 670
- Agricultural Engineering and Administration.**
- 2235 Barnosell, Pedro, Vallecas, Province of Madrid.—Guano. 681
- 2236 Provincial Deputation, Murcia.—Barrilla for fertilizing. 681
- 2237 Muñoz, Bruno, Peñaranda, Province of Salamanca.—Girth. 682
- 2238 Provincial Commission of Valencia.—Harness appendages. 682
- 2239 Villar, Francisco Maria del Barcelona.—Projects of rural constructions. 683
- 2240 Garriga, Francisco Domingo, San Quirse de Besora, Province of Barcelona.—Model of feeding-trough. 683
- 2241 Cruz, Rivero, Rafael Trianes de la, Huelva.—Plan of country house. 683
- Tillage and General Management.**
- 2242 Garriga, Francisco Domingo, San Quirse de Besora, Province of Barcelona.—Systems of rotation and calculations for agricultural products. 690
- 2243 Corps of Engineers of Woods and Forests, Madrid.—Plan of the special school, and technical designs made by the pupils; books on forestry, and models of implements used for the proper cultivation of forests. 690

PORTUGAL.

(South of South Avenue, Columns 13 to 17.)

Arboriculture and Forest Products.

- Arboriculture and Forest Products.**
- 1 Menezes, Jose de Vasconcellos Carneiro, Marco de Canavezes, Oporto.—Woods, corkwood. 600
- 2 Archer, Jacintho F., Setubal, Lisbon.—Corks and corkwood. 600
- 2a Almeida, Jacintho Pacheco, Ponta Delgada.—Samples of wood. 600
- 3 Almeida, Antonio Joaquim de, Villa Nova de Ourem, Santarem.—Timber. 600
- 3a Bettencourt, Francisco, Ponta Delgada.—Samples of wood. 600
- 4 Administrative Council of Castro Daire, Castro Daire, Viseu.—Timber. 600
- 5 Administrative Council of Penacova, Penacova, Coimbra.—Corkwood. 600
- 6 Administrative Council of Penalva, Penalva, Viseu.—Timber. 600
- 6a Salles, Jose Joaquim Pereira, Mirandella, Braganca.—Corkwood. 600
- 7 Albergaria, Thomas Antonio Pinto Soares, Villa Cha Averi.—Corkwood and oak bark. 600
- 8 Administrative Council of Vourella, Vourella, Viseu.—Timber. 600
- 9 Gago, Joao Henriques Nunes, Galveas, Portalegre.—Corkwood. 600
- 10 Goulao, Joao Pereira Pestana Pina, Niza, Portalegre.—Corkwood. 600
- 11 Vaz Preto, Geraldés, Manuel Louza, Castello Branco.—Corkwood. 600
- 12 Joaquim Guilherme de Vascomellos & Sons, Elvas, Portalegre.—Corkwood. 600
- 13 Herdeiros de Roberto & Hunter Reynolds, Estremoz, Evora.—Corks. 600
- 14 Almeida, Francisco Ales, Miranda do Douro, Braganca.—Corkwood. 600
- 15 Rebocha, Francisco Freire, Constanca, Santarem.—Timber. 600
- 16 Ventura, Jose Goncalves da Costa, Quinta do Mosteiro, Oporto.—Corkwood. 600
- 17 Agricultural Society of Oporto, Oporto.—Woods. 600
- 19 Fernandes, Joaquim, Mogao, Santarem.—Cork. 600
- 19a Castro, Joao Vaz, Pacheco, Ponta Delgada.—Samples of wood. 600
- 20 Queiroz, Jose de Sequeira Pinto, S. Sebastiao do Duque, Vianna do Castello. a Corkwood and barks. 600
b Walnuts and chestnuts. 605
- 21 Ramalho, Jose Maria, Evora.—Corkwood and corks. 600
- 22 Frausto, Antonio Joaquim, Montalva, Portalegre.—Corkwood. 600
- 22a Rocha, Francisco Coelhovda, Feira.—Corks. 600
- 23 Faria, Manuel Simplicio, Niza, Portalegre.—Corkwood. 600
- 24 Falcao, Joao Carlos da Costa, Fundao.—Chestnut staves, and rods for making hoops. 600
- 26 Guerra, Jose Manuel, Miranda do Douro, Braganca.—Corkwood. 600
- 27 Murta, Ramiro Cesar, Castello de Vide.—Corkwood. 600
- 28 Mesquita, Pedro Jose de, Sinde, Coimbra.—Corkwood. 600
- 29 Ororio, Manuel de Arevedo Ferraz, Monforte, Castello Branco.—Corkwood. 600
- 30 Murteira, Joaquim Antonio, Campo Maior, Portalegre.—Timber. 600
- 31 Maria, Angelica, Montargil, Portalegre.—Corkwood. 600
- 32 Netto, Joao Mascarenhas, Silves, Faro.—Corks and corkwood. 600
- 33 Nunes & Co., Grandola, Lisbon.—Corks and corkwood. 600
- 34 Ratto, Antonio Goncalves, Barquinha, Santarem.—Corkwood. 600
- 35 Souza, Joze Saldanha Oliveira e, Lisbon.—Corkwood. 600
- 36 Salgado, Julio Bivar d'Azevedo, Sardoal, Santarem.—Corkwood. 600
- 37 Souza, Pedro Augusto Pereira Abreu e, Santa Marinha, Villa Real.—Corkwood. 600
- 38 Lagrifa, Juan, Grandola, Lisbon.—Corks. 600
- 39 Lacerda, Jose de Aragoao Costa, Aldea Nova do Cabo, Castello Branco.—Chestnut rods, staves. 600
- 40 Orb, J. Augusto de, Portalegre.—Corkwood. 600
- 41 Marcal, Joao Lopes, Evora.—Corkwood. 600
- 42 Peres, Roure, & Co., S. Thrago de Cacem, Lisbon.—Corkwood. 600
- 43 Margiochi, jr., Francisco Simoes, Lisbon.—Corkwood. 600
- 44 Ribeiro, J. Lopes, Anciaes, Braganca.—Corkwood. 600
- 45 Ribeiro, Serafim Garcia, Oliveira do Hospital.—Corkwood. 600
- 46 Rodrigues, Manuel Antonio, Ferradosa, Braganca.—Corkwood. 600
- 47 Moraes, Antonio, S. Thiago, Lisbon.—Corks and corkwood. 600
- 48 Mendonca, Manuel F. de, Lisbon.—Corkwood. 600
- 49 Rankin, William, & Sons, Almada, Lisbon.—Corkwood. 600
- 50 Ventura, Jose Goncalves da Costa, Quinta do Mosteiro, Oporto.—Corkwood. 600

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Arboriculture and Forest Products, Pomology.

- 51 Valente, Jose Justiniano d'Oliveira, Aveiro.—Pine kernels. 600
- 52 Vilarinho & Nephew, Silves, Faro.—Corks and corkwood. 600
- 53 Proenca, Francisco Tavares d'Almeida, Castello Branco.—Corkwood. 600
- 54 Silva, Antonio Jose de Sousa e Valongo, Oporto.—Cherry tree. 600
- 55 Peres, Joaquim Manuel de Mattos, Evora.—Corkwood. 600
- 56 Moreno, P., & Sons, Portalegre.—Corks and corkwood. 600
- 57 Cordeiro, Caetano Manuel, Evora.—Cork. 600
- 58 Menezes, C., & Co., Oporto.—Cork and manufactures. 600
- 59 Direction of the Works of the River Mondego and Figueira bar, Coimbra.—Timber woods and barks. 600
- 60 Ferreira, Manuel Felix, Villa Cha, Braganca.—Corkwood. 600
- 61 Vasconcellos, Catharina Mousinho Almada, Nisa, Portalegre.—Corkwood. 600
- 62 Vaz, Eduardo Augusto da Cruz, Castello Branco.—Corkwood. 600
- 63 Vargas, Antonio Alexandre, Alcaccer do Sal, Lisbon.—Corkwood. 600
- 64 Outeiro Fundao, Viscount of, Castello Branco.—Corkwood. 600
- 65 Vasconcellos, Joaquim Guilherme de, Elvas, Portalegre.—Woods. 600
- 66 Saramago, Francisco Ferreira, Reguengo, Evora.—Corkwood. 600
- 67 Silva, Manuel Joaquim da, Redondo, Evora.—Oak-galls. 600
- 68 Andrade, Antonio Garcia de, Elvas, Portalegre.—Scarlet oak-bark and corkwood. 600
- 69 Almeida, Augusto de Asevedo Pinto de, Feira, Aveiro.—Corks. 600
- 70 Beca, Agostinho da Rocha, Penafiel, Porto.—Corkwood, pine tree, and oak-bark. 600
- 71 Coelho, Manuel Diogo, Castello de, Vide, Portalegre.—Timber. 600
- 72 Carreira, Jose Ivo, Peniche, Leiria.—Juniper-wood. 600
- 73 Calca e Pina, Antonio, Souzel, Portalegre.—Corkwood. 600
- 74 Robinson, George, Portalegre.—Corkwood. 600
- 75 Ramalho, Jose Maria, Evora.—Corkwood. 600
- 76 Salema Mattos, & Co., S. Thiaigo do Cacem.—Corks. 600
- 77 Pinheiro, Francisco Rodrigues, Marvao, Portalegre.—Corkwood. 600
- 78 Pereira, Francisco Jose.—Cork and corkwood. 600
- 79 Souza, Antonio Joaquim, Lanudos, Oporto.—Corkwood. 600
- 80 Administrator of the Conselho of Mangualde, Mangualde, Viseu.—Timber. 600
- 81 Almeida, Joaquim Ribeiro, Campanha, Oporto.—Corkwood. 600
- 82 Camello, Joaquim Augusto da Silveira, Penafiel, Oporto.—Corks. 600
- 83 Board of Public Forests, Lisbon.—Shipbuilding timber and construction, corks and corkwood. 600
- 85 Carlos Brandao & Son, Oporto.—Corkwood and cork. 600
- 86 Casa Nova, Manuel Gonsalves, Beires, Oporto.—Corkwood. 600
- 87 Biester Campos, & Co., Lisbon.—Corkwood, prepared. 600
- 88 Zagallo, Antonio Carlos, Elvas, Portalegre.—Corkwood. 600
- 89 Machado, Joao Jose de Souza, Paredes, Oporto.—Timber. 600
- 89a Costa Basto & Co., Oporto.—Mahogany woods. 601
- 90 Corte Real, Antonio Freire, Valle de Prazeres, Castello Branco.—Dyewood. 602
- 91 Cassola, Antonio Joaquim, Portalegre.—Oak tree and cork tree barks. 602
- 92 Veiga, Jose Mendes, Covilha, Castello Branco.—Wood dyes. 602
- 93 Nogueira, Henrique de Sa, Portalegre.—Cork tree bark, oak tree bark, middle layer. 602
- 94 Cardoso, Francisco de Paula, Alpedrinha, Castello Branco.—Sumac. 602
- 95 Chaves & Brother, Lisbon.—Saffron-flower. 602
- 96 Poaires, Antonio Jose da Silva, Cantanhede, Coimbra.—Pitch. 603
- 97 Gago, Joao Henriques Nunes, Galveas, Portalegre.—Acorns. 605
- 98 Saraiva, Francisco Martins, Belmonte, Castello Branco.—Dried chestnuts. 605
- 99 Souza, Manuel Lopes de, Guarda.—Walnuts and chestnuts. 605
- 100 Silva, Joaquim Nunes da, Elvas, Portalegre.—Acorns. 605
- 101 Rego, Antonio Profirio Gomes do, Covilha, Castello Branco.—Chestnuts. 605
- 102 Souto, Antonio Duarte da Cunha, Freixinho, Viseu.—Dried chestnuts. 605
- 103 Oliveira Soares, M. E. de, Evora.—Acorns. 605
- 104 Company of Lezirias do Tagus & Sado, Lisbon.—Corkwood. 606

Pomology.

- 105 Martins, Jeronymo, & Son, Lisbon.—Nuts. 611
- 106 Margalhaes, Luis Antonio, Aldea, Nova do Cabo, Castello Branco.—Chestnuts. 611
- 107 Mrao, Maria Emilia d'Almeida, Penamacor, Castello Branco.—Olives. 611
- 108 Mesquita, Pedro Jose de, Sinde, Coimbra.—Dried chestnuts. 611
- 109 Pereira, Pedro Maria Dantas, Torres Vedras, Santarem.—Almonds. 611
- 110 Pinto, Clemencia, Villa Boim, Portalegre.—Acorns. 611
- 111 Oliveira, Verissimo Ferreira A. de, Montalvao, Santarem.—Olives. 611
- 112 Pessoa, Luis Manuel da Costa, Alfandega da Fe, Braganca.—Olives. 611
- 113 Ornellas & Lister, Lisbon.—Olives. 611

Pomology.

- 114 Botilheiro, Jose Fernandes, Mar-
vaõ, Portalegre.—Walnuts. 611
- 115 Burguete, Miguel Serrao, Sardoal,
Santarem.—Walnuts and hazelnuts. 611
- 116 Silveira, Manuel Jose da, Arganil,
Coimbra.—Walnuts. 611
- 117 Costa, Joao Carlos, Elvas, Porta-
legre.—Acorns. 611
- 118 Peres, Joaquim Manuel de Mattos,
Evora.—Acorns. 611
- 119 Santos, Ascencio Jose dos, Valenca,
Vianna do Castello.—Chestnuts, filberts,
and almonds. 611
- 120 Pimenta, Jose Maria Dantas, Tor-
res Novas, Santarem.—Walnuts and
almonds. 611
- 121 Coelho, Manuel Diogo, Castello
de Vide, Portalegre.—Walnuts and chest-
nuts. 611
- 122 Figueira, Manuel Duarte, Castello
Branco.—Olives. 611
- 123 Gomes, Francisco Antonio.—Mon-
corvo, Braganca.—Olives. 611
- 124 Gomes, Francisco Antonio.—Ol-
ives. 611
- 125 Garfias, M. J. de L., Villa Nova de,
Portimao, Faro.—Almonds. 611
- 126 Guerra, Joaquim Jose da, Elvas,
Portalegre.—Olives. 611
- 127 Guedes, Francisco Domingues,
Castello Branco.—Olives. 611
- 127^a Abrancalha Abrantes, Viscount
da, Santarem.—Olives. 611
- 128 Grillo, Manuel Francisco, Ribeiro
de Niza, Portalegre.—Walnuts and hazel-
nuts. 611
- 130 Jose, Joaquim das, Neves & Sons,
Lisbon.—Almonds. 611
- 132 Peixoto, Jose Nunes de Soura,
Penafiel, Oporto.—Acorns. 611
- 133 Coelho, Jose Justino, Villa de Ta-
mega, Villa Real.—Walnuts. 611
- 134 Correa, Joaquin, Penacova, Coim-
bra.—Walnuts. 611
- 135 Menezes, Manuel Antonio Horta
da Vitlarica, Braganca.—Figs. 611
- 136 Castel Branco, Manuel de Barros,
Portalegre.—Chestnuts. 611
- 137 Direction of Works of the River
Mondego and the Figueira bar, Coimbra.
—Olives. 611
- 138 Transto, Leandro Pinto, Maroao,
Portalegre.—Walnuts and chestnuts. 611
- 139 Guerra, Jose da Conceicao, Elvas,
Portalegre.—Grapes, olives. 611
- 140 Castro, Luis Bernardo Lampairo
M., Amedo, Braganca.—Walnuts. 611
- 141 Coutinho, Luis C. de Lucena
Araujo, Vilha da Fonte, Viseu.—Dried
chestnuts. 611
- 142 Camara, Municipal of Penafiel,
Penafiel, Oporto.—Walnuts, chestnuts,
and filberts. 611
- 143 Coelho, Antonio Jose, Villela do
Tamega, Villa Real.—Dried chestnuts.
611
- 144 Campos, Antonio Carlos de, Mon-
corvo, Braganca.—Almonds. 611
- 145 Miranda, Joaquim Lobo de, Lagos,
Faro.—Almonds. 611
- 146 Nunes, Guilhermes Francisco Pe-
reira, Oliveira do Hospital, Coimbra.—
Olives. 611
- 147 Neves, Adelino, & Son, St. Antonio
dos Olivares, Coimbra.—Filberts. 611
- 148 Lourinho, Antonio Jose, Monte Car-
valho, Portalegre.—Walnuts, chestnuts,
and hazelnuts. 611
- 149 Lanhoso, Jose, Regoa.—Walnuts
and almonds. 611
- 150 Lecocq, Joao Jose, Castello de Vide,
Portalegre.—Almonds and walnuts. 611
- 151 Lopes, Jose Martins Thomar, San-
tarem.—Figs. 611
- 152 Lobo, Jose Maria, Guarda.—Wal-
nuts. 611
- 153 Murteira, Manuel Maria, Campo
Maior, Portalegre.—Olives. 611
- 154 Mattos, Manuel Antonio de, Cam-
po Maior, Portalegre.—Olives. 611
- 155 Mendes, Casemiro Esteves, Aviz,
Portalegre.—Walnuts. 611
- 156 Martel, Joaquin Triguera, Pestana,
Castello Branco.—Olives. 611
- 157 Martins, Antonio Joaquin da Silva,
Elvas, Portalegre.—Olives. 611
- 158 Miranda, Manuel Patricio de, Po-
voa de Meadas, Portalegre.—Olives. 611
- 159 Miranda, Antonio Augusto Lobo
de, Lagos, Faro.—Almonds. 611
- 159^a Ribas, Limas, Guarda.—Olives. 611
- 160 Mira, Jose Paulo de, Evora.—Ol-
ives. 611
- 161 Nogueira, Henrique de Sa, Porta-
legre.—Chestnuts. 611
- 162 Margarido, Luis Jose Ferreira, Vil-
la Nova de Foscoa, Guarda.—Almonds
611
- 163 Moraes, Antonio da Silva, Sardoal,
Santarem.—Almonds. 611
- 164 Matta, Anacleto da Fonseca, Sar-
doal, Santarem.—Chestnuts. 611
- 165 Vasconcellas, Manuel S., Quares-
ma, Cardeisa, Coimbra.—Walnuts. 611
- 166 Veiga, Francisco Antonio, Goes,
Coimbra.—Dried chestnuts. 611
- 167 Vinva, Jorge, & Sons, Pereiras,
Santarem.—Almonds. 611
- 168 Visetto, Jose Bernardo, Tavira,
Faro.—Almonds. 611
- 169 Veiga, Jose Mendes, Covilha, Cas-
tello Branco.—Almonds. 611
- 170 Saramago, Francisco Ferreira,
Reguengo, Evora.—Almonds. 611
- 171 Saraiva, Francisco Martins, Bel-
monte, Castello Branco.—Leguminous
fruits. 611
- 172 Antonio, Eduardo Montalvas de,
Franca, Portalegre.—Acorns. 611
- 174 Inchado, Jose Antonio Dias,
Mourao, Portalegre.—Walnuts. 611
- 176 Jara, Loulé, Faro.—Almonds. 611
- 177 Neves, Jose Joaquin dos, & Bros.,
Lisbon.—Almonds. 611
- 178 Trincao, Romao Antunes, Lapas,
Santarem.—Walnuts. 611
- 179 Tavares, Antonio Jose, Covilha
Castello Branco.—Nuts, almonds, etc. 611
- 180 Trigo, Antonio Manuel de Sousa,
Moncorvo, Braganca.—Almonds. 611

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Pomology, Agricultural Products.

- 181 Themuda, Engracia, Narcisca, Barellos.—Oranges. 611
- 182 Teixeira, Manuel Joaquin Xavier Eiro, Villa Real.—Dried chestnuts. 611
- 183 Taborda, Joao Manuel Correa Freixo Espada a'Cinta, Braganca.—Almonds. 611
- 184 Teixeira, Francisco Loureiro Campello, Oporto.—Chestnuts. 611
- 185 Manuel, Antonio, Mangual de, Viseu.—Walnuts and filberts. 611
- 186 Mello Faro, Joaquin Carvalho d'Azevedo Resende, Viseu.—Walnuts, filberts, almonds, and chestnuts. 611
- 187 Magalhaes, Antonio de Barros Sattam, Viseu.—Dried chestnuts. 611
- Agricultural Products.**
- 188 Baptista & Co., Lisbon.—Wheat. 620
- 189 Albergaria, Thomas Antonio Pinto Soares, Villa Cha, Avciro.—Husks, rye, and Indian corn. 620
- 190 Almeida, Antonio Mendes Alcazer do Sal, Lisbon.—Wheat. 620
- 191 Calisto & Dias, S. Thomé de Mira, Coimbra.—Rice. 620
- 192 Camara, Municipal of Penafiel, Penafiel, Oporto.—Grasses and serradella. 620
- 193 Souza, Jose d'Andrade e, Portalegre.—Indian corn. 620
- 94 Souza, Jose Saldanha Oliveira e.—Wheat and rye. 620
- 95 Santa Clara, Francisco de Paula, Elvas, Portalegre.—Wheat and barley. 620
- 96 Rosa, Jose da Graca Pereira, Niza, Portalegre.—Rye, Indian corn, and millet. 620
- 197 Reis, Antonio Nunes dos, Turcifal, Lisbon.—Wheat. 620
- 198 Rego, Antonio Profirio Gomes do, Covilha, Castello Branco.—Indian corn. 620
- 199 Ramos, Manuel Nogueira, Goes, Coimbra.—Wheat. 620
- 200 Almeida, Antonio Joaquim de, Villa Nova de Ourem, Santarem.—Indian corn. 620
- 201 Cruz, Joao Maria, Setubal, Lisbon.—Spartum. 620
- 202 Castro, Joao Lopes de, Montargil, Portalegre.—Wheat. 620
- 203 Corinho, Jose Maria, Montargil, Portalegre.—Indian corn and wheat. 620
- 204 Corado, Vicente Joaquim, Arronches, Portalegre.—Wheat. 620
- 205 Cunha Ozorio, Joaquim Felizardo da, Arronches, Portalegre.—Wheat. 620
- 206 Calca e Pina, Augusto, Souzel, Portalegre.—Wheat. 620
- 207 Cervantes, Pedro, Peniche, Leiria.—Orchilla weed. 620
- 208 Calça e Pina, Antonio, Souzel, Portalegre.—Cereals. 620
- 209 Pinto, Jose Clemente, St. Cruz, Coimbra.—Wheat. 620
- 210 Gago, Joao Henriques Nunes, Galveas, Portalegre.—Wheat and rice. 620
- 211 Antao, Manuel Antonio, Miranda do Douro, Bragança.—Wheat. 620
- 212 Araujo, Bernardo, Bretiande, Viseu.—Indian corn. 620
- 213 Almeida, Joaquim Ribeiro de, Campanha de Vaixo, Oporto.—Indian corn. 620
- 214 Contada, Jose Domingues, Carapecos, Braga.—Indian corn. 620
- 215 Britto, Joao de, Lisbon.—Wheat. 620
- 216 Gouvea, Jose dos Santos, Constanta, Santarem.
a Cereals. 620
b Leguminous plants. 621
- 217 Mello e Faro, Joaquin Carvalho d'Azevedo, Resende, Viseu.
a Indian corn and wheat. 620
b Pannick grass. 624
- 218 Yosso, Joas Jose da Matta, Serpa, Beza.
a Oats. 620
b Chick-peas. 621
- 219 Tavares, Antonio Jose, Covilha, Castello Branco.
a Cereals. 620
b Leguminous fruits. 621
- 220 Teixeira, Carlos Augusto, Grandola, Lisbon.
a Rice. 620
b Beans. 621
- 221 Guerreiro, Antonio Manuel, Villa Nova da Cerveira, Vianna do Castello.
a Wheat, rye, Indian corn. 620
b Beans. 621
c Linseed. 624
- 222 Gomes, Antonio Luis, Valença, Vianna do Castello.
a Indian corn. 620
b Beans. 621
c Linseed. 624
- 223 Miranda, Antonio Augusto Lobo de, Lagos, Faro.
a Indian corn and wheat. 620
b Peas, carob beans, lupines. 621
c Linseed. 624
- 224 Magalhaes, Luis Antonio, Aldea Nova do Cabo, Castello Branco.
a Rye. 620
b Beans, kidney beans. 621
c Potatoes. 622
- 225 Rapozo, Luis, Miranda do Douro, Braganca.—Rye. 620
- 226 Ribeiro, Jose Rodrigues, Miranda do Douro, Braganca.—Barley. 620
- 227 Rua, Manuel Ribeiro, Magueija, Viseu.—Wheat. 620
- 228 Rosette, Jose, Palancoulo, Braganca.—Wheat. 620
- 229 Velho, Jose Bernardino Bringel, Beja.—Wheat. 620
- 230 Vieira, Francisco de Lemos Cunha, Evora.—Wheat, rye, and barley. 620
- 231 Machado, Pedro Xavier, Portalegre.—Wheat and rye. 620
- 232 Moraes, Jose Bazilio de, Arronches, Portalegre.—Wheat. 620
- 233 Murteira, Antonio Maria, Campo Maior, Portalegre.—Wheat. 620
- 234 Lobao Francisco Rasquilha, jr., S. Bartholomeo, Portalegre.—Wheat and rye. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Products.

- 235 Lobo, Jose Maria, Guarda.—Trefoil, ray-grass. 620
- 236 Lemos, Francisco Antonio Pereira, Villarelhos, Braganca.—Wheat. 620
- 237 Neves, Francisco Xavier, Azinhoza, Braganca.—Wheat. 620
- 238 Nogueira, Manuel Martins, Goes, Coimbra.—Indian corn. 620
- 239 Nunes, Guilherme Francisco Pereira, Oliveira do Hospital, Coimbra.—Wheat. 620
- 240 Pera, Francisco Marcos, Miranda do Douro, Braganca.—Wheat. 620
- 241 Lopes, Jacintho, Elvas, Portalegre.—Wheat. 620
- 242 Lima, Antonio Joaquim Fernandes, Villa Nova da Cerveira, Vianna do Castello.—Wheat and Indian corn. 620
- 243 Lemos, Joao Gonsalves de, Louza, Coimbra.—Indian corn. 620
- 244 Mechanical Bakery of the Poorhouse, Lisbon.—Wheat. 620
- 245 Pessoa, Antonio Jose dos Reis, S. Bartholomeo, Coimbra.—Indian corn and wheat. 620
- 246 Pinheiro, Jose Henrique, Sta. Maria, Braganca.—Wheat. 620
- 247 Pinto, Jose, Penude, Viseu.—Indian corn. 620
- 248 Pinto, Joao de Azevedo, Campello, Oporto.—Indian corn. 620
- 249 Pamperio, Ricardo de Souza, Valongo, Oporto.—Cereals. 620
- 250 Margalhaes, Francisco T., Sinda, Coimbra.—Indian corn. 620
- 251 Leite, Antonio Bernardo d'Oliveira, Cabeceiras de Basto, Braga.—Indian corn and wheat. 620
- 252 Lobo, Bartholomeo Jose, Oliveira do Hospital, Coimbra.—Indian corn. 620
- 253 Madeira, Joaquim Anastasio, Monforte, Portalegre.—Wheat. 620
- 254 Mendes, Bernardo, Portalegre.—Indian corn. 620
- 255 Marmello, Jose, Portalegre.—Indian corn. 620
- 256 Nunes, Antonio, Elvas, Portalegre.—Wheat. 620
- 257 Ortega, Maria Luisa, Miranda do Douro, Braganca.—Wheat. 620
- 258 Oliveira, Claudino Augusto Mo-corvo, Braganca.—Indian corn. 620
- 259 Valente, Antonio Joaquim, Torre do Cabelal, Portalegre.—Wheat. 620
- 260 Vargas, Antonio Alexandre, Alcacer do Sal, Lisbon.—Wheat. 620
- 261 Viscount of Alcacer do Sal, Alcacer do Sal, Lisbon.—Wheat. 620
- 262 Valdez, Antonio de Campos, Alcacer do Sal, Lisbon.—Wheat and rice. 620
- 263 Vasconcellos, Ezequiel Augusto de, Elvas, Portalagere.—Wheat. 620
- 264 Silva Carvalho, Jose Leonardo da, Vianna, Evora.—Wheat and barley. 620
- 265 Silva, Manuel Joaquim da, Redondo, Evora.—Wheat. 620
- 266 Sardinha, Joao Maria da Silva, Monforte, Portalegre.—Wheat, rye, barley, and oats. 620
- 267 Lacerda, Jose de Aragao Costa, Aldea Nova do Cabo, Castello Branco.—Trefoil. 620
- 268 Andrade, Adriano Pequito Seixas de, Gaviao, Portalegre.—Rice. 620
- 269 Acciole, Joao da Fonseca, Portalegre.—Oats. 620
- 271 Bastos, Manuel Jose Teixeira, S. Miguel de Refoyos, Braga.—Indian corn. 620
- 272 Brandao, Francisco Antonio, Reboreda, Vianna.—Indian corn. 620
- 273 Peres, Joaquim Manuel de Mattos, Evora.—Wheat. 620
- 274 Pimentel, Antonio Augusto de Moraes, Castello Branco, Braganca.—Rye and wheat. 620
- 275 Pinto, Antonio Rodrigues, Coimbra.—Cereals. 620
- 276 Silveira, Manuel Jose da, Arganil, Coimbra.—Indian corn. 620
- 277 Poiars, Antonio Jose Silva, Cantanhede, Coimbra.—Indian corn, wheat, rice. 620
- 278 Silva, Antonio Lopes da, Balazar, Oporto.—Indian corn. 620
- 279 Penedo, Francisco Antonio, Beja.—Wheat. 620
- 280 Picao, Amaro Jose de Bastos, Aventusa, Portalegre.—Wheat. 620
- 281 Peireira, Henrique Augusto, Setubal, Lisbon.—Rice. 620
- 282 Pinto, Luis Marques, Elvas, Portalegre.—Wheat. 620
- 283 Souza, Augusto Pereira d'Abreu, Sta. Marinha, Villa Real.—Indian corn. 620
- 284 Souza, Victorino Alves, Oporto.—Wheat. 620
- 285 Silva, Joaquim Medas da, Ribeiro das Avesas, Porto.—Indian corn. 620
- 286 Lousa, Jose Luis Rodrigues, Verdoejo, Vianna do Castello.—Indian corn and rye. 620
- 287 Saigueiro, Jose Avelino Affonso, Segandoes, Vianna do Castello.—Indian corn. 620
- 288 Saigueiro, Jose Avelino Affonso, Segandoes, Vianna Castello.—Indian corn, and rye. 620
- 289 Santos, Antonio Ferreira dos, Rio Tinto, Oporto.—Wheat and barley. 620
- 290 Carneiro, Jose Antonio, Sta. Eulalia, Portalegre.—Wheat and rye. 620
- 291 Coelho, Jose Fialho, Moura, Beja.—Wheat and barley. 620
- 292 Companhia das Lezirias do, Tejo e Sado, Lisbon.—Wheat and barley. 620
- 293 Pinheiro, Jose de Moura, Idanha a Nova, Castello Branco.—Wheat. 620
- 294 Queiroz, Sebastiao Machado Botelho, S. Pedro, Villa Real.—Indian corn. 620
- 295 Ruivo, Joao Lopes, Vianna do Alemtejo.—Wheat, rye, and barley. 620
- 296 Carvalho, Joao Antonio de, Porto de Moz, Leiria.—Wheat. 620
- 297 Chaves & Brother, Lisbon.—Wheat. 620
- 298 Dornas, Luis Cazemiro Pinto dos, Bigorne, Viseu.—Rye. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Products.

- 299 Diogo, Paulo Joao, Miranda do Douro, Bragança.—Rye. 620
- 300 Duro, Francisco dos Santos, Vianna do Alemtejo.—Wheat, barley, and maize. 620
- 301 Figueiredo, Augusto de Sa, Marques e, Barcelas, Viseu.—Wheat. 620
- 302 Freitas, Joao Alves Pinto de, S. Joao d'Ovil, Oporto.—Indian corn and wheat. 620
- 303 Ferreira, Joao Dias, Vallongo, Oporto.—Wheat and Indian corn. 620
- 304 Philippe, Jose Antonio, Cepoes, Viseu.—Indian corn. 620
- 305 Franco, Jose da Costa, Beja.—Wheat. 620
- 306 Franco, Eduardo, Fronteira, Portalegre.—Wheat. 620
- 307 Ferreira, Jose, Montargil, Portalegre.—Wheat. 620
- 308 Fonseca Santos, Antonio Germano da, Redondo, Evora.—Wheat. 620
- 309 Ferro, Martinho Luiz, Beringel, Beja.—Wheat. 620
- 310 Fonseca, Francisco da Costa Ramos Pinto da, Fronteira.—Wheat. 620
- 311 Gomes, Jose da Costa, Balazar, Oporto.—Wheat. 620
- 312 Guimaraes, Jose Fernandes, Serpa, Beja.—Wheat. 620
- 313 Lapa, Joaquim Pereira, Sernacelho, Viseu.—Wheat and rye. 620
- 314 Lima, Lino, Anciaes, Bragança.—Rye and wheat. 620
- 315 Caetano, Joaquim Antonio, Montargil, Portalegre.—Indian corn. 620
- 316 Leao, Antonio Moreira, Guilhufe, Oporto.—Wheat and rye. 620
- 321 Moreira, Joao Baptista, Rates, Oporto.—Wheat. 620
- 322 Valente, Jose Justiniano d'Oliveira, Estarreja, Aveiro.—Barley and oats. 620
- 323 Trigo, Jose Antonio Horta da Villanica, Bragança.—Wheat. 620
- 324 Tavares, Jose da Costa Andrade, Alpedrinha, Castello Branco.—Wheat. 620
- 325 Vieira, Manuel Pinto da Silva, S. Thiago de Custoias, Oporto.—Wheat and barley. 620
- 326 Teixeira, Manuel Joaquim Xavier, Ciro, Villa Real.—Barley. 620
- 327 Teixeira, Francisco Loureiro, Campello, Oporto.—Wheat. 620
- 328 Xavier, Francisco de Paulo, Benavente, Santarem.—Wheat. 620
- 329 Monteiro, Jose de Sousa, Viseu.—Rye and Indian corn. 620
- 330 Manuel Luis, Gondivae, Oporto.—Indian corn. 620
- 331 Moutinho, Joaquim Thome, Rio Tinto, Oporto.—Indian corn and rye. 620
- 332 Mousa, Joao Carlos, Marques de, & Gomes, Francisco, S. Salvador, Aveiro.—Indian corn, wheat, rye, barley, and rice. 620
- 333 Martins, Anselmo Jose, Eiro, Villa Real.—Rye. 620
- 334 Mourao, Victorino Teixeira Correia, Lordello, Viseu.—Indian corn. 620
- 335 Macias, Francisco de Pera, Miranda do Douro, Bragança.—Wheat. 620
- 336 Mostardinha, Jose Marques, Oliveira, Aveiro.—Wheat. 620
- 337 Malta, Affonso Bernardino Ochoa, Bragança.—Wheat. 620
- 338 Mirandella, Pedro Aleixo de, Mirandella, Bragança.—Wheat. 620
- 339 Malheiro, Manuel Joao Barrellas, Viseu.—Indian corn. 620
- 340 Menezes, Jose de Vasconcellos Carneiro, Soalhaes, Mario de Canavezes.—Indian corn, wheat, barley, rye. 620
- 341 Magalhaes, Antonio de Barros, Sattam, Viseu.—Wheat. 620
- 342 Carvalho, Luis Candido, Valle Passos, Villa Real.
a Indian corn and rye. 620
b Beans. 621
- 343 Coelho, Luis Pires Sardoal, Santarem.
a Cereals. 620
b Chick-peas and kidney beans. 621
- 344 Correa, Joaquim, Penacova, Coimbra.
a Indian corn, rye, wheat, and barley. 620
b Beans and peas. 621
- 345 Carvalho, Joaquim Augusto da Silveira, Penafiel, Oporto.
a Rice and maize. 620
b Beans and peas. 621
- 346 Costa, Manuel Jorge da, Valongo, Oporto.
a Barley. 620
b Beans. 621
- 347 Barbosa, Manuel Carneiro, Valongo, Oporto.
a Indian corn. 620
b Beans. 621
- 348 Bastos, Pedro Jose da Silva, Miranda do Corvo, Coimbra.
a Indian corn. 620
b Beans. 621
- 349 Alvarrao, Joao do Bomsucesso, Elvas, Portalegre.
a Canary-seed. 620
b Chick-peas. 622
- 350 Alvim, Joao Cordoso de Souza, Alter do Chao, Portalegre.
a Cereals. 620
b Spices. 623
c Linseed. 624
- 351 Beca, Agostinho da Rocha, Penafiel, Oporto.
a Millet-seed. 620
b Beans. 621
- 352 Callado Senior, Joao da Costa, Alter do Chao, Portalegre.
a Wheat. 620
b Chick-peas, kidney beans, and lupines. 621
- 353 Chichorro, Andre Guilherme, Monforte, Portalegre.—Wheat. 620
- 354 Almeida, Joaquim Ribeiro, Campanha, Oporto.
a Indian corn. 620
b Beans. 621
- 355 Administrative Council of Montemor o Velho, Coimbra.
a Indian corn, wheat, and rice. 620
b Beans and peas. 621

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Products.

- 356 Administrative Council of Guimaraes, Braga.—Wheat, rye, Indian corn, pannick. 620
- 357 Annes, Antonio Joaquim, Eiro, Villa Real.
a Indian corn. 620
b Beans. 621
- 358 Administrative Council of Poiares, Poiares, Coimbra.
a Lupines. 620
b Beans. 621
- 359 Araujo & Brother, Lisbon.
a Rice flour. 620
b Leguminous flour. 621
- 360 Asevedo, Jose Rodrigues de, Benavente, Santarem.
a Indian corn. 620
b Kidney beans and lentiles. 621
- 361 Pereira, Jose Agostinho Mancio, S. Thiago, Lisbon.
a Rice. 620
b Kidney beans. 621
- 362 Silva, Antonio Jose de Sousa e, Vallongo, Oporto.
a Wheat. 620
b Linseed. 624
- 363 Palmeiro, Xavier Rosado, Alter do Chao, Portalegre.
a Barley, wheat, oats, rye, Indian corn. 620
b Beans. 621
- 364 Pinto da Fonseca, Francisco Ramos, Fronteira, Portalegre.
a Wheat. 620
b Chick-peas. 621
- 365 Ribas, Simao, Guarda.
a Wheat and Indian corn. 620
b Chick-peas, potatoes, onions, and garlic. 621
- 366 Silva, Antonio Jose da, Leca do Balleo, Oporto.
a Rye. 620
b Beans. 621
- 367 Bogalho, Joao Joaquim, Villa Boim.
a Wheat. 620
b Beans. 621
- 368 Calça e Pina, Antonio, Souzel, Portalegre.
a Cereals. 620
b Leguminous articles. 621
- 369 Coutto, Joaquim Lucio do, Elvas, Portalegre.
a Wheat. 620
b Chick-peas. 621
- 370 Figueiredo, Jose Paulo Teixeira de Matheus, Villa Real.
a Indian corn. 620
b Potatoes. 622
- 371 Direction of Works of the River Mondego and the Figueira bar, Coimbra.
a Indian corn, rye, and oats. 620
b Seeds. 624
- 372 Cordes, Balthazar, Barcarena, Lisbon.
a Wheat. 620
b Beans. 621
- 373 Cardozo, Antonio Augusto Correa da Silva, Cellorico, Guarda.
a Rye, wheat, and barley. 620
b Kidney beans, and chick-peas. 621
- 374 Gomes, Antonio Xavier Correa, Sattam, Viseu.
a Pannick and rye. 620
b Beans. 621
- 375 Fernandes, Manuel Ignacio, Telloes, Villa Real.
a Rye, Indian corn. 620
b Beans. 621
- 376 Fernandes, Antonio Vicente d'Almeida, Benavente, Santarem.
a Indian corn. 620
b Kidney beans and chick-peas. 621
- 377 Formosinho, Jose Maria Gomes, Serpa, Beja.
a Barley and rye. 620
b Beans. 621
- 378 Fragozo, S. Thiago, Lisbon.
a Rice. 620
b Kidney beans. 621
- 379 Fernandes, Joaquim Filippe, Beja.
a Wheat. 620
b Leguminous plants. 621
- 380 Fiuza, Domingos Antonio, Evora.
a Wheat, rye, and barley. 620
b Beans. 621
- 381 Guerra, Joaquim Jose da, Elvas, Portalegre.
a Wheat. 620
b Leguminous fruits. 621
- 382 Vaz Preto Gerales, Manuel Louza, Castello Branco.
a Wheat. 620
b Beans and peas. 621
- 383 Egreja, Manuel Antonio, Torroso, Oporto.
a Indian corn. 620
b Beans. 621
- 384 Inchado, Jose Antonio Dias Mourao, Portalegre.
a Cereals. 620
b Kidney beans. 621
- 385 Marreco, Miguel Antunes, Miranda do Corvo, Coimbra.
a Indian corn. 620
b Beans. 621
- 386 Leas, Manuel da Cunha, Sobreira, Oporto.—Wheat, 620
- 387 Egreja, Jose Francisco de Serra, Novaes, Oporto.
a Wheat and Indian corn. 620
b Beans. 621
- 390 Saraiva, Francisco Martins, Belmonte, Castello Branco.
a Cereals. 620
b Onions. 621
- 391 Sobrinho, Rafael Baptista, Alvito, Beja.
a Wheat. 620
b Beans. 621
- 392 Souza e Mello, Antonio Machado de, S. Sebastiao, Ponta Delgada.
a Barley and corn. 620
b Kidney beans. 621
- 393 Souza, Manuel Lopes de, Guarda.
a Cereals. 620
b Kidney beans and chick-peas. 621
c Potatoes. 622
- 394 Matto, Antonio Mendes de, Alpedrinha, Castello Branco.
a Cereals. 620
b Leguminous fruits. 621
- 395 Vaz, Eduardo Augusto da Cruz, Castello Branco.
a Wheat. 620
b Chickpeas and beans. 621
- 396 Vasella, Jose jr., Gomes, Serpa, Beja.
a Wheat. 620
b Beans. 621

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Products.

397	Abrancaha, Viscount of, Abrantes, Santarem.		415	Rangel, Manuel de Souza, Guilhufe, Oporto.	
	a Wheat, barley, rice, Indian corn.	620		a Corn.	620
	b Butter.	651		b Beans.	621
398	Boa, Viscount of, Vista, Beja.—Wheat.	620	416	Ribeiro, J. Lopes, Anciaes, Braganca.	
399	Villas, Manuel Pereira, Torroso, Oporto.			a Corn.	620
	a Barley, corn, wheat, Indian corn.	620		b Beans.	621
	b Beans.	621	417	Roquete, Jose Ferreira, Salvaterra, Santarem.	
400	Veiga, Francisco Antonio, Goes, Coimbra.			a Cereals.	620
	a Indian corn.	620		b Kidney beans.	621
	b Beans.	621	418	Rijo, Philippe de Jesus, Elvas, Portalegre.	
401	Valente, Jose Justiniano d'Oliveira, Estarreja, Aveiro.			a Wheat.	620
	a Oats and barley.	620		b Chick-peas.	621
	b Seed.	624	419	Risques, Augusto, Aviz, Portalegre.	
402	Montoso, Andre de Brito Monforte, Portalegre.			a Cereals.	620
	a Indian corn.	620		b Beans.	621
	b Beans.	621		c Potatoes.	622
403	Mira, Jose Paula de, Evora.		420	Souza, Manuel Paulo de, Miranda do Douro, Braganca.	
	a Wheat, barley, Indian corn.	620		a Wheat and rye.	620
	b Kidney-beans, lupines.	621		b Chick-peas.	621
404	Novaes, Antonio Jose Cabeceiras de Basto, Braga.		421	Sa, Antonio Alves do Conto e, Ger-munde, Oporto.	
	a Indian corn.	620		a Wheat and Indian corn.	620
	b Beans.	621		b Beans.	621
405	Oliveira, Manuel Rodrigues, Fraguas, Viseu.—Indian corn, wheat.	620	422	Souto, Antonio Duarte da Cunha, Freixinho, Viseu.	
406	Mendes, Luis Antonio Soares, Castello Branco.			a Indian corn.	620
	a Wheat.	620		b Beans.	620
	b Chick-peas and kidney beans.	621	423	Silva, Joaquim Ribeiro da, Valongo, Oporto.	
407	Moniz, Antonio Bernardino da Fonseca, Baracal, Guarda.			a Wheat.	620
	a Indian corn, rye, wheat.	620		b Beans.	621
	b Kidney beans.	621	424	Salgado, Julio Bivar d'Azavedo e, Sardoal, Santarem.	
	c Millet-seed.	624		a Cereals.	620
408	Oliveira, Verissimo, Ferreira A. de, Montalvo, Santarem.	*		b Beans.	621
	a Cereals.	620	425	Silva, Antonio Jose da, Salvaterra, Santarem.	
	b Beans.	621		a Wheat.	620
409	Lacerda, Jose de Aragoa Costa, Aldea Nova do Cabo, Castello Branco.			b Chick-peas.	621
	a Indian corn, wheat.	620	426	Silva, Joaquim Tavares da Cruz, Aldeia da Matta, Portalegre.	
	b Beans, chick-peas.	621		a Millet.	620
110	Pedroza, Maria Jose Lopes, Lavos, Coimbra.			b Beans.	621
	a Cereals.	620	427	Coelho, Luis Pires, Sardoal, Santarem.	
	b Beans, chick-peas, lupines.	621		a Cereals.	620
	c Linseed.	624		b Chick-peas and kidney beans.	621
111	Mourato, Mathias, Alpalhao, Portalegre.		428	Pimentel, Jose Reis, Castello de Vide, Portalegre.	
	a Cereals.	620		a Cereals.	620
	b Kidney beans.	621		b Chick-peas.	621
12	Viuva Marques & Sons, Lisbon.		429	Coelho, Manuel Diogo, Castello de Vide, Portalegre.	
	a Indian corn and wheat.	620		a Cereals.	620
	b Beans.	621		b Beans.	621
13	Morgado, Joao Alves, Constanca, Santarem.		430	Casqueiro, Jose Maria, Crato, Portalegre.	
	a Cereals.	620		a Cereals.	620
	b Leguminous fruits.	621		b Beans.	621
14	Queiroz, Jose de Sequeira Pinto, S. Sebastiao do Duque, Vianna do Castello.		431	Caldeira, Miguel Joaquim, Elvas, Portalegre.	
	a Cereals and husks.	620		a Wheat.	620
	b Beans.	621		b Chick-peas.	621
	c Seeds and pine kernels.	624	432	Coutinho, Fernando Alfonso d'Almeida, Sepins, Coimbra.	
				a Wheat and Indian corn.	620
				b Beans.	621

* or classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural Products.

- 433 Casa Nova, Manuel Gonsalves, Beires, Oporto.—Wheat, corn, Indian corn, barley. 620
- 434 Christina, Manuel Lopes, Alhaes, Viscu.—Wheat. 620
- 435 Carvalho, Luis Xavier do Amaral, Rio de Moinhos, Viscu.—Wheat and Indian corn. 620
- 436 Calcado, Antonio Jose, S. Pedro, Villa Real.—Indian corn. 620
- 437 Cadaval, Francisco de Sousa, Villa Nova da Cerveira, Vianna do Castello.—Wheat and Indian corn. 620
- 438 Coelho, Antonio Jose, Villa do Tamega, Villa Real.—Rye. 620
- 439 Coelho, Joao dos Santos, Villa Nova de Souto de El Rei, Viscu.—Indian corn and wheat. 620
- 440 Azevedo, Joao Rodrigues de, Benavente, Santarem. 620
a Wheat. 620
b Chick-pea. 621
- 441 Peixoto, Jose Nunes de Sousa, Penafiel, Oporto. 620
a Indian corn. 620
b Vegetable seed. 624
- 442 Cadaval, Francisco de Sousa, Villa Nova da Cerveira, Vianna do Castello.—Beans. 621
- 443 Corte Real, Antonio Freire, Valle de Prazeres, Castello Branco.—Kidney beans. 621
- 445 Abreu, Francisco Rodrigues de, Abrantes, Santarem.—Kidney beans. 621
- 446 Alcantara, Francisco Augusto Mendes de, Lagares, Coimbra.—Beans. 621
- 447 Alves, Jose Martins, Novaes, Oporto.—Beans. 621
- 448 Administrative Council of Coimbra.—Leguminous fruits. 621
- 449 Grillo, Manuel Francisco, Ribeiro de Niza, Portalegre. 621
a Kidney beans. 621
b Potatoes. 622
- 450 Ramires, Jose Peres, S. Thiago, Lisbon. 621
a Kidney beans. 621
b Linseed. 624
- 451 Leao, Jose Maria Carneiro, Figueira, Oporto. 620
a Pannick grass. 620
b Beans. 621
c Millet-seed. 624
- 452 Veiga, Jose Mendes, Covilha, Castello Branco. 621
a Pumpkins, leguminous fruits, and potatoes. 621
b Seeds. 624
- 453 Rosa de Jesus, Maria Angelica, Porto.—Turnips, radishes, etc. 621
- 454 Monteiro, Julio Pereira, Villa Fernando, Guarda.—Potatoes. 622
- 455 Vasconcellos, Duarte, Loureiro, Viscu.—Hops. 623
- 456 Alvim, Joao Cardoso de Souza, Alter do Chao, Portalegre.—Mustard. 623
- 457 Calçada, Antonio da Costa, S. Pedro, Villa Real.—Beans. 621
- 458 Castro, Miguel Ozorio, Cabral de Santa Clara, Coimbra.—Beans and peas. 621
- 459 Carvalho, Antonio Jose de, Elvas, Portalegre.—Chick-pea. 621
- 460 Coelho, Jose Justino, Villa do Tamega, Villa Real.—Beans and chick-peas. 621
- 461 Andrade, Francisco B. d'Almeida, Celorico Guarda. 621
a French and other beans. 621
b Potatoes. 622
- 462 Alvarrao, Joao de, Bom Successo, Elvas, Portalegre. 621
a Chick-pea. 621
b Canary-seed. 624
- 463 Pimenta, Isidoro E. O. C. Marques, Villa Boim, Portalegre.—Chick-peas and kidney beans. 621
- 464 Pygnatelli, Jose da Cunha, Guarda. 621
a Kidney beans. 621
b Linseed. 624
- 465 Freire, Joao Pereira, Penafiel, Oporto. 621
a Beans. 621
b Pine kernels and seeds. 624
- 466 Santos, Ascencio Jose dos, Valenca, Vianna do Castello.—Beans and peas. 621
- 467 Pereira, Jose Geraldode Sa, Trancoso, Guarda.—Kidney beans. 621
- 468 Botilheiro, Jose Fernandes, Marvao, Portalegre.—Kidney beans. 621
- 469 Condessa d'Anadia, Santa Clara, Coimbra.—Beans. 621
- 470 Carvalho, Jose Fernandes Antunes de, Goes, Coimbra.—Beans. 621
- 471 Cruz, Jose Bento, Armamar, Viscu.—Bean. 621
- 472 Castro, Jose d'Almeida Siloa e, Miranda do Corvo, Coimbra.—Beans. 621
- 473 Costa, Antonio Ferreira da, Villa Cha de Cangueiros, Viscu. 621
a Beans. 621
b Potatoes. 622
- 474 Azevedo, Jose de, Alter do Chaos, Portalegre.—Kidney beans. 621
- 475 Braga, Luiz Barboza, Penafiel, Oporto.—Beans. 621
- 476 Barjona, Pedro Simoes Affonso, S. Thomé de Misa, Coimbra.—Beans. 621
- 477 Poiaros, Antonio Jose da Silva, Cantanhede, Coimbra.—Beans. 621
- 478 Souza, Jose Luis Rodrigues de, Valenca, Vianna do Castello.—Beans. 621
- 479 Silva, Antonio Jose de Sousa e, Vallongo, Oporto.—Beans and onions. 621
- 480 Pinto, Antonio Rodrigues, S. Bartholomeu, Coimbra.—Beans, chick-peas, and lupines. 621
- 481 Pinto, Luis Marques, Elvas, Portalegre.—Beans. 621
- 482 Pinto, Antonio Mascarade, Villa Boim, Portalegre.—Chick-peas. 621
- 483 Pinto, Augusto Leal de Gouvea, Miranda do Corvo, Coimbra.—Beans. 621
- 484 Mello, Bento de Castro Coelho e, S. Thiago, Coimbra.—Beans. 621
- 485 Martins, Joaquim, Boucas, Oporto.—Beans. 621
- 486 Joaquim Guilherme de Vasconcellos & Sons, Elvas, Portalegre.—Leguminous plants. 621

Agricultural Products.

- 487 Jara, Loule, Faro.—Carob beans. 621
- 488 Guimaraes, Victorino Barbosa, Penafiel, Oporto.—Beans. 621
- 489 Gomes, J. Carlos, & Moura, F. A., Margues de, S. Salvador, Aveiro.—Peas, lupines, lentils. 621
- 490 Torres, Bernardo Jose, Novaes, Oporto.—Garlic. 621
- 491 Tenorio, Matheus Rodrigues, Alter do Chao, Portalegre.—Kidney beans. 621
- 492 Gomes, Jose Libanio, Villa Nova de Portimao, Faro.—Carob. 621
- 493 Martins, Jeronymo, & Son, Lisbon.—Beans. 621
- 496 Moreira, Luis Jose, Lanudos, Oporto.—Beans. 621
- 497 Martins jr., Manuel Jose, Amorim, Oporto.—Beans. 621
- 498 Mattos, Manuel Henriques de, Goes, Coimbra.—Beans. 621
- 499 Moutinho, Joaquim Thomé, Gondomar, Oporto.—Beans. 621
- 500 Faro, Joaquim de Carvalho Azevedo, Reizende, Viseu.—Beans. 621
- 501 Fernandes, Jose Antonio, Valenca, Vianna do Castello.—Beans. 621
- 502 Ferreira, Joao Dias, Valongo, Oporto.—Beans. 621
- 503 Falcao, Maria Miquelina, Miranda do Corvo, Coimbra.—Beans. 621
- 504 Ferreira, Manuel da Costa, Marvao, Portalegre.—Kidney beans. 621
- 505 Fernandes, Joaquim Pinto, Campello, Oporto.—Beans. 621
- 506 Freire, Amancio Antonio de Sequeira, Alemquer, Lisbon.—Kidney beans. 621
- 507 Gomes, Joao Carlos, Ithavo, Aveiro.—Beans. 621
- 508 Vieira, Venancio Dias de Figueiredo, Eiro, Aveiro.—Beans. 621
- 509 Visetto, Francisco Manuel, Tavira, Faro.—Carob. 621
- 510 Santos, Antonio Joaquin, Vianna.—Beans. 621
- 512 Soares, Jose B., Celorico, Guarda.—Kidney beans and chick-peas. 621
- 513 Sampaio, Alexandre Tavares de Mello, Guarda.—Kidney beans and chick-peas. 621
- 514 Silva, Jose Nunes da, Elvas, Portalegre.—Beans. 621
- 515 Dias, Luis Antonio, Miranda do Corvo, Coimbra.—Beans. 621
- 516 Meira, Matthias, Ribeira de Niza, Portalegre.—Kidney beans and chick-peas. 621
- 517 Neves, Adelino, Santo Antonio dos Olivais, Coimbra.—Beans. 621
- 518 Neves, Francisco Xavier, Azinhosa, Braganca.—Chick-peas. 621
- 519 Neves, Jose Marquesdas, Vallongo, Oporto.—Beans. 621
- 520 Negrao, Joaquim d'Almeida, Portimao, Faro.—Carob. 621
- 521 Oliveira, Fortunato Antonio, Goes, Coimbra.—Beans. 621
- 522 Ozorio, Alvaro de Azevedo, Tarouca, Viseu.—Beans. 621
- 523 Vasconcellos, Manuel S. Quaresma, Candexa, Coimbra.—Chick-peas. 621
- 524 Magalhaes, Francisco F. Sinde, Coimbra.—Beans. 621
- 525 Pinto, Clemencia, Villa Boim, Portalegre.—Chick-peas. 621
- 526 Pimentel, Antonio Augusto de Moraes, Castello Branco, Braganca.—Chick-peas, lupines. 621
- 527 Martins, Anselmo Jose, Ciro, Villa Real.—Beans. 621
- 528 Lapa, Joaquim Pereira, Sernacelhe, Viseu.—Beans. 621
- 529 Leite, Antonio Bernardo d'Oliveira, Cabeceiras de Basto, Braga.—Beans. 621
- 530 Lessa, Antonio dos Santos, Boucas, Oporto.—Beans. 621
- 531 Monteiro, Francisco Vaz, Ponte de Sor, Portalegre.—Kidney beans. 621
- 532 Oliveira Soares, M. E. de, Evora.
a Cereal. 620
b Leguminous fruits. 621
- 533 Moran, Jose Antonio Martins, Vianna do Alemtejo.—Windsor beans. 621
- 534 Lemos, Joao Gonsalves de Souza, Coimbra.—Beans. 621
- 535 Ozorio, Manuel de Azevedo Ferrao, Monforte, Castello Branco.—Kidney beans. 621
- 536 Macedo Pinto, Joaquim Ferreira de, Taboaco, Viseu.—Beans. 621
- 537 Lopes, Jose Ramos, Airo, Braga.—Beans. 621
- 538 Mourao, Victorino F. C., Lordello, Villa Real.—Beans. 621
- 539 Motta, Abel Maria, Rabacal, Coimbra.—Chick-peas. 621
- 540 Lobo, Jose Maria, Guarda.—Kidney beans. 621
- 541 Lopes, Jacintho, Elvas, Portalegre.—Beans and chick-peas. 621
- 542 Miranda, Joaquim Lobo de, Lagos, Faro.—Beans. 621
- 543 Menezes, Jose Vasconcellos Carneiro, Marco de Canavezes, Oporto.—Beans. 621
- 544 Loureiro, Antonio Lopes, Amorim, Oporto.—Beans. 621
- 545 Leite, Joao Baptista de Araujo, Mirandella, Braganza.—Chick-peas. 621
- 546 Leite, Joaquim Maria Felgueiras, Mogadouro, Braganca.—Chick-peas. 621
- 547 Lima, Antonio Joaquim Fernandes, Villa Nova da Cerveira, Vianna do Castello.—Beans. 621
- 548 Macedo jr., Ventura Luis de, Lisbon.—Kidney beans, chick-peas. 621
- 549 Mattos, Manuel Antonio de, Campo Maior, Portalegre.—Chick-peas. 621
- 550 Mendes, Casemiro Esteves, Aviz, Portalegre.—Kidney beans. 621
- 551 Moreira, Domingos, jr., Boucas, Oporto.—Beans. 621
- 552 Maia, Manuel de Arevedo, Villa do Conde, Oporto.—Beans. 621
- 553 Maia, Jose Gomes, Amorim, Oporto.—Garlic. 621
- 555 Leitao, Alberto, Penacova, Coimbra.—Chick-peas and beans. 621

Agricultural, Animal, and Vegetable Products.

- 556 Salgado, Marianno Roza, Lanudes, Oporto.—Beans. 621
- 557 Santos, Joaquim Ferreira, S. Martinho do Campo, Oporto.—Beans. 621
- 558 Souza, Pedro Augusto Pereira Abreu e, Santa Marinha, Villa Real.—Beans. 621
- 559 Rodrigues, Francisco Pedro, Grândola, Lisbon.—Beans. 621
- 560 Reis, Antonio Simoes dos, Condeixa, Coimbra.—Beans. 621
- 561 Rebello Valente & Allen, Oporto.—Beans. 621
- 562 Matta, Anacleto da Fonseca, Sardoal, Santarem.—Kidney beans. 621
- 563 Mendes, Raymundo Jose Soares, Abrantes, Santarem.—Chick-peas, kidney beans. 621
- 564 Guedes, Viscount de, Evora.—Beans. 621
- 565 Carrreira, Jose Ivo, Peniche, Leiria.—Castor-oil beans. 621
- 566 Albergaria, Thomaz Antonio Pinto Soares, Villa Cha, Aveiro.—Beans. 621
- 567 Coelho, Jose Justino, Villa do Tamega, Villa Real.—Beans. 621
- 568 Carvalho, Luis Xavier do Amaral, Rio de Moinhos, Viseu.—Beans. 621
- 569 Seixas, Jose Maria Ayres de, Gaviao, Portalegre.—Beans. 621
- 570 Silva, Marcellino Ferreira da, Lisbon.—Chick-peas and kidney-beans. 621
- 571 Silva, Jeronymo Jose Alves da, Elvas, Portalegre.—Chick-peas. 621
- 572 Silva, Antonio Jose da, Boucas, Oporto.—Beans. 621
- 573 Factory of Tobacco, Lealdade, Oporto.—Cut leaf, cigars, cigarettes, and snuff. 623
- 574 Factory of Miguel Augusto da Silva Pereira, Oporto.—Tobacco. 621
- 575 Factory of Tobacco, Liberdade, Oporto.—Cut tobacco, cigars, and cigarettes. 623
- 576 Lisbon Tobacco Co., Lisbon.—Cigars and snuff. 623
- 578 Ferreira & Co., Lisbon.—Chocolate. 623
- 579 Vasconcellos, Duarte, Loureiro, Viseu.—Hops. 623
- 580 Cunha, Antonio Jose, Paredes de Coura, Vianna do Castelo.—Millet seed. 624
- 581 Coutinho, Luis C. de Lucena, Araujo, Villa da Fonte, Viseu.—Millet seed. 624
- 582 Camello, Joaquim Augusto da Silveira, Penafiel, Oporto.—Seeds. 624
- 583 Administrative Council of Cantanhede, Coimbra.—Seeds. 624
- 584 Albergaria, Thomaz Antonio Pinto Soares, Villa Cha, Aveiro.—Grape seed. 624
- 585 Mesquita, Pedro Jose de, Sinde, Coimbra.—Linseed. 624
- 586 Margarido, Luis Jose Ferreira, Villa Nova de Foscoa, Guarda.—Sumach. 624
- 587 Alvim, Joao Cardoso de Souza, Alterido do Chao, Portalegre.—Linseed. 624

- 588 Sousa, Jose Luis Rodrigues, Verdugo, Vianna do Castelo.—Linseed. 624
- 589 Castel-Branco, Manuel de Barros, Portalegre.—Acorns. 624
- 590 Fernandes, Joaquim Filipe, Beja.—Acorns and seeds. 624
- 591 Valente, Jose Justiniano d'Oliveira, Estarreja, Aveiro.—Seeds, pine kernels. 624
- 592 Guerreiro, Antonio Manuel, Villa Nova da Cerveira, Vianna do Castelo.—Linseed. 624

Marine Animals, Fish Culture, and Apparatus.

- 593 Neto, Manuel Jose Setubal, Lisbon.—Preserved fish. 641
- 594 Ornellas & Linder, Lisbon.—Preserved fish. 641
- 595 Fabrica Povoense, Povoia de Varsim.—Preserved fish. 641
- 596 Freitas, Joao S., jr., Setubal, Lisbon.—Preserved sardines. 641
- 597 Direction of the Works of Mondego River and Figueira bar, Coimbra.—Preserved fish. 641
- 598 Romao, Joanna Balbina, Aveiro.—Preserved fishes. 641
- 599 Leite & Co., Francisco, Alcantarilha, Faro.—Salt tunny-fish. 642
- 599a Pilao e Luxes, A. d'O., e J. G. L. Ovar.—Models of fishing nets. 647
- 599b Oliveira, Gaspar Jose, Oporto.—Fishing nets. 647

Animal and Vegetable Products.

- 600 Gomes, J. Carlos, & Moura, F. A., Marques de S. Salvador, Aveiro.
a Seaweeds. 650
b Olive oils. 662
- 601 Queiroz, Jose de Sequeira Pinto, S. Sebastiao do Duque, Vianna do Castelo.
a Seaweeds. 650
b Wine and brandy. 660
- 602 Morgado, Francisco Xavier Annes, Miranda do Douro, Braganca.—Cheese. 651
- 603 Formosinho, Jose Maria Gomes, Serpa, Beja.—Cheese. 651
- 604 Franco, Jose da Costa, Beja.—Cheese. 651
- 605 Coelho, Antonio, Gouvea, Guarda.—Cheese. 651
- 606 Lobo, Jose Maria, Guarda.—Cheese. 651
- 607 Saraiva, Francisco Martins, Belmonte, Castello Branco.—Cheese. 651
- 608 Sobrinho, Jose Guerreiro de L., Ferreira, Beja.—Cheese. 651
- 609 Callado, Joao da Costa, jr., Alter do Chao, Portalegre.—Cheese. 651
- 610 Pereira, Jose Francisco, Castello de Vide, Portalegre.—Cheese. 651
- 611 Penedo, Francisco Antonio, Beja.—Cheese. 65
- 612 Valladares, Pedro d'Ordaz, Castello Branco.
a Cheese. 65
b Olives. 61
c Wine. 61
d Olive oil. 61

Animal and Vegetable Products.

- 613 Viegas, Agostinho Thomas dos Santos, Cea, Guarda.
a Cheese. 651
b White wine. 660
c Olive oil. 662
- 614 Vicondessa d'Oleiros, Castello Branco.
a Cheese. 651
b Olives. 656
c Olive oil. 662
- 615 Calca e Pina, Antonio, Souzel, Portalegre.
a Cheese. 651
b Honey. 654
c Preserved meats. 656
d Olive oil. 662
- 616 Pimentel, Jose Reis, Castello de Vide, Portalegre.
a Cheese. 651
b Honey. 654
- 617 Aboimo, Joao Cardoso de Souza, Alter do Chao, Portalegre.
a Cheese. 651
b Preserved meats. 656
c Wines and vinegar. 660
- 618 Abrunhosa, Joao Caetano de, Castello Branco.
a Cheese. 651
b Olives and preserved meat. 656
c Olive oil. 662
- 619 Alvim, Joao Cardoso de Souza, Alter do Chao, Portalegre.
a Cheese. 651
b Preserved meat. 656
c Wine and vinegar. 660
- 621 Coelho, Manuel Diogo, Castello de Vide, Portalegre.
a Cheese. 651
b Preserved meats and olives. 656
- 622 Alcantara, Francisco Augusto Mendes de, Lagares, Coimbra.
a Cheese. 651
b Wine and brandy. 660
- 623 Cazal, Eliziario, Cea, Guarda.
a Cheese. 651
b Red wine. 660
c Vegetable oils. 662
- 623*a* Pimenta, Isidora, E. O. C. Marques, Villa Boim, Portalegre.
a Cheese. 651
b Honey. 654
c Preserved meat. 656
d Brandy. 660
- 624 Fernandes, Joaquim Filippe, Beja.
a Cheese. 651
b Olive oil. 662
- 624*a* Boa, Viscount da, Vista, Beja.
a Cheese. 651
b Olive oil. 652
- 625 Gago, Joao Henriques Nunes, Galveas, Portalegre.
a Cheese. 651
b Olive oil. 662
- 626 Vaz Preto, Gerales, Manuel Louisa, Castello Branco.
a Cheese. 651
b Honey. 654
c Wine. 660
d Olive oil. 662
- 627 Tenreiro, Manuel Guerra, Freixo d'Espada à Cinta, Braganca.
a Cheese. 651
b Honey. 654
c Olives. 656
d Olive oil. 662
- 628 Taborda, Joao Manuel Correa, Freixo d'Espada à Cinta, Braganca.
a Cheese. 651
b Olives. 656
c Olive oil. 662
- 629 Goncalves, Jose Joaquim, Elvas, Portalegre.
a Cheese. 651
b Honey. 654
- 630 Martel, Joaquim Trigueiros Pestana, Castello Branco.
a Cheese. 651
b Olive oil. 662
- 631 Oliveira Soares, M. E. de, Evora.
a Cheese. 651
b Honey. 654
c Vinegar. 660
d Olive oil. 662
- 632 Oliveira, Jose Miguel de, Moura, Beja.
a Cheese. 651
b Preserved meat. 656
- 633 Lobo, Bartholomeo Jose, Oliveira do Hospital, Coimbra.
a Cheese. 651
b Red wine. 660
c Olive oil. 662
- 634 Veiga, Jose Mendes, Covilha, Castello Branco.
a Cheese. 651
b Dried fruits and olives. 656
c Vinegar. 660
d Olive oil. 662
- 635 Cavalleri, P., & Co., Lisbon.
a Butter and cheese and milk. 651
b Olives, gums, preserved meat and fruits. 656
- 636 Raposo, Joao, do Carmo, Moura.
a Cheese. 651
b Olives. 656
c Olive oil. 662
- 637 Pinto, Luis Marques, Elvas, Portalegre.
a Cheese. 651
b Preserved meat. 656
- 638 Pinto, Joaquim Pereira da Costa, Sousel, Portalegre.
a Cheese. 651
b Olive oil. 662
- 639 Moraes, Rodrigo Antonio Leite de, Oporto.—Hides. 652
- 640 Viuva Chaves & Son, Guimaraes.—Leather and skins. 652
- 641 Alcantara & Bros., Joao Antonio, Lisbon.—Leather and skins. 652
- 642 Godinho, Francisco Ferreira, Cruz, Quebrada.—Leather and skins. 652
- 643 Jose Maria d'Andrade, & Bros., Valenca.—Leather and calfskin. 652
- 643*a* Lamos, Jose, & Co., Lisbon.—Belt and cables for machinery. 652
- 644 Santos, Narcizo Jose dos, Evora.—Animal charcoal. 652
- 645 Lamas & Co., Jose, Lisbon.—Leather. 652
- 645*a* Ramos, Joaquim Antonio, Beja.—Goatskins. 652
- 646 Ferreira, Camillo P. da C., Oliveira d'Azemeis.—Leather. 652
- 647 Joao Antonio Alcantara & Sons, Lisbon.—Leather and skins. 652

or classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 648 Gama, Antonio Domingos d'Oliveira, Oporto.—Hides. 652
- 649 Ferreira, Antonio Cypriano, Lisbon.—Leather and skins. 652
- 650 Fernandes, Lucas, Macao, Santarem.—Skins. 652
- 651 Ferreira & Bro., Casaes dos Gallegos, Santarem.—Kidskins. 652
- 652 Cassola, Antonio Joaquim, Portalegre.—Leather and skins. 652
- 653 President of the Municipal Chamber of Lisbon.—Tallow. 652
- 654 Jeronymo, Francisco Manuel, Coicas, Braganca.—Skins, hides. 652
- 655 Jose Maria d'Andrade & Bros., Valencia.—Leather, calfskin. 652
- 656 Oliveira, Custodio de, Adufe, Braga.—Glue. 652
- 657 Viuva, Machado, & Sons, Alcanena.—Hides. 652
- 658 Cerqueira, Lima, & Co., Vianna do Castello.—Leather, hides, skins, and glue shavings. 652
- 659 Smidt, Joao Luis, Oporto.—Skins. 652
- 660 Martins, Andre, Sobrado, Oporto.—Wax. 654
- 661 Veira, Manuel, Melres, Oporto.—Honey. 654
- 661^a Mello, Antonio Jose Teixeira, Lisbon.—Wax. 654
- 662 Tenorio, Matheus Rodrigues, Alter do Chao, Portalegre.—Honey. 654
- 662^a Silva, Diogo Monteiro, Lisbon.—Manufactured wax. 654
- 663 Torregon, Antonio Joaquim, Redondo, Evora.—Honey. 654
- 664 Juzarte, Jose Francisco, Monforte, Portalegre.—Honey. 654
- 665 Garcia, Jose Camillo, Almodovar, Beja.—Wax. 654
- 666 Espada, J. C., Vallejo, Portalegre.—Honey. 654
- 670 Garcao, Jose Maria, Elvas, Portalegre.—Honey and wax. 654
- 671 Figueiredo, Joaquim de, Aviz, Portalegre.—Honey. 654
- 672 Contreiras, Jose da Silva, Almodovar, Beja.—Honey-comb and honey. 654
- 673 Bussaco, Jose Rodrigues, Grandala, Lisbon.—Honey. 654
- 674 Boucinha, Manuel da Costa, Balthasar, Oporto.—Honey and honey-comb. 654
- 675 Braga, Joas Jose de Sousa, Oporto.—Honey. 654
- 676 Mello, Antonio Jose, Ferreira, Lisbon.—Honey and wax. 654
- 677 Moraes, Jose, Basilio de Arronches, Portalegre.—Honey. 654
- 678 Atlen Rebelo Volente, Oporto.
^a Honey. 654
^b Wines. 660
^c Olive oil. 662
- 679 Pessoa, Luis Manuel da Costa, Alfandega da Fc, Braganca.—Honey. 654
- 680 Loureiro, Bento Maria, Aldeia Nova, Beja.—Honey. 654
- 681 Saramago, Francisco Ferreira, Reguengo, Evora.—Honey. 654
- 682 Sena, Joao Pereira, Montargil, Portalegre.—Honey. 654
- 683 Vinva de Manuel, Pedro do, Alter do Chao, Portalegre.—Wax. 654
- 684 Vassallo, Jose Baptista, Alcanena, Santarem.—Bleached wax. 654
- 685 Vieia, Francisco de Semas, Cunha, Evora.—Honey. 654
- 686 Vieira, Jose Augusto, Evora Cidade, Evora.—Honey, white and yellow wax. 654
- 687 Miranda, Joaquin Antonio de Reguengo, Portalegre.—Honey and honey-comb. 654
- 688 Moreira, David Martins, Castello de Vide, Portalegre.—Bleached wax. 654
- 689 Moita, Jose Francisco, Aldeia Nova, Beja.—Honey. 654
- 690 Raposa, Vicente Narcizo, Castello de Vide, Portalegre.—Honey. 654
- 691 Silva, Joao Miguel, Santa Eulalia, Portalegre.—Honey. 654
- 692 Costa da Mendiga, Jose da, Mendiga, Leisia.—Honey. 654
- 693 Santos, Luis Marcelino dos, Freiro, Braganca.—Honey. 654
- 694 Silva, Antonio Mendes da, Linhares, Braganca.—Honey. 654
- 695 Pereira, Jeronymo, Serpa, Beja.—Honey. 654
- 696 Pinheiro, Jose de Sousa Idanha a, Nova Castello, Braganca.—Honey. 654
- 697 Carvalho, Jose Fernandes Antonio de, Goes, Coimbra.—Honey. 654
- 698 Abreu, Jose Martins de, Aloens, Viseu.—Honey. 654
- 699 Albergaria, Thomas Antonio Pinto, Loases, Villa Cha Avero.—Honey and wax. 654
- 700 Almeida, Francisco de Mattos, Penafiel, Porto.—Wax. 654
- 701 Adelino, Joao Manuel Joaquim, Elvas, Portalegre.—Honey. 654
- 702 Almida, Joaquin S. Momao, Castello de Vide, Portalegre.—Honey. 654
- 703 Perez, Roure, & Co., S. Thiago do Cacem, Lisbon.
^a Honey and wax. 654
^b Rice. 657
^c Wine. 660
^d Olive oil. 662
- 704 Lemos, Francisco Antonio Pereira, Villarelhos, Braganca.
^a Honey. 654
^b Red wine. 660
- 705 Falcao, Jeronymo Fernandes, Lamas, Coimbra.
^a Honey. 654
^b Wine. 660
- 706 Bello, Manuel Guei fao, Marcas, Santarem.
^a Honey. 654
^b Wines. 660
^c Olive oil. 662

Animal and Vegetable Products.

707	Pimentel, Antonio Augusto de Moraes, Castello Branco, Bragança.	
a	Honey.	654
b	Olives.	656
c	Olive oil.	662
708	Baptista, Jose Antonio, Mirandella, Bragança.	
a	Honey.	654
b	Brandy.	660
709	Baptista, Jose Ignacio de Macedo, Mirandella, Bragança.	
a	Honey.	654
b	Brandy.	660
710	Allen Rebello Volente, Oporto.	
a	Honey.	654
b	Port and muscadine wine.	660
c	Olive oil.	662
711	Administrador do Concelho de Poiars, Poiars, Coimbra.	
a	Wax.	654
b	Olive oil.	662
712	Pinto, Clemencia, Villa Boim, Portalegre.	
a	Honey.	654
b	Brandy.	660
713	Andrade, Antonio Pequito, Leiras de Gaviás, Portalegre.	
a	Honey.	654
b	Dried grapes.	656
714	Calca e Pina, Augusto, Sourel, Portalegre.	
a	Honey.	654
b	Olive oil.	662
715	Figueiredo, Jose Cereira de, Sattam, Visen.	
a	Honey.	654
b	Wine.	660
716	Coelho, Jose Fialho, Mousa, Beja.	
a	Honey.	654
b	Preserved meat.	656
717	Fernandes, Manuel Ignacio, Tellos, Villa Real.	
a	Honey.	654
b	Dried chestnuts.	656
718	Fonseca Santos, Antonio Germano da, Redondo, Evora.	
a	Honey.	654
b	Vinegar.	660
c	Olive oil.	662
719	Gouvea, Jose dos Santos, Constanca, Santarem.	
a	Honey.	654
b	Wine.	660
720	Fernandes, Jose Manuel, Redondo.	
a	Honey.	654
b	Vinegar.	660
721	Magalhaes, Jose Joaquim do Silva, Villa Nova da Gaia, Oporto.	
a	Wax.	654
b	Olive oil.	662
722	Tocha, Jose Rodrigues, Estremos, Coova.	
a	Honey.	654
b	Olives.	656
c	Wine and vinegar.	660
d	Olive oil.	662
723	Monte, Jose Manuel do, Redondo, Evora.	
a	Wax and honey.	654
b	Brandy and vinegar.	660
c	Olive oil.	662
724	Nunes, Antonio Candido, Elvas, Portalegre.	
a	Honey.	654
b	White wine, brandy, and vinegar.	660
c	Vinegar.	660
725	Miranda, Antonio Augusto Lobo de, Lagos, Faro.	
a	Honey.	654
b	Wine, brandy, vinegar.	660
c	Olive oil.	662
726	Lemos, Antonio da Cunha d'Azevedo, S. Joao da Pesqueira, Viseu.	
a	Honey.	654
b	Wine and brandy.	660
727	Menezes, Jose de Vasconcellos, Canavezes, Porto.	
a	Honey.	654
b	Wine, vinegar.	660
c	Olive oil.	662
728	Margiochi, Francisco, jr., Simoes, Lisbon.	
a	Honey.	654
b	Wine.	660
c	Olive oil.	662
729	Marcal, Joao Lopes, Evora.	
a	Honey.	654
b	Olive oil.	662
730	Pinto Basto, Augusto Ferreira, Oliveira do Bairro, Aveiro.	
a	Honey.	654
b	Olive oil.	662
731	Silva, Joaquim Nunes da, Elvas, Portalegre.	
a	Honey.	654
b	Olive oil.	662
732	Sobrinho, Rafael Baptista, Alvito, Beja.	
a	Honey.	654
b	Wines.	660
733	Vasconcellos, Catharina Mousinho Almada, Nisa, Portalegre.	
a	Honey.	654
b	White wine.	660
734	Viscount of Guedes, Evora.	
a	Honey.	654
b	Wine.	660
c	Olive oil.	662
735	Mattos, Manuel Antonio de, Campo Maior, Portalegre.	
a	Honey.	654
b	Dried grapes.	656
c	Brandy, wines, vinegar.	660
d	Olive oil.	662
736	Mira, Jose Paulo de, Evora.	
a	Honey.	654
b	Vinegar.	660
c	Olive oil.	662
737	Montoia, Diogo Lopes, Castello Branco.	
a	Honey.	654
b	Olive oil.	662
738	Morgado, Joas Aloes, Constanca, Santarem.	
a	Honey.	654
b	Brandy, red and white wine, vinegar.	660
c	Olive oil.	662
739	Matta, Antonio Nunes, Grandola, Lisbon.	
a	Honey.	654
b	Wine.	660
740	Queimado, Isidoro Maria, Redondo, Evora.	
a	Honey.	654
b	Brandy, white wine, and vinegar.	660
741	Rosa, Jose da Graca Pereira, Nisa, Portalegre.	
a	Honey.	654
b	Preserved meat.	656
c	White wine, brandy, and vinegar.	660
d	Olive oil.	662

or For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 742 Rosa, Joaquim Matheus Vieira, Villa Nova de Ourem, Santarem.
a Honey. 654
b Olive oil. 662
- 743 Rodrigues, Francisco Pedro, Grandola, Lisbon.
a Wax and honey. 654
b Wine. 660
c Olive oil 662
- 744 Sa, Antonio Aloes do Conto e, Ger-
 munde, Oporto.
a Honey. 654
b Olive oil. 662
- 745 Santos, Joaquim Ferreira, S. Mar-
 tinho do Campo, Oporto.
a Honey. 654
b Wine. 660
- 746 Serra, Joaquim, Valle Formoso,
 Santarem.
a Honey. 654
b Olive oil. 662
- 747 Sa, Sabino Barros de, Pouco de
 Soudo, Santarem.
a Honey. 654
b Olive oil. 662
- 748 Santos, Ascencio Jose dos, Valenca,
 Vianna do Castello.
a Wax. 654
b Sweetmeats. 656
c Wine. 660
- 749 Pereira, Joao M., Constania, San-
 tarem.
a Honey. 654
b Olive oil. 662
- 750 Pedroso, Henrique Caldeira, Cas-
 tello Branco.
a Honey. 654
b Olives. 656
c White wine. 660
d Olive oil. 662
- 751 Bertao, Ladislau Xavier, Torrao,
 Beja.
a Honey. 654
b Olive oil. 662
- 752 Rosado, Joao Antonio Margues,
 Redondo, Evora.
a Honey. 654
b Red and white wine, and brandy. 660
c Olive oil. 662
- 753 Rosado, Antonio Joaquim da Silva,
 Zambujeiro, Evora.
a Honey. 654
b Red wine. 660
- 754 Pinheiro, Candido Alberto A., Mon-
 xique, Faro.
a Honey. 654
b Olives. 656
c Olive oil. 662
- 755 Mascarenhas, S., Faro.—Dried
 fruits. 656
- 756 Moura, Francisco Antonio Mar-
 gues, Ilhavo, Aveiro.—Olives. 656
- 757 Menezes, Jose Correa, Lamego, Vi-
 seu.—Dried fruits. 656
- 758 Mattos, Maria do Livramento,
 Oporto.—Preserved fruit. 656
- 759 Maria do, Gloria, & Co., Oporto.—
 Preserved fruits. 656
- 760 Leal, Costa, & Co., Lisbon.—Pre-
 served meats, fish, and fruits. 656
- 761 Torres, Rodrigo Bravo, Novellos,
 Penafiel.—Olives and pickled pepper-
 pods. 656
- 762 Trigo, Antonio Manuel de Sousa,
 Moncorvo, Bragança.—Sweetmeats. 656
- 763 Themuda, Engracia Narcisa, Bar-
 cellos.—Sweetmeats. 656
- 764 Teixeira, Francisco de Sa, Salsedas,
 Viseu.—Dried figs. 656
- 765 Victorino, Jose, Braganca.—Ham.
 656
- 766 Varsea & Coelho, Oporto.—Pre-
 served meats, fish, olives, etc. 656
- 767 Tapadinha, Jose Joaquim, Portale-
 gre.—Preserved meats. 656
- 768 Trindade, Alfredo, Faro.—Figs. 656
- 769 Themudo, Jose Vicente, Castello de
 Vide, Portalegre.—Preserved meats. 656
- 771 Sanhoso, Jose Regoa.—Elder-
 berries, raisins, and dried figs. 656
- 773 Oliveira & Co., Jose Antonio de.—
 Preserved meats, fish, fruits, vegetables,
 and sweetmeats. 656
- 774 Jose Joaquim dos Neves & Sons,
 Lisbon.—Dried figs. 656
- 775 Lehmann, J. W., Gustav, Oporto.
 —Sweetmeats. 656
- 777 Guimaraes, Antonio, Faro.—Dried
 figs. 656
- 778 Gomes, Jose Libanio, Villa Nova
 de Portimao, Faro.—Dried figs. 656
- 779 Gouvea, Jose Bernardino d'Abren,
 Sande, Viseu.—Preserved fruits. 656
- 780 Rodrigues & Nephew, Fernando,
 Lisbon.—Preserved meat, vegetables, and
 fruits. 656
- 781 Franco, Joaquim, Portimao, Faro.
 —Dried figs. 656
- 782 Ferreira Convent, Ferreira d'Aves,
 Viseu.—Dried plums. 656
- 783 Dantas Pimenta, Jose Maria, Tor-
 res Novas, Santarem.—Dried fruit. 656
- 784 Castanheiro, Balthazar Rodrigues,
 Lisbon.—Sweet fruits. 656
- 785 Barros, Jose Xavier Pereira, Villa
 Real, Tras-os-Montes.—Sweetmeats. 656
- 786 Leitao, Alberto, Penacova, Coim-
 bra.—Dried damsons. 656
- 787 Pimenta, Anna Augusta de Souza,
 S. Joao de Lobjrigos, Viseu.—Dried fruits.
 656
- 788 Ornellas & Lisher, Lisbon.—Pre-
 served fruits and vegetables, sweetmeats
 and fruits. 656
- 789 Le Cocq, Joao Jose, Castello de
 Vide, Portalegre.—Olives. 656
- 790 Silva, Domingos da, Elvas, Porta-
 legre.—Olives. 656
- 791 Valentim, Jose, Arraiolos, Evora.
 —Preserved meats. 656
- 792 Mendes, Augusto Alexandre Es-
 teves, Aviz, Portalegre.—Preserved meat.
 656
- 793 Mascarenhas, Luis de, Portimao,
 Faro.—Dried figs. 656
- 794 Rodrigues, Antonio Manuel, Vin-
 haes, Braganca.—Sausages. 656
- 795 Romao, Joanna Balbina, Aveiro.—
 Sweetmeat. 656
- 796 Mello, Luis de Mendonca e, Tavira,
 Faro.—Dried figs. 656
- 797 Miranda, Joao Eduardo Lobo de,
 Faro.—Dried figs. 656

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 798 Roza, Julia Pimenta Cobral, Setubal, Lisbon.—Preserved orange. 656
- 799 Rijo, Joaquin Antonio, Elvas, Portalegre.—Olives. 656
- 800 Regallo, Jose Maria da Fonseca, Campo Maior, Portalegre.—Olives. 656
- 801 Serzedello, Joao Pereira, Elvas, Portalegre.—Preserved asparagus and olives. 656
- 802 Souza, Jose Saldanha Oliveira e.—Olives. 656
- 803 President of the Commission of Vianna, Vianna do Castelo.—Preserved fish. 656
- 804 Mina, S. Thome de, Coimbra.—Preserved fish. 656
- 805 Vidamrel, J. J. da, Trindade Dias, Coimbra.—Preserved fish. 656
- 806 Callisto, Manuel M. Pimentel, Coimbra.—Preserved fish. 659
- 807 Carvalho, Albino Justiniano, Condeixa, Coimbra.—Dried figs. 656
- 808 Campello, Evaristo Jose Ferraz de Moraes, Anciaes, Braganca.—Raisins. 656
- 809 Carvalho, Antonio Miguel de, Sattam, Viseu.—Olives. 656
- 810 Correa, Antonio de Sousa, Oporto.—Olives. 656
- 811 Cellas Convent, Santo Antonio do Oliveira.—Preserved fruits. 656
- 812 Carmo, Bazilia Maria do, Arronches, Portalegre.—Preserved meat. 656
- 813 Conceicao, Joas Nunes da, Elvas, Portalegre.—Dried fruit, olives, and pickles. 656
- 814 Belem, Silvestre Polycarpo Correa, Lisbon.—Preserved fruits, preserved fish, and vegetables. 656
- 815 Campos, Luis Jose de, S. Pedro de Miragaia, Oporto.—Olives. 656
- 816 Castro, Joaquim Caetano de, Oporto.—Hams. 656
- 817 Piteira, Fernandez Joaquim Filipe, Reguengo, Evora.—Pork meat. 656
- 818 Proenca, Vasconcellos, Faro.—Figs. 656
- 819 S. Bento d'Ave Maria Convent, Oporto.—Sweetmeat. 656
- 820 Semide Convent, Semide, Coimbra.—Preserved turnips. 656
- 821 Silva, Francisco Ferreira da, Oporto.—Sausages. 656
- 822 Sta. Clara Convent, Guimaraes.—Sweetmeats. 656
- 823 Souza, Conceicao Margues, Alves, Oporto.—Preserved fruits. 656
- 824 Sta. Rosa de Lima Convent, Guimaraes.—Preserved fruits. 656
- 825 Santa Clara Convent, Santa Clara, Coimbra.—Sweetmeat. 656
- 826 Rocha, Feliciano Antonio da, Setubal, Lisbon.—Preserved fish. 656
- 827 Passos, Jose Francisco Rodriguez, Fuzeta, Faro.—Dried figs. 656
- 828 Peixto, Augusto Gavia, Serpa, Beja.—Olives. 656
- 829 Botelho, Antonio C., Fayal, Azores.—Sausages. 656
- 830 Carvalho, Rosa Guilhermina de, Cancellal Velha, Porto.—Chocolate. 656
- 831 Cid, Jose Ignacio, Mirandella, Braganca.—Olives, murt. 656
- 832 Cruz, Jose Bento, Armamamar, Viseu.—Honey. 656
- 833 Angelica, Rosa de Jesus Maria, Oporto.—Preserved fruits. 656
- 834 Barros, Rita Candida de, Castello de Vide, Portalegre.—Olives. 656
- 834a Pereira, Pedro Maria Dantas, Torres Vedras, Santarem. 656
- a Dried grapes. 656
- b Olive oil. 660
- 835 Larcher, Emilia Adelaide, Portalegre. 656
- a Preserved fruits. 656
- b Syrups of groseille. 659
- 836 Miranda, Joaquim, Lobo de, Lagos, Faro. 656
- a Dried figs. 656
- b Red wine and vinegar. 660
- 837 Martins, Isidoro, Borba, Evora. 656
- a Dried fruits. 656
- b Wines. 660
- c Olive oil. 662
- 838 Negrao, Joaquim d'Almeida, Portimao, Faro. 656
- a Dried figs. 656
- b Wine. 660
- 839 Gallope, Fernando dos Santos, Portalegre. 656
- a Currant syrup. 656
- b Wine. 660
- 840 Bentes, Antonio Joaquim, Serpa, Beja. 656
- a Olives. 656
- b Olive oil. 662
- 841 Andrada, Antonia Garcia de, Elvas, Portalegre. 656
- a Preserved meat. 656
- b Olive oil. 662
- 842 Castello Branco, Joao da Silva Ferrao, Santa Iria, Lisbon. 656
- a Pickles, preserved fruits, and sardines in oil. 656
- b Olive oil. 662
- 843 Cunha, Joaquim Guilherme da, Castello Branco. 656
- a Olives. 656
- b Wines. 660
- c Olive oil. 662
- 844 Castel-Branco, Antonio Mendo, Caldeira, Alter do Chao, Portalegre. 656
- a Preserved meat. 656
- b Vinegar. 660
- c Olive oil. 662
- 845 Atalya, Count of, Santarem. 656
- a Honey. 656
- b Wine. 660
- c Olive oil. 662
- 846 Guerra, Jose da Conceicao, Elvas, Portalegre. 656
- a Dried fruits. 656
- b Wine and liquor. 660
- 847 Theotonia, Joaquim Manuel, Serpa, Beja. 656
- a Olives. 656
- b White wine. 660
- c Olive oil. 662
- 848 Taborda, Antonio Theodoro Ferreira, Penamacor, Castello Branco. 656
- a Olives. 656
- b Red wine. 660
- c Olive oil. 662

Animal and Vegetable Products.

- 849** Trinoao, Roman Antunes, Lapas, Santarem.
a Dried figs and grapes. 656
b Wines and brandy. 660
- 850** Administrative Council of Lausado, Lausado, Oporto.
a Sweet fruit. 656
b Red wine. 660
- 852** Almeida, Bernardo Caieiro de, Serpa, Beja.
a Olives. 656
b Olive oil. 662
- 853** Barboza, Paulo da Silva, Oporto.
a Sweetmeats. 656
b Biscuits. 661
- 854** Burguete, Miguel Serrao, Sardoal, Santarem.
a Olives, dried fruit. 656
b Vinegar. 660
- 855** Costa Falcao, Antonio Ozorio d'Azevedo da, Alpedrinha, Castello Branco.
a Olives. 656
b White wine. 660
c Olive oil. 662
- 856** Figueiredo, Antonio Jose de, Carrazeda d'Ancaes, Braganca.
a Olives. 656
b Wine. 660
c Olive oil. 662
- 857** Ferreira, Antonio Manuel, Torres Novas, Santarem.
a Dried fruits. 656
b Wine and brandy. 660
- 858** Feria, Jose Maria de la, Serpa, Beja.
a Olives. 656
b Wine and brandy. 660
- 859** Figueira, Gaspar Augusto, Evora.
a Sugared almonds. 656
b Wines and brandy. 660
- 860** Ferreira & Co., Lisbon.
a Candy. 656
b Syrups. 659
c Lemonade. 660
- 861** Martins, Jeronymo, & Son, Lisbon.
a Dried fruits. 656
b Wines. 660
c Olive oil. 662
- 862** Guedes, Francisco Domingues, Castello Branco.
a Sausages. 656
b Olive oil. 662
- 863** Magalhaes, Luis Antonio, Aldea Nova do Cabo, Castello Branco.—Timber, corkwood, sweet fruits.
a Dried fruits. 656
b Wine. 660
c Olive oil. 662
- 864** Mendes, Luis Antonio Soares, Castello Branco.
a Dried chestnuts. 656
b Vinegar. 660
- 865** Macedo Pinto, Joaquim Ferreira de, Toboaco, Visu.
a Preserved fruits, elderberries. 656
b Wines. 660
c Olive oil. 662
- 866** Lemos, Antonio Maria Tovar de Moura, Beja.
a Olives. 656
b Vinegar. 660
c Olive oil. 662
- 867** Lacerda, Jose de Arago Costa, Aldea Nova do Cabo, Castello Branco.
a Olives, potatoes. 656
b Wine, vinegar. 660
- 868** Nunes, Guilherme, Francisco Pereira, Oliveira do Hospital, Coimbra.
a Dried fruits. 656
b Wheat flour. 657
c White wine and vinegar. 660
- 869** Lima, Honorio Fiel, Portalegre.
a Preserved fruits. 656
b Wine. 660
c Olive oil. 662
- 870** Larcher Marcal, Maria Adelaide, Portalegre.
a Preserved fruits, truffles. 656
b Syrups. 659
- 871** Souza, Manuel Alves de, Castello Branco.
a Olives. 656
b Olive oil. 662
- 872** Souza Pinto, Francisco de Gamboa, Castello Novo, Castello Branco.
a Olives. 656
b Olive oil. 662
- 873** Vaz, Eduardo Augusto da Cruz, Castello Branco.
a Preserved meat, olives. 656
b Red wine. 660
c Olive oil. 662
- 875** Santa Anna, Jose Candido de, Elvas.
a Olives. 656
b Olive oil. 662
- 876** Salgado, Julio Bivar d'Azevedo, Sardoal, Santarem.
a Dried pears. 656
b Wines. 660
c Olive oil. 662
- 877** Pinto, Francisco Xavier de Moraes, Mirandella, Braganca.
a Raisins. 656
b Red wine. 660
- 878** Perdigao, Miguel Salvado R., S. Miguel de Machede, Evora.
a Preserved fruit. 656
b Wine. 660
- 879** Pinto, Antonio Joaquim Nogueira, Villa Real.
a Red wine. 656
b Raisins. 660
- 880** Pires, Antonio Joaquim, Lisbon.
a Sweet fruits and meats. 656
b Liquors. 660
- 881** Ramos, Joao Joaquim, Redondo, Evora.
a Preserved grapes. 656
b Starch. 658
c Red and white wine, brandy. 660
- 882** Pimenta, Jose Maria Dantas, Torres Novas, Santarem.
a Dried figs. 656
b Wine and brandy. 660
- 883** Costa, Jose Rodrigues da, Penamacor, Castello Branco.
a Olives. 656
b Olive oil. 662
- 884** Antonio, Eduardo, Montalvao, Portalegre.
a Preserved meat and fruits. 656
b Olives and olive oil. 662
- 885** Teixeira, Francisco Loureiro, Campello, Oporto.—Wheat flour. 657
- 886** Veiga, Maria Christina de Napoles Figueiredo, Goes, Coimbra.—Potato flour. 657
- 887** Lopes, Alvaro Pereira de Bettencourt, Ponta Delgada.—Flour. 657
- 888** Lima, Lino, Ancaes, Braganca.—Wheat and rye flour. 657

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 889 Leao, Antonio Moreira, Guilhufe, Oporto.—Wheat and rye flour. 657
- 890 Igreja, Manuel Antonio, Torroso, Oporto.—Corn flour. 657
- 891 Igreja, Jose Francisco de Serra, Novaes, Oporto.—Wheat and corn flour. 657
- 892 Moreira, Joas Baptista, Rates, Oporto.—Wheat flour. 657
- 897 Gomes, Jose da Costa, Balazar, Oporto.—Wheat flour. 657
- 898 Ferreira, Januario da Silva, Elvas, Portalegre.—Corn flour. 657
- 899 Costa & Brother, Portalegre.—Corn flour. 657
- 901 Acacio Manuel Pereira, & Augusto Risques, Alter do Chao, Portalegre.—Corn, wheat, and rye flour. 657
- 902 Nunes, Vicente Ferreira, Lisbon, Lisbon.—Rice. 657
- 903 Pinto, Joao de Aredo, Campello, Oporto.—Corn flour. 657
- 904 Villar, Manuel Pereira, Torroso, Oporto.—Barley flour. 657
- 905 Moreno, Jose Joaquim, S. Thiago, Lisbon.—Rice. 657
- 906 President of the Municipality of Penafiel, Oporto.—Corn flour. 657
- 907 Costa, Antonio Ignacio da, Elvas, Portalegre.—Corn flour. 657
- 908 Silva, Antonio de Sousa e Vallongo, Oporto.—Corn flour. 657
- 909 Silva, Antonio Manuel, Vimioso, Braganca.—Wheat flour. 657
- 910 Souza, Victorino Alves, Oporto.—Wheat flour. 657
- 911 Pereira, Henrique Augusto, Setubal, Lisbon.—Wheat flour. 657
- 912 Pinto, Antonio Rodrigues, Coimbra.—Wheat flour. 657
- 913 Casa Nova, Manuel Gonsalves, Beires, Oporto.—Barley flour. 657
- 914 Carvalho, Jose Joaquim de, Ermida, Villa Real.—Wheat flour. 657
- 915 Pullido, Manuel, Marvao, Portalegre.—Wheat flour. 657
- 916 Silva, Antonio Lopes da, Balazar, Oporto.—Corn flour. 657
- 917 Conceicao, Jose dos Santos, Leca de Bailio, Oporto.—Indian corn flour. 657
- 918 Camara, Hermelinda Gago da, Ponta Delgada, Azores.
a Potato flour. 657
b Macaroni. 658
- 919 Camara, D. H. Gago da, Ponta Delgada, Azores.
a Arrowroot flour, potato. 657
b Macaroni. 658
- 920 Baptista & Co., Lisbon.
a Wheat flour. 657
b Macaroni. 658
- 921 Chaves & Brother, Lisbon.
a Semolino. 657
b Macaroni. 658
- 922 Pamperio, Ricardo de Souza, Vallongo, Oporto.
a Wheat flour. 657
b Biscuits. 661
- 923 Pamperio, Antonio di Sousa Motta, Vallongo, Oporto.
a Wheat flour. 657
b Biscuits. 661
- 924 Alves & Bros., Lisbon.—Macaroni. 658
- 924*a* Mendonca, Thomaz Antunes de, Lisbon.—Starch and rice powder. 658
- 925 Sobrinho, Felix Fernandes Torres, Oporto.—Macaroni. 658
- 926 Rodrigues, Jose Galhardo, Oporto.—Macaroni. 658
- 928 Lemos, Francisco Ferreira de, Oporto.
a Macaroni. 658
b Refined sugar. 659
- 929 Manso, Jose Marques, S. Bartholomeu, Coimbra.—Orgeat syrup. 659
- 930 Madeira Sugar Manufacturing Co., Funchal, Madeira.
a Sugar. 659
b Molasses brandy. 660
- 931 Silva, Francisco da, Chamusca, Santarem.—Red wine. 660
- 931*a* Nascimento, Manuel Antonio, Ponta Delgada.—Samples of liquors. 660
- 932 Amaral, Antonio da Costa Correa, Santa Comba Dao, Viseu.—Red wine. 660
- 933 Araujo, Joaquim Cardoso de, Oliveira de Bairro.—Red wine. 660
- 934 Affonso, Domingos, Arialva, Lisbon.—Wines and vinegar. 660
- 935 Almeida, Francisco Manuel de, Serpa, Beja.—White wine. 660
- 936 Aguilar, jr., Bernardo Teixeira de, Lisbon.—Red and white wine. 660
- 938 Joao Bento, Valle Passos, Villa Real.—Red wine. 660
- 939 Allen, George, & Co., Lisbon.—Port wine. 660
- 940 Gama, Manuel Telles da, Lisbon.—Wines. 660
- 941 Hunt, Roope, Teage, & Co., Oporto.—Port wine. 660
- 942 Eca, Jose Ferreira de, Vallongo, Oporto.—Brandy. 660
- 942*a* Ramalho, Jose Maria, Evora.
a Red wine. 660
b Olive oil. 662
- 943 Fialho, Jacintho Maria, & Son, Ferreira, Beja.—Red wine. 660
- 944 Rodrigues Leitao, J. J., & Sons, Funchal, Madeira.—Madeira wine and white grape juice. 660
- 945 Vasconcellos, Adelino d'Almeida, Nellas, Viseu.—White wine. 660
- 946 Freire, Bernardo Xavier, Guarda.—White wine. 660
- 947 Freire, Amancio Antonio de Sequeira, Alemquer, Lisbon.—Wine. 660
- 948 Gomes, Joao Carlos, Ilhavo, Aveiro.—Brandy. 660
- 949 Garcia, Antonio Joaquim, Samil, Braganca.—Wine. 660
- 951 Galvao, Jose Augusto Ferreira Peixoto, Montemor-o-Velho, Coimbra.—Brandy. 662

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 952 Guisado, Joao Baptista Ribeiro, Peniche, Leiria.—Wine and vinegar. 660
- 953 Galvao, Sabino Jose M. dos Anjos, Azeira, Lisbon.—Wine. 660
- 954 Galhardo, Francisco Ferreira, Penamacor, Castello Branco.—Red wine. 660
- 955 Guedes, Antonio Pinto de Carvalho, Nogueira, Villa Real.—Red wine. 660
- 956 Iglesias, Manuel, Lisbon.—Wine. 660
- 957 Jancs, Jose Alonso, Requengo, Evora.—Red wine. 660
- 958 Mello, Bento de Castro Coelho e, S. Thiago, Coimbra.—Red wine. 660
- 959 Monteiro, Manuel F., Portalegre.—Vinegar. 660
- 961 Esteves, Manuel de Miranda, Celorico, Guarda.—Red wine. 660
- 962 Infante, Joao Maria de Magalhaes, Cantanhede, Coimbra.—White wine, brandy, and vinegar. 660
- 963 Esteves, Joao Manuel, Gondomil, Vianna do Castello.—Wine. 660
- 964 Kebe, E., & Co., Oporto.—Port wine. 660
- 965 Drach, Jose Ribeiro Guimaraes, Abrantes, Santarem.—White wine. 660
- 966 Franqueira, Romao, Fontelonga, Braganca.—Brandy. 660
- 967 Ferro, Narcizo Teixeira Martins, Oporto.—Wine. 660
- 968 Ferreira & Dourado, Oporto.—Port wine. 660
- 969 Cabral, Paes F., & Sons, Sernachc, Viseu.—Wine. 660
- 970 Ferreira, Antonia Adelaide, Godim, Villa Real.—Wine. 660
- 971 Fortes, Jose Maria, Santar, Viseu.—Wines. 660
- 972 Faria, M. A. P. Ramos, Colorico de Basto, Braganca.—Wine. 660
- 973 Freitas, Domingos Antonio de, Ameias, Coimbra.—Wine. 660
- 974 Fonseca, Joaquim Apolinario, Christello Couvo, Vianna de Castello.—Wine. 660
- 975 Ferreira, Jose Joaquim Gomes, Castanheiro, Braganca.—Wine. 660
- 976 Ferreira, Jose Mendes, Lamego, Viseu.—Wine. 660
- 977 Feijo, Anselmo Guilherme Borges, Godim, Villa Real.—Wine. 660
- 978 Ribas, Limas, Guarda.—White and red wines. 660
- 979 Fonseca, Bernardo da Silveira Pinto da, Varzea de Abrunhaes, Viseu.—Wine. 660
- 980 Fonseca, Themudo de Magelhaes da, Lamego.—Wine. 660
- 981 Fragozo, Jose Maria, Chamusca, Santarem.—Wine. 660
- 982 Fialho, Francisco Antonio, Aldeia do Mato, Evora.—Red wine. 660
- 983 Figueiredo, Antonio Joaquim Marques, Villa Nova de Reguengo, Evora.—Red wine. 660
- 984 Falcao, Jose Maria Fernandez, Cadafais, Lisbon.—Wine. 660
- 985 Fonseca, Jose Maria da, Lisbon.—Wine and cognac. 660
- 986 Franco, Manuel Antunes, Cortegana, Lisbon.—Red wine. 660
- 987 Ferrari, Gustavo, Lisbon.—Wine. 660
- 988 Falcao, Francisco Paes de Mattos, Bringel, Beja.—Wine and vinegar. 660
- 989 Ferreira, Joaquim Ignacio, Lisbon.—Wine. 660
- 998 Duarte, Julio Cesario Ferreira, Arcos, Aveiro.—Wine. 660
- 999 Dias, Jose da Fonseca, Oliveira do Bairro, Aveiro.—White wine. 660
- 1000 Deus, Joao Rodrigues de, Torres Novas, Santarem.—Wine. 660
- 1001 Dias, Daniel Jose Ferreira, Torres Novas, Santarem.—Wine. 660
- 1002 Duarte, Jose Baptista, Castello de Vide, Portalegre.—Wine. 660
- 1003 Doria, Jose, Beja.—Wine. 660
- 1004 Doria, B., Covilha, Castello Branco.—Wine. 660
- 1005 Dejante & Co., Bom Successo, Lisbon.—Wine. 660
- 1006 Coelho, jr., Antonio Ferraz, Caldas da Rainha, Leiria.—White wine. 660
- 1007 Cardoso, Manuel Pedro, Sobral de Monte Agraco, Lisbon.—Wine. 660
- 1008 Campos, Antonio Joaquim Potes, Evora.—Red wine. 660
- 1009 Castilho, Antonio de, Villa Soeiro, Guarda.—Red wine. 660
- 1010 Costa, Francisco, Collares, Lisbon.—Wine. 660
- 1011 Dias, Manuel Ignacio, Goes, Coimbra.—Vinegar. 660
- 1012 Duraes, Luis Antonio, Parada, Viseu.—Wine. 660
- 1013 Dow & Co., Oporto.—Port wine. 660
- 1014 Frexedas, Joao Felix de Faria, Castello de Vide, Portalegre.—Wine. 660
- 1015 Fernandes, Antonio Vicente d'Almeida, Benavente, Santarem.—Wines. 660
- 1016 Figueira, Jose Ricardo de Carvalho, Peniche, Leiria.—Wine. 660
- 1017 Fernandes, Joao Salvino d'Almeida, Benavente, Santarem.—Wine. 660
- 1018 Ferraz & Choque, Lisbon.—Wine. 660
- 1019 Faria, Simao Paes de, Torres Novas, Santarem.—Wine and brandy. 660
- 1020 Falcao, Joao de Souza, Alpiarca, Santarem.—Wine and brandy. 660
- 1021 Ferreira, Francisco de Souza, Rio Maior, Santarem.—White wine. 660
- 1022 Climaco, jr., Joao, Matacaes, Lisbon.—Red wine. 660
- 1023 Costa, Joao Victorino Pereira da, Torres Vedras, Lisbon.—White wine. 660
- 1024 Torre Novas, Count of, Lisbon.—Wine. 660
- 1025 Carneiro, Antonio Soares, Lagoa, Faro.—Red wine. 660
- 1026 Caldeira, Ricardo Jose, Alegrete, Portalegre.—Wine. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 1027 Camara, Jose Maria Figueiredo Cabral da, Oita, Lisbon.—Wine. 660
- 1028 Alcacovas, Count of, Paco d'Arcos, Lisbon.—Wine. 660
- 1029 Cunha, Gregorio da, Olhalvo, Lisbon.—Wine. 660
- 1030 Garcia, Pedro de Souza, Estremoz, Evora.—Wine and brandy. 660
- 1031 Gomes, Jose.—Brandy. 660
- 1032 Guapo, Jose Daniel, Portalegre.—Wines. 660
- 1033 Godinho, Francisco, Reguengo, Evora.—Wines. 660
- 1034 Jansen, J. H., & Co., Lisbon.—Beer, and ginger beer. 660
- 1035 Kopke & Co., Massarellos, Oporto.—Wines. 660
- 1036 Rodrigues, J. J. Leitao, & Sons, Funchal, Madeira.—Madeira wine. 660
- 1037 Jacintho Maria Fialho & Son, Ferreira, Beja.—Red wine. 660
- 1039 Coelho, Luis Pires, Sardoal, Santarem. 660
- 1040 Cortez, Benedicto, Celorico, Guarda.—Red wine. 660
- 1041 Calleya, Cypriano Ribeiro, Lisbon.—Wine. 660
- 1042 Costa, Agostinho N. d'Oliveira, Villa Franca de Xira, Lisbon.—Wine. 660
- 1043 Castello, Lucas da Silva Cardozo, Campo Grande, Lisbon.—Wine. 660
- 1044 Costa, Joao Cezario, Evora.—Red wine. 660
- 1045 Castello Branco, D. Joaquina Ferrao, Lisbon.—Wine. 660
- 1046 Carvalho, Jose Avelino N. de Carvalho, Torres Vedras, Lisbon.—Red wine. 660
- 1047 Brito, Augusto Pereira, Torres Novas, Santarem.—Red and white wine and brandy. 660
- 1048 Bexiga, Antonio Soares, Torres Novas, Santarem.—Brandy. 660
- 1049 Bivar, Jeronymo d'Almeida Coelho de, Portimao, Faro.—Red wine. 660
- 1050 Bivar, Jeronymo, Faro.—Red and white wine. 660
- 1051 Borges, Jose, Corroados, Santarem.—Red and white wine. 660
- 1052 Bello, Francisco Serrianno Carvalho, Castello de Vide, Portalegre.—White and red wine. 660
- 1053 Baracho, Jose de Sousa, Torres Novas, Santarem.—Red wine. 660
- 1054 Cordes, Balthasar, Barcarena, Lisbon.—Red and white wine. 660
- 1055 Carvalho, Joaquim Freire de, Villa de Frades, Beja.—Red and white wine. 660
- 1056 Aragao, Francisco de Pina, Linhares, Guarda.—White and red wine. 660
- 1057 Abreu, Antonio de, Olhalvo, Lisbon.—Wine. 660
- 1058 Abreu, Francisco Antonio Maximo, Azambuja.—Wine. 660
- 1059 Azevedo, Manuel Rodrigues de, Beavenente, Lisbon.—Wine. 660
- 1060 Branco, Joao Vicente, Massarellos, Oporto.—Gin. 660
- 1061 Barros, Antonio Manuel Ferreira, Ucanha, Viseu.—Brandy. 660
- 1062 Barao de Nellas, Nellas, Viseu.—Wine. 660
- 1063 Borge, Francisco Maximino, Villa Nova de Ourem, Santarem.—Red and white wine. 660
- 1064 Batalhos, Jose dos, Prazeres, Cartaxo, Santarem.—Red and white wine. 660
- 1065 Pereira, Manuel Augusto, Lisbon.—Red and white wine. 660
- 1066 Peixoto, Antonio Jose da Cunha A., Ohallo, Lisbon.—Wine. 660
- 1067 Rocha, Jose Alexandre da, Valle de Prazeres, Castello Branco.—Red wine. 660
- 1068 Pinheiro, Joaquim Garcia, Villa Nova, Reguengo, Evora.—Red wine. 660
- 1069 Prego, Ezequiel de Paula Sa, Alemquer, Lisbon.—White and red wine. 660
- 1070 Affonso, Joao Hilario, Redondo, Evora.—Wine and brandy. 660
- 1072 Alvares, Sabastido, Borba, Evora.—Red wine. 660
- 1073 Azeveda, Manuel Rodrigues de, Buccellas, Lisbon.—White wine. 660
- 1074 Assis, Domingos Francisco de, Alhandra, Lisbon.—Red wine. 660
- 1075 Barbosa, Manuel Paes Ferrao, Povoia de Midoes, Coimbra.—Red wine. 660
- 1076 Baiza, Miguel de Sousa, Sanfins, Villa Real.—Wine, muscadine wine. 660
- 1077 Ramalho, Esteves Goncalves, Villa Nova de Reguengo, Evora.—Red wine. 660
- 1078 Reixo, Jose Antonio Nunes, Villacosa.—White wine. 660
- 1079 Silva & Cosens, Oporto.—Port wine. 660
- 1080 Soares, Antonio, Carrazede d'Ancaes, Braganca.—Vinegar. 660
- 1081 Sousa, Bernardino Jose de Mello, Penafiel, Oporto.—Vinegar. 660
- 1082 Pimenta, Jose Maria, Dantas, Torres Novas.—Wine. 660
- 1083 Pereira, Candido Manuel, Lavradio, Lisbon.—Wine. 660
- 1084 Ramalho, Antonio Jose, Reguengo, Evora.—White wine. 660
- 1085 Pinheiro, Jose, Azambujo, Lisbon.—Red and white wine. 660
- 1086 Ferreira, Jose Henriques, Lisbon.—Red wine. 660
- 1087 Fragoso, jr., Luis Antonio, Ferreira, Cuba.—Wine. 660
- 1088 Figueira, Boaventura da Piedade, Cuba, Beja.—White wine. 660
- 1089 Fialho, Francisco d'Abreu, Portimao, Faro.—Red wine. 660
- 1090 Gonsalves, Jose dos Santos, Taboa, Coimbra.—Red wine. 660
- 1091 Fragoso, Manuel Figueira Sonto Mayor, Vidigueira, Beja.—Wines. 660
- 1092 Guerra, Jose Ignacio Pinto, Miranda do Douro, Braganca.—Wine. 660
- 1093 Guerra, Francisco Aranches do Amaral, Coimbra.—Wine and vinegar. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 1094 **Fora, Jose Augusto dos Santos**, Figueira da Foz, Coimbra.—Wine. 660
- 1095 **Faria, Francisca Albertina de**, Rates, Oporto.—Wine. 660
- 1096 **Fonseca, Manuel Coelho da**, Oliveira do Hospital, Coimbra.—Wine. 660
- 1097 **Fonsecca, Francisco Maximo da**, Sontello, Viseu.—Wine. 660
- 1098 **Figueiredo, Manuel, Gonsalves**, Aveiro.—Wine. 660
- 1099 **Ferreira, Adriano Baptista**, Vaccarica, Aveiro.—White wine. 660
- 1100 **Freire, Joao Pereira**, Penafiel, Oporto.—Wine. 660
- 1101 **Falcao, Maria Miguelma**, Miranda do Corvo, Coimbra.—Brandy. 660
- 1102 **Bassoa, Jose Luis de, S. Momcede**, Vianna do Castelo.—Wine and brandy. 660
- 1103 **Brandao, Francisco Antonio**, Reboreda, Vianna.—White wine. 660
- 1104 **Brito, J. F. L. Costa**, Parada, Viseu.—White wine. 660
- 1105 **Barreira, Antonio, jr.**, Alfandega da Fe, Braganca.—Red wine. 660
- 1106 **Boto, Joao de Sousa Dounas**, Ervedosa, Viseu.—Red wine. 660
- 1107 **Brandao, Augusto Ferreira**, Vaccarica, Aveiro.—White wine. 660
- 1108 **Bernardo Augusto Lopes & Co.**, Figueira da Fox, Coimbra.—Red wine. 660
- 1109 **Barao do Calvario**, Penafiel, Oporto.—Wines. 660
- 1110 **Barao, Jose Correa de**, Sabrosa, Villa Real.—Red wine. 660
- 1111 **Lopes, Jacintho**, Elvas, Portalegre.—Red and white wine. 660
- 1112 **Lima, Carlos Joas Ribeiro**, Melgaco, Vianna do Castelo.—Wine. 660
- 1113 **Lima, Joao Jose Xavier de**, Vill' Alva, Beja.—White wine. 660
- 1114 **Lisbao, Antonio da Silva**, Penafiel, Oporto.—Wine. 660
- 1115 **Laranja, Manuel Duarte**, Coruche, Santarem.—White wine. 660
- 1116 **Leite, Francisco de Paula**, Alcaccer do Sal, Lisbon.—Wines. 660
- 1117 **Leal, Francisco da Costa**, Arneiro, Lisbon.—Red wine. 660
- 1118 **Oliveira Soares, Eduardo**, Evora.—Red wine. 660
- 1119 **Bintrago, Jose Carniero d'Almeida de**, Tuscifal, Lisbon.—Red wine. 660
- 1120 **Silva, Daniel Pereira da**, Celorico, Guarda.—Wines. 660
- 1121 **Silveira, Joao Vicente da**, Abri-gada, Lisbon.—Wines. 660
- 1122 **Silva, Jose Gomes da**, Collares, Lisbon.—Wine. 660
- 1123 **Souza, Joao Candido de Castro e**, Beja.—White wine. 660
- 1124 **Souza, Jose Maximo Coelho J.**, Guarda.—Red wine. 660
- 1125 **Silva, Antonio Martins da**, Redondo, Evora.—Red wine. 660
- 1126 **Sereto, Domingos Francisco**, Villa Nova de Reguengos, Evora.—Red wine. 660
- 1127 **Silva, A. Augusto da**, Lisbon.—Wine. 660
- 1128 **Salgado, Antonio Lopes Vidgal**, Coruche, Santarem.—Red wine. 660
- 1129 **Simoes, Francisco, Villa Soeiro**, Guarda.—Red wine. 660
- 1130 **Sa, Antonio Manuel da Cunha e**, Torre de Ervedal, Leiria.—Wine. 660
- 1131 **Souza, Joaquim da Silva, Ribeira de Baixo**, Leiria.—Brandy. 660
- 1132 **Silva, Francisco Jose de Bastos e**, Torres Vedras, Lisbon.—Wines. 660
- 1133 **Santos, Joao Bernardo dos**, Lagoa, Faro.—Wine. 660
- 1134 **Souza, Francisco Jose de**, Labrugeira, Lisbon.—Red wine. 660
- 1135 **Silva, Ernesto de Mendonca e**, Abrigada, Lisbon.—Wines. 660
- 1136 **Silva, Antonio Pires da**, Villa Franca de Xira, Lisbon.—Wines. 660
- 1137 **Ozorio, Jose Augusto de Sa**, Pereira, Bretiande, Viseu.—Red wine. 660
- 1138 **Ozorio, Antonio Perfeito Pereira**, Pinto, Cambres, Viseu.—Wine. 660
- 1139 **Oliveira, Domingos Carneiro de**, Agrella, Porto.—Wine. 660
- 1140 **Nunes, Jose Cabrita**, Lagoa, Faro.—Red wine. 660
- 1141 **Outeiro, Viscount of**, Fundo, Castello Branco.—Red wine. 660
- 1142 **Vasconcellos, Joaquim Guilherme de**, Elvas, Portalegre.—Red and white wine. 660
- 1143 **Silva, Francisco Candido da**, Torres Novas.—Wine. 660
- 1144 **Silveira, Joao Vicente da**, Abri-gada, Lisbon.—Wine. 660
- 1146 **Vasconcellos, Antonio de**, Villa Nova, Vidgueira, Beja.—White wine. 660
- 1147 **Vilhena, Agostinho de, S. Thiago**, Lisbon.—Red wine. 660
- 1148 **Esperanca, Viscount of**, Cuba, Beja.—Red and white wine and vinegar. 660
- 1149 **Nogueira, Henrique de Sa**, Portalegre.—Red wine. 660
- 1150 **Nascimento, Manuel Antonio do**, Ponta Delgada, Azores.—Liquors, brandy, cognac. 660
- 1151 **Oliveira, Jose Bernardo de**, Mondim de Basto, Villa Real.—Brandy. 660
- 1152 **Oliveira, Antonio Simoes de**, Mohido, Viseu.—Wine. 660
- 1153 **Oflley, Cramp, & Forresters**, Oporto.—Wine. 660
- 1154 **Vasconcellos, Adelino d'Almeida**, Nellas, Viseu.—White wine. 660
- 1155 **Serrado, Viscount of**, Viseu.—Wine. 660
- 1156 **Villafanha, Antonio de**, Tondella, Viseu.—Red and white wine. 660
- 1157 **Valle, Jose de Seixas do**, Bassar, Viseu.—Wine. 660
- 1158 **Veiga, Ricardo Antonio da**, Povoa de Midoes, Coimbra.—Red wine. 660
- 1159 **S. Thome, Viscount of**, Soure, Coimbra.—Red wine. 660
- 1160 **Valle, Manuel de Sousa Dias**, Oporto.—Wine. 660
- 1161 **Vieira, Venancio Dias de Figuei-redo**, Eiro, Aveiro.—Wine. 660

Animal and Vegetable Products.

- 1162 Moidnenta da Beira, Viscount of, Viseu.—Red wine. 660
- 1163 Viuva Pinto, & Son, Lisbon.—Red and white wine. 660
- 1164 Viuva, Pevelin, & Sons, Torres Vedras, Lisbon.—Red and white wine. 660
- 1165 Welsh Brothers, Funchal, Madeira.—Madeira wines, grape juice, etc. 660
- 1166 Abrigada, Viscount of, Lisbon.—Muscatel and other wines. 660
- 1167 Mossamedes, Viscount of, Bemfica, Lisbon.—Wine. 660
- 1168 Carnide, Viscount of, Carnide, Lisbon.—Red and white wine. 660
- 1169 Velloso, Antonio Guedes, Cambres, Setubal, Lisbon.—Red wine. 660
- 1170 Vilhena, Barbosa Arthur Peres de, Cartaxo, Guarda.—Red wine. 660
- 1171 Sagiosa, Viscountess of, Sagiosa, Guarda.—White wine. 660
- 1172 Nunes, Jose Jacintho, Grandola, Lisbon.—Wine. 660
- 1173 Nobre, Manuel de Barros, Tavora, Viseu.—Red wine. 660
- 1174 Neves, Fortunato Vieira das, Taboa, Coimbra.—White wine. 660
- 1175 Vas Freire, Jose Sebastiao Torres, Evora.—Red and white wine. 660
- 1176 Pereira, Widow Theotonio, & Sons, Lisbon.—White and red wine. 660
- 1177 Velho, Francisco da Rosa, Evora.—Red and white wine. 660
- 1178 Formosinho, Widow of Joao Martins, Lagoa, Faro.—Wine. 660
- 1179 Velles, Luis Nunes de, Portalegre.—Brandy. 660
- 1180 Judice, A. J., Widow of, Mexilhoeira, Faro.—Wine. 660
- 1181 Menezes, Jose Maria da Silveira, Borba.—White wine. 660
- 1182 Mazziotti, Antonio Maria Dias P. Chaves, Collares, Lisbon.—White and red wine. 660
- 1183 Machado, Pedro Xavier, Portalegre.—White wine. 660
- 1184 Martins, Miguel Castro, Montargil, Portalegre.—Wines. 660
- 1185 Mattos, Bento F. M., Mondim de Basto, Villa Real.—Wine. 660
- 1186 Lisboa, Luis Emilio, Vieira.—Wine. 660
- 1187 Neves, Jose Eloy das, Cadaval, Lisbon.—White and red wine, and brandy. 660
- 1188 Natividade, Jose Gonzalves, Constanca, Santarem.—White wine. 660
- 1189 Lobo, Francisco Teixeira, Sabrosa, Villa Real.—Muscadine wine. 660
- 1190 Lima, Jose Duarte, Cartaxo, Santarem.—Red and white wine, brandy. 660
- 1191 Mello, Hygino Otto de Queiros, Laniego, Viseu.—Red wine. 660
- 1192 Lebre, Manuel Ferreira, Anadia, Aveiro.—Red wine. 660
- 1193 Lemos, Alexandre Maria de, Lamego, Viseu.—Red wine. 660
- 1194 Montes, Jose Nunes Moraes, Castello Branco.—Red wine. 660
- 1195 Martins, Benedicto Matheus, Elvas, Portalegre.—Wine. 660
- 1196 Macedo, Luis A. d'A. Estremos, Evora.—Red wine. 660
- 1197 Macedo, Camillo de jr., Peso da Regoa, Villa Real.—Wines and brandy. 660
- 1198 Magalhaes, Luis Francisco da Silva, Villarinho de S. Romao, Villa Real.—Red wine. 660
- 1199 Leitao, Alipio, Penacova, Coimbra.—Red wine and vinegar. 660
- 1200 Meirelles, Antonio de Chaves, Povia de Midoes, Coimbra.—Red wine. 660
- 1201 Lima, Jose Duarte, Cartaxo, Lisbon.—Wine. 660
- 1202 Moraes, Jose Alves de, Vinhaes, Braganza.—Wine. 660
- 1203 Madeira, Jose, Povia de Midoes, Coimbra.—Red wine. 660
- 1204 Leite, Francisco de Moraes, Villa Flor, Braganza.—Wine and vinegar. 660
- 1205 Leite, Guilherme da Costa, Santo Thirso, Porto.—Wine. 660
- 1206 Oliveira, Augusto Jose de, Lisbon.—Red wine. 660
- 1207 Oliveira, Jose Vaz Rato de, Alter do Chao, Portalegre.—Brandy and vinegar. 660
- 1208 Ornellas, A. de, Funchal, Madeira.—Madeira wine. 660
- 1209 Magalhaes, Joao Guedes de.—Red wine. 660
- 1210 Moraes, Joaquim Claudino de, Regoa, Villa Real.—Red wine. 660
- 1211 Monteiro, Joaquim Soares, Mesquinhata, Oporto.—Wine. 660
- 1212 Magalhaes, Roberto Augusto Pinto de, Valle de Mendis, Villa Real.—Red wine. 660
- 1213 Motta, Luiz Antonio, Ferreira da Andraes, Villa Real.—Wines. 660
- 1214 Mourao, Luis Teixeira, Casal de Loivos, Villa Real.—Red wine. 660
- 1215 Marques, Joao Antonio de Meirelles, Villa Real.—Red wine. 660
- 1216 Monteiro, Jose Justino Teixeira, Covas do Douro, Villa Real.—Red wine. 660
- 1217 Mello, Joao, C. da Rosa Malheiro, Candedo, Villa Real.—White wine, brandy. 660
- 1218 Matheus, Jose Pfulino, S. Miguel de Lobirgo, Villa Real.—Wine. 660
- 1219 Lobo, Nicolau Joaquim Salles, Evora.—Red wine, vinegar. 660
- 1220 Lopes, Jose Ramos, Airo, Braga.—Wine. 660
- 1221 Meirelles, Antonio Nunes de Chaves, Povia de Midoes, Coimbra.—Red wine. 660
- 1222 Miranda, Jose Victorino de, Matacaes, Lisbon.—Red wine. 660
- 1223 Pinto, Joao Adriano, Alfandega da Fé, Braganza.—Brandy. 660
- 1224 Pascoal, Otero, Oporto.—Beer. 660
- 1225 Macedo, Antonio Luis de, Arruda dos Vinhos, Lisbon.—Red wine. 660
- 1226 Martins, Luis Antonio, Torres Vedras, Lisbon.—Wine. 660

Animal and Vegetable Products.

- 1227 Moniz, Antonio Bernardino da Fonseca, Barocal, Guarda.—Wine. 660
- 1228 Madeira, Alexandre Jose, Candedo, Villa Real.—Wine. 660
- 1229 Monteiro, Abilio Affonso da Silva, Ventosa do Bairro.—Red wine. 660
- 1230 Mello, Antonio Maria de, Miranda do Corvo, Coimbra.—Red wine. 660
- 1231 Marques Estevo Jose, Aldeia de Mato, Evora.—White and red wine. 660
- 1232 Marques Maria Jose Perpetua, Redondo, Evora.—Red wine. 660
- 1233 Pavao, Antonio Augusto Goncalves, Villa Real.—Wine. 660
- 1234 Pinheiro, Custodio Jose, Valverde, Villa Real.—Wine. 660
- 1235 Moura, Christiano Augusto da Silva, Midoes, Coimbra.—Red wine. 660
- 1236 Moraes & Mouro, Figueira, Coimbra.—Wine. 660
- 1237 Lima, Antonio Joaquim Fernandes, Villa Nova da Cerveira, Vianna do Castelo.—Wine. 660
- 1238 Marques, Estevo Jose, Evora.—Brandy. 660
- 1239 Miranda, Felix Honorio Gomes de, Torres Vedras, Lisbon.—Red and white wine. 660
- 1240 Lima, Jose Duarte de, Cartaxo, Santarem.—Wine, vinegar. 660
- 1241 Leito, Manuel Pinto, Fontes, Villa Real.—Wine. 660
- 1242 Lago, Francisco d'Assis Pereira do, Arcos, Braganca.—Red wine. 660
- 1243 Mattos, Joao Chrisostomo de Carvalho, Villarouco, Viseu.—Red wine. 660
- 1244 Levita, Joaquim Fortunato, Portalegre.—Brandy. 660
- 1245 Lopes, Manuel Joao, Fuseta, Faro.—Red wine. 660
- 1246 Negreiros, Bento Antonio, Trigo de Mirandella, Braganca.—Red wine. 660
- 1247 Naples, Miguel Tudella de Souza, Castellões, Viseu.—White wine. 660
- 1248 Lima, Antonio dos Santos, Pavao de Midoes, Coimbra.—Brandy. 660
- 1249 Leitao, A. Baptista Covilha, Castello Branco.—Red wine. 660
- 1250 Lopes, Antonio Camillo da Silva, Coruche, Santarem.—Wine. 660
- 1251 Lopes, Jose Olaia, Castello Branco.—Wines. 660
- 1252 Lobo, Bernardino Vas, Celorico de Basto, Braga.—Wine. 660
- 1253 Lopes, Joao da Cunha, Silveiras, Viseu.—Wine. 660
- 1254 Lobo, Jose Nogueira Pereira, Ranhudos, Viseu.—Wine. 660
- 1255 Leao, Manuel da Cunha, Sobreira, Oporto.—Corkwood and corks. 600
- 1256 Lima, Joao Ferreira, Braganca.—Wine. 660
- 1257 Magalhaes, Francisco Jose, Portalegre.—Red wine. 660
- 1258 Motta, Ranulfo Antonio, Portimao, Faro.—Red and white wine. 660
- 1259 Mello, Miguel Antonio de Sousa, Villa Franca de Xira, Lisbon.—Red wine. 660
- 1260 Moita, Antonio F. da Silva, Torres Novas, Santarem.—Wines. 660
- 1261 Jansen, J. H., & Co., Lisbon.—Beer and ginger beer. 660
- 1262 Kopke & Co., Massarellas, Oporto.—Port wine and muscadine wine. 660
- 1263 Leacock & Co., Funchal, Madeira.—Wine. 660
- 1264 Morte Certa, Antonio Pedro Cardoso, Alcacer do Sal, Lisbon.—Wine. 660
- 1265 Louro, Francisco Rico, Aldeia de Matto, Evora.—Red wine. 660
- 1266 Mello, Jose de, Thomar, Santarem.—Red and white wine. 660
- 1267 Moraes, Jose Correa Pinto de, Constanca, Santarem.—Red and white wine. 660
- 1268 Martins, Jose Maria, Setubal, Lisbon.—Wines. 660
- 1269 Martins, Joao Pedro, Setubal, Lisbon.—Wines. 660
- 1270 Martel, Joao Campello Trigueiros, Sacavem, Lisbon.—Red and white wine. 660
- 1271 Mesquita, Antonio da Silva, Cartaxo, Santarem.—Red and white wine. 660
- 1272 Machado, Thomaz Jose, Lisbon.—Wines. 660
- 1273 Monteiro, Antonio Manuel, Villalba, Beja.—Red wine. 660
- 1274 Marquez de Pombal, Oeiras, Lisbon.—White and red wine. 660
- 1275 Machado, Honorato Jose Torres, Azambuja, Lisbon.—Brandy, wine, and vinegar. 660
- 1276 Ribeiro, Francisco Maria, Couto de Cima, Viseu.—Wine. 660
- 1277 Ribeiro, Serafim Garcia, Oliveira do Hospital.—Brandy. 660
- 1278 Rodrigues, Antonio Caetano, Oporto.—Port wine. 660
- 1279 Ribeiro, Manuel, Penafiel, Oporto.—Brandy. 660
- 1280 Rodrigues, Antonio, Eiro, Braganca.—Brandy. 660
- 1281 Magalhaes, Vicente Xavier, Tavira, Faro.—Red wine. 660
- 1282 Mendonca, Manuel Marcal, Oelhao, Faro.—Red wine. 660
- 1283 Mira, Jose Maria de, Vidigueira, Beja.—White wine. 660
- 1284 Motta, Anacleto da Fonseca, Sardoal, Santarem.—Wine. 660
- 1285 Moreno, Jose Joaquim, S. Thiago, Lisbon.—Wine. 660
- 1286 Ribeiro, Jose Joaquim, S. Joao da Pesqueira, Viseu.—Red wine. 660
- 1287 Rego, Manuel Diogo, Moncorvo, Braganca.—Red wine. 660
- 1288 Camacho, Henrique Jose Maria, Funchal, Madeira.—Superior reserve wines, and other qualities. 660
- 1289 Creswell & Co., Lisbon.—Red wine. 660
- 1290 Coutinho, Joaquim Jose, Alpiarca, Santarem.—Red and white wine and brandy. 660
- 1291 Carneiro, Joao Bento Gil, Azambuja.—Red wine. 660

Animal and Vegetable Products.

- 1292 Corte Real, Antonio Freire, Valle de Prazeres, Castello Branco.—Red wine and brandy. 660
- 1293 Rego, Francisco Maia do, Alfandega da Fé, Bragança.—Red wine. 660
- 1294 Roma, J. M. Goncalves, Troviscoso, Vianna.—Wine. 660
- 1295 Robollo, Domingos Jose, Castello Branco.—Red wine. 660
- 1296 Roquette, Jose Ferreira, Salvaterra, Santarem.—Wines. 660
- 1297 Ramires, Balthazar Peres, Evora.—Wine and vinegar. 660
- 1298 Ramalho, Antonio Pinheiro, Regueiro, Evora.—White wine. 660
- 1299 Ramos, Antonio Pedro de Carvalho, Rio Maior, Santarem.—White wine. 660
- 1300 Rosa, Jose Maria, Rio Maior, Santarem.—White wine. 660
- 1301 Rapozo, Joaquim Nunes Vieira, Coruche, Santarem.—Red wine. 660
- 1302 Ribeiro, Joaquim Antonio, Alcaer do Sal, Lisbon.—Red wine. 660
- 1303 Rodrigues, Manuel Antonio, Sobreira, Villa Real.—White wine. 660
- 1304 Chaves, Jose Luciano Pereira, Carrica, Viseu.—Wine. 660
- 1305 Borges de Sousa, Asambuja, Lisbon.—White wine. 660
- 1306 Costa, Jose da, Abravezes, Viseu.—Wine. 660
- 1307 Bernardo, Vasco, Coruche, Santarem.—Red wine. 660
- 1308 Cossart, Gordon, & Co., Madeira.—Madeira wine. 660
- 1309 Carvalho, Jose Raymundo Lopes de, Torres Novas, Santarem.—Red wine. 660
- 1310 Carnelheiro, Victorino Antonio do Reis, Anca, Constanhede.—Vinegar. 660
- 1311 Carvalho, Francisco Garcia de, Arganil, Coimbra.—Vinegar. 660
- 1312 Sociro, Balthazar Rodrigues, jr., Campo Maior, Portalegre.—Brandy. 660
- 1313 Sobrinho, Jose Martins Leitao, Villa de Frades, Beja.—Red wine. 660
- 1314 Silva, Antonio Jose da, Salvaterra, Santarem.—Red wine. 660
- 1315 Sauvage, C., Vendas Novas, Evora.—Brandy. 660
- 1316 Sequeira e Sa, Francisco Theodorico, Vidigueira, Beja.—White wine. 660
- 1317 Soure, Joaquim Manuel Soares de, Ferreira, Beja.—Red wine. 660
- 1318 Santos, Jose Fogado de C. e, Aljube, Lisbon.—Wine. 660
- 1319 Silva, Joaquim Jose de Freitas e, Cartaxo, Santarem.—Wines. 660
- 1320 Santos, Antonio Vicente dos, Alhandra, Lisbon.—Wines. 660
- 1321 Silva, Jose Maria da, Elvas, Portalegre.—Brandy and red wine. 660
- 1323 Canto e Castro, Miguel do, Lisbon.—White wine. 660
- 1324 Calasons, Jose Dias de S., Gaviao, Portalegre.—Red wine. 660
- 1325 Coutinho, Luis da Silva, Cascaes, Lisbon.—White and red wine. 660
- 1326 Costa, Antonio Jacome da, Gaviao, Portalegre.—Brandy. 660
- 1327 Silva, Jose Goncalves da, Portalegre.—Red wine and brandy. 660
- 1328 Soares, Jose Severino, Ribeira de Santarem.—Wines and alcohol. 660
- 1329 Carvalho, Jose Joaquim de, Ermida, Villa Real.—Wine. 660
- 1330 Couraca, Jose de Gouveia, Faia, Viseu.—Wine. 660
- 1331 Castello Branco, Fernando d'Almeida Loureiro, S. Miguel do Outeiro, Viseu.—Wine. 660
- 1332 Carinho, Bartholomeu, Montargil, Portalegre.—Red and white wine. 660
- 1333 Caldas, Manuel Duarte Silva, S. Joao Baptista, Santarem.—Red wine. 660
- 1334 Couto, Antonio Severino do, Pragança, Lisbon.—Wine. 660
- 1335 Castro, Jose d'Almeida Silva e, Miranda do Corvo, Coimbra.—Vinegar. 660
- 1336 Carvalho, Ananias Cardoso de, S. Thiago, Viseu.—Wine. 660
- 1337 Cabral, Constantino do Valle Coelho, Oporto.—Port wine. 660
- 1338 Cabral, Antonio Paes, Senhorim, Viseu.—Wine. 660
- 1339 Carvalho, Alonso Pinto Teixeira de Santa Martha de, Penaguiao, Villa Real.—Wine. 660
- 1340 Cabrita, Joao Carlos, Cuba, Beja.—Wine. 660
- 1341 Cabreira, Antonio, Evora.—Red and white wine and brandy. 660
- 1342 Carvalhosa, Jose Felix de Almeida, Ordisqueira, Lisbon.—White wine. 660
- 1343 Costa Cabral, Joao Rebello da, Lisbon.—Red and white wine. 660
- 1344 Pereira, Antonio d'Almeida, S. Pedro de Franca, Viseu.—Wine. 660
- 1345 Pecanha, Jose Pereira de Castro, Vianna do Castello.—Wine. 660
- 1346 Carvalho, Antonio Marques de, Chamusca, Santarem.—White and red wine and brandy. 660
- 1347 Carvalho, Joao Afonso de, Villa Franca de Xira, Lisbon.—Red and white wine. 660
- 1348 Cunha, Joao Augusto da, S. Joas da Ribeira, Santarem.—Red and white wine. 660
- 1349 Cardoso, jr., Setubal, Lisbon.—Wines and liquors. 660
- 1350 Carvalho, Francisco Jose de, Faro.—Anisette brandy. 660
- 1351 Capello, Manuel Joaquim da Silva, Vill' Alva, Beja.—Red wine. 660
- 1352 Costa, Joao Maria da, Alhandra, Lisbon.—Red wine. 660
- 1353 Costa, Domingos Antonio da, Elvas, Portalegre.—Red and white wine. 660
- 1354 Condessa Geraz de Lima, Lisbon.—Wine. 660
- 1355 Camara, Tristao Prestrello da, Funchal, Madeira.—Dry Madeira wine. 660
- 1356 Claro, Francisco Germano, Lisbon.—Red and white wine. 660

Animal and Vegetable Products.

- 1357 Campos, Francisco Ferreira, Rio Maior, Santarem.—Red wine. 660
- 1358 Cruz, Manuel Mendes da, Lagares, Coimbra.—Wine. 660
- 1359 Carneiro, Custadio Gil dos Reis, Refojos, Oporto.—Wine. 660
- 1361 Borges, Candido Marcelino, Torres Novas, Santarem.—Red and white wine. 660
- 1362 Blanco, Joao Diago, Alvito, Beja.—Red and white wine. 660
- 1363 Blandy, Carlos R., Funchal.—Madeira wine. 660
- 1364 Carvalho, Dionisio Antonio N. de, Leniche, Peiria.—Wine and vinegar. 660
- 1365 Cunha, Alexandre de Sena, Coruche, Santarem.—Red wine. 660
- 1366 Cabrita, Joao Carlos, Cuba, Beja.—Wines and liquors. 660
- 1367 Botelho, Antonio da Costa, Santarem.—Wine. 660
- 1368 Barcellos, Francisco Maria, Torres Vedras, Lisbon.—Red and white wine. 660
- 1369 Salgueiro, Baroness of, Leiria.—Red wine. 660
- 1370 Barao de Viamonte, Leiria.—Red wine. 660
- 1371 Barros e Cunha, Jose de, Torres Vedras, Lisbon.—Wine. 660
- 1373 Brito, Jose Maria de Barros Carvalhaes, Nisa, Portalegre.—Red wine and brandy. 660
- 1374 Biker, Antonio Pedro, Faro.—Red wine. 660
- 1375 Cerveira, Jose Rodrigues, Anadia, Aveiro.—Red and white wine. 660
- 1376 Castro, Damiao Martins, S. Pedro da Cova, Porto.—Red wine. 660
- 1377 Coutinho, Fernando Affonso d'Almeida, Cantanhede, Coimbra.—Red and muscadine wine. 660
- 1378 Canella, Agostinho, Arcos, Aveiro.—Red and white wine. 660
- 1379 Campos, Antonio de Freitas, Arcos, Aveiro.—Red wine. 660
- 1380 Costa Pereira & Co., Figueira, Coimbra.—Red and white wine. 660
- 1381 Castanheira, Jose Rodrigues Mendes, Azere, Coimbra.—Wine. 660
- 1382 Caceres, Francisco Albuquerque Mello Pereira, Pereira, Oporto.—White and red wine. 660
- 1383 Chaves, Antonio Joaquim, Sta. Martha de Penaguiao, Villa Real.—Wine. 660
- 1384 Coutinho, Jose Maria d'Almeida, Cidadelhe, Villa Real.—Wine. 660
- 1385 Castro, Luis de, Valle de Passos, Villa Real.—Red wine. 660
- 1386 Cruz, Joaquim Rodrigues, Mesao Frio, Villa Real.—White wine. 660
- 1387 Cancelli, Francisco, Arcos, Aveiro.—Red and white wine. 660
- 1388 Cunha, Antonio Duarte da, Freixinho, Viseu.—Red wine. 660
- 1389 Costa, Victorino Alves da, Arumarnar, Viseu.—Wine. 660
- 1390 Cardoso, Joaquim Maria do Amaral, Tamaga, Aveiro.—Red and white wine. 660
- 1391 Correa, Jose Augusto, Santa Comba Dao, Viseu.—Red wine. 660
- 1392 Cardozo, Antonio, Abreiro, Braganca.—Red wine. 660
- 1393 Castro, Ayres de S. Mariz e, Carraseda d'Ancaies, Braganca.—Wine. 660
- 1394 Castro, Jose de, Braganca.—Muscadine and other wines. 660
- 1395 Commenda, Elias Rebeiro, Villa Flor, Braganca.—Red wine. 660
- 1396 Cunha, Bernardino Alves Teixeira, Celorico de Basto, Braga.—Wine. 660
- 1397 Cunto, Manuel d'Aguino Alves do, Nogueira, Villa Real.—Wine. 660
- 1398 Castro, Antonio Augusto d'Almeida, Mesao, Villa Real.—Wine. 660
- 1399 Bairrada Commercial Wine Co., Vaccarica, Aveiro.—Red and white wine. 660
- 1400 Camello, Joaquim Augusto da Silveira, Penafiel, Oporto.—Wine and cider. 660
- 1401 Coutinho, Antonio Joaquim de Moura, Outeiro, Braga.—Wine. 660
- 1402 Casa de Pasos, Barcellos.—Wine. 660
- 1403 Carvalho, Jose Velloso Pinto de, Lanego, Viseu.—White wine. 660
- 1404 Cruz, Jose Lopes da, Nogueira, Villa Real.—Red wine. 660
- 1405 Costa, Jose Joaquim Pinto da, Nogueira, Villa Real.—Red wine. 660
- 1406 Cordeiro, Antonio Montes, Godim, Villa Real.—Red wine. 660
- 1407 Champalimaud, Antonio Montes, Godim, Villa Real.—Red wine. 660
- 1408 Chaves, Manuel Jose da Cunha, Valle Passos, Villa Real.—Wine. 660
- 1409 Asevedo, Jose Ferreira da Silva, Rates, Oporto.—Red wine. 660
- 1410 Alexandre, Joaquim Peres de, Taboa, Coimbra.—Red wine. 660
- 1411 Alexandre, Manuel, Taboa, Coimbra.—Red wine. 660
- 1412 Abreu, Francisco Jose de, Lamego, Viseu.—Red wine. 660
- 1413 Costa, Francisco Bento da, Gomei, Viseu.—Wine. 660
- 1414 Contada, Jose Domingues, Carapicos, Braga.—Wine. 660
- 1415 Carvalho, Jose Teixeira da, Cavez, Braga.—Wine. 660
- 1416 Castello Branco, Manuel Antonio Pereira, Abraveses, Viseu.—Wine. 660
- 1417 Aragao, Alexandre de, Villa Flor, Braganca.—White and red wine. 660
- 1418 Abreiro, Joao Vaz de, Mirandella, Braganca.—Wine. 660
- 1419 Almeida, Ignacio Bernardino de, Alfondoga da Fe, Braganca.—White wine. 660
- 1420 Asevedo, Jose de, Villa Flor, Braganca.—White wine. 660
- 1421 Andrade, Basilio Augusto Xavier de, Coimbra.—Red and white wines. 660
- 1422 Almeida, Manuel Lourenco, Oporto.—Muscadine wine. 660

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 1424 Administrative Council of Montemior-o-Velho, Montemior-o-Velho, Coimbra.—Vinegar. 660
- 1425 Alcoforado, Maria H. S., Barcellos, Braga.—Wine. 660
- 1426 Amaral, Antonio Gomes Silva do, Cima de Villa, Viseu.—Wine. 660
- 1427 Andrade, Bernardo Antonio da Silva, Cima de Villa, Viseu.—Wine. 660
- 1428 Almeida, Jose Bernardo de, Lordosa, Viseu.—Wine. 660
- 1429 Amaral, Leonor Carvalho Fonseca, Mangualde, Viseu.—Wine. 660
- 1430 Amaral, Bernardo Rodrigues do, Espinho, Viseu.—Wine. 660
- 1431 Avelino, Joaquim Cumieira, Villa Real.—Bastardo and muscadine wine. 660
- 1432 Azevedo, Antonio Lopes de Nogueira, Villa Real.—Red and white wine. 660
- 1433 Pereira, Joaquim J. Peral, Lisbon.—Wines. 660
- 1434 Aragao, Alexandre A. de Mattos Mascarenhas Vasconcellos, Sebal Grande, Coimbra.—Vinegar. 660
- 1435 Antonio Nicolau d'Almeida jr., & Bro., Oporto.—Wine, port wine, and brandy. 660
- 1436 Amaral, Pedro d'Albuquerque Silva, Mangualde, Viseu.—White and red wines. 660
- 1437 Andressen, J. H., Oporto.—Port wine. 660
- 1438 Rodrigues, Antonio Caetano, & Co., Oporto.—Wines. 660
- 1439 Alves, Francisco, Passacos, Villa Real.—Wine. 660
- 1440 Moura, Antonio Gomes de, & Co., Oporto.—Wine and port wine. 660
- 1442 Sarmento, Bernardo Figueiredo Sepulveda, Santa Justa, Braganca.—Red and white wine. 660
- 1443 Souza, Joaquim Jose de, Ferreira, Vianna do Castello.—Wine. 660
- 1444 Silva, Antonio Xavier Torres e, Villa de Caminha.—Wine. 660
- 1445 Santos, Antonio dos, Povoia de, Lusitannas, Viseu.—Wine. 660
- 1446 Sampaio, Jose da Cunha, Villa Nova de Famalicao, Braga.—Wines. 660
- 1447 Souto Maior, Lourenco da Cunha, S. Martinho de Dunna, Braga.—Wine. 660
- 1448 Sousa, Jose Henriques Coelho de, Refoyos, Braga.—Wine. 660
- 1449 Paes, Antonio da Silva, Parada, Viseu.—White and red wine. 660
- 1450 Poiares, Antonio Jose da Silva, Contanhede, Coimbra.—Red wine. 660
- 1451 Pereira de Mello, Antonio Leite, Peral, Lisbon.—Wines. 660
- 1452 Silva, Antonio Ferreira da, Sabrosa, Villa Real.—White wine. 660
- 1453 Silva, Antonio da, Nogueira, Villa Real.—Red wine. 660
- 1454 Sequeira, Luis Clemente de, Ervedosa, Viseu.—Red wine. 660
- 1455 Souza, Hector de Lemos e, Sangelmil, Viseu.—Wine. 660
- 1456 Soares, Joao Baptista Ribeiro, Lamego, Viseu.—Red and white wine. 660
- 1457 Sousa, Manuel Jose, Coimbra.—Red wine. 660
- 1458 Sousa, Julio Cesar, Paradolinho, Villa Real.—Red and white wine. 660
- 1459 Serodio, Jose Antonio Goncalves, Passos, Villa Real.—Wine and brandy. 660
- 1461 Sandeman & Co., Oporto.—Port wine. 660
- 1462 Agricultural Society of Oporto, Oporto.—White and red wine. 660
- 1463 Portella, jr., Jose Ferreira, Anadia, Aveiro.—Red wine. 660
- 1464 Pinto, Antonio Peixoto, Sabrosa, Villa Real.—Wine. 660
- 1465 Pinto, Manuel Feireira, Cambres, Viseu.—Red wine. 660
- 1466 Silva, Francisco Pereira da, Carrasade d'Ancaes, Braganca.—Wine. 660
- 1467 Simoes, Antonio Augusto da Costa, Vaccarica, Aveiro.—White wine. 660
- 1468 Sarmento, Antonio Ferreira, Vinhais, Braganca.—Wine. 660
- 1469 Seabra, Alexandre de, Arcos, Aveiro.—White and red wine. 660
- 1470 Sobral, Jose Joaquim, Soutello, Viseu.—Muscadine and white wines. 660
- 1471 Sousa, Jose Luis Rodrigues de, Valenca, Vianna do Castello.—Wine. 660
- 1472 Simoes, Joaquim Antonio, Figueira, Coimbra.—Red and white wine, brandy, vinegar. 660
- 1473 Salgado Domingos, Carrasada d'Ancaes, Braganca.—Red wine. 660
- 1474 Pinto Coelho, Carlos Z., Lisbon.—White and red wine. 660
- 1475 Pereira, Joaquim, Cadaval, Lisbon.—Red wine. 660
- 1476 Paulo Jorge, Carcavellos, Lisbon.—Red and white wine. 660
- 1477 Pereira, Antonio Rodrigues, Peniche, Leiria.—Wine and vinegar. 660
- 1478 Pinheiro, Antonio Joaquim, Pinamacor, Castello Branco.—Red wine. 660
- 1479 Pimenta, Jacintho Francisco, Ponte Sor, Portalegre.—Red and white wine. 660
- 1480 Prego, Joaquim Romao Mendes, Reguengo, Evora.—Red wine. 660
- 1481 Pinheiro, Joaquim Garcia, Reguengo, Evora.—Vinegar. 660
- 1482 Pinto, Maria Rita Ramos Borges, Folgosa, Viseu.—Red and white wine. 660
- 1483 Pereira, Adrianno Rodrigues, Anadia, Aveiro.—Red wine. 660
- 1484 Portella, Jose Ferreira, Anadia, Aveiro.—Wine. 660
- 1485 Serrado, Viscount of, Viseu.—Wine. 660
- 1486 Villafanha, Antonio de, Tondella, Viseu.—Red and white wine. 660
- 1488 Viseu, Henrique Nunes, Santar, Viseu.—Wine. 660
- 1489 Gomes, Antonio Luis, Valenca, Vianna do Castello.—Wine and brandy. 660

Animal and Vegetable Products.

- 1490 Guimaraes, Victorino Barbosa, Penafiel, Oporto.—Wine. 660
- 1491 Guisado, Joao Baptista Ribeiro, Peniche, Leiria.—Wine and vinegar. 660
- 1492 Galvao, Sabino Jose M. dos Anjos, Azueira, Lisbon.—Wine. 660
- 1493 Vasconcellos, Francisco P. Carvalho, Valle Cavez, Braga.—Wine. 660
- 1495 Vasconcellos, Augusto Cesar Carvalho, Valle Cavez, Braga.—Wine. 660
- 1496 Vasconcellos, Bento M. Pereira Pita, Monsao, Vianna do Castello.—Wine. 660
- 1497 Veiga, Jose da Cunha Costa, Povoá de Midoes, Coimbra.—Red wine. 660
- 1498 Montariol, Viscount of, S. Victor, Braga.—Wine. 660
- 1499 Vieira, Bernardo de Campos, Taboa, Coimbra.—Red wine. 660
- 1500 Teixeira, Francisco Manuel, Mirandella, Braganca.—Red wine. 660
- 1502 Teixeira, Jose Luis, Mirandella, Braganca.—Red wine. 660
- 1503 Teixeira, Joao Firmino, Mirandella, Braganca.—Wine. 660
- 1504 Themes, Fortunato de Cerqueira, Valdigem, Viseu.—Red wine. 660
- 1505 Tavares, Jose da Costa Andrade, Alpedrinha, Castello Branco.—Red wine. 660
- 1506 Tavares, Joao da Silva, Estremos, Evora.—Corkwood. 660
- 1507 Tavares, Antonio Bernardo Xavier, Portalegre.—Red wine. 660
- 1508 Torres e Oliveira, Henriqueta Josepha Pereira, Fundao, Castello Branco.—Wine. 660
- 1509 Tavares, Jose Antonio, Lisbon.—White wine. 660
- 1510 Telles, Manuel Joaquin, Evora.—Red wine. 660
- 1511 Themudo, Antonio Dias, Coimbra.—Cognac and liquor. 660
- 1512 Trigo, Jose Antonio Horta da, Villarica, Braganca.—White wine. 660
- 1513 Tacho, Jose Maria da Silva, Tragosella, Viseu.—Wine. 660
- 1514 Teixeira, Joao B. Pacheco, Celorico de Basto, Braga.—Wine. 660
- 1515 Tavares, Antonio Jose, Covilha, Castello Branco.—Wine and vinegar. 660
- 1516 Jusarte, Jose Carlos, Parada, Viseu.—White wine. 660
- 1517 Royal Wine Company of Alto Douro, Oporto.—Vinegar, port wine 1815-1875. 660
- 1518 Lacerda, Alberto Araujo Figueiro dos, Vinhos, Leiria.—Red wine. 660
- 1519 Michon & Gussac, Oporto.—Brandy of grains. 660
- 1520 Madeira, Antonio, Goes, Coimbra.—Brandy 660
- 1521 Moreira, Antonio Ignacio, Oporto.—Brandy. 660
- 1522 Menezes, Jose Rebello Cardoso, Timpeira, Villa Real.—Wine. 660
- 1523 Machado, Manuel Alves, Celorico de Basto, Braga.—Wine. 660
- 1524 Magalhaes, Antonio de Barros, Sattam, Viseu.—Wine. 660
- 1525 Marques, Jacintho, Salgueiros, Viseu.—Red and white wine, brandy. 660
- 1526 Magalhaes, Manuel Alexandre de, Budiosa, Viseu.—Wine. 660
- 1527 Machado, Domingas Alves, Celorico de Basto, Braga.—Wine. 660
- 1528 Moura, Luis Manuel Alves, Celorico de Basto, Braga.—Wine. 660
- 1529 Moscoço, Simao P. Velho, Monsao, Vianna.—Wine. 660
- 1530 Moura, Augusto, Celorico de Basto, Braga.—Wine. 660
- 1531 Moraes, Antonio Carlos, Boelhe, Oporto.—Wine. 660
- 1532 Moraes, Antonio Fernandes, Abelheira, Vianna do Castello.—Wine. 660
- 1533 Marques, Jose Parada, jr., Viseu.—Red and white wine. 660
- 1534 Martins, Manuel Jose, Gondomil, Vianna do Castello.—Wine. 660
- 1535 Meneses, Manuel Antonio, Horta da Villarica, Braganca.—Wine. 660
- 1536 Martins, Jose da Veiga, Carrazeda d'Anciaes, Braganza.—Red wine. 660
- 1537 Magalhaes, Joao da Veiga, Vinhaes, Braganca.—Wine. 660
- 1538 Moraes, Domingos Alves, Poca, Braganca.—Wine. 660
- 1539 Miranda, Antonio Bernardino, Horta da Villarica, Braganza.—White wine. 660
- 1540 Basto, Manuel Jose Teixeira, S. Miguel de Refojo, Braga.
a Wine. 660
b Olive oil. 662
- 1541 Abecassis Brothers, Lisbon.
a Port wine. 660
b Olive oil. 662
- 1542 Castro, Luis de Mello T. Soares d'Albargaria, S. Thiago, Coimbra.
a Brandy. 660
b Olive oil. 662
- 1543 Carvalho, Joao Antonio, Pedrogam, Santarem.
a White wine 660
b Olive oil. 662
- 1544 Carvalho, Carlos Manuel de, Pedrogam, Santarem.
a White wine. 660
b Olive oil. 662
- 1545 Caldeira Joaquim de, Albuquerque, Castello Branco.
a Wines. 660
b Olive oil. 662
- 1546 Pereira, Eduardo Augusto, Meixamil, Oporto.
a Vinegar. 660
b Olive oil. 662
- 1547 Casqueiro, Jose Maria, Crato, Portalegre.
a Wine. 660
b Olive oil. 662
- 1548 Conde da Junqueira, Almeirim, Santarem.
a Wines. 660
b Olive oil. 662
- 1549 Cardoso, Manuel Gualdino, Gammeiro, Torres Novas, Santarem
a Brandy and wine 660
b Olive oil. 662

For classes of exhibits indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 1550 Carvalho, Luis Xavier do Amaral, Rio de Moinho, Viseu. 660
a Wine. 660
b Olive oil. 662
- 1551 Albuquerque, Manuel Lopes, Alvito, Braga.—Wine. 660
- 1552 Abreu, Honorato Jose Machado, Zibreira, Lisbon. 660
a Red wine. 660
b Olive oil. 662
- 1553 Pygnatelli, Jose da Cunha, Guarda. 660
a Red and white wine. 660
b Olive oil. 662
- 1554 Ramalho, Domingos Antonio, FALLE Redondo, Evora. 660
a Red and white wine and brandy, vinegar. 660
b Olive oil. 662
- 1555 Abreu, Carlos de Souza Pinto, Valle de Prazeres, Castello Branco. 660
a Wine. 660
b Olive oil. 662
- 1557 Antonio Nunes de Souza & Co., Covilha, Castello Branco. 660
a Wine. 660
b Olive oil. 662
- 1558 Athayde, Luis da Silva, Leiria. 660
a Red and white wine and brandy. 660
b Olive oil. 662
- 1559 Accioli, Joao da Fonseca, Portalegre. 660
a Vinegar. 660
b Olive oil. 662
- 1560 Beltraa, Jose de Gouvea de Luena, Anca, Coimbra. 660
a Red wine. 660
b Olive oil. 662
- 1561 Bogalho, Joao Joaquim, Villa Boim. 660
a Red and white wine. 660
b Olive oil. 662
- 1562 Durao, Pedro Manuel, Castello de Vide, Portalegre. 660
a Vinegar. 660
b Olive oil. 662
- 1563 Caldas, Manuel Duarte de Silva, Cartaxo, Santarem. 660
a Wine and vinegar. 660
b Olive oil. 662
- 1564 Carreira, Joaquim de Salles Simoes, Batalha, Leiria. 660
a Brandy. 660
b Olive oil. 662
- 1565 Faro, Joaquim de Carvalho Azevedo, Reizende, Viseu. 660
a Wine. 660
b Olive oil. 662
- 1566 Guimaraes, Jose Lopes, Coimbra. 660
a Red wine and brandy. 660
b Olive oil. 662
- 1567 Falcao, Luis da Costa, Constanca, Santarem. 660
a Wine. 660
b Olive oil. 662
- 1568 Franco, Vital Jose Pereira, Guarda. 660
a Red wine. 660
b Olive oil. 662
- 1569 Ferreira, Angusto Dias, Santarem. 660
a Wine. 660
b Olive oil. 662
- 1570 Franco, Rev., Francisco Guedes, Portalegre. 660
a Vinegar. 660
b Olive oil. 662
- 1571 Francioze, Maria do Carmo, Cartaxo, Santarem. 660
a Vinegar. 660
b Olive oil. 662
- 1572 Guerra, Joaquim Jose da, Elvas, Portalegre. 660
a Wine and brandy. 660
b Olive oil. 662
- 1573 Villarinho, Viscount of, S. Romas, Oporto. 660
a Muscadine and other wines. 660
b Olive oil. 662
- 1574 Prime, Viscount of, Viseu. 660
a Red and white wine. 660
b Olive oil. 662
- 1575 Jose Ferreira Pinto Basto, Heirs of, Santa Eulalia de Ferreira, Coimbra. 660
a Red wine. 660
b Olive oil. 662
- 1576 Joaquin Guilherme de Vasconcellos & Sons, Elvas, Portalegre. 660
a Vinegar. 660
b Olive oil. 662
- 1579 Lima, Jorge Abraham d'Almeida, Aldeia de Paio Pires, Lisbon. 660
a Red and white wine. 660
b Olive oil. 662
- 1580 Souza d'Alte, Francisco Raposo de, Lisbon. 660
a Wines. 660
b Olive oil. 662
- 1581 Silva, Eliza Ludovina da, Covilha, Castello Branco. 660
a Wines. 660
b Olive oil. 662
- 1582 Silva, Manuel Joaquim da, Redondo, Evora. 660
a Red wine and vinegar. 660
b Olive oil. 662
- 1583 Souza, Manuel Lopes de, Guarda. 660
a Wines and vinegar. 660
b Olive oil. 662
- 1584 Viva, Barreto, Covilha, Castello Branco. 660
a Red and white wine. 660
b Olive oil. 662
- 1585 Alcacer, Viscount of Sal, Lisbon. 660
a Wine. 660
b Olive oil. 662
- 1586 Oliveira, Rafael Rodrigues de, Torres Novas, Santarem. 660
a Red wine. 660
b Olive oil. 662
- 1587 Castello de Borges, Viscount of, Lisbon. 660
a Wines. 660
b Olive oil. 662
- 1588 Vinua Jorge & Sons, Parreiras, Santarem. 660
a Brandy. 660
b Olive oil. 662
- 1589 Vidal, Antonio Jose Rodrigues, Vaccarica, Aveiro. 660
a Red and white wine. 660
b Olive oil. 662
- 1590 Prime, Viscount of, Viseu. 660
a Red and white wine. 660
b Olive oil. 662
- 1591 Caevuo, Viscount of, Gaira, Guarda. 660
a Wine. 660
b Olive oil. 662

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp 12-14.

Animal and Vegetable Products.

1592 Macedo, Joaquim Augusto de Thomar, Santarem.		1611 Rego, Antonio Profirio Gomes do. Covilha, Castello Branco.	
a Wine.	660	a Wines.	66
b Olive oil.	662	b Olive oil.	662
1593 Esperanca, Viscount of, Jose, Evora.		1612 Reis, Antonio Nunes dos, Turcifal, Lisbon.	
a Brandy, red wine, and vinegar.	660	a Wines.	665
b Olive oil.	662	b Olive oil.	662
1594 S. Sebastiao, Viscount of, Leiria.		1613 Relvas, Carlos, Gollega, Santarem.	
a Brandy.	660	a Wine.	665
b Olive oil.	662	b Olive oil.	662
1595 Mesquita, Pedro Jose de, Sinde, Coimbra.		1614 Ramos, Antonio Maria Taborda, Castello Branco.	
a White wine, vinegar.	660	a Red wine.	665
b Olive oil.	662	b Olive oil.	662
1596 Magalhaes, Francisco T., Sinde, Coimbra.		1615 Rodrigues, Joao Antonio, Grandola, Lisbon.	
a White wine.	660	a Wine.	665
b Olive oil.	662	b Olive oil.	662
1597 Oliveira, Verissimo Ferreira A. de, Montalvao, Santarem.		1616 Silva, Francisco Candido da, Torres Novas, Santarem.	
a Red wine, vinegar.	660	a Wine and brandy.	665
b Olive oil.	662	b Olive oil.	662
1598 Pedrozo, Maria Jose Lopes, Lavos, Coimbra.		1617 Souza, Pedro Augusto Pereira e Abreu, Santa Marinha, Villa Real.	
a Wine, brandy, and vinegar.	960	a Wine.	662
b Olive oil.	662	b Olive oil.	662
1599 Lopes, Joaquim Emilio, Leiria.		1618 Sa, Jose Filippe de, Azoia de Baixo, Santarem.	
a Wines and brandy.	662	a Wine.	665
b Olive oil.	662	b Olive oil.	662
1600 Le Cocq, Joao Jose, Castello de Vide, Portalegre.		1619 Seixas, Jose Maria Ayres de, Gavião, Portalegre.	
a Wine.	660	a Wine.	665
b Olive oil.	662	b Olive oil.	662
1601 Larcher, Marcal, Ramiro, Portalegre.		1620 Caires, Manuel A. de Mello Pereira, Penalva do Castello, Viseu.	
a Brandy.	660	a Red wine.	665
b Olive oil.	662	b Olive oil.	662
1602 Le vita, Jose Eduardo, Portalegre.		1621 Condessa d'Anadia, Santa Clara, Coimbra.	
a Vinegar and brandy.	660	a White and red wine, and vinegar.	665
b Olive oil.	662	b Olive oil.	662
1603 Larcher, Maria Jose, Portalegre.		1622 Castello Branco, Amelia Pinto de Tavares, Valle de Prareres, Castello Branco.	
a Vinegar.	660	a White wine.	665
b Olive oil.	662	b Olive oil.	662
1604 Mendes, Carlos da Costa Pereira, Thomar, Santarem.		1623 Castello Branco, Ignacio Cardoso de B. Caldeira, Portalegre.	
a Wine.	660	a Red wine.	665
b Olive oil.	662	b Olive oil.	662
1605 Machado, Pedro Xavier, Portalegre.		1624 Carrilho Bello, Antonio Marcellino, Castello de Vide, Portalegre.	
a Wine, brandy, vinegar.	660	a Red and white wine, and vinegar.	665
b Olive oil.	662	b Olive oil.	662
1606 Moraes, Antonio da Silva, Sardoal, Santarem.		1625 Castello Branco, Amelia Pinto de Tavares, Valle de Prazeres, Castello Branco.	
a Wine.	660	a White wine.	660
b Olive oil.	662	b Olive oil.	662
1607 Quintanilha, Francisco, Cuba, Beja.		1626 Barao do Salgueiro, Leiria.	
a White and red wine.	660	a White and red wine.	660
b Olive oil.	662	b Olive oil.	662
1608 Mattoso, Alfredo de Moura, S. Thiago, Coimbra.		1627 Britto, Joao de, Lisbon.	
a White wine, brandy.	660	a Red and white wine, vinegar.	660
b Olive oil.	662	b Biscuits.	661
1609 Rangel, Manuel de Souza, Guilhufe, Oporto.		c Corn flour.	667
a Wine.	660	1628 Barao de Mogadouro, Freixegas, Guarda.	
b Olive oil.	662	a Red and white wine.	665
1610 Rangel, Diogo, Torres Novas, Santarem.		b Olive oil.	662
a Alcohol and white wine.	660		
b Olive oil.	662		

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 1629 Castro, Miguel Ozorio Cabral de, Santa Clara, Coimbra.
a Red and white wine. 660
b Olive oil. 662
- 1630 Costeira, Manuel Fernandes, Lamego, Viseu.
a Red wine. 660
b Olive oil. 662
- 1631 Costa, Lourenco Justiniano da Fonseca, Oliveira do Hospital, Coimbra.
a Wine. 660
b Olive oil. 662
- 1632 Morao, Maria Emilia d'Almeida, Penamacor, Castello Branco.
a White wine. 660
b Olive oil. 662
- 1633 Albino Jose de Freitas Almeida & Co., Ega, Coimbra.
a Wines. 660
b Olive oil. 662
- 1634 Asambuja, Antonio Maria da, Means, Coimbra.
a White wine. 660
b Olive oil. 662
- 1635 Pontes, Francisco Ferraz Tavares de, Miranda de Corvo, Coimbra.
a Red wine. 660
b Olive oil. 662
- 1636 Pinto, Antonio Rodrigues, Coimbra.
a Wine and vinegar. 660
b Olive oil. 662
- 1637 Pinto, Augusto Leal de Gouvea, Miranda de Corvo, Coimbra.
a Red and white wine. 660
b Olive oil. 662
- 1638 Pereira, Antonio Ignacio, Redondo, Evora.
a Brandy, red wine, vinegar. 660
b Olive oil. 662
- 1639 Accioli, Joao da Fonseca, Portalegre.
a Vinegar. 660
b Olive oil. 662
- 1640 Melleiro, Francisco Carmello, Lisbon.—Macaroni. 661
- 1641 Pinto, Jose Clemente, Sta. Cruz, Coimbra.—Macaroni. 661
- 1642 Cruz, Jose Francisco da, Coimbra.—Biscuits. 661
- 1643 Costa, Eduardo Antonio da, Lisbon.—Biscuits. 661
- 1644 Silva, Eduardo da Conceicao e, Lisbon.—Biscuits. 661
- 1645 Schurmann, Lisbon.—Biscuits. 661
- 1646 Silva, Estavao Ribeiro da, Lisbon.—Bread. 661
- 1647 Aurajo, Antonio Correa de, Coimbra.—Biscuits. 661
- 1648 Administrator of the Conselho of Guimaraes, Guimaraes, Braga.—Olive oil. 662
- 1649 Papanca, Manuel Augusto Mendes, Reguengos, Evora.—Olive oil. 662
- 1650 Pina, Manuel Maria de, Portalegre.—Olive oil. 662
- 1651 Pereira, Jose Ignacio, Elvas, Portalegre.—Olive oil. 662
- 1652 Proenca, Francisco Tavares d'Almeida, Castello Branco.—Olive oil. 662
- 1653 Possidonio, Antonio, Montalvao, Portalegre.—Olive oil. 662
- 1654 Sobral, Bernardo Moreira Coelho, Parada, Viseu.—Olive oil. 662
- 1655 Almeida, Silva, & Co., Lisbon.—Olive oil. 662
- 1656 Almeida, Antonio Joaquim de, Villa Nova de Ourem, Santarem.—Olive oil. 662
- 1657 Abreu, Francisco Rodrigues de, Abrantes, Santarem.—Olive oil. 662
- 1659 Almeida, Manuel d', Gafanhao, Viseu.—Olive oil. 662
- 1660 Abreu, Joao Lopes Coelho de, Barcouco, Aveiro.—Olive oil. 662
- 1661 Almeida, Antonio Ribeiro da Costa e, Sta. Leocadia de Baio, Oporto.—Olive oil. 662
- 1662 Aragao, Alexandre de, Villa Flor, Braganca.—Olive oil. 662
- 1663 Sachetti, Cazimiro Barreto, N. S. da Gloria, Aveiro.—Olive oil. 662
- 1664 Seabra, Alexandre, Arcos, Aveiro.—Olive oil. 662
- 1665 Santos, Josepha Maria dos, Balasza, Povoia de Varzim.—Olive oil. 662
- 1666 Silva, Manuel Ribeiro da, Ferreirim, Viseu.—Olive oil. 662
- 1667 Silveira, Manuel Jose da, Arganil, Coimbra.—Olive oil. 662
- 1668 Brito, Joao Fernandes Soares de, Nisa, Portalegre.—Olive oil. 662
- 1669 Barros, Luis Xavier de, Portalegre.—Olive oil. 662
- 1670 Barros Gomes, B., Lisbon.—Olive oil. 662
- 1671 Castro, Joaquim Jose Paditha de, Abrantes, Santarem.—Olive oil. 662
- 1672 Costa, Antonio da, Elvas, Portalegre.—Olive oil. 662
- 1673 Conceiro, Joaquim Rodrigues, Elvas, Portalegre.—Olive oil. 662
- 1674 Cosolheiro, Manuel Goncalves, Valle da Serra, Santarem.—Olive oil. 662
- 1675 Corinho, Jose Maria, Montargil, Portalegra.—Olive oil. 662
- 1676 Coelho, Manuel Diogo, Castello de Vide, Portalegra.—Olive oil. 662
- 1677 Callado jr., Joao da Costa, Alter do Chao, Portalegre.—Olive oil. 662
- 1678 Cunha Ozorio, Joaquim Felizardo da, Arronches, Portalegre.—Olive oil. 662
- 1679 Conde, Domingos Lopes, Montalvao, Portalegre.—Olive oil. 662
- 1680 Peixoto, Jose Nunes de Souza, Penafiel, Oporto.—Olive oil. 662
- 1681 Continho, Joao da Fonseca, Portalegre.—Olive oil. 662
- 1682 Chicorro, Antonio Maria, Portalegre.—Olive oil. 662
- 1683 Carvalho, Antonio Jose de, Elvas, Portalegre.—Olive oil. 662
- 1684 Correa, Joaquim, Penacova, Coimbra.—Olive oil. 662
- 1685 Carvalho, Simao Pinto de Mesquita, Sta. Leocadia, Oporto.—Olive oil. 662
- 1686 Carvalho, Joao Baptista, Valle Passos, Villa Real.—Olive oil. 662
- 1687 Cardoso, Francisco Antonio Lopes, Monvorio, Braganca.—Olive oil. 662

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products.

- 1688 Conde da Graciosa, Arcos, Aveiro.—Olive oil. 662
- 1689 Costa, Lucio Jose da, Salzedas, Visen.—Olive oil. 662
- 1690 Continho, Fernando Affonso d'Almeida, Sepins, Coimbra.—Olive oil. 662
- 1691 Spouza, Jose d'Andrade e, Portalegre.—Olive oil. 662
- 1692 Souza, Jose Saldanha Oliveira e.—Olive oil. 662
- 1693 Santa Clara, Francisco de Paula, Elvas, Portalegre.—Olive oil. 662
- 1694 Salazar, Manuel Maia, Torres Novas, Santarem.—Olive oil. 662
- 1695 Reis, Antonio dos, Lisbon.—Olive oil. 662
- 1696 Rijo, Joaquim Antonio, Elvas, Portalegre.—Olive oil. 662
- 1697 Ramires, Manuel Peres, Evora.—Olive oil. 662
- 1698 Regallo, Antonio Meira, Portalegre.—Olive oil. 662
- 1699 Ratto, Antonio Gonsalves, Barquinha, Santarem.—Olive oil. 662
- 1700 Ramos, Manuel Nogueira, Gocs, Coimbra.—Olive oil. 662
- 1701 Rodrigues, Manuel Antonio, Ferradosa, Braganca.—Olive oil. 662
- 1702 Rocha, Serafim de Sousa, Canelas, Oporto.—Olive oil. 662
- 1703 Rocha, Antonio Coelho da, Gondomar, Oporto.—Olive oil. 662
- 1704 Mendonca, Joao Themudo de Oliveira, Abrantes, Santarem.—Olive oil. 662
- 1705 Mendes, Joas Jose Soares, Abrantes, Santarem.—Olive oil. 662
- 1706 Barao de Casaes do Douro, Casaes do Douro, Visen.—Olive oil. 662
- 1707 Lemos, Joao Gonsalves de, Souza, Coimbra.—Olive oil. 662
- 1708 Leite, Joao Baptista de Araujo, Mirandella, Braganca.—Olive oil. 662
- 1709 Monteiro, Francisco Vaz, Ponte Sor, Portalegre.—Olive oil. 662
- 1710 Vasconcellos, Francisco Maria de, Sabugal, Guarda.—Olive oil. 662
- 1711 Vieira, Agostinho Jose, Sto. Ovidio, Porto.—Olive oil. 662
- 1712 Vassea & Coelho, Oporto.—Olive oil. 662
- 1713 Vasconcellos, Manuel S. Quaresma, Condeixa, Coimbra.—Olive oil. 662
- 1714 Veiga, Francisco Antonio, Gocs, Coimbra.—Olive oil. 662
- 1715 Vasconcellos, Joaquim Guilhermede, Elvas, Portalegre.—Olive oil. 662
- 1716 Varella jr., Jose Gomes, Serpa, Beja.—Olive oil. 662
- 1717 Oliveira Manuel Joaquim de Sendin, Miranda do Douro.—Olive oil. 662
- 1718 Oliveira, Jose Duarte, Murca, Villa Real.—Olive oil. 662
- 1719 Valdez, Antonio de Campos, Alcacer do Sal, Lisbon.—Olive oil. 662
- 1720 Serpa, Francisco Lópes, Portalegre.—Olive oil. 662
- 1721 Moran, Jose Antonio Martins, Vianna do Alentejo.—Olive oil. 662
- 1722 Osorio, Manuel de Azevedo Ferrao, Monforte, Castello Branco.—Olive oil. 662
- 1723 Leitao, Joas Paes d'Almeida, Sattam, Visen.—Olive oil. 662
- 1724 Leite, Jeronymo Augusto Pereira, Cavcz, Braga.—Olive oil. 662
- 1725 Loio, Gaspar, da Silva, Armamar, Viseu.—Olive oil. 662
- 1726 Lobo, Jose Maria, Guarda.—Olive oil. 662
- 1727 Neves, Filho, Adelino St. Antonio dos Olivares, Coimbra.—Olive oil. 662
- 1728 Negrão, Manuel Nicolau Osorio, Ansede, Oporto.—Olive oil. 662
- 1729 Pinto, Antonio Thomas da Costa, Bibalanga, Braganca.—Olive oil. 662
- 1730 Pereira, Jose Sebastiao Martins, S. Thiago, Coimbra.—Olive oil. 662
- 1731 Lima Meyer & Sons, Lisbon.—Olive oil. 662
- 1732 Mendes, Raymundo Jose Soares, Abrantes, Santarem.—Olive oil. 662
- 1733 Mourato, Mathias, Alpala o, Portalegre.—Olive oil. 662
- 1734 Kempe, Guilherme, Lisbon.—Olive oil. 662
- 1735 Mendes, Casemiro Esteves, Aviz, Portalegre.—Olive oil. 662
- 1736 Mocinha, Manuel Jeronymo, Campo Maior, Portalegre.—Olive oil. 662
- 1737 Moraes, Jose Barzilio, Arronches, Portalegre.—Olive oil. 662
- 1738 Lima, Andre Avelino de, Cano, Portalegre.—Olive oil. 662
- 1738a Abrantes, Viscount da A., Santarem.—Olive oil. 662
- 1738b Chicorro, Andre G., Monforte, Portalegre.—Olive oil. 662
- 1739 Lobo, Thomaz Antonio de Araujo, Oporto.—Olive oil. 662
- 1740 Souza, Jose Antonio Nunes de, Covilha, Castello Branco.—Olive oil. 662
- 1741 Senna Bello, Manuel Thomar de, Guarda.—Olive oil. 662
- 1742 Silva, Jose Nunes, Elvas, Portalegre.—Olive oil. 662
- 1743 Mello, Higino O. de, Queroza, Santarem.—Olive oil. 662
- 1744 Azevedo, Marianno de Lemos, Villa Nova de Ourem, Santarem.—Olive oil. 662
- 1745 Araujo, Antonio Joaquim de, Thomar, Santarem.—Olive oil. 662
- 1746 Almeida, Antonio Mendes, Alcacer do Sal, Lisbon.—Olive oil. 662
- 1747 Almeida, Sebastiao Saldanha de, Portalegre.—Olive oil. 662
- 1748 Bentes, Ignacio Jose, Serpa, Beja.—Olive oil. 662
- 1749 Cardozo, Antonio Augusto Correa da Silva, Cellorico, Guarda.—Olive oil. 662
- 1750 Castello Branco, Joao da Silva Ferrao de, Villa Franca, Lisbon.—Olive oil. 662
- 1751 Domingues, Victorino Jose, Faro.—Olive oil. 662
- 1752 Duarte, Egydio Jose, Castello de Vide, Portalegre.—Olive oil. 662

Animal and Vegetable Products, Textile Substances.

- 1753 Freire, Jose Luis Ferreira, Lagos, Coimbra.—Olive oil. 662
- 1754 Fernandes, Justiniano Jose, Mirandella, Braganca.—Olive oil. 662
- 1755 Figueiredo, Joao Ferreira de, Villa Flor, Braganca.—Olive oil. 662
- 1756 Ferrenda, Ildefonso Numes, Valdigem, Viseu.—Olive oil. 662
- 1757 Freixedas, Eduardo, Castello de Vide, Portalegre.—Olive oil. 662
- 1758 Guimaraes, Manuel Antonio da Costa, Mirandella, Braganca.—Olive oil. 662
- 1759 Guerra, Thomas Ignacio de Meirelles, Moncorvo, Braganca.—Olive oil. 660
- 1760 Gomes, Joao Manuel, Portalegre.—Olive oil. 662
- 1762 Gama, Jose Augusto Sanches, Coimbra.—Olive oil. 662
- 1763 Gama, Joao Cardoso Lemos da, Casa Branca, Portalegre.—Olive oil. 662
- 1764 Grillo, Manuel Francisco, Ribeira de Nisa, Portalegre.—Olive oil. 662
- 1766 Blanco, Andre Faustino Peres, Aldeia Nova, Beja.—Olive oil. 662
- 1767 Campos, Antonio d'Aranjo Juzarte de, Portalegre.—Olive oil. 662
- 1768 Avilez, Count of, Portalegre.—Olive oil. 662
- 1769 Carvalho, Joao Augusto, Portalegre.—Olive oil. 662
- 1770 Carvalho, Euzebio Nobre de, Lisbon.—Olive oil. 662
- 1771 Costa, Manuel Joaquim, Portalegre.—Olive oil. 662
- 1772 Calheiros, Luis d'Oliveira, Lisbon.—Olive oil. 662
- 1773 Carvalho, Joao Antonio de, Porto de Moz, Leiria.—Olive oil. 662
- 1774 Castro, Antonio Maria Queiroz de Mello e, Frozoeira, Ferreira do Zezere, Santarem.—Olive oil. 662
- 1775 Figueiredo, Jose Paulo Teixeira de, Matheus, Villa Real.—Olive oil. 662
- 1776 Fernandes, Joaquin Pinto, Campello, Oporto.—Olive oil. 662
- 1777 Falcao, Maximo, Azinhaga, Santarem.—Olive oil. 662
- 1778 Fernandes, Joaquim, Mogao, Santarem.—Olive oil. 662
- 1779 Ferreira, Jose Maria, Chamusca, Santarem.—Olive oil. 662
- 1780 Ferreira, Joaquim da Motta, Rio Maior, Santarem.—Olive oil. 662
- 1781 Figueira, Manuel Duarte, Castello Branco.—Olive oil. 662
- 1782 Ferreira, Joaquim Jose, Elvas, Portalegre.—Olive oil. 662
- 1783 Falcao, Joao Carlos da Costa, Fundao, Alcaide, Castello Branco.—Olive oil. 662
- 1785 Escobar, Hermenegildo, Portalegre.—Olive oil. 662
- 1786 Inchado, Jose Antonio Dias, Moura, Portalegre.—Olive oil. 662
- 1788 Coes, Joao Rodrigues de, & Co., Torres Novas, Santarem.—Olive oil. 662
- 1789 Vieira, Agostinho Jose, Sto. Ovidio, Oporto.—Olive oil. 662
- 1791 Teixeira, Carlos Augusto, Granda, Lisbon.—Olive oil. 662
- 1792 Tavares, Antonio Jose, Covilha, Castello Branco.—Olive oil. 662
- 1793 Tierno, Simeon, Elvas, Portalegre.—Olive oil. 662
- 1794 Teixeira, Manuel Maria, Mirandella, Braganca.—Olive oil. 662
- 1795 Xavier, Manuel Camillo, Benavente, Santarem.—Olive oil. 662
- 1796 Yuquete, Jose de Oliveira, Leiria.—Olive oil. 662
- 1797 Leal, A. Goncalves da Matta, Castanheira.—Olive oil. 662
- 1798 Mello, Joaquim Jose de, Pampilhosa, Aveiro.—Olive oil. 662

Textile Substances of Vegetable or Animal Origin.

- 1799 Sarmiento, Antonio Ferreira, Vinhaes, Braganca.—Flax. 666
- 1800 Silva, Domingos d'Almeida e, S. Mamede, Oporto.—National flax. 666
- 1801 Sencadas, Manuel Gomes Moreira, Amorim, Oporto.—Flax. 666
- 1802 Louza, Augusto Pereira d'Abreu, Sta. Marinha, Villa Real.—Flax. 666
- 1803 Pygnatelli, Jose da Cunha, Guarda.—Flax. 666
- 1804 Cavadas, Jose da Silva, S. Mamede, Oporto.—Flax. 666
- 1805 Mattos, Rita de, Ponta Delgada.—Linen in various stages of preparation. 666
- 1806 Castello, Antonio de Gouvea Rebello, Sernache, Viseu.—Flax. 666
- 1807 Souto, Antonio Duarte da Cunha, Freixinho, Viseu.—Flax. 666
- 1809 Rodrigues, Joaquim, Oporto.—Combed flax. 666
- 1810 Queiroz, Joaquim Carneiro Leao, Meixonil, Oporto.—Flax. 666
- 1811 Queiroz, Jose de Sequeira Pinto, S. Sebastiao do Duque, Vianna do Castello.—Flax. 666
- 1814 Almeida, Joaquim Ribeiro, Campanha, Oporto.—Flax. 666
- 1815 Albergaria, Thomas Antonio Pinto Soares, Villa Cha, Aveiro.—Flax. 666
- 1816 Administrator of the Counselo of Alentem, Alentem, Oporto.—Flax. 666
- 1817 Almeida, Manuel d', Gafanhao, Viseu.—Flax. 666
- 1818 Coelho, Jose Justino, Villa do Tamega, Villa Real.—Flax. 666
- 1819 Carvalho, Joaquim Augusto da Silveira, Penafiel, Porto.—Flax. 666
- 1820 Costa, Manuel Jorge da, Valongo, Oporto.—Flax. 666
- 1821 Cadaval, Francisco de Sousa, Villa Nova da Cevreria, Vianna do Castello.—Flax. 666
- 1822 Moraes, Antonio da Silva, Sardoal, Santarem.—Flax. 666
- 1823 Matta, Anacleto da Fonseca, Sardoal, Santarem.—Hemp. 666
- 1824 Silva, Jose Diogo da, Lisbon.—Wool. 665

Textile Substances.

1826 Saraiva, Francisco Martins, Belmonte, Castello Branco.		1854 Silva, Antonio Lopes da, Balasar, Oporto.	
<i>a</i> Flax.	666	<i>a</i> Flax.	666
<i>b</i> Wool.	667	<i>b</i> Wool.	667
1827 Basto, Manuel Jose Teixeira, S. Miguel de Refoyos, Braga.—Flax.	666	1855 Santos, Ascencio Jose dos, Valenca, Vianna do Castello.	
1828 Pimentel, Jose Reis, Castello de Vide, Portalegre.—Flax.	666	<i>a</i> Flax.	666
1829 Freitas, Jose Monteiro de, Campello, Oporto.—Flax.	666	<i>c</i> Wool.	667
1830 Ferreira, Joao Dias, Vallongo, Oporto.—Flax.	666	1855 <i>a</i> Rosa, Jose da Graca Pereira, Niza, Portalegre.—Wool.	667
1831 Frausto, Leandro Pinto, Marvaõ, Portalegre.—Flax.	666	1856 Sarmiento, Manuel Gomes de, St. Estevao, Villa Real.—Wool.	667
1832 Franco, Joao, Povoã de Meadas, Portalegre.—Flax.	666	1856 <i>a</i> Souza, Manuel Lopes de, Guarda.—Wool.	667
1833 Guerra, Thomas Ignacio de Meirelles, Moncorvo, Braganca.—Flax.	666	1857 Piteira Fernandez, Joaquim Filipe, Reguengo, Evora.—Wool.	667
1834 Gama, Manuel Telles da, Lisbon.—Wines.	660	1857 <i>a</i> Sardinha, Joao Maria da Silva, Monforte, Portalegre.—Wool.	667
1835 Gomes, Antonio Luis, Valenca, Vianna do Castello.—Flax.	666	1858 Pinto, Antonio Mascarade, Villa Boim, Portalegre.—Wool.	667
1836 Guerreiro, Antonio Manuel, Villa Nova da Cerveira, Vianna do Castello.—Flax.	666	1858 <i>a</i> Silva, Jose Diogo da, Lisbon.—Wool.	667
1837 Vieira, Pedro Martins, Cabeceiras de Basto, Braga.—Flax.	666	1859 Pimenta, Isidoro E. O. C. Margues, Villa Boim, Portalegre.—Wool.	667
1838 Torres, Antonio Alves, Arcos, Oporto.—Flax.	666	1860 Pereira, Jose Francisco, Castello de Vide, Portalegre.—Wool in the fleece	667
1839 Moreira, Joao Baptista, Rates, Oporto.—Flax.	666	1861 Pereira, Jeronymo, Serpa, Beja.—Wool.	667
1840 Machado, Manuel Barcellos, Viseu.—Flax.	666	1862 Pimentel, Jose Reis, Povoã de Meadas, Portalegre.—Wool.	667
1841 Soveral, Victorino da Costa, Mondim de Basto.—Flax.	666	1863 Continho, Fernando Afonso d'Almeida, Sepins, Coimbra.—Wool.	666
1842 Leite, Luis Maria Pelgueiras, Mogadouro, Braganca.—Hemp.	666	1864 Pimentel, Antonio Augusto de Moraes, Castello Branco, Braganca.—Wool.	667
1843 Leal, Manuel da Cunha, Sobreira, Oporto.—Flax.	666	1865 Couraca, Jose de Gouvea, Faia, Viseu.—Wool.	667
1844 Nogueira, Francisco Bento, Paredes de Coura, Vianna do Castello.—Flax.	666	1866 Rio, Antonio Manuel, Miranda do Douro, Braganca.—Wool.	665
1845 Pedroza, Maria Jose Lopes, Lavos, Coimbra.—Flax.	666	1867 Montoya, Diogo Lopes, Castello Branco.—Wool.	667
1846 Mattos, Rosa de, Island of St. Michaels, Ponta Delgada.—Flax, hemp, and hemp-thread.	666	1868 Murteira, Manuel Maria, Campo Maior, Portalegre.—Wool.	667
1847 Mesquita, Pedro Jose de, Sinde, Coimbra.—Flax.	666	1869 Lacerda, Antonio Augusto de, Chorindo, Viseu.—Wool.	667
1848 Leite, Antonio Bernardo d'Oliveira, Cabeceiras de Basto, Braga.—Flax.	666	1870 Costa, Lourenco Justiniano da Fonseca, Oliveira do Hospital, Coimbra.—Wool.	667
1849 Mendes, Luis Antonio Soares, Castello Branco.—Flax.	666	1871 Calca e Pina, Antonio, Souzel, Portalegre.—Wool.	667
1850 Fernandes, Manuel Ignacio, Telões, Villa Real.		1872 Lecocq, Joao Jose, Castello de Vide, Portalegre.—Wool.	667
<i>a</i> Flax.	666	1873 Pera, Francisco Marcos, Miranda do Douro, Braganca.—Wool.	667
<i>b</i> Wool.	667	1874 Pascual, Eduardo Augusto, Meixomil, Oporto.—Wool.	667
1851 Montenegro, Joao Joaquim Pereira Telles de Menezes Mozellos, Vianna do Castello.		1875 Lemos, Francisco Antonio Pereira, Villarellous, Braganca.—Wool.	667
<i>a</i> Flax.	666	1876 Marcal & Bro., Portalegre.—Wool unwashed and washed.	667
<i>b</i> Wool.	667	1877 Oliveira Soares, M. E. de, Evora.—Wool.	667
1852 Rapozo, Luis, Miranda do Douro, Braganca.		1878 Villar, Manuel Pereira, Torroso, Oporto.—Wool.	667
<i>a</i> Flax.	666	1879 Carneiro, Jose Antonio, Santa Eulalia, Portalegre.—Wool.	667
<i>b</i> Wool.	667	1880 Casqueiro, Jose Maria, Crato, Portalegre.—Wool.	667
1853 Magalhaes, Francisco T., Sinde, Coimbra.			
<i>a</i> Flax.	666		
<i>b</i> Wool.	667		

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Textile Substances, Engineering and Administration.

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|---|--|
| 1881 O. veira, Domingos Manuel, Miranda do Douro, Braganca.—Wool. 667 | 1895 Cid, Jose Ignacio, Mirandella Braganca.—Wool. 667 |
| 1882 Vasconcellos, Bartholomeu d' Aragao Costa Tavares de, Fundao, Castello Branco.—Wool. 667 | 1896 Central Commission of the District of Viseu, Viseu.
a Wool. 667
b Silk balls. 668 |
| 1883 Miranda, Antonio Augusto Lobo de, Lagos, Faro.—Wool. 667 | 1897 Nunes, Antonio Manuel, Chacim, Braganca.—Raw silk. 668 |
| 1884 Bogalho, Joao Joaquim, Villa, Boim.—Wool. 667 | 1898 Franqueira, Romao, Carrazede, Braganca.—Cocoons. 668 |
| 1885 Bello, Francisco Severianno Carilho, Castello de Vide, Portalegre.—Wool in the fleece. 667 | 1899 Cabral, Paco F., & Sons, Sernan-cethe, Visen.—Cocoons and raw silk. 668 |
| 1886 Coelho, Luis Pires, Sardeal, Santarem.—Wool. 667 | 1900 Silk Manufacturing Company, Egyptiense, Oporto.—Silk balls. 668 |
| 1887 Guimaraes, Victorino Barbosa, Penafiel, Oporto.—Wool. 667 | Agricultural Engineering and Administration. |
| 1888 Migueis, Joao, Ihavo.—Wool. 667 | 1901 Rocha & Co., Lisbon.—Artificial guano. 681 |
| 1889 Castel Branco, Francisco Barreto Caldeira, Portalegre.—Wool. 667 | 1902 Abattoir of Lisbon, Alcantara, Lisbon.—Artificial manures. 681 |
| 1890 Falcao, Lazaro Domingos, Povoas, Braganca.—Wool. 667 | 1904 Phosphorite Company, Marvensi, Lisbon.—Phosphate of lime. 681 |
| 1891 Geraides, Manuel Vaz Preto, Louza, Castello Branco.—Wool. 667 | 1905 Board of Public Forests, Lisbon.—Garden tools. 700 |
| 1892 Veiga, Jose d'Almeida, Anciaes, Braganca.—Wool. 667 | |
| 1894 Costa, Joao Carlos, Elvas, Portalegre.—Wool. 667 | |
- For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

TURKEY.

(NOTE.—The Agricultural Exhibit of Turkey is installed in the Main Building, and catalogued in that volume.)

RUSSIA.

(West of West Aisle, Columns 12 to 15.)

Arboriculture, Pomology, Agricultural Products.

Arboriculture and Forest Products.

- 1 Sidoroff, Michael, St. Petersburg.—
Larch wood, larch and cedar strobils. 600
- 2 Verekha, Peter, St. Petersburg.
a Wild-growing trees; collection of sections. 600
b Statistical map of forests (Russia in Europe). 606
- 3 Ostrom Bros., Uleaborg, Finland.—
Willow bark, tanning material. 602
- 4 Matteissen, Nicolas, Moscow.—Gallnuts. 602
- 5 Wagner, Charles, Riga.—Fir and pine tree seeds. 605
- 6 Russian Society of Forestry, St. Petersburg.—Seeds of forest-growing trees. 635

Pomology.

- 8 Imperial Russian Horticultural Society, St. Petersburg.—Reproduction of apples growing on the island of Walaam, on the Ladogalake. 610

Agricultural Products.

- 9 Egert, John von Henziany, Government of Warsaw, District of Radimmin.—Oats, barley, in grain and sheaves. 620
- 10 Dengink, Henrietta, Kishineff, Bessarabia.—American maize. 620
- 11 Bessarabian Horticultural School, Kishineff.
a Bessarabian wheat, maize, and Indian millet. 620
b Linseed and sunflower seed. 624
- 12 Bell, David, Alexandrovka Farm, near St. Petersburg.—Wheat, rye, barley, oats, and timothy grass-seed. 620
- 13 Novossiltseff, John, Voin, Government of Orel.—Rye, barley, oats, red clover, rape, and tares. 620
- 14 Firsoff, George, Michalafskoe, Government of Voronesh, District of Ostrogoisk.—Wheat and oats. 620
- 15 Penzin, John, Samara.—Wheat. 620
- 16 Plighin, Philip, Volks, Government of Saratoff.—Wheat. 620
- 17 Shatiloff, Joseph, Mokhovoe, Government of Toola, District of Novossil.—Wheat, rye, barley, and oats in grains and sheaves. 620
- 18 Stichinsky, Simon, Gololobovo, near Voronesh.—Wheat and oats. 620
- 19 Vassiltchikoff, Prince Victor, Troobetchino, Government of Tambow, District of Lebedian.—Wheat, rye, and oats. 620
- 20 Warschafsky, A., St. Petersburg.—Wheat, rye, and oats. 620

- 21 Wickberg, Charles, Sederkylla, Finland, Government of Nyland.—Wheat, rye, barley, and timothy grass-seed. 620
- 22 Grotenfeld, Nicolas, Finland, St. Michael.—Buckwheat. 620
- 23 Ermoloff, Alexis, Archangelskoe, near Voronesh.
a Wheat, oats, peas. 620
b Timothy and French grass-seeds 624
- 24 Institute of Agriculture & Forestry, New Alexandria, Government of Lublin, District of Alexandrovsk.—Wheat. 620
- 25 Fastrzembzsky, Stanislas, Yurkou and Dembiany, Government of Kielce, District of Pintihow.—Wheat, rye, peas, millet, barley, and oats. 620
- 26 Kazan Model Farm.—Wheat, rye, oats, timothy grass, clover, tares, and cornspurry seed. 620
- 27 Karamysheff, Nicolas, Polossy, Government of Pskoff, District of Porkhoff.—Wheat, rye, and oats. 620
- 28 Korf, Baron Michael, Selzo, near St. Petersburg.—Wheat, rye, barley, and oats. 620
- 29 Krapotkine, Prince Demetrius, Kabylyno, Government of Riazan, District of Rijsk.
a Samples of wheat and buckwheat. 620
b Peas. 621
- 30 Labenski, W., Okence, Government and District of Warsaw.—Wheat and rye. 620
- 31 Levchine, Theodore, St. Petersburg.—Wheat. 620
- 32 Maltzoff, Michael, Nikolaevsk, Government of Samara, Belotoorka.—Wheat. 620
- 33 Mariynska Model Farm, near Saratoff.—Samples of cereals. 620
- 34 Gorki Model Farm, Government of Moghileff.—Wheat and rye in grain and sheaves. 620
- 35 Petrovski Rural Academy Model Farm, near Moscow.—Wheat, rye, barley, and oats. 620
- 36 Mookhin, John, Moscow.—Red clover, timothy grass, white and black tares. 620
- 37 Nostitz, Count John, Government of Ekaterinoslaw, District of Novokovsk.—Red wheat and barley. 620
- 38 Obratnoff, Paul, Uralsk.—Summer wheat. 620
- 39 Odessa Exchange Committee, Odessa.—Wheat, rye, barley, maize, and millet. 620
- 40 Ookhin Brothers, Pokrovskoe, Government of Samara, District of Novo, Ovzen.—Wheat. 620

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural, Animal, and Vegetable Products, Fish Culture.

- 41 Petrovski, Michael, Stady, Government of Radom, District of Sandomir.—Wheat. 620
- 42 Pleshanoff, John, Samara.—Wheat. 620
- 43 Zablotski-Dessetoysky, Paul, Krymki, Government of Kieff, District of Tchgirin.
a Red wheat. 620
b Leaf tobacco. 623
c Comline and beet seed. 624
- 44 Zakrzewsky, Felix, Staro, Government of Warsaw, District of Gostynin.—Wheat in grain and sheaves. 620
- 45 Odessa Exchange Committee.—Peas and French beans. 621
- 46 Mariynska Model Farm, near Saratoff.—Common and French beans. 621
- 47 Levchine, Theodore, St. Petersburg.
a Peas. 621
b Rape seed. 624
- 49 Deugink, Henrietta, Kishineff, Bessarabia.—Pearl lentils. 621
- 50 Bessarabian Agricultural School, Kishineff.—Sweet French beans, white and red. 621
- 51 Dooroontcha, Sadook, Kremenchoug, Government of Poltarvo.—Tobacco and cigarettes. 623
- 52 Doonaieff, Nicephore, Moscow.—Tobacco and cigarettes. 623
- 53 Asmolloff & Co., Basil, Rostaff on the Don.—Tobacco and cigarettes. 623
- 54 Abramoff, Moscow.—Tobacco and cigarettes. 623
- 55 Dooroontcha, Moshe, Paltawa.—Tobacco and cigarettes. 623
- 56 Kooshnareff, James, Rostaff on the Don.—Tobacco and cigarettes. 623
- 57 Kraft Brothers, Alexander & Oswald, St. Petersburg.—Tobacco, cigars, and cigarettes. 623
- 58 Laferme, St. Petersburg.—Tobacco and cigarettes. 623
- 60 Rymarenko, Martha, Moscow.—Leaf tobacco. 623
- 61 Petroff Bros., St. Petersburg.—Leaf tobacco. 623
- 62 Philitis, Stephen, Moscow.—Tobacco and cigarettes. 623
- 63 Mylnikoff & Zazoobrin, Irkootsk.—Tobacco and cigars. 623
- 64 Matteisson, Nicolas, Moscow.—Bell pepper. 623
- 65 Weiss, C.A., Riga.—Roasted chicory-root. 623
- 66 Pykhoff Brothers, Rostaff, Government of Faroslow.—Chicory-root roasted. 623
- 67 Meyer, L., St. Petersburg.—Fig-coffee, and chocolate. 623
- 68 Hofmark, Bruno, St. Petersburg.—Chicory-root, roasted and ground. 623
- 69 Harman, G. W., Rija.—Chicory-root raw and roasted. 623
- 70 Maximoff, Basil, Zagorie, Government of Kostroma, District of Nevekhtia.—Bohemian hops. 623
- 71 Kharkoff Model Farm.—Bohemian hops. 623
- 73 Tzytzoorn, Theodore, St. Petersburg.—Leaf tobacco. 623
- 74 Sokoloff, John, St. Petersburg.—Tobacco, cigars, and cigarettes. 623
- 75 Saatchi & Mangoobi, St. Petersburg.—Tobacco and cigarettes. 623
- 77 Zapevaloff, Alexander, St. Petersburg.—Kitchen-garden plants and seeds. 624
- 78 Waag & Sons, Doobovka, Government of Saratoff.—Mustard-seed. 624
- 79 Vassiltchikoff, Prince Victor, Troobetchino, Government of Tamboff, District of Lebedian.—Beet and timothy grass-seeds. 624
- 80 Ritter, Leopold, Moscow.—Collection of kitchen-garden plants seeds. 624
- 81 Repnin, Prince, Nicolas, Fagotin, Government of Poltawo, District of Piriatin.—Linseed. 624
- 82 Pleshanoff, John, Samara.—Linseed. 624
- 83 Abratnoff, Paul, Uralsk.—Linseed. 624
- 84 Müller, Christian, Doobovka, Government of Saratoff, District of Tzaritzin.—Mustard seed. 624
- 85 Mariynska Model Farm, near Saratoff.—Hemp and poppy seed. 624
- 87 Karamycheff, Eugene, Toriok, Government of Tver.—Linseed. 624
- 88 Gratcheff, E., St. Petersburg.—Grains and vegetables. 624
- 89 Dookhinoff Brothers, St. Petersburg.—Linseed. 624

Water Animals, Fish Culture, and Apparatus.

- 91 Sidoroff, Michael, St. Petersburg.—Fish from the Northern Ocean. 641
- 92 Mangold, Charles, St. Petersburg.—Preserved fish. 641
- 93 Sokoloff, Nicolas, St. Petersburg.—Isinglass and viazingo. 646
- 94 Schultz, Alexander, Astrakhan.—Isinglass and viazingo. 646
- 96 Matteisson, Nicolas, Moscow.—Isinglass. 646

Animal and Vegetable Products.

- 97 Odnoshefsky, M., & Sons, St. Petersburg.—Furs, sable, blue fox, etc. 652
- 98 Ulich, Gustavus, Warsaw.—Albumen, dried blond, and blood extract. 652
- 99 Sivokhin, E., St. Petersburg.—Honey. 654
- 100 Berlinski, George, Warsaw.—Prepared French mustard. 656
- 101 Chief Intendancy of War, St. Petersburg.—Preserved meat and vegetables. 656
- 102 Yacovleff, John, St. Petersburg.—Preserved greens and mushrooms. 656
- 103 Sivokhin, E., St. Petersburg.—Preserved greens and mushrooms. 656
- 104 Semenkoff, Victor, Oostie, Government of Volodga.—Meat extract. 656
- 105 Sidoroff, Michael, St. Petersburg.—Salt reindeer tongues from the island of Nova Zembla. 656

Animal and Vegetable Products.

- 106 Nikitin, Alexander, Smolensk.—Fruit preserves. 656
- 107 Mangold, Charles, St. Petersburg.—Preserved meats. 656
- 108 Ninberg, Otto, Uleaborg, Finland.—Preserved game. 656
- 109 Likhonin, Gregory, St. Petersburg.—Cranberry juice condensed by freezing. 656
- 110 Poorkhin, Paul, St. Petersburg.—Fruit paste (pastila). 656
- 111 Martens, Julius, St. Petersburg.—Coffee extract, dry and liquid. 656
- 112 Company for the Supply of Food, Varonesh and Moscow.—Preserved meat and vegetables for the army. 656
- 113 Petroff, John, St. Petersburg.—Cranberry juice. 656
- 114 Abrikosoff's Sons, Moscow.—Preserves, marmalade, fruit-paste. 656
- 115 Stephany, F., Mitau.—Wheat-flour. 657
- 116 Waag & Sons, Doobovka, Government of Saratoff.
a Mustard-flour, decorticated mustard-seed and husks. 657
b Mustard-seed oil and cake. 662
- 117 Verevitin, Alexis, Mzensk, Government of Orel.—Wheat-flour and decorticated grain. 657
- 118 Taldykin, Catherine, Eletz, Government of Orel.—Wheat-flour and decorticated grain. 657
- 119 Müller, Christian, Doobovka, Government of Saratoff, District of Tzaritsin.
a Mustard-flour, decorticated seed and husks. 657
b Mustard-seed oil and cakes. 662
- 120 Matteissen, Nicolas, Moscow.—
a Flour and groats. 657
b Anise and mustard seed oil. 662
- 122 Golikoff, K. P., Frtzsch, Government of Kiazan, District of Spassk.—Starch and glycose. 658
- 123 Tarnoosky, Basil, Parafievka, Government of Tchernigoff, District of Berzna.—Raw sugar. 659
- 124 Galitzyn, Prince Victor, Slavgorod, Kharkoff, District of Akhtyvk.—Raw beet-root sugar. 659
- 125 Hermanoff Sugar Manufacturing Company, Government of Warsaw.—Refined sugar in loaves and crystallized. 659
- 126 Gnevan Sugar Manufacturing Company, Government of Warsaw.—Refined sugar. 659
- 127 Wassiltchikoff, Prince Victor, Troobetchina, Government of Tamboff, District of Lupetzk.—Raw beet-root sugar. 659
- 128 Warsaw Sugar Manufacturing Company, Warsaw.—Refined sugar. 659
- 129 Sokolovka Sugar Manufacturing Company, Government of Podolia, District of Olgopol.—Refined beet-sugar. 659
- 130 Ostroff Sugar Manufacturing Company, Warsaw.—Sugar refined. 659
- 131 Sergeieff, Alexis & Apraxin, Count John, Pensa.—Refined beet-root sugar. 659
- 132 Nathanson, Jacob, Warsaw.—Sugar refined. 659
- 133 Mlodzescin Sugar Mill, Government of Warsaw.—Sugar refined in loaves and powder. 659
- 134 Meck, Charles von, Brailovka, Government of Podolia, District of Vinnitza.—Beet-root sugar, raw and refined. 659
- 135 Lanin, Nicolas, Moscow.—Fruit syrups and juices, effervescent fruit liquors and mineral waters. 659
- 136 Kümens, Richard, Sobolevka & Tsharnomin, Government of Podolia, District of Gaissin.—Sugar, raw and refined. 659
- 137 Krasinec Sugar Mill Company, Government of Plock.—Sugar. 659
- 138 Keshner, Frederic, St. Petersburg.—Refined beet-root sugar. 659
- 139 Yoozefow Sugar Manufacturing Company, Government of Warsaw.—Refined sugar. 659
- 140 Goozov Sugar Manufacturing Company, Government of Warsaw.—Refined sugar. 659
- 141 Dobrozelsky Sugar Manufacturing Company, Government of Warsaw.—Sugar, raw and refined. 659
- 142 Maizner, N. Lanenta, & Fzabelin, Sugar Mills, Government of Warsaw.—Beet-root sugar, raw and refined. 659
- 143 Lysckowice Sugar Manufacturing Company, Government of Warsaw.—Refined sugar. 659
- 144 Leonoff Sugar Manufacturing Company, Government of Warsaw.—Beet-root sugar, refined. 659
- 145 Paskevitch, F., Soodak, Crimea.—Wine. 660
- 146 Doolvetoff, David, Simpheropol, Crimea.—White wine. 660
- 147 Imperial Nikitzky Garden, Yalta, Crimea.—White and red wine. 660
- 148 Foondoooley, John, Goorsoof District, Yalta, Crimea.—Wine. 660
- 149 Kniajevitch, Antoine, Alushta, Crimea.—Crimean wine. 660
- 150 Lancki, Robert, Soodack, Crimea.—Red and white wine. 660
- 151 Lanin, Nicolas, Moscow.—Liquors. 660
- 152 Hartwig, Herman, Malo Danilof brewery near Kharkoff.—Icer, mead, and malt. 660
- 153 Worontzoff, Prince Simon, Massandra, Crimea.—Red and white wines. 660
- 154 Bashmakoff, S. D., St. Petersburg.—Spirits and liquors. 660
- 155 Deshariot, A., Moscow.—Spirits, cordials, and liquors. 660
- 156 Makaroff, Petrus, Tiflis.—Kakhetian wine, red and white. 660
- 157 Rajeviski, Nicolas, Crimea district, Yalta.—Wines. 660
- 158 Briantzeff, Victor, Irkoutsk.—Cordials and liquors. 660
- 159 Fokrath & Co., St. Petersburg.—Cordials and liquors. 660
- 160 Grevsmül, Alexander, Moscow.—Spirits. 660

Animal and Vegetable Products, Textile Substances.

- 161 Grote, Alexander von, Lemburg, near Riga.—Cumin liqueur. 660
- 162 Korf, Baron K., St. Petersburg.—Spirits and liquors. 660
- 163 Karali, G. N., & Co., St. Petersburg.—Cordials, liquors, and spirits. 660
- 164 Kalashnikoff, Peter, Pskoff.—Spirits, cordials, and liquors. 660
- 165 Tankowski, T., Warsaw.—Cordials and liquors. 660
- 166 Scheierman & Co., Riga.—Vinegars. 660
- 167 Lutoslavski, T., Drosdovo, Government & District of Lomza.—Bottled beer. 660
- 168 Krause, W., Warsaw.—Beer. 660
- 169 Tlgezem Brewery Company, near Riga.—Malt extract. 660
- 170 Doordin, John, St. Petersburg.—Beer. 660
- 171 Zyzykin, M. Y., Brothers, Moscow.—Cordials, liquors, and artificial champagne. 660
- 172 Wickel, Y., Helsingfors.—Swedish punch. 660
- 173 Varaksin, Demetrius, & Sanin, George, Kazan.—Spirits and liquors. 660
- 174 Traverse, Marquis Alexander de Looga, Government of St. Petersburg.—Cordials and liquors. 660
- 175 Stenmikovski, A., Warsaw.—Corn brandy and mead. 660
- 176 Smirnoff, Peter, Moscow.—Cordials, spirits, and liquors. 660
- 177 Rouget, Pauline, Moscow.—Cordials and liquors. 660
- 178 Petroff, W., St. Petersburg.—Spirits, cordials, and liquors. 660
- 179 Natus, T., & Co., St. Petersburg.—Spirits and liquors. 660
- 180 Martini, G., St. Petersburg.—Spirits, cordials, and liquors. 660
- 181 Lilieroth, Victor, Helsingfors.—Imperial and fruit punch. 660
- 182 Landrin, George, St. Petersburg.—Bonbons and chocolate. 661
- 183 Zaitzeff, Simon, Moscow.—Cakes and gingerbread. 661
- 184 Sivakhin, E., St. Petersburg.—Gingerbread. 661
- 185 Meyer L., St. Petersburg.—Gingerbread and bonbons. 661
- 186 Lapin, N. & A., Brothers, St. Petersburg.—Cakes, marmalade, chocolate, and confectionery. 661
- 187 Koodriavzeff, A. & G., Brothers, Moscow.—Sweetmeats and sugar candy. 661
- 188 Ootkin, Basil, Tver.—Cakes. 661
- 189 Belolipetzky, Michael, Toola.—Cakes. 661
- 191 Tzelikoff, Theodore, Moscow.—Vegetable oils and linseed oil cakes. 662
- 193 Zablotsky, Dessetovsky Paul, Kryniki, Government of Kieff, District of Tchigirin.—Candle seed oil. 662
- Textile Substances of Vegetable or Animal Origin.
- 195 Agricultural Museum of the Ministry of Domains, St. Petersburg.—Samples of cotton and cotton seed grown in Turkestan, Central Asia. 665
- 196 Wishaw, Alfred, St. Petersburg.—Vologda flax. 666
- 197 Warschafsky, A., St. Petersburg.—Flax. 666
- 198 Reppin, Prince Nicolas, Fagotin, Government of Poltawo, District of Periatin.—Flax in different stages of preparation. 666
- 199 Pskoff Statistical Committee.—Flax from the Government of Pskoff. 666
- 200 Nemiloff, Anthony, Orel.—Hemp cleaned and uncleaned. 666
- 201 Maximoff, Basil, Zagorye, Government of Kostroma, District of Nerekhta.—Flax raw and clean. 666
- 202 Kazan Model Farm, Kazan.—Flax. 666
- 203 Karamysheff, Nicholas, Polossy, Government of Pskoff, District of Porskhoiff.—Flax. 666
- 204 Karamysheff, Eugene, Torjok, Government of Tver.—Flax. 666
- 205 Gent & Co., Pskoff.—Flax. 666
- 206 Riga Exchange Committee, Riga.—Flax and hemp. 666
- 207 Cartau, Robert, Pskoff.—Flax. 666
- 208 Vassilief, Nicolas, Ovekque.—Flax, clean and half clean, flax tow. 666
- 209 Bykoff, Theodore, Vologda.—Flax. 666
- 210 Mariolaki, P., Rostoff on the Don.—Washed wool of the Russian Donskoy breed. 667
- 211 Stichinsky, Simon, Gololobovo, near Voronesh.—Wool in fleece. 667
- 212 Orloff, Nicolas, Repievka, Government of Saratoff, District of Balashoff.—Wool in fleece. 667
- 213 Warschafsky, A., St. Petersburg.—Wool, Rambouillet and Rambouillet Negretti breeds. 667
- 214 Moshevski, Wladislav, Odessa.—Wool of common Don breed. 667
- 215 Mariynska Model Farm, near Saratoff.—Wool in fleece. 667
- 216 Labensky, V., Okence, Government & District of Warsaw.—Samples of wool. 667
- 217 Karlovka Estate of H. F. H. the Grand Duchess Catharine Mihaelovna, Government of Poltawo, District of Constantinovgrad.—Merino wool for carded and combed wool-stuffs. 667
- 218 Komarovsky, Count, Government & District of Orel.—Wool in fleece, Russian and Negretti breeds. 667
- 219 Glinka, Nicolas, Szczavin, Government of Lomza, District of Ostrolenka.—Wool. 667
- 220 Ganeshin Brothers & Co., Moscow.—Washed wool, Metis and Tzigai breed. 667
- 221 Fatz, Theodore, Olviopol, Government of Kherson.—Wool in fleece, Spanish breed. 667

Machines, Implements, Engineering, and Administration.

- 222 Falz, Fein, Edward, Kakhovka, Government of Tauride.—Washed and unwashed wool. 667
- 223 Baklanoff's, K. K., Sons, Moscow.—Washed wool, merino breed. 667
- 224 Pokrovsky Sisterhood of Charity, Moscow.—Cocoons of silk-worms, floss and raw silk. 668
- 225 Lootchinsky, Laurentius, Oaman, Government of Kief.—Cocoons, raw and floss silk. 668
- 226 Kozishnikoff, Peter, Veliki Oostooog, Government of Vologda.—Bristles. 669
- Machines, Implements, and Processes of Manufacture.**
- 227 Lilpop, Rau, & Loevenstein, Warsaw.
a Reaping-machine. 672
b Threshing-machine for corn and cloverseed. 673
- 228 Grubinsky, Florain, Warsaw.—Reaping-machine. 672
- 229 Benkovski, Albert, Warsaw.—Asparagus-digger. 672
- 230 Westberg, Nicholas, Kharkoff.—Threshing-machine. 673
- 231 Meshtcherin, John, Orel.—Winnowing and sorting machine. 673
- 233 Fvanoff, Alexander, Kharkoff.—Winnowing and sorting machines. 673
- Agricultural Engineering and Administration.**
- 234 Calcined Bone Manufacturing Company, St. Petersburg.—Ground bone and horn, and phosphatic manures. 681
- 235 Przciszewsky, Constantine, Warsaw.—Pulverized bones for manure. 681
- 236 Borissovki, Peter, Moscow.—Apiary and artificial honey-comb. 683
- For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

JAPAN.

Location, South-west Corner of Agricultural Hall.

Arboriculture, Agricultural Products, Fish Culture.

Arboriculture and Forest Products.

- 1 Kuwangiyo-Riyo (Imperial Board of Agriculture, Industry, & Commerce), Tokio.
a Specimens of trees. 600
b Dyewoods, barks, and galls. 602
c Resins, etc. 603
 2 Matsu-o, I., Tokio.—Bamboo. 601

Agricultural Products.

- 3 Kuwangiyo-Riyo (Imperial Board of Agriculture, Industry, & Commerce), Tokio.
a Rice, millet, wheat, sorghum, Indian corn, etc. 620
b Beans, peas, etc. 621
c Teas, green and black. 623
d Seeds. 624
 4 Kaitakushi (Department for the Colonization of the island of Yesso).—Wheat. 620
 5 Shirakawa-ken, Local Government of.—Tobacco leaves, cut and uncut. 623
 6 Kagoshima-ken, Local Government of.—Tobacco leaves, cut and uncut. 623
 7 Shiga-ken, Local Government of.—Tobacco leaves, cut. 623
 8 Kiyoto, Municipality of, Kiyotofu.—Tobacco leaves, cut and uncut. 623
 9 Osaka, Municipality of, Osaka-fu.—Tobacco leaves, cut and uncut. 623
 10 Nagasaki-ken, Local Government of.—Cigars. 623
 11 Saga-ken, Local Government of.—Tobacco. 623
 12 Noda, D., Kumamoto, Province of Higo.—Tobacco leaves and cigars. 623
 13 Kiriu-Kosho-Kuwaisha (First Japanese Manufacturing & Trading Company), Tokio.—Cigarettes and tea. 623
 14 Susuki, S., Province of Hiuga.—Tea. 623
 15 Kuroki, Y., Province of Hiuga.—Tea. 623
 16 Otori, M., Province of Hiuga.—Tea. 623
 17 Sato, S., Province of Hiuga.—Tea. 623
 18 Womura, I., Province of Hiuga.—Tea. 623
 19 Watanabe, M., Province of Hitachi.—Green tea. 623
 20 Yebihara, Y., Province of Hitachi.—Green tea. 623
 21 Katakura, J., Province of Hitachi.—Green tea. 623
 22 Kuroda, N., Province of Higo.—Green tea. 623
 23 Kamimura, N., Province of Higo.—Green tea. 623
 24 Kaku, S., Province of Higo.—Green tea. 623
 25 Fujita, H., Province of Higo.—Green tea. 623
 26 Kobori, C., Province of Higo.—Green tea. 623
 27 Hirano, H., Province of Higo.—Black tea. 624
 28 Tanaka, K., Province of Chikugo.—Black tea. 623
 29 Kawai, S., Province of Omi.—Green tea. 623
 30 Maino, R., Province of Omi.—Green tea. 623
 31 Hayashi, Y., Province of Tosa.—Green tea. 623
 32 Morikawa, K., Province of Yetchizen.—Green tea. 623
 33 Hori, G., Province of Iwami.—Tea. 623
 34 Miura, G., Province of Mino.—Tea. 623
 35 Miyazaki, T., Province of Hizen.—Green tea. 623
 36 Sato, I., Province of Yetshigo.—Green tea. 623
 37 Yanagida, K., Province of Yetshigo.—Black tea. 623
 38 Imai, K., Province of Totomi.—Green tea. 623
 39 Fukukawa, S., Province of Totomi.—Green tea. 623
 40 Ozaki, I., Province of Suruga.—Green tea. 624
 41 Minobe Chiubeye, Kiyoto.—Green tea. 623
 42 Nagaya Buyemon, Kiyoto.—Tea. 623
 43 Asada Toyemon, Kiyoto.—Green tea. 623
 44 Kambayashi, Sansho & Sannin. Uji, Province of Yamashiro.—Tea; implements and apparatus used for the preparation. 623
 45 Kiriu-Kosho-Kuwaisha (First Japanese Manufacturing and Trading Company), Tokio.—Tea. 623
 46 Marunaka, M., Kanazawa, Province of Kaga.—Tea. 623

Marine Animals, Fish Culture, and Apparatus.

- 47 Kuwangiyo-Riyo (Imperial Board of Agriculture, Industry, & Commerce), Tokio.
a Shells. 615
b Shagreen and sturgeon skins. 616

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products, Textile Substances.

- 48 Kiriu-Kosho-Kuwaisha (First Japanese Manufacturing & Trading Company), Tokio.—Nets, baskets, hooks, rods, lines, and other apparatus used for fishing. 647
 49 Nagasaki-ken, Local Government of.—Fishing implement and apparatus. 647

Animal and Vegetable Products.

- 50 Nagura, O., Kiyoto.—Vegetable isinglass. 650
 51 Kuwangiyo-Riyo (Imperial Board of Agriculture, Industry, & Commerce), Tokio.
a Hides, furs, horns. 652
b Feathers of crane and pheasant. 653
c Preserved fruits prepared with sugar. 656
d Flour. 657
e Starch. 658
f Sugar. 659

- 52 Kumagai, K., Kiyoto.—Vegetable incense. 655
 53 Kaitaku-shi (Department for Colonization of the Island of Yesso).—Preserved meat and fish. 656
 54 City Chemical Laboratory, Kiyoto.
a Sugar candy. 659
b Mulberry wine, lemonade, punch, and other drinks. 660

- 55 Kamzaki, Tokio.—Sake, sweet liquors, spirits, and other alcoholic liquors. 660
 56 Matsuya, H., Tokio.—Sweet liquors, wines, and malt liquors. 660

- 57 Sawada, Z., Tomo, Province of Bingo.—Sweet liquors. 660
 58 Hashimoto, S., Tokio.—Spirits, sake, sweet liquors, and soy. 660

- 59 Kitakaze Yu, Hiogo, Province of Setzu.—Vinegars. 660
 60 Naga-oka, Z., Tokio.—Soy and sweet liquors. 660

- 61 Mori, R. & K., Ito, Tokio.—Soy. 660
 61^a Nishi-wo Matsutaro, Kiyoto.—Yatsuhashiyaki (kind of cracknel). 661

Textile Substances of Vegetable or Animal Origin.

- 62 Government Cotton Factory, Sakai, Province of Setzu.—Cotton in raw state, and in all stages of preparation. 665

- 63 Maru, T., Province of Iwami.—Ramie, raw and prepared. 666

- 64 Hattori, Z., Province of Iwami.—China grass, spooled. 666

- 65 Asaya, T., Tokio.—Hemp, ramie, jute, etc. 666

- 66 Takamura, R., Province of Totomi.—Fibres. 666

- 67 Riu-kiu han, Loochoo Island.—Fibres of Musa-Basho, and China grass. 666

- 68 Kuwangiyo-Riyo-no-yosankakari (Government establishment for Experimental Silkworm-Breeding), Tokio.—Silk in cocoon and reeled. 668

- 69 Tamamura, Y., Ishi-i-mura, Province of Shimodzu.—Silk, reeled. 668

- 70 Marunako, M., Kanazawa, Province of Kaga.—Silk, reeled. 668

Agriculture Engineering and Administration.

- 71 Kuwangiyo-Riyo (Imperial Board of Agriculture, Industry, & Commerce), Tokio.—Plows, scythes, harrows, and grain cradles. 670

Ornamental Trees, Shrubs, and Flowers.

- 72 Kuwangiyo-Riyo (Imperial Board of Agriculture, Industry, & Commerce).
a Evergreen trees and shrubs. 700
b Herbaceous perennial plants. 701
c Lillies. 702
d Ornamental foliage. 703
e Ferns. 707
f New plants, with origin. 708

Garden Tools, Accessories of Gardening.

- 73 Kuwangiyo-Riyo (Imperial Board of Agriculture, Industry, & Commerce), Tokio.—Fences, gates, etc. 722

Garden Construction.

- 74 Miyagi, C., Garden laid out by. 733

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

PHILIPPINE ISLANDS.

Arboriculture, Pomology, Agricultural Products.

Arboriculture and Forest Products.

- 1 **Asuero, Eduardo, Province of Tarlac.**—Dita bark. 600
- 2 **Provincial Board, Province of Batangas.**
a Peruvian Guaiacum bark. 600
b Maiden's hair. 604
- 3 **Inspection-General of Woods and Forests.**
a Timber, lumber, barks, charcoal, etc. 600
b Ornamental woods. 601
c Dye woods and barks. 602
d Gums and resins. 603
- 4 **Olano, Casto, Manila, Province of Manila.**—Section of *Pterocarpus santalinus* L. 601
- 5 **Provincial Board, Province of Samar.**
a Cane. 601
b Balao. 603
- 6 **Jesus, Francisco de, Province of Pampanga.**—Camanchile bark. 602
- 7 **Provincial Board, Province of Masbate.**—White pitch. 603
- 8 **Cortina, Mariano de la, Bawang, Province of Batangas.**—Abilo resin. 603
- 9 **Orduña, Eduardo, Province of Batangas.**—Resins and gums, macabuhay. 603
- 10 **Labhart & Co., Province of Manila.**—Mastic. 603
- 11 **Provincial Board, Province of Tayabas.**—White pitch. 603
- 12 **Provincial Board, Province of Iloilo.**—Seeds. 605

Pomology.

- 13 **General Inspection of Woods & Forests.**—Fruits. 611
- 14 **Provincial Board, Province of Manila.**—Cocoa nuts. 611

Agricultural Products.

- 15 **Cirer, Manuel, Province of Tarlac.**—Rice. 620
- 16 **Arque, Benito, Province of Carite.**—Rice 620
- 17 **Salivia, Fulgencio, Province of Camarines, S.**—Rice. 620
- 18 **Santos, Apolinaria, Province of Bulacan.**—Rice. 620
- 19 **Rico, José, Province of Na Ecyá.**—Rice. 620
- 20 **Otero, Manuel G., Province of Nva, Exija.**—Rice. 620
- 21 **Rodriguez, Ambrosio, Sariaya, Province of Tayabas.**—Wheat. 620
- 22 **Liñan, Diego, Province of Tarlac.**
a Rice. 620
b Mongos. 622

- 23 **Naves, Andres, Province of Bulacan.**
a Anajao. 620
b Angolong hilive, tapican, etc. 622
- 24 **Provincial Board, Province of Antigue.**
a Rice. 620
b Cocoa and coffee. 623
- 25 **Provincial Board, Province of Samar.**
a Rice. 620
b Seeds. 624
- 26 **Provincial Board, Province of Batangas.**
a Maize and rice. 620
b Arbutra root. 622
c Cocoa and coffee. 623
- 27 **Provincial Board, Province of Benguet.**
a Rice. 620
b Beans. 621
c Coffee. 623
d Seeds. 624
- 28 **Lorenzo, Catalino, Province of Pampanga.**—Arrowroot. 622
- 29 **Provincial Board, Province of Samar.**—Casalote, tabiguig, arbutra root, etc. 622
- 30 **Valmaceda, Esteban, Province of Bataan.**—Gogo. 622
- 31 **Provincial Board, Province of Bulacan.**—Matang-ulang and arbutra root. 622
- 32 **Adriano, Lucia A., Province of Mindoro.**—Yuro. 622
- 33 **Provincial Board, Province of Masbate.**—Gogo. 622
- 34 **Reyes, Andres, Province of Samar.**
a Sarsaparilla root. 622
b Laurel. 623
- 35 **Provincial Board, Province of Mindanao.**
a Gogo. 622
b Cocoa and coffee. 623
- 36 **Orduña, Eduardo, Province of Batangas.**
a Campuput root. 622
b Tuba and millet seed. 624
- 37 **Rodo, Luciano P. de, Province of Cavite.**—Coffee. 623
- 38 **Provincial Board, Province of Mainba.**—Cinnamon, pepper, etc. 623
- 39 **Lopez, Felix, Province of Cavite.**—Coffee. 623
- 40 **Temprado, Ramon F., Province of Camarines Sur.**—Coffee. 623
- 41 **Gallardo, Francisco, Province of Bohol.**—Coffee. 623
- 42 **Sanz, Victor, San José, Province of Lepanto.**—Coffee. 623
- 43 **Spanish Nation, Province of Manila.**—Leaf and manufactured tobacco, cigars, and cigarettes. 623

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Agricultural, Animal, and Vegetable Products.

- 44 Ruiz, Juan, Province of Laguna.—Coffee. 623
- 45 Velarde, Angel, Province of Cavite.—Cocoa and coffee. 623
- 46 Teodoro, Saturnino, Province of Tarlac.—Cocoa. 623
- 47 Mendosa, Gregorio, Province of Tarlac.—Coffee. 623
- 48 Alcántara, Dámasco, Sariaya, Province of Batangas.—Cocoa. 623
- 49 Hernandez, Telesoro, San José, Province of Batangas.—Coffee. 623
- 50 Catigbac, Norverto, Province of Batangas.—Coffee. 623
- 51 Ron, A., & Son, Province of Cebu.—Coffee. 623
- 52 Nieves, Agapito, Province of Albay.—Cocoa and coffee. 623
- 53 Saucian, Cirilo, Guinobatan, Province of Albay.—Cocoa and coffee. 623
- 54 Economical Society, Province of Benguet.—Tea leaves. 623
- 55 Nieves, Agapito, Province of Masbate.—Tea leaves. 623
- 56 Provincial Board, Province of Camarines Sur.
a Coffee. 623
b Lumbang seed. 624
- 57 Peñalosa, Andrés, Province of Batangas.
a Cocoa. 623
b Lumbang seed. 624
- 58 Prieto, Federico, Province of Albay.
a Coffee. 623
b Pili seed. 624
- 59 Rodriguez, Lucia, Province of Pampanga.—Seeds. 624
- 60 Provincial Board, Ilocos Sur.—Seeds. 625
- 61 Mamanal, Luisa, Province of Tarlac.—Indigo seed. 624
- 62 Dairit, Florentino, Province of Pampanga.—Lumbang seed, sesame seed. 624
- 63 Leonarde, Quinton, Province of Laguna.—Lumbang seed. 624
- 64 Baneg, Jo, Province of Bulacan.—Lumbang seed. 624
- 65 Provincial Board, Province of Pampanga.—Pili seed. 624
- 66 Peñaloso, Andres, S. Pablo, Province of Batangas.—Lumbang seed. 624
- 67 Guzman, Miguel de, Province of Bataan.—Canary seed. 624
- 68 Mora, José, Province of Mindoro.—Castor beans. 624
- 69 Liñan, Diego, Province of Tarlac.—Beneseed. 624
- 71 Argoncillo, Ramon, Province of Batangas.—Coffee. 624
- 72 Jesus, Francisco de, Province of Pampanga.—Indigo seed. 624

Land Animals.

- 73 Inspection-General of Woods & Forests.—Zoological specimens. 630

Water Animals, Fish Culture, and Apparatus.

- 74 Provincial Board, Province of Manila.—Tortoise and other shells. 645
- 75 Provincial Board, Province of Bohol.—Mother-of-pearl shells. 645
- 76 Macatangay, Jorgé, Province of Batangas.—Fishing nets. 647
- 77 Garun, Nicolás, Province of Manila.—Fishing nets. 647
- 78 Garcia, Nicolás, Province of Manila.—Model of fishing net. 647

Animal and Vegetable Products.

- 79 Pagdangco, Gavino, Gumaca, Province of Tayabas.—Sponges. 650
- 80 Provincial Board, Province of Bohol.—Flying-fox skins. 652
- 81 Provincial Board, Province of Laguna.
a Buffalo horns. 652
b Coconut oil. 662
- 82 Provincial Board, Province of Manila.
a Varnished cowhides, cut hides, deer skins, shark skin, etc. 652
b Birds' nests and feathers. 652
c Pickled fish. 666
- 83 Osmeña, Rita, & Co., Province of Cebu.
a Buffalo horns and sigay. 652
b Perfume pastilles. 655
c Sugar. 659
d Cocoa oil. 662
- 84 Provincial Board, Province of Lepanto.—Honey. 654
- 85 Provincial Board, Province of Calamianes.—Virgin wax. 654
- 86 Estrada, Saturnino, Gumaca, Province of Tayabas.—Virgin wax. 654
- 87 Inspection-General of Woods & Forests.
a Wax and honey. 654
b Tapioca, sago, arrowroot, and other flours. 657
- 88 Casas, Calixta, Province of Cebu.—Perfume pastilles. 655
- 89 Garcia, Regino, Province of Manila, Cavite, Bulacan, Laguna, and Isla Negros.—Hulled rice 657
- 90 Posar, José, Province of Mindoro.—Hulled rice. 657
- 91 Pasig, Agustin, Province of Mindoro.—Hulled rice. 657
- 92 Provincial Board, Province of Cavite.—Hulled rice. 657
- 93 Albir, Benito, Province of Cavite.—Hulled rice. 657
- 94 Ocampo, Benigno de, Province of Pampanga.—Arrowroot flour. 657
- 95 Provincial Board, Ilocos Sur.—Arrowroot flour. 657
- 96 Rodriguez, Lucia, Province of Pampanga.—Arrowroot flour. 657
- 97 Bravo, Antonio, Province of Batangas.—Sugar. 659
- 98 Guisones, Joaquin, Province of Batangas.—Sugar. 659
- 99 Argoncillo, Ramon, Province of Batangas.—Sugar. 659

Animal and Vegetable Products, Textile Substances.

- 100 Rico, José, Province of Nueva Erija.—Sugar. 659
- 101 Macan, Luis, Calumpit, Province of Bulacan.—Sugar. 659
- 102 Aragon, Inocencia, Malate, Province of Manila.—Fruit syrups. 659
- 103 García, P., Province of Manila.—Fruit syrups. 659
- 104 Provincial Board, Tananan, Province of Leyte.—Sugar. 659
- 105 Gonzalez, Victorina, Province of Antique.—Sugar. 659
- 106 Lirer, Manuel, Province of Tarlac.—Sugar. 659
- 107 Liñan, Diego, Province of Tarlac.—Sugar. 659
- 108 Puig, José, Province of Pampanga.—Sugar. 659
- 109 Ocampo, Manuel de, Province of Pampanga.—Sugar. 659
- 110 Puig, Andrés, Province of Pampanga.—Sugar. 659
- 111 Miranda, Bernardo V. de, San Fernando, Province of Pampanga.—Sugar. 659
- 112 Lorenzo, Catalino, Province of Pampanga.—Sugar. 659
- 113 Sasatin, Leoncia, Province of Pampanga.—Sugar. 659
- 114 Buison, Julian, Province of Pampanga.—Sugar. 659
- 115 Jesus, Laureano, Province of Pampanga.—Sugar. 659
- 116 Enison, Catalino, Province of Pampanga.—Sugar. 659
- 117 Ocampo, Benigno de, Province of Pampanga.—Sugar. 659
- 118 Leon & Santos, José, Province of Pampanga.—Sugar. 659
- 119 Puig, Andrés, Province of Pampanga.—Sugar. 659
- 120 Gil, Rafael, Province of Pampanga.—Sugar. 659
- 121 Tison, José, Province of Pampanga.—Sugar. 659
- 122 Ker, Benito, Province of Pampanga.—Sugar. 659
- 123 Rosa & Son, Province of Cebu.—Sugar. 659
- 124 Onchica, Andrés, Province of Laguna.—Sugar. 659
- 125 Provincial Board, Province of Antique.—Sugar. 659
- 126 Provincial Board, Province of Mindanao.—Sugar. 659
- 127 Jesus, Francisco de, Province of Pampanga.
a Sugar. 659
b Alcohol. 660
- 128 Rodriguez, Lucia, Province of Pampanga.
a Sugar. 659
b Sesame and lumbang oils. 662
- 129 Leon, Celestino de, Province of Pampanga.
a Sugar. 659
b Beneseed oil. 662
- 130 Inchausti & Co., Province of Manila.—Alcohol. 660
- 131 Reyes, Vicente, Province of Laguna.—Cocoa wine. 660
- 132 Besa Santos, Mateo, Province of Manila.—Palo-maria oil. 662
- 133 Provincial Board, Province of Samar.—Cocoanut oil. 662
- 134 Maringan, Jocinto, Province of Batangas.—Beneseed oil. 662
- 135 Provincial Board, Province of Ilocos Sur.—Palo-maria and other vegetable oils. 662
- 136 Provincial Board, Province of Visayas.—Tagulanag oil. 662
- 137 Beso Santos, Mateo, Province of Bulacan.—Palo-maria oil. 662
- 138 Naves, Andrés, Province of Bulacan.—Cocoanut oil. 662
- 139 Banes, Jo, Province of Bulacan.—Lumbang oil. 662
- 140 Provincial Board, Province of Camarines N.—Balao oil. 662
- 141 Dairit, Florentino, Province of Pampanga.—Lumbang oil. 662
- 142 Tribula, Eleuterio, Province of Pampanga.—Lumbang oil. 662
- 143 Maceda, Leon, Province of Laguna.—Cocoanut oil. 662
- 144 Provincial Board, Province of Pampanga.—Beneseed oil. 662
- 145 Orduña, Eduardo, Province of Batangas.—Lausina oil. 662
- 146 Inspection-General of Woods & Forests.—Vegetable oils. 662
- 147 Provincial Board, Province of Batangas.—Tuba and cocoanut oil. 662
- 148 Zugadi, Nicolás, Provinces of Bulacan, Ilocos Sur, Leite, Batangas, and Camarines N.—Vegetable oils. 662
- 149 Provincial Board, Province of Bulacan.—Lumbang and beneseed oil. 662
- Textile Substances of Vegetable or Animal Origin.**
- 150 Macatangay, Agaton, Province of Batangas.—Cotton. 665
- 151 Reyes, Juana, Province of Batangas.—Cotton. 665
- 152 Dimayuga, Procesa, Province of Batangas.—Cotton. 665
- 153 Reyes, Juan, Province of Bohol.—Raw cotton. 665
- 154 Roa, A., & Son, Province of Cebu.—Cotton. 665
- 155 Beluyos, Damian, Province of Batavia.—Cotton. 665
- 156 Provincial Commission, Province of Benguet.—Cotton. 665
- 157 Orduña, Eduardo, Province of Batangas.
a Cotton. 665
b Textile vegetable substances. 666
- 158 Provincial Board, Province of Batangas.
a Coyote cotton. 665
b Textile vegetable substances. 666
- 159 Provincial Board, Province of Mindanao.
a Cotton. 665
b Balibago cords. 666
- 160 Gomez, Enrique, Province of Abra.—Textile substances. 666

Textile Substances, Machines, Implements.

- 161 Provincial Board, Province of Camarines Sur.—Abacá fibres. 666
- 162 Bravo, Antonio, Guagua, Province of Pampanga.—Balibago barks. 666
- 163 Provincial Board, Province of Samar.—Bonote. 666
- 164 Cortina, Mariano de la, Province of Batangas.—Maguey plant. 666
- 165 Provincial Board, Province of Manila.—Balibago fibres. 666
- 166 Argoncillo, Eustaquio, Lopez, Province of Tayabas.—Abacá fibres. 666
- 167 Figueroa, Andrés, Province of Albay.—Abacá fibres. 666
- 168 Rodríguez, José, Vigan, Province of Ilocos Sur.—Maguey. 666
- 169 Muñoz & Bros., Province of Albay.—Abacá and cabo-negro. 666
- 170 Provincial Board, Province of Camarines N.—Balibago fibres and abacá. 666
- 171 Gallegos, Tomás, Province of Albay.—Abacá lupiz. 666
- 172 Medina, Ildefonso, Province of Mindora.—Abacá. 666
- 173 García, Cirilo, Guinobatan, Province of Albay.—Abacá. 666
- 174 Provincial Board, Burasun, Province of Leite.—Cabo-negro and Nabó. 669
- 175 Parochial Curate, Province of Pangasinan.—Textile substances. 666
- 176 Banson, Nicasio, Province of Bataan.—Textile vegetable fibres and samples of work. 666
- 177 Banson, Arcadio, Province of Bataan.—Dantin cord. 666
- 178 Provincial Board, Province of Pangasinan.—Textile vegetable fibres and samples of work. 666
- 179 Mangataren, Parson of, Pangasinan.—Alinoa bark and ropes. 666
- 180 Provincial Board, Province of Bohol.—Malacapas. 666
- 181 Jesus, Francisco de, Province of Pampanga.—Cord of thistle fibres. 666
- 182 Provincial Board, Province of Pampanga.—Textile vegetable fibres. 666
- 183 Vera, Rosa de, Province of Albay.—Nito. 666
- 184 Provincial Board, Province of Antigue.—Textile vegetable substances. 666
- 185 Llamas, Gabriel, Province of Manila.—Dugtung-ajas bindweed. 666
- 186 Provincial Board, Province of Albay.—Bark and abacá fibres. 666
- 187 Provincial Board, Province of Laguna.—Abacá. 666
- 188 Reyes, Andrés, Province of Samar.—Abacá. 666
- 189 Juan, Fernando, Tanauan, Province of Leite.—Abacá layajon. 666
- 190 Peñafior, Ines, Province of Cavite.—Abacá. 666
- 191 Nieva, Calixto M., Province of Mindora.—Abacá. 666
- 192 Perfecto, Teodora, Province of Camarines Sur.—Abacá. 666
- 193 Gallegos, Tomás, Province of Batangas.—Abacá lupiz. 666
- 194 Perez, Agustín, Province of Albay.—Abacá fibres. 666
- 195 Rivera, Gregorio, Orion, Province of Bataan.—Balibago fibres. 666
- 196 Reyes, Juana, Lemery, Province of Batangas.—Prepared abacá. 666
- 197 San Isidro, Parson of, Province of Pangasinan.—Cabulagna roots, and optil bark. 666
- 198 Esteves, Félipe, Province of Albay.—Nito and piña. 666
- 199 Adriatano, Luciano M., Province of Mindoro.—Cabo negro. 666
- 200 Zugadi, Nicolas, Province of Bulacan.—Nito. 666
- 201 Provincial Board, Province of Bohol.—Textile vegetable fibres, etc 666
- 202 Buison, Julian, Province of Pampanga.—Bark of the buri palm tree. 666
- 203 Peele, Hubbell, & Co., Santa Mesa, Province of Manila.—Abacá rigging. 666
- 204 Villamarzo, Tiburcio, Province of Tayabas.—Cabo-negro cables, nabo and pasao fibres. 666
- 205 Rivera, L. de, Province of Bataan.—Bark of the malacapas tree. 666
- 206 Panda, Corporation of, Province of Antigue.—Pineapple leaf fibres. 666
- Machines, Implements, and Processes of Manufacture.**
- 207 Provincial Board, Province of Bulacan.—Plows. 670
- 208 García, Nicolas, Province of Manila.—Model of a sugar cane mill. 673

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

ANNEXES AND SPECIAL EXHIBITS IN THE DEPARTMENT OF AGRICULTURE.

No. 69. CANADIAN LOG HOUSE.

Size, 40 feet by 64.

CANADIAN COMMISSION.

Is one story high, constructed of logs, and located close by the British Government Buildings. Its materials and contents constitute an exhibit of Canadian arboriculture and forest products.

- | | |
|---|---|
| <p>1 Quebec Advisory Board, Quebec.
 <i>a</i> White pine logs.
 <i>b</i> Sugar maple.
 <i>c</i> Ash birch.
 <i>d</i> Chestnut elm.
 <i>e</i> Hemlock butternut.
 <i>f</i> Yellow pine, red cherry.
 <i>g</i> Spruce cedar.
 <i>h</i> Black walnut.
 <i>i</i> Poplar oak.
 <i>j</i> Pear wood.</p> <p>2 Quereux & Genana, Victoria, B. C.—Oak.</p> <p>3 Canadian Commission, Victoria, B. C.—Arbutus.</p> <p>4 George, D. F., Fredericton, N. B.—Clapboards.</p> <p>5 Moody & Nelson, Victoria.
 <i>a</i> Native woods, etc.
 <i>b</i> Shingles.</p> <p>6 Layard, W. P., Victoria.—Oak flooring, etc.</p> <p>7 Dawson, W. G., Victoria.—Axe-handles.</p> <p>8 Layard, W. P., Victoria, B. C.—Pine.</p> <p>9 Cusack, H. P., Newberry.—Flour barrel hoops.</p> <p>10 Richardson, Peter, Chatham.—Hoops.</p> <p>11 Lactinbros, Wm., Quebec.—Yellow pine planks.</p> | <p>12 Rochester, I., Ottawa.—Yellow pine, etc.</p> <p>13 Head, James S., Ottawa.—Pine shingles.</p> <p>14 Perley & Patton, Ottawa.—Yellow pine laths.</p> <p>15 Silliman, James R., Toronto.—Pine lumber, etc.</p> <p>16 Oliver, John, Toronto.—Chestnut, ash, oak, etc.</p> <p>17 Colwell, H., & Son, Ontario.—Ash.</p> <p>18 Young, Levi, Quebec.—Board lumber.</p> <p>19 Bronsons & Weston, Ontario.—White pine.</p> <p>20 Lachlaw, W., Bros., Arnprior.—Pine.</p> <p>21 Canadian Commission, Victoria, B. C.
 <i>a</i> Daglos pine.
 <i>b</i> Dogwood.</p> <p>22 Newell, George, Ottawa.—Ash columns.</p> <p>23 New Brunswick Advisory Board.
 <i>a</i> Woods, etc.
 <i>b</i> Maple logs.
 <i>c</i> Ash logs.
 <i>d</i> Birch logs.
 <i>e</i> Squared birch.</p> <p>24 Canadian Commission, Victoria, B. C.—Mouldings.</p> <p>25 Hayward & Jenkinson, Victoria, B. C.—Mouldings, etc.</p> |
|---|---|

No. 144. CUBAN ACCLIMATION GARDEN.

EMILE LACHAUME, Proprietor.

Contains a variety of tropical plants, etc. Situated south of Horticultural Hall.

No. 165. WAGON BUILDING.

Size, 144 feet by 196 feet.

Constructed of wood, one story high, situated north-east of Agricultural Hall, consists of three lines of sheds. Is used to display wagons, trucks, etc.

Arboriculture, Machines, Engineering, Administration, Vehicles.

- | | |
|--|--|
| Arboriculture and Forest Products. | |
| 1 Reppard, R. B., Savannah, Ga.—Yellow pine timber. 601 | 18 Becker, Jacob, jr., Seymour, Ind.—Farmers' wagon. 682 |
| Machines, Implements, and Processes of Manufacture. | |
| 2 Decrow, A. W., Bangor, Maine.—Scavenger. 674 | 19 Beggs, John, & Sons, Philadelphia, Pa.—Truck and wagon. 682 |
| 3 Lynch, Peter, Mt. Holly, N. J.—Hog scalders. 674 | 20 Lengert, George, & Son, Philadelphia, Pa.—Express wagons. 682 |
| Agricultural Engineering and Administration. | |
| 4 Wenkenbach, W., & Sons, Philadelphia, Pa.—Beer wagon. 682 | 21 Winchester & Partridge Manufacturing Co., Whitewater, Wis.—Wagons. 682 |
| 5 Keiser, Joseph, New York, N. Y.—Beer wagon. 682 | 22 Knickerbocker Ice Co., Philadelphia, Pa.—Ice wagon, and set of wheels. 682 |
| 6 Sebastian, Jacob, New York, N. Y.—Wagon and truck. 682 | 23 Wright Spring Co., Denmark, Iowa.—Wagon springs. 682 |
| 7 Crater, Charles H., North Kingsville, O.—Vehicle coupling. 682 | 24 Heytler, Frank, Burlington, Iowa.—Wagon. 682 |
| 8 Lehigh Car Manufacturing Co., Stenton, Pa.—Platform, spring wagon, truck wagon. 682 | 25 Wilson, Childs, & Co., Philadelphia, Pa.—Wagons and carts. 682 |
| 9 Studebaker Bros. Manufacturing Co., South Bend, Ind.—Farm, lumber, and express wagons. 682 | 26 Kramer, Jacob, New York, N. Y.—Dumping wagon. 682 |
| 10 Cortland Wagon Manufacturing Co., Cortland, N. Y.—Platform spring business wagon. 682 | 27 French & Co., Davenport, Ia.—Piano truck. 682 |
| 11 Jarboe, John W., New York, N. Y.—Paper model of wagon body. 682 | 28 Schauz, C., Philadelphia, Pa.—Business and express wagons. 682 |
| 12 Adgate, J. J., New York, N. Y.—Self-unloading wagon. 682 | 29 Funck & Hertzler, Burlington, Ia.—Farm wagon. 682 |
| 13 Carré, W. W., New Orleans, La.—Lumber wagon. 682 | 30 Rauch, Charles, Cleveland, O.—Ice wagon. 682 |
| 14 Ressler, H. & G., Philadelphia, Pa.—Carts and wagons. 682 | 31 Harrison, Lutz Bros., & Co., South Bend, Ind.—Dump wagon. 682 |
| 15 Server & Brenz, Philadelphia, Pa.—Wagons. 682 | 32 Austin, Tomlinson, & Webster Manufacturing Co., Jackson, Mich.—Lumber wagons. 682 |
| 16 Mills & Combs, Wilmington, Del.—Wagon. 682 | 33 Fish Bros. & Co., Racine, Wis.—Farm and California rack bed wagons. 682 |
| 17 Rech, Jacob, Philadelphia, Pa.—Milk wagon. 682 | 34 Moline Wagon Co., Moline, Ill.—Farm and spring wagons. 682 |
| | 35 Schuttler, Peter, Chicago, Ills.—Spring farm and freight wagons. 682 |
| | 36 Kansas Manufacturing Co., Leavenworth, Kansas.—Farm wagons. 682 |
| | 37 Milburn Wagon Co., Toledo, O.—Spring farm and freight wagons, sleds. 682 |
| | 38 Stryker, Peter J., New Brunswick, N. J.—Self-loading excavator. 691 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

No. 166. POMOLOGICAL BUILDING.

Size, 182 feet by 192 feet.

Constructed of wood, one story high, situated east of Agricultural Hall. Is designed for the exhibit of fruits in season.

No. 167. BREWERS' BUILDING.

Architect, H. J. SCHWARZMANN.—Size, 272 feet by 96 feet.

Erected under the auspices of the United States Brewers' Association.

Constructed of wood in the style of Machinery Hall, and situated on Lansdowne drive, opposite the northeast corner of Agricultural Hall. It contains a model brewery, and exhibits the several processes of manufacturing malt liquors.

Agricultural, Animal, and Vegetable Products.

Agricultural Products.

- | | | | | | |
|----|--|-----|---------------------------------------|--|-----|
| 1 | White, John G., & Co., Philadelphia, Pa.—Barley and malt. | 620 | 26 | Tyler, George H., New York, N. Y.—Hops. | 623 |
| 2 | Schere, Solomon, Buffalo, N. Y.—Barley and malt. | 620 | 27 | Scott, John R., & Co., New York, N. Y.—Hops. | 623 |
| 3 | Liebman's, S., Sons, Brooklyn, N. Y.—Malt. | 620 | 28 | Wheeler, Walter G. B., New York, N. Y.—Isinglass. | 646 |
| 4 | Palin, Thomas, Brooklyn, N. Y.—Malt. | 620 | 29 | Howe & French, Boston, Mass.—Isinglass. | 646 |
| 5 | Pulling, A. C., New York, N. Y.—Malt. | 620 | 30 | Chrisfield, Wm., & Son, New York, N. Y.—Isinglass. | 646 |
| 6 | Committee on Barley & Malt, New York, N. Y.—Barley and malt. | 620 | 31 | Greenway, John, Syracuse, N. Y.—Ale and porter. | 660 |
| 7 | Perot's, Francis, Sons, Philadelphia, Pa.—Barley and malt. | 620 | 32 | Hartung & Krantz, Honesdale, Pa.—Beer. | 660 |
| 8 | Appleton, Wm., Albany, N. Y.—Malt. | 620 | 33 | Meyerhofer, Carl, Poughkeepsie, N. Y.—Beer. | 660 |
| 9 | Lill & Bullen, Chicago, Ill.—Malt. | 620 | 34 | Miles, W. A., & Co., New York, N. Y.—Ale. | 660 |
| 10 | Mueller, H., & Co., Cleveland, O.—Barley and malt. | 620 | Animal and Vegetable Products. | | |
| 11 | McCredie, Thomas, Albany, N. Y.—Malt. | 620 | 35 | Liebman, S., & Sons, Williamsburg, N. Y.—Beer. | 660 |
| 12 | Pardee, Charles W., Oswego, N. Y.—Barley and malt. | 620 | 36 | Grecke, Philip, Philadelphia, Pa.—Ale, porter, and beer. | 660 |
| 13 | Lynde, B. A., Buffalo, N. Y.—Malt. | 620 | 37 | Hinckel, Frederick, Albany, N. Y.—Beer. | 660 |
| 14 | Niagara Malt House, Buffalo, N. Y.—Malt. | 620 | 38 | Yuengling & Sons, Pottsville, Pa.—Ale, porter, and beer. | 660 |
| 15 | Neidlinger, Schmidt, & Co., New York, N. Y.—Malt. | 620 | 39 | Frauenheim & Vilsack, Pittsburg, Pa.—Beer. | 660 |
| 16 | Poke, Charles, Chicago, Ill.—Malt. | 620 | 40 | Bergner & Engel, Philadelphia, Pa.—Beer. | 660 |
| 17 | Marsh, A. M., Buffalo, N. Y.—Malt. | 620 | 41 | Bolton, S., & Sons, Lansingburg, N. Y.—Ale. | 660 |
| 18 | Schmid, Bernheimer, & Co., Brooklyn, N. Y.—Malt. | 620 | 42 | Evans, C. H., & Co., Hudson, N. Y.—Ale. | 660 |
| 19 | White, Rufus P., New York, N. Y.—Malt and barley. | 620 | 43 | Gardner, John, & Co., Philadelphia, Pa.—Ale and porter. | 660 |
| 20 | Akin, W. H., & Son, New York, N. Y.—Hops. | 620 | 44 | Smith, Robert, Philadelphia, Pa.—Ale. | 660 |
| 21 | Weilbacher & Loewi, New York, N. Y.—Hops. | 623 | 45 | Clausen, H., & Son, New York, N. Y.—Ale and beer. | 660 |
| 22 | Franke, Louis, New York, N. Y.—Beer. | 620 | 46 | Walker, J., & Co., Cincinnati, O.—Ale and porter. | 660 |
| 23 | Uhlman, Simon, New York, N. Y.—Hops. | 623 | 47 | Baltz, J. & P., Philadelphia, Pa.—Beer. | 660 |
| 24 | Dole Bros., Boston, Mass.—Hops. | 623 | 48 | Blatz, Valentine, Milwaukee, Wis.—Beer. | 660 |
| 25 | Schlesinger Bros., New York, N. Y.—Hops. | 623 | 49 | Reuter & Alley, Boston, Mass.—Ale. | 660 |

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Animal and Vegetable Products, Machines, Implements.

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| <p>50 Walker, J., & Co., Cincinnati, O.—Ale. 660</p> <p>51 Clausen, H., & Co., New York, N. Y.—Beer. 660</p> <p>52 Anheuser, E., & Co.'s Brewing Association, St. Louis, Mo.—Malt liquor. 660</p> <p>53 Pfannenstiel, C., Philadelphia, Pa.—Beer. 660</p> <p>54 Ruppert, Jacob, New York, N. Y.—Beer. 660</p> <p>55 Gukes, C., Philadelphia, Pa.—Ale. 660</p> <p>56 Philip Best Brewing Co., Milwaukee, Wis.—Malt liquor. 660</p> <p>57 Jones, David, New York, N. Y.—Malt. 620</p> <p>58 Barbey, Peter, Reading, Pa.—Beer. 660</p> <p>59 Feigh, Adrian, New York, N. Y.—Beer. 660</p> <p>60 Kane, E., & Co., Brooklyn, N. Y.—Beer. 660</p> <p>61 Rulsann & Horrman, Stapleton, N. Y.—Beer. 660</p> <p>62 Hupfel's, A., Sons, New York, N. Y.—Beer. 660</p> <p>63 Ziegele, Albert, Buffalo, N. Y.—Beer. 660</p> <p>64 Schmitle & Kohne, New York, N. Y.—Beer. 660</p> <p>65 Jos. Schlitz Brewing Co., Milwaukee, Wis.—Beer. 660</p> <p>66 Mayer & Bachman, Staten Island, N. Y.—Beer. 660</p> <p>67 Bechtel, George, Staten Island, N. Y.—Beer. 660</p> <p>68 Grasser & Brand, Toledo, O.—Beer. 660</p> <p>69 Ferris, H., & Son, New York, N. Y.—Ale. 660</p> <p>70 Ehrel, George, New York, N. Y.—Beer. 660</p> <p>71 Ebling, Philip & William, Morrisania, N. Y.—Beer. 660</p> <p>72 Hoffman & Merkel, New York, N. Y.—Beer. 660</p> <p>73 Loewer, Valentine, New York, N. Y.—Beer. 660</p> <p>74 Urig, Joseph, St. Louis, Mo.—Beer. 660</p> <p>75 Lemp, Wm. I., St. Louis, Mo.—Beer. 660</p> <p>76 Elias & Betz, New York, N. Y.—Beer. 660</p> <p>77 Mark, J. & F., Brooklyn, N. Y.—Beer. 660</p> <p>78 Finck, A., & Son, New York, N. Y.—Beer. 660</p> <p>79 Voigt, E. W., Detroit, Mich.—Beer. 660</p> <p>80 Kuechle, Joseph, St. Josephs, Mo.—Beer. 660</p> <p>81 Rose, Miss Sophie, Baltimore, Md.—Beer. 660</p> <p>82 Boeuilein, C., Bro., & Co., Bennett's Station, Pa.—Beer. 660</p> <p>83 Seiger, I., Baltimore, Md.—Beer. 660</p> | <p>84 Schlotterer, S., Philadelphia, Pa.—Beer. 660</p> <p>85 Howard & Fuller, Brooklyn, N. Y.—Ale. 660</p> <p>86 Schwaner & Amend, New York, N. Y.—Beer. 660</p> <p>87 McKechnie, J. & A., Canandaigua, N. Y.—Ale and beer. 660</p> <p>88 Philip Best Brewing Co., Milwaukee, Wis.—Beer. 660</p> <p>89 Miles, Wm. A., & Co., New York, N. Y.—Ale. 660</p> <p>90 Hughes, H. R. & M., Pittston, Pa.—Ale. 660</p> <p>91 Liebmans's, S., Sons, Brooklyn, N. Y.—Beer. 660</p> <p>92 Hollender & Co., New York, N. Y.—Beer. 660</p> <p>93 Lyman, T. C., & Co., New York, N. Y.—Ale. 660</p> <p>94 Hawkins, Chas. P., New York, N. Y.—Ale. 660</p> <p>95 Anheuser, E., Co.'s Brewing Association, St. Louis, Mo.—Beer. 660</p> <p>96 Flanagan & Wallace, New York, N. Y.—Ale. 660</p> <p>97 Besley's Waukegan Brewing Co., Chicago, Ill.—Ale. 660</p> <p>98 Von der Horst, J. H., Baltimore, Md.—Beer. 660</p> <p>99 Beadleston, Price, & Woerz, New York, N. Y.—Ale. 660</p> <p>100 Stein, Conrad, New York, N. Y.—Beer. 660</p> <p>Machines, Implements, and Processes of Manufacture.</p> <p>101 Kampf, Stephen, Albany, N. Y.—Malt-shovels. 670</p> <p>102 Lynde, B. A., Buffalo, N. Y.—Malt-shovels. 670</p> <p>103 Knapp, S. P., New York, N. Y.—Malt shovels. 670</p> <p>104 Beardsley, B. A., Waterville, N. Y.—Hop press. 673</p> <p>105 Ingraham & Beard, Chicago, Ill.—Grain separator and grader. 673</p> <p>106 Keastner, Chas., & Co., Chicago, Ill.—Feed-mills. 674</p> <p>107 Haberman, S., New York, N. Y.—Beer-swimmer. 674</p> <p>108 White's N. Y. Malt House, New York, N. Y.
a Plows, shovels, etc. 670
b Elevator buckets, etc. 674</p> <p>109 White, John G., & Co., Philadelphia, Pa.—Malt-mill. 674</p> <p>110 Roos, Aug., New York, N. Y.—Beer-cooler. 674</p> <p>111 Zoller, A., Hoboken, N. J.—Barrel-washer, valves, and faucets. 674</p> <p>112 Steubing, Henry, New York, N. Y.—Ice-swimmer. 674</p> <p>113 Decker, John, & Son, Philadelphia, Pa.—Ice-swimmers, watering-can, funnels, and yeast-sieve. 674</p> <p>114 Iron C'ad Can Co., New York, N. Y.—Apparatus for preserving ales, beer, etc. 674</p> |
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For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Machinery, Implements, Engineering, Administration.

- 115 Trottman & Ott, Philadelphia, Pa.—Cooler. 674
- 116 Spiess, Fr., New York, N. Y.—Malt-mill. 674
- 117 Schalk, C. W., Reading, Pa.—Malt-mill. 674
- 118 Hupfel, Adolf G., New York, N. Y.—Barrel-rolling machine. 674
- 119 Bergner, Theodore, Philadelphia, Pa.—Cork-driver, valves. 674
- 120 Otto, John M., Brooklyn, N. Y.—Beer-cooler, ice-swimmer, baskets. 674
- 121 Union Hardware Co., New York, N. Y.—Beer-coolers. 674
- 122 Kirby Bung Manufacturing Co., Cincinnati, O.—Bung machine and saw. 674
- 123 Cornell, G. B., Chicago, Ill.—Bung-bushes. 675
- 124 Union Machine Works, New York, N. Y.—Malt-mill. 674
- 125 Haas, Edward, Philadelphia, Pa.—Malt-mill, scourer, and cleaner. 674
- 126 Stoll, Chas., Brooklyn, N. Y.—Scales, malt-mill. 674
- 127 Bremer, J. L., Bro., & Co., New York, N. Y.—Grain-bags. 674
- 128 Littlejohn, L., New York, N. Y.—Bung-bushes and tools. 674
- 129 Spiess, Fr., New York, N. Y.—Pumps, belt-stretcher, shaving-machine. 674
- 130 Storms, James, Buffalo, N. Y.—Elevator buckets. 674
- 131 Gendar, W. F. & T. V., New York, N. Y.—Brewers' instruments. 674
- 132 Schmahl, Martin, New York, N. Y.—Copper-washing apparatus. 674
- 133 Woerle, W., Milwaukee, Wis.—Ice-swimmer. 674
- 134 Murphy, C. J., New York, N. Y.—Testing-still. 674
- 135 Hupfel, J. C. G., New York, N. Y.—Barrel-rinsing machine. 674
- 136 Woerle, Chas., New York, N. Y.—Elevator buckets. 675
- 137 Burkhardt, G. F., & Co., Philadelphia, Pa.—Steep-tub. 675
- 138 Morrison, J., Portsmouth, N. H.—Hoghead. 675
- 139 Burkhardt, G. J., & Co., Philadelphia, Pa.—Vats and tanks. 675
- 140 Link, John, Cincinnati, O.—Barrels and kegs. 675
- 141 Fisher & Hall, Philadelphia, Pa.—Cedar tubs. 675
- 142 Smith, John M., & Son, Philadelphia, Pa.—Steep-tub. 675
- 143 Dieringer, C., Cincinnati, O.—Coopers' work. 675
- 144 Lutz, R. F., Wabash, Ind.—Kegs and staves. 675
- 145 Schwarzwaller & Son, New York, N. Y.—Kegs, barrels, and hogheads. 675
- 146 Luckhaupt Bros., Columbus, O.—Kegs. 675
- 147 Wandelt, Samuel, Brooklyn, N. Y.—Tubs. 675
- 148 Seligsberg, Arnold, New York, N. Y.—Tubs, vats, malt-holders, and chests. 675
- Agricultural Engineering and Administration.**
- 149 White's N. Y. Malt House, New York, N. Y.—Carts. 682
- 150 Saal & Schlich, Philadelphia, Pa.—Beer wagon and machinery. 682
- 151 Wenkenbach, W. L., Philadelphia, Pa.—Beer-wagon. 682
- 152 Kiesler, Joseph, New York, N. Y.—Beer-wagon. 682
- 153 Brunner, August F., New York, N. Y.—Plan of ice-house. 683
- 154 Wisker, Aug., Boston, Mass.—Model of brewery. 683
- 155 Weilbacher, P., New York, N. Y.—Hop-kiln. 683
- 156 Stoll, Charles, Brooklyn, N. Y.—Model of brewery. 683
- 157 Holden, D. L., Philadelphia, Pa.—Drawings of ice and refrigerating machines. 683
- 158 Seligsberg, A., New York, N. Y.—Grain-box. 683
- 159 White's N. Y. Malt House, New York, N. Y.—Kiln flooring and furnace. 683
- 160 Bergner, Theodore, Philadelphia, Pa.—Malt turner and kiln. 683
- 161 Spangenburg, Schroeder, & Co., Milwaukee, Wis.—Wire kiln surface. 683
- 162 Hughes, W. W., & Son., Philadelphia, Pa.—Malt-kiln, etc. 683
- 163 Hampel, Otto, New York, N. Y.—Model malt-kiln. 683
- 164 Lieber, Robert, Boston, Mass.—Model of brewery. 683
- 165 Korn, George W., Philadelphia, Pa.—Refrigerator. Brewers' store. 683
- 166 Shada, O. S., Philadelphia, Pa.—Block of coal. 101
- 167 German Rock Asphalt Co., New York, N. Y.—Cement flooring. 103
- 168 White's New York Malt House elevator, New York, N. Y.—Cement flooring. 103
- 169 Mock, Isidor, Brooklyn, N. Y.—Cement floors. 103
- 170 Meyers, A. G., New York, N. Y.—Compound for lining barrels. 103
- 171 Wehn, G. H., Philadelphia, Pa.—Artificial stone. 103
- 172 Doerchuck, Gustav, Brooklyn, N. Y.—Varnish. 202
- 173 Hatter, Carl, New York, N. Y.—Bottle-stoppers. 215
- 174 Brown & Jones, Waterville, N. Y.—Stove to dry hops. 222
- 175 Asten, William B., & Co., New York, N. Y.—Malt-bags. 225
- 176 Bremer, J. L., Bro. & Co., Philadelphia, Pa.—Seamless bags. 229
- 177 Tuchfarber, F., & Co., Cincinnati, O.—Show-cards. 262
- 178 Simon, A., New York, N. Y.—Weather-vanes. 283

Agricultural Engineering and Administration.

<p>179 Wells, Hope, & Co., Philadelphia, Pa.—Metallic signs. 283</p> <p>180 Trageser, John, New York, N. Y.—Copper work. 284</p> <p>181 Toope, Charles, New York, N. Y.—Grate-bars. 513</p> <p>182 Brown, A. & F., New York, N. Y.—Horizontal engine, shafting, pulleys, etc. 552</p> <p>183 Vogt, Henry, & Bro., Brooklyn, N. Y.—Tubular boiler. 552</p> <p>184 Brown, A. & F., New York, N. Y.—Shafting, pulleys, and hangers. 553</p> <p>185 Albany Lubricating Compound & Cup Co., New York, N. Y.—Oil cups. 555</p> <p>186 Niagara Steam Pump Works, Brooklyn, N. Y.—Pumps. 560</p> <p>187 Schutte & Goehring, Philadelphia, Pa.—Pumps. 560</p> <p>188 George F. Blake Manufacturing Co., New York, N. Y.—Steam pumps. 560</p> <p>189 Zinsser, Wm., & Co., New York, N. Y.—Pumps. 560</p> <p>190 Knowles Steam Pump Works, New York, N. Y.—Pumps. 560</p> <p>191 Cope & Maxwell Manufacturing Co., Cincinnati, O.—Air pumps. 561</p> <p>192 Krakovicz, F. O., Walkertown, Ind.—Ventilator. 562</p>	<p>193 Otis Bros., New York, N. Y.—Elevator. 563</p> <p>194 Bawer, E., Brooklyn, New York.—Racking-off hose. 564</p> <p>195 Maegerlein, Chas., Chicago, Ill.—Hose. 564</p> <p>196 Fairbanks & Ewing, Philadelphia, Pa.—Scales. 571</p> <p>197 Haas, Edward, Philadelphia, Pa.—Scales and hopper, etc. 571</p> <p>198 Buffalo Scale Co., Buffalo, N. Y.—Scales. 571</p> <p>199 Willing & Co., New York, N. Y.—Racking-cock. 587</p> <p>200 Schmitz, Theodore, New York, N. Y.—Britannia measures. 587</p> <p>201 Guth, H., New York, N. Y.—Brewers' instruments. 587</p> <p>202 Tagliabue, Charles J., New York, N. Y.—Brewers' instruments. 587</p> <p>203 Travis, M. W., New York, N. Y.—Weighing and measuring implements. 587</p> <p>204 Fiederlin, F., New York, N. Y.—Mashing-machine. 587</p> <p>205 Schafhaus, John, New York, N. Y.—Mashing-machine. 587</p> <p>206 Schimper & Immen, Newark N. J.—Mashing-machine. 587</p> <p>207 Spittler & Lang, New York, N. Y.—Mashing and shaving machine. 587</p>
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GREAT BRITAIN.

Animal and Vegetable Products, Engineering, Administration.

Animal and Vegetable Products.

1 Pickering, Jonathan, Stockton-on-Tees, England.—Must. 661

Agricultural Engineering and Administration.

2 Lawrence & Co., London, England.—Refrigerators. 63

CANADA.

Animal and Vegetable Products.

Animal and Vegetable Products.

1 Davis, T., & Bro., Toronto, Canada.—Porter and ale. 661

2 Keith & Son, Halifax, N. S.—Ale. 661

GERMANY.

(West of Nave, Columns 1 to 4.)

Agricultural Products.

Agricultural Products.

1 Schlemmer, August von, Hochheim, Germany.—Malt. 623

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

No. 168. THE HOUSE APIARY.

Size, 10 feet by 16 feet.

J. S. COE, Montclair, N. J.

Exhibits thirty-two colonies of Italian, Corinthian, and Cyprian bees at work making honey. Situated east of the Pomological Building.

No. 169. GUANO BUILDING.

Situated east of the Women's Pavilion, and north of Fountain Avenue. Is used for the exhibition of fertilizers.

No. 171. WINDMILLS.

1 Eclipse Windmill Co., Beloit, Wis.

—Three windmills for pumping water, grinding, etc.

2 U. S. Wind Engine & Pump Co., Batavia, Ill.—Two windmills.

3 Stover Wind Engine Co., Greencastle, Pa.—One windmill.

4 Hartford Pump Co., Hartford, Conn.—One windmill for raising water by compressed air.

No. 172. HEADQUARTERS OF THE "PRACTICAL FARMER."

(Newspaper.)

Size, 10 feet by 16 feet.

J. R. GARRETSON, Proprietor, Rochester, N. Y.

Situated east of the Pomological Building. Office of the paper.

No. 173. HAY PRESS.

Architect, W. P. ROCKAFELLOW, Albany, N. Y.—Size, 48 feet front; wings, 12 by 20 and 12 by 24.

P. K. DEDRICK & Co., Albany, N. Y.

Exhibits the perpetual baling press.

No. 176. BOILER HOUSE.

Size, 40 feet by 100 feet.

Situated directly east of Agricultural Hall, contains two Mast sectional boilers, manufactured at Springfield, Ohio, 100 horse-power each, which furnish steam to the machines in Agricultural Hall.

STATED DISPLAYS.

The Stated Displays in the Agricultural Department of the International Exhibition are as follows :

AGRICULTURAL PRODUCTS.

Pomological Products and Vegetables	May 16th to 24th.
Strawberries	June 7th to 15th.
Early Grass Butter and Cheese	June 26th to July 6th
Early Summer Vegetables	June 20th to 24th.
Honey	June 20th to 24th.
Raspberries and Blackberries	July 2d to 8th.
Southern Pomological Products	July 18th to 22d.
Melons	August 22d to 26th.
Peaches	September 4th to 9th.
Northern Pomological Products	September 11th to 16th.
Autumn Vegetables	September 19th to 23d.
Cereals	September 25th to 30th.
Potatoes and Feeding Roots	October 2d to 7th.
Grapes	October 10th to 14th.
Autumn Butter and Cheese	October 17th to 21st.
Nuts	October 23d to November 1st.
Autumn Honey and Wax	October 23d to November 1st.

FIELD EXHIBITIONS.

Mowing Machines, Tedders, and Hay Rakes	June 26th to 30th.
Reaping Machines	July 5th to 10th
Fly-Casting Tournament	August 15th.

LIVE STOCK.

Horses	September 1st to 14th.
Dogs	September 1st to 8th.
Neat Cattle	September 21st to October 4th.
Sheep	October 10th to 18th.
Swine	October 10th to 18th.
Poultry	October 27th to November 6th

EXHIBITIONS OF LIVE STOCK.

1. The live stock display at the International Exhibition will be held within the months of September, October, and November, 1876; the periods devoted to each family being as follows: Horses, mules, and asses, from September 1st to 14th. Dogs from September 1st to 8th. Horned cattle, from September 21st to October 4th. Sheep, swine, and goats, from October 10th to 18th. Poultry will be exhibited from October 27th to November 6th.

2. Animals to be eligible for admission to the International Exhibition must be, with the exception of trotting stock, walking horses, matched teams, fat and draught cattle, of such pedigree that the exhibitor can furnish satisfactory evidence to the Chief of Bureau, that as applied to thorough-bred horses, as far back as the fifth generation of ancestors on both sides, they are of pure blood and of the same identical breed. As to short-horned cattle, they are registered in either Allen's, Alexander's, or the English herd-books. As to Hottes, Herefords, Ayrshires, Devons, Guernseys, Brittanys, Kerrys, and other pure breeds, they are either imported or descended from imported animals on both sides. As to Jerseys, they are entered in the Herd Register of the American Jersey Cattle Club, or in that of the Royal Agricultural Society of Jersey. As to sheep or swine they are imported or descended from imported animals, and that the home-bred shall be of pure blood as far back as the fifth generation.

3. The term breed, as used, is intended to comprehend all family divisions, where the distinction in form and character dates back through years of separation; for instance, it is held that the progeny of a pure-blood Jersey and a pure-blood Guernsey is not a thorough-bred but a cross-bred animal, and, as such, is necessarily excluded.

4. In awarding prizes to animals of pure blood, the judges will take into consideration chiefly the relative merits as to the power of the transmission of their valuable qualities; a cardinal object of the Exhibition being to promote improvement in breeding stock.

5. In case of doubt relative to the age of an animal, satisfactory proof must be furnished or the animal will be subject to examination by a veterinary surgeon; and should the state of dentition indicate that the age has not been correctly stated, the person so entering as an exhibitor will be prohibited from exhibiting in any class.

6. The forms of classification for awards, as given under each head, are intended (except in the case of trotting stock, walking horses, matched teams, fat and draught cattle) to apply to the animals of any pure breed that are entered for competition.

7. The Exhibition being open to the world, it is of the first importance that the best of their kind only be brought forward, as the character of the stock will be judged by the general average of those exhibited.

8. Exhibitors will be expected to furnish their own attendants, on whom all responsibility of the care of feeding, watering, and cleaning the animals, and also of cleaning the stalls, will rest.

9. Forage and grain will be furnished at cost prices, at depots conveniently located within the grounds. Water can be had at all hours, ample facilities being provided for its conveyance and distribution throughout the stock yards.

10. Exhibitors must supply all harness, saddlery, vehicles, and other appointments, and all such must be kept in their appointed places.

11. The Commission will erect ample accommodation for the exhibition and protection of live stock, yet contributors who may desire to make special arrangements for the display of their stock, will be afforded facilities at their own cost. Fractious animals, whether stallions, mares with foals, or bulls, will be provided with stalls of suitable character.

12. All stalls will be regularly and distinctly numbered; corresponding numbers on labels of uniform character will be given to each exhibitor, and no animal will be allowed to pass from its stall without its proper number attached.

13. Numbers alone will distinguish stock in the show yards, preceding the awards of prizes.

14. The judges of live stock will make examination of all animals on the opening day of each serial show, and will for that day have exclusive entrance to the show yard.

15. No premium will be awarded an inferior animal, though there be no competition.

16. All animals will be under the supervision of a veterinary surgeon, who will examine them before admission, to guard against infection, and who will also make a daily inspection and report. In case of sickness the animal will be removed to a suitable inclosure especially prepared for its comfort and medical treatment.

17. When animals are taken sick, the exhibitors may either direct the treatment themselves, or allow the veterinary surgeon appointed by the Commission to treat the case. In this latter event the exhibitor will be charged for all expenses incurred. All possible care will be taken of animals exhibited, but the Commission cannot be held responsible for any injury or accident.

18. A ring will be provided for the display and exercise of horses and cattle.

19. On the last day of each serial show, a public auction may be held of such animals as the exhibitors may desire to sell. Animals may be sold at private sale at any time during their exhibition. During the period of a serial show, no animal, even in the event of being sold, will be allowed to be definitely removed.

20. An official catalogue of the animals exhibited will be published.

21. Exhibitors of thoroughbred animals must, at the time of making their entries, file with the Chief of the Bureau a statement as to their pedigree, affirmed or sworn to before an officer authorized to take affidavits, and the papers so filed shall be furnished to the Jury of Experts.

22. The ages of live stock must be calculated up to the opening day of the exhibition of the class to which they belong.

23. Sheep breeders, desiring to exhibit wool, the produce of the flocks, will display not less than five fleeces.

24. All animals must be entered according to the prescribed rules as given in forms of entry, which forms will be furnished on application to the Chief of the Bureau of Agriculture.

BREEDING HORSES.

Mares entered as breeding animals must have had foals within one year of the show, or if in foal, certificates must be furnished to that effect.

All foals exhibited must be the offspring of the mare with which they are at foot.

Awards will be made to respective breeds for pure bred turf stallions, six years and over; pure bred turf stallions, over four years and under six years; pure bred turf stallions, over two years and under four years; pure bred turf mares, six years and over; pure bred turf mares, over two and under six years.

Awards will be made for trotting stallions, six years and over; trotting stallions, over four years and under six; trotting stallions, over two years and under four; pure bred draught stallions, six years and over; pure bred draught stallions, over four years and under six years; pure bred draught stallions, over two years and under four years; pure bred draught mares, six years and over; pure bred draught mares, over two and under six years; trotting brood mares, six years and over; trotting fillies, over four years, and under six; trotting fillies, over two years and under four.

RUNNING AND TROTTING HORSES

Shall be judged according to their record up to August 15th, 1876, due regard being had to present condition.

Awards will be made for running horses having made fastest record; trotting stallions having trotted a mile within two-thirty; mares and geldings having trotted a mile within twenty-five.

WALKING HORSES.

Fast-walking horses, whether bred for agricultural purposes or the saddle, will compete in the ring for awards.

MATCHED TEAMS.

Awards will be made for matched teams having trotted a mile in two-thirty-five; matched stallions for heavy draught, over sixteen hands high, and over fifteen hundred pounds weight each; matched geldings for heavy draught, over sixteen hands high, and over fifteen hundred pounds weight each; matched mares for heavy draught, over fifteen hands high, and over fourteen hundred pounds weight each, matched mules for heavy draught, over fifteen and a half hands high, and over thirteen hundred pounds weight each.

BREEDING ASSES.

Awards will be made to respective breeds of pure bred jacks over six years; pure bred jacks over three years and under six; pure bred she-asses over six years; pure bred she-asses over three years and under six.

NEAT CATTLE.

No cow will be eligible for entry unless accompanied with a certificate that, within fifteen months preceding the show, she had a living calf, or that the calf, if born dead, was born at its proper time. No heifer entered as in calf will be eligible for a prize unless accompanied with a certificate that she had been bulled before the first of April, or presents unmistakable proof of the fact to the judges. No bull above one year old can be entered unless he have a ring in nose, and the attendant be provided with a leading stick, which must be used whenever the animal is taken out of stall.

Awards will be made for the best head of each respective breed, consisting as follows: one bull, four cows, none under fifteen months.

Neat cattle, of each respective breed, will compete individually for awards: bulls, three years and over; bulls over two years and under three years; bulls over one year and under two years; cows four years and over; cows over three and under four years; cows or heifers in calf, over two years and under three years; yearling heifers. A sweepstake award will be made for the best bull of any breed. A sweepstake award will be made for the best cow of any breed.

FAT AND DRAUGHT CATTLE.

Animals entered as fat and draught cattle need not be of pure blood, but will compete on individual merits. Fat cattle must be weighed, and in general those will be judged best which have the greatest weight with the least surface and offal.

Awards will be made for best fattest steer of any age and breed; best fattest cow of any age or breed; most powerful yoke of oxen; most rapidly walking yoke of oxen; most thoroughly trained yoke of oxen; most thoroughly trained team of three or more yokes of oxen.

BREEDING SHEEP.

All sheep offered for exhibition must be accompanied with certificate to the effect that they have been shorn since the first of April, and the date given. If not fairly shorn, or if clipped so as to conceal defects, or with a view to improve the form or appearance, they will be excluded from competition.

Awards will be made to respective breeds for the best pen of five animals of same flock and including one ram, the ewes all having had living lambs the past spring.

Awards will be made to respective breeds for rams two years and over; shearing rams.

A sweepstake award will be made for the best ram, respectively of long, middle, and fine woolled breeds.

Awards will be made to respective breeds for ewes in pens of three, all having had living lambs; shearlings in pens of three.

A sweepstake award will be made for the best pen of three breeding ewes, respectively of long, middle, and fine woolled breeds.

FAT SHEEP.

Fat sheep entered for competition must be weighed, and in general those will be judged best which have the greatest weight, with the least surface and offal.

Awards will be made for pen of three best fattest sheep of each breed; pen of three best fattest sheep of any breed.

BREEDING SWINE.

Every competing sow above one year old must have had a litter, or be in pig, and the owner must bring proof of these facts if required. If a litter of pigs be sent with a sow, the young pigs must be sucklings, the offspring of the sow, and must not exceed the age of three months.

Awards will be made to respective breeds for the best pen of one boar and two breeding sows; for pen of sow and litter.

Awards will be made to respective breeds for boars two years old and over; boars one year old and under two years; boars between nine months and one year; breeding sows two years old and over; breeding sows one year old and under two years; pen of three sow pigs between nine months and one year.

A sweepstake award will be made for the best boar of any breed. A sweepstake award will be made for the best sow of any breed.

FAT SWINE.

Fat swine entered for competition must be weighed, and, in general, those will be judged best which have the greatest weight, with the least surface and offal.

Awards will be made for pairs of best fatted hogs of each breed; pairs of best fatted hogs of any breed.

DOGS.

Benches will be furnished free of charge. Exhibitors may themselves assume the cost of attendance upon their animals, but to provide for them who cannot conveniently attend the Exhibition, the Commission will assume the expenses of feeding and daily care, upon the payment of an attendance charge of three dollars upon each animal.

Awards will be made to respective breeds for dogs of two years and over; dogs of one year and under two; pups.

A sweepstake award will be made for the best foreign-bred dog of any breed. A sweepstake award will be made for the best home-bred dog of any breed.

Awards will be made to respective breeds for bitches of two years and over; bitches of one year and under two; bitch pups.

A sweepstake award will be made for the best foreign-bred bitch of any breed. A sweepstake award will be made for the best home-bred bitch of any breed.

POULTRY.

Poultry can only be exhibited in coops made after specifications furnished by the Bureau of Agriculture. The Commission will furnish coops and attendance upon payment of one dollar on each bird of the gallinaceous division, and two dollars on each pair of the aquatic division.

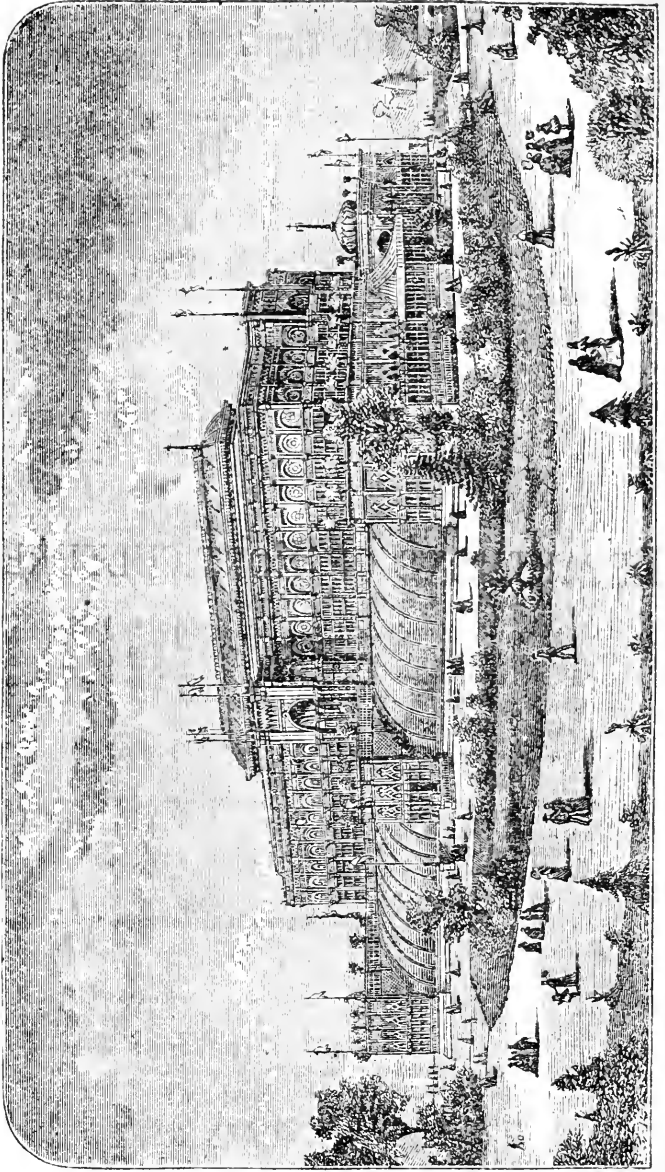
Awards will be made to respective breeds for pairs of one year and over, of chickens, turkeys, ducks, geese, swans, pigeons, guineas, and ornamental birds; for pairs under one year.

FISH.

Living fishes will be displayed in both fresh and salt water aquaria.

Awards will be made for largest display of fish of each species; largest display of fish of all species.

DEPARTMENT OF HORTICULTURE.



HORTICULTURAL HALL.

No. 151. HORTICULTURAL HALL.

Size 383 by 193 feet.

Architect, H. J. SCHWARZMAN.

Contractor, JOHN RICE, Philadelphia.

Wrought iron furnished by KEYSTONE BRIDGE COMPANY, Pittsburgh, Pa.

Cast iron furnished by SAMUEL J. CRESSWELL, Philadelphia.

Painting by JOSEPH CHAPMAN, Philadelphia.

Masonry by MOORE & SCATTERGOOD, Philadelphia.

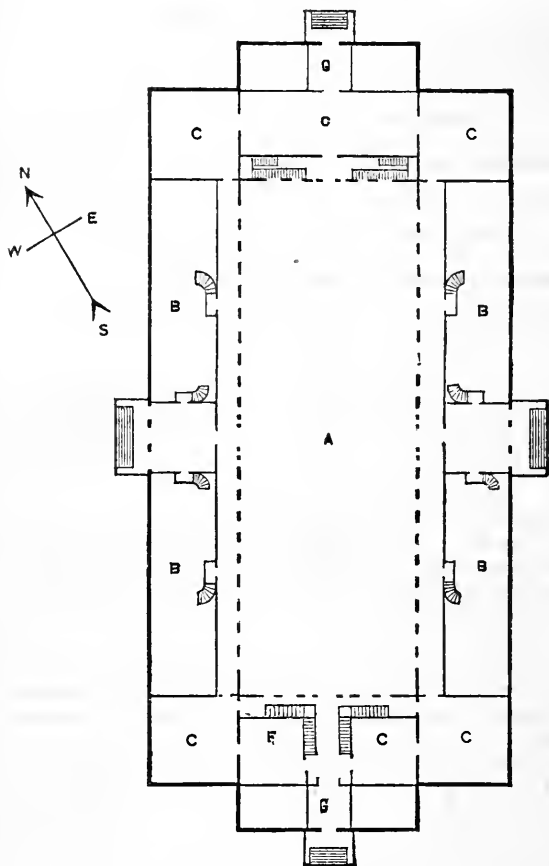
APPROPRIATIONS of the City of Philadelphia have provided the Horticultural Building, which is to remain in permanence as an ornament of Fairmount Park. It is on the Lansdowne Terrace, a short distance north of the Main Building and Art Gallery, and has a commanding view of the Schuylkill river and the northwestern portion of the city. The design is in the Moorish style of architecture of the twelfth century, the principal materials externally being iron and glass. The main floor is occupied by the central conservatory, 230 by 80 feet, and 55 feet high, surmounted by a lantern 170 feet long, 20 feet wide, and 14 feet high. Running entirely around this conservatory, at a height of 20 feet from the floor, is a gallery 5 feet wide. On the north and south sides of this principal room are four forcing houses for the propagation of young plants, each of them 100 by 30 feet, covered with curved roofs of iron and glass. Dividing the two forcing houses in each of these sides is a vestibule 30 feet square. At the centre of the east and west ends are similar vestibules, on either side of which are the restaurants, reception room, offices, etc. From the vestibules ornamental stairways lead to the internal galleries of the conservatory, as well as to the four external galleries, each 100 feet long and 10 feet wide, which surmount the roofs of the forcing houses. These external galleries are connected with a grand promenade, formed by the roofs of the rooms on the ground floor, which has a superficial area of 1800 square yards.

The east and west entrances are approached by flights of blue marble steps from terraces 80 by 20 feet, in the centre of each of which stands an open kiosque 20 feet in diameter. The angles of the main conservatory are adorned with eight ornamental fountains. In the basement, which is of fireproof construction, are the kitchen, storerooms, coal-houses, ash-pits, heating arrangements, etc.

The ground was graded and the foundations of Horticultural Hall laid on May 1st, 1875. The building was finished April 1st, 1876. It covers an area for exhibition purposes of 122,500 square feet, and cost about \$300,000. This building will be permanent.

HORTICULTURAL HALL.

Scale, 80 ft. to 1 in.



A Floral Hall. B Greenhouse. C Exhibits. F Offices. G Porch.

Total Length, 350 ft. Width, 160 ft. Height, 65 ft.

CLASSIFICATION.

DEPARTMENT VII.—HORTICULTURE.

ORNAMENTAL TREES, SHRUBS, AND FLOWERS.

- CLASS 700.—Ornamental trees and shrubs, evergreens.
CLASS 701.—Herbaceous perennial plants.
CLASS 702.—Bulbous and tuberous rooted plants.
CLASS 703.—Decorative and ornamental foliage plants.
CLASS 704.—Annuals and other soft-wooded plants, to be exhibited in successive periods during the season.
CLASS 705.—Roses.
CLASS 706.—Cactacea.
CLASS 707.—Ferns, their management in the open air and in ferneries, wardian cases, etc.
CLASS 708.—New plants, with statement of their origin.
CLASS 709.—Floral designs, etc.—Cut flowers, bouquets, preserved flowers, leaves, seaweeds. Illustrations of plants and flowers.—Materials for floral designs. Bouquet materials, bouquet holders, bouquet papers, models of fruits, vegetables, and flowers.

MOTHOUSES, CONSERVATORIES, GRAPERIES, AND THEIR MANAGEMENT.

- CLASS 710.—Hothouse and conservatory plants.
CLASS 711.—Fruit trees under glass.
CLASS 712.—Orchids and parasitic plants.
CLASS 713.—Forcing and propagation of plants.
CLASS 714.—Aquatic plants under glass, or in aquaria, etc.
CLASS 715.—Horticultural buildings, propagating houses, hotbeds, etc., and modes of heating them. Structures for propagating and forcing small fruits.
CLASS 716.—Portable or movable orchard houses and graperies, without artificial heat. Frames, beds.

GARDEN TOOLS, ACCESSORIES OF GARDENING.

- CLASS 720.—Tools and implements.—Machines for the transplanting of trees, shrubs, etc. Portable forcing pumps, for watering plants in greenhouses and methods of watering the garden and lawn.
CLASS 721.—Receptacles for plants.—Flower pots, plant-boxes, tubs, fern cases, jardinières, etc. Window gardening. Plant and flower stands, ornate designs in iron, wood, and wire.
CLASS 722.—Ornamental wirework, viz.: fences, gates, trellis bordering of flower beds, porches. Park seats, chairs, garden statuary, vases, fountains, etc. Designations, labels, numbers.

GARDEN DESIGNING, CONSTRUCTION, AND MANAGEMENT.

- CLASS 730.—Laying out gardens.—Designs for the laying out of gardens, and the improvement of private residences. Designs for commercial gardens, nurseries, graperies. Designs for the parterre. Books on gardening.
CLASS 731.—Treatment of water for ornamental purposes, cascades, fountains, reservoirs, lakes.
CLASS 732.—Formation and after-treatment of lawns.
CLASS 733.—Garden construction, buildings, etc.—Rockwork, grottoes. Rustic constructions and adornments for private gardens and public grounds.
CLASS 734.—Planting, fertilizing, and cultivating.

UNITED STATES

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UNITED STATES.

Trees, Shrubs, Flowers, Hot-House Plants.

Ornamental Trees, Shrubs, Flowers, and Floral Designs.

- 1 Wharton, Joseph, Philadelphia, Pa.—Eucalyptus globulus. 700
- 1^a Bingham, Rodolphus, Camden, N. J.—Nelumbium luteum; sarracenia purpurea, drosera. 700
- 1^b Bliss, G. K., & Sons, New York, N. Y.—Gladiolus, brechenleyeasis. 702
- 2 Lovering, Joseph S., Philadelphia, Pa.—Decorative foliage, plants, etc. 703
- 3 Graham, Hugh, Philadelphia, Pa. *a* Decorative and ornamental foliage plants, palms, etc. 703
b Begonias, soft-wooded plants, etc. 704
c Ferns, in collection. 707
d Floral designs and cut flowers. 709
- 4 Pennock Brothers, Philadelphia, Pa. *a* Foliage plants. 703
b Cut-flower designs. 709
- 4^a Boyle, W. F., Philadelphia, Pa.—Decorative and ornamental foliage plants. 703
- 4^b Compondu, Louis F., New Brighton, N. Y.—Variety of colens. 703
- 4^c Eagle, Louis J., Philadelphia, Pa.—Decorative and ornamental foliage plants. 703
- 4^d Robertson, Thomas, Philadelphia, Pa.—Decorative and ornamental foliage plants. 703
- 5 The Misses Richardson, Philadelphia, Pa.—Cactus. 706
- 6 Fitzgerald, R., Philadelphia, Pa.—Cactus. 706
- 7 Miller & Sievers, San Francisco, Cal. *a* Collection of Pacific coast cactus. 706
b Collection of ferns. 707
- 8 Such, George, South Amboy, N. J. *a* Decorative and ornamental foliage plants. 703
b Cactus, in collection. 706
c New plants. 708
- 9 Moon, Mahlon, & Son, Morrisville, Pa.—Collection of ferns. 707
- 10 Dick, John, Philadelphia, Pa. *a* Cactus. 706
b Ferns. 707
- 11 Miller & Hayes, Philadelphia, Pa.—Tree ferns from Australia. 707
- 12 Parsons, S. B., & Sons, Flushing, N. Y. *a* Varieties of ferns. 707
b Skeleton plants. 709
- 13 Sturtevant, Edmund D., Bordentown, N. J.—Ferns. 707
- 14 Saunders, William, Washington, D. C.—New and rare plants. 708
- 14^a Roehrs, I., New York, N. Y.—Begonia troëblie; entirely new begonia. 708
- 15 Freeman, J. R., Georgetown, D. C.—Seedling begonia (large leaved species). 708
- 16 Dreer, Henry A., Philadelphia, Pa. *a* Ferns in ferneries and in wardian cases. 707
b Floral designs. 709
- 17 Henderson, Peter, New York, N. Y.—Wire designs for cut flowers, bouquet papers, and materials. 709
- 18 Marot, Charles H., Philadelphia, Pa.—“The Gardener’s Monthly.” 709
- 19 Parisian Flower Co., New York, N. Y.—Artificial tropical leaf-plants and bouquets. 709
- 20 Kresken, H. Acosta, Cincinnati, Ohio.—Preserved flowers, leaves, grasses, bouquets, baskets, crowns, etc. 709
- 20^a Rice, D., & Co., Philadelphia, Pa.—Michaux and Nuttall’s North American Sylva. 709
- 20^b Huss, J. & Francois, Flushing, N. Y.—Japanese and American skeleton ferns. 709
- 20^c Bayersdorfer, M. M., & Co., Philadelphia, Pa.—Bouquet fixtures formed in shape of a tree. 709
- 20^d Kift, Joseph, & Son, Philadelphia, Pa.—Floral designs, cut flowers, bouquets, etc. 709
- 20^e Peple, A., Brooklyn, N. Y.—Fancy grasses, baskets, etc. 709
- 20^f Ringwalt, G. P. B., Philadelphia, Pa.—Autumnal leaves. 709
- 20^g Smith, Stephen W., Philadelphia, Pa.—Preserved natural flowers. 709
- 20^h Iles, F., Philadelphia, Pa.—Wire floral designs. 709
- 21 Cook, Mrs. O. A., San Francisco, Cal.—Preserved natural flowers. 709
- 22 Rolker, August, & Sons, New York, N. Y.—Preserved flowers and grasses, bouquet papers, tin foil, wire, frames, etc. 709
- 23 Leopold, Emil L., New York, N. Y.—Fancy flower baskets, in straw, different shapes and styles. 709
- 24 Le Mout, Adolphe, New York, N. Y.—Preserved flowers, representation of a lake with natural water lilies. 709
- 25 Jansen, Edward, 104 West 18th street, New York, N. Y.—Fancy flower baskets, imitation coral, white gilt, straw, brown willow, and fancy wire. 709
Fine novelties will be out for the coming fall season. Sample cards and price lists sent on application.
- 26 Rue, Miss Lizzie, Philadelphia, Pa.—Models of fruits and flowers. 709
- 27 Williamson, A. & H. A., 438 N. 8th St., Philadelphia, Pa.—Wax models of fruits, vegetables, flowers, ferns, autumn and foliage leaves. 709
Instructions given and orders executed. 32 premiums awarded.
- 28 Moffatt, Isaac, Philadelphia, Pa.—Models of named American fruits, facsimile of choice specimens. 709

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Hot-House Plants and Appliances, Gardening Implements.

- 29 Brossé, Madame S. C., San Francisco, Cal.—Collection of California sea mosses. 709
- 30 Long Brothers, Buffalo, N. Y.—Floral designs, comprising monograms, initials, etc. 709
- 31 Klag, Philip, New York, N. Y.—Preserved natural flowers. 709
- 31^a Hazlehurst & Young, Philadelphia, Pa.—Cut flowers. (*Special concession to sell in the Exhibition grounds.*) 709
- Hot-Houses, Conservatories, Graperies, and their Management.**
- 32 Saunders, William, Washington, D. C.—Collection of American economic plants. 710
- 33 Graham, Hugh, Philadelphia, Pa.—Hot-house and conservatory plants, crottons, etc. 710
- 34 Lovering, Joseph S., Philadelphia, Pa.—Hot-house and conservatory plants. 710
- 35 Price, Stephen S., Philadelphia, Pa.—Hot-house and conservatory plants. 710
- 36 Committee of the Congressional Library of the United States (Botanic Garden), Washington, D. C.—Official, medicinal, tropical, and semi-tropical plants. 710
- 37 United States Agricultural Department, Washington, D. C.—Official and medicinal plants, mahogany, cocoa, chocolate, guava, papaw, rose apple, etc. 710
- 38 Baldwin, Mrs. M. W., Philadelphia, Pa.—Hot-house and conservatory plants. 710
- 39 Zoological Society, Philadelphia, Pa.—Australian tree fern. 710
- 40 Bines, Samuel M., Philadelphia, Pa.—India rubber tree. 710
- 41 Merryweather, Ann E., Camden, N. J.—Aloe. 710
- 42 Sellers, John, jr., Philadelphia, Pa.—Hot-house and conservatory plants. 710
- 43 Cummings, William, Philadelphia, Pa.—Orange tree, banana, ivy, and date palm. 710
- 44 Faust, William F., Philadelphia, Pa.—Philodendron pertusum and water lily. 710
- 45 Mackenzie, Thos. J., Philadelphia, Pa.—Hot-house and conservatory plants, plants of commerce. 710
- 46 Johnson, Joseph, Philadelphia, Pa.—Wax plant. 710
- 47 Cuthbert, Allen, Philadelphia, Pa.—Orange tree. 710
- 48 Carpenter, Mrs. George W., Philadelphia, Pa.—Collection of conservatory plants. 710
- 50 Abbott, Charles F., Philadelphia, Pa.—Century plants (green and striped), sago palm. 710
- 52 Agnew, Hannah M., Philadelphia, Pa.—Banana. 710
- 53 Morris, Galloway C., Philadelphia, Pa.—Hot-house and conservatory plants. 710
- 54 Hoffner, Jacob, Cincinnati, Ohio.—Sago palm over 100 years old, belonged to Robert Morris in 1776. 710
- 55 Stokton, John A., Philadelphia, Pa.—Fig tree. 710
- 56 Weightman, William, Philadelphia, Pa.—Hot-house and conservatory plants. 710
- 57 Hance, A., & Sons, Red Bank, N. J.—*Cycas revoluta*. 710
- 58 Schaffer, William L., Philadelphia, Pa.—Sago palms. 710
- 59 Cope, Alfred, Philadelphia, Pa.—Century plants. 710
- 60 Such, George, South Amboy, N. J.
^a Ferns, hot-house, and conservatory plants. 710
^b Orchids, etc. 712
- 61 Clark, E. W., Philadelphia, Pa.—Century plants. 710
- 63 Moon, Mahlon, & Son, Morrisville, Pa.—Variegated pineapple. 710
- 63^a Sturtevant, Edmund D., Bordentown, N. J.—Orchids and parasitical plants. 712
- 64 Wilson, John G., New York, N. Y.—Portable green-house boiler, hot water pipe with vapor pan attached. 715
- 64^a Myers, Thomas J., & Son, Philadelphia, Pa.—Green-house boiler for heating conservatories. 715
- 64^b Dick, John, Philadelphia, Pa.—Boiler for heating green-houses, conservatories, etc. 715
- 64^c Warner, James, Philadelphia, Pa.—Boiler for heating green-houses, etc. 715
- 65 Jordan Horticultural Co., St. Louis, Mo.—Heating apparatus for green-houses. 715
- 65^a Hitchings & Co., New York, N. Y.—Corrugated fire-box, boilers, and base-burning water-heater for warming green-houses, conservatories, etc. 715
- 66 Smith & Lynch, Boston, Mass.—Portable boilers for heating green-houses. 715
- 67 Ellis, Charles R., New York, N. Y.—Base-burning boilers for heating green-houses, graperies, etc. 715
- Garden Tools, Accessories of Gardening.**
- 68 Allen, R. H., & Co., New York, N. Y.—Comstock sower and attachments. 720
- 69 Jones, John M., Palmyra, N. Y.—Horticultural and floricultural implements of various styles and modifications. 1st. Revolving-staff implements for pruning, transplanting, weeding, and cultivating. 2d. Implements to be used with one hand, for weeding, transplanting, and cultivating, and in one of its forms is very convenient and attractive for ladies' use. 720
- 69^a Bliss, B. K., & Sons, New York, N. Y.—Hand seed-sower, fertilizer dropper. 720
- 69^b Jenks, George E., Concord, N. H.—Portable sprinkler and fountain for irrigating and ornamenting lawns, etc. 720
- 69^c Farra, L. D., Philadelphia, Pa.—Lawn sprinkler. 720
- 70 Wheeler, W. F., Boston, Mass.—Hose liquid distributor, watering pot, insect annihilator, for garden and field, liquid manure distributor. 720

Garden Ornaments, Accessories, and Designs.

- 71 Moon, Mahlon, & Son, Morrisville, Pa.
a Wheel hoc. 720
b Vase. 721
c Lead label. 722
- 72 Dreer, Henry A., Philadelphia, Pa.
a Tools and implements. 720
b Receptacles for plants, fern cases, etc. 721
- 73 Bingham, O. A., Keene, N. H.—Revolving flower stand. 721
- 74 Hews, A. H., & Co., North Cambridge, Mass.—Flower pots, hanging pots, ferneries, garden vases, etc. 721
- 75 Pierce, Mrs. M. R., New York, N. Y.—Window attachments and other improved flower stands with water receptacle, sprinkling pan, and draining saucer. 721
- 76 Chase, James, Rochester, N. Y.—Combined aquarium, plant stand, bird cage, and fernery. 721
- 77 McClunie, Thomas, Hartford, Conn.—Drainer and evaporator with globe attachments for pots, vases and hanging baskets. 721
- 78 Rolker, August, & Sons, New York, N. Y.—Flower pots, boxes, fern cases, flower stands, etc. 721
- 79 Hills, George, Plainville, Conn.—Revolving flower stand with fountain attachment. For hydrants, self-sprinkling, surplus water caught by drip-pan. 721
- 80 Perine, M., & Sons, Baltimore, Md.—Flower pots, stone and fancy earthenware. 721
- 81 Pennock Brothers, Philadelphia, Pa.—Wardian cases, ferneries with shades 721
- 82 Hess, John M., & Sons, Philadelphia, Pa.—Chandelier designs with baskets, hanging baskets, hanging ferneries, vases, etc. 721
- 83 Freeman & Smith, Racine, Wis.
a Aquaria, ferneries, fountains, vases, etc. 721
b Plant stands, flower-pot brackets, window boxes and shelves, tree-tub castors, etc. 722
 Illustrated catalogues free. Goods packed flat for shipment.
- 84 Racine Hardware Co., Racine, Wis.
a Plant and flower stands, ferneries, aquariums, etc. 721
b Fountains, vases, settees, etc. 722
- 85 Galloway & Graff, Philadelphia, Pa.
a Parlor vases, window boxes, pots, fern cases, baskets, etc. 721
b Terra-cotta statuary, vases, tazzas, pedestals. 722
- 86 Page, W. H., & Co., Greenville, Conn.
a Plant stands. 721
b Trellises. 722
- 87 Chase, Benj., jr., Derry, N. H.—Round-tapering flower stakes. 722

- 88 Balderston, George, Coloma, Md.—Sectional vases. 722
- 89 Henderson, Peter, Jersey City, N. J.—Pot, plant, garden, and veranda trellises. 722
- 90 Harvey & Adamson, Philadelphia, Pa.—Oriental and Japanese garden vases, statuary, etc. 722
- 91 The Floral Works, 58 Cortlandt st., New York, N. Y., E. A. Reeves, Treasurer.—Crystal self-acting fountains, and self-acting fountain-attachments for aquaria and bird-cages, very simple and reasonable in price. 722
- 92 Mott, J. L., Iron Works, New York, N. Y.—Garden statuary, vases, etc. 722
- 93 Sanguinetti, Percy A., Philadelphia, Pa.—Glass-covered metallic labels, tree-protecting boxes. 722
- 94 Mayer, Charles, Baltimore, Md.—Self-acting water fountain. 722
- 95 Ebert, John, Philadelphia, Pa.—Parlor self-driving fountain. 722
- 95*a* Iles, F., Philadelphia, Pa.—Wire baskets, flower stands, etc. 722
- 96 Mueller, Quackenboss & Co., Philadelphia, Pa.—Vases in artificial stone designs. 722
- 97 Brown, J. Morton, Philadelphia, Pa.—Grape-vine trellises. 722
- 98 Moorhead Clay Works, Philadelphia, Pa.—Terra-cotta vases. 722

Garden Designing, Construction, and Management.

- 99 Miller & Hayes, Philadelphia, Pa.—Designs for laying out gardens and improving country residences. 730
- 101 Weidenmann, Jacob, New York, N. Y.—Set of plans for beautifying and improving country homes; survey, drainage, planting, and general maps. 730
- 102 Heissinger, F. X., New York, N. Y.—Designs for landscape gardening. 730
- 103 McClunie, Thomas, Hartford, Ct.
a Designs for laying out gardens, and the improvement of public grounds. 730
b Essay on formation and after-treatment of lawns. 732
c Metallic lawn gutters, curb, and drain. 733
- 103*a* Bliss, B. K., & Sons, New York, N. Y.—Globe sun-dial, adapted to any latitude. 320
- 103*b* Shove, Geo. A., Dighton, Mass.—Designs for a sanatorium. 342
- 103*c* Phoenix Stone Manufacturing Co., Philadelphia, Pa.—Artificial stone. 715
- 103*d* Rion, James H., Winsboro', S. C.—Section of cork-oak raised from an acorn. 600

OUT-DOOR EXHIBITS.

Ornamental Trees, Shrubs, and Flowers.

- 1 Bingham, Rudolphus, Camden, N. J.—Water lilies. 702
- 1*a* Salt, James, Philadelphia, Pa.—Fig tree. 700

- 1*b* Bliss, B. K., & Sons, New York, N. Y.—*Gladiolus brencchiliensis*. 702
- 2 Mackenzie, Thomas J., Philadelphia, Pa.—Decorative foliage plants. 703
- 2*a* Wilson, Charles H., Lower Merion, Pa.—Collection of geraniums. 703

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

Garden Ornaments, Designs, Tools, Ornamental Plants.

- 2b Gibson & Bennet, Woodbury, N. J.**
—Collection of verbenas. 703
- 2c Harris, Wm. K., Philadelphia, Pa.**
—Collection of geraniums. 703
- 3 Dreer, Henry A., Philadelphia, Pa.**
a Bulbous and tuberous-rooted plants. 702
b Ornamental foliage plants. 703
c Annuals and soft-wooded plants. 704
d Ferns, in ferneries and warden cases. 707
- 3a Scott, Robert, Philadelphia, Pa.**
a Collection of geraniums; Zonlacs geraniums. 703
b Collection of roses. 705
- 4 Maginly, Thomas J., Philadelphia, Pa.**
a Annuals and other soft-wooded plants. 704
b Roses, in collection. 705
- 4a Marc, Gabriel, Woodside, N. Y.**
—Collection of roses. 705
- 5 Moon, Mahlon, & Son, Morrisville, Pa.**
a Ornamental trees, shrubs, etc. 700
b Herbaceous plants. 701
c Gladiolus, dahlias, etc. 702
d Flowering and ornamental plants, etc. 703
e Soft-wooded plants. 704
f Roses, in collection. 705
g New plants. 708
h Allen's new American hybrid gladiolus, raised by C. L. Allen, Long Island, New York. 702
i H. E. Hooker's new grape Brighton, very early, hardy, and excellent. 703
j E. Y. Teas' new tri-colored cana, and new geraniums. 703
k Wm. H. Moon's collection of new clematis. 703
- 6 Felton, A. L., Philadelphia, Pa.**
a Herbaceous perennial plants. 701
b Bulbous and tuberous-rooted plants. 702
c Annuals and other soft-wooded plants. 704
- 7 Sturtevant, Edmund D., Borden-town, N. J.**
a Herbaceous plants. 701
b Ferns. 707
- 8 Such, George, South Amboy, N. J.**
a Ornamental trees, shrubs, etc. 700
b Herbaceous perennial plants. 701
c Bulbous and tuberous-rooted plants. 702
- 9 Dick, John, Philadelphia, Pa.**
a Ornamental trees, shrubs, etc. 700
b Decorative and ornamental plants. 703
c Soft-wooded plants. 704
d Roses. 705
e New plants. 708
- 10 Wilson, William C., Astoria (L. I.), N. Y.**—Plants for flower beds. 703
- 11 Henderson, Peter, 35 Courtlandt st., New York, N. Y.**—250 varieties of new and rare geraniums, comprising double zonale, silver tri-color and golden tri-color sorts; also a circular bed of 500 plants, representing the "massing" or "ribbon" style of gardening by the use of different colored leaves. Located on and near Agricultural avenue. 704
- 12 Meehan, Thomas, Philadelphia, Pa.**
a Hardy trees and shrubs. 700
b New plants. 708
- 13 Zeller, Charles, Flatbush, Long Island, N. Y.**—Monthly carnations, tropical plants, lilliums, and cut-flowers a specialty. 701
- 14 Compondu, Louis F., New Brighton, N. Y.**—Pansies. 708
- 15 Hance, A., & Son, Red Bank, N. J.**—New hardy ornamental plants and trees. 708
- 16 Parsons, S. B., & Sons, Flushing, N. Y.**
a Deciduous trees, evergreens, and shrubs. 700
b New plants from Japan. 708
- 17 Hoopes, Bro., & Thomas, West Chester, Pa.**
a Conifers. 700
b Ivies. 703
- 18 Parsons, R. B., & Co., Flushing, N. Y.**
a Evergreen trees and shrubs, conifers, rhododendrons, kalmias, etc., deciduous trees, magnolias, azaleas, etc. 700
b Roses, in collection. 705
- 19 Miller & Hayes, Philadelphia, Pa.**
a Ornamental trees and shrubs. 700
b Decorative plants. 703
c Roses, in collection; Centennial geranium. 705
- 20 Buist, Robert, Philadelphia, Pa.**
a Ornamental trees and shrubs, abies and retinospora, from Japan. 700
b Roses, in collection; Centennial geranium. 705
c New plants; clematis veronica from Japan. 708
- 21 Moore, Samuel H., junior, Philadelphia, Pa.**—Fig tree. 700
- 22 Hexamer, F. M., New Castle, N. Y.**—Begonia Froehelii, a new bedding plant, Mont Blanc, a new hybrid. 708

Garden Tools, Accessories of Gardening.

- 23 Peck & Skilton, Westville, Conn.**
a Rustic goods for house. 721
b Rustic goods for grounds. 722
- 24 Mott, J. L., Iron Works, New York, N. Y.**—Fountains, vases, statuary, and settees. 722
- 25 Hanson, F. O., Philadelphia, Pa.**—Galvanized railing, fences, gates, seats, vases, etc. 722
- 26 Gossin, F., Philadelphia, Pa.**—Terra-cotta vases. 722
- 27 Mitchell, Wilson, Philadelphia, Pa.**—Potsilica (artificial stone) fountain basins, vases, tiles, etc. 722
- 28 Walker, M., & Sons, Philadelphia, Pa.**—Wrought-iron railing, ornamental gates, farm and hurdle fence, wirework 722
- 29 Brown, J. Morton, Philadelphia, Pa.**—Grape-vine trellises. 722
- 30 O'Brien Bros., Yonkers, N. Y.**
a Hanging baskets, etc. 721
b Rustic gates, settees, chairs, stands, vases, etc. 722
- 31 Moorhead Clay Works, Philadelphia, Pa.**—Terra-cotta vases. 722
- 31a Elmore, Daniel, Trumansburg, N. Y.**—Settees and chairs. 722
(In grounds of American Restaurant.)

Garden Designing, Construction, and Management.

- 32 Sturtevant, Edmund D., Borden-town, N. J.**—Rustic adornments. 733
- 33 O'Brien Bros., Yonkers, N. Y.**—Rustic summer-houses, etc. 733

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

THE

PENNSYLVANIA RAILROAD

IS THE

GREAT TRUNK LINE

AND

FAST MAIL ROUTE

OF THE UNITED STATES.

PULLMAN PALACE CARS

ARE RUN OVER IT FROM

New York, Philadelphia, Baltimore,
and Washington,

TO

CHICAGO, **CINCINNATI,**
ST. LOUIS, **and LOUISVILLE,**

Making the **QUICKEST TIME** and passing through
the **MOST ATTRACTIVE SCENERY** on the
Continent.

EXPRESS TRAINS

Over this route run **GREATER DISTANCES WITHOUT STOP** than over
any other railway in the World.

TICKETS AND FULL INFORMATION

Can be procured at 838 Chestnut Street, Corner Broad and
Chestnut Streets, No. 116 Market Street, Depot, Thirty-second and
Market Streets, Centennial Depot, Philadelphia, and at the offices
of the Company in all principal cities and towns.

FRANK THOMSON,
General Manager.

D. M. BOYD, Jr.,
General Passenger Agent.

THE SUN NEWSPAPER

Is printed and published every day in the year, at 166, 168, and 170 Nassau Street, New York City. Its regular edition on secular days now (April, 1876) averages about 140,000; its weekly edition over 88,000; and its Sunday issue is nearly 100,000. It thus prints and sells more than a million copies a week, which are read all over the United States. This is a circulation unprecedented in American journalism, and it is constantly on the increase. In proof of this, let the following figures testify. They show the number of copies of THE SUN printed every week during the year ending March 11, 1876.

WEEK ENDING	COPIES PRINTED.	WEEK ENDING	COPIES PRINTED.
March 20.....	849,382	September 18.....	860,358
27.....	845,802	25.....	858,778
April 3.....	857,956	October 2.....	863,935
10.....	863,556	9.....	870,820
17.....	855,076	16.....	878,082
24.....	858,270	23.....	874,625
May 1.....	869,542	30.....	876,160
8.....	867,550	November 6.....	908,580
15.....	877,450	13.....	852,372
22.....	874,946	20.....	847,815
29.....	866,276	27.....	836,248
June 5.....	873,782	December 4.....	845,378
12.....	869,769	11.....	1,042,716
19.....	880,348	18.....	956,294
26.....	883,846	25.....	933,864
July 3.....	898,862	January 1.....	933,987
10.....	867,574	8.....	952,201
17.....	877,400	15.....	953,019
24.....	876,282	22.....	969,910
31.....	874,216	29.....	967,850
August 7.....	865,558	February 5.....	993,030
14.....	875,982	12.....	1,024,647
21.....	880,488	19.....	1,027,209
28.....	870,502	26.....	1,014,766
September 4.....	872,211	March 4.....	1,014,993
11.....	860,755	11.....	1,028,951
TOTAL.....		46,799,769	

In printing these papers, no less than three million four hundred and twenty-six thousand six hundred and ten (3,426,610) pounds of paper were consumed.

ADVERTISING RATES.

DAILY AND SUNDAY, 40 cents a line, ordinary advertising; large type, 80 cents; and preferred positions, 50 cents to \$2.50, according to classification.

WEEKLY, 50 cents a line; no extra charge for large type. Preferred positions, from 75 cents to \$2.00.

SUBSCRIPTION RATES.

DAILY (4 pages), by mail, 55c. a month, or \$6.50 a year, postpaid; with Sunday edition, \$7.70.

SUNDAY (8 pages), \$1.20 per year, postpaid.

WEEKLY (8 pages), \$1.20 per year, postpaid.

Address,

THE SUN,
New York.

Garden Designing, Construction, and Management.

- | | |
|--|--|
| <p>34 Peck & Skilton, Westville, Ct.—
Rustic buildings. 733</p> <p>35 Lebanon Building & Paving Block
Company, Lebanon, Pa.—Building blocks
of annealed slag paving. 733</p> <p>35^a Seibrecht, H. A., & Co., New York,
N. Y.—Rock-work. 733</p> <p>35^b Elmore, Daniel, Trumansburg, N.
Y.—Summer-houses and pagodas. 733</p> | <p>36 Pacific Guano Co., Boston, Mass.
^a Machines, materials, staple products of
the soil of the United States, specimen
plants fertilized with guano. 734</p> <p>^b Commercial fertilizers, phosphatic, calca-
reous, etc. 68r</p> <p>37 Boileau, A., New York, N. Y.—
Trained fruit trees. 734</p> <p>38 Austin, R., Camden, N. J.—Cranberry
vines. 734</p> <p>39 Miller & Sievers, San Francisco,
Cal.—Collection of cones of the Pacific
coast, coniferæ. 605</p> |
|--|--|

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

GREAT BRITAIN.

Ornamental Trees, Shrubs, Tools, and Accessories of Gardening.

Ornamental Trees and Shrubs.

- 1 Veitch, James, & Sons, Royal Exotic^c Nursery, London.
- a* Collection of standard and dwarf rhododendrons, standard and dwarf hollies, standard Portugal laurels 700
- b* Collection of new Japanese coniferæ. 708
- 2 Waterer, Anthony, Knapp Hill Nursery, Woking, Surrey.—Rhododendrons and azaleas (*in tent*). 700
- 3 Williams, B. S., Victoria & Paradise Nurseries, London.—Collection of new and rare plants, orchids, and ferns of recent introduction. 708

- 4 Bull, William, Chelsea, London.—Illustration of new and rare plants. 709

Garden Tools, Accessories of Gardening.

- 5 Barnard, Bishop, & Barnard, Norfolk Iron Works, Norwich.
- a* Lawn-mowers, garden-rollers, horse-reels, water-barrows, croquet-netting, espalier-trainers, etc. 720
- b* Garden-chairs. 722
- 6 Doulton, H., & Co., Lambeth, London.—Terra-cotta work, statue of Diana (heroic size), Amazon vase, and sundry other vases. 722

NEW ZEALAND.

Ornamental Trees and Shrubs.

Ornamental Trees and Shrubs.

- 1 New Zealand.—Esculent fern root. Will germinate if crushed and planted in rich soil and shady place; collection of ferns. 717

JAMAICA.

Hot-Houses, Conservatories, and their Management.

Hot-Houses, Conservatories, and their Management.

- 1 Thompson, Robert, Jamaica.—Collection of economic plants. 720

CANADA.

Gardening Appliances.

Garden Tools, Accessories of Gardening.

- 1 Wells, William, Beamsville, Ont.—
Flower-pots and saucers. 721
- 2 Ahern, J. H., Paris, Ont.—Flower-
pots and saucers. 721
- 3 Pratt, Chorless, London, Ont.—
Flower-pots and saucers. 721

- 4 Welding, E., Brantford, Ont.—
Flower-pots and saucers. 721

- 5 Farrar, G. H. & L. E., St. John, Q.—
Fancy flower-pots. 721

- 6 Hobson, Walter, Quebec, Q.—Flow-
er-pots. 721

FRANCE.

Ornamental Plants, Hot-Houses, Ornaments, Designs.

Ornamental Trees, Shrubs, and Flowers.

- 1 Roempler, L., Nancy.—Ornamental
plants. 700
- 2 Leroy, Louis, Angers, Maine-and-
Loire.—Ornamental plants and fruit
trees. 700
- 3 Verdier, E., senior, Paris.—Gladio-
lus. 702
- 4 Verdier, Charles, Paris.
a Gladiolus. 702
b Roses. 705
- 4a Lacharme, Fr., Lyons.—A collec-
tion of roses; thirty-seven varieties ori-
ginated and grown by exhibitor. 705
- 4b Allegatoire, Lyons.—New zonal
double geraniums, originated and grown
by exhibitor. 708
- 4c Sisley, Jean, Lyons.—New zonal
geraniums, originated and grown by ex-
hibitor. 708
- 5 Vilmorin, Andrieux, & Co., Paris.
—Seeds, flowers, and vegetables. 709

Hot-Houses, Conservatories,
Graperies.

- 6 Roempler, L., Nancy.—Hot-house
plants. 710
- 7 Pinel, C. P., Paris.—Application of
electricity to germination and fructifica-
tion. 713

- 8 Lichtenfelder, Paris.—Monumental
hot-houses. 715

Garden Tools, Accessories of Gardening.

- 9 Couette, La Briche, Seine.—Port-
able tents, kiosks, and sheds; folding
arm-chairs, bedsteads. 722
- 10 Durenne, A., Paris.—Monumental
fountain. 722
- 11 Lichtenfelder, Paris.—Garden fur-
niture; elastic seats; iron gates and trell-
ises. 722
- 12 Thiry, J., jr., Paris.—Trellises and
galvanized iron fences. 722
- 13 Walcker, W., Paris.—Garden
seats. 723

Garden Designing, Construction, and
Management.

- 14 Bonvoisin, A., Paris.—Garden
plans. 730
- 15 DuVillers, F., Paris.—Park and gar-
den plans; books on parks and gar-
dens. 730
- 16 Vilmorin, Andrieux, & Co., Paris.—
Photographs of flowers, vegetables, and
plants; samples of seeds. 730
- 17 Ratinet, Paris.—Rocky grotto. 733

GERMANY.

Garden Designing, Construction, and Management.

Garden Designing, Construction, and Management.

2 Eichler, Gustav, Sans Souci.—Plans for gardens.

730

AUSTRIA.

Garden Designing, Construction, and Management.

Garden Designing, Construction, and Management.

1 Pohl, Charles, Austria.—Standard currants and gooseberries.

734

NETHERLANDS.

Fruit Trees, Ornamental Plants, Flowers, Designing.

Ornamental Trees, Shrubs, and Flowers.

- | | |
|--|-----|
| 1 Galesboot, J. P. R., Amsterdam.—
Fruit trees. | 700 |
| 2 Boer, W. C., Boskoop.—Ornamental
trees and shrubs. | 700 |
| 3 Krelage, J. H., Haarlem. | |
| <i>a</i> Bulbs. | 700 |
| <i>b</i> Collection of gladiolus, etc. | 702 |
| 4 Nes, Az. P. van, Boskoop.—Trees,
shrubs, and flowers. | 700 |

6 Groenewegen, A. C., Haarlem.—The
flowers of Haarlem.

709

Garden Designing, Construction, and Management.

7 Nes, Az. P. van, Boskoop.—Trained
fruit trees.

734

8 Galesboot, J. P. R., Amsterdam.—
Trained fruit trees.

734

SWEDEN.

Garden Tools.

Garden Tools, Accessories of Gardening.

1 Von Essen, H. H., Baron, Tidaholm.—Gardeners' Scissors.

730

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

ITALY.

Garden Decoration.

Garden Tools, Accessories of Gardening.

- 1 Foley, Margaret A., Rome.—Marble Fountain.

702

LUXEMBURG.

Ornamental Trees.

Ornamental Trees, Shrubs, and Flowers.

- 1 Suppert & Notting, Limpertsberg, near Luxemburg.—Rose trees.

703

HAWAII.

Ornamental Trees.

Ornamental Trees and Shrubs.

- 1 Hawaiian Islands.—Ferns.

707

ARGENTINE REPUBLIC.

Ornamental Plants, Designs.

Ornamental Trees, Shrubs, and Flowers.

- 1 Provincial Commission, Province of Santiago del Estero.—Cacti. 706
 2 Fuente, Diego de la, Province of Corrientes.—Caraguata plant. 706
 3 Gelos, Martin, Province of La Rioja.—Scarlet oak, coccus cacti. 706

- 4 Provincial Commission, Province of Mendoza.—Cacti. 706
 5 Provincial Commission, Province of Cordoba.—Cacti. 706

Garden Designing, Construction, and Management.

- 6 Forkel, F., Province of Buenos Ayres.—Projected plan of the park "3d of February." 730

SPAIN.

Ornamental Trees, Shrubs, Flowers, Garden Designing.

Ornamental Trees, Shrubs, Flowers, and Floral Designs.

- 1 Lachaume, Jules, Havana, Cuba.—
Collection of plants, cactus, new plants. 706

Hot Houses, Conservatories, Grape- ries, and their Management.

- 2 Lachaume, Jules, Havana, Cuba.—
Agaves, euphorbias. 710

- 3 Poey, Juan, Havana, Cuba.—Forty
plants presented to the U. S. Centennial
Commission. 710

Garden Designing, Construction, and Management.

- 4 Lachaume, Jules, Havana, Cuba.—
a Physiology of plants. 730
b Rustic and stone work. 733

PHILIPPINE ISLANDS.

Ornamental Trees and Shrubs.

Ornamental Trees and Shrubs.

- 1 Philippine Islands.—Ferns.

707

No. 170. HORTICULTURAL ANNEX.

North of Horticultural Hall. Constructed of wood and iron, in the form of a tent, and covered with canvas. Designed for the exhibition of flowers and plants during the season.

For classes of exhibits, indicated by numbers at end of entries, see Classification, pp. 12-14.

THE American Newspaper Union.

A. J. AIKENS, President.

New York Newspaper Union, 148 and 150 Worth St., New York.	}	315 Newspapers, \$3.00 per line, per week.			
Chicago Newspaper Union, 114 Monroe St., Chicago.	}	350	"	\$3.50	" "
Milwaukee Newspaper Union, 365 East Water St., Milwaukee.	}	120	"	\$1.25	" "
Aikens Newspaper Union, 143 Race St., Cincinnati.	}	200	"	\$2.00	" "
Southern Newspaper Union, 227 Second St., Memphis, Tenn.	}	145	"	\$1.50	" "
St. Paul Newspaper Union, 17 Wabashaw St., St. Paul, Minn.	}	73	"	\$.75	" "

THE ORIGIN OF CO-OPERATIVE NEWSPAPER ADVERTISING.

Co-operative newspaper printing, as now practised, originated in Wisconsin twelve years ago. It is termed *co-operative* for the reason that one side of each of the newspapers is printed at a central office, and the paper sent in its half-printed state to the home office, where it is completed with editorials, local news, and other matter prepared by the editor or publisher. In December, 1846, the idea of co-operation, *with advertisements*, occurred to Mr. Aikens, while yet serving his time as an apprentice, in printing the message of President Polk on one side of a country newspaper of New England at Boston, and the other half being printed at the local office.

Mr. A. J. Aikens, a practical printer and business man, conceived the idea of reducing the cost of ready-printed paper, as it is now termed, to country publishers, by making an agreement with them to use a certain space in each of their papers for advertisements that he might procure. This plan of co-operation he put into practice twelve years ago, at the office of Cramer, Aikens & Cramer, Milwaukee. It at once became successful, leading to the establishment of co-operative newspaper printing-offices in Chicago, New York, St. Louis, Cincinnati, Memphis, St. Paul, and other places. There are now over two thousand newspapers printed upon the co-operative plan in the United States and Canadas, and the number is constantly increasing, it having more than doubled in the last five years. The enterprise is no longer an experiment, but an established success, and the system is one yielding manifold advantages to advertisers as well as to local publishers.

The American Newspaper Union

Is essentially national. The papers represented in it are located in all the States of the Union and in nearly five hundred county seats. They circulate over the whole area of the country from Maine to Colorado, distributing at least *one hundred copies every year to each square mile of the settled portions of the United States.*

Although, as a whole, the Union List is national, covering all sections, it is so made up of different members as to be susceptible of easy division into sections—East, Middle, West, South. The distribution of the papers is as follows:

New England	78	Illinois	117	Nebraska	15
New York	101	Michigan	86	Missouri	17
New Jersey	27	Wisconsin	98	Georgia	10
Pennsylvania	65	Tennessee	29	Alabama	32
Virginia	24	Kentucky	29	Louisiana	11
No. and So. Carolina	24	Minnesota	79	Mississippi	29
Ohio	122	Iowa	85	Other States	46
Indiana	81				

AGGREGATE CIRCULATION.

The circulation of these papers is large and constantly increasing. It is larger than the circulation of any other lists or combinations of country papers in the United States—the last aggregate weekly circulation being *seven hundred thousand seven hundred and thirty copies (700,730).*

SEND TO EITHER OFFICE FOR A CIRCULAR.

PH. J. LAUBER'S Centennial Restaurant

NEAR HORTICULTURAL HALL, CENTENNIAL GROUNDS,

IMPORTER OF WINES.

RESTAURANT, 24 South Fifth Street,
PHILADELPHIA.

Corner of Belmont and Fountain Avenues,
NEAR THE LAKE.

FRENCH RESTAURANT, LES TROIS FRÈRES PROVENCAUX.

The same which had such a great success in the Vienna
Exhibition, in 1873.

CH. VERDIER,

of the MAISON DORÉE, of Paris, Proprietor.

Near the Lake, opposite the U. S. Government Building.

LONDON.

BY ROYAL LETTERS PATENT.

PARIS,



1873.

CORRY & Co.'S
GOLD MEDAL GINGER ALE,
And other Pure Aerated Waters,
CROMAC SPRINGS, BELFAST, IRELAND.

Original Manufacturers (for exportation) of the world-renowned Ginger Ale, and proprietors, in perpetuity, of the celebrated Cromac Spring.
Established 1840. Beware of spurious imitations.

SEE STAND IN AGRICULTURAL HALL.



1875.



HIGGIN'S FACTORY FILLED SALT,

Which is prepared expressly for Dairy purposes, is admitted by all Curers and Packers who use it, to preserve Hams and bacon in the finest possible condition, and to impart an unusually fine color and appearance to the fat; and its great purity makes it especially valuable for the curing of Butter and Cheese. It never cakes in the sack. Sample bags may be had gratis on application to Messrs. GEO. RAPHAEL & Co., Philadelphia.

Works—Northwich, Cheshire, England. Office Address—THOMAS HIGGIN & Co., 23, Tower Buildings West, Liverpool, England. Orders received by LOGAN & FRESTON, New York, and GEO. RAPHAEL & Co., Philadelphia.

Prize Medal

CLEEVE HOOPER, Junr.,

London 1874.



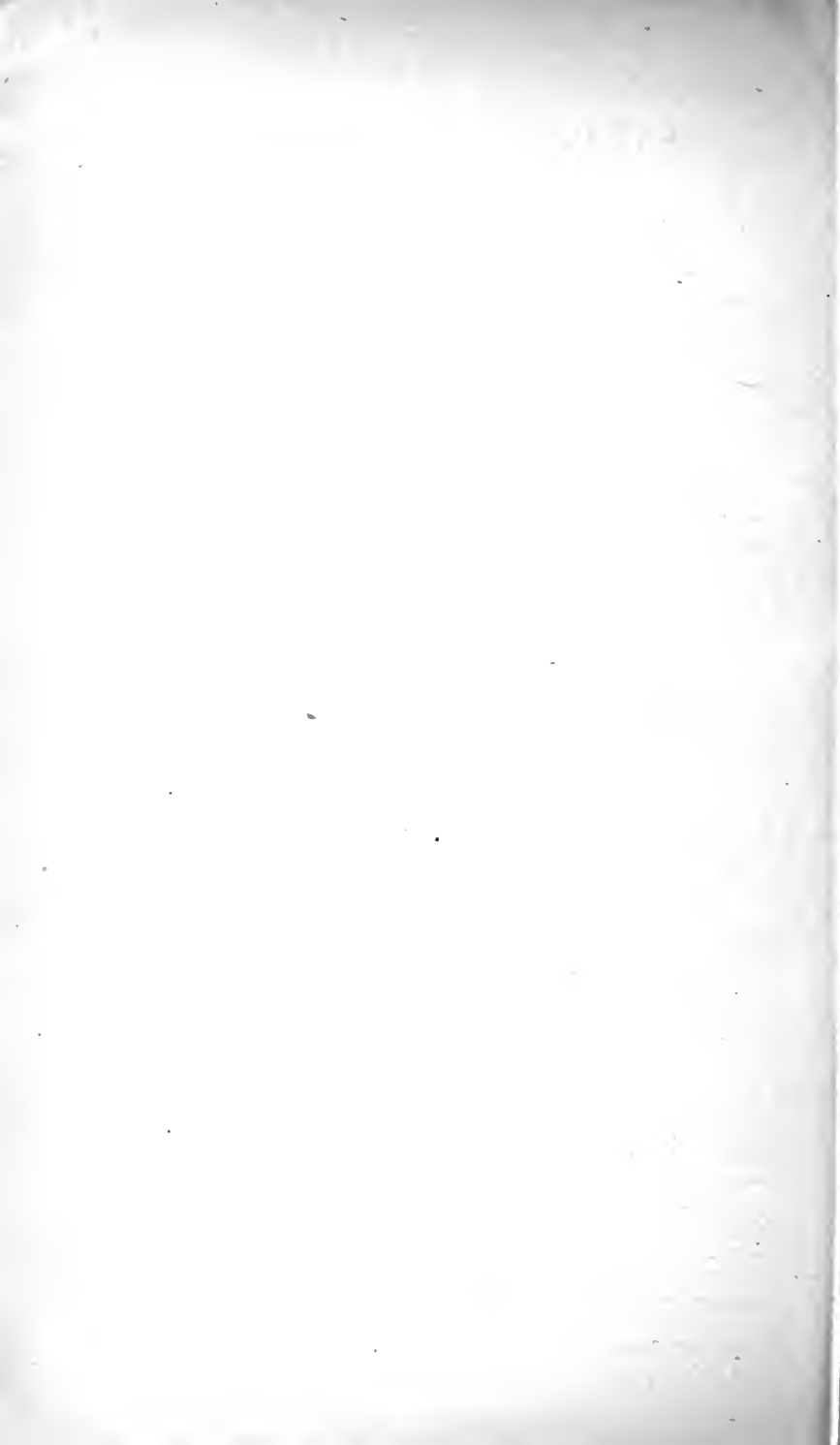
Leather, Hide and Bark Factor.

6, 7 & 8, NEW WESTON STREET,
BERMONDSEY, LONDON, S.E.,
ENGLAND.



Goods Bought or Sold for $2\frac{1}{2}\%$ Commission & del credere. Bankers, London Joint Stock Bank.

STATISTICAL APPENDIX.



STATISTICAL APPENDIX.

UNITED STATES.

THE United States of America occupy the entire width of the central portion of North America, between latitude $24^{\circ} 30'$ and 49° north, and from longitude $66^{\circ} 50'$ and $124^{\circ} 30'$ west. They are bounded, north, by New Brunswick, Canada (from which they are separated by the river St. Lawrence and the great lakes), and British Columbia; on the south, by Mexico and the Gulf of Mexico; east, by the Atlantic; and west, by the Pacific Ocean. Their greatest breadth, from Cape Cod, on the Atlantic, to the Pacific, near the parallel of latitude 42 degrees, is about 2600 miles. Their greatest length, from the northern boundary of Maine to Key West, in Florida, is about 1600 miles. Their mean length, from east to west, is about 1600 miles, and from north to south about 1300 miles. Their area, according to calculations founded on the report of the Commissioner of the General Land Office, for 1867, is 3,057,407 square miles, or 1,956,740,480 acres. This, however, is exclusive of the district of Alaska, in the extreme northwest of the continent, purchased from Russia, and comprising 577,390 square miles, or 369,529,600 acres. Including Alaska, the entire area of the United States and territories is 3,634,797 square miles.

Three mountain ranges, the Appalaelian chain towards the east, the Rocky Mountains in the centre, and the Sierra Nevada in the west, divide the United States into four great regions. The first of these is the Atlantic slope, or all that portion lying east of the Appalachian or Alleghany range; the second, lying between the Appalachian and the Rocky Mountains, is known as the basin of the Mississippi and Missouri; the third is the country between the Rocky Mountains on the east and the Sierra Nevada on the west; the fourth extends from the Sierra Nevada to the Pacific Ocean, and is known as the Pacific slope.

The Appalachian or Alleghany mountains extend from the State of Mississippi northeast through the States of Alabama, Georgia, Tennessee, North Carolina, Virginia, Pennsylvania, New York, and Vermont, for about 1200 miles, at a variable distance of from 70 to 300 miles from the Atlantic coast, and with an average breadth of about 100 miles. Their mean height is from 2000 to 3000 feet, half of which consists in the elevation of the mountains over the adjacent plains, and the rest in the elevation of these plains above the sea. The White Mountains of New Hampshire, belonging to this chain, reach a height of 6226 feet, and the Black Mountain, of North Carolina, is 6732 feet above the level of the sea. The Rocky Mountains are a prolongation of the Mexican Cordillera, and some of their highest peaks attain to between 12,000 and 15,000 feet above the level of the sea. Their average altitude is about 8500 feet. The Sierra Nevada, or Snowy Mountains, are 10° to 12° west of the Rocky Mountains. Under different names, and with different altitudes, this range extends from the peninsula of lower California to Alaska, some of its passes being about 9000 feet, and its highest summits about 16,000 feet above the level of the sea.

The rivers of the United States are of great magnitude and importance. Of those flowing east and south the principal are the Mississippi and Missouri, which, with their tributaries, the Ohio, Arkansas, Red, Yellowstone, and Nebraska rivers, give to the interior an extent of inland navigation and a facility of communication unequalled on any other continent. Among the principal rivers flowing into the Atlantic, are the Hudson, Delaware, Susquehanna, Potomac, Savannah, and St. Johns. The Columbia, Sacramento, and Colorado flow into the Pacific Ocean. The Mississippi,

Alabama, Colorado (of Texas), and Rio Grande (the last named forming the boundary between Texas and Mexico), empty into the Gulf of Mexico. The area of the water-basins has been estimated as follows: Rivers flowing into the Pacific, 644,040 square miles; into the Atlantic, 488,877; into the Gulf of Mexico, 1,683,325 square miles, of which 1,257,457 are drained by the Mississippi-Missouri rivers. The coastline on both oceans has a length of about 13,200 miles, excluding the numerous bays and sounds, besides 3600 miles on the great northern lakes.

The following table shows the area and population of each State and Territory :

STATES.	POPULATION IN 1870.	AREA IN SQUARE MILES.
Alabama,	996,992	50,722
Arkansas,	484,471	52,198
California,	560,247	188,981
Colorado,	39,864	104,000
Connecticut,	537,454	4,750
Delaware,	125,015	2,120
Florida,	187,748	58,268
Georgia,	1,184,109	58,000
Illinois,	2,539,891	55,410
Indiana,	1,680,637	33,809
Iowa,	1,194,020	55,045
Kansas,	364,399	81,318
Kentucky,	1,321,011	37,680
Louisiana,	726,915	41,346
Maine,	626,915	35,000
Maryland,	780,894	11,124
Massachusetts,	1,457,351	7,800
Michigan,	1,184,059	56,451
Minnesota,	439,706	83,531
Mississippi,	827,922	47,156
Missouri,	1,721,295	65,350
Nebraska,	122,993	75,995
Nevada,	42,491	104,125
New Hampshire,	318,300	9,280
New Jersey,	906,096	8,320
New York,	4,382,759	47,000
North Carolina,	1,071,361	50,704
Ohio,	2,665,260	39,964
Oregon,	90,923	95,274
Pennsylvania,	3,521,951	46,000
Rhode Island,	217,353	1,306
South Carolina,	795,606	34,000
Tennessee,	1,258,520	45,600
Texas,	818,579	274,356
Vermont,	330,551	10,212
Virginia,	1,225,163	38,348
West Virginia,	442,014	23,000
Wisconsin,	1,054,670	53,924
ORGANIZED TERRITORIES.		
Arizona,	9,658	113,916
Dakota,	14,181	150,932
District of Columbia,	131,700	64
Idaho,	14,999	86,294
Montana,	20,595	143,776
New Mexico,	91,874	121,291
Utah,	86,786	84,476
Washington,	23,955	69,994
Wyoming,	9,118	97,883
TERRITORIES NOT ORGANIZED.		
Alaska,		577,340
Indian,		68,991
Total,	38,558,351	3,602,424

In a country extending through 24° of latitude, and nearly 60 of longitude, the climate varies considerably. In the north, along the British frontier, the winter is very severe; during this season the snow is sufficiently abundant in New England to admit the use of sleighs, and the ice on the rivers strong enough to bear the passage of horses and wagons. As far south as Pennsylvania and New Jersey, the thermometer falls, in winter, below zero; rising, in summer, to nearly 100° Fahr. Along the Atlantic coast, between latitude 41° and 45°, the climate is colder in winter and warmer in summer, by nearly 10°, than in those parts of Europe which lie under the same parallels. Snow, however, rarely falls south of latitude 30°, nor is it frequently seen south of the Potomac, except on mountains. The mean annual temperature of Albany is about 49°; of New York and Cincinnati, about 51°; of Philadelphia, 54°; of Natchez, 65°, and of Cantonment Brooke, in Florida, 72°. The temperature along the Pacific is much higher than in corresponding latitudes on the eastern coast.

The Mississippi valley is very fertile. In the Eastern States there still exist large forests of valuable timber, such as beech, birch, maple, oak, pine, spruce, elm, ash, walnut; and, in the South, live-oak, water-oak, magnolia, palmetto, tulip tree, cypress, etc., remnants of the wooded region which formerly extended over the whole Atlantic slope, but into which great inroads have been made by advancing civilization. Apples, pears, cherries, and plums flourish in the North; peaches, melons, and grapes in the Middle States; pineapples, pomegranates, figs, almonds, and oranges in the South. Maize is grown from Maine to Louisiana, and wheat throughout the Union; tobacco as far north as Connecticut, and in the Western States south of Ohio. There is not much cotton raised north of 37°, though it grows as far north as 39°. Rice is cultivated in South Carolina, Georgia, Louisiana, and as far north as St. Louis, Mo. The sugar-cane grows as high as 33°, but does not thoroughly succeed beyond 31° 30'. The vine and mulberry tree grow in various parts of the Union; oats, rye, and barley throughout the North and the mountainous parts of the South; and hemp, flax, and hops in the Western and Middle States. The following figures, taken from the report of the ninth census (1870), will convey an idea of the extent of the annual productions of agriculture:

Spring wheat,	112,549,733	bushels
Winter wheat,	175,195,893	"
Rye,	16,918,795	"
Indian corn,	760,944,549	"
Oats,	282,107,157	"
Barley,	29,761,305	"
Buckwheat,	9,821,721	"
Rice,	73,635,021	pounds
Tobacco,	262,735,341	"
Cotton,	3,011,996	bales
Peas and beans,	5,746,027	bushels
Irish potatoes,	143,337,473	"
Sweet potatoes,	21,709,824	"
Wine,	3,092,369	gallons
Hay,	27,316,048	tons
Clover seed,	639,657	bushels
Grass seed,	583,188	"
Sugar (from cane),	87,043	hhds
Maple sugar,	28,443,645	pounds
Molasses,	23,564,469	gallons
Dairy Products.—Butter,	514,092,683	pounds
Cheese,	53,492,153	"
Milk sold,	235,500,599	gallons
Wool,	100,102,387	pounds
Wax,	631,129	"
Honey,	14,702,815	"

The same report gives the cash value of farms in the United States at \$9,262,803,861; of farming implements and machinery, at \$336,878,429; live stock, at \$1,525,276,457.

Total estimated value of all farm productions, including betterments and additions to stock, \$2,447,538,658. Value of orchard products, \$47,335,189; products of market gardening, \$26,719,229.

There were, at the same time, 8,690,219 horses, 28,074,582 cattle, 28,477,951 sheep, and 25,184,540 hogs.

Except a few small isolated fields, all the bituminous coal in the United States lies west of the Appalachian chain, where a vast series of coal beds stretch from the mountains west through Ohio, Indiana, and Illinois, parts of Kentucky and Alabama, into the State of Missouri, and as far as two hundred miles beyond the Mississippi. Anthracite coal is found most extensively in Pennsylvania; also in Western Virginia and the eastern portion of Ohio and Illinois. The oil-wells of northwestern Pennsylvania contain apparently inexhaustible stores of mineral oil or petroleum. Numerous salt-springs exist in New York, Virginia, Pennsylvania, and the Western States. Iron is distributed most abundantly through the coal measures in Pennsylvania, Ohio, Virginia, and Tennessee, the ore containing from 25 to 33 per cent. of metal. Iron ore also abounds in the Northwestern States; and that found in one part of Vermont yields 78 per cent. of iron. A large proportion of the ore found in this part of the Union is magnetic. Lead is found in various places, but more especially in Missouri, Wisconsin, and Illinois. In some parts of Wisconsin this ore yields from 60 to 70 per cent. of lead. Large deposits of copper have been found in Michigan, in the Lake Superior region. Gold, in large quantities, and silver, have been found in the States and Territories west of the Rocky Mountains. Gold has also been found in Virginia, the Carolinas, Georgia, and Tennessee. Quicksilver, zinc, manganese, with lime and building stone, are the other chief mineral products. The following figures are from the Statistics of Mining, Table VIII, Report of the Ninth Census (1870):

	VALUE OF PRODUCTS.
Anthracite coal,	\$38,495,745
Bituminous coal,	35,029,247
Copper,	5,201,312
Gold, placer mined,	7,266,613
" hydraulic mined,	2,508,531
Quartz, gold and silver bearing,	16,677,508
Iron ore,	13,204,138
Lead,	736,004
Petroleum,	19,304,224

The mechanical and manufacturing establishments of the Union, in 1870, numbered 252,148, using steam-engines of 1,215,711 horse-power and 1,130,431 horse-power in water-wheels, and employing 2,053,996 hands. The amount of capital invested is \$2,118,208,769; annual wages, \$775,584,343; material used, \$2,488,427,242, and the total products \$4,232,325,442. The chief manufacturing States are Pennsylvania, New York, Massachusetts, Ohio, Illinois, New Jersey, Connecticut, and Rhode Island.

The importations for the year ending June 30th, 1875, were:

Merchandise,	\$533,005,536
Gold and silver,	20,894,217
Total,	<u>\$553,899,753</u>
Foreign exports, merchandise,	\$14,157,611
Gold and silver,	8,275,013
Total,	<u>\$22,432,624</u>

The gold value of domestic exports, during the same period, was \$583,141 229.

In the length of miles of railway open to traffic, the United States exceeds all other nations, although in the proportion of miles of railway to miles of area, it ranks below some of the smaller and more densely populated states of Europe. The following figures, from Poor's "Railway Manual," illustrate the growth of the railway system in the United States:

In 1830, there were	23 miles in operation.
" 1840, " "	2,818 " " "
" 1850, " "	9,021 " " "
" 1860, " "	30,635 " " "
" 1870, " "	52,898 " " "
" 1874, " "	72,623 " " "

During the year 1874, the gross earnings were \$520,466,016, of which \$379,466,935 was for freight, and \$140,999,081 for passengers. Net earnings, \$189,570,958; dividends paid, \$67,042,942.

The government of the United States is, by the Constitution, intrusted to three separate authorities, the executive, the legislative, and the judicial. The executive power is vested in a President, who is elected every four years, and is eligible for reelection. The legislative power is vested in two houses, the Senate and the House of Representatives, the President having a veto power, which may be overcome by a two-thirds vote of both houses. Two senators from each State are elected by the legislature thereof, for the term of six years; and representatives are chosen in each State, by popular vote, for two years. The number of Representatives for each State is allotted in proportion to its population, one for each 135,239.

The supreme judicial authority is vested in a Chief Justice and eight Associate Justices, who are appointed for life by the President, by and with the consent of the Senate.

The government of each State is on the same model as that of the general government. There is a governor chosen by popular vote, and a State legislature, similarly chosen, composed of two houses. Each State also has a constitution which prescribes its form of government.

The following statistics apply to the army and navy of the United States in 1875: The army consisted, July 1st, 1875, of 2204 commissioned officers, and 25,000 enlisted men; the navy of 175 vessels, with an armament of 1232 guns, 8500 men, 1254 commissioned, and 490 non-commissioned officers on the active list.

The postal service is conducted by the general government. During the fiscal year ending June 30th, 1875, it carried 601,921,520 letters, 117,215,850 stamped wrappers, 13,955,750 newspapers, and 31,094,500 postal cards. The money orders amounted to \$75,425,854.

The telegraph lines belong to private corporations. Their total length, in January, 1875, was 75,000 miles; length of wires, 165,000 miles; number of offices, 6172; number of messages transmitted during the year 1874, 13,700,000.

Education is conducted by the separate States. In general the primary schools are supported by a property tax, and nearly all the States have school funds in addition, the income of which is distributed among the towns in proportion to the number of pupils educated. The gifts with which, during late years, private individuals have endowed institutions of learning, prove a growing appreciation of the claims of the higher education.

The following statistics are collated from the report of the ninth census, 1870:

PUBLIC SCHOOLS.

NUMBER OF SCHOOLS.	TEACHERS EMPLOYED.			PUPILS IN ATTENDANCE.		
	MALE.	FEMALE.	TOTAL.	MALE.	FEMALE.	TOTAL.
125,059	74,174	109,024	183,198	3,120,052	3,103,008	6,223,060

The schools "Not Public" are arranged under two headings: "Classical, Professional, and Technical," and "Other Schools."

"NOT PUBLIC" SCHOOLS (Classical, Professional, and Technical).

NUMBER.	TEACHERS.			PUPILS.		
	MALE.	FEMALE.	TOTAL.	MALE.	FEMALE.	TOTAL.
Classical, etc., 2,545	7,766	5,001	12,767	148,810	106,380	255,190
Other Schools, 14,025	11,389	13,688	25,077	353,134	373,554	726,688

INCOME.

PUBLIC.	NOT PUBLIC.		
	CLASSICAL, PROFESSIONAL, AND TECHNICAL.	OTHERS.	
From Taxation of Public Funds,	\$58,855,507	\$2,320,250	\$570,282
" Endowments,	144,533	3,356,003	163,249
" Other Sources, including Tuition,	5,030,633	11,999,654	12,962,615
	\$64,030,673	\$17,675,907	\$13,696,146

The total number of libraries returned was 163,353, containing 44,539,184 volumes. Of these, 107,673 were private libraries, containing 25,571,503 volumes. In the opinion of the superintendent of the census, these results are "manifestly far below the truth."

The newspaper and periodical press comprised, in 1875, 7870 publications, divided as follows: Daily, 1718; tri-weekly, 80; semi-weekly, 107; weekly, 5957; bi-weekly, 24; semi-monthly, 106; monthly, 802; bi-monthly, 8; quarterly, 68.

GREAT BRITAIN.

THE following brief table is given (approximately) of the area, population, revenue, and commerce of the British Empire. It is not possible to give the exact figures, but for all practical purposes those now given will be sufficient. The colonies which exhibit are treated under their proper names.

NAME OF COUNTRY.	AREA IN SQUARE MILES.	POPULATION.	REVENUE.	PUBLIC DEBT.	IMPORTS AND EXPORTS.
Great Britain and Ireland,	122,518	31,857,338	\$389,600,000	\$3,555,100,000	\$3,262,900,000
Indian Possessions, etc., .	1,558,254	242,000,000	243,500,000	550,310,000	472,390,000
Other Eastern Possessions,	25,264	3,150,000	10,714,000	8,766,000	160,710,000
Australasia,	3,087,000	2,105,000	53,570,000	219,150,000	365,250,000
North America,	3,620,500	4,000,000	21,915,000	107,140,000	209,410,000
Africa,	250,000	1,400,000	4,870,000	7,772,000	43,830,000
West Indies,	12,707	1,075,000	535,700	4,870,000	48,700,000
European Possessions, .	120	160,000	1,022,700	1,217,500	73,050,000
Various settlements, . .	96,171	200,000	2,678,500	3,165,500	24,350,000
Totals,	8,772,534	283,947,338	\$728,405,900	\$4,457,511,000	\$4,662,590,000

The *United Kingdom of Great Britain and Ireland* is the full designation of the country more generally known as Great Britain or the United Kingdom. It includes the two large islands of Great Britain and Ireland, and the adjacent smaller islands, together with the Channel Islands and the Isle of Man.

The following table exhibits the area, in English square miles, and population, according to the last census of the several constituent parts:

	AREA.	POPULATION.
England,	50,922	21,495,131
Wales,	7,397	1,217,135
Scotland,	31,324	3,360,018
Great Britain,	89,648	26,072,284
Ireland,	32,481	5,411,416
Isle of Man, and Channel Islands,	394	144,638
Army and Navy, and Merchant Seamen,	122,518	229,000
		31,857,338

The island of Great Britain lies between latitude $49^{\circ} 57' 30''$ and $58^{\circ} 40' 24''$ north, and between longitude $1^{\circ} 46'$ east, and $6^{\circ} 13'$ west, and is the largest island in Europe. It is bounded on the north by the Atlantic, on the east by the North Sea, and on the south by the English Channel, and on the west by the Atlantic, the Irish Sea, and St. George's Channel. Its greatest length is about 608 miles, and its greatest breadth (from Land's End to the east coast of Kent), about 300 miles.

England, which may be roughly said to be divided from Scotland on the north by the Cheviot Hills and the Rivers Tyne and Solway, and from Wales by the Severn

and Dee, is, except on the west and north, for the most part a level country, so cultivated as to be highly productive. The other districts have mineral riches, as iron, tin, lead, copper, and coal, which make abundant amends for the poverty of their surface. Wales is generally mountainous, and also has great mineral wealth.

The greater part of the surface of Scotland is irregularly distributed into mountains and valleys, a very small proportion spreading into level plains. The eastern coast forms a waving, continuous, and rarely broken line; the western is extremely irregular, being deeply indented with bays and arms of the sea, and exhibiting steep promontories and mountainous islands. The whole country is physically divided into *Highlands* and *Lowlands*—the former comprehending the northwest, west, and central portions; the latter, generally speaking, the east coast and the country south of the Forth and Clyde.

Ireland is an island lying between $51^{\circ} 26'$ and $55^{\circ} 23'$ north latitude, and $5^{\circ} 20'$ and $10^{\circ} 26'$ west longitude. It is about 60 miles to the west of England. On three sides it is washed by the Atlantic Ocean, and on the east by the Irish Sea and St. George's Channel. Its greatest length is, from north to south, 306 miles, and from east to west 120 to 180 miles. Ireland is divided into the four provinces of Ulster, Leinster, Munster, and Connaught, which are again subdivided into 32 counties.

The geology of Great Britain is of peculiar importance. British geologists have given to the world the names whereby the various strata are known, and British rocks form the typical series of the earth's strata. The whole recognized series of stratified deposits occur in Britain, one or two only being more fully developed elsewhere; and it is only in these singular cases that the foreign equivalents are taken as the types. British geology is no less important from the influence it has had in the development of the country, its mineral wealth, especially the coal and iron, being the real sinew of Britain's wealth and power.

In the year 1874, there was produced from the ore nearly 6,000,000 tons of pig iron, value £16,476,372; and 385 ounces of gold were raised, value £1540. Copper, tin, lead, zinc, silver, and other metals brought the total value of metals produced up to £19,539,070. The aggregate value of all the minerals, metals, coal, etc., obtained in the United Kingdom in 1874, was £67,834,313. Included in this were 125,043,257 tons of coal, value £46,849,194.

The climate of Great Britain is mild and equable in a remarkable degree, the winters being considerably warmer and the summers colder than at places within the same parallels of latitude. The mean temperature of England is 49.5° , and of Scotland 47.5° .

Very few species of plants or animals are peculiar to Great Britain. The flora, for the greater part, resembles that of Germany; but in the south of England there is, as might be expected, a closer correspondence with that of the northwest of France; and some plants found in the Channel Islands and on the French coast appear nowhere in Britain but on the southwest coast of England. The mountains of Wales, Cumberland, and Scotland have a vegetation resembling that of Scandinavia more than that of the mountains of central or southern Europe. The state of the case is much the same as to the fauna. There are, however, many remarkable instances both of plants and animals, which, from these apparent relations to continental Europe, might be expected in Great Britain, and which are not indigenous to it; as, for instance, among plants, the Norway spruce, and among animals, the lemming, both common in Scandinavia. The progress of civilization and of cultivation has completely banished from Great Britain many of the animals which were once numerous, as bears, wolves, etc. On the other hand, many plants which were unquestionably introduced by man, have become thoroughly naturalized.

For administrative purposes, Great Britain with its surrounding islands (excepting the Channel Islands and the Isle of Man, which are under peculiar jurisdiction) is divided into 84 counties or shires.

The soil of Great Britain is almost exclusively devoted to the production of the two primary necessities of society,—breadstuffs (chiefly wheat, barley, and oats) and grass, roots, etc., as food for domestic animals. The annual value of the pastures and meadow hay is immense. The total extent of land returned in 1872, as being under all kinds of crops, bare fallow and grass, was 31,004,173 acres in Great Britain, 15,746,547 acres in Ireland, 88,573 in the Isle of Man, 18,026 acres in the island of Jersey, and 12,007 acres in the islands of Guernsey, Alderney, etc., making a total for the United Kingdom of 46,869,326 acres. The number of horses included in the agricultural returns was 1,808,259: the number licensed in Great Britain was 857,045; the number of others than agricultural horses exempt from license duty, was probably about 35,000; and the number belonging to the army at home may be stated at 15,000, which would bring the total number of horses in the United Kingdom up to 2,715,000. The total number of cattle returned for the United Kingdom in 1872, was 9,718,000; sheep, 32,246,000; pigs, 4,178,000.

Constatulary returns, based upon information obtained from farmers and others and received by the Boards of Guardians, show that in the year 1873, Ireland produced 469,563 quarters of wheat, 6,912,765 quarters of oats, 1,016,339 quarters of barley, 25,576 quarters of bere and rye, 48,375 quarters of beans and peas, 2,683,060 tons of potatoes, 4,429,967 tons of turnips, 515,690 tons of mangold wurzel, 278,923 tons of cabbage, 19,843 tons of flax, and 3,306,163 tons of hay. At the end of 1873, Ireland had 4,142,400 head of cattle, 4,432,053 sheep, 532,146 horses and 1,042,244 pigs.

The following table shows the condition of the textile industries of the United Kingdom, 1874:

	NO. OF FACTORIES.	HANDS EMPLOYED.
Cotton,	2,655	479,515
Woolen,	1,800	135,605
Worsted,	692	142,097
Flax,	449	128,459
Silk,	818	45,559
Shoddy,	125	3,431
Hemp,	61	5,211
Jute,	110	37,920
Hair,	27	1,211
Hosiery and other factories,	557	27,667
Total,	7,294	1,006,675

The government of Great Britain is of the kind known as a "constitutional monarchy," in which the sovereign accepts of his dignity under an express agreement to abide by certain prescribed conditions. The sovereignty is hereditary in the family of Brunswick, now on the throne, and in the person of either a male or a female. The executive government of the United Kingdom is vested nominally in the crown, but practically in a committee of Ministers, commonly called the Cabinet, which has come to absorb the functions of the ancient Privy Council, the members of which, bearing the title of Right Honorable, are sworn "to advise the king according to the best of their cunning and discretion," and "to help and strengthen the execution of what shall be resolved." Though not the offspring of any formal election, the Cabinet is virtually appointed by Parliament, and more especially by the House of Commons, its existence being dependent on the possession of a majority in the latter body.

The powers of Parliament are politically omnipotent within the United Kingdom, its colonies and dependencies. It can make new laws, and enlarge, alter, or repeal those existing. Its authority extends to all ecclesiastical, temporal, civil, or military matters, as well as to altering or changing the constitution of the realm. Parliament is the highest court of law, over which no other has jurisdiction.

The budget estimates for the financial year 1875-76, laid by the Chancellor of the Exchequer before the House of Commons, April 15th, 1875, was as follows:

Total revenue,	£75,685,000
“ expenditure,	75,266,000
“ estimated surplus,	£419,000

The following figures show the numerical strength of the military force in the United Kingdom in 1875:

Cavalry,	13,358
Artillery,	19,418
Engineers,	4,020
Infantry,	55,590
Total,	92,386

The army estimates of March 31st, 1876, contain votes of money for four classes of reserves, as follows:

	MEN.
Militia,	139,018
Yeomanry cavalry,	15,130
Volunteers,	161,150
Enrolled pensioners and army reserve force,	32,000

The total force of the British army in India was stated, in the estimates of 1875-76, to amount to 63,197.

On the 1st of December, 1874, the navy consisted of 233 steamers and sailing vessels, manned by crews aggregating 60,000.

The following are the statistics for the year 1874 of the tonnage of British and foreign vessels (sailing and steam) entered and cleared at ports in the United Kingdom from and to foreign countries and British possessions:

	ENTERED.	CLEARED.	TOTAL.
British,	14,833,644	15,256,039	30,089,683
Foreign,	7,534,866	7,804,408	15,339,274
Total,	22,368,510	23,060,447	45,428,957

There were, in 1874, 20,872 vessels, with crews aggregating 203,606, and of a registered tonnage of 5,864,588.

On the 1st of January, 1875, there were 16,448 miles of railway open in the United Kingdom. The statistics of capital, passengers, receipts, and working expenses for the year 1874 were as follows: Total capital paid up (shares, loans), \$2,970,456,106; number of passengers, 478,316,701; total of traffic receipts, \$277,109,238; working expenses, \$158,040,397.

The number of letters delivered in 1874 was, in England and Wales, 804,000,000, in Scotland, 90,000,000, and in Ireland, 73,000,000. Of postal cards there were 66,000,000 delivered in England and Wales; 9,000,000 in Scotland; and 4,000,000 in Ireland; total for the United Kingdom, 79,000,000.

The number of newspapers and book packets delivered in 1874 was 207,000,000 in England and Wales, 29,000,000 in Scotland, and 23,000,000 in Ireland; total, 259,000,000. The number of money orders in 1874, in the whole of the United Kingdom was 15,900,562, of the aggregate value of £26,296,441. At the end of the year the total amount of deposits held by the Post Office Savings Bank was £24,030,711.

There were 19,116,634 telegraph messages forwarded from postal telegraph stations in the year 1874. The number of post offices at the end of 1874 was 12,950. The total number of telegraph offices, at the same date, was 5600, including 1300 railway telegraph offices. The total length of the postal telegraph wires at the end of 1874 was 107,000 miles.

In England, the chief institutions for education are the ancient national universities of Oxford and Cambridge; the more recent institutions of London, Durham, and Lampeter, in Wales; the classical schools of Eton, Westminster, Winchester, Harrow, Charter House, and Rugby; Owens College, Manchester, and other colleges and schools, chiefly for physical science; the various military schools; the colleges of the dissenting denominations; the middle class schools, either started by individual teachers or by associated bodies acting as directors, to whom the teachers are responsible; and the schools of design.

For primary education, a national system has now been established. Under the Elementary Education Act for England, 1870, a popularly elected school board is established in any district where the existing schools are deficient. Schools under the act are supported by school-rates and fees, and by parliamentary grants, varying according to the number of pupils, and their proficiency, as tested by different standards of examination. They are at all times to be open to government inspection. It is left to the discretion of school boards to make education compulsory.

Scotland possesses four universities for the higher branches of education, viz.: Edinburgh, Glasgow, St. Andrew's, and Aberdeen, besides a variety of other minor colleges. The Scotch education act, 1872, is modelled after the English act, but differs from it by enacting that a school board is to be elected in *every* parish and burgh; by making it illegal for parents to omit educating their children, between five and thirteen, in reading, writing, and arithmetic; and by comprehending higher class schools.

The number of the day-schools in Great Britain, inspected in 1871, was 10,700; the daily average attendance throughout the year was 1,434,488; 1,724,689 scholars were present at inspection; 875,298 were examined; and 598,203 passed the prescribed tests. On the registers of the inspected day-schools were 2,055,312 children, of whom 517,344 were under six years of age, 1,332,229 between six and twelve, and 205,739 above twelve; 2709 night-schools, were inspected, having an average attendance of 86,206 each night. In December, 1871, there were in Great Britain 15,605 certificated teachers, 1196 assistant teachers, and 21,854 pupil teachers.

Ireland is well supplied with educational establishments, having three universities, a large number of endowed schools, and an admirable system of mixed schools.

Commission from GREAT BRITAIN and COLONIES to the International Exhibition:

HIS GRACE THE DUKE OF RICHMOND AND GORDON, K. G.,

Lord President of the Council.

THE RT. HON. VISCOUNT SANDON, M. P., Vice-President of the Committee of Council on Education.

THE RT. HON. SIR EDWARD THORNTON, K. C. B., Her Britannic Majesty's Envoy Extraordinary and Minister Plenipotentiary at Washington, Special Commissioner to represent Great Britain at Opening Ceremonies.

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NEW ZEALAND.

NEW ZEALAND, a British colony in the South Pacific Ocean, consists of three principal islands, called, respectively, the North, South, and Stewart Islands. There are several small islets—mostly uninhabited—dependent on the colony; the chief of them are the Chatham Islands and the Auckland Islands. The New Zealand group is situated about 6500 miles west of South America, and about 1200 miles east of Australia. The entire group lies between 34° and 48° south latitude and 166° and 179° east longitude. The three principal islands extend in length 1100 miles, but their breadth is extremely variable, ranging from 46 miles to 250 miles; the average breadth being about 140 miles. The North and South Islands are separated by Cook Strait, which is crossed by steamers in about two hours.

The total area of New Zealand is about 100,000 square miles, or 64,000,000 acres.

According to a census taken March 31st, 1874, the population (exclusive of the aborigines) numbered 299,514 souls. It is estimated that the present white population (April, 1876) is about 400,000. The Maori population, according to an approximate census taken on June 1st, 1874, was 45,470.

The aborigines, called Maoris, who formerly caused much trouble, though a large number have always sided with the British, are now peacefully settling down to agricultural pursuits, and, since 1871, permanent tranquility appears to have been established.

The New Zealand Islands are of primitive rocks and tertiary plains, but a great portion of the entire area is occupied by mountains, among which are many extinct and a few active volcanoes. The mountains are mostly clothed with evergreen forests of luxuriant growth, interspersed with fern-clad ranges, and occasionally with treeless grassy plains. Extensive and rich valleys and sheltered dales abound in the North Island; and in the east of the South Island there are many extensive plains of rich land, admirably adapted either for agriculture or cattle-breeding. Water and water-power are found in great abundance in the colony, and the numerous rivers are subject to sudden floods from the melting of the mountain snows. As a rule, however, the streams are short, and are not navigable for more than 50 miles above their mouths. The chief is the Clutha, in the South Island, and the Waikato river, in the North Island, which latter, issuing from the Taupo lake (30 miles long by 20 broad), flows in a northern direction for 200 miles, and reaches the sea on the west coast.

In the North Island, around Lakes Rotomahana and Rotorua, are a number of grand and beautiful geysers, which throw up water heated to the boiling point. The southwest coast of the South Island is indented with a number of deep sounds, of which Milford Sound is the chief. In this sound the water is unfathomable; the only way of securing a ship being to moor it, stem and stern, to the trees which overhang the water. Steamers of 2000 tons have been thus moored. The geology of New Zealand is remarkable and varied in a high degree. The mountains, which are of every variety of outline, are chiefly composed of the schist and slate-rocks, primary sandstone, and limestone. Extensive beds of coal and lignite exist; the former have been to some extent worked, and are at present being largely developed by the construction of railways and harbor works in their vicinity.

Of the whole surface extent of New Zealand, one-fourth is estimated to consist of

dense forest tracts, one-half of excellent soil, and the remainder of waste lands, scoræ hills, and rugged mountain regions. Nearly 40,000,000 acres are supposed to be more or less suitable for agriculture and cattle-breeding. The soil, though often clayey, has in the volcanic districts more than a medium fertility; but the luxuriant and semi-tropical vegetation is perhaps as much due to excellence of climate as to richness of soil. Owing to the prevalence of light and easily worked soils, all agricultural processes are performed with unusual ease. The climate of New Zealand is one of the finest in the world. The country contains few physical sources of disease; the average temperature is remarkably even at all seasons of the year, and the atmosphere is continually agitated and freshened by winds that blow over an immense expanse of ocean. In the North Island, the mean annual temperature is 57°; in the South Island, 52°. The mean temperature of the hottest month at Auckland, in the northernmost province, is 68°, and at Dunedin, in the most southern province, 58°; of the coldest month, 51° and 40° respectively. The air is very humid, and the fall of rain is greater than in England, but there are more dry days. All the native trees and plants are evergreens. Forests, shrubberies, and plains are clothed in green throughout the year, the results of which are that cattle, as a rule, browse on the herbage and shrubs of the open country all the year round, thus saving great expense to the cattle-breeder; and that the operations of reclaiming and cultivating land can be carried on at all seasons. The seasons in New Zealand are the reverse of ours; January is their hottest month, and June the coldest. All the grains, grasses, fruits, and vegetables grown in England are cultivated in the colony with perfect success, being excellent in quality and heavy in yield; while, besides these, the vine is cultivated in the open air, and maize, the taro (*Caladium esculentum*), and the sweet potato are cultivated with success in the sunny valleys of the North Island.

The temperature, it will be thus observed, is very equable, for while the summers are as cool as those of England, the winters are as warm as those of Italy. The mean annual temperature of Auckland is nearly the same as at Rome; at Wellington, nearly the same as at Milan; at Dunedin, nearly the same as at London. The official reports of the British Army Medical Department show that, where the annual mortality from all diseases out of every 1000 British soldiers quartered in the United Kingdom was 16, it was only 5 out of every 1000 in the troops quartered for more than 25 years in New Zealand. In other words, this colony appears to be peculiarly favorable to the duration of human life.

In connection with this, it may be mentioned, in order to show the redundancy of the population in New Zealand, that in 1874 the births were 40.05 per 1000 of the population, and the death rate was only 12.97 per 1000, while the marriages were 8.81 for every 1000 people.

The entire acreage under crop, in February, 1875, was 1,788,800. Of the crops, the principal were wheat, oats, barley, potatoes, and sown grass. At the same date, the number of holdings was 16,092, the population being 296,018. The average yield of wheat was, in 1875, over 28 bushels per acre.

The live stock of the colony consisted, at the census of March 1st, 1874, of 99,859 horses, 494,917 cattle, 11,704,853 sheep, 123,921 pigs, and 1,058,198 head of poultry.

Large gold fields were discovered in the spring of 1857. In the year 1874, there were 376,338 ounces of gold, of the declared value of \$7,526,655, exported from New Zealand, the average annual yield of the gold fields since 1862 being 588,072 ounces, or value of \$11,395,140, while from April 1st, 1857, to December 31st, 1875, the total quantity of gold exported was 8,025,675 ounces, valued at \$151,271,293 gold.

The principal produce of the colony is wool, 46,848,735 pounds, valued at \$14,173,475, having been exported in 1874.

The total imports of the colony during the year 1874 were \$40,609,060; the total exports, \$26,256,345.

The class of people most required in New Zealand are farmers with a small capital, carpenters, who can earn, according to their skill, from 11 shillings to 15 shillings per diem, and single women, who always gain good wages, and rarely stop in service for a long time, being greatly in demand in the matrimonial market. All classes of laborers find ready employment at remunerative rates.

By an imperial statute, passed in 1852, the legislative power is vested in the Governor and a Parliament of two chambers; the first called the Legislative Council, and the second the House of Representatives, and collectively, the General Assembly. The Legislative Council consists at present of 49 members, nominated by the crown for life; and the House of Representatives of 83 members, elected by the people for five years. Two Maoris sit in the Legislative Council, and 4 in the House of Representatives. Two of the latter also are members of the Executive Council. The Governor is assisted by an Executive Council, composed of the responsible ministers for the time being, and any others he may appoint. Members of both branches receive pay at the rate of \$787 for the session, which generally lasts three months. Every owner of a freehold worth \$250, or tenant house-holder, in the country at \$25, in the town at \$50 a year rent, is qualified to vote for members of the House, and is eligible for membership. The seat of government is at Wellington, a town of about 12,000 people, and centrally situated.

The colony is divided into nine provinces; four in the North, and five in the South Island. Each of these provinces is governed by an elected Superintendent and Provincial Council. In 1875, the General Assembly passed a bill declaring that the provincial governments should cease to exist after the close of their next session. The form of local government which is to take the place of provincial government has not been decided upon, but will probably take the shape of legislative powers.

In the year 1874, the total ordinary revenue (including provincial) was \$9,367,240, and the territorial revenue, \$5,754,500, which, with incidental receipts of \$221,320, makes the total general revenue—ordinary, territorial, and incidental—amount to \$15,343,060. The total ordinary expenditure by general and provincial governments was \$14,803,555.

Beyond the ordinary expenditure, a sum of \$13,629,465 was spent, which is charged to the loan account. The public debt of New Zealand amounted, at the end of 1874, to \$66,834,680, and as a loan expenditure is still proceeding, it is estimated that the total debt will shortly amount to about \$95,000,000. Against this there is a sinking fund already amounting to \$5,000,000, and, moreover, a large amount has been spent on reproductive works. In 1870, the sum of \$20,000,000 was authorized to be borrowed for the purposes of emigration and public works (such as railways, roads, telegraphs, water-races, bridges, etc.), besides \$5,000,000 for defence and other purposes. Since then, further large loans have been contracted for public works. To assist in the development of these works, a vast number of emigrants have been brought into the country, receiving either free passage from England or a grant of land. Railways are now being constructed throughout the islands, 260 miles being open for traffic; 420 miles under construction, of which a good deal is near completion; and 330 miles are authorized to be constructed.

Under the stimulus of the public works and emigration policy, no less than 43,965 emigrants arrived in New Zealand in 1874.

On the 31st of December, 1874, the colony had 2632 miles of telegraph lines, and 5284 miles of wires. The number of telegrams during the year was 844,301, of which total 724,582 were private, and the remainder government messages.

During the year 1874, the post office received 4,339,165 letters, and dispatched 4,719,291. The total number of newspapers received was 3,872,668, and dispatched, 2,434,024. Money orders to the number of 62,712 and the amount of \$1,315,820 were issued during 1874.

Grammar and free schools, endowed from the public revenues of the various

provinces, several colleges, and two universities, one being established in Otago and the other a corporation endowed by the general government, are the principal educational institutions.

The shipping entered in 1874 consisted of 856 vessels, with a tonnage of 399,296. Of these, 237 vessels, measuring 201,017 tons, were British; 552, measuring 170,303 tons, colonial; and 67, measuring 27,976, were foreign. Of the foreign vessels entered, 50 were American. Coasters are not included in the above statistics. In 1874 the number of vessels entered coastwise was 14,351, and their tonnage 1,353,085.

The number of individual exhibits included in this Catalogue from New Zealand is 1114.

Commission from NEW ZEALAND to the International Exhibition:

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NEW SOUTH WALES.

NEW SOUTH WALES, a British colony in the southeastern portion of Australia, is bounded on the north by a line which, beginning at Point Danger, in latitude $28^{\circ} 8'$ south, follows several lines of heights across the Dividing Range till it meets the 29th parallel, which forms the rest of the boundary westward; on the west by the 141st meridian; on the east by the Pacific Ocean; and the line separating it from Victoria on the south runs from Cape Howe, at the southeast of the island, northwest to the source of the Murray, and then along that stream, in a direction west by north, to the western boundary of the two colonies.

Its area is 323,437 square miles, and its population in 1874 was, exclusive of aborigines, 584,278. At the same date the population of Sydney, the capital, was 150,000. Within the colony of New South Wales, the mountain range, which girdles nearly the whole island, is most continuous and elevated, and is known as the Dividing Range. The section of this mountain system on the southern boundary of the colony, called the Australian Alps, rises in Mount Kosciusko to 6500 feet. From this the range extends northward, the water-shed being from 50 to 150 miles distant from the east coast, and thus divides the colony into two slopes, with two distinct water systems. The rivers on the eastern side descend with great rapidity, and in oblique tortuous courses, their channels often forming deep ravines. Many of them are navigable in their lower course for sea-going steamers. The principal are the Richmond, Clarence, Macleay, Manning, Hunter, Hawkesbury, and Shoalhaven. The numerous streams that rise on the west side of the water-shed within the colony, all converge and empty their waters into the sea through one channel within the colony of South Australia. The southern and main branch of this great river system is the Murray. The other great trunks of the system are the Murrumbidgee, which is navigable, the Lachlan, at times reduced to a string of ponds, and the Darling. The Macquarie, passing through the rich district of Bathurst, is a large tributary of the Darling, but it reaches it only in the rainy seasons. The coast line from Cape Howe to Point Danger is upwards of 700 miles long, and presents numerous good harbors formed by the estuaries of the rivers. Owing to the great extent of the colony, stretching as it does over eleven degrees of latitude, the climate is very various. In the northern districts, which are the warmest, the climate is tropical, the summer heat occasionally rising in inland districts to 120° , while on the high table-lands weeks of severe frost are sometimes experienced. At Sydney, the mean temperature of the year is about 65° . The mean heat of summer, which lasts here from the beginning of December to the 1st of February, is about 80° , but it is much modified on the coast by the refreshing sea breeze. The annual fall of rain is about 50 inches. Rain sometimes descends in continuous torrents, and causes the rivers to

rise to an extraordinary height. Sometimes the rains almost fail for five or six months in succession. Along the coast, for 300 miles from the northern boundary, the soil and climate are admirably adapted for the growth of cotton, and that plant has already been cultivated as far south as the river Manning (latitude 32° south). Farther south the climate is more temperate, and is fitted to produce all the grain products of Europe. Immense tracts of land, admirably adapted for agriculture, occur in the southwestern interior; while in the southeast coast districts the soil is celebrated for its richness and fertility. In the north, the tobacco plant, the vine, and sugar-cane are grown; and pineapples, bananas, guavas, lemons, citrons, and other tropical fruits are produced. In the cooler regions of the south, peaches, apricots, nectarines, oranges, grapes, pears, pomegranates, melons, and all the British fruits are grown in perfection, and sometimes in such abundance that pigs are fed with them. Wheat, barley, oats, and all the cereals and vegetables of Europe are also grown.

In 1875, New South Wales had 22,872,882 sheep, 856,699 horned cattle, 346,691 horses, and 219,958 pigs. The total area of land under cultivation, at the same date, embraced 469,957 acres, of which there were under wheat, 166,911 acres, under barley, 3984 acres, under oats, 17,974, under rye, 1342, under maize, 119,956.

New South Wales is believed to be richer in coal than the other territories of Australia. In 1874 there were 28 mines worked, producing in the year 1,298,400 tons of coal, valued at £786,152.

The gold mines of New South Wales cover a vast area, extending chiefly over the districts called the Western Fields, the Northern Fields, and the Southern Fields. Of these the Western Fields are the most important, furnishing three-fourths of the total supply. The gold exports of 1873 consisted of 200,134 ounces, value £773,439, of gold dust and bar, and of 490 boxes, value £2,151,168, of gold coin. The yield from the copper mines, in 1873, was 6027 tons.

The total exports during the year 1874 were £12,345,603; imports, £11,293,739.

The constitution of New South Wales vests the legislative power in a Parliament of two houses, the first called the Legislative Council, and the second the Legislative Assembly. The Legislative Council consists of not less than 21 members, nominated by the crown, and the Assembly of 72 members, elected by sixty constituencies. To be eligible a man must be of age, a natural-born subject of the Queen, or, if an alien, he must have been naturalized for five years, and resident for two years before election. There is no property qualification for electors, and the votes are taken by secret ballot. The executive is in the hands of a governor, nominated by the crown, who acts under the advice of ministers responsible to Parliament.

The public revenue during 1874 was £4,664,568; the expenditure, £4,426,040. The public debt, chiefly incurred for railways and other public works, amounted, at the end of 1874, to £10,842,415.

New South Wales possesses 436 miles of railways. Of electric telegraph, there were in the colony 8000 miles of wire, at the end of 1874. Number of paid messages transmitted during 1874, 385,000; number of telegraph stations, 105.

The post office of the colony transmitted 9,300,000 letters, 4720 newspapers, and 250,000 packets in 1874.

The number of schools, public and private, in 1872, was 1464, with 106,691 pupils.

Commission from NEW SOUTH WALES to the International Exhibition :

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VICTORIA.

VICTORIA comprises the southeast corner of Australia, at that part where its territory projects furthest into cool southern latitudes. Wilson's Promontory, to the southeast, the most southerly headland, just passes the 39° of south latitude, while the most northern point, which is at the opposite or northwest extreme, is in south latitude 34° . The longitude comprises 9° ,—between 141° and 150° east of Greenwich. To the west is the colony of South Australia, separated by the 141° of east longitude, to the north is New South Wales, separated by the line of the Murray river eastwards from 141° east longitude to its source, and thence by a straight line southeast to Cape Howe, and from Cape Howe to South Australia again the colony is bounded on the south by Bass's Strait. The extreme length is east and west, and is about 500 miles, by an extreme width north and south of 300 miles. But a remarkable indentation of both the north and south boundaries opposite each other, about the middle of the colony, reduces the breadth between the head of the Port Phillip inlet and the Murray to only 120 miles. The superficial area is 88,198 English square miles.

Although Victoria may be called mountainous, as compared with the general flatness of Australia, it has much of the quiet and peculiar scenery characteristic of that division of the world. The highest mountain in Australia, Mount Feathertop, is 6303 feet in height. The largest river, which runs throughout its entire course in Victoria, is the Gouldbourn, 230 miles long. The Murray, which winds for a distance of 630 miles along the northern boundary of Victoria, rises in New South Wales, and falls into the sea in South Australia, so that it can scarcely be called a Victorian river.

The climate is on the whole healthful and agreeable. The average temperature of Melbourne is 57.6° , about the same as that of Marseilles, Bordeaux, Bologna, Nice, and Madrid. The common summer heat is from 65° to 80° , with an occasional advance to 90° , and even to 100° , during hot winds and a dry season. The winter range is mostly from 45° to 60° . Ice occasionally occurs in the midwinter of July, but it rarely, except on elevated ground, survives the noonday sun.

The estimated population of Victoria, on the 31st of March, 1875, was returned at 810,442 by the Registrar-general.

In 1875 there were 1,011,776 acres under crops, including 332,936 acres of wheat, 114,921 of oats, 29,505 of barley, 35,183 of potatoes, 119,031 of hay, and 253,129 of green forage. The gross produce was: wheat, 4,850,165 bushels; oats, 2,121,612 bushels; barley, 619,896 bushels; potatoes, 124,310 tons; hay, 157,261 tons; wine, 577,493 gallons. The total number of horses was, in 1875, 180,254; milch cows, 241,137; horned cattle, 717,251; sheep, 11,221,036; pigs, 137,941. The manufactures of Victoria employed 25,000 persons, and the capital invested in machinery and plant was £5,000,000. The number of persons at work in the gold fields, December 31st, 1874, was 45,151, of whom 12,180, or 27 per cent., were Chinese.

The total value of the imports and exports of Victoria, including bullion and specie, for the year 1874, was as follows: Imports, £16,953,985; exports, £15,441,109. The most important, in value, of the imports are woolens, sugar, cotton, apparel and haberdashery, and tea. The two staple articles of export are wool and gold. The total exports of wool in 1874 amounted to 88,662,311 pounds, of the value of £6,373,641. The export of gold, exclusive of specie, was 1,012,153 ounces, of a declared value of £4,053,288.

The number of mercantile vessels on the register of Victoria, at the end of 1874, was 429, with a total tonnage of 70,696, and crews of 3229 men. Of these vessels 47 were steamers.

The constitution of Victoria was established by an act passed by the legislature of the colony in 1854, and subsequently confirmed by the crown. The legislative authority is vested in a parliament of two chambers—the Legislative Council, composed of 30 members, and the Legislative Assembly, composed of 78 members. A property qualification is required both for members and electors of the Legislative Council. No electoral property qualification is required for graduates of British universities, matriculated students of the Melbourne university, religious ministers of all denominations, certificated schoolmasters, lawyers, medical practitioners, and officers of the army and navy. Six members, or a fifth, of the Legislature Council must retire every two years, so that a total change is effected in ten years. The members of the Legislative Assembly are elected by universal suffrage, for the term of three years. The executive consists of a governor appointed by the crown, and a ministry which must contain at least four members of parliament, and must command a majority in the assembly. The revenue for the year 1874-75 was £4,406,906; the expenditure, £4,425,277. The public debt, incurred entirely for the construction of public works, amounted to £12,485,432 on January 1st, 1875.

Victoria has a more extensive system of railways than any other of the Australasian colonies. On the 1st of January, 1875, there were 457½ miles opened for traffic, and 427 more in course of construction. There were, in 1874, 148 telegraph stations, 4464 miles of wires. Number of telegrams forwarded during the year, 701,080. The work of the post office during the same year, 15,732,888 letters, 6,866,913 newspapers, and 1,269,822 packets. Number of post offices, 802.

The following table shows the educational condition of the population above five years of age:

	MALES.	FEMALES	TOTAL.
Able to read and write,	264,665	209,898	474,665
Able to read only,	30,049	36,336	66,385
Unable to read,	25,462	26,315	51,077

The state of education among the children, between 5 and 15, showed that 846 children out of 1000 could read, 640 could read and write, and only 154 were totally uneducated. Education in Victoria is gratuitous, secular, and compulsory, and the legislature has voted large sums for the primary education of the people.

The total number of schools is 1867, including 908 "common" schools, with an attendance of 154,353 pupils. (Furnished, in part, by the Victoria Commission.)

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SOUTH AUSTRALIA.

THE colony of South Australia embraces 25 degrees of latitude through the centre of the continent of Australia, from the Southern to the Indian Ocean, and is bounded on the east by the colonies of Victoria, New South Wales, and Queensland, and on the west by the colony of Western Australia. Its area is 914,730 square miles, or 585,427,200 acres; being about a third of the area of the United States of America, or ten times that of Great Britain. Its population is 210,699.

Its chief exports are wool, wheat, and copper. In 1875 the exports were valued at £4,442,100—namely: of wool, £1,778,297; of agricultural produce, £1,688,035; of metals, £758,664; and of other products, £217,104. Its revenue in 1875 was £1,143,312, its people not being taxed at a higher rate than 25 shillings a head. The people have purchased land of the government to the extent of 4,634,711 acres, of which 1,400,000 are under cultivation; and the average price paid since 1845 is £1 5s. 2d. per acre. The public debt is about £3,000,000; but, as an offset, is a sum of £2,225,000 due for lands sold to occupiers, and payable within six years.

The natural wealth of the colony in healthy climate, fruitful soils, and abundant minerals, has been greatly augmented by useful and substantial improvements. In addition to numerous ports made serviceable for coasting trade, inland traffic is facilitated by 884 miles of excellent macadamized roads, which have cost over £2,000,000; and by railways of nearly an equal further cost. The public and private buildings, both in towns and country, are mostly of well-built stone, with slate or iron roofs. Gardens and orchards, pasture and arable fields cover the more settled portions of the colony, whilst over hundreds of miles outside of these some 6,000,000 sheep, 200,000 head of horned cattle, many thousands of horses, and a few hundred camels, thrive at large on the native vegetation, save that their ranches, or runs, are mostly inclosed in areas of from 5 to 50 square miles with good post and wire fencing.

The best of meat and bread, fruit and vegetables, grow in abundance in South Australia. People there live well at little cost. Labor is well rewarded. There are not, or ought not to be, any able-bodied paupers in the colony. At the savings' banks, which are guaranteed by government, the small deposits of the poorer classes approximate £800,000, on which four to five per cent. interest is paid. Immigration is promoted by annual money votes, which, through Mr. F. S. Dutton, C. M. G., Agent-General for the colony in London, supply free or assisted passages for eligible persons.

The government, the laws, and the social institutions, like the people of South Australia, have an Anglo-Saxon character. There is the fullest civil and religious freedom under a vice-regal governor, whose ministers are chosen by, and are responsible to, a majority of two houses of parliament elected by ballot, as to the larger house, of manhood suffrage alone, and, as to the smaller house, by a slightly restricted property qualification. These organizations have worked harmoniously to the contentment of the people.

Churches and schools are numerous. The facilities for acquiring real property in the colony are great, and laws well secure its quiet enjoyment. The public lands are mostly sold on credit: one-tenth per cent. is paid down as interest on the purchase money, which is not less than twenty shillings per acre. The balance is deferred to the sixth year, a second ten per cent. on the purchase money having been paid on the third year as interest. At the sixth year half the

balance may be renewed for four years at four per cent, if needed; but that the State may secure certain benefit from the sale of its lands under a credit system, the purchaser is bound to effect annual improvements. All metals, precious or other, go to the purchaser. The title to real estate from the crown is by registration, of which the purchaser gets a certificate in simple form. This system is popular, for it is ready and inexpensive at the outset, and is returnable to the registration office for record on it of all subsequent dealings, or for substituted certificate, or certificate as needed, in the event of sales. At the close of 1874 the value of landed property, which had passed under it, amounted to £9,260,186. Adjoining colonies have adopted this law.

The settled portions of the colony of South Australia are sectioned off into counties, and these counties, when arable cultivation requires it, are subdivided into hundreds, whose municipal governing bodies can be elected for local public works and education. Outside the hundreds, in the southern portion of the colony, the public lands are left for purely pastoral occupation, for which fourteen or twenty-one years' leases can be procured at moderate rents, regulated much by distance from ports of shipment, except that, both as to public lands inside or outside the hundreds, rights to search for and work minerals are readily granted. The rent of a mining lease is fixed at ten shillings an acre per annum, on a fourteen years' term, renewable.

For the northern territory of South Australia, with its tropical climate, the land laws are modified. Land there is open for selection and sale at 7s. 6d. per acre, or for lease over ten years at 6d. per acre per annum. And, for the special growth of sugar, cotton, tea, rice, and tobacco, selections varying from 320 to 1280 acres can be made at a rental of 6d. per acre per annum for five years, when, if the land has been inclosed and one-half under cultivation, a free grant is procurable.

In 1872 South Australia erected 1973 miles of telegraph wire across her territory, and, at a cost of £350,000, connected Australia with India and Europe.

Commission from SOUTH AUSTRALIA (ADELAIDE) to the International Exhibition :

HIS EXCELLENCY, SIR ANTHONY MUSGRAVE, C. M. G., Chairman.

HON. W. EVERARD, Commissioner of Crown Lands.	DR. SCHOMBURGH, D. P., J. P.
HON. H. E. BRIGHT, M. L. C., J. P., Commissioner of Public Works.	CALEB PEACOCK, ESQ., J. P.
HON. JOHN CROZIER, M. L. C., J. P.	R. D. ROSS, ESQ., M. P., J. P.
HON. WENTWOOD CAVANAUGH, ESQ., M. P., J. P.	W. E. SMITH, ESQ., M. P., J. P.
JOSIAH BOOTHLY, ESQ., J. P.	WALTER HACKE, ESQ.
E. W. ANDREWS, ESQ., J. P.	J. A. HOLDEN, ESQ., J. P.
S. DAVENPORT, ESQ., J. P., Special Commissioner.	JOSEPH CROMPTON, ESQ.
GEORGE MCEWEN, ESQ., J. P.	S. V. PIZEY, ESQ.
	F. G. WATERHOUSE, ESQ.
	W. A. E. WEST ERSKINE, ESQ.
	C. J. COATES, ESQ., Commissioner and Honorary Secretary.

CAPE OF GOOD HOPE.

THE colony of the Cape of Good Hope is bounded north and northeast by the Orange river, which divides it, in parts of its course, from the Free State; east and northeast by the Tees, a small tributary of the Orange, the Stormbergen Mountains, and the Indwe and Great Kei, which two rivers separate the Cape Colony from Kaffirland; on the south it is bounded by the Indian Ocean, and on the west by the Atlantic. Latitude $28^{\circ} 10'$ to $34^{\circ} 51'$ south; longitude $16^{\circ} 20'$ to $28^{\circ} 20'$ east. The breadth on the greatest meridian is about 450 miles, the length on the largest parallel about 600 miles, and the total area is about 201,000 square miles. The colony is generally considered as forming two sections, the Western and Eastern Provinces, each divided into 16 electoral divisions, which are again subdivided for fiscal and magisterial purposes. The first regular census (1865) gave the following result as to the numbers of the population:

White, or European,	181,592
Hottentot,	81,598
Kaffir,	100,536
Other colored,	132,655
	496,381

Since the census, the annexation of British Kaffraria, Basutoland, Fingoland, and Normansland, added 58,47 whites and 273,930 colored to the population, making the total, 776,158.

Hydrographically, the country, as a whole, is decidedly superior to most parts of Africa. The seaboard presents several comparatively safe and commodious harbors. Of these, however, two—Table Bay in the Western Province, and Algoa Bay in the Eastern—absorb nearly the whole of the foreign trade. Hardly any of the ports command navigable communication with the interior.

The highest range of mountains within the colony is 9000 feet above the sea. The dividing ridge runs parallel with the coast at a distance of 100 miles. Between the principal range and the sea, on the east, there are two other ranges, less continuous and regular; the intermediate one generally more distant from the first than they are from each other.

The prevalent winds—the southeast in summer, and the northeast in winter—mitigate each the rigor, whether heat or cold, of its own season; and, in spite of occasionally sudden and great changes, render the temperature, as a whole, one of the most salubrious and delightful in the world. The mean temperature of the year at Cape Town is about 68° F.; that of the coldest month being 57° , and of the hottest, 79° .

The value of the total exports and imports of the Cape Colony, including British Kaffraria, was, in 1873, as follows:

Imports,	£5,451,927
Exports,	4,011,327

Among the articles of export, wool is the most important, forming nearly nine-tenths of the total. Among the other leading items are copper ore, feathers, and sheepskins.

There were, at the end of 1865, in the colony, 692,514 head of cattle and 9,836,065 sheep. The sheep farms are often of very great extent, comprising from 3000 to 15,000 acres and upwards. Those in tillage are comparatively small. The graziers are, for the most part, proprietors of the farms they occupy, paying a quit rent to government, as the original owner of the soil.

COMPARISON OF TOTAL STOCK IN THE COLONY IN 1865 AND 1875.

	1865.	1875.
Horses	228,465	207,318
Mules and asses	24,267	29,517
Draught oxen	249,291	398,825
Other cattle	443,004	698,681
Woolled sheep	8,426,619	10,064,289
Other sheep	1,465,883	944,050
Angora goats	121,432	972,733
Common goats	2,147,807	2,122,808
Pigs	78,578	110,489
Ostriches	80	22,257

There were lines of railways of a total length of 134 miles at the end of 1874, and a system of other main lines, as well as of telegraphs, was under consideration by the government.

The constitution vests the executive in the Governor and an Executive Council, composed of certain officeholders appointed by the crown. The legislative power rests with a Legislative Council of 21 members, and a House of Assembly of 66 members.

The income and expenditure of the colony, during 1873, were as follows:

Revenue,	£2,078,220
Expenditure,	2,159,658

Included in the above receipts is a loan of £859,000 for public works. The public debt, on the 1st of January, 1875, amounted to £1,723,144.

Commissioner from the CAPE OF GOOD HOPE to the International Exhibition:

MR. H. CRAWFORD COATES, Executive Commissioner.

JAMAICA.

JAMAICA, one of the West India Islands, and by far the most important of those belonging to Great Britain, is about 90 miles to the south of Cuba, and stretches in north latitude between $17^{\circ} 40'$ and $18^{\circ} 30'$, and in west longitude between $76^{\circ} 15'$ and $78^{\circ} 25'$. Area, 6900 square miles; population (in 1871), 506,154, of whom less than three per cent. were white. The greatest length of the island is 150 miles, and its greatest breadth, 50 miles. It is traversed from east to west by a heavily timbered ridge called the Blue Mountains, which rises to about 7000 feet. From this range at least 70 streams descend to the north and south shores; one of these, the Black river, affords for small craft a passage of about 30 miles into the interior. The others, owing to the shortness and declivity of their course, are not navigable. Excellent harbors are everywhere to be found. The best of these is formed by a deep and capacious basin, in the southeast quarter of the island, which washes the most spacious and fertile of the plains between the hill country and the coast. Around this inlet, and within a few miles of each other, are all the considerable centres of population, Port Royal, Kingston, and Spanish Town.

The climate varies considerably, the torrid belt of the coast gradually passing into the temperate region of the central heights. The latter is said to be remarkably favorable to longevity; and, after having long been a retreat for the residents themselves, it has lately begun to attract invalids from the United States. To contrast two positions—the one near Kingston harbor, the other at an intermediate elevation of 4000 feet—their annual mean temperature are stated to be respectively 81° F. and 68° F.

In 1871 the chief exports were in value as follows: Sugar, £502,193; rum, £271,267; coffee, £147,562; logwood, £115,423; while the chief imports were: Flour, £135,500, and salt-fish, £92,801. During the same year the revenue amounted to £434,564; the expenditure to £430,154.

The sum of £19,403 was devoted to the support of the schools during the year 1872.

Commissioner from JAMAICA to the International Exhibition:
WM. ROBERT THOMSON, ESQ., Kingston.

BAHAMAS.

A CHAIN of islands lying between $21^{\circ} 42'$ and $27^{\circ} 34'$ N. lat., and $72^{\circ} 40'$ and $79^{\circ} 5'$ W. long. The group is composed of about twenty inhabited islands and an immense number of islets and rocks. The principal islands are New Providence (containing the capital, Nassau), Abaco, Harbor Island, Eleuthera, Inagua, Mayaguana, St. Salvador, Andros Island, Great Bahama, Ragged Island, Rum Cay, Exuma, Long Island, Crooked Island, Acklin Island, Long Cay, Watling's Island, the Berry Islands, and the Biminis. In 1848 the Turks and Caicos Islands were separated from the other Bahamas and formed into a distinct government, under the government-in-chief of the governor of Jamaica. The Turks and Caicos Islands lie between 21° and 22° N. lat., and 71° and $72^{\circ} 37'$ W. long.

There are ten colonial custom-houses and ports of entry in the government of the Bahamas—viz., Nassau, Abaco, Eleuthera, Harbor Island, Exuma, Rum Cay, Long Island, Long Cay, Inagua, and Ragged Island. Considerable quantities of pineapples, oranges, and sponges are exported, chiefly to England and the United States. The pineapple crop is very precarious. The industry of salt-raking has ceased to be remunerative, owing to the duties imposed on salt by the United States. Experiments in coffee-planting and other branches of industry have been commenced under the patronage of the present governor.

The public expenditures for 1874 were £37,283; receipts during the same year, £38,374. The total public debt in 1873 was £65,081.

In 1874 the imports were valued at £183,993, and the exports at £130,293. The census of 1871 gave the population of the colony as 39,162.

The colony's staples are salt, fruit, sponge, barks, dye and furniture woods, guano and straw, turtle-shell, fish-scale, and shell-work.

The articles on exhibition fairly represent the productions and manufactures of these islands, and both might be indefinitely extended. But it is not the commercial position of the Bahamas only which should make a knowledge of them general. Their equality and wonderful salubrity of climate commend them to all who seek a genial, healthy, life-giving atmosphere. As a winter home for the afflicted, Peter Henry Bruce wrote nearly a century and half ago, "It is no wonder the sick fly hither for relief, being sure to find a cure here." Modern travelers also testify that, as a resort from damp and cold to sunshine and summer, for those who require change and climatic benefit, the Bahamas offer peculiar advantages. The heat is tempered by an ocean breeze of softness and purity seldom experienced elsewhere. Tropical flowers gladden the eye, and the luscious pineapple, orange, and melon tempt the palate with their freshness and beauty. Fish abound in the clear pellucid waters surrounding these islands, and the northern fowl seek a home on the lakes. In a word, the Bahamas seem by nature fitted as a grand sanitarium for the afflicted from the North American continent, and as a most desirable winter resort for all who wish to escape the rigors of the northern season.

(The above data have been derived from the special Catalogue of the British section.)

BERMUDAS,

OR Somers' Islands, are a cluster of about one hundred small islands, situated on the western side of the Atlantic Ocean, in lat. $32^{\circ} 15'$ N. and long. $64^{\circ} 51'$ W., at a distance of about 580 miles from the nearest land—viz., Cape Hatteras, in North Carolina. Fifteen or sixteen of these islands are inhabited; the rest are of inconsiderable size, the largest, or Bermuda proper, containing less than twenty square miles of land, and nowhere exceeding three miles in breadth.

The islands extend from N.E. to S.W. in a curved line for about twenty miles, bending inward at both extremities, so as to enclose spacious and secure harbors.

Besides the main island, on which the town of Hamilton, the present seat of government, is situated, the principal islands are St. George's, where the ancient town of St. George, the former capital, stands; Ireland Island, where the dockyard is established; Boaz and Watford Islands, occupied entirely by a military detachment, formerly a convict establishment; Somerset, St. David's, Smith's, Cooper's, Nonsuch, Godet's, Port's, and River's. With the exception of one break between Somerset and Watford Islands, there is continuous communication by bridges from St. George's to Ireland Island. The climate has been long celebrated for its mildness and salubrity. The islands produce arrowroot of a fine quality, and an indigenous cedar of great durability, well adapted for ship-building and house-timber. A few whales are occasionally taken in the neighboring waters. Turtle are common.

The islands derive their name from Bermudez, a Spaniard, who sighted them in 1527. They were first colonized by Admiral Sir George Somers, who was shipwrecked there in 1609, on his way to Virginia. On his report the Virginia Company claimed them, and obtained a charter for them from James I. in 1612. This company sold their right for £2000 to an association of 120 persons, who obtained a new charter in 1616, incorporating them as the Bermuda Company, and granting them very extensive powers and privileges. Representative government was introduced in 1620. In 1621 the Bermuda Company in London made a Body of Ordinances for the government of the colony. During the civil war great numbers of emigrants from England were attracted thither by the favorable reports of the climate and soil. Toward the end of the reign of Charles II. grave complaints were made by the inhabitants of the misgovernment of the plantation by the company, and its charter was annulled by process of quo warranto, at Westminster, in 1684-85. Since then the governors have been appointed by the Crown, and laws for the colony enacted by a local legislature, consisting of the governor, council, and assembly. The lands belonging to the company were forfeited to the Crown on the annulment of their charter, and, with the exception of some reserved for public uses, were granted in 1759 to purchasers on small quit-rents, extinguishable on the payment of a fixed sum of money.

During the Revolutionary war in North America the inhabitants suffered great privations from the scarcity of food; and although they export largely certain articles of agricultural produce, especially potatoes, onions, tomatoes, and arrowroot, they are still dependent on foreign supplies for all the flour and most of the meat consumed. Early in the present century the importance of the Bermudas as a naval station came to be recognized. Ireland Island was purchased exclusively by the government, and a dockyard established there. By order in council, dated June

28, 1824, the Bermudas were declared a place where male convicts might be kept at hard labor on the public works; but these islands never were made a penal settlement, strictly speaking, where convicts might be discharged. The establishment was broken up in 1863. On the abolition of slavery in 1834, the system of temporary apprenticeship of the emancipated slaves, permitted by the Act of Parliament in the slave-holding colonies, was dispensed with by the local legislature of Bermuda, so as to entitle the slaves to their absolute freedom six years sooner than was required by Parliament. They and their descendants now form more than a numerical half of the entire population.

In 1846 a lighthouse, visible at more than thirty miles' distance, was erected on the highest land in the colony, the light being 362 feet above the sea. A public library was established in 1839. In 1871 the island of St. George's was connected with the main island by a causeway and road two miles in length, commenced in 1866, and completed at a cost of nearly £30,000. An iron-girder swing-bridge still permits the passage of vessels.

The revenue in 1874 was £29,066, the expenditure £29,800, the public debt £13,234, the imports £252,435, the exports £81,585; total tonnage of vessels entered 72,212; cleared, 71,935. The census of 1871 showed a population of 12,121, of whom 4725 were white, 7396 colored.

(The above data have been derived from the special Catalogue of the British section.)

Commission from BERMUDA to the International Exhibition:

HIS HON. THOMAS L. WOOD, Chief Justice, President.

HON. HENRY FOWLER, Receiver-General.

LT. COL. BLAND, R. E.

JAMES TUCKER, ESQ., Colonial Secretary and Honorary Secretary.

CAPT. LOCKHART, R. A., A. D. C.

Assistant Commissioners.

A. H. FRAZER LEFROY, ESQ.

J. B. HEYL, ESQ.

W. S. BARR, ESQ.

C. C. KEANE, ESQ.

H. J. HINSON, ESQ., M. D.

Resident Commissioner—A. A. OUTERBRIDGE, Philadelphia.

BRITISH GUIANA.

THIS colony is a portion of the South American Continent, extending from east to west about two hundred miles. It includes the settlements of Demerara, Essequibo, and Berbice. It is bounded on the east by Dutch Guiana, from which it is divided by the river Corentyn, on the south by Brazil, on the west by Venezuela, and on the north and north-east by the Atlantic Ocean.

This territory was first partially settled by the Dutch West India Company in 1580. It was from time to time held by Holland, France, and England. It was restored to the Dutch in 1802, but in the following year retaken by Great Britain, to whom it was finally ceded in 1814. It is impossible to determine the exact area of the

colony, as its precise boundaries are undetermined between Venezuela and Brazil, respectively, but it has been computed to be 76,000 square miles.

Under the Dutch, Demerara and Essequibo constituted one government, and Berbice another, which arrangement indeed continued in force under the British administration down to the year 1831.

The revenue in 1874 was £475,885, the expenditure £485,893, both exclusive of the sums expended on immigration by the planters. The public debt was £426,030, but £400,030 was invested for a sinking fund, or otherwise secured. The exports in 1874 were valued at £1,873,219, the imports at £2,761,837.

The population in 1871 was stated to be 193,491, of whom 113,570 were natives of British Guiana, 13,385 of West India Islands, 7925 of Madeira and the Azores, and 9635 of other places. The estimated population in 1875 was 212,000, including an immigrant population under indenture on estates of 38,597, of whom 33,360 were Indians, 3875 Chinese, and 562 Africans. The aboriginal Indians were estimated in 1851 at about 7000; but Mr. M'Clintock, Superintendent of Rivers and Creeks, an undoubted authority on the subject, carries the number as high as 20,000 or 21,000, but the numbers of the tribes within the British territories vary, and are at all times very uncertain.

(The above data have been derived from the special Catalogue of the British section.)

Commission from BRITISH GUIANA to the International Exhibition.

A. A. OUTERBRIDGE, Commissioner, Philadelphia.

CEYLON.

AN island situated in the Indian Ocean, off the southern extremity of Hindostan, lying between 5° 55' and 9° 51' N. lat., and 79° 41' and 81° 54' E. long.; its extreme length from north to south—*i. e.*, from Point Palmyra to Dondera Head—is 266 miles; its greatest width 140½ miles, from Colombo on the west coast to Sangemankende on the east.

The climate for a tropical country is comparatively healthy, the heat in the plains, which is nearly the same throughout the year, being much less oppressive than in Hindostan. Along the coast the annual mean temperature is about 80° Fahr.; at Kandy, 1465 feet above the sea level, it is 76° (average of ten years); at Colombo the annual variation is from 76° to 86°; at Galle 70° to 90°; and at Trincomalee 74° to 91°. In the mountain ranges there is of course a great variety of climate, the thermometer at the hill station Nuwara Eliya, which is some 6000 feet above the level of the sea, falling at night as low as 32°.

Ceylon was visited in early days by the Greeks, Romans, and Venetians; in 1505 the Portuguese formed settlements on the west and south of the island; in the next century they were dispossessed by the Dutch. In 1795-6 the British took possession of the Dutch settlements in the island. They were annexed then to the Presidency of Madras, but five years later, in 1801, Ceylon was constituted a separate colony. In 1815 war was declared against the native government of the interior: the Kandyan king was taken prisoner, and the whole island fell under the rule of the British.

By letters patent under the Great Seal, April, 1831, a Council of Government was appointed, and by a supplementary commission to the then governor (March, 1833) the form of government almost as now existing was established.

The public expenditures for 1874 were £1,184,192; receipts, £1,324,328. The total public debt in 1874 was £600,000. In 1874 the total value of imports was £5,691,860, and of exports £4,687,388.

(The above data have been derived from the special Catalogue of the British section.)

STRAITS SETTLEMENTS.

SINGAPORE is an island about 25 miles long by 14 wide, situated at the southern extremity of the Malayan peninsula, from which it is separated by a narrow strait about $\frac{3}{4}$ of a mile in width. There are a number of small islands adjacent to it which form part of the settlement. The seat of government is the town of Singapore, at the southern point of the island, in lat. $1^{\circ} 16' N.$, and long. $103^{\circ} 53' E.$

Penang is an island about 20 miles long and 9 broad, containing an area of 107 square miles, situated off the west coast of the Malayan peninsula in $5^{\circ} N.$ lat., and at the northern extremity or entrance to the Straits of Malacca. On the opposite shore of the mainland, from which the island is separated by a strait from 2 to 10 miles broad, is Province Wellesley, a strip of territory forming part of the settlement, averaging 8 miles in width, and extending 45 miles along the coast, including 10 miles of newly-acquired territory to the south of the Krian. The chief town is George Town, in $5^{\circ} 24' N.$ lat. and $100^{\circ} 21' E.$ long.

Malacca is situated on the western coast of the peninsula, between Singapore and Penang, about 120 miles from the former and 240 from the latter, and consists of a strip of territory about 42 miles in length, and from 8 to $24\frac{1}{2}$ miles in breadth. The principal town, called Malacca, is $2^{\circ} 10' N.$ lat. and $102^{\circ} 14' E.$ long.

The revenue during the year 1874 was £309,991, and the public expenditures £317,726.

(The above data have been derived from the special Catalogue of the British section.)

GOLD COAST COLONY, WEST AFRICA.

THE Gold Coast Colony, which comprises the British settlements on the Gold Coast and at Lagos, was constituted by a charter under the Great Seal, bearing date the 24th day of July, 1874.

The Gold Coast is the name generally given to a portion of Upper Guinea, between 5° and $4^{\circ} 20'$ E. long., stretching along the Gulf of Guinea from the river Assini on the west to the river Volta on the east, between which points are the settlements of Axim, Dixcove, Secondee, Elmina, Cape Coast Castle, Anamaboe, Accra, and Addah. In 1672 a company was formed, called the Royal African Company, which built forts at Dixcove, Secondee, Commendah, Anamaboe, Winnebah, and Accra, besides strengthening Cape Coast Castle, which was already in existence. This company was succeeded in 1750 by the African Company of Merchants, constituted by Act of Parliament, with liberty to trade and to form establishments on the West Coast of Africa between 20° N. and 20° S. lat. This company was dissolved in 1821 by Act of Parliament, and the forts transferred to the Crown, by whom they were placed under the government of Sierra Leone.

The revenue of the Gold Coast for 1874 was £74,868, the expenditure £47,796. The annual imports were £225,525, the exports, £330,624. It has no public debt. The estimated population, including the protectorate, is 400,000.

The revenue of Lagos for 1874 was £39,350, the expenditure £37,296, the public debt £11,631. The imports for the same year were £348,636, the exports £486,227. The population is 62,021.

(The above data have been derived from the special Catalogue of the British section.)

MAURITIUS.

AN island lying in the Indian Ocean, between $57^{\circ} 17'$ and $57^{\circ} 46'$ E long., and $19^{\circ} 58'$ and $20^{\circ} 32'$ S. lat. It is 400 miles east of Madagascar. It comprises an area of 676 square miles.

The Mauritius was discovered by the Portuguese in 1507. They claimed possession of it during nearly the whole of the sixteenth century. The first who made any settlement in it were the Dutch in 1598, who named it Mauritius, in honor of their prince Maurice. It was abandoned by them in 1710, and afterward taken possession of by the French. Mauritius was for a long time during the war a source of great mischief to English merchant-vessels and Indiamen, from the facility with which sorties might be made from it upon traders by French men-of-war and privateers. The British government determined on an expedition for its capture, which was effected in 1810. The possession of the island was ratified by the treaty of Paris, 1814.

Mauritius pays £45,000 per annum to the imperial government as military contribution, but this amount is subject to reduction when the garrison is below the standard fixed upon as necessary for the defence of the colony. The total police force is 849.

The revenue for 1874 was £720,130, the expenditure £727,063, the public debt £895,600, bearing six per cent. interest. The imports were £2,427,813, the exports £2,697,892. The estimated population at the close of 1874 was 3,331,371, of whom 233,017 were Indians.

(The above data have been derived from the special Catalogue of the British section.)

QUEENSLAND.

QUEENSLAND occupies the whole of the northeastern portion of Australia, commencing at a point of the east coast about 400 miles north of Sidney, called Point Danger, in latitude $28^{\circ} 8'$ south. The greater portion of the southern boundary line is formed by the 29th parallel of south latitude. The eastern seaboard extends about 1300 miles to Cape York, the extreme northern point of the continent, in latitude $10^{\circ} 40'$. The mean breadth of the territory is 900 miles from the eastern coast-line to the meridian of 138° east longitude, which forms the western boundary line. This includes the greater portion of the Gulf of Carpentaria, which has a seaboard of about 900 miles. The whole of Queensland comprises 678,000 square miles,—nearly twelve times the area of England and Wales.

The portion of the colony extending along the eastern coast, is indented with numerous bays, which are the outlets of many navigable rivers, having their sources in the cool gorges and deep recesses of a great mountain range, running north and south, parallel with the sea coast, at a distance of from 50 to 100 miles. The summits of this great dividing range rise from 2000 to 6000 feet above the level of the sea. Numerous spurs are given off from the range, in ridges sloping gradually towards the coast. These ridges are generally composed principally of quartz, and in many places form good natural roads for a considerable distance. The ridges are usually covered with a variety of fine and valuable timber. The iron-bark, bloodwood, box, and other descriptions of wood, very valuable to the farmer for fencing and building, are found here in great abundance.

Unlike almost every other portion of Australia, Queensland is correctly described as "a land of rivers and streams." These rivers find an outlet in the many large and beautiful bays and estuaries on the eastern seaboard. One of these, Moreton Bay, receives the waters of five rivers, which are always navigable. The largest of these, the Brisbane, is navigated by good-sized steamers for 75 miles, and is nearly a quarter of a mile wide at a distance of 15 miles from its mouth. The principal rivers on the eastern seaboard are the Logan, the Brisbane, the Mary, the Caliope, the Boyne, the Fitzroy, the Pioneer and the Burdekin. The longest tidal river in Queensland is the Fitzroy, which drains an area of not less than 50,000,000 of acres, and is navigable as far as Yaruba, 60 miles from its estuary in Keppel Bay. It receives as its principal tributaries, the Dawson, Mackenzie, and Isaacs, large streams flowing for several hundred miles from the northwest, west, and southwestern parts of the interior. The tide at Rockhampton (40 miles from the embouchure of the river) rises 4 feet, and the stream is thus navigable for vessels of considerable burden.

The banks of the rivers are usually well elevated, and in many places consist of very rich alluvium, brought down from the great mountain ranges. This alluvial soil is frequently of very great depth, and is marked everywhere by a magnificent growth of timber, very unlike the ordinary Australian wood.

Beyond the Main, or great dividing range, the country presents features of still greater beauty and fertility. Vast plains—60, 70, or 80 miles across—stretch out their level surface, unbroken by a single tree, but covered with luxuriant grass, and often purpled over with fragrant herbage. These great plains are composed of rich, black soil. They are well watered with a network of streams, which trickle down from the gradual slopes of the mountain range. The soil in this locality is admirably adapted for tillage; and within a certain distance of the mountain range the rains fall with great regularity. The land here is lightly timbered, and is cleared with less labor than on the lower lands, and the soil has proved to be peculiarly adapted for the growth of wheat of the finest quality. The yield per acre in this locality has sometimes been as much as 50, and even 60 bushels, of 63 pounds to the bushel. The

average yield may be estimated at 30 bushels per acre. Indian corn and other cereals as well as all the European fruits grow luxuriantly, and come to the greatest perfection in this highly favored locality, which has been called the Garden of Queensland.

This country, west of the great dividing range, stretches away in a series of fine plateaux for a distance of 400 or 500 miles westward, and, with the interruptions of other mountain ranges crossing the main range at right angles, for upwards of 1000 miles towards the fertile plains bordering the shores of the Gulf of Carpentaria.

The climate of Queensland is said to closely resemble that of Madeira; the mean annual external shade temperature, taken at Brisbane, being very nearly the same as at Funchal in Madeira, though it is a little hotter in the summer and colder in the winter at Brisbane than at Funchal. Moreton Bay, now Brisbane, has for many years been the resort of invalids from all the other British colonies in the southern hemisphere, and has been called the Montpellier of Australia. The summer season is hot,—the thermometer rising sometimes to 90° or even 100° in the shade; but the air is dry, elastic, and healthy, and the sea breezes temper the heat, and make it perfectly endurable, even to the outdoor laborer, in the hottest time of the year. However hot the day, the night is almost invariably cool, even in the most northern parts of the colony.

The growth of cotton and of the sugar-cane has been attempted in recent years, and both industries are reported to be rapidly advancing. At the end of 1873, there were 9663 acres under cotton, and 14,495 acres under sugar-cane, out of a total of 64,218 acres under cultivation.

The live stock at the end of 1873 numbered 99,243 horses, 1,343,093 cattle, 7,268,946 sheep, and 42,884 pigs. It is estimated that there are, at present, about 17,000,000 sheep in the colony.

There are several coal mines in the colony, the produce of which, in 1873, amounted to 33,613 ounces, valued at £22,052. Gold fields were discovered in 1867, the principal of them at Gympie Creek, which had a digging population of 5010 at the end of 1873. The total gold produce amounted to 163,972 ounces, valued at £555,310, in 1873.

The total value of the imports and exports of Queensland, during the year 1875, was: Imports, £3,881,726; exports, £4,544,513. The principal articles of export are gold, wool, tin ore, and raw cotton.

The form of government of Queensland was established December 10th, 1859, on its separation from New South Wales. The power of making laws and imposing taxes is vested in a Parliament of two houses, the Legislative Council and the Legislative Assembly. The former consists of 21 members, nominated by the crown for life. The House of Assembly comprises 42 deputies, returned from as many districts, for five years, by the ballot vote of all taxpayers. The executive is vested in a governor appointed by the crown.

Queensland is divided into 17 municipalities, the largest of which, as regards population, is Brisbane. It contains the city of Brisbane, the capital of the colony and the seat of government, with a population of 19,413, at the end of 1872.

At the end of 1873, there were 218 miles of railway open for traffic.

The post office during that year carried 2,459,434 letters, 1,594,792 newspapers, and 93,540 packets. There were 20,998 money orders, to the value of £85,455.

At the end of 1873, there were in the colony, 3609 miles of telegraph wire, with 73 stations. The number of messages sent in 1873, was 156,608.

An excellent system of primary education, which, since 1870, has been made in successful and vigorous operation throughout the colony.

Commission from QUEENSLAND to the International Exhibition :

ANGUS MACKAY, ESQ.

P. A. JENNINGS, ESQ.

W. B. TOOTH, ESQ.

W. HILL, ESQ.

W. R. GORDON, ESQ.

C. STRAGER, ESQ.

T. STOMAN, ESQ.

SEYCHELLES ARCHIPELAGO.

THE island of Rodrigues, the Seychelles Islands, Diego Garcia, and others, are dependencies of the Mauritius. Rodrigues is situated about 300 miles east of Mauritius. It is 26 miles in length by 12 in breadth. It is cultivated by colonists from Mauritius.

The Seychelles, or Mahc Islands, are situated between the parallels of south latitude 4° and 5° ; the total number of acres comprised in this group is 50,120; the distance from Mauritius 940 miles. These islands are under the superintendence of a Chief Civil Commissioner (assisted by a Board of Commissioners) at Mahe, who is appointed by the Secretary of State, but is subordinate to the Governor of Mauritius, from whom he takes instructions.

(The above data have been derived from the special Catalogue of the British section.)

TASMANIA.

TASMANIA, formerly known as Van Diemen's Land, is an island about 100 miles S. E. of Australia, from which it is separated by Bass' Strait. It lies between lat. $40^{\circ} 45'$ and $43^{\circ} 35'$ S., and long. $144^{\circ} 50'$ and $148^{\circ} 20'$ E. Its greatest length from N. to S. is 186 miles, its medium breadth 165 miles. The total area is 16,778,000 acres, of which 3,982,003 acres are alienated from the Crown by grant and sale; 1,348,400 acres are held under depasturing licenses from the Crown; the total area under cultivation is 326,486 acres. Wheat is cultivated on 57,633 acres; barley on 5129; oats on 32,704. Consequent on the high duties enforced on agricultural produce by the other Australian colonies, and the fluctuating state of the intercolonial markets, the attention of Tasmanian agriculturists has of late years been turned to the production of wheat for the English market, and this has become the most important article of strictly agricultural produce. The export of grain in the year 1874 was valued at £115,788.

Salubrity and comparative coldness of climate, owing to higher latitude, make Tasmania a breeding station of stud stock for all the Australian continent. The number of horses in 1874 was 23,208, cattle 110,450, and sheep 1,714,168.

Most of the wool produced is merino, the export during the year 1874 amounting to 5,050,920 lbs., which represented a value of £350,713.

Mining industry for many years was confined to gold and coal, but of late tin, iron, and slate have attracted attention. The yield of gold in 1874, produced by 185 persons, was—alluvial 850 oz., quartz 3800 oz. 14 dwt. The quantity of quartz crushed was 3452½ tons. The average yield per ton of stone was 1 oz. 5 dwt. 8½ grs. The average value of gold per ounce was £3 19s. 6d. for alluvial; quartz, £3 19s. 6d. The total value of the produce of gold for 1874 was £18,491. The mineral which occupies the greatest share of attention is tin, the supply of ore being practically unlimited. The total amount raised in 1874 was 490 tons, valued at £78 a ton. The only locality in which silver ore has been worked in Tasmania is Pen-

guin Creek. Of iron the quantity raised during 1874 was 1400 tons; of this quantity 1000 tons were raised at Lempriere, West Tamar, and 400 tons at Lewisham.

The island is intersected by valuable coal-measures. At present the output of Tasmanian coal is not extensive, and the island is mainly supplied from Newcastle, New South Wales, although, for domestic purposes, Tasmanian coal is used to a considerable extent.

Of late years attention has been directed to the slate deposits of Tasmania; the high prices ruling for English slates in the colonial markets has induced the Australian Slate Company to commence work on a fair scale. In 1874 a quarter of a million of slates were prepared for sale at Piper's River.

At Ilfracombe Bay there is an extensive bed of pure white clay which seems very refractory, and which, when mixed with fine quartz (also abundant and close at hand), forms an admirable fire-brick. Common clays are found in all directions and the iron companies are now manufacturing bricks. Kaolin or porcelain clay is also found at Circular Head.

In the West Tamar district limestone quarries have been worked for many years past. There is an immense mountain of blue limestone situated about two miles from the township of Latrobe, on the River Mersey. At the River Don there are very large deposits of pure carbonate of lime, and the eastern districts, especially Fingal, abound with lime of various kinds and qualities.

The principal timber trees of Tasmania—such as blue gum, stringy bark, white gum or gum-topped stringy bark, swamp gum, and peppermint tree—furnish a hard, close-grained, and strong timber. Other useful woods are the huon pine, blackwood, myrtle, swamp gum, sassafras, celery-topped pine, silver wattle, ironwood, native cherry, whitewood, pinkwood, and native pear.

Bark is largely exported to England and New Zealand for tanning purposes. The price of ground bark varies from £4 to £6 per ton at the ports. During the year 1874 about 4870 tons were exported, valued at £22,123. Hops are also largely cultivated. In 1874, 819,145 pounds weight were exported, valued at £42,284.

The principal animals are the kangaroo, wallaby, opossum, and bandicoot, the skins of which are all available for tanning purposes, the fur being highly valuable as rugs, etc. The devil and Tasmanian tiger are formidable beasts, and used to make great havoc among the flocks. The tiger is a low, long-bodied animal with powerful forequarters and a dog-like head, weighing sometimes from sixty to seventy pounds. The devil, though not so large, is more hideous in appearance than the tiger.

Of birds 171 species have been observed, but of these only 20 species are supposed to be peculiar to Tasmania. The notes of many of the birds are very musical, the most remarkable being the reed warbler, the tones of which approach those of the nightingale, the black and white magpie, and the butcher-bird. The principal edible birds are varieties of quail, duck, snipe, golden plover, and pigeons.

There are many species of freshwater fish, the most valuable being the cucumber grayling. Among the estuary fish, those most appreciated as edible are the sole, whiting, garfish, and rock-cod. The best of the deep-sea fish are the trumpeter and kingfish. During the last ten years the salmon trout and brown trout, the tench and perch, have been established in many of the rivers and lakes. Salmon and salmon trout have also succeeded.

The chief industries are brewing, milling, jam-making, fellmongering, tanning, and coopering. Most of the beer is excellent, and is appreciated in the other colonies. In 1874 ale to the quantity of 22,900 gallons was exported. The quantity of jam exported in the same year was 2,648,012 lbs., and 179,762 bushels of fruit, valued together at £120,027. Tasmanian leather is excellent, all varieties from kip to kangaroo being supplied of such quality that a great falling off in the importation of inferior leather from European ports has taken place; and in 1874, £15,513 worth was exported from Hobart Town.

There is one remarkable feature distinguishing Tasmania from all other countries whose statistics have been compared with hers which ought not to be passed by unnoticed—namely, the small mortality among children, particularly those under one year of age. Taking an average of five years, the following results have been arrived at. Out of 100 infants born there died within the first year in Tasmania 9.45; in N. S. Wales, 9.57; in Queensland, 11.07; in Victoria, 11.86; in S. Australia, 14.24; the number in England being about 16; in Scotland about 12½. The percentage of deaths of children under five years was: Tasmania, 20.08; N. S. Wales, 42.14; Victoria, 45.50; Queensland, 46.33; S. Australia, 54.17. The proportion of children under five who died to 1000 children of the same age living was: In Victoria (ten years) about 52¼; in England and Wales (thirty years), about 67½; in Tasmania, less than 27. Thus it appears that the mortality of children under five years of age in Tasmania is little more than half that of the least healthy of the Australian colonies. It is also considerably under that of New Zealand, which, as regards the general death-rate, is the most healthy of all the Australasian group.

In 1870 the population, according to the census then taken, numbered 99,328 souls; the estimated population on the 31st of December, 1874, was 104,176. The revenue for 1874 was £327,925, and the expenditure £318,278. The amount expended for public works, roads, bridges, and railways, inclusive of the expenditure on the Launceston and Western District Railway, amounted during the year 1874 to £45,410. The value of imports during the same period was £1,247,785, while that of exports was £925,325.

(The above data have been in part condensed from the official report of the Victoria Exhibition, 1870.)

Commission from TASMANIA to the International Exhibition.

H. P. WELCH, ESQ., Commissioner.

P. A. JENNINGS.

TRINIDAD.

TRINIDAD is an island lying to the eastward of Venezuela, between N. latitude 10° 3' and 10° 50', W. longitude 61° and 62° 4' of Greenwich. Its length is 65 miles on the southern and 53 miles on the northern side of the island, and its breadth, on the eastern and western sides respectively, 48 and 49 miles. It is separated from the continent of America by the Gulf of Paria, into which fall the northern mouths of the Orinoco. The area of the island is 1754½ square miles. Port of Spain, the chief town and port of entry, according to the census of 1871, contains 23,561 inhabitants. The second town and port of entry is San Fernando, 26 miles south from Port of Spain, with a population of 5006 inhabitants. There are also the minor island towns of St. John, St. Joseph, Aronca, and Arima. The harbor is the finest in the West Indies.

The revenue for 1874 was £276,529, the expenditure £294,006. The public debt is £100,000 for railways and £47,500 secured on general revenue, but recoverable by the colony from other parties. The imports in 1874 were £1,342,992, the exports, £1,412,260. The census of 1871 showed a population of 109,638.

(The above data are derived from the "Colonial Office List," 1876.)

INDIA.

BRITISH INDIA is the name given to those parts of Hither and Further India placed under the administration of the viceroy, or governor-general of India. It does not include Ceylon, which, although a British possession, has its government entirely separate from that of Hindustan; but it extends along the eastern coast of the Bay of Bengal to 10° south latitude, and thus includes part of Further India, or Indo-China.

The following table, from the statistical abstract, relating to British India, for 1873 shows the area and population of the provinces under British administration :

TERRITORIES AND PROVINCES UNDER THE ADMINISTRATION OF	AREA IN ENGLISH SQ. MILES.	POPULATION.	AVERAGE POP. PER SQ. MILE.
Governor-general of India:			
Ajmere,	2,672	426,268	159
Coorg,	2,000	168,312	84
Berar,	16,960	2,231,565	132
Mysore,	27,077	5,055,412	187
Governor of Madras,	141,746	31,311,142	220
" " Bombay,	127,532	14,042,596	110
Lieutenant-governor of Bengal,	248,231	66,856,859	269
" " Northwest Provinces,	80,901	30,769,056	380
" " Punjab,	102,001	17,596,752	173
Chief Commissioner of Oude,	23,973	11,220,747	465
" " Central Provinces,	84,162	9,066,038	108
" " British Burmah,	93,664	2,562,323	27
	950,919	191,307,070	201

Cotton is the most important product of Hindustan. Wool will probably soon become a great Indian staple. The chief supply is from the Himalaya and Afghan regions. Hemp and flax, silk from the high lands, coffee, linseed, tobacco, and indigo, are all valuable productions of British India. The leaves and silver blossoms of the tea plant are beginning to cover the Himalaya slopes, and the hilly districts of Bengal, the Northwest Provinces, and the Punjab. Great quantities of rice are raised in Southern India and British Burmah. The Malabar district, Martaban, and Tenasserim furnish thousands of logs of the best teak timber. The cinchona or quinine plant has lately been introduced on the Neilgherries with great success, the original plants having been brought over from Peru.

The total value of the imports of British India, during the year 1874, was as follows:

	IMPORTS.	EXPORTS.
Merchandise,	£32,593,609	£54,960,778
Treasure,	5,792,533	1,914,071
Total,	£38,386,142	£56,874,849

The imports and exports, including treasure, were divided as follows:

	IMPORTS.	EXPORTS.
Bengal,	£17,169,310	£23,201,820
British Burmah,	1,852,459	3,480,407
Madras,	3,861,057	7,258,147
Bombay,	15,054,121	21,694,571

The most important articles of exports from India to the United Kingdom, during 1874, were :

		VALUE.
Cotton,	3,668,928 cwts.	£10,325,630
Jute,	4,260,170 "	3,545,124
Rice,	6,387,966 "	3,236,232
Indigo,	62,203 "	1,661,745
Tea,	17,608,538 lbs.	1,566,128
Hides,	321,299 cwts.	1,351,696

Next to the United Kingdom, the countries having the largest trade with India are China and Japan, the imports from which average £8,500,000 per annum, while the exports to them are of the average value of £12,000,000. Exports of the average value of £5,000,000 are also sent to Egypt, in transit for the United Kingdom.

The following figures show the number and tonnage of vessels, including native craft, which entered and cleared during 1874 :

	VESSELS.	TONS.
Entered,	20,435	4,424,454
Cleared,	19,629	4,588,428

The executive authority in India is vested in a Governor-general, or Viceroy, appointed by the crown, and acting under the orders of the Secretary of State for India. The Governor-general, in council, has power to make laws for all persons, whether British or native, foreigners or others, within the Indian territories under the dominion of Her Majesty, and for all subjects of the crown, within the dominions of Indian princes and states in alliance with Her Majesty.

The duties of the Council of State are, under the direction of the Secretary of State, to conduct the business transacted in the United Kingdom in relation to the government of and the correspondence with India. The government in India is exercised by the Council of the Governor-general, consisting of five ordinary members, and one extraordinary member, the latter the commander-in-chief.

The total revenue and expenditure, during the year ending March, 1874, were :

	REVENUE.	EXPENDITURE.
In India,	£49,360,142	£44,637,637
In Great Britain,	238,111	10,321,591
Total,	£49,598,253	£54,959,228

In the army estimates for the British forces in India, in the year 1875-76, the strength was stated as follows :

Royal horse artillery,	2,497
Cavalry of the line,	4,330
Royal artillery and engineers,	10,171
Infantry of the line,	45,852
Total,	62,850

Returns of the year 1874 state that the combined armies of the native chiefs of India number 315,000 men, with an artillery of 5300 large guns.

On December 31, 1874, there were 6273 miles of railway, built at an expense of £97,000,000, open for traffic. A further extent of 2518 miles was in course of construction at the commencement of 1875.

In the fiscal year ending March 31, 1874, the number of letters which passed through the post office of British India was 98,531,628, of newspapers, 8,762,200, of parcels, 605,312, and of books and patterns, 1,336,363, being a total of 109,235,303. The mail traveled over 54,617 miles, of which total 41,857 miles were done by boats

and runners, 4003 miles by carts and on horseback, and 5739 miles by railways. Number of post offices and letter boxes, 6805.

There were at the same time 16,436 miles of telegraph lines, 32,148 miles of wires, and 225 telegraph offices. The total number of messages during the year was 788,048.

Efforts for spreading education among the population of India have been made since 1848, in which year the Lieutenant-governor of Agra brought forward a scheme for giving a schoolmaster to every village of at least a hundred families. After three years' discussion, the Court of Directors of the East India Company accepted the groundwork of the plan, and orders were issued directing that a good vernacular school should be established for every cercle of villages, called Hulkabundee, and that the teacher should be paid from a cess of 2 per cent. on the land revenue.

In the year 1871 the number of educational institutions belonging to, aided, or maintained by the government in British India, was 25,147; average attendance of pupils, 799,622; amount expended by government, £749,724; total expenditure from all sources, £1,019,418.

In the northwestern provinces and Madras the foundation has been laid of a national system of education; while the general position for India is that the government has succeeded in establishing a system of public instruction for the upper and middle classes, but has as yet made little or no impression on the middle classes.

CANADA.

THE Dominion of Canada consists of the provinces of Ontario, Quebec—formerly Upper and Lower Canada—Nova Scotia, New Brunswick, Manitoba, British Columbia, and Prince Edward's Island. The two principal provinces, Quebec and Ontario, are almost entirely embraced within the basin of the river St. Lawrence, but occupy only those portions north of the great lakes, and of the river as far as the town of Cornwall (45° north latitude and $74^{\circ} 45'$ west longitude), whence eastward they occupy both banks, and are bounded on the south by the United States. The most westerly limit is the heads of the Pigeon and Arrow rivers, which debouch in Lake Superior. The eastern or maritime provinces embrace no portion of the basin of the great river.

The following table shows the area and population of the various provinces :

	AREA, ENG. SQ. MILES.	POPULATION (1871).
Ontario,	121,260	1,620,851
Quebec,	210,020	1,191,516
Nova Scotia,	18,660	387,800
New Brunswick,	27,105	285,594
Manitoba,	2,891,734	11,953
British Columbia,	213,000	10,586
Prince Edward's Island,	2,173	94,021
Total,	3,483,952	3,602,321

The principal river of Canada is the St. Lawrence. Its most important tributaries are all from the left. The St. Lawrence drains an area of 565,000 miles. The Ottawa, 450 miles long, forms the boundary between Ontario and Quebec. The St. Maurice is nearly 400 miles in length, and the Saguenay, noted for its fine scenery, is 225 miles long. The only affluents from the right worth naming are the Richelieu, the St. Francis, and the Chaudiere.

A great part of Canada, more especially the shores of Lake Superior, is valuable only for mineral resources, such as iron, zinc, lead, copper, silver, gold, cobalt, manganese, gypsum, marl, granite, sandstone, limestone, slate, and marbles of nearly every imaginable color. Considerable portions, also, though heavily timbered, chiefly with pine, are yet but little adapted to settlement and cultivation. Towards the Gulf of the St. Lawrence, again, a considerable section derives importance mainly from the fisheries, being, with partial exceptions in Gaspé, comparatively worthless for every other object. Thus the area for the profitable production of ordinary cereals cannot materially exceed 40,000 square miles, containing, however, within this space a singularly small portion of irreclaimable surface. This cultivable block increases regularly in width and fertility, from its commencement on the lower St. Lawrence to the shores of Lake Huron. Below Quebec—to say nothing of the precarious nature of the crops—there may always be seen, on one or on both sides, the primeval forest. Between that city, again, and the basin of the Ottawa, a gradual improvement shows itself, even on the north side; and towards the south there stretches away to the frontier of the United States a broad belt of generally undulating character, probably the best field in the country for the blending of pasturage and agriculture. From the basin of the Ottawa inclusive, the parallel of the south end of Lake Nipissing may be said to cut off, towards the southwest, the entire residue of the practicable soil, in the shape of a roughly defined triangle, which, as a whole, is at least equal, in the growth of grain in general and of wheat in particular, to any region of the same extent in North America.

The climate of Canada is subject to great extremes of heat and cold, the thermometer ranging between 102° above and 36° below the zero of Fahrenheit.

As Canada slants southwards eight or nine degrees from the mouth of the St. Lawrence to that of the Detroit, which communicates between Lakes St. Clair and Erie,

the climate of the west must be warmer than that of the east. Besides, the lakes of Upper Canada appear, in a good measure, to neutralize and mitigate the extremes of a Canadian climate. While Quebec in winter ordinarily enjoys five or six months of sleighing, the corresponding season in Toronto ranges from five or six days to five or six weeks. As to summers, the difference in favor of Toronto is rather in point of duration than of intensity. As indications of the climate of Canada, it may be stated that the isle of Orleans, immediately below Quebec, is famous for its plums, and the island of Montreal for its apples; and from the neighborhood of Toronto to the head of Lake Erie, grapes and peaches ripen without any aid whatever. Melons, again, of large size, come to maturity, through the settled parts of the province, in the open air; and pumpkins and squashes attain enormous size, some of them near Toronto having weighed 300 pounds.

The following statistics of the mining, agricultural, and manufacturing industries are taken from the Official Report of the Canadian Census of 1871. They refer only to the provinces of Ontario, Quebec, New Brunswick, and Nova Scotia.

RAW MINERAL PRODUCTS.

Coal,	671,008 tons.	Gold,	22,941 oz.
Iron ore,	129,363 "	Silver,	69,197 "
Copper ore,	13,310 "	Phosphate of lime, . . .	1,980 tons.
Pyrites,	2,800 "	Mica,	4,010 lbs.
Manganese,	635 "	Crude petroleum, . . .	12,969,435 galls.
Other ores,	14,063 "	Grained marble,	8,870 cub. ft.
Peat,	14,772 "	Building stone for dress-	
Plumbago,	270 "	ing,	5,206,796 "
Lump gypsum,	114,433 "	Roofing slate,	6,013 sqs.

The statistics of agriculture are as follows:

Spring wheat,	10,355,912 bushels.	Beans,	220,644 bushels.
Winter wheat,	6,367,961 "	Buckwheat,	3,726,484 "
Barley,	11,496,068 "	Corn,	3,802,830 "
Oats,	42,489,463 "	Potatoes,	47,330,187 "
Rye,	1,064,354 "	Turnips,	24,339,476 "
Peas,	9,905,720 "	Grass and clover	
Hay,	3,818,641 tons.	seed,	348,605 "

The principal items of furs are 488,182 muskrats, 49,799 minks, 48,151 beavers, 19,271 moose, cariboo and deer, 17,582 martens, 37,402 seals, 12,861 foxes, 6132 otters, and 2553 bears.

The following are the statistics of manufactures:

Capital invested,	\$77,964,020
Number of hands employed,	187,942
Amount of yearly wages,	40,851,009
Value of raw material,	124,907,846
Total value of products,	221,617,773

The statistics of the fisheries are as follows: Vessels, 991, men, 6984; boats, 16,876, men, 25,876; shoremen, 4647; fathoms of nets, 1,879,435.

The leading items of the product of the fisheries were 682,631 quintals of cod, 120,213 quintals of haddock, 417,300 barrels of herring, 77,925 barrels of mackerel, 2491 gallons of cod-liver oil, and 676,403 gallons of other fish oils.

The foreign trade, during 1874, was, including bullion and specie, as follows: Imports, \$128,213,582; exports, \$89,851,928. The trade of the Dominion of Canada is chiefly with the United States and Great Britain.

The "British North American Act, 1867," orders that the constitution of the Dominion shall be "similar in principle to that of the United Kingdom;" that the executive authority shall be vested in the sovereign of Great Britain and Ireland, and carried on in her name by a Governor-general and Privy Council; and that the legislative power shall be exercised by a Parliament of two Houses, called the Senate and the House of Commons. Provision is made in the act for the admission of Newfoundland, still an independent province of British North America, into the Dominion of Canada. The seven provinces forming the Dominion have each a separate parliament and administration, with a Lieutenant-governor at the head of

the executive. They have full power to regulate their own local affairs, dispose of their revenues, and enact such laws as they may deem best for their own internal welfare, provided only they do not interfere with, and are not adverse to, the action and policy of the central administration under the Governor-general.

The public debt of the Dominion, incurred chiefly on account of public works, and the interest on which forms the largest branch of the expenditure, was \$116,082,917 on the 1st of July, 1875. The total revenue during the year ending June 30th, 1874, was \$39,930,791; the total expenditure during the same period, \$36,524,876.

The strength of the troops maintained by the imperial government, and forming the garrison of Halifax, was reduced, in 1871, to 2000 men. Besides these, Canada has a large volunteer force, and a newly organized militia. By the terms of the act passed in March, 1868, "to provide for the defence of the Dominion," the militia consists of all British subjects between the ages of 18 and 60, who are called out to serve in four classes, namely: 1st class, 18 to 30, unmarried; 2d, from 30 to 45 unmarried; 3d, 18 to 45, married; 4th, 45 to 60. A general order from the Militia Department, issued in 1874, reduced the active militia force, for the purposes of drill and pay, for the years 1874 and 1875, to 30,000 officers and men. Two schools of military instruction for infantry are established in each of the provinces of Ontario and Quebec, and one in each of the provinces of New Brunswick and Nova Scotia.

The naval forces of Canada consisted, in 1875, of 8 screw steamers, carrying 18 guns. Besides these, the government owned two fast steamers, employed on coast service, not fitted with guns, but available as gunboats.

The total shipping registered on the 31st of December, 1874, was 6930 vessels of a burthen of 1,158,363 tons. Included in this were 634 steamers, of 76,487 tons.

At the end of October, 1874, Canada had a network of railways of a total length of 4022 miles. There were, at the same period, lines of a total length of 1120 miles in course of construction, and 3000 miles more had been surveyed and concessions granted by the government.

On June 30th, 1875, there were in the Dominion, 3943 post offices. The number of letters and post-cards sent through the mails, during the year, was 34,750,000; of newspapers, 25,480,000.

The provinces of Quebec and Ontario have separate school laws, adapted to the religious element prevailing in either. Each township in Ontario is divided into several school sections, according to the requirements of inhabitants. The common schools are supported partly by the government and partly by local self-imposed taxation, and occasionally by the payment of a small fee for each scholar. All teachers must pass an examination before a county board of educators, or receive a license from the provincial normal school, empowering them to teach, before they can claim the government allowance.

Commission from CANADA to the International Exhibition:

SENATOR LUC LETELLIER DE ST. JUST, Minister of Agriculture, President.

Honorary Commissioners.

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FRANCE.

FRANCE is the most westerly state of Central Europe, extending from $42^{\circ} 20'$ to $51^{\circ} 5'$ north latitude, and from $7^{\circ} 45'$ east to $4^{\circ} 45'$ west longitude. It is bounded on the north by the Channel and the Straits of Dover, which separate it from England, by Belgium, the grand duchy of Luxembourg; on the east by Germany, Switzerland, and Italy, on the south by the Mediterranean and Spain, from which it is separated by the Pyrenees, and on the west by the Atlantic Ocean (the Bay of Biscay). The greatest length of France, from Dunkirk, in the north, to the Col de Falguere, in the south, is about 620 miles; its greatest breadth from east to west, from the boundary line in the Vosges to Cape St. Matthieu, in Finisterre, is about 550 miles. The superficial area of France, including the two Savoy provinces and Corsica, is reckoned at about 201,600 square miles. The possessions of France, which are situated in the non-European parts of the world, have a total superficial area of 463,827 square miles, and the largest is Algeria, with an area of 258,310 square miles. France is divided into 86 departments. The total population, exclusive of Algeria and the colonies, was given (in 1872) at 36,102,921.

The colonies and foreign possessions of France in Africa are Algeria, Senegambia, the islands of Bourbon (Reunion), St. Marie, Mayotte, and Nussi-be, in the Indian Ocean, and Gaboon, on the coast of Guinea. The total possessions in Africa cover an area of about 270,000 square miles, with a population of 2,840,000 souls. In America are the islands of Martinique and Guadaloupe in the West Indies, French Guiana, or Cayenne, with St. Pierre and Miquelon, near Newfoundland; forming together an area of 45,000 square miles, with a population of 345,000. In Asia, the Indian settlements of Pondicherry, Mahe, Karikal, Yanaon, and Chaudernagore, comprise 19,600 square miles, with a population of 265,000. A settlement has also been made in Cochin China, embracing 21,700 square miles and 1,336,000 inhabitants, and a protectorate declared over the Empire of Anam. In the Pacific Ocean are two groups, the Marquesas and Tahiti, and New Caledonia, with the Loyalty Isles, the whole forming an area of 11,182 square miles, with 87,000 inhabitants.

The following table gives the population, in 1872, of some of the largest cities in France:

Paris,	1,850,000
Lyons,	323,000
Marseilles,	313,000
Bordeaux,	194,000
Lille,	158,000
Toulouse,	125,000
Nantes,	119,000
St. Etienne,	111,000
Rouen,	102,000

There are four great mountain chains belonging to France—the Pyrenees which separate the French territory from Spain; the Cevenne-Vosgian range, running north and south between the Moselle and the new boundary line; the Alps, which separate the Swiss territory from the provinces of Savoy and Nice; and the Sardo-Corsican range which belongs, as the name implies, to the islands of Sardinia and Corsica. The highest peaks in the Pyrenees are the Maladetta and Mont Perdu (10,886 feet and 10,994 feet); in the Cevenno-Vosgian range, the greatest height

(the Widderkalm) does not greatly exceed 7000 feet. The French portion of the Alps now includes several of the highest mountains and most elevated passes of the ranges, as Mont Blanc, 15,744 feet; Mont Iseran, 13,272 feet; Mont Cenis, 11,457 feet; and the pass of Little St. Bernard, 7190 feet, etc. In Corsica, the highest peak rises to an elevation of 9000 feet. The grand water-shed of France is the Cevenno-Vosges chain, which determines the direction of the four great rivers, the Seine, the Loire, the Garonne, and the Rhone; the first three of which flow north-west into the Bay of Biscay and the English Channel, and the fourth into the Gulf of Lyons.

The entire extent of river navigation in France amounts to 5500 miles, or 8,900,000 metres, while the 99 larger canals, which have been constructed either to connect the various river courses or to supply entirely new channels of water communication, extend over a length of 2900 miles, or 4,700,000 metres. The most important of these works are the canals connecting Nantes and Brest, and the Rhone with the Rhine, and those of Berry, Nivernais, and Bourgogne.

France is peculiarly rich in mineral springs, of which there are said to be nearly 1000 in use. Of these, more than 400 are situated in the group of the Pyrenees, where there are 93 establishments for their systematic use. It is estimated that there are, moreover, fully 4000 springs not hitherto employed.

According to M. Maurice Block's estimate, the physical and agricultural character of the soil of France may be comprised under the following heads:

	HECTARES.*
Mountainous districts, heaths, and commons,	9,944,839
Rich land,	7,276,399
Chalk, or lime districts,	9,788,197
Gravel, stony and sandy,	15,951,618
Clay, marshy, miscellaneous,	9,807,577
	52,768,600

The same writer further subdivides the soil of France, according to its actual employment, under the following heads:

	PER CENT. OF THE WHOLE ACRE.
Arable lands,	48.3
Meadow lands,	9.7
Vineyards,	3.7
Cultivated lands,	17.8
Roads, streets, public walks, etc.,	3.7
Forest and unproductive lands,	16.8

France possesses one of the finest climates in Europe, although, owing to its great extent of area, very considerable diversities of temperature are to be met with. The mean annual temperature of different parts of France has been estimated as follows, by Humboldt: Toulon, 62° F.; Marseilles, 59.5°; Bordeaux, 56°; Nantes, 55.2°; Paris, 51.2°; Dunkirk, 50.5°.

The following are the statistics of agricultural productions for the year 1869:

	HECTOLITRES.†
Wheat,	108,000,000
Rye,	24,000,000
Barley and oats,	90,000,000
Maize,	10,000,000
Potatoes,	100,000,000

The production of beet-root sugar in 1872-73 amounted to 418,000 tons. The average yearly produce of the vineyards of France is estimated at about 50,000,000

* The *hectare* is equal to about 2.47 English acres.

† The *hectolitre* equals 2.75 bushels.

of hectolitres (about 1,000,000,000 of gallons). Of this about one-seventh is made into brandy.

The principal forest trees are the chestnut and beech on the central mountains, the oak and cork tree in the Pyrenees, and the fir in the Landes. The destruction of the national forests has been enormous within the last two centuries, but measures have been taken in recent years to plant wood, in order to protect those mountain slopes which are exposed to inundations from mountain torrents, and to provide a supply for the ever-increasing demand for fuel. About one-seventh of the entire territory of France is still covered with wood. Turf taken from the marshy lands is extensively used, more especially in the rural districts, for fuel.

According to the census of 1866—the most recent in regard to animals—there were in France 3,312,637 horses, 518,000 asses, 350,000 mules; 12,733,000 horned cattle, 30,386,000 sheep, 5,500,000 swine, and 1,680,000 goats. There were, according to the *Statistique Agricole* for 1858, about 3,000,000 of beehives, valued at rather more than 24,000,000 of francs; the mean annual returns are, for honey, 6,670,000, and for wax, 1,620,000 kilogrammes.* Poultry constitutes an important item of farm produce in France, estimated at 45,500,000 of francs, while the eggs and feathers yield 35,250,000 of francs.

The following figures show the condition of the merchant navy of France on the 31st of December, 1873:

		TONNAGE.	MEN.
Sailing vessels,	15,043	882,866	88,541
Steam vessels,	516	185,165	10,448
	15,559	1,068,031	98,989

The *cabotage*, or internal coasting traffic, is a great source of financial wealth to the State, to which all rivers and canals belong. In 1873, it employed 2776 vessels, with a tonnage of 122,850 and an equipment of 10,871.

The chief mineral products of France are coal and iron, in the excavation of which nearly 250,000 men were employed in 1868. The production of coal in 1868 was 132,000,000 of quintals, the quintal being equal to 1.97 hundredweight. During the same year, there were 150 iron mines in operation, yielding 34,500,000 of quintals, more than half of this quantity being obtained from the five departments of Haute-Marne, Haute-Saone, Cher, Moselle, and Nord. Argentiferous galena, a little silver and gold, copper, lead, manganese, antimony, and tin occur, but hitherto their working has not proved very productive. The department of Charente-Inferieure yields the largest amount of salt, the mean annual produce being 1,500,000 of quintals (2,500,000 of francs), which is fully one-third of the entire annual produce of the whole country. France derives about 41,000,000 of francs from its quarries of granite and freestone, its kaolin, marbles, sands, lithographic stones, millstones, etc. Granite and syenite are found in the Alps, Vosges, Corsica, Normandy, and Burgundy; porphyry in the Vosges; and basalt and lava, for pavements, in the mountains of Auvergne. Marble is met with in more than 40 departments; alabaster occurs in the Pyrenees; the largest State quarries are near Cherbourg and St. Lo.

The following list gives an approximate estimate of the value of the chief products of French industry:

	MILLIONS OF FRANCS.
Linen fabrics,	250
Cotton fabrics,	650
Woolen fabrics,	950
Silk fabrics,	1000
Mixed fabrics,	330
Jewelry, watchmaking,	35
Gold wares	12

* The kilogramme equals 2.2 pounds avoirdupois.

Minerals, mines, salt, etc.,	600
Articles of food, as sugar, wines, etc.,	364
Skins, leather, oils, tobacco,	556
Bone, ivory, isinglass, etc.,	30
Chemical products,	80
Ceramic arts,	86
Paper, printing,	60
Forests, fisheries,	98

The total imports, for 1873, were 4,576,000,000, and the total exports, for the same year, 4,822,000,000 of francs.

France was proclaimed a republic on the 4th of September, 1870. According to the law of February 25th, 1875, the legislative power is vested in the two Houses, the Chamber of Deputies and the Senate. The Chamber of Deputies is elected by universal suffrage. The Senate is composed of 300 members, 225 of whom are elected by the departments and the colonies, and 75 by the National Assembly. The President of the republic is elected by a majority of the votes of the Senate and Chamber of Deputies, united as the National Assembly. His term of office is for seven years, and he is eligible for re-election.

According to the budget for 1876, the estimated receipts for the year are put down at 2,575,028,582 francs, and the expenditures at 2,570,505,513. The public debt is 23,403,000,000 francs.

The nominal strength of the army, on a peace footing, is given in the latest government returns as 490,332 men; on a war footing, 1,750,000.

The navy of France was composed, at the end of 1873, of 62 ironclads, 264 unarmored screw steamers, 62 paddle steamers, and 113 sailing vessels.

According to the official report for December, 1874, the railways in operation measure 20,711 kilometres, or about 12,866 miles. With the exception of less than 500 miles, the railways of France are held by six companies, which are under the superintendence of the State.

The number of letters forwarded by the post office, in 1874, was 341,068,000; newspapers, postal cards, and parcels, 331,786,000.

At the end of 1873, there were 45,942 kilometres of lines of telegraphs, comprising 123,669 kilometres of wire. The number of messages sent, in 1873, was 6,225,000, of which nearly one-fourth were international messages. There were annual deficits since the establishment of the public telegraph department, in March, 1851. There were 2206 telegraph offices at the end of 1873.

Public instruction is presided over in France by a special ministry. Nearly half the expenses connected with it are defrayed by the State, and the remainder by the departments. There are 15 academies, located in the following towns: Aix, Besançon, Bordeaux, Caen, Clermont, Dijon, Douai, Grenoble, Lyon, Montpellier, Nancy, Paris, Poitiers, Rennes, Toulon. These academies are divided into the five faculties of theology, law, medicine, sciences, and literature, and supplemented by various superior and preparatory schools. The professors are paid partly by the State and partly by fees. Secondary instruction has received an immense impetus during the present century. The different departments share very unequally in the diffusion of education, and it may be generally observed that the proportion of the educated is highest in the northern and eastern districts of France. France supports numerous colleges and schools for instruction in special branches of knowledge. There are also numerous agricultural, forest, farming, and veterinary schools, besides the Ecole Polytechnique, specially designed to prepare youths for the public services; and military and naval colleges at St. Cyr, Saumur, Paris, Vincennes, Brest, Toulon, and St. Denis.

Paris possesses several libraries belonging to, and supported by, the State, but freely opened to the public. There are 338 public libraries in the provinces, to all of which access is afforded in the most liberal spirit. France is rich in public galleries of painting, statuary, and articles of *vertu*. The expenses of secondary and

primary education, literary and scientific institutions, etc., are charged in the budget for 1876 at 44,912,545 francs.

(Detailed information as to the colonial dependencies of France will be found under the appropriate headings in other portions of the catalogue.)

Commission from FRANCE to the International Exhibition :

M. M. OZENNE, Counsellor of State, Secretary-General of the Ministry of Agriculture and Commerce, Commissioner-General of International Exhibitions.

DU SOMMERARD, Director of the Museums of Thermes and Cluny, Commissioner-General of International Exhibitions.

Committee.

Organized under the Presidency of the Minister of Agriculture and Commerce.

M. DUCLERC, Vice-President of the National Assembly, Member of the Committee on International Exhibitions.

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MR. WOLOWSKI, Deputy.

MARQUIS DE LAFAYETTE, Deputy.

M. BONNET, Deputy.

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M. LABOULAYE, Deputy.

M. DIETZ-MONIN, Deputy.

M. COUNT DE BOUILLE, Deputy.

VISCOUNT D'HAUSSONVILLE, Deputy.

M. DE CHABROL, Deputy.

M. JULLIEN, Deputy.

The Secretary-General of the Ministry of Agriculture and Commerce.

The Director-General of Customs.

The Director of the Academy of Fine Arts.

The Director of Consulates and Commercial Affairs, at the Ministry of Foreign Affairs.

M. OUTREY, Minister Plenipotentiary.

M. DU SUMMERARD, Director of the Museum of Thermes and Cluny.

The Assistant Director of Foreign Commerce.

The President of the Paris Chamber of Commerce.

M. GUILLAUME, Member of the Institute.

MARQUIS DE ROCHAMBEAU.

BARON ALPHONSE DE ROTHSCHILD.

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M. ALFRED MAME.

M. JULES LAVEISSIERE, Dealer in Metals.

M. ROULLEAUX DUGAGE, Secretary.

M. DE FALLOIS, late Chief of Bureau, Ministry of Public Works, Assistant Secretary.

Resident Commissioners.

MR. DE LAFOREST, Consul-General of France, Commissioner-General.

MR. RAVIN D'ELPEUX, Vice-Consul.

CAPT. ANFRYE, Military Attache, French Legation.

MR. BAZERGNE, Attaché.

MR. A. IMBERT GOUZBEYRE, Secretary.

GERMANY.

THE German Empire occupies the central portion of Europe, and extends from 6° to 22° 40' east longitude and 49° 7' to 55° 50' north latitude. It is bounded on the north by the German Ocean, the Danish Peninsula, and the Baltic; on the east by Russia and Austria; on the south by Russia, Austria, and Switzerland, and on the west by France, Belgium, and the Netherlands. The population (1871) is about 41,000,000. Its area is estimated at 208,000 square miles, or about one-sixteenth of that of all Europe. The coast line measures about 950 miles.

Germany is composed of an aggregation of 26 different States. The following list gives the names of these States, their population, area, and the number of members representing each in the Bundesrath, or Federal Council, and the Reichstag, or Imperial Diet:

STATES.	POPULATION IN 1871.	AREA IN SQUARE MILES.	NO. OF MEMBERS IN BUNDES-RATH.	NO. OF DEPUTIES IN REICHSTAG.
Kingdoms:				
1. Prussia,	24,691,307	139,751	17	236
2. Bavaria,	4,863,450	29,280	6	48
3. Saxony,	2,556,244	5,780	4	23
4. Wurtemberg,	1,818,539	7,532	4	17
Grand Duchies:				
5. Baden,	1,461,562	5,850	3	14
6. Hesse,	852,894	2,962	3	9
7. Mecklenburg-Schwerin,	557,897	5,136	2	6
8. Saxe-Weimar,	286,183	1,403	1	3
9. Mecklenburg-Strelitz,	96,982	1,130	1	1
10. Oldenburg,	314,777	2,470	1	3
Duchies:				
11. Brunswick,	311,764	1,425	2	3
12. Saxe-Meiningen,	187,884	955	1	2
13. Saxe-Altenburg,	142,122	510	1	1
14. Saxe-Coburg-Gotha,	174,339	760	1	2
15. Anhalt,	203,437	896	1	2
Principalities:				
16. Schwarzburg-Rudolstat,	75,523	367	1	1
17. Schwarzburg-Sondershausen,	67,191	332	1	1
18. Waldeck,	56,224	438	1	1
19. Reuss (altere Linie),	45,094	123	1	1
20. Reuss (jungere Linie),	89,032	320	1	1
21. Schaumburg-Lippe,	32,059	170	1	1
22. Lippe-Detmold,	111,135	438	1	1
Free Towns:				
23. Lubeck,	52,158	110	1	1
24. Bremen,	122,402	97	1	1
25. Hamburg,	338,974	158	1	3
26. Alsacc-Lorraine,	1,549,459	5,590		
	41,058,632	208,613	58	382

The *Almanac de Gotha*, for 1876, divides the population of the German Empire, in regard to nationality, as follows: Germans, 37,820,000; Poles, 2,450,000; Wends, 140,000; Czechs, 50,000; Lithuanians and Courlanders, 150,000; Danes, 150,000; French and Walloons, 210,000. The Germans admit of being divided into high and low Germans; the phraseology of the former is the cultivated language of all the German States; that of the latter, known as *Platt-Deutsch*, is spoken in the north and northwest. The Poles are found exclusively in the east and northeast of Prussia; the Czechs in Silesia, about Appeln and Breslau; the Wends, in Silesia, Brandenburg, and Prussian Lusatia; the Lithuanians and Courlanders in east Prussia; the Danes, in Schleswig; the Walloons, about Aix-la-Chapelle, in Rhenish Prussia, and the French, partly in the same region, and in Alsace and Lorraine.

Germany presents two very distinct physical formations. First, a range of high table land, occupying the centre and southern parts of the country, interspersed with numerous ranges and groups of mountains, the most important of which are the Harz and Teutoburger in the north, the Taunus and Thuringerwald in the middle, and the Schwarzwald and Raube Alps in the south, and containing an area, including Alsace and Lorraine, of 110,000 square miles. Second, a vast sandy plain, which extends from the centre of the empire north to the German Ocean, and including Schleswig-Holstein, contains an area of about 98,000 square miles. This great plain, stretching from the Russian frontier on the east to the Netherlands on the west, is varied by two terrace-like elevations. The one stretches from the Vistula into Mecklenburg, at no great distance from the coast of the Baltic, and has a mean elevation of 500 to 600 feet, rising in one point near Danzig to 1020 feet; the other line of elevations begins in Silesia, and terminates in the moorlands of Luneberg, in Hanover, its course being marked by several summits from 500 to 800 feet in height. A large portion of the plain is occupied by sandy tracts, interspersed with deposits of peat; but other parts are moderately fertile, and admit of successful cultivation.

In respect of drainage the surface of Germany belongs to three different basins. The Danube, from its source in the Schwarzwald to the borders of Austria, belongs to Germany, and through this channel the waters of the greater part of Bavaria are poured into the Black Sea, thus opening up communication with the east. The greater part of the surface, however (about 185,000 square miles), has a northern slope, and belongs partly to the basin of the North Sea, and partly to the basin of the Baltic. The chief German streams flowing into the North Sea are the Rhine, the Weser, and the Elbe; into the Baltic, the Oder and the Vistula.

The most important of the numerous canals of Germany are the Ludwig's canal, in Bavaria, connecting the Danube and Main, and thus opening a communication between the Black Sea and the German Ocean; the Finow and Friedrich Wilhelm's canals, in Brandenburg; the Plau canal, connecting the Elbe and the Havel; and the Kiel and Eyder canal, uniting the Baltic and the German Ocean. Numerous lakes occur both in the table-land of southern Germany, and in the lowlands of the northern district, but few of them are of any great size. Mineral springs occur principally in Nassau, Wurtemberg, Baden, Bavaria, and Rhenish Prussia. Many of these springs have retained their high reputation from the earliest ages.

The climate of Germany presents less diversity than a first glance at the map might lead one to infer, for the greater heats of the more southern latitudes are considerably modified by the alpine character of the country in those parallels, while the cold of the northern plains is mitigated by their vicinity to the ocean. The average decrease in the mean temperature is in going from south to north, about 1° F. for every 52 miles; and in going from west to east, about 1° F. for every 72 miles. The line of perpetual snow varies from 7200 to 8000 feet above the level of the sea. The mean annual fall of rain is 20 inches.

The following table shows the mean temperature at different points:

	MEAN ANNUAL TEMPERATURE.	SUMMER.	WINTER.
Hamburg,	47.	64	30
Dresden,	48.	67	29
Frankfort-on-the-Main,	48.5	66	31
Berlin,	46.5	66	27
Hanover,	48.	63	33
Königsberg,	43.	62	24

Germany is rich in mineral products, among which the most important are silver, found in the Hartz mountains; iron in numerous mountain ranges; salt in many parts of the country; coal in Rhenish Prussia, Silesia. Cobalt, arsenic, sulphur, salt-petre, alum, gypsum, bismuth, pumice-stone, tripoli-slate, kaolin, emery, ochre, and vitriol, are all among the exports of Germany.

The following figures show the product of the principal mining industries of Germany (exclusive of Alsace and Lorraine) for the year 1870:

	NO. OF WORKS.	PERSONS EMPLOYED.	PRODUCT IN CWT.	VALUE IN THALERS.
Coal (including brown coal), . . .	1362	145,782	680,660,074	61,863,399
Iron ore,	1258	24,793	58,550,539	7,116,828
Zinc ore,	72	9,797	7,335,603	2,315,429
Lead ore,	174	18,057	2,111,810	5,511,235
Copper ore,	3	6,156	4,147,627	1,619,938

The yield of salt, for the same year, was 14,658,990 hundredweight, from 69 works, employing 4610 persons, and valued at 3,926,650 thalers.

The leading products of the metallurgical industries are given as follows:

	WORKS.	PERSONS EMPLOYED.	AMOUNT PRO- DUCED IN CWT.	VALUE IN THALERS.
Cast iron,	631	39,525	29,942,264	49,251,650
Wrought iron (including wire, bars, and manufactured iron of various kinds),	354	43,849	17,437,766	57,490,284
Steel,	216	12,892	3,399,027	22,747,626
Zinc,	53	6,256	1,727,570	10,212,259
Silver,	10	1,601	(lbs.) 185,847	5,549,943
Lead (products of),	17	1,513	1,195,753	6,951,164
Copper,	28	1,971	174,687	4,667,535

The entire production of mines, furnaces, salt works, etc., is given as 824,965,732 hundredweight, valued (including 186,270 pounds of gold and silver) at 246,482,099 thalers.

The vegetable products comprise a very large proportion of the European flora. All the ordinary cereals are extensively cultivated in the north, and largely exported, chiefly from Wurtemberg and Bavaria; hemp and flax, madder, woad, and saffron grow well in the central districts, where the vine, the cultivation of which extends in suitable localities as far north as 51°, is brought to greater cultivation—the best wine-producing districts being the valleys of the Danube, Rhine, Main, Neckar, and Moselle, which are, moreover, generally noted for the excellence of their fruits and vegetables. Tobacco is grown in sufficient quantities for extensive exportation on the Upper Rhine, the Werra, and Oder. The hops of Bavaria have a high reputation, and the chicory grown in that country and in the district between the Elbe and

the Weser finds its way all over Europe as a substitute for coffee. The average annual product of cereals is approximately as follows:

Rye,	89,000,000 hectolitres.*
Oats,	87,000,000 "
Wheat,	34,000,000 "
Barley,	30,000,000 "

The average annual potato crop amounts to 272,000,000 hectolitres. The production of beets, in 1872, was over 61,000,000 hundredweight. A fair yield of wine is about 4,500,000 hectolitres, and of tobacco, about 700,000 hundredweight.

The most extensive forests are found in central Germany, and in some parts of Prussia, while the northwestern parts of the great plain are deficient in wood, the place of which is in some degree supplied by the abundance of turf yielded by the marshy lands. Germany has long been noted for the good breed of horses raised in the northern parts of the continent, while Saxony, Silesia, and Brandenburg have an equal reputation for their sheep-flocks, and the fine quality of the wool which they yield. The rich alluvial flats of Mecklenburg and Hanover are celebrated for their cattle; the forests of northern and central Germany abound in swine, and in small game of various kinds; while the Bavarian Alps afford shelter to the larger animals, as the chamois, the red deer and wild goat, the fox, marten, and wolf.

According to the last enumeration of live stock, there were in Germany 3,500,000 horses, 15,000,000 cattle, 30,000,000 sheep, 8,000,000 swine, and 2,000,000 goats. The wool crop for 1869 amounted to 750,000 hundredweight.

Among the fishes of Germany, the most generally distributed are carp, salmon, trout, and eels; the rivers contain also crayfish, pearl-bearing mussels, and leeches. The oyster, herring, and cod fisheries constitute important branches of industry on the German shores of the Baltic and North Seas.

The preservation and cultivation of woods receive almost as much attention in Germany as agriculture, and, like the latter, are elevated to the rank of a science. The larger woods and forests in most of the states belong to the government, and are under the care of special boards of management, which exercise the right of supervision and control over all forest lands, whether public or private. The value of the forests of Germany was, in 1873, estimated at 666,000 thalers.

The oldest and most important of the German industrial arts are the manufactures of linen and woolen goods. The chief localities for the cultivation and preparation of flax, and the weaving of linen fabrics, are the mountain valleys of Silesia, Lusatia, Westphalia, the Harz, and Saxony (for thread laces); while cotton fabrics are principally made in Rhenish Prussia and Saxony. The same districts, together with Pomerania and Bavaria, manufacture the choicest woolen fabrics, including damasks and carpets. Toys, wooden clocks, and wood-carvings, which may be regarded as almost a specialty of Germany industry, are carried to the greatest perfection in the hilly districts of Saxony, Bavaria, and the Black Forest. The best iron and steel manufactures belong to Silesia, Hanover, and Saxony. Silesia probably possesses the finest glass manufactories; while Saxony and Prussia stand pre-eminent for the excellence of their china and earthen wares. Augsburg and Nuremberg dispute with Munich and Berlin the title to pre-eminence in silver, gold, and jewelry work, and in the manufacture of philosophical and musical instruments; while Leipzig and Munich claim the first rank for type foundries, printing, and lithography. The trading cities of northern Germany nearly monopolize the entire business connected with the preparation of tobacco, snuff, etc., the distillation of brandies, and the manufacture of sugar from the beet, potato, and other roots; while vinegar and oils are prepared almost exclusively in central and southern Germany.

The constitution of the empire is confederate, under the presidentship of the King of Prussia, who bears the hereditary title of German Emperor. He has the right

* The hectolitre equals 2.75 bushels.

and duty of representing the empire in all respects of international law, of declaring war in the name of the empire, making peace and treaties, etc. For a declaration of war the consent of the Bundesrath is necessary. He is the commander-in-chief of the whole army and navy, in peace as well as in war, except the military powers of Wurtemberg and Bavaria, which—in times of peace only—form separate corps under the command of their respective kings. He names and dismisses the officers and functionaries of the empire. His orders, issued in the name of the empire, must be countersigned by the Chancellor, who, as the first minister of the empire, is by his signature responsible for them.

The legislative powers lie in the *Bundesrath* and the *Reichstag*. The former consists of the delegates of the confederate governments, representing in all fifty-eight votes. The Reichstag has 382 members directly elected by the secret ballot of the people. The bills promulgated by these two assemblies in accordance are compulsory on all governments of the empire, and annul *eo ipso* all possible institutions contradictory to them in the several States.

The empire has no debt. The debts of the separate States amounted, in 1873, to 1,093,800,000 thalers, 589,300,000 of which sum was for railways.

The army consists, on a peace footing, of about 400,000 men; on a war footing, of about 1,300,000. The navy comprises 51 vessels, of which number 47 are steamers, of 77,130 horse-power, 64,198 tons burthen, and carrying 321 guns; and 4 sailing vessels (1 frigate and 3 brigs) mounting 36 guns.

The multiplicity of small States into which Germany was long broken up, opposed great obstacles to the development of commerce; but the difficulty has to some extent been obviated by the establishment of the *Zollverein*, or "Customs confederation." The Hanse Towns, Hamburg and Bremen, do not belong to it, being free ports; but it comprises all the other states of the empire and the grand duchy of Luxembourg.

The estimated value of goods exported, imported, and in transit (by the customs lines) for 1873 was as follows:

Imports,	4,257,300,000 marks.
Exports,	2,489,000,000 "
In transit,	1,233,000,000 "

The merchant navy comprised, in 1873, 4748 vessels, including 253 steamers, with a total of 1,201,358 tonnage.

The railways measured, in 1871, about 13,310 English miles; but these figures represent the length, not of the lines within the limits of the German Empire, but of those which are under German administration, though extending some way into neighboring States.

The various telegraphic lines of the empire (excepting those of Bavaria and Wurtemberg) are now under a central administration, and, in 1874, the whole measured 42,571 kilometres; length of wires, 149,410 kilometres; number of messages, 13,422,511; number of offices, 4992.

The post office forwarded in 1874:

Private letters,	521,900,000
Postal cards,	47,900,000
Official letters,	37,700,000
Parcels, etc.,	89,700,000
	697,200,000

Newspapers,	349,600,000
Number of offices,	7,900

Education is more generally diffused in Germany than in any other part of Europe, and is cultivated with an earnest and systematic devotion not met with, to an equal extent, among other nations. The attendance of children at school, for at

least four or five years, is made compulsory in nearly all the German States, and hence the proportion of persons who cannot read and write is exceedingly small in Germany.

The elementary schools are 60,000 in number, and are attended by 6,000,000 pupils between the ages of six and fourteen. Of the middle schools, including 330 gymnasia and 214 pro-gymnasia and Latin schools, there were in 1873 over 1000, attended by 177,379 pupils. There are 21 universities, with (in 1873) 1620 instructors and 17,858 students. Of polytechnic schools there are ten, with 360 instructors and 4500 students. Besides these there are numerous special schools of technology, agriculture, commerce, mining, metallurgy, military science, navigation, trades, etc. The German academies of art and sciences and conservatories of music enjoy a world-wide reputation. Public libraries—of which there are more than one hundred and fifty—museums, botanical gardens, art collections, and picture galleries are to be met with in most of the capitals and many of the country towns.

Commission from the GERMAN EMPIRE to the International Exhibition:

- DR. JACOBI, Royal Prussian Actual Privy Superior Government Counsellor and Ministerial Director, President.
- DR. STUVE, Royal Prussian Privy Government Counsellor and Counsellor in the Ministry of Commerce.
- DR. WEDDING, Royal Prussian Counsellor of Mines.
- MR. REITHER, Royal Bavarian Counsellor of Legation.
- MR. VON NOSTITZ WALWITZ, Royal Saxon Envoy Extraordinary and Minister Plenipotentiary.
- BARON VON SPITZEMBERG, Royal Wurtemberg Envoy Extraordinary and Minister Plenipotentiary.
- DR. NEIDHARDT, Grand Ducal Hessian Ministerial Counsellor.
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- DR. KRUGER, Hanseatic Minister, Resident.
- MR. VON HOLLOBEN, Royal Prussian Superior Tribunal Counsellor.
- MR. NIEBERDING, Counsellor in the Office of the Chancellor of the Empire.
- BARON VON ZEDLITZ, Royal Prussian Provincial Counsellor.
- MR. F. REULEAUX, Commissioner General.
- MR. KNIFFLER, Assistant Engineer.
- G. A. RADTKE, Secretary.

Resident Commissioners.

- | | | |
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| MR. BARTELS, Engineer and Architect. | | |

AUSTRIA.

THE Austrian Empire forms, on the whole, a compact territory with a circumference of about 5349 miles. It is included between 42° to 51° north latitude, and between $8^{\circ} 20'$ to $26^{\circ} 20'$ east longitude. The body of the empire lies in the interior of the European continent, though, by means of the southern projection of Dalmatia, it has about 1200 miles of sea-coast on the Adriatic. With the rest of its circumference, it borders on the States of the Church, Modena, Parma, Italy, Switzerland, Bavaria, Saxony, Prussia, Russia, Moldavia, Wallachia, Servia, Turkey, and Montenegro. Its present provinces embrace an area of 241,123 square miles, and a population which, in 1869, amounted to 35,904,435.

The following table gives the area, number of civil inhabitants, and total population, civil and military, of the various provinces of the empire—distinguishing its two great political divisions, the German monarchy, or Cisleithan Austria, and the Hungarian kingdom, or Transleithan Austria, together with the so-called military frontier, placed under the administration of the ministry of war for the whole empire—according to the official returns for 1869:

PROVINCES.	AREA IN ENGLISH SQ. MILES.	CIVIL POPULATION.	TOTAL POPULATION.
GERMAN MONARCHY.			
Lower Austria,	7,658	1,954,251	1,990,708
Upper Austria,	4,634	731,579	736,557
Salzburg,	2,768	151,410	153,159
Styria,	8,674	1,131,309	1,137,990
Carinthia,	4,007	336,400	337,694
Carniola,	3,858	463,273	446,334
Coast Land,	3,085	582,079	600,525
Tyrol and Vorarlberg,	11,321	878,907	885,789
Bohemia,	20,763	5,106,069	5,140,544
Moravia,	8,579	1,997,897	2,017,274
Silesia,	1,988	511,581	513,352
Galicia,	30,320	5,418,016	5,444,683
Bukowena,	4,037	511,964	513,404
Dalmatia,	4,942	442,796	456,961
Total German Monarchy,	116,634	20,217,531	20,934,980
KINGDOM OF HUNGARY.			
Hungary,	82,867	11,117,623	11,118,502
Croatia and Slavonia,	7,445	1,160,085	1,164,806
Transylvania,	21,222	2,101,727	2,115,024
Military Frontier,	12,956	1,037,892	1,041,123
Total Hungary,	124,490	15,417,327	15,509,455
Total Austro-Hungary,	241,124	35,634,858	35,904,435

Three-fourths of Austria is mountainous or hilly, being traversed by three great mountain chains—the Alps, Carpathians, and Sudetes, whose chief ridges are of primitive rock. The Alps are accompanied, north and south, by parallel ranges of calcareous mountains, covering whole provinces with their ramifications. The Carpathians are lapped on their northern side by sandstone formations; mountains of the

same character also occupy Transylvania. Springing from the northwest bend of the Carpathians, the Sudetes run through the northeast of Moravia and Bohemia, in which last the range is known as the Riesen gebirge, or Giant mountains. Continuous with this range, and beginning on the left bank of the Elbe, are the Erzgebirge, or Ore mountains, on the confines of Saxony; and veering round to nearly southeast, the range is further prolonged in the Bohemian Forest mountains, between Bohemia and Bavaria. The chief plains of the Austrian empire are: the great plains of Hungary (the smaller of these is in the west, between the offsets of the Alps and Carpathians, and is about 4200 square miles in extent; the other, which is in the east, and traversed by the Danube and the Theiss, has an area of 21,000 square miles), and the plains of Galicia.

From the south point of Dalmatia to the boundary of Italy, Austria has a sea-line of about 1000 miles, not counting the coasts of the numerous islands, the largest of which is Veglia, 23 miles by 12. The chief lakes are: the Platten See, and the Neusiedler See, both in Hungary. The first is navigable by steamers, and both are rich in fish, and have fruitful vineyards around them. The Alps and Carpathians inclose numerous mountain lakes, which are surrounded with wood and rock, and all the other attributes of picturesque scenery. The Long lake in the Tatra mountains lies at an elevation of 6000 feet. The most remarkable of all is the Zirknitz lake, in Illyria. There are extensive swamps or morasses in Hungary. One connected with the Neusiedler See covers some 80 square miles. A good deal has been done in the way of reclaiming lands by draining morasses.

The leading rivers that have navigable tributaries are: the Danube, which has a course of 849 miles within the Austrian dominions, the Vistula, the Elbe, and the Dniester. The Rhine bounds Austria for about fourteen miles above Lake Constance.

The climate of Austria is on the whole very favorable; but from the extent and diversity of surface, it presents great varieties. In the warmest southern region, between 42° to 46° latitude, rice, olives, oranges, and lemons ripen in the better localities; and wine and maize are produced everywhere. In the middle temperate region from 46° to 49° , which has the greatest extent and diversity of surface, the vine and maize still thrive in perfection. In the northern region, beyond 49° , except in favored spots, neither the vine nor maize succeeds; but grain, fruit, flax, and hemp, thrive excellently. The mean temperature of the year is, at Trieste, 58° F.; at Vienna, 51° ; at Lemberg, in Galicia, 44° .

The raw products of Austria are abundant and various; and in this respect it is one of the most favored countries in Europe. Its mineral wealth is not surpassed in any European country; it is only lately that Russia has exceeded it in the production of gold and silver. Mining has been a favorite pursuit in Austria for centuries, and has been encouraged and promoted by the government. Bohemia, Hungary, Styria, Carinthia, Salzburg, and Tyrol, take the first place in respect of mineral produce. Except platina, none of the useful metals is wanting. The mines are partly State property, and partly owned by private individuals. Gold is found chiefly in Hungary and Transylvania, and in smaller quantity in Salzburg and Tyrol. The same countries, along with Bohemia, yield silver. The discovery of quicksilver at Idria first brought this branch of mining industry into importance. This metal is now also found in Hungary, Transylvania, Styria, and Carinthia. Copper is found in many districts—tin, in Bohemia alone. Zinc is got chiefly in Cracow and Carinthia. The most productive lead mines are in Carinthia. Iron is found in almost every province of the monarchy, though Styria, Carinthia, and Carniola are chief seats. The production, though great, is not yet equal to the consumption. Antimony is confined to Hungary; arsenic is found in Salzburg and Bohemia; cobalt in Hungary, Styria, and Bohemia; sulphur in Galicia, Bohemia, Hungary, Venice, Salzburg, etc., though not enough to supply home consumption. Graphite is found abundantly in Bohemia, Moravia, Carinthia, etc.

The useful earths and building-stones are to be had in great profusion; all sorts of clay up to the finest porcelain earth (in Moravia, Bohemia, Hungary, Venice), and likewise marble, gypsum, chalk, etc. Of precious and semi-precious stones are the Hungarian opal, which passes in commerce as oriental, Bohemian garnets—the finest in Europe—cornelians, agates, beryl, amethyst, jasper, ruby, sapphire, topaz, etc.

The following table shows the principal metals and minerals produced in Austria in 1867, and their average value in florins at the place of production :

	WEIGHT.	VALUE IN FLORINS.
Gold (Austrian pound),	3,562	2,406,041
Silver "	81,378	3,655,643
Quicksilver (Austrian hundredweight),	5,944	723,958
Tin " "	591	33,812
Zinc " "	40,296	495,956
Copper " "	47,930	4,377,840
Lead and litharge " "	136,668	1,770,884
Iron, raw and cast " "	5,705,761	16,709,039
Graphite " "	279,355	271,123
Mineral coal " "	108,488,390	17,322,283

Austria is peculiarly rich in salt. Rocksalt exists in immense beds on both sides of the Carpathians, chiefly at Wieliczka and Bochnia, in Galicia, and in the country of Marmaros in Hungary, and in Transylvania. The annual produce of rock-salt is greatly above three million hundredweight. Salt is also made at State salt-works by evaporating the water of salt-springs. The chief works are those at Hallstadt, Ischl, Hallein, and Hall in Tyrol. From two to three millions hundredweight are thus produced annually. A considerable quantity is also made from sea-water on the coast of the Adriatic. Of other salts, alum, sulphate of iron, and sulphate of copper are the chief. Austria has abundance of mineral springs, frequented for their salubrity; 1600 are enumerated, some of them of European reputation, as the sulphurous baths of Baden, in lower Austria, the saline waters of Karlsbad, Marienbad, and Ofen, etc.

The vegetable productions, as might be expected from the vast diversity in the soil and position of the different provinces, are extremely various. Although three-fourths of the surface is mountainous, more than five-sixths is productive, being used either for tillage, meadows, pasture, or forest. Grain of all kinds is cultivated most abundantly in Hungary and the districts south of it on the Danube, in Bohemia, Moravia, Silesia, and Galicia. Agriculture is not yet far advanced; the prevailing system is still what is called the three-field system, introduced into Germany by Charlemagne, in which a crop of winter wheat is followed by one of summer grain, and that by fallow.

In Hungary, the Magyar adheres to his primitive husbandry; the German and Slave are adopting improved methods. Rice is cultivated in the Banat, but not enough for the consumption. Potatoes are raised everywhere; and in elevated districts, are often the sole subsistence of the inhabitants. Horticulture is carried to great perfection; and the orchards of Bohemia, Austria proper, Tyrol, and many parts of Hungary, produce a profusion of fruit. Great quantities of cider are made in upper Austria and Carinthia, and of plum brandy in Slavonia. In Dalmatia, oranges and lemons are produced, but not sufficient for the requirements of the country; twice as much olive oil is imported as is raised in the monarchy.

In the production of wine, Austria is second only to France. With the exception of Galicia, Silesia, and upper Austria, the vine is cultivated in all the provinces; but Hungary stands first, yielding not only the finest quality of wine, but four-fifths the amount of the whole produce of the empire. The average produce of the whole empire is estimated at about 680 millions of gallons.

Of plants used in manufactures and commerce, the first place is held by flax and

hemp. Flax is cultivated almost universally; white hemp in Galicia, Moravia, Hungary, etc. Tobacco is raised in great quantities, especially in Hungary, which also is first in the cultivation of rapeseed. Bohemia raises hops of the first quality, which are partly exported, though other provinces import from abroad. The indigo plant has lately been successfully acclimatized in Dalmatia. More than a third of the productive surface is covered with wood (75,000 square miles), which, besides timber, yields a number of secondary products, as tar, potash, charcoal, bark, cork, etc.

As to animals, bears are found in the Carpathians, Alps, and Dalmatia; wolves, jackals, and lynxes in these same districts, and also in the Banat, Croatia, Slavonia, and the military frontiers. The marmot, otter, and beaver are also found in Dalmatia. Game has of late sensibly diminished. The wild goat lives in the highest, the chamois and white Alpine hare in the middle regions of the Alps and Carpathians. More productive than the chase are the fisheries of the Danube, Theiss, and numerous streams, lakes, and ponds. The chief sea-fishing is in Dalmatia. Leeches, procured chiefly in Hungary and Moravia, form an article of considerable trade. For foreign commerce, the most important branch of rural industry is the rearing of silk.

Austria produces about a quarter a million of silk cocoons annually. The silk trade is very extensive on the Tyrol—the yearly supply of cocoons in that country being about 32,000.

In 1851, the number of horses in the monarchy was stated at 3,229,884 (not including 75,000 belonging to the army); cattle, 10,410,484; sheep, 16,801,545; goats, 2,275,900; and swine, 7,401,300. Nearly three-fourths of the population are engaged in husbandry, so that Austria is decidedly an agricultural State, though its capabilities in this respect have by no means been fully developed.

The annual value of its manufactures—not including small trades—is estimated at 1000 to 1200 millions of florins, while that of its husbandry may reach 3000 millions. Bohemia takes the lead in this industry; then follow Austria proper, Moravia and Silesia, Hungary. Vienna is the chief seat of manufacture for articles of luxury; Moravia, Silesia, and Bohemia for linen, woolen, and glass wares; Styria and Carinthia for iron and steel wares. The chief manufactured articles of export are silken and woolen; the only others of consequence are linen, twist, glasswares, and cotton goods. The yearly value of manufactured iron is about fifty-four millions of florins. The glasswares of Bohemia are of special excellence. The hemp and flax industry is one of the oldest and still most important.

No branch of industry has risen more rapidly than that of cotton. The annual value of the silk industry is estimated at about sixty millions of florins. The manufacture of tobacco is a State monopoly, and produced a revenue in 1873 of 58,126,000 florins. The salt monopoly secured 18,720,000 florins.

The imports for the year 1874 were 565,600,000 florins; the exports were 452,200,000 florins. This is exclusive of Dalmatia—not within the imperial line of customs. The figures for Dalmatia were, during the same year: 9,600,000 florins imports, and 6,600,000 florins exports.

The merchant navy, at the beginning of 1875, comprised 7203 vessels, with a tonnage of 332,005, and an equipment of 27,381 seamen. Of great importance for the commerce of the empire is the Austrian Lloyds. This company owned, on the 1st of January, 1874, a fleet of seventy-six steamers, of 15,800 horse-power.

Since the year 1867 Austria has been a twofold empire, consisting of a German or "Cisleithan" monarchy—Austria proper; and a Magyar or Transleithan kingdom—Hungary. Each of the two countries has its own laws, parliament, ministers, and government; and the formal tie between them is a body known as the Delegations. These form a parliament of 120 members; one-half is chosen by the legislature of Austria, and the other by that of Hungary, the upper house of each returning twenty, the lower house forty delegates. The delegations have jurisdiction over all

matters affecting the common interests of the two countries, especially foreign affairs, war, and finance. The acts of the delegations require to be confirmed by the representative assemblies of their respective countries.

The administration of Austria proper is divided among nine ministries—Foreign Affairs, Police, Public Education, Agriculture and Public Works, Finance, Interior, War and Navy, Commerce, and Justice. The Reichsrath consists of an upper and a lower house. The upper house is constituted by princes, nobles, archbishops, bishops, and life members nominated by the emperor. To give validity to bills passed by the Reichsrath, the consent of both chambers is required, as well as the sanction of the emperor.

The executive of Hungary is carried on in the name of the king by a responsible ministry.

The following figures are extracted from the budget for 1875:

EXPENDITURES.	
Austria,	319,916,323 florins.
Hungary,	218,558,301 "
General,	116,364,502 "
	<hr/>
	654,839,126 "
RECEIPTS.	
Austria,	283,298,975 florins.
Hungary,	209,633,909 "
From duties and other sources,	123,315,125 "
	<hr/>
	616,248,009 "

The public debt of Austria, on the 1st of January, 1875, was 2,649,484,475 florins; that of Hungary, January 1st, 1873, was 488,717,380 florins.

According to official returns, Austria possessed, in 1875, a standing army numbering 234,435 men on the peace footing, and 785,649 on the war footing.

The naval forces consisted of seventy-one vessels, of a tonnage of 115,380, carrying 308 heavy and 87 light guns. Of this fleet, 47 vessels were steamers, of 100,260 tons burthen.

The length of railways, at the close of 1875, was

In Austria,	9,823 kilometres.
" Hungary,	6,415 "
	<hr/>
Total,	16,238 "

The work of the post office in Austria-Hungary for 1874 was as follows:

Letters,	253,909,000
Postal cards,	28,741,000
Parcels,	31,959,000
Newspapers,	82,085,000
Number of post offices,	6,296

The statistics of telegraphs for the year 1874 are as follows:

Length of lines (Austria-Hungary),	45,441 kilometres.
" " wires " "	129,171 "
Number of offices,	2,923 "
" of dispatches,	5,797,492 "

Education, since 1849, is under the care of a Minister of Public Worship and Instruction. In the major part of German Austria the law enforces the compulsory attendance in the " Volksschulen," or National Schools, of all children between the ages of six and twelve, and parents are liable to punishment for neglect. It is rarely, however, that cases occur in which penalties for non-attendance at school have to be enforced. The cost of public education mainly falls on the communes, but of late

years the State has come forward to assist in the establishment of schools for primary education.

There are seven universities in the empire. Four of these, the high schools at Vienna, Prague, Graz, and Innsbruck, are called German universities, and were attended as follows, in 1872:

	PROFESSORS AND TEACHERS.	STUDENTS.
Vienna,	200	3881
Prague,	97	1709
Graz,	70	926
Innsbruck,	58	612

Of the other universities, Pesh, the high school of Hungary, had 2500 students at the end of 1873, and Cracow and Lemberg, the high schools for Galicia and the other Slavonian provinces, had, at the same date, together, 1900 students.

Commission from AUSTRIA to the International Exhibition:

- RUDOLF ISBARY, Vice-President of the Chamber of Commerce, President.
 FRANZ RITTER VON LIEBIG, Member of the Chamber of Commerce, First Vice-President.
 MICHAEL MATSCHEKO, Manufacturer, Second Vice-President.
 DR. F. MIGERVA, Counsellor to the I. R. Austrian Ministry of Commerce, Commissioner General, and Resident Commissioner.
 EUGENE FELIX, President of the Society of Arts.
 EDWARD KANITZ, Member of the Chamber of Commerce.
 KARL VON OBERLEITNER, Member of the Chamber of Commerce.
 OTTO VON BAUER, Member of the Chamber of Commerce.
 ERNST VON PONTZEN, Engineer.
 DR. EMIL HORNIG, Counsellor.
 THEO. A. HAVEMEYER, Austro-Hungarian Consul-General.

SWITZERLAND.

SWITZERLAND is an inland country of Europe, situated between $45^{\circ} 48'$ and $47^{\circ} 49'$ north latitude, and $5^{\circ} 55'$ and $10^{\circ} 30'$ east longitude. Its greatest length from east to west is 180 miles, and its greatest width from north to south, 130 miles.

The following table gives the area and population of each of the 22 cantons, according to the census returns of 1870:

	ENGLISH SQUARE MILES.	POPULATION.
Graubünden,	2,968	91,782
Bern,	2,561.5	506,465
Wallis (Valais),	1,661.6	96,887
Vaud (Waadt),	1,181.9	231,700
Ticino (Tessin),	1,034.7	119,619
St. Gallen,	747.7	191,015
Zurich,	685.3	284,786
Luzern,	587.4	132,338
Fribourg (Freeburg),	563.9	110,832
Aargau,	502.4	198,873
Uri,	420.8	16,107
Schwyz,	338.3	47,705
Neuchâtel (Neuenburg),	280.2	97,284
Glarus,	279.8	35,150
Thurgau,	268.3	93,300
Unterwalden,	262.8	26,116
Solothurn,	254.6	74,713
Basle,	184.6	101,887
Appenzell,	152.8	60,635
Schaffhausen,	119.7	37,721
Genève (Genf),	91.3	93,239
Zug,	85.4	20,993
Total,	15,233.0	2,669,147

Switzerland is the most mountainous country of Europe. Its principal chains are the Alps and the Jura. The former run from east to west along its southern or Italian frontier. Their ramifications fill more than one-half the country, and terminate along a line which may be traced from Vevey, on the lake of Geneva, to Mount Moleson and Mount Napf, across Lake Zug, to the southern shores of the lakes of Zurich and Wallenstadt, and Sargans on the Rhine. The mean elevation of the highest chain is from 8000 to 9000 feet. The Jura run northeast from the western corner of Switzerland. They consist of a series of parallel ridges inclosing long and narrow valleys, and their mean elevation does not exceed 4000 feet. In the angle formed between them and the Alps lies the plain of Switzerland, a table-land 100 miles in length, and from 20 to 30 miles in width, with a mean elevation of about 1400 feet above the sea. It is not absolutely level, but covered with elevations which seem very unimportant when contrasted with the huge masses of the Alps and Jura. The communication between the plain of Switzerland and the German valleys of the Danube and Rhine is not continuous. The plain terminates in the east in a third hilly tract, the Thur hill country, which lies between the lakes of Zurich and Constance, and, to some extent, forms a barrier between the plain of Switzerland and Germany. The Jura, the plain, and the hill country, are the three great divisions of northern Switzerland. The divisions in the Alpine region are more strongly marked

in nature. They isolate and inclose (1) the valleys drained by the Rhone which connect Switzerland with southern France; (2) Ticino, drained by streams which descend to the Po, and bring this section into communication with Italy; (3) the Grisons, the most sequestered valleys of Switzerland, drained by the tributaries of the Rhine and Danube, and shut out by mountains from the lower basins of these rivers; (4) Bernese Oberland, which slopes towards the western extremity of the Swiss plain; (5) the district of the Forest Cantons, Schwyz, Uri, and Unterwalden, surrounding the Lake of Lucerne.

In Switzerland the climate chiefly varies with the elevation above the sea level. At a height exceeding 9500 feet the mountains are covered with perpetual snow, which descends along the glaciers to a much lower level, and thus covers the elevated part of the country with a vast sea of ice. Below the level of perpetual snow the surface of Switzerland has been divided into a series of belts, characterized by different climates and productions. The highest of these, lying between the snow and the level of 6900 feet, has been called the Upper Alpine region. In it the glaciers fill the valleys, but plants clothe the scanty soil of the ridges. The second or Lower Alpine belt descends to 4800 feet, and is a country of pastures in which shrubs, but no trees, are seen. In the third belt, which descends to 4350 feet, meadows still abound, but forests of firs and maples, in many parts, replace them. The fourth belt sinks to 3000 feet. Here forests still abound, the beech being the prevailing tree; the meadows are excellent, and rye and barley are successfully cultivated. The fifth belt descends to 1800 feet. In it the oak and walnut are the characteristic forest trees. Spelt and the best wheat are cultivated. The last belt sinks to 750 feet. In it the chestnut is the characteristic tree; the mulberry and vine are extensively cultivated, and wheat is the grain chiefly grown. This belt includes the greater part of the Swiss plain, and sinks to its lowest level in the valley of the Rhine, between Constance and Basle, and the banks of Lake Zurich and Lago Maggiore. In the last district the vegetation is that of northern Italy. The most populous part of Switzerland lies between 1250 and 2150 feet. The temperature of this region is fairly represented by that of Zurich, which averages, for the year, 47.95°.

The German language is spoken by the majority of the inhabitants in sixteen cantons, the French in four, and the Italian in two. It is reported in the census returns of 1870 that 384,561 families speak German, 134,183 French, and 30,293 Italian. According to the same returns there were but five towns in Switzerland with more than 20,000 inhabitants, namely, Geneva, seat of the watch and jewelry industry, with 46,783; Basle, centre of the silk industry, with 44,834; Bern, political capital, with 36,001; Lausanne, with 26,520; and Zurich, with 21,199 inhabitants. The soil is pretty equally divided among the population, it being estimated that four-fifths of the inhabitants are land owners. Of every 100 square miles of land 20 are pasture, 17 forest, 11 arable, 20 meadow, 1 vineyard, and 30 uncultivated, or occupied by lakes, rivers, and mountains.

According to the census of 1870 there are 1,095,447 individuals supported, either wholly or in part, by agriculture. At the same date, the manufactories employed 216,468 persons, the handicrafts 241,425. In the canton of Basle the manufacture of silk ribbons employs 6000 persons, with a total annual production valued at \$7,000,000. In the canton of Zurich silk stuffs, to the value of about \$8,000,000, are made by 12,000 operatives. The manufacture of watches and jewelry in the cantons of Neuchatel, Geneva, Vaud, Bern, and Solothurn, employ 36,000 workmen, who produce annually 500,000 watches—three-sevenths gold, four-sevenths silver—valued at \$9,000,000. In the cantons of St. Gall and Appenzell, 6000 workers make \$2,000,000 worth of embroidery annually. The printing and dyeing factories of Glarus turn out goods to the value of \$3,000,000, per annum. The manufacture of cotton goods occupies upwards of 1,000,000 spindles, 4000 looms, and 20,000 operatives, besides 38,000 hand-loom weavers.

The Federal custom house returns classify all imports and exports under three chief headings, namely, live stock, *ad valorem* goods, and goods taxed per quintal. No returns are published of the value of imports or exports: only the quantities are given. The following table shows the imports and exports during the year 1871:

IMPORTS.

Live stock,	256,851 head.
Agricultural instruments, carts, and railway carriages for travelers and merchandise, <i>ad valorem</i> ,	1,043,991 francs.
Goods taxed per quintal, including loads reduced to quintals,	25,450,359 quintals.

EXPORTS.

Live stock,	127,490 head.
Wood and coal, <i>ad valorem</i> ,	5,351,941 francs.
Goods, per load and quintal,	4,086,646 quintals.

The present constitution vests the supreme legislative and executive authority in a parliament of two chambers, a Ständerath, or State Council, and a Nationalrath, or National Council. The first is composed of 44 members, chosen by the 22 cantons—2 for each canton. The Nationalrath consists of 135 representatives, chosen by popular vote, at the rate of one deputy for every 20,000 souls. A general election for representatives takes place every three years. Both chambers united are called the Bundesversammlung, or Federal Assembly, and as such represent the supreme government of the republic. The chief executive authority is deputed to a Bundesrath, or Federal Council, consisting of seven members elected for three years by the Federal Assembly. The president and vice-president of the Federal Council are the first magistrates of the republic. Both are elected by the Federal Assembly for the term of one year, and are not re-eligible until after the expiration of another year. Independent of the Federal Assembly, though issuing from the same, is the Bundes-Gericht, or Federal Tribunal, consisting of eleven members, elected for three years. The Federal Tribunal decides, in the last instance, on all matters in dispute between the various cantons, or between the cantons and the Federal government, and acts in general as a high court of appeal. Each of the Swiss cantons and demi-cantons has its local government, different in organization in most instances, but all based on the absolute sovereignty of the people.

In the budget estimates for the year 1875 the total revenue is set down at 39,516,000 francs,* and total expenditure at 39,266,000 francs. The public debt of the republic amounted, at the commencement of 1875, to 30,635,552 francs, as a set-off against which there was a so-called Federal fortune, or property belonging to the State, valued at 31,783,303 francs.

The fundamental laws of the republic forbid the maintenance of a standing army within the limits of the confederation. The troops are divided into three classes: 1, the Bundes-Auszug, or Federal army, consisting of all men able to bear arms from the age of 20 to 30; 2, the army of reserve, consisting of all men who have served in the first class, from the age of 31 to 40; 3, the Landwehr, or militia, comprising all men from the 41st to the completed 44th year. The strength of the armed forces of Switzerland, at the end of 1874, was as follows:

Staff,	841
Bundes-auszug,	84,369
Reserve,	50,069
Landwehr,	65,981
Total,	201,260

* One franc = 19.3 cts. gold.

From official returns it appears that the railways open for public traffic in Switzerland had, at the end of 1874, a total length of 1024 English miles.

The post office of Switzerland forwarded, during the year 1874, 63,252,884 letters; 19,925,200 packets, and 45,651,344 newspapers.

At the end of September, 1875, there were 3736 miles of telegraph lines and 9538 miles of wires. The number of messages sent, in the year 1874, was 2,625,104; number of offices, 815. The entire telegraph system belongs to the State.

In no country is elementary instruction more widely diffused. Parents are compelled to send their children to school from five to twelve, but not above that age. There are universities on the German model at Basle, Bern, and Zurich, and academies on the French plan at Geneva and Lausanne. The number of clubs for scientific, literary, musical, and social purposes, is remarkable. There are few pursuits to which any class of men can devote themselves which are not represented in Switzerland by societies.

Commission from SWITZERLAND to the International Exhibition;

DR. SCHENK, Member of Federal Council, Chief of the Department of Railways and Commerce, President.

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COLONEL SIEGFRIED, Chief of Bureau of the General Staff.

MR. STEINMANN BUCHER, Secretary of the Department of Commerce.

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DR. WILLI, Secretary of the Federal Department of Commerce, Secretary.

Resident Commission in Switzerland.

COLONEL H. RIETER, Commissioner-General.

Resident Commissioners in Philadelphia.

MR. EDWARD GUYER, Secretary-General.

MR. JOHN E. ICELY, Engineer.

MR. JOSEPH BEELER, Secretary.

BELGIUM.

BELGIUM lies between latitude $49^{\circ} 27'$ and $51^{\circ} 30'$ north, and between longitude $2^{\circ} 33'$ and $6^{\circ} 5'$ east. It is bounded on the north by Holland; on the east by Dutch Limbourg, Luxembourg, and Rhenish Prussia; on the south and southwest by France; and on the northwest by the North Sea. Its greatest length, from northwest to southeast, is 173 English miles; and its greatest breadth, from north to south, 112 English miles. The whole area is 11,313 square miles. The following table gives a list of the provinces in Belgium, with the area, population, and chief town of each:

PROVINCES.	AREA IN SQ. MILES.	POPULATION (1870).	CHIEF CITIES.
Antwerp,	1,094	492,482	Antwerp.
West Flanders,	1,243	668,976	Bruges.
East Flanders,	1,154	837,726	Ghent.
Hainault,	1,430	896,285	Mons.
Liege,	1,111	592,177	Liege.
Brabant,	1,260	879,814	Brussels.
Limbourg,	929	200,336	Hasselt.
Luxembourg,	1,695	205,784	Arlon.
Namur,	1,397	313,525	Namur.
Total,	11,313	5,087,105	

Belgium is the most densely populated country in Europe, the population being about 404 to the square mile; and in the particular provinces of East Flanders, 675; Brabant, 594; Hainault, 537; and West Flanders, 502, respectively, to the square mile. The rural population bears to that of the towns a proportion of about 3 to 1. About 58 per cent. of the inhabitants are Flemish, the rest Walloon and French, with 39,000 Germans in Luxembourg. Belgium is, on the whole, a level and even low-lying country; diversified, however, by hilly districts. In the southeast, a western branch of the Ardennes highlands makes its appearance, separating the basin of the Maas from that of the Moselle, but attains only the moderate elevation of 2000 feet. In Flanders the land becomes so low that in parts where the natural protection afforded by the downs is deficient, dikes, etc., have been raised to check the encroachments of the sea. In the northeast part of Antwerp, a naturally unfertile district named the Campine, and composed of marshes and barren heaths, extends in a line parallel with the coast. The once impassable morasses of the *Morini* and the *Menapii*, which stayed the progress of Cæsar's legions, are now drained, and converted into fertile fields, surrounded by dense plantations, which make the land at a distance look like a vast green forest—though, when more closely regarded, we see only numerous dwellings interspersed among fields, canals, and meadows.

The abundant water-system of Belgium is chiefly supplied by the rivers Scheldt and Maas, both of which rise in France, and have their embouchures in Holland. At Antwerp, the Scheldt, which, like the Maas, is navigable all through Belgium, is 32 feet deep, and about 480 yards wide. Its tributaries are the Lys, Dender, and Rupel. The Maas, or Meuse, receives in its course the waters of the Sambre, the Ourthe, and the Roer. These natural hydrographical advantages are increased by a system of canals which unite Brussels and Louvain with the Rupel, Brussels with Charleroi, Mons with Conde, Ostend with Bruges and Ghent, and this last place with Terneuse. The climate of Belgium, in the plains near the sea, is cool, humid, and somewhat unhealthy; but in the higher southeast districts, hot summers alternate with very cold winters. April and November are always rainy months. The geological formations

of Belgium are closely associated with France and Britain. The greater portion of the country is covered with tertiary deposits. A line drawn across the course of the Scheldt, by Mechlin, along the Demer and Maas, will have on its northern and northwestern aspect a tract of tertiary deposits, bounded northwards by the sea. In these tertiary strata the different geological periods are fully represented; but only the second, containing the Pleiocene deposits, is rich in fossils. The secondary deposits occupy an extensive tract in the centre of Belgium, between the Scheldt and the Demer. The most important district, economically, is the southwestern, consisting of palæozoic rocks—Silurian, Devonian, and Carboniferous. These beds have a very complicated structure, from the numerous and extensive flexures and folds they have undergone, and these are often accompanied with great upward shifts, by which beds of many different ages are brought to the same level. Belgium is rich in minerals, which, next to its abundant agriculture, constitute the chief source of its national prosperity. The four provinces in which they are found are Hainault, Namur, Liege, and Luxembourg. They include lead, copper, zinc, calamine, alum, peat, marble, limestone, slate, iron, and coal. Lead is wrought, but only to a small extent, in Liege; copper in Hainault and Liege; manganese in Liege and Namur; black marble at Dinant; slates at Herbeumont; and calamine principally at Liege. But these products are insignificant compared to the superabundance of coal—from anthracite to the richest gas coal—and iron.

In the year 1871, the total coal production of Belgium amounted to 13,733,176 tons, of a total value of 153,803,000 francs. Number of hands employed in the coal mines of Belgium, 94,186. The average daily pay of the workmen, in 1871, was 2¾ francs per day; average cost of production, 9½ francs per ton of coal. The Ardennes districts yield a large supply of wood; while the level provinces raise all kinds of grain—wheat, rye, barley, oats, etc., leguminous plants, hemp, flax, colza, tobacco, hops, dye-plants, and chicory. Belgium contains upwards of 7,000,000 acres, of which one-half is arable, rather more than one-fifth in meadow and pasture, the same in woods and forests, and not above 500,000 acres lying waste. Some hundreds of acres are devoted to vineyards, but the wine produced is of an inferior quality. The forests of Ardennes abound in game and other wild animals. Good pasturage is found on the slopes and in the valleys of the hilly districts, and in the rich meadows of the low provinces. Gardening occupies not less than 130,000 acres; indeed, it has been said that the agriculture of Belgium is just gardening on a large scale, so carefully and laboriously is every inch of soil cultivated. The spade is still the principal instrument used. In the Campine, the care of bees is very productive, and the cultivation of the silkworm is encouraged. There are valuable fisheries on the coast, which, in 1871, employed 263 boats, with a tonnage of 8963. Belgium is famous for its horses, and in one year contained 294,537 of these animals, 1,203,891 horned cattle, and 662,508 sheep.

Wool is the object of an immense industry, the woollen manufactures of Verviers and its environs alone employing a population of 50,000 operatives. Flannels, serges, camlets, carpets, flax fabrics, silks, velvets, fine laces, ribbons, hosiery, hats, paper, etc., are extensively and profitably manufactured. The working of metals, as iron, copper, and tin, is very important; the manufacture of cannon, firearms, and locomotive engines being an especial feature of the metallurgical industry of Belgium.

The foreign trade of Belgium is officially divided into "general commerce," including the sum total of all international mercantile intercourse, and "special commerce," comprising such imports as are consumed within and such exports as have been produced in the country. The following table gives the value of both the general and special exports for the year 1873:

General imports,	2,424,800,000 francs.
" exports,	2,164,900,000 "
Special imports,	1,422,700,000 "
" exports,	1,158,600,000 "

The statistics of the Belgian merchant navy for 1873, are—

	NO.	TONNAGE.
Sailing vessels,	41	16,434
Steam "	28	30,005
Total,	69	46,439

Belgium is a constitutional, representative, and hereditary monarchy. The legislative power is vested in the King, the Chamber of Representatives, and the Senate. The Chamber of Representatives is composed of deputies chosen directly by all citizens paying a small amount of direct taxes. The number of deputies is fixed according to the population, and cannot exceed one for every 40,000 inhabitants. The Senate is composed of exactly one-half the number of members composing the other chamber, and are elected by the same citizens who appoint the deputies. The public expenditures of Belgium, for 1875, were 238,281,441 francs; receipts during the same year, 243,032,600 francs. The total public debt, in 1875, was 1,127,040,009 francs. The standing army is formed by conscription, to which every able-bodied man, who has completed his nineteenth year, is liable. Substitution is permitted. The actual number of soldiers under arms, on the 1st of January, 1875, was 103,893.

In Belgium the State is a great railway proprietor, and the State railway is one of the largest sources of national revenue. As each conceded railway lapses gratuitously to the State in 90 years from the period of its construction, the entire system will in time become national property. There were, at the end of 1875, 1953 kilometres of railways owned by the State, and 1479 worked by companies; in all 3432 kilometres. (The kilometre = 1093 yards.)

The work of the post office for 1874, was—

Number of offices,	479
Private letters,	58,036,628
Official "	6,035,861
Newspapers,	58,825,598
Packets (printed matter, etc.),	30,094,027

There were, on the 1st of January, 1875, telegraph lines of a length of 4909 kilometres; length of telegraph wires, 20,512 kilometres; telegraph stations, 574.

Elementary education is not yet generally diffused among the people. The schools are supported by the communes, the provinces, and the State combined. Education is not compulsory. In the budget for the year 1874, the sum voted by the Chamber of Representatives for public education amounted to 9,701,628 francs.

Commission from BELGIUM to the International Exhibition :

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BARON GUSTAVE DE WOELMONT, Senator, President.

ALEXANDER ROBERT, Historical Painter, Member of the Belgium Academy of Fine Arts, Letters, and Sciences, Vice-President.

CH. DE SMET-DE SMET, Manufacturer, President of the Industrial and Commercial Society, Vice-President.

J. CLERFEYT, Chief of Bureau, Ministry of the Interior, Secretary of the Upper Consul of Industry and Commerce, late Secretary of the Belgium Commission and Juries of the International Exhibition of Paris, London, and Vienna, Secretary.

ALFRED ANCION, Manufacturer of Arms.

JEAN BECO, Mining Engineer.

A. J. BELPAIRE, Inspector-General of Railways and Telegraphs.

L. DE CURTE, Architect, Member of the Royal Commission of Monuments and Council for the Improvement of the Arts of Design.

FÉLIX DUHAYON, Lace Manufacturer, Judge of the Tribunal of Commerce.

- E. DUISBERG, Director of the Paper Manufactories of Messrs. Godin & Co., at Huy,
Member of the Chamber of Commerce.
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- P. F. GHYS-BRUNEEL, Lace Manufacturer.
- JULES HAVENITH, Shipowner, Consul of Austria-Hungary.
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- HENRI MOREL, Flax Manufacturer.
- REMY PAQUOT, Director of the Company of Bleyburg-es-Montzen.
- EDM. PARMENTIER, Manufacturer.
- FERDINAND PAUWELS, Historical Painter.
- AUG. RONNBERG, Director-General of Agriculture and Manufactures, Ministry of
the Interior.
- E. SADOINE, Director-General of the Company "John Cockerill."
- JULES SAUVEUR, Director-General of Public Instruction, Ministry of the Interior.
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Resident Commissioners in Philadelphia.

- COUNT D'OULTREMONT, Director-General.
- MR. J. BECO, Delegate of the Belgian Government.
- MR. J. VAN BREE, Chief of Fine Art Department.
- MR. J. GODY, State Architect, Chief of the Commissioner's Office.
- MR. JULIAN DEBY.

NETHERLANDS.

THE Kingdom of the Netherlands lies between $50^{\circ} 43'$ and $53^{\circ} 36'$ north latitude and $3^{\circ} 22'$ and $7^{\circ} 16'$ east longitude, is bounded on the north by the North Sea, east by Hanover and the western part of Prussia, south by Belgium, west by the North Sea. Its greatest length, from north to south, is 195 English miles; its greatest breadth from the west, on the North Sea to the extremity of Overysse, on the east, 110 English miles. It contains 12,637 square miles, including the grand duchy of Luxembourg (which, although possessed of a separate administration, is connected with the kingdom in the person of the sovereign). The entire population, in 1872, was 3,835,111.

The following table gives the population (1872) and area of the provinces, including the reclaimed Haarlem Lake:

	AREA IN SQUARE MILES.	POPULATION.
North Brabant,	1,985	435,262
Gelderland,	1,972	436,029
South Holland,	1,176	700,499
North Holland,	966	591,338
Zeeland,	642	181,532
Utrecht,	531	175,037
Friesland,	1,267	300,257
Overysse,	1,308	256,681
Groningen,	907	228,883
Drenthe,	1,029	106,713
Limburg,	854	225,352
	12,637	3,637,583
Grand Duchy of Luxembourg,	990	197,528
Total,	13,627	3,835,111

The land is generally low, much of it being under the level of the sea, rivers, and canals, especially in North and South Holland, Zeeland, the southern part of Gelderland, and Friesland. Along the west coast the low lands are protected from the sea by a line of sand-hills, or dunes, and where that natural defence is wanting strong dykes have been constructed to keep back the waters, and are maintained at great expense. The greatest of these dykes are those of the Helder and of West Kapell, on the east coast of Walcheren. Engineers, called the officers of the Waterstaat, take special charge of the dykes and national hydraulic works. A hilly district stretches from Prussia through Drenthe, Overysse, the Veluwe, or Arnhem district of Gelderland, the eastern part of Utrecht, into the Betuwe or country between the Maas and the Waal. This tract has many pretty spots, is of a light sandy soil, well watered, and when not cultivated, is covered with heath or oak-coppice. The greater portion of the north is very fertile, the low lands and drained lakes, called Polders, being adapted for pasturing cattle, and the light soils for cereals and fruits; but in some districts there are sandy heath-clad plains, extensive peat-lands, and undrained morasses, which industry is rapidly bringing under cultivation.

The islands may be divided into two groups, of which the southern, formed by the mouths of the Schelde and Maas, contains Walcheren, South and North Beveland, Schouwen, Duiveland, Tholen, St. Philipsland, Goeree, Voorne, Putten, Beverland, Ysselmonde, Rozenburg, and the island of Dordrecht. The northern group

contains the islands at the entrance of the Zuyder Zee and along the coast of Groningen and Friesland, as Wieringen, Texel, Vlieland, Terschelling, Ameland, Schiermonnikoog, and Rottum. In the Zuyder Zee are Marken, Urk, and Schokland. The chief rivers are the Rhine, Maas, and Scheldt. Important branches of these are the Waal, Lek, Yssel, Roer, etc.

Water ways are more numerous than in any other European country, the immense tracts of meadow-land and the fertile polders being girdled by large canals, and cut in all directions by smaller ones for drainage and communication. Those of most importance to the national trade are, the North Holland canal, constructed 1819–1825, to connect the port of Amsterdam with the North Sea; the Voorne canal, from the north side of Voorne to Hellevoetsluis, which shortens the outlet from Rotterdam; the South Willemvaart, through North Brabant, Dutch and Belgian Limburg, from Hertogenbosch to Maastricht, being $71\frac{1}{2}$ English miles in length, and having 24 locks. Besides these, there are numerous important canals, connecting rivers, and cutting the kingdom into a network of water-courses. To improve the entrances to the Maas, the Hock, of Holland, has lately been cut. The new canal through the Y will be nowhere less than 80 yards broad, with sluices nearly 400 feet in length, at a depth of nearly 23 feet. It will reduce the distance from Amsterdam to the sea to about 15 miles, and gives a safe way for large ships.

The climate of the Netherlands is variable, chilly colds often closely succeeding high temperatures, inducing various forms of fever and ague, and requiring peculiar care as to clothing, etc. In summer, the thermometer sometimes rises above 80° , and even to 90° F. in the shade, and a winter of great severity usually occurs every fifth year, when carriages and heavily laden wagons cross the rivers and the Y on the ice, and thousands enjoy the national pastime of skating.

The farms are generally small and well cultivated. The leading agricultural products of Zeeland are wheat and madder; in South Holland, madder, hemp, butter, and cheese; in North Holland, butter and cheese are extensively made, and cattle, sheep, and pigs reared and exported. The horses of Friesland, Zeeland, and Gelderland are of first-rate quality. The exportation of butter from Holland and Friesland, and of Edam, Leyden, Gonda, and Frisian cheese, is quite large. Fruit is abundant, and in several provinces, as Gelderland, Utrecht, and Drenthe, much attention is paid to bees. In Haarlem and neighborhood, tulips and hyacinths are much cultivated, realizing a large annual amount. Wild ducks, snipes, plovers, and hares are plentiful; and there are also conies, partridges, pheasants, and deer—game forming an article of export.

The Netherlands are of recent formation, and consist of an alluvial deposit, chiefly of a deep, rich clayey soil, superimposed on banks of sand, marine shells, and beds of peat and clay. It appears that at some distant period there has been a depression of the land below its former level, enabling the sea to burst through its sand-banks, submerge the land, and form new deposits. The higher districts are composed of sand-drift mingled with fertile earths, and resting on a bed of clay. Coal is worked in Limburg; and a soft sandstone, which becomes fit for building purposes after having been some time exposed to the atmosphere, is quarried in the southern part of that province, which has also pipe and other clays. Valuable clays for pottery, tile, and brick making, abound in the various provinces.

The chief manufactures are linen, woolen, cotton, and silk fabrics; paper, leather, glass, etc. Leyden and Tilburg are famed for woolen blankets, wool-dyed pilot, fine cloths, and friezes; Hertogenbosch for linens and rich damasks; calicoes, shirtings, drills, tablecloths, striped dimities are made at Almelo, Amersfort, and in the leading towns of Overijssel. Good imitation Smyrna and Scotch carpets, and carpets of hair and wool, are manufactured at Deventer, Delft, Arnhem, Hilversum, Utrecht, and Breda; Turkey-red yarns, dyed silks, and silk stuffs at Roermond, Utrecht, Haarlem, etc.; leather, glass, firearms, at Maastricht and Delft; iron-founding, rolling and hammering of lead and copper, cannon-founding are carried

on at the Hague, etc.; and powder-mills at Muiden; Oudenkerk, Middelburg, Hertogenbosch, Amsterdam, Nymegen, etc., have important breweries. Waalwyk, Heusden, and surrounding districts, manufacture boots and shoes, of which Heusden sends to North and South Holland 1,000,000 pairs annually. Gin is distilled at Schiedam, Delft, Rotterdam, and Weesp. Amsterdam has the largest diamond-cutting trade in the world, 10,000 persons depending on that branch of industry. Sugar refining is largely carried on at Amsterdam, Rotterdam, and Dordrecht, from all of which sugar is exported to Russia, the Levant, and countries of Europe. Paper is chiefly made in Holland and Gelderland. The leading letter-type founders are at Amsterdam and Haarlem. Manufactures of every kind are being rapidly increased in number, and adding to the material prosperity of the Netherlands. The chief motive power is the windmill, which forms a never-failing element in the scenery; but of late years steam is becoming more general.

Fishing, not only in the inland waters, the coasts and bays of the North Sea, but also on the coast of Scotland, is vigorously pursued. In 1872 the total value of the herrings taken in the North Sea was about \$450,000, 108 vessels having been employed; on the Netherland coasts, to the value of about \$250,000, and in the Zuyder Zee, additional, 18,052,000 herrings were taken. The anchovy take, almost exclusively in the Zuyder Zee, amounted to 9000 anker, valued at about \$90,000. There are productive oyster beds, besides extensive fishings of cod, ling, turbot, flounders, soles, shrimps, haddock, etc.; and from the rivers, salmon, eels, perch, etc.

The foreign commerce of the Netherlands, during the year 1873, was as follows:

	IMPORTS. IN GUILDERS.	EXPORTS. IN GUILDERS.*
Europe,	533,390,000	459,799,000
America,	39,838,000	8,125,000
Asia,	23,207,000	435,000
Africa,	2,747,000	890,000
Other countries,	298,000	1,000
	<u>599,480,000</u>	<u>469,250,000</u>

COLONIAL POSSESSIONS.

Java,	82,485,000	45,083,000
West Indies,	119,000	302,000
	<u>682,084,000</u>	<u>514,635,000</u>

The Guinea coast is not included in the above, the statistics for 1873 not being at command. During 1872, the imports 26,000, the exports 137,000 guilders. At the end of 1874 the merchant navy numbered 1827 vessels of 511,982 tons.

The constitution vests the whole legislative authority in a parliament composed of two chambers, called the States-General. The Upper House, or First Chamber, consists of 39 members, elected by the provincial states, from among the most highly assessed inhabitants of the various counties. The Second Chamber of the States-General, elected by ballot, at the rate of one deputy to every 45,000 souls, numbered 80 members in 1875. All citizens, natives of the Netherlands, not deprived of civil rights, and paying assessed taxes to the amount of not less than 20 guilders, are voters. Clergymen, judges of the High Court of Justice, and governors of provinces, are debarred from being elected. Every two years one-half the members of the Second Chamber, and every three years one-third of the members of the Upper House, retire by rotation. The Second Chamber has the initiative of new laws, and the functions of the Upper House are restricted to either approving or rejecting them, without the right of inserting amendments. The king has full veto power, but it is rarely, if ever, exercised. The executive authority is, under the

* The guilder equals 40 cents gold.

sovereign, exercised by a responsible council of ministers. The budget estimates for the year 1874, were as follows: Total revenue, 93,742,144 guilders; total expenditure, 93,742,144; estimated deficit, 6,244,740 guilders. The financial estimates are always framed with great moderation, generally showing a deficit, which, in the final account, becomes a surplus. There is a separate budget for the great colonial possessions in the East Indies. The Netherlands East India estimates, for 1874, are thus summarized:

	GUILDERS.
Revenue from receipts in the Netherlands,	48,958,967
“ “ “ in India,	74,639,232
	<u>123,598,199</u>
Expenditure in the Netherlands,	17,956,922
“ “ India,	95,096,698
	<u>113,053,620</u>
Contribution in aid of the Home Government, for 1874, . .	10,544,579
	<u>123,598,199</u>

At the commencement of the year 1874, the national debt was represented by a capital of 927,320,076 guilders. The regular army stationed in the Netherlands comprised, on the 1st of July, 1875, 1935 officers and 59,491 men. The colonial army, on the 1st of January, 1875, comprised 27,475 men, 12,310 of whom were Europeans, and 15,165 natives. The navy, on the 1st of July, 1875, consisted of 88 steamers, carrying 474 guns, and 27 sailing vessels, with 195 guns. At the beginning of the year 1875, there were 1668 kilometres of railway opened for traffic. Of these, 853 belonged to private companies and 815 to the State. The number of post offices at the commencement of 1875 was 1241; the number of letters carried during the year, 44,396,330. The length of telegraph lines, January 1st, 1875, was 3431 kilometres; the length of wires, 12,365 kilometres; the number of offices, 328. During the year 1874 the number of telegrams carried was 2,084,121. Under the working of the primary instruction law, there were, in January, 1871, according to government returns, 2608 public schools, with 6538 schoolmasters and 477 schoolmistresses, and 1119 private schools with 2332 schoolmasters and 1565 schoolmistresses. At the same date the pupils in the public schools numbered 390,129, and the pupils in the private schools, 111,762. There were, also, in 1871, 81 schools of middle instruction, with 7047 pupils, and 55 Latin schools, with 1128 pupils. There are three universities, Leyden, Groningen, and Utrecht, with 1339 students in January, 1871, and a polytechnic institution, at Delft, with 171 pupils.

COLONIES.

The colonial possessions of the Netherlands embrace an area of 666,756 English square miles. The total population, according to the last returns, was 24,386,991.

The East Indian island of Java, possessing, with the adjoining Madura, an area of 51,336 English square miles, and a population, at the end of 1872, of 17,298,200, is by far the most important of the colonial possessions of the Netherlands. The whole of the other Netherlands possessions in the East Indies are administered as dependencies of Java.

Almost the entire trade of Java and Madura is with the Netherlands, and there is comparatively little commercial intercourse with other countries. The total imports, including specie, for 1873, were 108,304,000 guilders; total exports, including specie, 155,881,000 guilders. The principal articles of export from Java are sugar, coffee, rice, indigo, and tobacco. The imports of the other East Indian possessions, during 1873, were 42,426,000 guilders; the exports, 41,869,000 guilders.

The Dutch West India Islands, of which Curacoa is the most important, have a total population of 36,160, and an area of about 400 square miles. Surinam, with an area of about 45,000 square miles has a population of 69,834.

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DENMARK.

DENMARK is situated between $54^{\circ} 23'$ and $57^{\circ} 54' 50''$ north latitude, and $8^{\circ} 5'$ and $12^{\circ} 45'$ east longitude, excepting the small island of Bornholm in the Baltic, about ninety miles east of Seeland, which lies in 15° east longitude. Denmark is bounded on the north by the Skager Rack, a gulf of the North Sea; on the east by the Cattegat, the Sound, and the Baltic; on the south by the German Empire; and on the west by the North Sea, which the Danes call the "Western Ocean."

The kingdom of Denmark has an area of 14,553 English square miles, and a population (in 1874) of about	1,860,000
Faroe Islands,	}
Iceland,	
Greenland,	
Danish possessions in the West Indies,	
Total,	1,988,000

The chief pursuits are agriculture, cattle-breeding, navigation, and fishing, about one-half of the population being engaged in these industries.

The annual yield of grain may be calculated at about 100,000,000 bushels, beside 200,000,000 barrels of potatoes, beans, etc. About three-fourths of the whole country is under cultivation. The raising of horses and cattle is quite an important interest; the statistics of live stock are, approximately, as follows: horses, 350,000; cattle, 1,250,000; sheep, 1,900,000; hogs, 450,000.

The exports consist mainly of grain, flour, horses, cattle, hogs, meat, pork, butter, wool, hides and skins, beer, brandy, train oil, etc. The principal imports are iron, coal, salt, sugar, coffee, tea, wood, cotton cloth, tobacco, rice, etc.

Of manufactures, the most important are china ware, terra cotta, tiles, crockery, glass, tobacco, linen, cloth, paper, and soap. There are large woolen mills, sugar refineries, iron foundries, machine shops, dockyards, distilleries, tanneries, etc.; flour mills can be found in all sections of the country. The commerce is not inconsiderable, and Danish joiners' work, gold and silver ware, watches, gloves, terra cotta, etc., find ready sale abroad.

The merchant navy consisted, in 1875, of 2766 sailing vessels of 183,740 registered tons; 114 steamships of 24,323 registered tons, making a total of 2880 vessels of 208,063 registered tons.

The national wealth of Denmark is estimated at 4500 millions of crowns,* of which 3400 millions is real estate and 1100 millions capital, or about 2200 crowns to each individual.

In the 350 savings banks of the country, there were deposited, at the end of 1874, 194,308,902 crowns.

The army numbers, in all, 52,000 men. The navy consists of three iron-clad frigates and eight iron-clad corvettes, carrying 79 guns; three frigates, three corvettes, and five schooners, carrying 136 guns; twelve iron gunboats, carrying 17 guns. Also, transports, etc.

The budget for 1876-77 estimated the revenue at 50,008,843 crowns against an expenditure of 46,885,045 crowns. The public debt, April 1st, 1876, was 181,117,700 crowns against 262,034,296 crowns in 1869. The debt has, in five years, been reduced by more than 80,000,000 crowns.

(The foregoing statistics are furnished by the Danish Commission.)

* The Danish crown = 26 4-5 cents, gold.

The length of railways in the kingdom, at the end of 1874, was 1024.5 kilometres, of which 665 belonged to the State and 359.5 to companies.

The work of the post office for the year 1873-74 was 16,487,777 letters, and 15,134,812 newspapers.

The length of telegraph lines, 2545 kilometres; length of wires, 7049 kilometres; number of offices, 174; messages in 1874, 762,609.

Elementary education is widely diffused in Denmark, attendance at schools being obligatory from the age of seven to fourteen. Instruction is furnished gratuitously in the public schools to children whose parents cannot afford to pay for their teaching. Besides the university of Copenhagen, there are thirteen public gymnasia in the principal towns of the kingdom, which afford a classical education, and under them are a large number of middle schools, for the children of the trading and higher working classes. Instruction at the public expense is given in the parochial schools, of which there were, in August, 1869, 28 in Copenhagen, 132 in the towns, and 2780 in the rural districts.

Denmark is a constitutional monarchy. The people are efficiently represented, and have a voice in all public matters. The press is virtually free, and only answerable to law. The national assembly consists of the Folksting and Landsting, and is invested with very extensive powers; it meets annually for two months, but the deputies are elected triennially, and receive a fixed allowance during their sittings. The several colonies are governed by governors or high bailiffs, nominated by and alone responsible to the crown. The king has a privy council, in which there are associated with him the heir-apparent and eight members.

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 THOMAS SCHMIDT, Commissioner.

SWEDEN.

SWEDEN and Norway (Sverige and Norge), two independent kingdoms, but under a common king, form the Scandinavian peninsula, whose shores are washed by the waters of the Gulf of Bothnia, the Baltic, the Sound, the Kattegat, the Skager-Rack, the North Sea, the Atlantic and Arctic Oceans, and is thus completely separated from the mainland, with the exception of its northeastern part. The length of its coast, which is indented with numerous bays and fiords, and protected from the brunt of the sea by innumerable islands and rocks, may be estimated at about 3200 English miles, each kingdom possessing about one-half. The Scandinavian peninsula, of which Sweden forms the eastern and southern part (58 per cent.), while Norway makes up the rest (42 per cent.), embraces an area of 13,830 geographical square miles (294,000 English square miles). The united kingdoms have a population of rather more than six millions, of which 70 per cent. belong to Sweden, and 30 per cent. to Norway. The statistics of Norway are given elsewhere in this catalogue.

Although Sweden extends northward to latitude $69^{\circ} 3' 21.1''$, thus passing beyond the Arctic circle, it reaches southward to latitude $55^{\circ} 20' 18''$, coming within the latitude of its neighboring state, Denmark, and even further south than that part of Prussia which projects northward along the eastern shore of the Baltic. The total length of Sweden, from north to south, is about 950 English miles, and the width from 200 to 250 English miles. The observatory of Sockholm lies $18^{\circ} 3' 29.85''$ east of Greenwich.

The läns (governments or departments) are the largest administrative divisions of the country, and frequently have two names, one of which is derived from the seat of government, the other usually from the old division of the provinces. The geographic division of the kingdom into three parts stands in intimate relation with the old provincial division. The three geographical divisions are as follows: Svealand (the central), Götaland (the southern), and Norrland (the northern); and though the boundaries of the läns and the provinces do not quite correspond, the following may on the whole be stated as correct:

Svealand has six provinces: Uppland, Södermanland, Westmanland, Nerike, Vermland, and Dalecarlia (or Dalarne).

Görland has nine provinces: Ostergötland, Westergötland, Dalsland, Smäland, Gottland, Blekinge, Scania or Skåne, Halland, and Bohuslöv.

Norrland comprises Gestrückland, Helsingland, Medelpad, Angermanland, Jemtland, Herjedalen, and Westerbotton, together with Lapland.

Lapland, the most northern part of Sweden, bordering on Norway, has an area of about 40,000 English square miles, and, together with Norrland, forms more than one-half the whole area. This vast territory is, of all the Swedish provinces, the least adapted to agriculture, and is but sparsely populated.

In 1874, the population of Sweden was divided among the different läns, as follows:

NAMES.	POPULATION.	NAMES.	POPULATION.
The town of Stockholm,	150,446	Län of Elfsborg,	285,217
Län of Stockholm,	134,620	“ Skaraborg,	250,257
“ Uppsala,	103,282	“ Vermland,	266,362
“ Södermanland,	139,216	“ Orebro,	177,084
“ Ostergötland,	262,872	“ Westmanland,	121,018
“ Jönköping,	186,841	“ Kopparberg,	184,330
“ Kronoberg,	163,793	“ Gefleborg,	160,487
“ Kalmar,	238,399	“ Westernorrland,	147,212
“ Gottland,	54,499	“ Jemtland,	74,758
“ Blekinje,	130,921	“ Westerbotton,	96,607
“ Kristianstad,	228,498	“ Norrbotten,	81,987
“ Malmöhus,	330,115		
“ Halland,	130,802		
“ Göteb, and Bohus,	241,936	Total,	4,341,559

The area is stated at 171,749 English square miles.

Sweden is generally less mountainous than Norway, and the highest mountains are found just on the border of that country. The boundary line itself is supposed to run along a mountain chain, which is called by geographers the Kölen, though in reality there is no mountain of that name. The highest mountain in Sweden, Sulitelma (6315 Swedish feet above the level of the sea), lies in Lapland, and is the only alpine elevation in Sweden where, as far as is known, glaciers are found, but there are other mountains in these districts, and still further south along the frontier of the kingdom, in Jemtland and Herjedalen, with an elevation of from 4000 to 5000 feet, whose peaks are dotted with patches of snow the whole year round.

About eight per cent. of the area of Sweden is considered to lie upwards of 2000 feet above the level of the sea. Those parts which sometimes extend beyond the tree-line are exclusively in Norrland and Dalarna, and border upon Norway. The coast-line along the Gulf of Bothnia, and the whole of the central and southern parts of Sweden, lie, with few exceptions, lower than 800 feet above the level of the sea. Of the whole area of the kingdom, a third part does not lie 300 feet above the level of the sea, and it is within these lower lying districts that the most highly cultivated parts of the country are found, as well as the largest plains, such as the Uppland, the Ostgöta, the Westgöta, and the Skane plains. With the exception of these, the plains are neither numerous nor large, for, though there are extensive tracts of land which attain a height of only a few hundred feet above the level of the sea, these are generally intersected by numerous hills and valleys.

Sweden, next to Finland, is the best irrigated country in Europe, as her lakes and rivers cover an area of 14,428 English square miles, or 8.4 per cent. of her whole territory, while she has a sea coast of 1500 English miles. The water of the Swedish lakes, as well as that of the rivers, is generally clear and drinkable. Lake Wetter is especially known for its clear, but at the same time turbulent, body of water, as well as for its great depth—420 feet. Of the numerous rivers (or elfs) which flow into the Gulf of Bothnia, the Angerman elf is the best known, not only for its volume, but for its natural beauty. The Dal elf, which is usually considered as the dividing line between Norrland and the southern part of Sweden, empties further to the south. On the west coast flows the Göta elf, the outlet of Lake Wener, famed for the Trollhätta waterfall.

Almost every river or stream forms a foaming current or roaring cataracts, and there are thousands of them. Even the Trollhätta finds a rival in the Njommelsaska (Hare's Leap), in Lapland. One of the peculiarities of these lakes is that they are sometimes interrupted by an almost perpendicular fall—the water then spreading out, forming a second part of the lake. The nation possesses in these numerous falls an almost inexhaustible water power, which has not, as yet, been utilized to that extent which it might be. This character of the Swedish rivers carries with it, however, the disadvantage of rendering them innavigable, many of the rivers (the Dal elf, for instance) being barred at their very mouths by a fall; and, as a rule, they are navigable only for a mile or two, except for rafts and small boats, unless, as in the case of the Göta elf, they are provided with canals.

The climate of Sweden is mild in comparison to its high latitude, a fact which is attributed to the influence of the Gulf Stream. There are dense forests; and barley and rye mature in the province of Norrland, while its most southern part lies in the same latitude as the ice fields of Greenland, and its northern in that of barren Iceland. The country, extending through so many degrees of latitude, has a great variety of climate. The mean yearly temperature of the northern parts along the coast is 34° F., while that of the southern is 44° to 46° F. The mean yearly temperature of Stockholm is 41° F. The wells which serve as a measure of the earth's temperature, give about the same figures, the average temperature of a deep well in central Sweden being 43° F., while it is not unusual in Lapland to find a deep well covered with ice in midsummer, or a bog, 5 to 6 feet deep, frozen at its bottom; nevertheless,

the cereals and potatoes mature in these districts, for although the summer is short, it is very warm and clear. There can scarcely be said to be any night here during the summer, only a twilight, so that vegetation, even in this high latitude, receives the light and heat necessary for its ripening. The temperature of the southern parts is also subject to very great changes.

The farmers' worst enemy in Sweden is the frost, which in a single clear night, perhaps, after a warm summer day, will destroy his brightest prospects; but it is hoped that the increase of tillage, the draining of the bogs, and like causes, will at least mitigate its severity, if not altogether prevent it. Such severe frosts are very rare in the central and southern parts of Sweden.

(The greater portion of the foregoing was furnished by the Swedish commission.)

Mining is one of the most important departments of Swedish industry, and the working of the iron mines in particular is making constant progress by the introduction of new machinery. There were raised, in the year 1873, 19,458,339 hundredweight of iron ore from mines, besides 126,147 hundredweight from lake and bog. The pig iron produced amounted to 7,987,646 hundredweight, the cast goods to 501,350 hundredweight, the bar iron to 4,125,915 hundredweight, and the steel to 1,290,907 hundredweight. There were also raised, in the same year, 1660 pounds of silver, 26,152 hundredweight of copper, and 645,631 hundredweight of zinc ore. There are large veins of coal in various parts of Sweden, but no systematic working of them has as yet taken place.

The principal articles of cultivation are, in addition to the various cereals, potatoes, hemp, flax, tobacco, and hops, which are generally grown in sufficient quantities for home consumption. The forests are of great extent, covering nearly one-fourth of the whole surface, and, in some spots, rising to an elevation of 3000 feet above the level of the sea. The birch, fir, pine, and beech are of great importance, not only for the timber, tar, and pitch which they yield, but also for their supplying charcoal and firewood. The common fruit trees, as cherries, apples, and pears, grow as far north as 60°, but the fruit seldom comes to great perfection except in the southern provinces; cranberries and other berries abound in all parts of the country.

In 1870, there were in Sweden, 428,446 horses, 1,965,800 horned cattle, 1,780,000 sheep and goats, and 354,303 swine.

In 1873, there were 2549 factories, with a production valued at 146,869,000 crowns.* Mines and mining establishments are not included in these figures. Ship building forms an extensive branch of industry.

According to the "Statesman's Year Book for 1876," the commercial navy of Sweden, at the end of 1873, numbered 1865 registered vessels for foreign trade, of a total burthen of 366,370 tons. The total imports, for the same year, were 271,440,000 riksdalers,† and the exports, 221,904,000.

Sweden is a constitutional monarchy, based on the fundamental law of 1809, by which it was decreed that the succession should be in the male line; that the sovereign should profess the Lutheran faith, and have sworn fidelity to the laws. The diet, which meets every year, and remains sitting for three or four months, is composed of two chambers, which are both elected by the people. The members of the first chamber serve for nine years, and those of the second for three. The diet exercises a strict control over the expenditure of the revenue, fixes the budget, and has power to take cognizance of the acts of the ministers and crown officers. The king's person is inviolable, and he can exercise a veto on the decrees of the diet. He is assisted by a Council of State, composed of ten members, who are responsible to the diet.

The budget estimates for 1875 place the receipts at 64,775,900, and the expenditures at 71,885,798 riksdalers. At the end of October, 1875, the public liabilities of the kingdom were 130,477,920 riksdalers.

* The Swedish crown equals 26.8 cents.

† One riksdaler equals one crown.

The total strength of the armed forces of Sweden, at the end of September, 1875, was 132,775. The navy consists of 131 vessels, of 3183 horse-power, carrying 394 guns, and with crews aggregating 4693.

At the end of September, 1875, the total length of railways opened for traffic was 2237 English miles, of which 938 miles belonged to the State. All the telegraphs, with the exception of those of private railway companies, belong to the State. The total length of telegraph lines, at the end of 1874, was 4981 English miles; the total length of wires, 10,980 English miles. The total number of dispatches sent, in the year 1874, was 986,397.

The Swedish post office carried 16,711,100 letters in the year 1873. The number of post offices, at the end of the year, was 641.

Education is well advanced in Sweden. Public instruction is gratuitous and compulsory, and children not attending schools under the supervision of the government must furnish proofs of having been privately educated. In the year 1871 nearly 97 per cent. of all the children between eight and fifteen years visited the public schools.

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NORWAY.

NORWAY, the western portion of the Scandinavian peninsula, is situated between $57^{\circ} 58'$ and $71^{\circ} 10'$ north latitude, and between 5° and 28° east longitude. It is bounded to the east by Sweden and Russia, and on every other side is surrounded by water, having the Skagerrak to the south, the German Ocean to the west, and the Arctic Sea to the north. Its length is about 1100 miles, and its greatest width about 250 miles; but between the latitudes of 67° and 68° it measures little more than 25 miles in breadth. The area is given as 121,779 square miles, and the population as 1,800,000. Only 1.6 per cent. of the whole area can be cultivated; natural pastures occupy about 1.5 per cent.; forests, about 20.2 per cent.; mountains, glaciers, lakes, rivers, and land, etc., about 76.7 per cent. The whole of the Scandinavian peninsula consists of a connected mountain mass, which, in the southern and western parts of Norway, constitutes one continuous tract of rocky highlands, with steep declivities dipping into the sea, and only here and there broken by narrow tracts of arable land. South of Trondjem (63° north latitude) the rocky ridge expands nearly the entire breadth of Norway. The northern portions of the range, known as the Kiöllen Fielle, occupy a space of about 25 miles in width, and form, as far north as 69° , the boundary line between Sweden and Norway. South of 63° north latitude the range of the Scandinavian mountains is known as the Norske, or Dovre Fielle, although the latter name belongs properly only to the part immediately in contact with the Kiöllen. This range, about 360 miles in length, attains its greatest elevation at the Sogne Fjord, where it is known as the Hurungerne. Here the highest summits are 8000 and 8400 feet above the sea, while the contiguous snowfields of Justedal, the largest in Europe, and covering an area of 600 square miles, have probably an elevation of nearly 7000 feet. From these and other vast snowfields, averaging more than 10 miles in width, vast glaciers descend to within 2000 feet above the sea, where they often terminate in deep lakes, some of which are very extensive. The upper valleys of this range, although generally too high for cultivation, contain the best timber that is exported from Norway, and afford good pasturage in the height of the summer, when the flocks and herds are driven thither from the lowlands near the entrance of the fjords. The general elevation of the Norska Fielle does not rise above the line of perpetual snow, whose average height in these latitudes is 5000 feet, but it ranges above that of the growth of trees, which may be stated to lie 1000 feet lower. The most northern part of the Norska Fielle, which is known as the Dovrefield, and includes Sneehätten, nearly 7500 feet above the sea, presents a broken surface, rent with ravines and narrow valleys, which admit of cultivation, but are difficult of access from the configuration of the land around them.

The Scandinavian range consists principally of primitive and transition rock, and exhibits almost everywhere the effect of glacial action, the glaciers and moraines presenting the same appearances as in the Swiss alpine district. The numerous islands which skirt the coast of Norway, and must be regarded as portions of the range, present the same characters as the continental mass. Some of these, as the islands of Alsten and Dunnoe, rise perpendicularly from the sea with peaks penetrating beyond the snowline, which lies here at an elevation of 4000 feet. Norway abounds in lakes and streams; according to some topographers, there are upwards of 30,000 of the

former, of which the majority are small, while none have an area exceeding 400 square miles. The chief rivers of Norway are the Glommen, Lougen, Louven, Drammen, Otter, and Wormen. The first of these has a course of 400 miles, but the majority of the Norwegian streams, all of which rise at great elevations, have a comparatively short course, and are unfit for navigation, although they are extensively used to float down timber to the fjords, whence the wood is exported in native ships to foreign ports. These fjords, or inlets of the sea, which form so characteristic a feature of Norwegian scenery, and give with their various sinuosities a coast-line of upwards of 8000 miles, form the outlet to numerous rapid streams and waterfalls, which leap or trickle down the edges of the treeless fields or mountain flats above.

The peculiar physical character of Norway necessarily gives rise to great varieties of climate in different parts of the country. The influence of the sea and of the Gulf Stream, and the penetration into the interior of deep inlets, greatly modify the severity of the climate on the western shores, and render it far superior to that of the other Scandinavian countries in the same latitude. In Norway proper, the winters, as a rule, are long and cold, and the summers, which rapidly follow the melting of the snows in April and May, are warm and pleasant. On the islands, however, the heats of summer are often insufficient to ripen corn.

Norway had, in 1875, 150,000 horses, 950,000 oxen and cows, 1,710,000 sheep and goats, 110,000 pigs, and 102,000 reindeer. The value of the annual product is about \$25,000,000.

The principal cereals cultivated in Norway are oats, barley, corn, rye, and wheat; the yearly produce is about 11,160,000 bushels, besides 14,100,000 bushels of potatoes. The value of the harvest amounts to about \$16,000,000 per annum.

The products of agriculture and cattle-breeding being insufficient to supply the wants of the country, considerable quantities are imported.

Forestry is of great importance. As stated above, the forests of Norway cover more than one-fifth of its entire area. They supply considerable quantities of timber, both for home consumption and exportation. The average annual exports of timber amount to about \$16,000,000.

The fisheries of Norway employ about 27,000 men, and yield about \$16,000,000 per annum. They are of great importance, and not only yield one of the most important articles of home consumption, but at the same time constitute one of the most profitable sources of foreign export. Fish are caught in almost every stream and lake of the interior, as well as in the fjords of the coast, and in the bays and channels which encircle the numerous islands skirting the long sea-line of Norway. These fish are principally cod and herring. Cod, prepared as stock-fish or dried salt fish, is exported to Spain and Italy; herring to the Baltic ports.

The merchant marine of Norway had, in 1875, a tonnage of 1,220,000, and was manned by 53,000 seamen.

The following statistics apply to the exports and imports of Norway in 1873:

Value of goods exported,	\$33,000,000	
Gross freight of goods carried in Norwegian vessels,	28,400,000	
Receipts from various sources,	800,000	
		\$62,200,000
Value of goods imported,	\$45,800,000	
Expenses of Norwegian vessels in foreign countries,	11,400,000	
Other expenses,	2,400,000	
		\$59,600,000
Balance,		\$2,600,000

The principal articles of export were, in 1873: Products of the fisheries, \$11,600,000; of forestry, \$15,500,000; of agriculture and cattle-breeding, \$1,300,000; metals and minerals, \$1,800,000; textile fabrics, \$660,000.

The imports were principally: Articles of food, \$13,500,000; coffee, \$3,500,000; liquors, \$1,000,000; textile fabrics and dry goods, \$8,300,000; hardware, \$3,300,000; hides, \$1,200,000; coal, \$1,700,000; vessels, \$1,400,000.

Manufactures have made some progress during the last few years, but are, as yet, inconsiderable. About 32,000 persons are employed, mainly in sawmills, planing mills, brick factories, shipbuilding, and metallurgical and textile industries.

The mineral products comprise silver, copper, cobalt, iron, chrome, ironstone, etc., and yield an annual income of nearly \$1,000,000.

Education is compulsory, parents being bound to let their children, between the ages of seven and fourteen, receive public instruction; 241,000 children attend the common schools, and 16,500 receive a higher instruction. The expenses of the higher schools were, in 1873, \$827,000.

The public revenue, in 1873, was \$6,870,000, and the expenditures \$7,277,000, of which amount \$865,000 was for the construction of railways. The public debt amounts to \$9,200,000.

Norway has 12,432 miles of highways and district roads, 304 miles of railways, and 147 miles of canals. There are 719 post offices, which distribute 7,500,000 letters per annum.

(The foregoing statistics are furnished by the Norwegian Commission.)

According to "Martin's Year Book," there were, at the end of 1873, telegraph lines of the length of 3745 miles, and wires of the length of 5845 miles.

The government of Norway is a constitutional monarchy. The executive is represented by the king, who exercises his authority through a Council of State, composed of one minister of state and nine councillors. The legislative power of the realm is the Storting, or Great Court, the representative of the sovereign people.

On the 1st of January, 1874, the troops of the land numbered 13,000 men. The reserve forces at the same time numbered 19,000, and the landwaern 11,000 men. The naval force comprised, at the same date, twenty vessels, all steamers, with an armament of 149 guns.

Commission from NORWAY to the International Exhibition :

HERMAN BAARS.

WM. C. CHRISTOPHERSEN.

GERHARD GADE, U. S. Consul.

ITALY.

THE geographical territory comprised under the name of Italy consists of a considerable stretch of peninsular mainland, besides several islands, situated in Southern Europe, between latitude $36^{\circ} 35'$ and 47° north, and between longitude $6^{\circ} 35'$ and $18^{\circ} 35'$ east. From the southern extremity of Sicily to the Alps its maximum length is about 600 miles, its utmost breadth being 300 miles. Its boundaries on the north are Austria and Switzerland, on the south the Mediterranean, on the west France and the Mediterranean, and on the east the Ionian and Adriatic seas, while its natural limits are strongly defined by the Alps and the sea.

The first general census of the kingdom of Italy was taken by the government on the 31st of December, 1871, on which date the population numbered 26,796,073 souls, living on an area of 296,013 square miles, or 112,677 English square miles. The density of population was 237 per English square mile.

The kingdom of Italy is administratively divided in 69 provinces, as follows :

	POPULATION.	
PIEDMONT AND LIGURIA.		
1. Alessandria,	683,361	
2. Cuneo,	617,232	
3. Genoa,	716,284	
4. Novara,	624,969	
5. Porto Maurizio,	127,042	
6. Turin,	972,988	
	<hr/>	3,741,876
ISLAND OF SARDINIA.		
7. Cagliari,	392,981	
8. Sassari,	243,274	
	<hr/>	636,255
LOMBARDY.		
9. Bergamo,	368,152	
10. Brescia,	456,023	
11. Como,	477,642	
12. Cremona,	300,595	
13. Milan,	1,009,794	
14. Pavia,	448,357	
15. Sondrio,	111,240	
	<hr/>	3,171,803
EMILIA.		
16. Bologna,	439,232	
17. Ferrara,	216,545	
18. Forli,	234,090	
19. Massac Carrare,	161,944	
20. Modena,	273,231	
21. Parma,	264,509	
22. Piacenza,	225,775	
23. Ravenna,	220,801	
24. Reggio,	240,635	
	<hr/>	2,276,762

	POPULATION.	
THE MARCHES.		
25. Ancona,	262,369	
26. Ascoli Piceno,	203,008	
27. Macerata,	236,994	
28. Pesaro e Urbino,	213,072	
	<hr/>	915,443
UMBRIA.		
29. Perugia,		549,833
TUSCANY.		
31. Arezzo,	234,645	
31. Florence,	766,611	
32. Grosseto,	107,457	
33. Leghorn,	118,851	
34. Lucca,	280,399	
35. Pisa,	265,959	
36. Sienna,	206,446	
	<hr/>	1,980,368
NEAPOLITAN PROVINCES.		
37. Aquila,	332,782	
38. Avellino,	375,237	
39. Bari,	604,540	
40. Benevento,	232,012	
41. Campobasso,	364,843	
42. Caserta,	695,754	
43. Catanzaro,	412,226	
44. Chieti,	340,299	
45. Cosenza,	440,272	
46. Foggia,	322,754	
47. Lecce,	493,574	
48. Naples,	908,029	
49. Potenza,	509,202	
50. Reggio,	353,606	
51. Salerno,	541,739	
52. Teramo,	245,684	
	<hr/>	7,171,553
SICILY.		
53. Caltanissetta,	230,066	
54. Catania,	495,240	
55. Girgenti,	289,018	
56. Messina,	420,649	
57. Palermo,	617,660	
58. Siracusa,	294,915	
59. Trapani,	236,388	
	<hr/>	2,583,936
VENETIA.		
60. Belluno,	175,370	
61. Mantua,	288,942	
62. Padua,	364,355	
63. Rovigo,	200,835	
64. Treviso,	352,538	
65. Udine,	481,787	
66. Venezia,	337,539	
67. Verona,	367,426	
68. Vicenza,	363,161	
	<hr/>	2,931,953
69. ROME,		836,291

According to the old political division, the population is divided as follows:

Piedmont and Liguria,	3,741,876
Island of Sardinia,	636,255
Lombardy,	3,171,803
Emilia,	2,276,762
The Marches,	915,443
Umbria,	549,833
Tuscany,	1,980,368
Neapolitan Provinces,	7,171,553
Sicily,	2,583,936
Venice,	2,931,953
Rome (States of the Church),	836,291
	<hr/>
	26,796,073

The physical aspect presented by the surface of Italy is diversified in the extreme. Northern Italy is, for the most part, composed of one great plain—the basin of the Po, comprising all Lombardy and a considerable portion of Piedmont and Venice, bounded on the northwest and partly on the south by different alpine ranges. Throughout Central Italy, the great Apennine chain gives a picturesque irregularity to the physical configuration of the country, which in the southern extremity of Italy assumes still wilder forms. In the highland districts of Naples in which the Apennine ridge reaches its maximum elevation (10,000 feet), the scenery exhibits a savage grandeur. Along the extensive coast plains, as well as in the sub-Apennine valleys, the rural charms of this portion of Italy are extreme, while the brilliant flora and vegetation impart to it a novel character of beauty. The chief mountain system of Italy is the frontier ridge of the Alps, and their noble continuation, the Apennines.

Italy likewise comprises a considerable stretch of volcanic zone, which traverses the peninsula from the centre to the south in a line parallel with that of the Apennines, and of which the most remarkable active summits are Vesuvius, adjoining Naples, Ætna in Sicily, and Stromboli in the Lipari Isles.

The great plains of Italy are those of Lombardy, which stretch from the Mincio to the Ticino and the Po; of Piedmont; the Venetian plains; the plain of the Roman legations; the plain of the Campo Felice, on which stands Vesuvius; the Apulian plain; the long, narrow Neapolitan plain of the Basilicata, 100 miles in length, and 24 miles in breadth, stretching along the Gulf of Tarento.

The great majority of the rivers of Italy are only navigable for small coasting boats or barges. By far the most important is the Po, which rises on the borders of France, and flows into the Adriatic. It has numerous tributaries. Among the others may be mentioned the Adige, Brenta, Piave, Tagliamento, Aterno, Sangro, Metauro, Ofanto, Bradano, also belonging to the Adriatic basin; the Arno, the Tiber, the Ombrone, the Garigliano, and the Volturno, which belong to the Mediterranean basin.

The canal system of Italy is most extensive in the north. Nine principal canals in Lombardy administer to the irrigation of the plains and to the purposes of commercial communication, contributing in no small degree to the prosperity of the district. The Naviglio Grande or Ticinello is the finest hydraulic construction in Italy; it communicates between the Ticino and Milan, and has a course of 28 miles, navigable for vessels of large size. It was begun in 1179. The Naviglio Martesana, 38 miles long, unites Concesa on the Adige with Milan; the Naviglio di Pavia is 18 miles in length; the bifurcated Naviglio d'Ostiglia unites the Po with the Adige. 253 canals intersect Piedmont, extending over a length of 1932 kilometres. Venice comprises 203 navigable, and 40 minor canals. Numerous canals have been constructed for the drainage of the Pontine Marshes. This system of water communication was early carried to a high degree of efficiency in Italy, and is of incalculable service in the agricultural districts.

The mountain lakes of Italy are famed for their picturesque beauty. They are mostly in the northern provinces of Lombardy and Venetia. The principal are Maggiore, Lugano, Como, Iseo, and Garda. The Roman lakes of Perugia, Bolseno, and Bracciano, that of Castiglione in Tuscany, and Celano in Naples, also deserve mention.

The mineral and thermal springs of Italy are innumerable, and possess a great variety of curative and sanitary properties.

In the northern provinces, the climate is temperate, salubrious, and frequently severe in winter; in the centre, it assumes a more genial and sunny character: while the heat of the southern extremity is almost of a tropical intensity. The singular clearness of the atmosphere sets off the landscape and monumental beauties of Italy with brilliant effect. The drawbacks of Italy's climate are the piercing tramontana or mountain winds; the deadly sirocco, which blights all nature at seasons along the western coast; and the malaria or noxious miasmata which issues from the Maremma of Tuscany, the Pontine Marshes, and the Venetian lagoons, generating pestilential fevers and aguish diseases in the summer season. The mean temperature of the leading divisions of the country throughout a whole year was as follows: Milan, 55° 4' of Fahrenheit's scale; Rome, 59°; Palermo, 62° 5'; and in Sardinia, 60° 5'. The highest temperature at Rome rises to 95°, and in Sicily from 97° to 104°.

The staple products of Italy are corn, wine, oil, raw silk, rice, olives, and fruits. Hemp, flax, and cotton are also largely grown. The sugar-cane is successfully cultivated in the two Sicilies. Agriculture, except in the north, is in a very backward condition. It is calculated that only two-thirds of the area of the kingdom capable of production are cultivated, and that the rest lies waste. The superficial extent of the productive soil of Italy is 23,017,096 ellaras,* divided thus:

	ELLARAS.
Arable land,	11,003,061
Meadow land,	1,173,436
Rice ground,	144,993
Olive plantations,	554,767
Chestnut plantations,	585,132
Woods and forests,	4,158,349
Pastures,	5,397,448
Total,	23,017,096

There are, besides, 3,997,059 ellaras of rock and marsh. Of the land capable of cultivation, more than half is devoted to the growth of cereals, mainly wheat. The average crop is insufficient for the supply of the country. The wines of Naples are esteemed the best, small quantities of the famous *Lachrima Christi* and the *Vind d'Asti* being exported, while the Sicilian wines of Marsala form a considerable item of export. The best oil and olives are furnished by Tuscany, Lucca, and Naples. Silk is chiefly manufactured in the northern provinces, the cultivation of the mulberry and the rearing of the silkworm forming, in Lombardy, a most important interest. The best manufactured silk comes from Piedmont, Tuscany, and the Roman provinces. The fruits of the two Sicilies are exquisite in flavor, and embrace several tropical species. Oranges, lemons, almonds, figs, dates, melons, and the pistachio nut, are common to all orchards, and are largely exported. A considerable cheese trade exists in the northern provinces.

The sea and fresh water fisheries of Italy are considerable, the Mediterranean furnishing immense quantities of tunny, anchovies, sardines, mullets, pelchards, and mackerel. The export of anchovies and of sardines is of immense extent. The

* One ellara equals 2.47 acres.

river fisheries yield salmon, trout, sturgeon, lampreys, tench, barbel, etc. The crustaceans and shell fish of the Italian seas are of great variety and delicate flavor, and are a favorite article of Italian consumption.

The total exports of the kingdom, during the year 1874, were 1,304,994,328 lire;* the imports, during the same year, 985,458,532 lire.

The number and tonnage of merchant vessels belonging to the kingdom, on January 1st, 1874, were as follows: 17,562 sailing vessels, aggregating 925,337 tons burthen; and 103 steamers, of a total burthen of 24,476 tons. Of the sailing vessels, 9074 were under 6 tons each.

According to the present constitution of Italy, the executive power belongs exclusively to the sovereign, and is exercised by him through responsible ministers. The legislative authority vests conjointly in the king and parliament, the latter consisting of two chambers, a Senate and a Chamber of Deputies. The Senate is composed of the princes of the royal house who are of age, and of an unlimited number of members, above forty years old, who are nominated by the king for life; a condition of the nomination being that the person should either fill a high office, or have acquired fame in science, literature, or any other pursuit tending to the benefit of the nation: or, finally, should pay taxes to the annual amount of 3000 lire. The members of the Chamber of Deputies are elected by a majority of all citizens who are twenty-five years of age and pay taxes to the amount of 40 lire. A deputy must be thirty years old, and must have the requisites demanded by the electoral law, among them a slight property qualification. Neither senators nor deputies receive any salary.

The following are the budget estimates for 1875:

Estimated revenue,	1,344,164,153 lire.
Estimated expenditures,	1,575,487,120 "

The entire public debt, at the end of 1873, was 9,757,613,267 lire.

The actual strength of the army, at the end of December, 1873, was:

Number of men under arms (peace footing),	199,557
Number of men on unlimited furlough,	244,952
Total (war footing),	444,509

The navy, at the commencement of 1875, consisted of 95 ships of war, carrying 1256 guns. Of these, 9 were ironclads, carrying 346 guns, 46 were screw steamers, carrying 693 guns, and 32 paddle steamers, carrying 113 guns.

The total length of railways opened for traffic, at the end of 1874, was 4607 English miles.

The number of post offices at the commencement of 1874 was 2709. In the year 1873 the post office carried 504,402,431 letters and 94,402,596 printed parcels.

The length of telegraphic lines, on the 1st of January, 1874, was 12,622 English miles, nearly two-thirds of the whole belonging to the government. There were, at the same date, 1408 telegraphic offices. The number of private telegrams during 1873 was 4,670,090, and of official telegrams, 163,852.

Under the new Italian government, a great part of the property confiscated from the monastic establishments has been devoted to the cause of public education. In addition to this, the Parliament votes an annual credit of 15,000,000 lire for the same purpose. Since the commencement of the year 1860 there were opened throughout the kingdom thirty-three model schools. Notwithstanding these important aids to instruction, education still stands very low. According to the census of 1864, out of a total population of 21,703,710 souls, there were about 17,000,000 who could neither read nor write. Piedmont occupied the first place, Sicily the last, on the register of knowledge. In the Basilicata, Calabria, and Sicily, more than nine-tenths of the population could neither read nor write.

* One lire equals 19.3 cents gold.

There are twenty-two universities in Italy, many of them of ancient foundation. By a decree of the Minister of Public Instruction, issued in 1871, six high-schools—Naples, Pavia, Turin, Bologna, Florence, and Parma—were declared first-class universities of the kingdom. The number of students at all the universities was returned as 10,524 in 1871.

Commission from ITALY to the International Exhibition:

H. E. BARON BLANC, Minister Plenipotentiary.
COUNT B. LITTA, First Secretary of Legation.
CHEVALIER ALONZO M. VITI, Vice-Consul.
A. PADOVANI, President of the Central Committee.
JOSEPH DASSI.
N. CANTALAMESSA PAPOTTI.
PIO BACCARANI.
G. VIGNA DEL FERRO.
G. CONARI.
ANGELO GIANELLO, General Agent.

EGYPT.

THE territories under the rule of the sovereign of Egypt, including those on the Upper Nile and Central Africa, are vaguely estimated to embrace an area of 4,777,830 square kilometres, and to be inhabited by a population of 16,952,000, of whom about one-third are in Egypt proper. The following tabular statement gives the area and population of the various divisions of the kingdom, and its recent annexation, according to government estimate, of the year 1875:

DIVISIONS.	AREA, SQ. KILOMETRES.	POPULATION.
Egypt proper,	550,630	5,252,000
Nubia,	864,500	1,000,000
Former kingdom of Ethiopia,	2,918,000	5,000,000
Darfur, and other annexed territories,	444,700	5,700,000
	4,777,830	16,952,000

The great physical peculiarity of Egypt is the absence of rain, the land being only irrigated by the annual overflow of the Nile. The climate is remarkably mild and sound, especially south of the Delta; and in the desert, from Cairo to Alexandria, the air contains more moisture than to the south. From the middle of August to December, west winds prevail; east winds from that time till March; after that, unhealthy south winds or Khamsin till June; and from June till August the north or Etesian winds. Earthquakes are occasionally felt, and the temperature varies from 84° F. to 32°. The most remarkable phenomenon is, however, the regular increase of the Nile, fed by the fall of the tropical rains, which commence in 11° north latitude, in the spring; and falling first into the White, and then Blue Nile, reach Egypt in the middle, and the Delta in the end of June. In the middle of July, the red water appears, and the rise may be dated from that time it attains its maximum at the end of September, and begins to decline visibly in the middle of October, and subsides to its minimum in April. At the end of November, the irrigated land has dried, and is sown, and is covered with green crops, which last till the end of February. In March is the harvest. The state of the Nile, in fact, marks the season more accurately than the variation of temperature. Egypt is by no means remarkably healthy, as, in addition to the visitations of plague and cholera, ophthalmia, diarrhoea, dysentery, and boils often prevail, and European, and even Nigritic races cannot be acclimatized.

Many of the European trees and plants are found in Egypt; the date-palm, the doom-palm, the sycamore, acacias, tamarisks, etc., are among its more peculiar botanical productions. The extensive culture of papyrus has been, in modern times, replaced by that of the sugar-cane, cotton, indigo, and tobacco, and the plant has almost disappeared. Gourds and melons have always abounded. To the wheat and barley of antiquity have been added maize and durra. Egypt is very deficient in timber trees. The rocks of Egypt afforded the stones used in its edifices and sculptures; granite, syenite, breccia (in the Cossier Road), porphyry (from the quarries of Gebel Dokhan, opened in the reign of the Emperor Claudius),

sandstone, and limestone. Alabaster (found at Middle Egypt) has been used from the earliest periods to the present day. Emeralds are produced by the mines of Gebel Zabara; salt, natron, and—since 1850—sulphur, are among the other mineral productions of Egypt.

Egypt proper is divided into three great districts, namely: Masr-el-Bahri, or Lower Egypt; El-Wustani, or Middle Egypt; and El-Said, or Upper Egypt—designations drawn from the course of the river Nile. These three geographical districts, subdivided into eleven administrative provinces, had, according to an enumeration made by the government in March, 1872, a rural population of 4,603,660, and an urban population of 648,340, dispersed over six towns, as follows:

Cairo,	349,983	Tanta,	28,500
Alexandria,	212,054	Rosetta,	15,002
Damietta,	29,383	Suez,	13,498

The Khedive is absolute sovereign or king. The administration is carried on by a Council of State of four military and four civil dignitaries.

The revenue of Egypt for the financial year ending September 10th, 1874, was calculated in the official budget at 1,982,394 purses;* the expenditures at 1,763,128 purses.

The public debt of Egypt consists chiefly of foreign loans. These are divided into two classes, namely, general loans, contracted by the State, and loans of the Khedive, as greatest of land-owners, raised on his individual responsibility.

The following table shows the actual state of the debt:

Funded debt,	£49,270,380
Floating debt,	7,600,000
	£56,870,380
Personal debt of the Khedive,	13,174,360
Total,	£70,044,740

The army is raised by conscription. It consisted, in January, 1875, of four regiments of infantry, of 3000 men each; of a battalion of chasseurs, of 1000 men; of 3500 cavalry, 1500 artillery, and two battalions of engineers, of 1500 each. There are, besides, two regiments of black troops, of Sudan, numbering 5000 men.

The Egyptian navy comprised, in 1875, 7 ships of the line, 6 frigates, 9 corvettes, 7 brigs, 18 gunboats and smaller vessels, and 27 transports.

The commerce of Egypt is very large, but consists, to some extent, of goods carried in transit. The total exports for the year 1873 amounted to about 1,450,000,000 piastres the imports to about 600,000,000 piastres. The merchant navy, in 1872, comprised 585 vessels of a total burthen of 59,874 tons.

The commerce of the world has been greatly benefited by the Suez Canal, which connects the Mediterranean with the Red Sea. Starting from Port Said, forty miles east of the Damietta mouth of the Nile, it proceeds across the isthmus and through lakes Menzaleh, El Ballah, and Timsah, on the shores of which latter stands the new town of Ismailia, and through the Bitter lakes to Suez. Its total length is 92 miles. Its actual width over the greater part of its length, does not permit of two vessels passing or crossing each other in the canal itself; but there are numerous sidings, by which vessels are enabled to cross one another; vessels measuring 430 feet in length and drawing 25 feet 9 inches of water have passed safely through the canal. Its actual cost, according to the report for the year 1875, was £17,518,729, exclusive of £1,360,000 bonds issued to pay for coupons on shares in arrear during part of the period of construction.

* 1 purse = 500 piastres = \$25 gold

The number and tonnage of vessels which passed through the canal in each of the five years, 1870 to 1874, were as follows:

YEAR.	VESSELS.	TONNAGE.
1870,	491	436,618
1871,	761	761,875
1872,	1082	1,439,169
1873,	1171	2,085,270
1874,	1264	2,423,672

Egypt had, on the 1st of January, 1875, a railway system of a total length of 955 English miles, open for traffic, with 502 miles under construction. With the exception of a short line of about 5 miles, all of the Egyptian railways are State property.

The telegraphs of Egypt were, at the commencement of 1875, of a total length of 4094 miles, the length of wires being 8690 miles. The whole of the telegraphs are State property.

Commission from EGYPT to the International Exhibition:

HIS HIGHNESS, PRINCE MOHAMMED TAWFIC PACHA, President.
 HIS EXCELLENCY, RAGHIB PACHA, Minister of Commerce, Vice-President.
 H. BRUGSCH BEY, Commissioner-General.

Commissioners.

GENERAL STONE.
 M. MAHMOUD BEY, Astronomer.
 M. MARIETTE BEY, Director of the Museums of Antiquities.
 M. GASTINEL BEY, Professor in the Medical School.
 M. ROGERS, Director in the Ministry of Public Instruction.
 M. ACTON, Chief of Division, Ministry of Commerce
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 M. DELCHEVALERIE, Attaché.

Resident Members in Philadelphia,

H. BRUGSCH BEY, Commissioner-General.
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 A. BEHMERSD, Attaché. Secretary.
 EDWARD ELIAS, Secretary and Interpreter.
 M. DANINOS, Attaché for Special Mission.

TUNIS.

TUNIS, a country of Africa, and one of the Barbary States, is bounded on the north by the Mediterranean, on the west by Algeria, on the south by the Desert, and on the east by Tripoli and the Mediterranean. Its greatest length from north to south is about 440 miles; its average breadth, 160; area, upwards of 75,000 square miles; population, according to latest authorities, 1,200,000. Tunis is traversed by branches of the great Atlas range, which, in fact, has its proper termination here. The northern coast is rocky and steep, with numerous bays, of which the largest is the Gulf of Tunis; and two of its promontories, Capes Blanco (Ras-el-Abid) and Bon, are the most northern in Africa. The eastern coast, on the other hand, is flat, sandy, and infertile, like that of Tripoli, but has two large gulfs, Hammamet and Cebes. The southern part of Tunis belongs to the desert steppe known as Belud-el-Jerid. There is only one fresh water lake of any consequence, that of Biserta or Bensart, near the north coast. The brooks and torrents of Tunis either lose themselves in the sand, or find their way to the sea after a short course. None are navigable. The longest is the Mejerdah, which flows in a generally northeastern direction into the Gulf of Tunis. Other streams are the Ved-el-Milianah and the Ved-el-Kebir. There are several mineral springs in the country. The climate of Tunis is fine, and the soil exceedingly fertile, so that, in spite of a very poor knowledge of agriculture, wheat, barley, maize, dhurra, pulse, olives, oranges, figs, grapes, pomegranates, almonds, and dates are abundantly produced. The culture of oil is more attended to, and is very lucrative. Great herds of cattle are fed on the plains; the sheep are famous for their wool; and the horses and dromedaries are no less celebrated. The chief mineral products are sea-salt, saltpetre, lead ore, and quicksilver. In the vicinity of the sea-coasts, considerable manufacturing and trading industry is manifested, more particularly in the cities of Tunis and Susa. Wool, olive oil, wax, honey, soap, hides, coral, sponges, dates, wheat, and barley are the principal exports. Cloth, leather, silks, muslins, spices, cochineal, and arms are transported by means of caravans to the interior of Africa, whence in exchange are brought for exportation to European and other countries, senna, gums, ostrich feathers, gold, and ivory. Total exports in 1874, valued at 28,815,358 francs; imports, 25,193,785 francs. During the same year the entries at the port of Tunis (Goulette) were 779 vessels, 116,927 tons burthen; departures, 768, of 108,031 tons burthen.

The Bey of Tunis receives his investiture from Constantinople; without the Sultan's authority he can neither declare war, conclude peace, nor cede territory; the Sultan's name must appear on all the coinage; the army must be at the disposal of the Sublime Porte. In internal matters the power of the Bey remains absolute.

The Tunisian army comprises about 4000 regulars, 5000 Karouglis (descendants of the Turkish janissaries), 5000 Zouaves (infantry), and 1500 spahis (cavalry). In time of war the irregular cavalry can be increased to about 3000. The navy consists of two vessels, carrying 10 guns, and crews aggregating 250 men. The merchant navy comprises 300 vessels, ranging from 10 to 150 tons burthen.

There are about forty miles of railways in operation. There is at Tunis, a French, and also an Italian post office.

French telegraph lines connect the city of Tunis with various towns within the borders of the regency, as well as with Algiers and Europe.

Commission from TUNIS to the International Exhibition:

HIS EXCELLENCY SIDI HEUSSEIN, General of Division, Minister of Instruction and Public Works, President.

G. H. HEAP, U. S. Consul, Resident Commissioner.

ORANGE FREE STATE.

THE republic of the Orange Free State is situated on the northeast boundary of Cape Colony, and is bounded as follows: On the west and northwest by the territory claimed for the chief, Nicholas Waterboer, under the name of Griqualand West, and by Betchuanaland, respectively, on the north and northeast by the Transvaal republic, on the east by the colony of Natal, and on the south by British Basutoland, the Native Reserve Lands, and the Cape Colonial divisions of Albert and Colesberg.

Its area is roughly taken to be about 70,000 square miles, but no accurate computation has hitherto been made, and the probability is that the actual extent will be found considerably greater.

The country consists of extensive undulating plains, which slope from the great Watershed, northward and westward, respectively, to the Vaal and Orange rivers, and is intersected at varying intervals by the Wilge, Rhenoster, Valsch, Vet, and Riet rivers, all of which empty their waters into the Vaal river, and the Caledon river, which empties into the Orange river. The courses of the large rivers are extremely tortuous and hollow, their banks being for the greater part very precipitous, and generally lined with water-willow, mimosa, and other trees indigenous to this country. The streams are usually fordable; during the rainy season, however, they become swollen and impassable.

The Orange Free State is, for the greater part, a grazing country, and though agriculture is everywhere attended to on a larger or smaller scale, according to the natural capabilities of the farms, still it is chiefly in the southern and eastern districts that it is carried on as the principal source of production, and it is almost exclusively from the districts of Rouxville, Lady Brand, Winburg, Bethlehem, and Harrismith, that grain is brought into the markets of the other districts.

Neither is it altogether without mineral wealth, as diamonds, rubies, and other precious stones have been discovered in various parts of the country. Coal also of a very good quality, and in paying quantities, has been found in the Winburg district, as well as on farms in the Lady Brand and Harrismith districts.

In the early days of this republic the distribution of animal life was a subject of great interest, from the fact of the immense variety of wild animals inhabiting the country. Even now the lion still frequents some sections of it. But, owing to the advance of civilization and human industry, all the larger animals, as the elephant, rhinoceros, hippopotamus, and giraffe, have retreated far away. Upon its vast undulating plains, however, a large and splendid variety of the antelope tribe roams in countless numbers. The country being favorable for the rearing of horses, cattle, and woolled sheep, the number of the latter contained therein may be estimated by millions.

Birds abound in great variety, particularly those of the larger kinds, among which might be enumerated the ostrich, eagle, vulture, pelican, hawk, and various species of crane.

The staple articles of export from the Orange Free State are wool and skins, and of late years diamonds and other precious stones, while owing to the mining population in the disputed territories along the Vaal river, a large trade in grain and other agricultural produce has been productive of great wealth to the country.

From the same cause, although more indirectly, trade in all articles of import, such as ironware implements, and manufactures in woolen, cotton, and silk goods, and articles for consumption, either as necessaries or luxuries, has received a great stimulus, and the commercial community is to all appearance in a healthy and prosperous condition.

The average height of the Orange Free State above the level of the sea is about 5000 feet, and the climate is generally salubrious. The winter here is cold but dry, the summer usually warm and moist, though droughts are sometimes experienced in the summer months. The air, however, is healthy and dry, as a rule, and this is particularly felt at Bloemfontein and its vicinity; consequently numbers of invalids suffering from pulmonary affections resort to Bloemfontein, and experience much benefit from a residence in this part of the country.

In other respects it has been noticed that the changes of the seasons are to a greater or less degree, according to their duration, accompanied by a greater liability to colds and fevers, generally of a typhoid type, and inflammatory affections, especially amongst children.

The government of the Orange Free State is republican, and its constitution vests the legislative powers in the Volksraad, the members of which are elected by their constituents for four consecutive years. The whole number of representatives (there being one for each chief town of a district, and one for each field cornetcy) is fifty-two. Of this number, the half retire by rotation every two years, and a new election takes place to fill up the vacancies.

The educational department of the country is only now receiving that vital attention which a subject of so vast importance to any country ought to have; and the legislature has only of late years been impressed with the absolute necessity of placing this department on the best possible footing. Accordingly, a fund is gradually being raised for educational purposes, which in 1876 will place at the disposal of the government an amount of £56,000.

Meantime, in accordance with an order made in 1872, an inspector of education has been appointed, who has already entered upon the task of remodeling the whole educational system. It is only right, nevertheless, to state that a government allowance of £90 a year has for years past been given to each district town, on condition of its subscribing at least one-half more, and attempts to establish good schools have everywhere been made by the district school committees, comprising the Landdrost, Dutch Reformed Church, and three elected members, with varying success in some places, but in others only to meet with failure, which is principally to be attributed to the defective system hitherto pursued.

The principal support hitherto afforded by the government consists in the liberal allowances made for the salaries of teachers in the Grey College; but owing to the short time that has elapsed since the arrival of one of them, and various other circumstances beyond the control of the government, the desired results are still to be looked for. Very praiseworthy efforts have also been made on behalf of education by the Anglican Church, in schools established at Bloemfontein and at Smithfield, and this latter has already shown very satisfactory results.

The revenue of the State, for the year 1874-75, was £190,958; the expenditure, during the same year, £98,242.

The government lands of the Orange Free State are still very considerable, though as nought compared with their original size, owing to the sales of farms which have been held from time to time. The value of fixed property of all kinds has increased greatly within the last few years. Even in the districts of Harrismith and Kroonstad, where land formerly was almost valueless, farms are now eagerly sought after, and change hands at very high rates. The average price of land throughout the whole State may now be fixed at 10s. per morgen. A rough estimate fixes the number of farms throughout the country as between 6000 and 7000. Fixed property changes ownership by registration. The population of the State is estimated at about 75,000 white, and 25,000 colored or native.

Commission from ORANGE FREE STATE to the International Exhibition:

CHARLES W. RILEY, Consul-General.

LUXEMBOURG.

THE Grand Duchy of Luxembourg is connected with the Netherlands in the person of the sovereign, but has a constitution and administration of its own. The King of Holland, as Grand Duke, appoints a deputy-governor. Dutch Luxembourg was a part of the Germanic Confederation from its formation, in 1815, till its dissolution, in 1866. In 1867 its neutrality was guaranteed by the great powers. Its present constitution dates from 1868. The chamber of deputies consists of 40 members chosen for 6 years by direct vote in the electoral districts. Area, 990 Eng. sq. miles. Population (1871) 197,528, the most of whom are engaged in agriculture. The chief products are wine, corn, hops, hemp, and flax. In the eastern districts there are iron mines, and lime and slate quarries. The majority of the inhabitants are Walloons, the rest mainly Germans. The capital is Luxembourg. By the law of 1868, the army consists of 13 officers, 500 under-officers and privates, besides 110 gendarmes.

CHINA.

THE following table gives the area and population of the various divisions comprising the Chinese empire :

	AREA IN ENGLISH SQ. MILES.	POPULATION.
China proper,	1,534,953	405,213,152
DEPENDENCIES.		
Mandchuria,	362,313	3,000,000
Mongolia,	1,288,035	2,000,000
Thibet,	643,734	6,000,000
Corea,	90,300	8,000,000
Lieukhien Islands,	2,310	
Liaotong,	2,982	1,000,000
Total,	3,924,727	425,213,152

China proper is included between $18^{\circ} 15'$ and $43^{\circ} 15'$ north latitude and 98° and $122^{\circ} 40'$ east longitude. Its coast-line exceeds 2500 miles, and its land frontier 4400 miles. It is divided into eighteen provinces, and includes the two large islands of Formosa and Hainan. The administration of the empire is parceled out into separate governments, corresponding with the provincial divisions, each of which has a complete organization, exchequer, army, and naval force of its own. Besides providing for the cost of its own administration, each province is required to remit annually to Peking a certain portion of its revenue to meet the expenses of the court, central government, and garrison of Peking, as well as to provide for exigencies arising in other provinces, and for the requirements of the garrisons in Turkestan, Mongolia, and Mandchuria, which are administered by military governors.

According to the latest reports, the imperial army comprises a total of 850,000 men, including 678 companies of Tartar troops, 211 companies of Mongols, and native Chinese infantry, a kind of militia, numbering 120,000 men. The native soldiers do not live in barracks, but in their own houses, mostly pursuing some civil occupation.

The Chinese are pre-eminent for their indefatigable industry. Of the immense

territory peopled by them, there is scarcely a rood of arable ground that is not assiduously cultivated. Unfortunately, however, their husbandry is, to a great extent, nullified by the rude and ill-adapted implements employed. Therefore scientific agriculture is but slightly advanced in China, although the Chinese system of land irrigation is superior to that of any other people. As a manufacturing nation the Chinese are highly distinguished; porcelain originated entirely with them, and the art of spinning silk they also gave to the West. The lacquered ware produced in China, though very beautiful, must be considered inferior to that of Japan, but in the more minute arts of carving and inlaying, the Chinese have no superiors. Their ivory and mother of pearl industry is too well known to need description. Gunpowder, though a Chinese invention, is little manufactured, and that little of indifferent quality. Paper is ingeniously made of various material; it is, in general, thin, silky, and highly absorbent of ink.

Chinese trade has the peculiarity of being, for the most part, internal, the country supplying most articles of subsistence or luxury, and is carried on by means of canal and river navigation. The principal exports are tea, porcelain, raw and spun silk, sugar, rhubarb, embroidery, lacquered wares, and carved articles of domestic ornament. The imports consist mainly of cotton and woolen goods, opium, raw cotton, furs, and edible birds' nests, which form an expensive luxury, and are held in high esteem. The total value of commodities exported from China, in 1865, reached the figure of \$173,609,085, as against imports of \$238,504,520. Of the exports, tea is the chief, showing a total quantity of 223,679,182 pounds shipped. The export of raw silk for the same year aggregated 40,726 bales, and of cotton, 35,855,792 pounds.

The grand canal, about 700 miles in length, has greatly facilitated the internal trade of the country. China is traversed in all directions by 20,000 imperial roads, most of which are badly kept. There is a postal service, but of a very rude kind.

Education, as the high road to official employment, to rank, wealth, and influence, is eagerly sought by all classes. Literary proficiency commands everywhere respect and consideration, and primary instruction penetrates to the remotest villages. Self-supporting day-schools are universal throughout the country, and the office of teacher is followed by a great number of the *literati*. Government provides state examiners, but does not otherwise assist in the education of the people.

The Chinese executive system is based on those noteworthy competitive examinations which are intended to sift out from the millions of educated Chinese the best and ablest for the public service.

Commission for CHINA to the International Exhibition:

ROBERT HART, ESQ., Inspector General of Imperial Maritime Customs.

G. DETRING, ESQ., Commissioner of Customs.

E. B. DREW, ESQ., Commissioner of Customs.

W. SCOTT FITZ, ESQ.

H. SEYMOUR GEARY, ESQ.

Resident Commissioners in Philadelphia.

JAMES H. HART, ESQ., Commissioner of Customs.

ALFRED HUBER, ESQ., Commissioner of Customs.

J. L. HAMMOND, ESQ., Commissioner of Customs.

EDWARD CUNNINGHAM, ESQ.

W. W. PARKIN, ESQ.

F. P. KNIGHT, ESQ.

W. NOYES MOREHOUSE, ESQ., Imperial Maritime Customs, Secretary.

JAPAN.

JAPAN proper comprehends four large islands, viz. : Nippon (the Japanese mainland), Sikok or Sikopf, Kiusiu, and Yesso, and extends from 31° to 45° 30' north latitude. The empire of Japan includes about 3800 small islands and islets besides the four larger ones, and is situated between 26° and 52° north latitude, and 128° and 151° east longitude. It is bounded on the north by the Sea of Okotsk, on the east by the north Pacific Ocean, on the south by the eastern Sea of China, and on the west by the Sea of Japan. The islands of Japan appear to be of volcanic origin, and that part of the Pacific on which they rest is still intensely affected by volcanic action. Earthquakes occur very frequently in Japan, although certain parts of the country are exempt. Japan has been called the land of mountains: but though these are very numerous, and many of them volcanic, they are of moderate elevation, and rarely attain the limits of perpetual snow. The country generally is of moderate elevation, with fertile valleys, picturesque landscapes, and a coast indented with magnificent harbors; the soil is productive, rich in mineral wealth, and teeming with every variety of agricultural produce. Springs, lakes, and rivers are numerous; but the last, being sand-choked, are valuable chiefly for the purposes of irrigation.

Our knowledge of the climate of Japan is yearly increasing. June, July, and August are the months of rain, which sometimes descends in unceasing torrents. The months of October and November are the pleasantest and most genial of the twelve, when fine weather is enjoyed without the scorching heat of summer. The summers are very hot, and the winters in the northern parts almost Siberian; the thermometer rising to 96° in the shade in the former, and sinking to 18° below zero in the latter season. Alcock says: "The thermometer in the shade (during the summer) ranges from 70° to 85°, and averages 80° between the morning and the evening, while it is sometimes below 70° at night." Hurricanes and waterspouts are frequent; dense fogs hide the sun, sometimes for four or five days together; and about the change of the monsoons, typhoons and equinoctial gales frequently sweep the Japanese seas.

The following figures are furnished by the Japanese commission :

Area,	23,740 ris (the ri equals 2¼ miles).
Population.—Male,	16,891,729
Female,	<u>16,408,946</u>
Total,	33,300,675
Imports,	22,841,166.93 yens.*
Exports,	18,367,259.29 "
Revenue,	81,552,294. "
Expenditure,	79,881,820. "
Army,	42,073 men

The navy consists of 20 vessels, manned by 3757 men.

The country is rich in minerals, gold, silver, iron, sulphur, and especially copper abound. There are also large quantities of coal. Amongst the most remarkable of its vegetable productions is the camphor tree, the varnish or lacquer tree, the paper mulberry tree, the vegetable wax tree, the tea shrub, the tobacco plant, and the rice plant. The principal manufactures are those of silk and cotton. The internal trade is very extensive, and rigid regulations are in force to protect and encourage home industry. In the mechanical arts the Japanese have attained great excellence, especially in metallurgy, and in the manufacture of porcelain, lacquer ware, and silk fabrics. In some of these departments works are produced so exquisite in design and execution, as to more than rival the best products of Europe

* The yen equals 99.7 cents gold.

The Japanese government is organized on a basis which is partly European. The Mikado is supreme in temporal and spiritual matters, but the work of government is carried on by the Great Council, which is divided into three sections, denominated Centre, Right, and Left. The Centre is composed of the Prime Minister, Vice Prime Minister, and five advisers. The left is made up exclusively of the Council of State, the functions of which are analogous to those of the French Conseil d'Etat, so far as the preparation and discussion of laws is concerned. The Right includes all the ministers and vice-ministers of eight departments into which the administration is divided. The ministers, either individually or united in a Cabinet, decide all ordinary questions; but points of real importance are reserved for the Great Council, presided over by the Mikado. The local administration in the provinces is in the hands of prefects, one of them residing in each of the 75 districts into which Japan is divided.

Education is very general in Japan. In 1871 a Ministry of Instruction was created, and as a result of its efforts, public primary schools are increasing rapidly, especially in the towns; but the movement is far more marked in the western provinces and on the coast than in the interior. Private schools are more abundant still, and any person being at liberty to establish them,—subject to a permission, which is always given,—they spring up with facility wherever wanted. In order to facilitate the acquirement of foreign languages, the government has engaged European professors, and has also sent, at public expense, a large number of students to America and Europe. The first line of railway, from Yokohama to Yeddo, 17 miles long, was opened for traffic on the 12th of June 1875, and other lines were in progress at that date.

The post office carried 17,095,842 letters in 1874. The number of post offices at that date was 3244.

Commission from the JAPANESE EMPIRE to the International Exhibition :

HIS EXCELLENCY OKUBO TOSHIMICHI, Minister of the Interior and Privy Counsellor, President.

HIS EXCELLENCY LIEUTENANT-GENERAL SAIGO TSUKUMICHI, Imperial Army, Vice-President.

MR. KAWASE HIDEHARU, Vice-President Bureau of Agriculture and Industry, Commissioner-General.

MR. TANAKA YOSHIO, Ministry of the Interior.

MR. SEKIZAWA AKEKIO, Bureau of Agriculture and Industry.

MR. YAMATAKA NOBUAKIRA, Bureau of Agriculture and Industry.

MR. SHIODA MASASHI, Bureau of Agriculture and Industry.

MR. SUZUKI TOSHINOBU, Bureau of Agriculture and Industry.

MR. SUGIYAMA KADZUNARI, Bureau of Agriculture and Industry.

MR. HIDAKA LIRO, Lieutenant Imperial Army.

MR. AMORI KORENAKA, Bureau of Agriculture and Industry.

MR. ISHIHARA TOYOYASU, Bureau of Agriculture and Industry.

MR. ISHIDA TAMETAKE, Bureau of Agriculture and Industry.

MR. YAMAO TSUNETARO, Bureau of Agriculture and Industry.

MR. KUBO HIROMICHI, Bureau of Agriculture and Industry.

MR. FUKUI MAKOTO, Bureau of Agriculture and Industry.

MR. SHIBATA HIROSHI, Bureau of Agriculture and Industry.

MR. MAKIYAMA KOHEI, Bureau of Agriculture and Industry.

MR. ASMI TCHUGA, Bureau of Agriculture and Industry.

MR. ISHII YOSHITAKA, Bureau of Agriculture and Industry.

MR. ASAHI SUSUMU, Bureau of Agriculture and Industry.

MR. YOSHIO NAGAMASA, Bureau of Agriculture and Industry.

MR. SASASE MOTOAKIRA, Bureau of Agriculture and Industry.

MR. TSUCHIYA SHIGENAO, Attache.

MR. YOSHIKAWA NISUKE, Attache.

MR. AKUSAWA SUSUMU, Attache.

MR. SANDA TADASHI.

MR. TAWARA WAKICHIRO, Attache.

HAWAII.

THE islands forming the kingdom of Hawaii are eight in number, exclusive of one or two small islets. The chain runs from southeast to northwest, and lies in the middle of the Pacific Ocean, in latitude 19° — 22° north, and longitude 155° — 160° west. Area 7400 square miles; population (1872), 56,897, of whom 2539 were Europeans. The names, with the areas, of the respective islands are: Hawaii (formerly Oghyhee), 4210 square miles; Maui, 760; Oahu, 600; Kauai, 590; Molokai, 270; Lanai, 150; Niihau, 97; and Kahoolawe, 65 square miles.

Situated near the middle of the Pacific Ocean, about half the distance from San Francisco in North America that they are from Melbourne in Australia and Canton in China, the Sandwich Islands form an oasis in the middle of a wide ocean waste, and offer convenient stations for the refreshment and repair of the merchantmen and whalers that traverse the Pacific. They are of volcanic origin, and contain the largest volcanoes, both active and quiescent, in the world. The most prominent physical features of the group are the two lofty mountain peaks of Hawaii, Mauna Kea and Mauna Loa, each of which is 14,000 feet in height, or within 1860 feet of the loftiest of the Alps. Besides those two chief peaks, which stand apart from each other, and one of which is covered with perpetual snow, the island is traversed by other mountains, which give it a rugged and picturesque outline, and in some cases front the sea in bold, perpendicular precipices, from 1000 to 2000 feet in height. In general, the islands are lofty—the small islet of Lehua is 109 feet high, and the upland regions of Kauai are, on an average, 4000 feet above sea level. Within the coral reefs, which, in single, and more rarely in double ridges, skirt portions of the coasts, sandy shores, leading up to rich pasture-lands, and occasionally to productive valleys, are frequently seen. Everywhere, however, the configuration of the surface betrays the volcanic origin of the islands. Extinct volcanoes occur in most of the islands. Kilauea, on the Mauna Loa mountain in Hawaii, the largest active volcano in the world, has an oval-shaped crater nine miles in circumference, and is 6000 feet above sea level. In the centre of this immense caldron is a red sea of lava, always in a state of fusion. At intervals, the lava is thrown to a great height, and rolls in rivers down the mountain sides. On Maui, the crater of Mauna Haleakala (House of the Sun), by far the largest known, is from 25 to 30 miles in circumference, from 2000 to 3000 feet deep, and stands 10,000 feet above sea level. Within this huge pit, about 16 basins of old volcanoes, whose ridges formed concentric circles, have been counted. Good harbors are few. The chief is that of Honolulu, in Oahu, with $22\frac{1}{2}$ feet of water in its shallowest parts. On the same island is Puuloa, an immense basin, with 12 feet of water on the bar at low tides. During the prevalence of the trade wind, which blows southwest for about nine months of the year, the south shores of the islands afford safe anchorage almost everywhere.

At Honolulu, the extremes of temperature in the shade during the 12 months are 90° and 50° , and the diurnal range is 12° . Rains brought by the northeast trade-wind are frequent on the mountains; but on the leeward side of the islands little rain falls, and the sun is rarely obscured by the clouds. The soil, the constituent parts of which are mainly scorice, decomposed lava, and sand, is generally thin and poor. This, however, is not universally the case. At the bases of the mountains and in the valleys, where abrasion, disintegration, and the accumulation of vegeta-

ble mould have gone on for ages, there are extensive tracts as fertile as they are beautiful. The islands produce fine pasturage in abundance, and large herds are bred and fattened to supply meat to the whalers and merchant ships. The upland slopes of the mountains are clothed with dense forests; and lower down are grassy plains and sugar and coffee plantations. Basalt, compact lava, coral rock, and sandstone are used for building purposes. No metals occur. Several of the islands, especially Hawaii and Kauai, are well supplied with rivers, which, from the size and conformation of the group, are necessarily small, but afford great facilities for irrigation. Vast numbers of semi-wild horses roam the islands, and while they consume the pasturage and break down the fences, are of little use. The indigenous fauna is small, and consists mainly of swine, dogs, rats, a bat that flies by day, birds of beautiful plumage, but for the most part songless. Among the indigenous trees and plants are the sugar-cane, banana, plantain, cocconut, candle-nut, various palms, the taro, a succulent root which formed the staple of the food of the natives, and is still generally used, the cloth-plant, and the *ti*, the roots of which were baked and eaten, while the leaves were used for thatching huts. Cattle and other useful and foreign animals and plants were introduced by Vancouver and other navigators. In 1860 there were 30,000 mules and semi-wild horses in the kingdom.

The government of Hawaii is a constitutional monarchy.

The public revenue during the biennial period ending March 31, 1874, was 1,136,524 dollars; the public expenditure, 1,192,512 dollars. The public debt, at the same date, 355,050 dollars.

The principal exports during the year 1874 were: Sugar, 24,567,000 pounds; rice, 1,188,000 pounds; coffee, 75,000 pounds; pulu, 418,000 pounds; tallow, 126,000 pounds; wool, 400,000 pounds; hides, 94,575. Total value, 1,839,000 dollars. The imports during the same year amounted in value to 1,310,000 dollars.

Of 115 vessels that entered the port of Honolulu during 1874, 64 were American, 30 English, 15 Hawaiian, etc.

Commission from THE HAWAIIAN ISLANDS to the International Exhibition:

W. L. MOEHONUA, Minister of the Interior and President of the Commission.

HON. S. G. WILDER, Privy Councillor of State.

HON. J. U. KAWAINUI, Privy Councillor of State.

ELISHA H. ALLEN, JR., Hawaiian Consul General, New York.

H. R. HITCHCOCK, Inspector General of Schools, Hawaiian Islands, and Special Agent of Hawaii on Centennial Commission.

REV. SAMUEL C. DAMAN.

MR. WILLIAM TUFTS BRIGHAM.

BRAZIL.

BRAZIL is the most extensive state of South America. Towards the interior, it borders on all the other states of that continent except Chili and Buenos Ayres—on Uruguay, the Argentine Confederation, Paraguay, Bolivia, Peru, Ecuador, New Granada, Venezuela, and English, Dutch, and French Guiana; while its seaboard, beginning about 200 miles to the north of the Amazon, and reaching to within the same distance of the Plata, projects into the Atlantic fully 1000 miles to the east of the direct line between its two extremes. This immense country extends between latitude $5^{\circ} 10'$ north and $46^{\circ} 10'$ south, and between longitude 35° and 70° west, being, in round numbers, 2600 miles long and 2500 broad. The area, according to official accounts, is 3,100,000 square miles, with a population, in 1872, of 12,000,000, including 1,683,684 slaves, and consisting of aboriginals, Africans, and Europeans, the first being proportionately fewer than in most parts of America.

Brazil differs in many respects from most of the other divisions of the new continent. It knows nothing of the volcanoes and earthquakes of the Pacific coast; with winds blowing constantly from the Atlantic Ocean, it is exempted from those droughts which are always blighting one or other of the slopes of the Andes, the remoter slope in Peru and Chili, and the nearer in Buenos Ayres and Patagonia; its mines, again, are as famous for gold and diamonds as those of the western Cordilleras for silver. In its hydrography, Brazil contrasts unfavorably with the other divisions. While the Amazon and the Plata, the Mississippi and the St. Lawrence—not to mention countless rivers of inferior magnitude on both shores—are for the most part practicable almost to their sources, the streams of Brazil, with the exception of the Amazon, are mostly impeded throughout by cataracts and shallows, thus counterbalancing, as it were, its matchless seaward facilities by the deficiencies of its inland communications. Further, the most navigable of these streams, instead of entering the open sea, mingle their waters with those of the Plata or of the Amazon—the Parana and the Uruguay joining the former, and the Madeira, the Tapojos, the Zingu, and the Tocantins, the latter; and even among those that do send their tribute at once to the ocean, a similar direction is sometimes impressed by the dividing ridges—the San Francisco, for instance, by far the largest of them, running to the northward parallel with the southeast coast through 11° of latitude, and leaving only 4° of longitude for its remaining course to the Atlantic. These hydrographic peculiarities must be the more strongly felt, inasmuch as a humid surface and a luxuriant vegetation conspire to render ordinary roads all but impossible.

Among the mineral treasures, besides gold and diamonds, already mentioned, iron of superior quality is abundant; and salt, also, is extensively produced in saline marshes by the alternate processes, according to the season, of inundation and evaporation. The productions of the soil are, of course, equally various and rich. The cotton is naturally excellent, and the tea-plant of China has been introduced, though hitherto with indifferent success. The exports necessarily vary in different sections of the country. From the north, they are coffee, cotton, cocoa, sugar, and tobacco; from the south, hides, tallow, horns, etc.; and from the middle, drugs, diamonds, gold dust, dyes, rice, manioc, tapioca, spirits, and rosewood.

The total value of the imports into Brazil, including bullion and specie, averaged about \$91,000,000 in the five years 1869—1873, and that of the exports, during the same period, likewise including bullion and specie, about \$110,000,000.

The executive authority is vested in the Emperor, who, besides being aided by a council of state, must act through responsible ministers. The legislature consists of two chambers, which sit four months every year. Both the deputies and the senators, who must have annual incomes respectively of 800 milrees and 1600, are indirectly elected by voters who must possess 200 milrees per annum—the former for four years, and the latter for life. The senate, however, appears to represent the crown as well as the people, inasmuch as each constituency merely nominates three individuals for his majesty's choice of one. Justices of the peace, also, are appointed by the respective communities; and in the courts generally, whether civil or criminal, there prevails trial by jury.

The budget for the year ending June 30th, 1876, calculates the receipts at 107,133,070 milrees, and the expenditures at 102,634,053 milrees.* The public debt, on the 1st of April, 1875, was, including paper money, 664,739,395 milrees.

In a vote passed by the House of Congress, June, 1869, the strength of the standing army was fixed at 30,000 on the peace footing, and at 60,000 on the war footing. There were actually under arms, according to official reports, at the end of April, 1874, 28,933 troops, of which number 2397 were in garrison in Paraguay.

The imperial navy consisted, in 1875, of 61 men-of-war, carrying 230 guns, and crews aggregating 4136.

The empire possessed, at the end of 1873, railways of a total length of 714 English miles, open for traffic. There were railways of an aggregate length of 397 miles in course of construction at the end of June, 1874. There were, at the beginning of the year 1874, telegraph lines to the extent of 3375 miles. The number of offices was 74 at the same date. The post office carried 12,251,000 letters in the year 1873, of which number 6,548,000 came from or to Rio de Janeiro, the capital.

Commission from BRAZIL to the International Exhibition :

HIS HIGHNESS, GASTON D'CRLEANS, Conde d' Eu, Marshal of the Army, President.

VISCOUNT DE JAGUARY, 1st Vice-President.

VISCOUNT DE BONN-RETIRO, 2d Vice-President.

VISCOUNT DE SOUZA FRANCO.

JOAQUIN ANTONIO DE AZEVEDO.

HIS EXCELLENCY, A. P. DE CARVALHO BORGES, Envoy Extraordinary and Minister Plenipotentiary of His Majesty the Emperor of Brazil.

FELLIPE LOPES NETTO, Vice-President.

DR. JOSE DE SALDANHA.

DR. NICOLAS JOAQUIM MOREIRO.

PEDRO PAES LEME.

CAPT. LUIZ DE SALDANHA, Naval Attaché.

DR. J. M. DE SILVA COUTINHA.

MR. B. F. TORREAS DE BANOS, Secretary of Legation.

* The milreis = 1000 reis, 54½ cents.

ARGENTINE REPUBLIC.

THE Argentine Republic—the confederation of the Rio de la Plata, or River of Silver, South America—is a federal union of fourteen provinces and three large territories, covering an almost unbroken plain of 1,200,000 square miles, with a population of about 2,000,000 inhabitants. It extends from 22° south latitude to the straits of Magellan, and from 59° west longitude to the Andes.

Each province has its own legislature, courts of justice, and political government; but civil, penal, and commercial laws are common to all the provinces, codes of such laws having been issued by the congress of the confederation.

The President of the republic is elected for a term of six years by the representatives of the provinces, and is not eligible for re-election. The Vice-president, elected in the same manner, fills the office of chairman of the Senate, but has otherwise no political power. The President is commander-in-chief of the troops, and appoints to all civil, military, and judicial offices; but he and his ministers are responsible for their acts, and liable to impeachment before the Senate by accusation of the House of Representatives. Legislative power is vested in a Senate, of members elected by the provincial legislatures, two from each province, and a House of Representatives, elected by the people, and apportioned to each province according to population. The senators hold their office for nine years, and the representatives for three.

The chief exports of the country are wool, hides, salt beef, and tallow; but its resources embrace all the products of the tropical and temperate zones, as may be seen by the catalogue of its exhibits.

The farming stock of the republic is estimated at 15,000,000 horned cattle, 4,000,000 horses, and 80,000,000 sheep, whose aggregate value cannot fall short of \$200,000,000, gold, yielding about \$50,000,000 of export produce per annum.

The total trade may be estimated at \$100,000,000 per annum. In 1874 the imports amounted to \$55,961,117, against over \$71,000,000 in the previous year. The exports amounted to \$43,104,712, against \$45,869,314 in 1873. The decrease in imports and exports was caused by a severe commercial crisis, from which the country is just recovering.

The annual revenue amounted to \$20,217,231 in 1873, but the crisis reduced it in 1874 to \$16,090,661, or over \$2,000,000 less than in 1872, and nearly \$4,500,000 less than in 1873. The general expenditures in 1874 reached the sum of \$28,596,006. The total debt in January, 1875, was \$68,416,043.

The regular army numbers 10,807 men, divided as follows: cavalry 4800, infantry 4400, artillery 400, and 1173 special troops. The navy is composed of 26 vessels, among them 2 ironclads and 6 gunboats, with crews amounting in all to 900.

The capital of the republic is provisionally situated at the city of Buenos Ayres, capital of the province of the same name.

(The statistics given above have been furnished by the commission of the Argentine Republic.)

A network of railways, constructed mainly at the expense of the State, has been in progress for several years. At the end of the year 1873 there were 664 miles open for traffic, and 642 miles of State railways in course of construction. There were

besides, at the end of 1873, railways of a total length of 1997 miles, sanctioned by the government, including an international line from Buenos Ayres to Chili, of 894 miles.

At the end of September, 1873, there were 4170 miles of telegraph lines in operation. The total length of telegraph wires at the same date was 8267 miles. The number of telegraphic dispatches during the same year was 170,079.

The post office, in the year 1873, carried 1,493,700 parcels and packets, and 4,574,188 letters. The number of letters carried doubled in the five years from 1869 to 1873.



Commission from the ARGENTINE REPUBLIC to the International Exhibition :

CARLOS CARRANZA, President.
 EDWARD SHIPPEN, Vice-President.
 EDW. T. DAVISON, Treasurer, Consul-General.
 DIEGO DE CASTRO, Secretary.
 E. MARA DAVISON, Deputy Member.

Central Committee.

ERNESTO OLLENDORF, President.
 JULIO VICTORICA, Secretary.

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 DIEGO DE LA FUENTE,
 LINO PALCOIS,

RICARDO NEWTON,
 LEONARDO PEREYRA,
 JOSE M. JURAFDO,
 EMILIO DUPORTAL.

CHILI.

CHILI lies wholly between the water-shed of the Andes and the shores of the Pacific, stretching coastwise from Bolivia to Patagonia, in latitude $25^{\circ} 30'$ to $43^{\circ} 20'$ south, and longitude 69° to 74° west, having an extreme length of about 1240 miles and an average breadth of fully 120. Within these limits, however, lies the virtually independent Araucania, comprising most of the mainland to the left of the Biobio, while the southern portion is confined chiefly to Chiloe and its archipelago. Chili is divided into thirteen provinces, of which, including certain outlying dependencies in Patagonia, the aggregate area has been officially stated at nearly 140,000 square miles, and the population in 1874 at 2,068,447. Chiloe, the insular province of Chili, is separated from the rest of the republic, or rather from Patagonia, by the Gulf of Ancud, extending in south latitude from $41^{\circ} 40'$ to $43^{\circ} 20'$, and in west longitude from 73° to 74° . The province, which, in 1874, numbered 64,536 inhabitants, contains, in addition to Chili proper, about 60 islets, of which some 30 are uninhabited. The predominant rocks of Chili are crystalline and metamorphic. They form the range of the Andes, except in those districts in which active volcanoes exist, where they are covered with recent volcanic rocks. They occupy also the whole of the level ground between the mountain range and the shores of the Pacific, with the exception of a narrow stretch of palæozoic fossiliferous strata which run along the coast south from Santiago for a distance of 300 miles. The coast-line of Chili is being continually altered from the elevation of the whole country to an extent of at least 1200 miles along the Pacific shores, produced by volcanic agency.

Physically, the continental portion of the republic presents many singularities. Of all the maritime regions on the globe, it is perhaps the most isolated. On every side but the sea, and that sea very remote from the main thoroughfares of commerce, it is beset by difficulties of communication. With the lonely wilderness of Patagonia to the south, and the dreary desert of Atacama on the north, it is bounded on the east by a mountain chain which, altogether impracticable in winter, can be crossed, even in summer, only by a few passes ranging between 12,450 feet and 14,370 feet in elevation. Moreover, this strip between the Andes and the Pacific is broken into plateaus in the interior, and valleys on the coast, by two longitudinal ranges, with numerous lateral spurs; while, throughout the length and breadth, the general level gradually descends, as well to the south as to the west. In point of mere temperature, so rugged a surface, covering fully 15° of latitude, and attaining an altitude of more than four miles within about 2° of longitude, must present nearly every possible variety. Through the reciprocal action of the Andes and the prevailing winds, the rain-fall graduates itself, with something of mathematical regularity, from the parching skies of the north to the drenching clouds of the south, a graduation which, disturbed merely by the melting of the mountain snows, is, in a great measure, necessarily reflected in the condition and magnitude of the countless water-courses. Hence the rivers to the north of the Maypo, which enters the Pacific near latitude 34° , are but inconsiderable streams; while, further to the south, the Maule, the Biobio, and the Calacalla are all to some extent navigable.

From the cause last mentioned, different districts vary remarkably in their productions. To the north of the Coquimbo, about latitude 30° , is chiefly an arid

waste, redeemed, however, from being valueless by its mines; and to the south of the Biobio, about latitude 37°, timber and pasturage divide the soil between them. The intermediate centre alone is fitted for agriculture, yielding, besides maize and hemp, European grains and fruits in abundance. Notwithstanding all the varieties and vicissitudes of climate, the country may claim to be, on the whole, extremely healthy. The manufactures are earthenwares, copperwares, linens, cordage, soap, leather, and brandy; and, in addition to the wheat and metals already specified, the exports, especially from the south, embrace tallow, hides, jerked beef, and live stock.

The public debt of Chili, at the beginning of 1874, was 48,149,850 pesos (or dollars). The budget for 1875 stated the expenditures at 16,474,890, and the receipts at 16,440,000 pesos.

The army consisted, in 1874, of 3516 men, the force comprising 2000 infantry, 712 cavalry, and 804 artillery. The navy numbered 10 vessels, carrying 34 guns.

The imports, for 1874, were 38,810,000 pesos, and the exports, during the same year, were 36,510,000 pesos. The commercial navy of Chili consisted, in 1872, of 250 vessels of 58,230 tons burthen, with 2900 sailors.

In 1875 there were 991 kilometres of railway in operation; of these, 628.6 belonged to the State and 362.4 to companies.

The work of the post office, for 1873, was 5,116,797 letters and 6,233,916 newspapers, etc.

There were, at the same time, 55 telegraph offices. The length of lines was 3729 kilometres; of wires, 4909 kilometres. Number of despatches, in 1873, 265,318.

Commission from CHILI to the International Exhibition:

Resident Commissioners.

SR. DON ADOLFO YBANEZ, Envoy Extraordinary and Minister Plenipotentiary of Chili.

EDWARD SHIPPEN, ESQ., Consul and President.

DR. J. PATTERSON Burd, Secretary and Treasurer.

SR. FRANCISCO GONALEZ ERRAZURIZ, Secretary of Chilian Legation.

Special Commissioners.

SR. DON EDUARDO SEVE,
SR. RAFAEL MASEULLI,

SR. E. GERRA,
SR. LOUIS BUFFE.

Home Commission.

SR. RAFAEL LARRAIN, President.
SR. MAXIMIANO ERRAZURIZ.
SR. IGNACIO DOMEYKO.
SR. ARMANDO PHILLIPPI,

FRANCISCO SOLANO ASTA BURUAGO.
SR. RAMON BARROS.
SR. EUGENIO FIGUEORA.

PERU.

PERU is an important maritime republic in South America, bounded on the N. by Ecuador, on the W. by the Pacific, on the S. and S.E. by Bolivia, and on the E. by Brazil. It lies in lat. $3^{\circ} 25'$ to $21^{\circ} 30'$ S., and in long. 68° to $81^{\circ} 20'$ W. The general outline resembles a triangle, the base of which is formed by the boundary-line between Peru and Ecuador on the north. Its area is estimated at upward of 500,000 square miles, and its population at 2,500,000. The area of Peru, however, can only be given approximately, as, on the east side of the Andes and between the Amazon and the Purus, there is a wide and unexplored expanse of country, upon which both Peru and Brazil have claims which have not yet been determined. The country is 1100 miles in length, 780 miles in extreme breadth along the northern boundary, but is little more than 50 miles wide in the extreme south. Following the general direction, and not including windings, the coast-line is 1660 miles in length. The shores are in general rocky and steep; in the south lofty cliffs rise from the sea, and in some places the water close inshore has a depth of from 70 to 80 fathoms. Farther north, however, sandy beaches occur, and in the extreme north the shores are often low and sandy and covered with brushwood. Owing to the comparative unfrequency of bays and inlets along the coast, the harbors are few and unimportant. Those of Callao (the port of Lima) and Payta afford the most secure anchorage, and the others are Trujillo, Cañete, Pisco, Camaná, Islay, Ilo, Arica and Inquique.

The islands on the Peruvian coast, although valuable, are extremely few in number and small in extent. In the north are the Lobos Islands; on their eastern and more sheltered sides they are covered with guano. The Chincha Islands, famous as a source of supply for guano, also form a group of three, and are situated in the Bay of Pisco, about twelve miles from the mainland, and in lat. 13° to 14° S., long. 76° and 77° W. They lie in a line running north and south, and are called the North, Middle, and South Islands, respectively. Each island presents, on the eastern side, a wall of precipitous rock, with rocky pinnacles in the centre, and with a general slope toward the western shore. The cavities and inequalities of the surface are filled with guano, and this material covers the western slopes of the islands to within a few feet of the water's edge. There is no vegetation.

The surface of Peru is divided into three distinct and well-defined tracts or belts, the climates of which are of every variety from torrid heat to arctic cold, and the productions of which range from the stunted herbage of the high mountain-slopes to the oranges and citrons, the sugar-canes and cottons, of the luxuriant tropical valleys. These three regions are the *Coast*, the *Sierra*, and the *Montaña*. The *Coast* is a narrow strip of sandy desert between the base of the Western Cordillera and the sea, and extending along the whole length of the country. This tract, varying in breadth from thirty to sixty miles, slopes to the shore with an uneven surface, marked by arid ridges from the Cordillera, and with a rapid descent.

It is, for the most part, a barren waste of sand, traversed, however, by numerous valleys of astonishing fertility, most of which are watered by streams that have their sources high on the slopes of the Cordillera. In the coast-region, properly so called, rain is unknown. This is caused by the coast of Peru being within the region of perpetual south-east trade-winds. The want of rain is compensated for, to some extent, by abundant and refreshing dews which fall during the night. The climate of the coast is modified by the cool winds. In the valleys the heat, though considerable, is not oppressive. The highest temperature observed at Lima in summer is 85° , the lowest in winter is 61° Fahr.

The *Sierra* embraces all the mountainous region between the western base of the maritime Cordillera and the eastern base of the Andes, or the Eastern Cordillera. The principal physical features of the *Sierra* are: 1. The plain of Titicaca, partly in Peru and partly in Bolivia. It is enclosed between the two main ridges of the Andes, and is said to have an area of 30,000 miles. In its centre is the great Lake Titicaca, 12,846 feet above sea-level, or 1600 feet above the loftiest mountain pass (the Col of Mont Cervin) of Europe. The lake is 115 miles long, from 30 to 60 miles broad, from 70 to 180 feet deep, and 400 miles in circumference. Its shape is irregular; it contains many islands, and several peninsulas abut upon its waters. 2. The Knot of Cuzco. The mountain-chains which girdle the plain of Titicaca trend toward the north-west, and form what is called the Knot of Cuzco. The Knot comprises six minor mountain chains, and has an area thrice larger than that of Switzerland. Here the valleys enjoy an Indian climate and are rich in tropical productions; to the north and east of the Knot extend luxuriant tropical forests, while the numberless mountain slopes are covered with waving crops of wheat, barley, and other cereals, and with potatoes, and higher up extend pasture-lands, where the vicuña and alpaca feed.

The *Montaña* or central region has an elevation of 12,000 feet above the sea-level, and forms a portion of the great central plain of South America. The virgin soil of the *Montaña* is of amazing fertility, while its climate, though not oppressively hot, is healthy. The forests consist of huge trees, of which some are remarkable for the beauty of their wood, others for their valuable gums and resins, and others as timber trees. A rank undergrowth of vegetation covers the country, and the trees are often chained together and festooned with parasites and closely-matted creepers. In this region, for the most part undisturbed by the voice of man, civilized or savage, animal life flourishes in endless variety, and birds of the brightest plumage flit among the foliage. Among the products which are yielded here in spontaneous abundance are the inestimable Peruvian bark, India-rubber, gum-copal, vanilla, indigo, copaiba, balsam, cinnamon, sarsaparilla, ipecacuanha, vegetable wax, etc. On the western fringe of the *Montaña*, where there are still a few settlements, tobacco, sugar, coffee, cotton, and chocolate are cultivated with complete success.

The hydrography of Peru may be said to be divided into three systems—those of Lake Titicaca, the Pacific, and the Amazon. The streams that flow into Lake Titicaca are few and inconsiderable. The rivers, which, having their sources in the Western Cordillera, flow west into the Pacific, are about sixty in number; but many of them are dry in summer, and even the more important are rapid and shallow, have a short course, are not navigable even for canoes, and are mainly used for the purpose of irrigation. All the great rivers of Peru are tributaries of the Amazon. The Marañon, rising between the Eastern and Western Cordilleras, and flowing tortuously to the north-north-west, is generally considered to be the headwater of the Amazon. The Huallaga rises near the town of Huanuco, and flows northward to the Amazon. It is navigable for 600 miles, the head of its navigation (for canoes) being at Tingo Maria, within 100 miles of its source. The Yucayali, or Ucayali, an immense river, enters the Amazon 210 miles below the Huallaga. Its tributaries and upper waters, among which are the Pampas and the Apurimac, drain the greater portion of the Peruvian Sierra. The Purus, which reaches to the valleys of Paucartambo, within sixty miles of Cuzco, has not yet been explored. The Andes abound in mines of gold, silver, copper, lead, bismuth, etc.; and in the *Montaña* gold is said to exist in abundance in veins, and in pools on the margins of rivers.

But besides the precious metals, Peru possesses other most important mineral resources. In addition to the guano, to which allusion has already been made, another important article of national wealth is nitrate of soda, which is found in immense quantities in the province of Tarapaca. This substance, which is a powerful fertilizer, is calculated to cover, in this province alone, an area of fifty square

leagues. Here, also, great quantities of borax are found. The trade in guano, nitre, and borax is entirely in the hands of the government.

The vegetable productions of Peru are of every variety, embracing all the products both of temperate and tropical climes. The European cereals and vegetables are grown with perfect success, together with maize, rice, pumpkins, tobacco, coffee, sugar-cane, cotton, etc. Fruits of the most delicious flavor are grown in endless variety. Cotton, for which the soil and climate of Peru are admirably adapted, is now produced here in gradually increasing quantity. The land suited to the cultivation of this plant is of immense extent, and the quality of the cotton grown is excellent. The animals comprise those of Europe, together with the lama and its allied species.

The principal items of export in 1870 were: Guano, 482,299 tons; nitrate of soda, 147,200 quintals, valued at 6,624,000 soles;* quinine, 11,921 quintals, valued at 810,641 soles; silver, 1,120,118 soles; hides and skins valued at 530,403 soles; wool valued at 396,610 soles.

The merchant navy in 1869 comprised 95 vessels, aggregating 9596 tons burden; included in this were 11 steamers of a total burden of 435 tons.

The constitution of Peru is modeled on that of the United States, the legislative power being vested in a Senate and House of Representatives, the former composed of deputies of the provinces, two for each, and the latter of representatives nominated by the electoral colleges of provinces and parishes, at the rate of one member for every 20,000 inhabitants. The parochial electoral colleges choose deputies to the provincial colleges, who in turn send representatives to Congress. In the session of 1875 the Senate was composed of 44 and the House of Representatives of 110 members.

The executive power is entrusted to a president, assisted by a vice-president, both elected by popular vote and serving for a term of four years.

By the terms of the constitution of 1867 there exists absolute political but not religious freedom, the charter prohibiting the public exercise of any other religion than the Roman Catholic, which is declared the religion of the State.

The public debt is divided into an internal debt, which in 1872 was about £2,500,000, and the foreign debt, which in 1875 amounted to £34,713,980. The public income during 1872 was 58,982,851 soles; the public expenditures during the same year 57,913,764 soles.

The army comprises: Infantry, 5600; cavalry, 1200; artillery, 2000; total, 8800 men. The navy consists of 6 iron-clads, one of which is a 14-gun frigate, 2 monitors of 3 guns each, and 3 other vessels of 2, 2, and 14 guns respectively; besides which there are 6 steamships of 2, 2, 4, 4, 14, and 30 guns.

A system of railways designed mainly to develop the exploitation of the mineral wealth of the country, including important mines of nitrate of soda, has been in course of construction for several years. At the end of June, 1875, there were open for traffic or in course of construction lines of State railways of a total length of 1007 English miles. There were also in course of construction at the end of June, 1875, railways of a total length of 600 English miles, to be completed in 1877-80. The most important of these are a line from Lima to Oroya, 222 miles in length, and another, offering vast engineering difficulties, 187 miles long, from Arequipa to Puno, across the summit of the Cordillera de los Andes.

There were in 1874 telegraph lines of a total length of 608 miles.

Commission from PERU to the International Exhibition:

JOSE CARLOS TRACY, President.

JUAN JOSE BARRIL.

WILLIAM RUSSELL GRACE.

ANTONIO HERNANDEZ, Chief of Installation.

ENRIQUE VALIENTE, Secretary.

* One sol = 96½ cents, gold.

MEXICO.

THE Mexican Republic extends between latitude 15° to $32^{\circ} 42'$ north, and from $88^{\circ} 54' 30''$ to $119^{\circ} 25' 30''$ west longitude (meridian of Paris), or from $12^{\circ} 21'$ on the east to 18° on the west of the City of Mexico, and is bounded on the north by the United States, on the south by Guatemala, on the east by the Gulf of Mexico, and on the west by the Pacific Ocean.

The country measures in its greatest length, from the conflux of the Gila and Colorado Rivers to the bar of Ocos, which is the lower end of the State of Chiapas, 2933 kilometres, by 1733.2 kilometres in width, from the mouth of the Rio Grande to that of the Rio del Fuerte. Its coast-line embraces 8272.47 kilometres. The area of the Mexican territory amounts to 1,972,648 square kilometres.

Mexico is a mountainous country. The *Cordillera*, which can be considered as a development of the Andes, that start in Patagonia, South America, occupies all the country, forming, in its gradual descent toward the coasts, large table-lands and fertile valleys. At the point where this Cordillera reaches the territory of New Mexico it is divided into two ramifications, the eastern one parallel to that of Lower California, its principal summits being the *Pico de Orizava* and *Cofre de Perote*, and the western one, which becomes entangled with the other chains running toward the Nevado de Toluca. This point of intersection is marked by the volcano of *Colima*. The eastern chain has its nucleus in the *Zempoaltepec*, whose several ramifications extend over the State of Oaxaca, with the exception of the principal branch, which stretches over the State of Guerrero. Between these two mountainous chains there is another of no less importance, which includes the beautiful mountains Popocatepetl and Ixtaccihuatl. The latter, the Cofre de Perote, and the White Pick of Toluca are the highest peaks of the Mexican Andes.

The northern part of the republic, between latitude $23^{\circ} 30'$ and $32^{\circ} 42'$ north, belongs to the temperate zone, and the southern portion, included between 15° and $32^{\circ} 30'$, to the torrid zone. Owing partially to this division and to the difference in the level of the soil, there is in Mexico a great variety of climate. The warm temperature is observed in the region extending from the coast to the height of 3000 feet; the temperate, from the height of 3000 feet to 5000 feet; and the cold climate, from 5000 feet to the highest summits.

The population of Mexico amounts to 8,743,000, in the following proportions:

European,	2,331,000
Indigenous,	1,750,000
Of a mixed origin,	4,662,000
Total,	8,743,000

The following list shows which are the principal centres of population:

CITIES.	STATES.	POPULATION.
Mexico,	District of Mexico,	200,000
Leon,	Guanajuato,	90,000
Guadalajara,	Jalisco,	75,000
Puebla,	Puebla,	65,000
Guanajuato,	Guanajuato,	63,000
Queretaro,	Queretaro,	48,000
Celaya,	Guanajuato,	37,000
Orizaba,	Vera Cruz,	37,000
San Miguel Allende,	Guanajuato,	35,000

A more complete idea of the manner in which the population is distributed can be arrived at by the following statistical table :

NAME OF STATES IN THEIR GEOGRAPHICAL ORDER.	SQUARE LEAGUES.	POPULATION.	INHABITANTS PER SQUARE LEAGUE.
Souvra,	11,953	147,133	12
Chihuahua,	15,534	179,971	11
Coahuila,	8,692	67,691	8
Nuevo Leon,	2,119	171,000	81
Tamaulipas,	4,228	108,514	26
San Luis Potosi,	4,262	397,735	93
Zacatecas,	3,922	398,977	101
Aguas Calientes,	327	86,576	264
Durango,	6,921	173,942	27
Sinaloa,	3,825	161,157	42
Jalisco,	7,224	924,580	128
Colima,	353	48,649	137
Michoacan,	3,188	618,072	193
Guanajuato,	1,642	874,000	532
Queretaro,	506	166,643	329
Mexico,	1,416	599,810	323
Hidalgo,	1,251	404,207	323
Morelos,	280	121,409	433
Guerrero,	3,574	270,000	76
Puebla,	1,735	830,000	478
Tlaxacala,	221	117,941	533
Vera Cruz,	4,047	380,976	94
Oaxaca,	4,035	601,850	149
Tabasco,	1,876	83,707	44
Chiapas,	2,474	193,987	78
Campeche,	3,848	86,453	22
Yucatan,	4,818	282,634	59
Federal District,	12.56	225,000	
Lower California Territory,	8,709	21,000	2
	112,362.56	8,743,614	

The sugar and coffee culture, and the industries of which the agave plant is a basis, deserve particular mention. Numerous metalliferous veins are found in the mountains of the Sierra Madre and its different ramifications. These mineral districts contain not only the precious ores for which Mexico has been particularly noted, but also iron, tin, copper, and some other metals of great industrial value. Bismuth, having become scarce in former years, was found at last in the States of San Luis Potosi, Sinaloa, Queretaro, and Zacatecas. Discoveries of coal, precious opals, and quicksilver ores have also been made, the former in the States of Puebla and Vera Cruz, the latter in the States of Queretaro and Guerrero. The district of Huitzucos has proved the most abundant in mercury, and during the last year has supplied the Mexican market with large quantities of this useful metal.

The geological formations which are found in the mineral veins of Mexico consist chiefly of the three following classes of rocks :

1. Compact mesozoic limestone.
2. Slate and sandstone.
3. Metalliferous porphyry, which probably corresponds to the Tertiary period.

As types of these three formations should be mentioned those found respectively in the States of Queretaro, Guanajuato, and Hidalgo. Many mountains of the above-mentioned types, and containing metalliferous veins, can be seen in almost all the States of the Republic. The argentiferous galenite and tetrahedrite prevail in the first of the aforesaid formations; the polybasite and the pyrargirite in the second; and sulphuret of silver, argentiferous galenite, and blende in the third. The collections exhibited in the Mexican Department of the Main Building include some

samples of these mineral compounds, and of rocks useful as building and ornamental materials, among which the beautiful calcareous slates from the District of Tecali (State of Puebla) are worthy of especial mention.

Among the advantages which industry and trade have secured in Mexico, the double line of railroad from the principal port to the capital, and the exceptional and liberal tariffs established for goods intended for exportation, ought to be considered as the most beneficial. One of the aforesaid lines (via Orizaba) is complete, and has been in operation for several years; the other, which connects Vera Cruz with the town of Jalapa and with some of the agricultural districts of the State of Puebla, will soon be completed. The Mexican Congress has made very liberal grants for the construction of three railways intended to connect the city of Mexico with the northern frontier, and the districts more abundant in tropical products with the city of Puebla. Between this city and the trunk line of the Vera Cruz Railroad there is a branch line in operation. Another railroad connecting the capital with the city of Toluca is under construction, and in operation as far as the town of Tlalnepantla. Another line connects the port of Vera Cruz with the town of Medellin. The capital is connected by electric wires with the principal cities and with the ports and coasts of the republic.

The United States of Mexico maintain an active trade with the following nations, viz.: England, France, United States, Germany, Spain and Cuba, New Granada, Guatemala, Nicaragua, and on smaller scale with Belgium, Ecuador, and Italy.

The imports of foreign goods during the fiscal year ending June, 1873, amounted to \$29,062,406.94, taking as a basis the market value of the articles. All the articles are registered in the custom-house tariff of duties under eleven heads, viz.:

	INVOICE VALUE.	MARKET VALUE.	DUTIES.
1. Cottons,	\$7,311,646.03	\$10,531,970.15	\$4,734,340.87
2. Groceries,	3,437,525.43	5,191,788.62	2,012,509.30
3. Articles free from duty,	2,411,593.73	3,354,259.77	
4. Mercury,	1,356,600.31	2,184,014.56	763,908.87
5. Miscellaneous,	1,434,216.56	2,035,609.63	1,055,828.05
6. Linen and hemp,	993,362.76	1,452,978.28	564,125.89
7. Wools,	1,038,044.31	1,427,867.58	644,496.77
8. Mixtures,	998,831.81	1,417,427.61	605,146.49
9. Silks,	419,017.10	588,911.32	267,404.71
10. Earthenware, crystal, and glass	344,936.45	577,510.82	206,547.31
11. Drugs,	173,852.32	300,069.05	131,011.38
	\$19,919,632.81	\$29,062,406.94	\$10,989,319.64

The value of goods exported amounts to \$31,473,607.24. The exports are arranged under two heads:

Minerals and metals,	\$25,373,673.78
Agricultural and industrial products,	6,317,477.06
Total,	\$31,691,150.84

Under the first heading are:

Silver coin,	\$22,602,493.33
Solid silver,	1,512,616.94
Gold coin,	640,270.97
Solid gold,	288,578.21
Ores and mineral earths,	222,854.00
Silver amalgam,	39,251.78
Lead,	30,831.00
Copper,	17,127.94

Under the second heading :

Skins,	\$1,546,869.43
Henequen,	1,049,202.58
Building and color woods,	1,042,586.31
Coffee,	532,912.86
Vanilla,	414,038.40
Cochineal,	276,699.30
Cattle,	209,960.00
Tobacco,	132,984.75
Orchilla (Rocella tintorea),	128,450.09
Precious pearls,	109,300.00
Caoutchouc,	93,052.88
Sarsaparilla,	90,862.18
Wool,	88,635.72
Indigo,	80,229.87
Jalap,	77,517.40
Cocoanuts,	46,000.00

The revenue of the General Government and the expenses of the Federal Administration amount to a yearly average of 20,000,000 dollars.

There have been 8103 schools established by the Government for the primary instruction of the people. In eighteen of the States attendance has been made compulsory.

The official data in regard to secondary and higher instruction are condensed in the following figures relating to the institutions of these two degrees, maintained by the Mexican government:

26	Preparatory Schools.
18	Colleges of Jurisprudence.
12	“ “ Engineering.
11	“ “ Medicine.
9	“ “ Pharmacy.
2	“ “ Navigation.
2	“ “ Agriculture.
2	“ “ Mining.
2	Conservatories of Art.
3	“ “ Music.
15	Ladies' Colleges.

The above list does not include a large number of establishments conducted by the clergy, benevolent societies, or private teachers.

Commission from MEXICO to the International Exhibition :

Commissioners.

MANUEL M. DE ZAMACONA.
 MARIANO BARCENA.
 ELENTERIO AVILA.
 MANUEL CORELLA, Attache.
 AURTRO YBANEZ, Engineer.

EDITH BORZELL, Engineer.
 LLUTARCO ORNELAS, Acting Sect'y.
 FERNANDO CAMACHO, Employe.
 J. LEON CALDERON, Employe.

LIBERIA.

THE Republic of Liberia is situated on the West Coast of Africa, between the fourth and eighth degrees of north latitude, and extends along five hundred and twenty miles of the coast, from the English colony of Sierra Leone to the mouth of the San Pedro River. Its most interior settlement is some thirty miles from the sea-board. The land has been purchased in an open and honorable manner from the aboriginal owners, and there is no obstacle to the acquisition of additional territory inland until the heart of the great continent is reached.

Immediately on the sea-shore the land is generally low, but very soon becomes elevated, rising in gentle undulations or swells. The whole country is well wooded and watered. Timber suitable for building purposes, cabinet-work, and shipbuilding is abundant, as is also good water.

All tropical productions are readily raised in Liberia, many of them the entire year, and dug from the earth every month for use. The Lima bean, tomato, and egg-plant are indigenous and of several varieties, and yield abundantly. Fruits grow in a wild state and under cultivation. Oranges are especially fine. Nowhere is a better quality of sugar-cane produced. Liberia coffee is the richest known, always commanding the highest market price. Cotton, ginger, ground-nuts, arrow-root, pepper, and indigo are mainly raised by the American settlers. Palm-oil, made by the natives, ivory, camwood, gums, and hides are valuable articles of commerce exported from Liberia. Horses are little used on the coast, but are plentiful in the interior. Cows, goats, hogs, ducks, turkeys, and fowls are abundant. The rivers abound in shell and other fish.

The climate is uniformly sultry and moist, but the heat is not excessive; the thermometer in the wet season stands at about 71° , and in the dry at about 82° .

A very great impulse is perceptible in Liberian industry during the last thirteen years. The greatest success has, however, resulted from a natural capacity for agriculture, which is growing rapidly and promises at an early day to make the whole territory a vast coffee grove. A very superior quality of iron ore is found in all parts of the country and worked by the natives, and will be of great use in manufacture and trade. Three years ago a volcanic eruption disclosed many valuable minerals.

The American Colonization Society, to which Liberia owes its origin, was founded in Washington, D. C., December 21st, 1816. It has given passage more or less every year for the last fifty-five years to 15,098 persons of color, and it induced the government of the United States to settle in Liberia 5722 recaptured Africans, making a grand total of 20,820 persons to whom the society has given homes in that republic. Monrovia, at the mouth of the river Mesurado, is the capital, and has about 7000 inhabitants.

Some 600,000 natives residing on the territory of Liberia live mostly in their own towns, subject to their own headmen and their own laws, yet amenable to Liberian authority and having all the protection and privileges of citizens. Not a few have become such and creditably fill various public offices, while all are gradually acquiring the arts, comforts, and conveniences of civilized life.

The last tabular statement issued shows the previous year's imports of Liberia to have reached \$209,423.88, and the exports \$171,351.47. Since then Edward S.

Morris & Co., of Philadelphia, Pa., have introduced improved and patented coffee-hulling machinery and a steamer, the first on the St. Paul's River, thus greatly stimulating not only the production and transportation of coffee, but other valuable articles, for export. They have also there begun the manufacture of palm-oil soap and indigo. The commercial statistics of Liberia would therefore, if presented now, appear far more advantageously.

There are two Liberia newspapers, the "Liberia Advocate" and the "Interior." The former aims to discuss principles and point facts that will be useful to the country in every particular; the other is especially devoted to assisting intercourse and amity with the strange interior tribes, most of whom can read, while all are anxious for an English education. By a law of Liberia all parents are required to send their children to school. In some of the settlements the schools are good. A college, the materials and erection of which cost \$20,000, is in operation at Monrovia. All the professors are colored men.

The State has good patent laws, hospitals, and saw-mills and lighthouses. All religious denominations are allowed, and there are several in each of the settlements. Quite a number of vessels have been built in the country and are owned, manned, and managed wholly by Liberians. Some of these have appeared in American and European ports loaded with Liberian and other African products.

The Constitution of Liberia very closely resembles that of the United States, and was adopted in convention on the 26th of July, 1847. The powers of government are vested in three departments, legislative, executive, and judicial. The legislative authority consists of a House of Representatives and a Senate, each of which has a negative on the other. The election of representatives is for two years. Two members from each county constitute the Senate, and are elected for four years. The executive power is vested in a President, chosen every two years. He is commander-in-chief of the army and navy, and makes treaties, two-thirds of the Senate concurring. With the advice and control of the Senate he appoints all public officers for whose appointment special provision is not made by law. There is also a Vice-president elected in the same manner, who is president of the Senate. The judicial power is placed in a Supreme Court and such subordinate courts as the legislature may from time to time establish.

Among the miscellaneous provisions of this Constitution is the following: "Section 13. The great object of founding these colonies being to provide a home for the despised and oppressed children of Africa, and to regenerate and enlighten that benighted continent, none but persons of color shall be admitted to citizenship in this republic."

Liberia has an earnest hope that this exhibition of her products will attract the attention of colored Americans and draw the large immigration needed. The country needs this more than anything else, and with it could be powerful and rich in ten years.

SPAIN.

SPAIN occupies the larger portion of the great peninsula which forms the southwest corner of the European continent, reaching farther south than any other European country, and farther west than any except Portugal. It is bounded on the north by the Bay of Biscay and by France, from which it is separated by the mountain ridge of the Pyrenees, on the east and south by the Mediterranean and Atlantic, and on the west by the Atlantic and Portugal. Greatest length, from Fuenterrabia on the north to Tarifa on the south, 560 miles; greatest breadth, from Cape Finisterre (Land's End), the extreme point on the west, to Cape Creuze, the extreme point on the east, about 650 miles; average breadth about 380 miles. Area, including the Balearic and Canary Isles, 196,031 English square miles; population (1870), 16,835,506. The country, including the Balearic and Canary Isles, was divided, in 1834, into 49 modern provinces, though the former division, into 14 kingdoms, states, or provinces, is still sometimes used.

The entire perimeter of the country is 2080 English miles, and the coast line, exclusive of windings, is 1317 miles long, of which 712 miles are formed by the Mediterranean, and 605 miles by the Atlantic. The north coast, from Fuenterrabia west to Cape Ortegal, is unbroken by any considerable indentation. A wall of rocks, varying in height from 30 to 300 feet, runs along this shore; but the water, which retains considerable depth close to the beach, is not interrupted to any unusual extent by islands or rocks. The northwest coast, from Cape Ortegal south to the mouth of the river Minho—which separates the Spanish province of Galicia from Portugal—though rock-bound, is less elevated, and is much more broken than the shores washed by the Bay of Biscay; and the indentations, the chief of which are Noya Arosa and Vigo Bays, form secure and spacious harbors. From the mouth of the Guadiana, on the south, to the Strait of Gibraltar, the coast line, though well defined, is low, sandy, and occasionally swampy. From Gibraltar to Cape Palos the shores, which are backed in part by the mountain range of the Sierra Nevada, are rocky and high (though flats occur at intervals), are unbroken by indentations, and comprise only two harbors, those of Cartagena and Malaga. A low, and for the most part sandy, coast extends north from Cape Palos, rising into rocky cliffs and bluffs in the vicinity of Denia, but extending in sandy flats from Denia to the mouth of the Ebro. From the mouth of this river north to the frontier of France the coast is alternately high and low, and its principal harbors are Barcelona and Rosas. The compactness and the isolation of this country, and its position between two seas, the most famous and commercially the most important in the world, are not more in its favor than the character of its surface, which is more diversified than that of any other country in Europe of equal extent. An immense plateau, the loftiest in the continent, occupies the central regions of Spain, and is bounded on the north and west by mountainous tracts, and on the northeast by the valley of the Ebro; on the east by tracts of land frequently low, but in some parts traversed by hill ranges; on the south by the valley of the Guadalquivir, which intervenes between it and the Sierra Nevada. This great plateau rises to the height of from 2000 to 3000 feet, and occupies upward of 90,000 square miles, or about half of the entire area of the country. The whole of the Pyrenean peninsula is divided by Spanish geographers into seven mountain ranges, of which the chief are: 1. The Cantabrian mountains and the Pyrenees, forming the most northern range; 2. The

Sierra de Guadarrama, separating Leon and Old Castile from Estremadura and New Castile, and rising in the peak of Penalara 7764 feet above sea level; 3. The Montes de Toledo, forming a part of the water-shed between the Tagus and the Guadiana; 4. The Sierra Morena, between the upper waters of the Guadiana and Guadalquivir; 5. The Sierra Nevada, running parallel with the shores of the Mediterranean, through Southern Murcia and Andalucia, and rising in its chief summits to loftier elevations than are found in any mountain system of Europe except that of the Alps. The several mountain ridges, or as they are called Cordilleras, of Spain, have a general east and west direction, and between them run, in the same direction, the nearly parallel valleys or basins of the great rivers of the country, the Douro, Tagus, Guadiana, and Guadalquivir, each of which is described in its proper place.

The climate of Spain, owing to extent and configuration of the country, is exceedingly various. In the northwest (maritime) provinces it is damp and rainy during the greater part of the year; at Madrid, which is situated about 11° south of London, and only 5° north of the shores of Africa, winters have occurred of such severity that sentinels while on duty have been frozen to death, while the south and east provinces are warm in winter, and are exposed to burning winds from the south, and to an almost tropical heat, in summer. Both ancient and modern geographers have adopted difference of climate as the rule for dividing the peninsula into tracts distinct as well in soil and vegetation as in temperature. Of these tracts or zones the first and most northern may be considered as embracing Galicia, Asturias, the Basque Provinces, Navarre, Catalonia, and the northern districts of Old Castile and Aragon. In this tract the winters are long and the springs and autumns rainy, while north and northeast winds blow cold from the snow-covered Pyrenees. The middle zone is formed mainly by the great central plateau, and embraces Northern Valencia, New Castile, Leon, and Estremadura, with the south parts of Old Castile and Aragon. The climate of the great part of this region is pleasant only in spring and autumn. The soil is generally fertile, and corn and wine are most abundantly produced. The southern or Bætican zone, comprising the rich country that extends between the southern wall of the central plateau and the Mediterranean shores, includes Andalucia, Murcia, and Southern Valencia. The stony rampart on the north protects it from the chilly winds of the central zone; but it is unprotected against the hot winds which in summer blow north from Africa and render this season intolerable to northern Europeans. Here the winter is temperate, and the spring and autumn delightful beyond description. The soil, which is artificially irrigated, is well adapted to agriculture and the cultivation of heat-loving fruits. The products comprise sugar, cotton, and rice, and the orange, lemon, and date.

The vast mountains of the country, affording, for the most part, only scanty crops of herbage, are utilized as pasture-grounds and are divided into large farms. But in the warm and fertile plains, especially where water is abundant, the farms are small. In 1860 there were 3,426,083 farms of all sizes, of which 750,000 were occupied by tenants, and the others by proprietors.

The cotton manufactures of Spain have been making considerable progress, and silk stuffs are largely fabricated. The principal cotton factories are at Barcelona. Excellent paper is made at Tolosa and Valladolid, and in the last-named town there are a few minor manufactures. The manufactures of tobacco, arms, and gunpowder are carried on by the government exclusively. Though neither the agricultural nor mineral resources of Spain are properly developed, a great advance has been evident within the last ten years, chiefly in mining, and more especially so in the working of lead and copper mines. Lead, copper, and tin are abundant, and there are large deposits of good coal and iron ore. The quicksilver mines of Almaden have been long celebrated and are still worked.

The merchant navy consisted in 1873 of 3069 vessels, of a total burden of 678,886 tons. Of these 202 were steam-vessels, 138,670 tons burden. The imports during

the year 1874 amounted to 382,000,000 pesetas,* the exports to 403,000,000 pesetas. The principal imports are sugar, yarn, woolen fabrics, raw cotton, iron, machinery, coals, and dried fish; the principal exports are wine, metals, dried fruit, flour, bullion, green fruits, olive-oil, minerals, wool, grain, vegetation, and seeds, cork, and salt.

At the end of 1875 Spain had no constitution, but it was resolved by the government of King Alfonso XII. that a charter should be drawn up by a Cortes Constituyentes, to be called together in the spring of 1876. As a preliminary measure a committee of senators and deputies of the last Cortes, dissolved in 1874, had been called together July, 1875, at Madrid, which meeting resulted in the production of a constitutional scheme which was adopted by the government, and from which are to spring the future fundamental laws of Spain. The projected constitution provides that the power to make laws shall reside "in the Cortes with the king," and that the Cortes shall be composed of a Senate and Congress equal in faculties.

The various provinces of Spain, districts and communes, are governed by their own municipal laws, with strongly pronounced local administration. Neither the national executive nor the Cortes have the right to interfere in the established municipal and provincial self-government, except in case the action of the provincial parliaments or municipal councils (ayuntamientos) goes beyond the locally limited sphere to the injury of general and permanent interests.

The public debt, June 1, 1874, was 10,120,285,220 pesetas; the estimated public receipts for the financial year 1874-75, 609,541,141; estimated expenditures for the same year, 605,125,569. The army statistics are as follows:

	ON A PEACE FOOTING.	ON A WAR FOOTING.
Infantry,	56,000	178,000
Cavalry,	10,900	10,900
Artillery,	9,300	11,900
Engineers,	2,200	2,200
Carabineers,	13,000	13,000
Totals,	91,400	216,000

The navy consists of 123 steam-vessels, carrying 755 guns and aggregating 21,161 horse-power. Besides these, there are 3 school-ships, carrying 54 guns, and 2 sailing-vessels. The Spanish fleet is manned by 14,000 seamen and 5500 marines.

The length of railways in operation January, 1875, was 3810 English miles, and 1264 English miles were in course of construction. The whole of the Spanish railways belong to private companies, but nearly all have obtained guarantees or subventions from the government.

The post-office carried 75,300,000 letters in the year 1874. There were 2365 post-offices on the 1st of January, 1875.

The length of lines of telegraph on the 1st of January, 1875, was 7510 English miles, and the total length of wires 16,950 English miles. In the year 1874 the number of messages was 937,845.

COLONIES.

	AREA IN ENGLISH SQ. MILES.	POPULATION.
AMERICA.		
Cuba,	43,225	1,400,000
Puerto Rico,	3,544	625,000
ASIA.		
Philippine Islands and adjacent archipelago .	66,423	6,034,410
AFRICA.		
Fernando Po, Annobon, etc.,	483	35,000
Total,	113,675	8,094,410

* The peseta = 19.3 cents.

The following figures show the production of sugar and molasses and amount exported from Cuba during the year 1873 :

	PRODUCTION.	EXPORTED.
Sugar,	796,179 tons.	714,960 tons.
Molasses,	242,308 "	189,333 "
Total,	1,038,487 "	904,293 "

About two-thirds of the sugar and about nine-tenths of the molasses are sent to the United States.

The exports from the port of Havana during the year 1873 included 1412 tierces of honey, 19,574 pipes of rum, 46,216 lbs. of wax, 13,387,652 lbs. of tobacco, and 224,765,000 cigars. The number of vessels entered at the port of Havana during 1873 was 2194, with a total tonnage of 921,632.

During the same year Porto Rico exported 2,032,913 quintals of sugar, 6,082,539 gallons of molasses, 270,895 quintals of coffee, 51,766 quintals of tobacco, 2484 quintals of cotton, and 32,782 gallons of rum.

The exports of the Philippine Islands are principally sugar, hemp, tobacco, cigars, and coffee, and amounted in 1873 to 15,216,000 pesos.*

(The above statistics were furnished in part by the Spanish Commission.)

Commission from SPAIN to the International Exhibition :

COLONEL F. LOPEZ FABRA, Royal Commissioner-General.

COLONEL JUAN J. MARIN, Engineer Corps, Royal Spanish Commissioner.

DON JOAQUIN OLIVER, Secretary.

DON ALVARO DE LA GANDARA, Director of the Industrial Department.

COUNT DEL DONADIO, Director of the Department of Fine Arts.

DON JOSE JORDANA Y MORERA, Director of the Agricultural Department.

DON JUAN MORPHY, Consul-General of Spain, Member of the Commission.

DON JULIAN A PRINCIPE, Vice-Consul, Attache.

DON MIGUEL GONZALEZ, Attache.

DON JOSE FONRODONA, Attache.

Chiefs of Bureaus.

DON ENRIQUE BROTONS.

DON ALFREDO ESCOBAR.

DON ENRIQUE BORRELL.

Chiefs of Installation.

DON BERNARDO FORZANO.

DON FRANCISCO FORZANO.

DON FRANCISCO PARODY, Interpreter.

* The peso = 92½ centz.

PORTUGAL.

PORTUGAL, the most westerly kingdom of Europe, is a part of the great Spanish peninsula, and lies in $36^{\circ} 55'$ to $42^{\circ} 8'$ N. lat., and $6^{\circ} 15'$ to $9^{\circ} 30'$ W. long. Its greatest length from north to south is 368 miles, and its average breadth from east to west about 100 miles. It is bounded by the Atlantic on the south and west, and by Spain on the north and east.

Portugal is divided into six provinces, the area of which and population, according to the last census (1868), is given in the subjoined table:

PROVINCES.	AREA IN ENGLISH SQ. MILES.	POPULATION.
Minho,	2,671	988,985
Tras-os-Montes,	4,065	370,144
Beira	8,586	1,288,994
Estremadura,	8,834	837,451
Alemtejo,	10,255	332,237
Algarve,	2,099	177,342
	<hr/> 36,510	<hr/> 3,995,153

The insular appendages of Portugal are, the Azores, 1133.79 sq. miles, pop. (1868) 252,480; Madeira, etc., 330.75 sq. miles, pop. 113,341. The total area of the home possessions of Portugal is, therefore, 37,510.83 sq. miles, and the population 4,360,974.

Portugal must be regarded as essentially a littoral country, forming the Atlantic or western part of the Spanish peninsula, from which it is separated by political rather than physical boundaries. Its mountains and rivers are, with few exceptions, mere western prolongations of those of Spain. The principal mountain ranges lie about halfway inland, leaving almost the whole of its 500 miles of coast-line a flat sandy tract, with few rocky headlands, and hence there are scarcely any harbors or places of safe anchorage, except at the embouchures of the larger rivers. The highest range is the Serra de Estrella, which, passing from north-north-east to south-south-west, through Beira and Estremadura, terminates in the steep acclivities of Cintra and Cap la Rocca, near Lisbon. The principal chain, which is also known as the Serra da Junto, merges in a series of ridges, which cover a tract thirty miles in length between the Tagus and the sea. Another mountain range, named the Serra de Calderao and the Serra de Monchique, but constituting a mere continuation of the Spanish Sierra Morena, crosses the southern part of Portugal from east to west, and terminates in its most southern promontory of Cape St. Vincent. These ranges, with the numerous mountain-spurs that intersect the northern districts in every direction, so thoroughly occupy the area of Portugal that there are only two or three plains of any extent in the whole country, and these are situated to the west of the Guadiana, in Alemtejo, and in Beira and Estremadura, near the Tagus and Vouga. The valleys are very numerous, and by their great fruitfulness present a striking contrast to the barren and rugged mountains by which they are enclosed. The principal rivers enter Portugal from Spain. Of these, the largest are the Guadiana, which, leaving Spain near Badajoz, forms in part the boundary between the southern provinces of the neighboring kingdom, while the Minho and Douro, flowing west, form a part of the boundary in the north and north-east. The Tagus, or Tejo, intersects Portugal from its northern frontier to the southern termination of the Estrella Mountains, where it enters the sea a little below Lisbon. The Mondego, the largest river belonging entirely to Portugal, after receiving numerous affluents in its course, falls into the sea about midway between the Douro and the Tagus. The larger rivers, although obstructed at their mouth with dangerous bars, afford admirable means of internal navigation, together with the numerous lesser streams, and might through

canals be connected into one great system of water routes; but hitherto nothing has been done to improve these great natural advantages. Except a few mountain tarns, Portugal has no lakes. It has salt marshes on the coast near Setubal, in Estremadura, and Aveiro, in Beira, whence large quantities of salt are annually obtained by evaporation. Mineral springs are abundant in many parts of the country, but hitherto they have been almost wholly neglected.

The vicinity to the western ocean tempers the climate of Portugal and exempts it from the dry heat by which Spain is visited. The great inequalities of the surface produce, however, great diversities of climate; for while snow falls abundantly on the mountains in the northern provinces, it is never seen in the lowlands of the southern districts, where spring begins with the new year and harvest is over by mid-summer. Rain falls abundantly, especially on the coast, from October to March, and as a general rule the climate is healthy in the elevated districts even of the southern provinces; but malaria and fever prevail in low, flat lands and near the salt marshes. The mean annual temperature at Lisbon is 61° Fahr.

The natural products correspond to the diversity of the physical and climatic conditions; for while barley, oats and wheat, maize, flax, and hemp are grown in the more elevated tracts, rice is cultivated in the lowlands, the oak thrives in the northern, the chestnut in the central, and the cork, date, and American aloe in the southern parts, while every species of European and various kinds of semi-tropical fruits and vegetables are grown in different parts of the country. The soil is generally rich, but agriculture is everywhere neglected, and is scarcely made subservient to the wants of the population. The cultivation of the vine and that of the olive are almost the sole branches of industry; from the former is derived the rich red wine familiarly known to us as Port, from its being shipped at *O Porto*, "the port." The mineral products include gold, antimony, lead, copper, marble, slate, coal, iron, and salt, but of these the last is alone worked in sufficient quantity for exportation, and is in eager demand for the British market on account of its superior hardness, which adapts it specially for the salting of meat for ships. The commercial industry of the country falls very far below its physical capabilities, and Oporto and Lisbon are the only centres of manufacture and trade, the former of which has important silk and glove manufactories, and produces an inconsiderable quantity of linen, cotton, and wool fabrics, metal and earthenware goods, tobacco, cigars, leather, etc.

The external trade of Portugal is as follows: Imports 34,047,000 milreis, exports 23,609,000 milreis. (The milreis equals \$1.08 in gold.)

The commercial navy of Portugal consisted on the 1st of January, 1872, of 813 vessels, of a total burden of 88,510 tons.

The fundamental law of the kingdom is the "Carta Constitucional," granted by King Pedro IV. April 29th, 1826, and altered by an additional act, dated July 5th, 1852. The crown is hereditary in the female as well as male line, but with preference of male in case of equal birthright. The constitution recognizes four powers in the state, the legislative, the executive, the judicial, and the "moderating" authority, the last of which is vested in the sovereign. There are two legislative chambers, the "Camera dos Pares," or House of Peers, and the "Camera dos Deputados," or House of Commons, which are conjunctively called the Cortes Geraes. The peers, unlimited in numbers, but actually comprising 133, are named for life by the sovereign, by whom also the president and vice-president of the first chamber are nominated. The members of the second chamber are chosen in direct election by all citizens having a clear annual income of 133 milreis. The deputies must have an income of at least 390 milreis, but lawyers, professors, physicians, or the graduates of any of the learned professions need no property qualification. Continental Portugal is divided into ninety-four electoral districts, returning as many deputies. The General Cortes meet and separate at specified periods, without the intervention of the sovereign, and the latter has no veto on a law passed twice by both Houses. All laws

relating to the army or general taxation must originate in the Chamber of Deputies. The executive authority vests, under the sovereign, in a responsible ministry.

The budget of the financial year 1875-76 gives the estimated revenue at 23,152,000 milreís, and the expenditure at 24,129,000 milreís.

About one-half of the total liabilities of Portugal rank as an external debt, contracted for mainly in Great Britain, the rest being a home debt. The entire public debt amounted November 30, 1873, to £72,833,000. The army, in time of peace, numbers 31,826 men.

The navy of Portugal comprised, at the end of 1875, 21 steamers and 11 sailing-vessels, most of the latter laid up in harbor. The steamers comprise 9 corvettes, 8 sloops, and 7 gunboats, with a total of 170 guns and 4906 horse-power. The navy is officered by 1 vice-admiral, 5 rear-admirals, and 31 captains, and manned by 3493 sailors and marines.

The total length of railways in Portugal at the commencement of 1875 was 523 English miles. All the railways receive subventions from the state.

The number of post-offices in the kingdom at the beginning of 1872 was 599, and the number of telegraph offices 121. There were at the same time 1944 miles of telegraph lines. The number of telegrams despatched in the year 1871 was 698,700, nearly one-fifth for foreign countries. An international service by submarine cables was opened June 11, 1870.

Public education is entirely free from the supervision and control of the Church. By a law enacted in 1844 it is compulsory on parents to send their children to a place of public instruction, but this prescription is far from being enforced.

There are at present—

Scientific establishments for higher education,	9
For secondary education,	19
Elementary schools,	2445
For especial instruction,	6
	2479

The sum voted in 1875 for public instruction amounted to 902,730 milreís. The sum expended by private persons is estimated at about 300,000 more.

Colonies.

The colonial possessions of Portugal, situated in Asia and Africa, embrace a total area of 713,225 English square miles, or 34,820 geographical square miles. The latest official returns, based mainly on estimates, state the area and population as follows:

	AREA IN GEOG. SQ. MILES.	POPULATION.
I. POSSESSIONS IN ASIA :		
Settlements at Goa, Salcete, etc.,	68.60	474,233
" Damas and Diu,	7.45	53,284
Indian Archipelago,	260.	850,300
Macao, . . . . .	.56	100,000
Total Asia,	336.61	1,477,817
2. POSSESSIONS IN AFRICA :		
Cape Verde Islands,	77.64	67,347
Settlements in Senegambia and Guinea,	1,687.	8,500
Islands of St. Thomas and Principe,	21.36	19,295
Angola, Benguela, and Mossamedas,	14,700	2,000,000
Mozambique and Sofala,	18,000	300,000
Total Africa,	34,486	2,395,142
Total Possessions,	34,822	3,872,959

Although of small extent, the Cape Verde Islands are estimated as the most important colonial possession of Portugal, politically and commercially. There are nine principal or inhabited islands that form the archipelago of the Cape de Verdes. Five of these islands—viz., St. Nicholas, Bona Vista, San Antonio, St. Vincent, and Sal—compose the Windward, and the four remaining islands—St. Jago, Fogo, Brava, and Maio—the Leeward, group. The island of St. Vincent, 70 English square miles in extent, but with not more than 1700 inhabitants, is possessed of a deep and excellent harbor, affording a secure anchorage at all seasons for vessels of the largest size. In the year 1871 there entered St. Vincent harbor 317 vessels of all nations. These islands, being in the direct route of European steamers bound to the coast of Brazil, the river Plate, and the west coast of South America, are of great value as affording a convenient resting-place for coaling and renewing provisions and water.

By the terms of a law passed by the Cortes Geraes of Portugal in 1858, domestic slavery is to cease in all the Portuguese colonies and settlements on the 29th of April, 1878.

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Commission from PORTUGAL to the International Exhibition :

The preliminary works of the International Exhibition of Philadelphia were committed by the Portuguese Government to different corporations, these being helped by the authorities of the country.

EXECUTIVE COMMITTEES IN PORTUGAL.

DEPARTMENT I.

Bureau of Mines. JOAO BAPTISTA SCHIAPPA D'AZEVEDO, Chief.

Mining Engineers.—

JOAO FERREIRA BRAGA.

LOURENCO MALHEIRO.

FRANCISCO FERREIRA ROQUETTE.

PEDRO VICTOR DA COSTA SEQUEIRA.

DEPARTMENTS II., III., IV., AND V.

Committee of the Society for the Encouragement of Manufacturing Industry.

ANTONIO AUGUSTO D'AGUIAR, Director of the Industrial Institute of Lisbon,
President.

DANIEL CORDEIRO FEIO.

JOAQUIM MOREIRA MARQUES.

MANUEL DE CARVALHO RIBEIRO VIANNA.

IZIDORO THOMAZ DE MOURA CARVALHO.

MANUEL GOMES DA SILVA.

JOSE CAETANO D'ALMEIDA NAVARRO.

ANTONIO ADRIANO DA COSTA.

FIRMINO SEIXAS.

FRANCISCO JOSE LOPES FERREIRA.

MATHEUS FERREIRA.

ANTONIO DOS SANTOS MIGUEIS.

JULIO JOSE PIRES.

HENRIQUE PEREIRA TAVEIRA.

AT OPORTO.

GUSTAVO ADOLPHO GONCALVES E SOUZA, Director of the Industrial Institute
of Oporto.

DEPARTMENTS VI. AND VII.

Committee of the Royal Central Society of Portuguese Agriculture.

VISCOUNT OF CARNIDE, President.

MANUEL JOSE RIBEIRO.

CAETANO DA SILVA LUZ.

JAYME BATALHA REIS.

ALFREDO DE QUEIROZ GUEDES, Treasurer.
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 Committee of the Agricultural Society of Oporto.
 BENTO DE FREITAS SOARES, President.
 BARON OF ROEDA.
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 CONSTANTINO VANZELLER.
 ARNALDO AMANDIO PEREIRA DE FARIA.
 ALFREDO CARLOS LE COCQ.
 JOAQUIM TAIBNER DE MORAES, Secretary.

COMMISSION IN PHILADELPHIA.

BARON OF SANT' ANNA, Royal General Commissioner.

DEPARTMENTS I., II., III., IV., AND V.

LOURENCO MALHEIRO, Commissioner.
 ANTONIO JOSE ANTUNES NAVARRO.
 FORGE CANDIDO BERKELEY COTTER.
 THOMAZ VICTOR DA COSTA SEQUEIRA.

DEPARTMENTS VI. AND VII.

JAYME BATALHA REIS, Commissioner.
 ALFREDO CARLOS LE COCQ.
 MEM RODRIGUES DE VASCONCELLOS.
 CAETANO OLYMPIO ROVERE.

TURKEY.

TURKEY, or the Ottoman Empire, includes large portions of the continents of Europe, Asia, and Africa, and consists of Turkey Proper, which is under the direct rule of the sultan, and of numerous dependent and tributary states, governed by their own princes. Turkey Proper is partly in Europe and partly in Asia, and is divided into a number of provinces, or *eyalets*.

The total area of the empire comprises 1,812,048 square miles, divided as follows:

	AREA.	POPULATION.
Turkey in Europe,	207,438	9,800,000
" " Asia,	660,870	16,750,000
" " Africa,	943,740	600,000
	1,812,048	27,150,000

The states dependent upon Turkey are either subject to hereditary chiefs—as in Egypt, Servia, and Montenegro—to elective rulers, or to viceroys appointed by the Sultan; and these chiefs, of whatever sort, must, on their accession, be approved of by the sultan, must acknowledge his suzerainty, and pay tribute; in all other respects they are on the footing of independent rulers.

Turkey Proper, as the immediate possessions of the sultan are called, is bounded by the Austrian dominions, Roumania, and the Black Sea on the north; by Persia, the Persian Gulf, and the Arabian Desert on the east; and by the Red Sea and its outlet, Egypt, the Mediterranean, Greece, the Adriatic Sea, and the Austrian empire on the south and west.

Turkey in Europe, the smaller of the two divisions of Turkey Proper, is generally hilly and undulating, traversed by a mountain system which has its origin in the Alps, whose eastern extension, the Julian Alps, enters the country at its north-west corner, runs in a south-west direction as the Dinaric Alps, keeping parallel to the coast-line, and after entering Albania, where it becomes Mount Pindus, assumes an almost southern direction till it reaches the Greek frontier. This range, which forms the water-shed between the Adriatic and Aegean Seas, has its culminating point in Mount Dinara (7458 feet), and sends out numerous offshoots over Montenegro and Albania.

The great river of Turkey is the Danube, which, with its tributary, the Save, forms the northern boundary, and receives in Turkey the Bosna and Drin from Bosnia, the Morava from Servia, and the Isker and Osma from Bulgaria. The Maritza, whose basin is formed by the Great Balkan and its two south-eastern branches, and the Strumo and Vardar, in Macedonia, are also considerable rivers, but those which are situated to the west of the Dinaric-Pindus range are, from the proximity of that water-shed to the sea-coast, insignificant in size; chief of them are the Narenta, Drin, and Voyutza. The Primitive rocks predominate in Macedonia, the Secondary group in the western provinces and to the north of the Balkan, and Tertiary deposits in the basins of the Save and Maritza, and in Suli.

On the high lands the cold is excessive in winter, owing to the north-east winds, which blow from the bleak and icy steppes of Southern Russia; and the heat

of summer is almost insupportable in the western valleys. Violent climatic change is, on the whole, the rule in European Turkey; but those districts which are sheltered from the cold winds, as the Albanian valleys, enjoy a comparatively equable temperature. Although the soil is for the most part very fertile, but little progress has been made in the art of agriculture, and the most primitive implements are in common use. The cultivated products are maize in the south; rice, cotton, rye, barley in the centre, and millet in the north; the natural products are the pine, beech, oak, lime, and ash, with the apple, pear, cherry, and apricot in the Danube basin; the palm, maple, almond, sycamore, walnut, chestnut, carob, box, myrtle, laurel, etc., in the provinces south of the Balkan; large forests of fir and pine in the north-west; the olive, orange, citron, vine, peach, plum, and other fruit trees in Albania; and abundance of roses in the valley of the Maritza. The mineral products are, iron in abundance, argentiferous lead ore, copper, sulphur, salt, alum, and a little gold, but no coal. The wild animals are the wild boar, bear, wolf, wild dog, civet, chamois, wild ox, and those others which are generally distributed in Europe. The lion was formerly an inhabitant of the Thessalian Mountains.

TURKEY IN ASIA.—This portion of the Turkish Empire is more hilly than the other; the two almost parallel ranges Taurus and Anti-Taurus, which are the basis of its mountain system, cover almost the whole of the peninsula of Asia Minor or Anatolia, with their ramifications and offshoots, forming the surface into elevated plateaux, deep valleys, and enclosed plains. From the Taurus chain the Lebanon range proceeds southward parallel to the coast of Syria, and diminishing in elevation in Palestine terminates on the Red Sea coast at Sinai. Besides the Euphrates, Tigris, and Orontes, the only important rivers of Turkey in Asia are the Kizil-Ermak, which rises on the borders of Cilicia, and after a devious course across the peninsula falls into the Black Sea near Samsoun; the Mæander and Sarabat, which flow to the Ægean; and the Sakaria, which empties itself into the Euxine. On the whole, Turkey in Asia is ill-supplied with water; and though the mountain slopes afford abundance of excellent pasture, the plains and many of the valleys, especially those of the Euphrates, Tigris, and Jordan, are reduced by the parching droughts of summer to the condition of sandy deserts.

The fertile portions produce abundance of wheat, barley, rice, maize, tobacco, hemp, flax, and cotton; the cedar, cypress, and evergreen oak flourish on the mountain slopes; the sycamore and mulberry on the lower hills; and the olive, fig, citron, orange, pomegranate, and vine on the low lands. The mineral products are iron, copper, lead, alum, silver, rock salt, coal (in Syria), and limestone. The fauna includes the lion (east of the Euphrates), the hyena, lynx, panther, leopard, buffalo, wild boar, wild ass, bear, wolf, jackal, jerboa, and many others; and the camel and dromedary increase the ordinary list of domestic animals.

Notwithstanding the primitive state of agriculture in Turkey, the extreme fertility of the soil, which returns from twenty-five fold to one hundred fold, makes ample amends for this defect, and supplies materials for the comparatively unimportant manufactures and industries of the country. The products are wax, raisins, dried figs, olive oil, silks, red cloth, dressed goat-skins, excellent morocco, saddlery, swords of superior quality, shawls, carpets, dye-stuffs, embroidery, essential oils, attar of roses, plum brandy, etc. The commerce of Turkey is extensive and important, and under the influence of judicious regulations is rapidly increasing. Detailed statistics are not obtainable. The average annual value of the imports of Turkey in Europe is estimated at £18,500,000; and of the exports at £10,000,000. The exports are the surplus of the above-mentioned natural and manufactured products of the country, also wool, goats' hair, meerschaum clay, honey, sponges, drugs, madder, gall-nuts, various gums and resins, and excellent wines; the imports are manufactured goods of all kinds, glass, pottery, arms, paper, cutlery, steel, amber, etc.

The merchant navy included, in 1873, 224 sailing-vessels of a total burden of

34,711 tons, and 9 steamers, aggregating 3049 tons. The total tonnage of the merchant navy is estimated at 180,000.

The sovereign is commonly styled sultan, but has also the titles padishah, grand seignior, khan, and hunkiar; though nominally absolute, his power is much limited by the *sheikh-ul-islam*, the chief of the *Ulemas*, who has the power of objecting to any of the sultan's decrees, and frequently possesses more authority over the people than his sovereign. The supreme head of the administration, and the next in rank to the sultan, is the grand vizier (*sadri-azam*), under whom are the members of the cabinet or divan (*menasybi-divaniie*), namely, the presidents of the supreme council of state (*alkiami-adlie*) and of the Tanzimat, the *Seraskier*, the *capudan pasha*, or high-admiral, and the other heads of departments of the administration. The governors of the *eyalets*, or provinces, are styled *walis*; each eyalet is divided into *sanjaks* or *livas*, ruled by *kaimakams*, each liva containing a number of *cazas*, or districts, and each *caza* a number of *nahiyehs*, composed of villages and hamlets.

According to the budget for 1875-76 (the year 1291, according to the Turkish calendar), the estimated public revenue was 4,776,588 purses* of 500 piastres each; the expenditure, 5,785,819 purses. The foreign debt of Turkey amounted in 1875 to £184,981,783; the internal and floating debt has been estimated variously at from £13,000,000 to £30,000,000.

The military forces of Turkey were officially estimated as follows in 1875: on a peace footing, 157,667 men; on a war footing, 586,100.

The navy consisted at the end of 1875 of 20 iron-clad ships and 70 other steamers. In addition to these there were 4 steam transports and a number of old sailing-vessels not fit for service. The total length of railways open for traffic on January 1st, 1875, was 825 English miles, of which 654 were in Europe and 171 in Asiatic Turkey. The length of telegraph lines on the 1st of January, 1875, was 17,597 miles. The total number of despatches carried in the year 1874 was 910,130, of which number 102,987 were international messages.

Education was long neglected, but in 1847 a new system was introduced; and since then schools for elementary instruction have been established throughout Turkey, and middle schools for higher education and colleges for the teaching of medicine, agriculture, naval and military science, etc. In 1870, Constantinople had 415 public schools, which were attended by 24,000 pupils.

Commission from TURKEY to the International Exhibition :

HIS EXCELLENCY G. D'ARISTARCHI BEY, Minister Plenipotentiary, President.

BALTAZZI EFFENDI, First Secretary of Legation.

RUSTEM EFFENDI, Second Secretary of Legation.

COUNT DELLA SALA, Acting Consul of Turkey.

MR. EDWARD SHERER.

MR. AUGUSTE GIESE, Honorary Member.

* One purse of 300 piastres = \$25, gold.

RUSSIA.

THE empire of Russia, extending over a large proportion of the northern regions of the globe, includes the eastern part of Europe, the whole of Northern Asia, and a part of Central Asia. Lat. $38^{\circ} 30'$ to 78° N.; long. $17^{\circ} 19'$ E. to 190° E. (170° W.). Russia is bounded on the N. by the Arctic Ocean; on the E. by the Pacific Ocean; on the S. by the Chinese Empire, Turkestan, Caspian Sea, Persia, Asiatic and European Turkey, and the Black Sea; on the W. by Austria, Prussia, the Baltic, and Sweden.

The following table, showing the area and population of the Russian empire, is from the *Almanach de Gotha* for 1876:

	AREA IN SQUARE KILOMETRES.	POPULATION.
Russia,	4,909,194	65,704,559 (1870)
Poland,	127,316	6,026,421 (1870)
Grand Duchy of Finland,	373,536	1,832,138 (1872)
Lieutenancy of Caucasus,	447,645	4,893,332 (1871)
Siberia,	12,500,083	3,428,867 (1870)
Central Asia,	3,307,953	5,800,628
Total,	21,665,727	87,685,945

The northern shores of the Russian territories, which are washed by the Arctic Ocean, are deeply indented. The White Sea, an immense arm of the Arctic Ocean, penetrates 350 miles into the mainland, and is subdivided into the gulfs of Onega and Archangel or Dwina. The other chief inlets on the north of Russia are the Kara Sea and the gulfs of Obi and Yenisei. Westward from Nova Zembla the Arctic Ocean is navigable for three months of the year; east from that island the sea, even at the mildest season, is encumbered with floating icebergs. The chief islands in this ocean are the Kolguef, Waigatz, Nova Zembla, and Spitzbergen isles. The eastern shores of Russia are washed by the Pacific, subdivided into the Behring, Okhotsk, and Japan Seas, and the islands belonging to this country in these seas are Sakhalin and the northern part of the Kuriles. On the south are the Black Sea and the Sea of Azov, the latter communicating with the former by the Strait of Kertch, and so shallow that it is navigable for small craft only. Of the Caspian Sea, Russia commands the whole, with the exception of the south shore, which belongs to Persia. The northern and eastern banks of the Caspian are the seats of the chief fisheries of the empire. On the north-west of Russia are the Baltic Sea, with the gulfs of Riga, Finland, and Bothnia; and in these waters the islands of Aland, Escl, and Dago belong to the empire. The freezing of the water near the shores of the Baltic renders the navigation of this sea impracticable during five months of the year, although a few ports are accessible throughout the whole year. Possessing means of easy communication with the most fertile governments of the interior, and sustaining chiefly the commerce of the Russian empire with the other parts of Europe and with America, the Baltic is of the highest commercial importance.

European Russia consists of a vast plain bordered with mountains. On the east are the Ural Mountains, forming a broad range of no great elevation, ending on the

north on the shores of the Arctic Ocean, and on the south in a range of elevated plains on the left bank of the Volga. On the south-east of the great plain is the lofty range of the Caucasus, crossed by the Pass of Derbend and the so-called Military Georgian Road. The Crimean Mountains, a continuation of the Caucasian chain, rise to 5000 feet in their highest summit. The districts in the south-west of Russia, between the Vistula and the Pruth, are covered by hilly ranges from the Carpathian Mountains, which in Poland are known as the Sandomir Mountains. The Finland Mountains, on the north-west, are ranges of granite rocks, embracing numerous lakes, and not rising higher than 600 feet. The Alaunsky table-land, which connects itself with the Ural Mountains by a chain of hills in latitude about 62° N., is the key to the configuration of European Russia. From this table-land, with an elevation of about 1200 feet, the country, with gradually declining slopes, falls away in four directions—north to the Arctic, north-west to the Baltic, south to the Black, and south-east to the Caspian Seas. The sloping country on the north of the Alaunsky heights is called, from its eastern and western limits, the Ural-Baltic table-land; that on the south of the same dividing heights is called, for the same reason, the Ural-Carpathian table-land. The Alaunsky heights form the great water-shed, and regulate the course of all the great rivers of the Russian empire. To the north they throw off the Petchora, the Northern Dwina, and the Onega; to the south, the Dniester, Bug, Dnieper, Don, and Kouban; to the south-east, the Volga, with its great affluents the Oka and Kama. The Western Dwina, the Niemen, and the Vistula fall into the Baltic Sea. At the foot of the north-west slope from the central terrace is the lake country of European Russia, and the great lakes are Ladoga, Onega, Ilmen, Peipus, and Pskov. The plain of European Russia naturally divides itself into three tracts or zones, each of which differs from the others in the nature and quality of its soil. The northern zone extends between the Arctic Ocean and the Ural-Baltic table-land, the middle zone between the Ural-Baltic and the Ural-Carpathian table-lands, and the southern zone between the Ural-Carpathian table-land and the Black and Caspian Seas. The soil of the northern zone is marshy and the climate inclement. In its middle part, between the rivers Onega and Mezen, and especially along the banks of the Northern Dwina, forests of fir-wood and large tracts of fodder-grass occur. Toward the east of this tract the woods disappear, and vast marshes, frozen the greater part of the year, cover the country. The middle zone reaches south-west to the government of Volhynia and the South of Poland, and north-east to the Ural Mountains. In the west it consists of an extensive hollow, covered with woods and with marshes, the chief of which are those of Pinsk. In the middle part of this zone the soil is partly heavy and covered with mould, and toward the north sandy. Beyond the Oka luxuriant meadows abound, and on the east, beyond the Volga, this tract forms an extensive valley, covered with a thick layer of mould, abounding in woods, and rising into hills in the vicinity of the Ural range. The southern zone consists of steppes extending along the shores of the Black and Caspian Seas. The steppes of the Black Sea have mostly a mouldy soil covered with grass, but in the south-east shifting sands and salt marshes predominate. The steppes of the Caspian consist of sand, salt marshes, and salt lakes, the Elton lake, yielding nearly 4,000,000 pounds (about 1,290,000 hundred weights) of salt annually, being the most remarkable.

Owing to its vast extent, the Russian empire presents great varieties of climate. At Archangel the mean temperature of the year is 32° Fahr.; at Yalta, in the Crimea, 52° ; and at Kutais, in the Caucasus, 58° . Consisting of an immense area of dry land, the climate of the empire is essentially continental, and the climate of localities in its interior is much more rigorous than that of places on the western shores of Europe in the same latitudes. The rigor of the climate of the empire increases not only with the latitude, but as you advance eastward; thus, the mean winter temperature of the town of Abo, on the Gulf of Bothnia, is the same as that

of Astrakhan, viz., 23° Fahr., although the former is in lat. 61° and the other in lat. 47° , or 14° nearer the equator. The difference of the mean summer temperature under the same latitudes is, on the contrary, not very considerable. The isothermal line of Astrakhan (60° Fahr.) passes through Lublin, in Poland, and Ekaterinoslav. In the east the maximum heat is even greater than in the west, and such heat-loving plants as the watermelon are grown more successfully in the south-east of Russia than in the west of Europe under the same latitude. The dryness of the atmosphere increases in the direction from north-west to south-east. On the banks of the Baltic the average number of rainy and snowy days is 150 and the annual rainfall is 20 inches, while near the Caspian the number of such days is 70 and the rainfall only 4 inches. The climate of Russia is in general healthy, but there are several places where diseases seem to be localized, as the shores of the Frozen Ocean, where scurvy is common, the marshes along the Niemen and Vistula, where the pica polonica is the chief disease, and the marshy lands on the Black, Azof, and Caspian Seas, where ague always prevails.

Russia is an eminently agricultural country, although only a comparatively small portion is under cultivation. In the central zone the soil is almost entirely black mould, extremely fertile, and hardly ever requiring manure. The system of husbandry most extensively practiced is what is called the "three-field system," in the working of which one-third of the land is always in fallow. In the south and south-east a system of agriculture peculiar in Russia is in operation; it is called the "fallow system," and consists in raising three or four consecutive crops from the same land, and afterward allowing it to lie fallow for five or six years, after which time it begins to grow feather-grass (*Stipa pennata*), which is considered a token of returning fertility. A great drawback to the development of agriculture is the want of proper means of communication, and consequently the low price of corn in the locality in which it is grown. Fodder-grass is rarely cultivated, as a sufficient supply of fodder is afforded by the extensive natural meadows. The chief cereals are wheat, which is grown as far north as lat. 62° , rye, barley, and oats. Buckwheat and millet are grown in the south, and from these, but specially from rye, the staple food of the inhabitants is made. Hemp and flax are extensively cultivated, and the oil extracted from the seeds of the former is an indispensable article of the peasant's household, as it is used for food during the fasts, which, taken together, extend over about half the year. Tobacco crops cover about 16,000 acres. Beet-root and maize are also cultivated, and there are numerous vineyards in the Crimea, Bessarabia, and along the Don. Gardening is an important branch of industry, the products being cucumbers, onions, cabbages, and other vegetables and fruits. An area of 486,000,000 acres is covered with woods, but the quantity of timber, from which material the peasant supplies almost all his wants, is at present suffering diminution. Coniferous trees are the chief in the northern districts, but in the central tracts oaks, limes, maples, and ashes are the chief. Timber is the chief article of internal commerce, and is floated down the rivers from the well-wooded districts to those which are destitute of wood.

ANIMALS AND ANIMAL PRODUCTS.—In the northern and central provinces cattle are kept chiefly for the purpose of obtaining manure, but in other parts cattle-breeding is an important branch of industry. On an average there are 30,000,000 head of cattle in Russia. Of horses the best, chiefly trotters, are reared in breeding-stables in the southern central governments, but the great bulk of the horses are obtained from the half-wild studs of the Cossacks, Kalmucks, and Kirghiz. The horses of Viatka, Kazan, and Finland are strong and hardy. The total number of the horses in Russia is about 18,000,000. Sheep-breeding is carried on extensively on the southern steppes. The sheep number 10,000,000, of which upward of 1,000,000 are of the fine merino breed. Besides these animals, there are camels in the south of Russia, reindeer in the north, and hogs and poultry in

great abundance everywhere. A breed of the urus—a huge and rare animal which does not occur in any other country—is preserved in a forest of the government of Grodno. Among the wild animals are (chiefly in the north) the bear, wolf, elk, fox, and marten; on the northern coasts are found the seal and walrus and the eider-duck and other wild-fowl. The more expensive kinds of furs are procured from Siberia.

The most important Russian fisheries are those of the Caspian and Black Seas and the Sea of Azof and their tributaries. The Baltic Sea is not remarkably rich in fish, but the produce of the adjoining lakes is much more considerable. The herrings, cod-fish, and salmon, caught in abundance in the White Sea, constitute the chief resources of the inhabitants of the adjoining districts. Bee-culture is very general in Russia. Silkworms are reared chiefly in the Caucasus.

During the year 1874, according to official returns, the state foundries smelted 1,225,000 Russian pounds* of bronze, 557,000 pounds of iron, and 1000 pounds of steel; 89,000 pounds weight of articles in bronze were cast, and 508,000 pounds weight of ammunition, 9000 pounds weight of steel cannon and 15,000 pounds weight of iron cannon, besides which 15,000 pounds of lead and 6600 pounds of zinc were smelted. There were also made 7800 pounds weight of iron articles, 10,000 pounds sheet-iron, and 7500 roubles† worth of iron for use in shipbuilding, and 46,700 side-arms, 20,000 blades, and 5725 gun-barrels. The amount of metal passing through private factories is given approximately in the same official returns. They state the estimated products of the smelting establishments of the Ural at 13,200,000 pounds of bronze, 1,017,000 pounds of iron, 69,000 pounds of steel, and 100,000 pounds of copper. Those around Moscow are supposed to have produced 3,360,000 pounds of bronze and 1,830,000 pounds of iron. South Russian produce is estimated at 430,000 pounds of bronze and 440,000 pounds of iron; that of the Polish provinces at 1,370,000 pounds of bronze, 800,000 of iron, and 120,000 of zinc. Lastly, 44,000 pounds of copper is estimated as the return from the Caucasus. During 1874 gold to the amount of 1806 pounds was extracted, without reckoning the districts of Altai and Nerchmst, which yield an annual average of 165 pounds. The total amount of coal raised in 1874 was 83,375,000 pounds. The extraction of mineral oils in the Caucasus shows a great increase, and oil-wells have lately been discovered in the government of Kielce, Poland. Small handicraft manufacturing establishments abound in all the central governments, especially in the neighborhood of Moscow, where whole villages during the winter season are employed in some special industry, as weaving, tanning, fur-dressing, joiners' work, shoemaking, etc. The chief manufacture is spinning and weaving flax and hemp. Linen is manufactured to the value of 100,000,000 roubles, chiefly in hand-looms, although the finer qualities are manufactured by power-looms, mostly in the governments of Jaroslav and Kostroma and the capitals. Hemp is manufactured into sailcloth and ropes, which articles are largely exported. Woolen and worsted stuffs are made to the value of 50,000,000 roubles, and the quantity is on the increase. Fine cloths and mixed fabrics are made in the capitals, and in the governments of Livonia and Tchernigov. Silk-spinning and weaving are carried on in the factories of Moscow, which is renowned for its brocades and gold and silver embroideries.

In 1870 there were 158 cotton-spinning mills, producing goods to the value of 53,350,000 roubles, and weaving establishments with an annual product of 13,000,000 roubles. The next most important branch of industry is tanning, the products of which amount to 20,000,000 roubles. Other important branches of industry are cutlery, pottery, and glass-works. The produce of the machine-factories in 1870 did not exceed 15,000,000 roubles; of the sugar-refineries 27,250,000 roubles; of the paper-mills 5,750,000 roubles.

The following table shows the imports and exports during the year 1873:

* The *pud* or *poud* = 36 lbs. avoirdupois.

† One rouble = 77 cents, gold.

	IMPORTS ROUBLES.	EXPORTS. ROUBLES.
Baltic ports,	232,900,000	140,494,000
White Sea ports,	981,000	7,913,000
Southern Sea ports,	61,070,000	89,343,000
Land frontier,	117,524,000	108,108,000
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Total, Europe,	412,475,000	345,858,000
" Asia,	20,958,000	9,757,000
	<hr/>	<hr/>
	433,433,000	355,615,000

By far the largest portion of exports consisted of cereals.

The merchant navy of Russia consisted, at the end of the year 1874, of 2512 sea-going vessels, of an aggregate burden of 521,008 tons. Included in the total were 621 ships engaged in trading to foreign countries, and 1672 coasting-vessels, many of them belonging to Greeks, but sailing under the Russian flag. Not included in the return were 385 river and lake steamers.

The government of Russia is an unlimited monarchy, the head of which is the emperor, who unites in himself every authority and power—that is to say, is the head of the military, the legislative, and the judicial systems, and is also the ecclesiastical chief of the orthodox Greek Church. The order of succession is by primogeniture, hereditary in heirs-male, and in females in default of males. Every military or civil officer of the crown is required to take an oath of allegiance. The council of state is the highest branch of the executive, and comprehends the legislative, judicial, and administrative powers. The president and members—among whom are always included the ministers of the crown—are appointed by the emperor. A secretary of state, whose duty it is to report the opinion of the council to the emperor, is attached to this body. The estimates of expenditure and income, and every proposition introducing an addition to or a modification of the laws, are considered and revised by this council.

European Russia is divided into 50 provinces, over each of which is a governor appointed by the emperor. Some of these provinces, although administered by governors, are united under a governor-general. The governor-generalships are generally the remote frontier regions.

The nominal strength of the various divisions of the Russian army, according to the returns of the ministry of war, was as follows in 1874:

	PEACE FOOTING.	WAR FOOTING.
Regular army,	457,872	808,670
Army of first reserve,	180,740	127,923
Army of second reserve,	207,812	276,664
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Total,	846,424	1,213,257

The navy comprised, in 1875, 223 vessels, of 188,120 tons burden, and carrying 561 guns. This included an iron-clad fleet of 29 vessels, of 9210 horse-power, 74,793 tons burden, and carrying 184 guns.

In the budget for 1875, the revenue is estimated at 559,361,193 roubles, and the expenditure at 556,105,410 roubles.

In 1875 the public debt was stated as 2,409,739,996 roubles, against which there was a credit, consisting of advances made to railway companies, etc., of 634,489,942 roubles.

The total length of railways at the end of the year 1874 was 13,227 English miles. Nearly one-half of the railway property was held by the government.

The post-office, in the year 1874, conveyed 59,529,000 letters, 1,300,000 post-cards, 2,218,000 wrappers, 1,493,000 parcels, and 29,020,000 newspapers. There were 3191 post-offices. The total receipts for the year 1874 did not cover the expenditure.

The length of telegraph lines, Jan. 1st, 1875, was 31,459 English miles, and the length of wires 58,675 miles. About five-sixths of the total belonged to the state. The total number of telegrams in 1874 was 3,512,003.

The following table shows, after official returns, the number of educational establishments in Russia, maintained either wholly or in part by the government, and placed under the Minister of Public Instruction, at the end of the year 1870:

	NUMBER.	PUPILS.
Universities,	8	7,275
Lyceums,	2	262
Veterinary schools,	2	154
Gymnasia and progymnasia, { for males, 153 } { for females, 173 }		58,478
Training schools for teachers,	39	1,274
District schools,	419	27,508
Primary schools,	22,827	831,402
Total,	23,623	926,353

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DMITRI KOBEKO, Privy Councillor; Chief of Cabinet; Ministry of Finance.

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CHARLES SCHOENICH, Engineer, Inspector of the Russian Section.

OTTO KITZING, Special Secretary.

ERNEST PELLETIER, Attaché.

INDEX OF EXHIBITORS.

DEPARTMENTS VI, VII.

A.

- A—, J. C., Cotton, 74.
Aass, P. L., Beer, 62.
Abad, G., Wheat, 88*d*.
Abadia, N., Bros., Wines, 88*f*.
Abarca, G. V., Fig bread, 88*g*.
Abattoir of Lisbon, Manures, 122.
Abbott, C. F., Plants, 152.
Abecassis Brothers, Wine, etc., 115.
Abeles, Heinrich, Wine, 55.
Abell, John, Portable engine, 46.
Abelló & Son, Wine, 88*aa*.
Abello y Boada, P., Nuts, 88*b*.
Aboim Joao, C. de S., Cheese, etc., 100.
Abolana, A. D., Maize, 88*c*.
Abramoff, Tobacco, etc., 124.
Abrancalha, Abrantes, Viscount da, Olives, 91;
Grain, butter, 96.
Abrantes, Viscount da A., Oil, 119.
Abratnoff, P., Linseed, 124.
Abreiro, Joao Vaz de, Wine, 113.
Abreu, Antonio de, Wine, 108.
Abreu, Carlos de Souza Pinto, Wine, 116.
Abreu, Francisco Antoine Maximo, Wine, 108.
Abreu, Francisco José de, Wine, 113.
Abreu, Francisco Rodrigues de, Beans, 97.
Abreu, Honorato J. M., Wine, etc., 116.
Abreu, J. L. C. de, Oil, 118.
Abreu, J. Monteiro d', Cigars, 70.
Abreu, José Martens de, Honey, 101.
Abrigada, Viscount of, Wines, 110.
Abrikosoff's Sons, Preserves, 125.
Abrunhosa, J. C. de, Cheese, etc., 100.
Acacio Manuel Pereira, & Augusto, Flour, 106.
Academy of Natural Sciences, Birds, etc., 18.
Acapulco, Marquis of, Olive oil, 88*ff*.
Acari, Commission for, Resins, 68.
Acciole, Joao da Fonseca, Corn, 93.
Accioli, Joao da Fonseca, Vinegar, 116, 118.
Acclimatization & Agri. Society, Honey, 63.
Acebal y M., Chocolate, 88*dd*.
Acebedo, F., Wine, 88*u*.
Ackerman, C. & B. G., Fibres of tucum, 75.
Ackermann, L., Liqueurs, 54.
Acosta, Maria E. de, Candied quinces, 84.
Acton, M., Egypt, 252.
Acton Plow Co., Plow, 46.
Acuña, Francisco, Barley and corn, 78.
Acuña, P. G., Cow tripes, 82.
Adams, P. F., 185.
Adams, R., New South Wales, 185.
Adelino, Joao Manuel Joaquim, Honey, 101.
Adgate, J. J., Wagon, 135.
Administrado do Conselho, Grain, 95; Wax,
102.
Administration Council, Mangualde, Timber,
90.
Administrative Council, Cantanhede, Seeds,
99.
Administrative Council, Castro Daire, Timber,
89.
Administrative Council, Coimbra, Fruits, 97.
Administrative Council, Guimarães, Grain, 95.
Administrative Council, Lousado, Fruit, 105.
Administrative Council, Montemor o Velho,
Grain, 94; Vinegar, 114.
Administrative Council, Penacova, Timber, 89.
Administrative Council, Vourella, Timber, 89.
Adorno Puma, Cav. Gaet., Wine, 66.
Adriance, Platt, & Co., Reapers, mowers, 28.
Adriano, L. A., Yuro, 132.
Adriatano, Luciano M., Cabo negro, 133.
Adrid, A., Claret, 88*r*.
Affonso, Domingos Arealva, Wines, 106.
Affonso, Joao Hilario, Wine, etc., 108.
Agelét, R., Walnuts, 88*a*.
Ageret, H., Liqueurs, 86.
Agero, J. D., Wool, 88*jj*.
Agnér, L., Matte, 71.
Agnew, Eisenbeis, Vinegars, 22.
Agnew, Hannah M., Banana, 152.
Agnini, Tommaso, F. E., Liqueurs, 66.
Agosti Brothers, Dried prunes, 64.
Agostini, Count Alfredo, Wine, 65.
Agramunt, Corp. of, Cereals, 88*e*; Oil, 88*f*.
Agrarian Committee, Wine, 65.
Agrarian Committee of Chiavari, Cheese, 63.
Agrarian Colony of S. Martino, Grains, 63.
Agricultural Association, Products, 57.
Agricultural Committee of Palermo, Seeds, 63.
Agricultural Institute, Wool, 75.
Agricultural School, Oats, rye, and barley, 61.
Agricultural Union, Brandies, 51.
Agriculture, Classification of, 11.
Agriculture, Practical School of, Beets, 88*l*.
Aguado, J. de D., Vegetables, 88*i*.
Aguero, Patricia, Musk raisins, 84; Syrup, 85.
Aguila y Aguila, S., Olives, 88*h*; Olive oil,
88*e*; Hemp, 88*i*.
Aguilar, Bernardo Teixeira de, jr., Wines, 106.
Aguilar, F. D., Woods, 76.
Aguilar, J. M., Carob paste, 84.
Aguilar, Juan M., Red corn, 78.
Aguilar, O., Wheat, 79.
Aguirre, S., Honey, 88*g*.
Agulló, F. F. & Bros., Wines, etc., 88*f*.
Ahamada, B., Wheat, 79.
Ahern, J. H., Flower pots, 157.
Akerman, A. R., Sweden, 240.
Akin, W. H., & Son, Hops, 136.
Alagoas, Province of, Wool, 74, 75.
Alba, D. S., Wheat, 88*g*.
Alba, T., Wine, 88*g*.
Albany Lubricating Compound & Cup Co., Oil
cups, 139.
Alvarez, F., Walnuts, 77.
Albarracin Saturnio, Wax, 84.
Albear y Ward, F., Prunes, 88*7*.
Albemarle Swamp Land Co., Shingles, 15.
Albergaria, T. A. P., Corkwood, 89; Grain,
93; Beans, 99, 101, 120.
Albergotti, Geo., & Agostino Bros., Wine, 66.
Albert, A. P., Wines, 88*7*.
Albert, Perez, & Co., Vinegar, 88*f*; Olive oil,
88*dd*.
Albi y Ginér, A., Vinegar, 88*7*.
Albiate, Edward, Casks of duca, 65.
Albion Coffee Huller Co., Machines, 32.
Albir, B., Rice, 131.

- Alborno, J. G., Plows, 88*ff*.
 Albers, C., Wine, 88*bb*.
 Albers y Albers, C., Olive oil, 88*hh*.
 Alboris y Alboris, C., Carrobs, 88*l*.
 Albuquerque, A. de Sa, Coffee, 69.
 Albuquerque, Manuel Lopes, Wine, 116.
 Alcazer, Viscount of Sal, Wine, 116.
 Alcazovas, Count of Paço d'Arcos, Wine, 108.
 Alcalde, J., Olive oil, 88*ff*.
 Alcantara & Bros., Leather, 100.
 Alcántara, D., Cocoa, 131.
 Alcantara, F. A. M. de, Cheese, etc., 97, 100.
 Alcaraz, M. de, Beans, 88*k*.
 Alces, Geo., Cigars, 17.
 Alcolorado, Maria H. S., Wine, 114.
 Alder, M., Charcoal, 44.
 Aldrich, Isaiah, Capping machine, 34.
 Aldrich, P. W., Birds, 18.
 Alegre, John, Mate, 80.
 Alegret, E. P., Olive oil, 88*dd*.
 Alegret, F., Mistela, 88*z*.
 Alejano, S. F., Wheat, 88*f*.
 Alenda, A., & Son, Brandy, 88*f*.
 Aletem, Administrator of, Flax, 120.
 Alexandre, Joaquim Peres de, Wine, 113.
 Alexandre, Manuel, Wine, 113.
 Algar, F. L., Olive oil, 88*ee*.
 Algar, J. R. de, Wine, 88*w*.
 Alguacil, M. P., Olive oil, 88*ee*.
 Albuquerque & Barks, Esparto grass, 88*hh*.
 Allain, J., Kid, 49.
 Allegatoire, Geraniums, 157.
 Allen, Elisha H., jr., Hawaii, 261.
 Allen, Frederick, & Sons, Confectionery, 41.
 Allen, George, & Co., Port wine, 106.
 Allen, Hon. G. W., New South Wales, 179.
 Allen, J. F., & Co., Tobacco, 17.
 Allen, R. H., & Co., Plows, etc., 26; Barrows, 37; Sowers, 152.
 Allen, Rebello Volente, Honey, etc., 102.
 Allen, S. L., & Co., Tools, 27.
 Allen's, Josiah J., Sons, Fertilizers, 36.
 Allison & Sons, Wrought iron, 9.
 Allones, R., Tobacco, 88*m*.
 Allurralde, P. y C., Horsehide, 83.
 Allustante, M., Skins, 88*o*.
 Almagro, S. C., Liquors, 88*x*.
 Almansa, E. T. de, Wines, 88*z*.
 Almanzan, Corporation of, Cereals, 88*h*.
 Almeida, A. R. de, Vegetable fibres, 75; Oil, 118.
 Almeida, Antonio Joaquim de, Timber, 89; Corn, 92.
 Almeida, Antonio Mendes, Grain, 92.
 Almeida, Augusto de Azevedo, Corks, 90.
 Almeida, Bernardo Caieiro de, Olives, 105.
 Almeida, Francisco Aleas, Corkwood, 89; Oil, 118, 119; Wines, 118.
 Almeida, Francisco de Mattos, Wax, 101.
 Almeida, Francisco M. de, Wine, 106.
 Almeida, Ignacio Bernardino de, Wines, 113.
 Almeida, Jacintho Pacheco, Woods, 89.
 Almeida, Joaquim Ribeiro, Corkwood, 90; Corn, 92; Grain, 94; Flax, 120.
 Almeida, Jose Bernardo de, Wine, 114.
 Almeida, M. d', Oil, 118; Flax, 120.
 Almeida, Manuel Lorenzo, Wine, 113.
 Almeida, S. S. de, Oil, 119.
 Almeida, Silva, & Co., Oil, 118.
 Almida, Joaquin S. Momoa, Honey, 101.
 Almodóvar, A. S., Preserves, 88*g*; Wines, 88*z*.
 Almonacid de Jorita, Corp. of, Hemp, 88*ii*.
 Alonso, B., Widow of, Chocolate, 88*cc*.
 Alonso, B. R., Wine, 88*cc*.
 Alonso, Julian, Cereals, 88*d*.
 Alonso, Manuel, Wheat, 78.
 Alonso, P. A., Chocolate, 88*cc*.
 Alos, F., Wheat, 88*e*; Wine, 88*x*; Oil, 88*ff*.
 Alric, A., Corn, 79; Flour, etc., 85.
 Alsina, J., Wines, 88*e*.
 Altémir, J., Wheat, 88*e*.
 Altenkirch, F., Wines, 53.
 Althayde, Luis da Silva, Wine, 116.
 Alto Sub-commission, Corn, 79.
 Alurralde, R., Skins, 83.
 Alvarenga, Dr., Flour, 72.
 Alvares, S., Wine, 88*r*.
 Alvares, Sebastido, Wine, 108.
 Alvarez, Cruz, Cumin seed, 80.
 Alvarez, F., Wine, 86; Cotton, 87; Wheat, 79.
 Alvarez, F. R., Esparto grass, 88*hh*.
 Alvarez, J., Tobacco, 88*m*; Wine, 88*z*.
 Alvarez, J. M., Honey, 88*g*.
 Alvarez, R. C., Olives, 88*g*; Olive oil, 88*ee*.
 Alvarez, S., Wheat, 79.
 Alvarrao, Joao do Bomsucesso, Seed, 94, 97.
 Alvear, C., Wine, 88*w*.
 Alvear y Ward, F., Wine, 88*w*.
 Alves, Assiz, Coffee, 71.
 Alves & Bros., Liquors, 74; Macaroni, 106.
 Alves, Francisco, Wine, 114.
 Alves, José Martins, Beans, 97.
 Alves, L., Pharmaceutical preparations, 75.
 Alvim, Joao C. de S., Seed, 94; Mustard, 97; Linsseed, 99; Cheese, etc., 100.
 Aly, A., Barley, 53.
 Alzric, A., Lemonade, 86.
 Amador, A., Wheat, 88*e*.
 Amafil, Benigno, Yellow corn, 78.
 Amaral, Antonio da Costa, Red wine, 106.
 Amaral, Antonio Gomes Silva do, Wine, 114.
 Amaral, Bernardo Rodrigues do, Wine, 114.
 Amaral, F. do, Coffee, 71.
 Amaral, Leonor Carvalho Fonseca, Wine, 114.
 Amaral, Pedro d'Albuquerque S., Wines, 114.
 Amaral, R. J. do, Liquors, 73.
 Amato Bros., Candied fruits, 64.
 Amazonas, Province of, Medicinal plants, 71; Brooms, guano, 75.
 Amell y Carbonell, J., Wines, 88*u*.
 American Champagne Co., Wines, 22.
 American Condensed Milk Co., Milk, 19.
 American Desiccating Co., Cocoa nut, 20.
 American Shearer Mfg. Co., Machines, 38.
 American Wine Co., Wines, 22.
 Ames, Manning, & Ames, Bone meal, 36.
 Ames, Oliver, & Sons, Shovels, etc., 26.
 Amor, B., Wines, 88*y*.
 Amores, J., Chocolate, 88*dd*; Hemp, 88*hh*.
 Amores, M., Cereals, 88*g*; Vegetables, 88*k*; Wine, 88*z*.
 Amorós, J. E., Wine, 88*f*.
 Amorós, V., Wine, 88*aa*.
 Amposta, Corporation of, Rice, 88*h*; Carrobs, 88*l*; Olive oil, 88*gg*.
 Amundson, Mrs. C. M., Oyster anchovy, 59.
 Ancasti, Sub-commission of, Corn, 79.
 Anchor Manufacturing Co., Barrels, 35.
 Ancion, A., Belgium, 228.
 Andalgala Commission, Dyes, 76.
 Andalgala Sub-commission, Skins, 82.
 Andrade, A., Wine, 88*y*.
 Andrade, M. Z., Wheat, 88*g*; Olive oil, 88*gg*.
 Anderson, A., Straw cutters, 46; Knives, 47.
 Anderson & Campbell, Canned fruits, 19.
 Anderson, J., Cow and sheep bells, 60.
 Anderson, J., LL.D., Great Britain, 173.
 Andes, Mendez M. de, Cigarettes, 81.
 Andesson, Gustaf, Anchovy and sardines, 59.
 Andrada, A. G. de, Preserved meat, 104.
 Andrade, Adriano Pereira Seixas, Rice, 93.
 Andrade, Antonio Garcia de, Corkwood, 90.
 Andrade, Basilio A. X. de, Wine, 113.
 Andrade, Bernardo A. da S., Wine, 114.
 Andrade, Francisco B. d'Almeida, Beans, 97.
 Andrade, Ildefonso de, Barks, 68.
 Andrade, J. C. Paes de, Glue, 72.
 Andrés, L., Wheat, 88*f*.
 Andresson, J. H., Wine, 114.
 Andrew, R., Wheat, 88*e*.
 Andrews, E. W., South Australia, 184.
 Andronico, Giuseppe, Biscuits, 66.
 Anfrye, Capt., France, 209.
 Angas, F., Wheat, 88*r*.
 Angelica, Rosa de J. M., Preserved fruits, 104.
 Angelina, Directory Board of, Corn flour, 72.
 Anglés y Font, J., Wine, 88*aa*.
 Anguera y Anglés, Nuts, 88*b*; Wine, 88*bb*.

- Angulo, J., Olive oil, 88*g*.
- Anheuser, E., Co.'s Brewing Association, Malt liquors, 137.
- Anjevas, J. M., Maize, 88*e*.
- Ansdahl, R. O., Drops and peppermint, 62.
- Anlestia, J., Hazelnuts, 88*k*; Wine, 88*bb*.
- Annapolis Canning Co., Canned goods, 20.
- Annear, John, & Co., Sauce, 20.
- Annes, Antonio Joaquim, Grain, 95.
- Añora, Corporation of, Acorns, 88*n*.
- Anselmi & Marassi, Alcohol, 65.
- Anstey, G. A., Wool, 42.
- Anta, I., Cereals, 88*f*; Beans, 88*k*; Nuts, 88*g*.
- Anta y Temes, F., Wines, 88*y*; Chocolate, 88*dd*.
- Antao, Manuel Antonio, Wheat, 92.
- Antheaume & Sons, Caramels, 50.
- Anthoine, Wines, 50.
- Antique, Provincial Board of, Rice, 130.
- Antonio, Eduardo M., Preserved meat, 105.
- Antonio, Eduardo Montalvas de, Acorns, 91.
- Antonio, M. de, Glue, 88*a*.
- Antonio, Nicolau d'A., jr., & Bro., Wine, 114.
- Antonio Nunes de Souza & Co., Wines, 116.
- Antunes, J. A., Coffee machine, 75.
- Appleton, Wm., Malt, 136.
- Appleyard, Juan B., Rice, 80.
- Appleyard, T. B., Tobacco, 80; Flour, 85.
- Aragao, Alexandre A. de, Vinegar, 114.
- Aragao, Alexandre de, Wines, 113; Oil, 118.
- Aragao, Francisco de Pina, Wines, 108.
- Aragon, Innocencia, Syrups, 132.
- Aragon, J. M., Honey, 84.
- Aragon, S., Tobacco, 80.
- Aragonés, J. S., Wine, 88*bb*.
- Aragonés, R. Z., Wine, 88*aa*.
- Aragonés, T., Wines, 88*aa*.
- Aranha, J. D., Tobacco, 70.
- Araob, Adelaida, Grape syrup, 85.
- Araraguara, Baron de, Coffee, 71.
- Araujo, A. J. de, Oil, 119.
- Araujo, A. J. Roiz d', Medicinal plants, 69.
- Araujo, Bernardo, Corn, 92.
- Araujo & Brother, Flour, 95.
- Araujo, Castro, Wax, 68.
- Araujo, I. de, Liquors, 73.
- Araujo, J. A. Vieira, Honey, 72.
- Araujo, Joaquim Cardoso de, Wines, 106.
- Araujo, J. P. de Souza, Medicinal plants, 69.
- Araujo, J. Pereira de S., Wax, 72.
- Araujo, Rodrigues de, Medicinal plants, 69.
- Araujo & Silva, Samples of woods, 68.
- Arce, Invencao, Corn, 78.
- Archdeacon, W., Pickles, etc., 20.
- Archer, Jacintho F., Corks, 89.
- Archer, Prof. T. C., Great Britain, 173.
- Archleb, Josef, Liquor, 55.
- Arenales, A. M. Alvarez de, Seed, 81.
- Arenas, A. R., Brandy, 88*z*; Olive oil, 88*g*.
- Arenzana, Son of, & Co., Wool, 88*j*.
- Arganza, Corporation of, Cereals, 88*e*; Vegetables, 88*j*; Wines, 88*r*.
- Argentine Republic, Statistics of, 264.
- Argona, J., Cocoons, 88*n*.
- Argoncillo, Eustaquio, Fibres, 133.
- Argoncillo, R., Coffee, sugar, 131.
- Arguellos & Oliver, Loaf sugar, 85.
- Argüeso y Argüeso, L. de, Wine, 88*n*.
- Arias, F., Sheepskin, 82.
- Arias, F. G., Wine, 88*cc*.
- Ariño, A., Anise seed cordial, 88*cc*.
- Ariza y Ariza, J., Wheat, 88*d*.
- Arjona, M. J., Olive oil, 88*dd*.
- Arjona y Gomez, J., Pepper, 88*m*.
- Arlés, D., Silk, 51.
- Armas, A., Coffee, 88*m*.
- Armenchiardi, Juan, Wheat, 80; Flour, 85.
- Armengod, J., Hempen ropes, 88*i*.
- Armesto, R., Wheat, 88*f*.
- Armistead, Louis L., Tobacco, 17.
- Armstrong, E. F., Fanning mill, 46.
- Armstrong, H. M., & Co., Pork products, 19.
- Armstrong, Hon. W. J., Canada, 204.
- Armunia, Corp. of, Wine, 88*r*; Flax, 88*i*.
- Arnal, D., Claret, 88*x*; Olive oil, 88*ff*; Esparto grass, 88*ii*.
- Arnau & Tomas, Olive oil, 88*ee*.
- Arnault, A., Skins, 82.
- Aroca, J., Wine, 88*s*.
- Arpal, M. V., Olive oil, 88*hh*.
- Arque, B., Rice, 130.
- Arqueaga, R., Grits, 88*r*.
- Arribas, A. E., Wine, 88*r*.
- Arribas, I. A., Vetch, 88*l*.
- Arrigunaga, F., Tobacco, 88*m*.
- Arrillaga, Javier, Mate herb, 80.
- Arrom, L. L., Preserves, 88*g*.
- Arrondo, A., Wheat, 79.
- Arrue, M., Wheat, 88*h*; Beans, 88*l*.
- Artacho, J. B., Wine, 88*x*.
- Artasa, M., Corn, 79.
- Artaza, S., Wheat, 79.
- Arteaga, Amancio, Shells, 81.
- Artells, M., Almonds, 88*b*.
- Artigues, S., Raisins, 88*r*; Wine, 88*bb*.
- Artiles, M. H., Olive oil, 88*ee*.
- Arzadam & Co., Fish, 88*o*; Meat, 88*g*.
- Asada, T., Tea, 128.
- Asambuja, A. M. da, Wine, 118.
- Asay, C., Tobacco, 88*m*.
- Asay & Wood, Combined corn planter, 28.
- Asaya, T., Hemp, etc., 129.
- Ascaso, D., Chocolate, 88*dd*.
- Ascotia, Higienio de, Flour, 88*r*.
- Asensio, R., Potatoes, 88*m*.
- Asevedo, Joao Rodrigues de, Wheat, 96.
- Asevedo, José de, Beans, 97; Wine, 113.
- Asevedo, José Ferreira da Silva, Wine, 113.
- Asevedo, M. de L., Oil, 119.
- Ashbourne, Alex. P., Pulverized cocoon, 19.
- Ashbourne & Co., Cosmetics, 39.
- Ashley, H. A., Machine, 36.
- Ashley & Smith, Cheese press, 46.
- Asmoloff & Co., Tobacco, etc., 124.
- Aspen & Pritchard, Oatmeal, 44.
- Asphalt Mining Co., Asphaltum, 48.
- Aspiroz, R. V., Seeds, 88*n*.
- Assis, Domingos Francisco de, Wine, 108.
- Assiz, F. d', Coffee, 71.
- Assunguy, Colony of, Tobacco leaves, 70.
- Aste, D. Stefano, Albumen, 63.
- Asten, W. B., & Co., Malt bags, 138.
- Astorga, P. G., Cereals, 88*c*.
- Asuero, E., Bark, 130.
- Atalya, Count of Santarem, Honey, 104.
- Athayde, M. E. S., Skins, 72.
- Athayde, M. E. Souza, Cotton, 74.
- Atibaia, Baron of, Coffee, 62.
- Atkins, J. L., Horse shoes, 38.
- Atkinson, Empson, Road scraper, 36.
- Atlantic Co. for the Culture of Cranberries, 15.
- Atlen, Rebello Volente, Honey, etc., 101.
- Atmore & Son, Minceat, etc., 19.
- Atterling, C., Dairy apparatus, 60.
- Attwood, A. C., Beehive, 46.
- Aubin & Baron, Millstones, 52.
- Aubone, Daniel, Beans, 80.
- Auburn Mfg. Co., Implements, 25.
- Auchmann, F., Champagne, 55.
- Audiolo, M., Potatoes, 80.
- Auer, Josef, Vine shears, 56.
- Aunfon y Leon, Cereals, 88*g*.
- Augier, U., Wine, 86.
- Augier, Uladislao, Cumin seed, 80.
- Aula, Domenico, & Co., Sumac, 63.
- Aultman, C. & Co., Mower, 31.
- Aultman, Miller, & Co., Mower, 29.
- Annüller, J., Wines, 53.
- Aurajo, A. C. de, Biscuits, 118.
- Aurea y Rivera, Antonio, Wheat, 88*d*.
- Ansable Horse Nail Co., Nails, 38.
- Austin, R., Vines, 155.
- Austin, Tomlinson & Webster Manufacturing Co., Lumber wagons, 135.
- Austria, Statistics of, 216.
- Austrian Commission, Scythes, 56.
- Avansay, H., & Son, Wine, 88*r*.
- Avelino, Joaquin Cumeira, Wine, 114.

- Aveling & Porter, Engine, 41.
 Avellino, Antonio, Sardines in oil, 63.
 Avello, A., & Son, Olive oil, 88*hh*.
 Avelló y Boada, P., Wine, 88*aa*.
 Avery, B. F., & Son, Plows, etc., 26.
 Avila, Elenterio, Mexico, 274.
 Avila & Marti, Wheat, 88*h*.
 Avilés, N., Wines, 88*v*.
 Avilez, Count of, Oil, 120.
 Aviléz y Merino, F., Seed, 88*u*.
 Axe, Edwin C., Birds, 18.
 Ayaz, J. D., Olive oil, 88*dd*.
 Aybar, J. R., Grape syrup, 85.
 Ayrosa, M. A., Coffee, 71.
 Azeveda, Manuel Rodrigues de, Wine, 108.
 Azevedo, Antonio Joaquin, Brazil, 263.
 Azevedo, Antonio L. de N., Wines, 114.
 Azevedo, P. de, Aguardente, 73.
- B.**
- B—**, A. A., Cotton, 74.
 Baars, H., Norway, 243.
 Baca, John, Wheat, 78.
 Baca, V., Brandy, 86.
 Bacas y Estévez, I., Wine, 88*u*; Oil, 88*dd*.
 Baccarani, Pio, Italy, 249.
 Bach, A. H., Wines, 53.
 Bäckér & Fier, Brandies, 54.
 Badham, Rev. C., New South Wales, 180.
 Baerla, M. P., Olive oil, 88*hh*.
 Bageau, H., Glue, 49.
 Bagley, M. S., Bitters, 85.
 Bagley, M. S., & Co., Biscuits, 86.
 Bagueña, J., Pepper, 88*m*.
 Bahamas, Statistics of, 188.
 Bahamonde, A. V. G., Wines, 88*z*.
 Bahia, Presidency of, Cigars, 70.
 Bahia, Province of, Cigars, 71; Chocolate, 74;
 Vegetable hair, 75.
 Baigorra, José, Wild cocoa, 81.
 Bailey, Samuel M., Plug tobacco, 17.
 Bailey Wringing Machine Co., Machines, 34.
 Baillo, J. M., Olive oil, 88*ff*.
 Bailly & Co., Millstones, 48, 52.
 Bailo, A., Liquors, 88*cc*.
 Bain, J. D., Mackerel, 45.
 Bairrada Commercial Wine Co., Wines, 113.
 Baiza, Miguel de Sousa, Wine, 108.
 Baker, Joseph P., Horseshoes, 38.
 Baker, Walter, & Co., Cocoa preparations, 23.
 Baklanoff's, K. K., Sons, Wool, 127.
 Bal, J. J., Red currant wine, 58.
 Balaguer, J. E., Wines, 86.
 Balaguer, Tristan, Corn, 78.
 Balanzategui, C., Wine, 88*s*.
 Balban, N., Resin, 77.
 Balbas, J., Wine, 88*z*.
 Balcarce, G., Skins, 82.
 Balderston, G., Vases, 153.
 Baldini, Agostino, & Co., Sole leather, 63.
 Baldovi, R. G., Carrots, 88*l*.
 Baldwin, Homer, Flour, 22.
 Baldwin, Mrs. M. W., Plants, 152.
 Ball, J., Cereals, 88*e*.
 Ball, J. A., Olive oil, 88*ff*.
 Ball, James, Sauce, 40.
 Ball, Samuel, Grain cradle, 29.
 Ballano, F., Wheat, 88*h*.
 Ballester y de Torres, L., Wines, 88*f*.
 Baltazzi Effendi, Turkey, 288.
 Baltimore Pearl-Hominy Co., Hominy, 21.
 Baltz, J. & P., Beer, 136.
 Baluffi, Nicola, & Co., Hides, 63.
 Balugera, D., Rice, 79.
 Bamberger, H., & Co., Teas, 17.
 Baneg, J., Seed, 131.
 Banes, Jo., Oil, 132.
 Banfi, Giuseppe Flavio, Glue, 63.
 Banks, E. H., Oats, 42.
 Bannibe, J. H., Grapes, 15.
 Banos, B. F. Torres de, Brazil, 263.
 Baniou, F. P., Esparto grass, 88*kk*.
 Banson, Arcadio, Danin cord, 133.
 Banson, Nicasio, Fibres, 133.
 Baptista & Co., Grain, 92; Flour, 106.
 Baptista, José Antonio, Honey, etc., 102.
 Baptista, José I. de M., Honey, etc., 102.
 Baracho, José de Sousa, Red wine, 108.
 Barao, José Correa de, Wine, 109.
 Barao de Casas do Douro, Oil, 119.
 Barao de Mogadouro, Freixetas, Wine, 117.
 Barao de Nellas, Wine, 108.
 Barao de Viamonte, Wine, 113.
 Barao do Calvario, Wines, 109.
 Barao do Salgueiro, Wine, 117.
 Baraona, Corporation of, Cereals, 88*h*.
 Barber, J., Canned fish, 45.
 Barbey, Peter, Beer, 137.
 Barbósa, F., Woods, 68.
 Barbósa, J. E. C., Oils, 74.
 Barbosa, J. F., Woods, 68.
 Barbosa, Manuel Carneiro, Grain, 94.
 Barbosa, Manuel Paes Ferrao, Wine, 108.
 Barbósa, Norpéro, Medicinal plants, 69.
 Barboza, Paulo da Silva, Sweetmeats, 105.
 Barbuo, Francisco de P., Cereals, 88*d*.
 Barcellos, Francisco Maria, Wines, 113.
 Barcelona, Mariano, Mexico, 274.
 Barcos, P. B., Skins, 83.
 Barcuys, T., Hazelnuts, 88*c*.
 Barenys y Magriña, J. B., Barley, 88*h*.
 Barenys y Mariné, J., Vegetables, 88*f*.
 Barjona, Pedro Simoes Alfonso, Beans, 97.
 Barley & Malt, Com. on, Barley, malt, 136.
 Barnard, Bishop, & Barnard, Wire netting,
 41; Chairs, 156.
 Barnes, Geo., & Co., Mower knives, 29.
 Barnett, William, Wheat starch, 22.
 Barnhill, B. B., Moosehead, 45.
 Barnosell, P., Guano, 88*ff*.
 Baro y Gibert, J., Wine, 88*u*.
 Baron of Roeda, Portugal, 285.
 Baron von Thüning, Brewery, 54.
 Barr, W. S., Bermudas, 190.
 Barra, Luigi, Wine, 66.
 Barral, J. L., Wines, 50.
 Barraquero, Carmen, Wax and honey, 84.
 Barreira, Antonio, jr., Wine, 109.
 Barrengoa, D., Coffee, 88*m*.
 Barrengoa, D. de, Chocolate, 88*cc*.
 Barrera, G., Wine, 88*u*.
 Barrera, J. M., Olive oil, 88*ff*.
 Barrera, P. G., Starch, 88*s*.
 Barreto, jr., Oils, 74.
 Barrett, J. O., Eagle "Old Abe," 18.
 Barrill, Juan José, Peru, 270.
 Barrionueva, F., Cereals, 88*d*; Beans, 88*f*.
 Barrios, M., Flour, 88*r*.
 Barrios, Rios, & Co., Flour, 88*r*.
 Barros, A. A. de, Fibre, 75.
 Barros, Antonio Manuel Ferreira, Brandy, 108.
 Barros, B. de, Sugar, 73.
 Barros, D. A., Cotton, 75.
 Barros e Cunha, José de, Wine, 113.
 Barros, F. de, Sugar, 73.
 Barros, F. de, Fibres of tucum, 75.
 Barros Gomes, B., Oil, 118.
 Barros, J. J. d'A., Medicinal plants, 69.
 Barros, José Xavier Pereira, Sweetmeats, 103.
 Barros, L. A. de Sz., Coffee, 70.
 Barros, L. Gomes de, Cipo matta gente, 75.
 Barros, L. X. de, Oil, 118.
 Barros, R. de, Coffee, 71.
 Barros, Ramon, sr., Chili, 267.
 Barros, Rita Candida de, Olives, 104.
 Barros, S., Coffee, 71; Cotton, 74.
 Barros, Sebastian, Cumin and anise, 80.
 Barros, T. da, Coffee, 71.
 Barroso, C., Alcohol, 74.
 Barroso, P., Sugar, 73.
 Barrotaran, J., Skins, 82.
 Barrows, Savery, & Co., Steamer, 34.
 Barrutia, E., Figs, 88*g*.
 Barry, Arnold, & Co., Wheat flour, 43.
 Barry & Nephews, Wool, aloes, 43.
 Barry, Sir Redmond, Victoria, 182.

- Bartels, Mr., Germany, 215.
 Barthe, G., Corn, 48; Flour, 49.
 Bartleroud, John W., Churn, 35.
 Bartolucci-Godolini Brothers, Honey, 63.
 Barram Sewing Machine Co., Mowers, 30.
 Basarán, I., Blue vetch, 88*l*; Cheese, 88*o*;
 Prunes, 88*g*; Wine, 88*b*; Olive oil, 88*h*.
 Bascon, A., Olive oil, 88*g*.
 Bascuñan Francisco, Beans, 80; Figs, 84.
 Bashmakoff, S. D., Liqueurs, 125.
 Bassedas y Andreu, M., Hazelnuts, 88*b*; Car-
 robs, 88*l*; Olive oil, 88*h*.
 Basset & Co., Kid, 49.
 Basset, Nathan, Sifting machines, 32.
 Bassi, Medano, & Ugo Bros., Sausages, etc., 64.
 Basso, José Luis de, Wine and brandy, 109.
 Bastarás, A., Wine, 88*a*.
 Bastas, Pedro José da Silva, Grain, 94.
 Bastida, M., Olive oil, 88*e*.
 Basto, M. J. T., Wine, etc., 115; Flax, 121.
 Bastos, M. F., Wine, 88*y*.
 Bastos, Manuel José Teixeira, Corn, 93.
 Bastos, R., Sugar, 73.
 Batalhos, José dos Prazeres, Wine, 108.
 Batangas, Provincial Board of, Bark, rice, 130;
 Cotton, 132.
 Batchelor Bros., Cigars, 76.
 Bateman, E. S. & F., Cultivator, 25.
 Bates, B., Wheat, 78; Almonds, etc., 84.
 Bates, Hyde, & Co., Cotton gins, 34.
 Batlle y Marca, P., Kopes, 88*í*.
 Batlló Bros., Starch, 88*s*.
 Battini, A. P., Leather, 82.
 Baudry, M., Egypt, 252.
 Bauer, G., Flour, 85.
 Bauer, O. von, Austria, 221.
 Baugh & Sons, Mills, 34; Raw bones, 36.
 Bausela, E. G., Chick-peas, 88*l*.
 Bautista, M., Wheat, 88*e*.
 Bavarian Joint Stock Brewery, Beer, 54.
 Bawer, E., Hose, 139.
 Bawtenheimer, P. M., Potato digger, 46.
 Bayersdorfer, M. M., & Co., Fixtures, 151.
 Bayla, J. de la, Land animals, 88*u*.
 Bayliss, Edwin, Wheel-harrow, 26.
 Bayvet Bros., Skins, 49.
 Bazan, V. C., Wine, 88*y*.
 Bazergne, Mr., France, 209.
 Beadleston, Price, & Woerz, Ale, 137.
 Beadle, Samuel, Wool, 42.
 Bean, H. & B. F., Marker, 25; Fence, 36.
 Beardsley, B. A., Hop press, 137.
 Beath, J. R., Birds, 183.
 Beatty, Matthew O., Cotton planter, 27.
 Beaucourt, F., Wines, 50.
 Beca, Agostinho da R., Woods, 90; Seed, 94.
 Bechstein & Co., Sugar-cured hams, 20.
 Bechtel, Geo., Beer, 137.
 Becker, Jacob, jr., Wagon, 135.
 Beco, J., Belgium, 228.
 Bedell & Conklin, Meal flour, 22.
 Beecher, C. T., Whiffletree gear, 37.
 Beeler, J., Switzerland, 225.
 Beeson, J., & Co., Grain, 15.
 Begg, J., Coniferæ, 15.
 Beggs, John, & Sons, Wagon, 135.
 Behmersd, A., Egypt, 252.
 Behr, Alexis, Russia, 294.
 Behrens, T., Wines, 54.
 Beita, Valentin, & Co., Tobacco, etc., 80.
 Beken, F., Wheat, 79.
 Belache, Liqueurs, 73.
 Belcher, J. W., Fruits, 45.
 Belcher & Taylor, Machines, 34.
 Belem, Silvestre P. C., Preserved fruits, 104.
 Belen Sub-commission, Wine, 79, 83.
 Belens, J. L., Coffee, 70.
 Belgium, Statistics of, 226.
 Bell Brothers, Builders, 9.
 Bell, Charles, Plow, 46.
 Bell, D., Grain, 123.
 Bella, J., Wine, 88*a*.
 Bella Vista, Baron of, Coffee, 71; Cane, 73;
 Aguardente, 74.
 Bella Vista Sub-commission, Woods, 76; Corn,
 80; Cocoons, 81; Skins, 83; Cotton, 87.
 Bellaire Mfg. Co., Mower and reaper, 29.
 Bellantani, G., Bologna sausages, etc., 64.
 Bellardi, Dom., & Co., Vermouth, 66.
 Beller, Jacob, Wines, 22.
 Bellido, N., Walnuts, 88*b*; Wheat, 88*f*.
 Bello, Francisco S. C., Wines, 108; Wool, 122.
 Bello, Manuel Gucci fao, Honey, etc., 101.
 Belloc Bros., Skins, 82.
 Bellot, J., & Co., Brandy, 50.
 Bellosi, Gio. Battio, Liqueurs, 66.
 Belolipetzky, M., Cakes, 126.
 Belpaire, A. J., Belgium, 228.
 Beltraa, José de Gouvea de Lucena, Wine, 116.
 Beltran y Lopez, J., Hemp, 88*h*.
 Beltran y Rosell, M., Wine, 88*u*.
 Beluyos, Damian, Cotton, 132.
 Benguet, Provincial Board of, Rice, 130.
 Benites, A., & Co., Tallow, 83.
 Benito, I., Flour, 88*r*.
 Benito, J. B. P., Figs, 88*g*.
 Benito, J. P., Wine, 88*f*.
 Benito y Reoyo, G., Brandy, 88*u*.
 Benjumea y Jilo, E., Olive oil, 88*g*.
 Benkovski, A., Asparagus digger, 127.
 Bennett, S., New South Wales, 180.
 Benoit, C., Wines, 50.
 Benson, B. S., Steam plow, 25.
 Bentes, Antonio Joaquim Serpa, Olives, 104.
 Bentes, I. J., Oil, 119.
 Bento, Joao, Wines, 106.
 Beótegui, F., Claret, 88*r*.
 Bequer, T., Cocoons, 88.
 Berenguer, R., Brandy, 88*l*.
 Berdue, M., Box, 77.
 Berg, C. G., Punch and whiskey, 59.
 Bergen Glass Works, Buoys, 61.
 Bergen, J. N. von, & Sons, Punch, 59.
 Bergen Museum, Mammals, 61; Models, 62.
 Bergens, Rögeri, Red herrings, 61.
 Bergeré, Dr., Peanuts, 79.
 Bergren, D. & J., Tobacco, 59.
 Bergman, G. W., Sweden, 240.
 Bergner & Engcl, Beer, 136.
 Bergner, George, & Co., Parers, 33.
 Bergner, Theo., Malt turner & kiln, 138; Cork
 driver, 138.
 Bergstresser, E. L. Corn planter, 26.
 Bergstrom, H. C., Anchovy and herrings, 59.
 Bergstrom, P. A., Sweden, 240.
 Bernabeu y Diego, J. B., Almonds, 88*a*;
 Raisins, 88*g*.
 Berniches, Corporation of, Honey, 88*g*.
 Beriso, Juan, & Co., Dried tongues, 85.
 Berizo, Flour, 85.
 Berlin Brewing Co., Beer, 54.
 Berlinski, G., Mustard, 124.
 Bermudas, Statistics of, 189.
 Bernard, J., Skins, 82; Wool, 87.
 Bernardo Augusto Lopes & Co., Wine, 109.
 Bernardo, Vasco, Wine, 112.
 Bernhardt, A., Essences, 54.
 Berrio y Torroero, V., Hemp, 88*í*.
 Berruazo, J. A., Almonds, 88*a*.
 Bertao, Ladislau Xavier, Honey, etc., 103.
 Berteza, Stefano, Wines, 65.
 Bertolate, G., Wheat, 78.
 Bertrand, J. & Co., Millstones, 48.
 Bosa, Santos, Oil, 132.
 Besley's Waukegan Brewing Co., Ale, 137.
 Beson, E. A., Cereals, 88*d*.
 Bessarabian Agricultural School, Beans, 124.
 Bessarabian Horticultural School, Wheat, 123.
 Best, John, Agricultural engines, 33.
 Betou, P. D., Artificial manures, 60.
 Bettencourt, Francisco, Woods, 89.
 Bettle, Harbert, Can holder, 35.
 Betts, Albert C., Machine, 38.
 Beuverand, de, & Poligney, de, Wines, 50.
 Bewley & Draper, Aerated waters, 40.
 Bexiga, Antonio Soares, Brandy, 108.
 Biagem Boa, Baron da, Aguardente, 74.
 Biardot, A., Confectionery, 51.

- Bickford & Huffman, Grain drill, etc., 27.
 Bidwell, J. C., Plows, etc., 25.
 Bielski, Charles D., Russia, 294.
 Bierremback & Bro., Plows, 75.
 Biester, Campas, & Co., Corkwood, 90.
 Bigelow, Jona, Labeling machine, 19.
 Biggo, G., & Co., Hand reaper, 67.
 Bignell, J., Rice, 88*a*.
 Biker, Antonio Pedro, Red wine, 113.
 Bildt, C., Sweden, 240.
 Billar, S., Brandy, 86; Ropes, 87.
 Billsky, Charles de, Russia, 294.
 Binder & Schweibing, Corn plow, 26.
 Bindley & Co., Ales, 41.
 Bindon, Hon. S. H., Victoria, 182.
 Bines, S. M., Tree, 152.
 Bingham, O. A., Stand, 153.
 Bingham, R., Drosera, 151; Lilies, 153.
 Bintrago, J. C. d'Almeida de, Wine, 109.
 Biraben, A., Preserved meats, 84.
 Birdsall Manufacturing Co., Machines, 32.
 Birely & Co., Vinegar, 45.
 Biron & Son, Stone, 48.
 Bisco, Luigi, & Co., Liquors, 65.
 Bissellach, G., Wines, 88*d*.
 Bivar, Jeronymo, Wines, 108.
 Bivar, Jeronymo d'Almeida, Red wine, 108.
 Black & Krebs, Sugar-cured hams, 20.
 Blackwell, W. J., & Co., Tobacco, 16.
 Blackwood, R., & Co., Cider, 45.
 Blake, George F., Mfg. Co., Pumps, 139.
 Blanc, H. E., Baron, Italy, 249.
 Blanchard's, Porter, Sons, Churns, 35.
 Blanchaud, M., Corn, 79.
 Blanchet, J., Plows, 75.
 Blanco, A., Peas, 88*j*; Wine, 88*m*.
 Blanco, A. F. P., Oil, 120.
 Blanco, E., Wines, 86.
 Blanco, J. A., Wines, 88*z*.
 Blanco, J. M., Marmalade, 88*g*; Chocolate, 88*cc*.
 Blanco, Joao Diago, Wines, 113.
 Blanco y Alcalde, Wine, 88*v*.
 Bland, Lt.-Col. R. E., Bermuda, 190.
 Blandy, Carlos R., Wine, 113.
 Blankenheijm, J. J. M., & Lede, C. A. E. van, Gin, 58.
 Blatchley, C. G., Freezer, 35.
 Blatz, Valentine, Beer, 136.
 Blazquez, A., Wheat, 88*f*.
 Bleasdale, J. I., Victoria, 182.
 Bleckmann, A. & B. C., & Van der Poel, H., Cigars, 57.
 Bley, J., Fibres, 75; Matto, 70.
 Bliss, B. K., & Sons, Potatoes, etc., 16; Seed sower, 28, 152; Gladiolus, 153.
 Blumenau, Colony of, Tobacco, 71.
 Plymyer Mfg. Co., Thresher, 33.
 Bó, A., Beans, 88*f*.
 Boa-Viagem, Baron of, Sugar, 73.
 Boa, Viscount of, Grain, 96; Cheese, oil, 100.
 Board of Commerce, Models of boats, 62.
 Board of Public Forests, Corks, 90; Tools, 122.
 Bobadilla, N., Wine, 88*x*.
 Lobo, F. P., Wines, 88*y*; Chocolate, 88*dd*.
 Bock & Co., Tobacco, 88*m*.
 Boculini, J. B., Wine, 88*t*.
 Bodarata, Juan, Barley, 78.
 Bøden, A. F. W., & Co., Vinegar, 22.
 Boden, H. W., & Co., Vinegar, 22.
 Bodi, S., Orange wine, 88*bb*.
 Boer, W. C., Trees, 158.
 Boerio, J. & P., Rack, 76.
 Boeuilein, C., Bro., & Co., Beer, 137.
 Bofim, F. T. do, Fibres, 75.
 Bogalho, J. J., Grain, 95; Wine, 116; Wool, 122.
 Bohol, Provincial Board of, Skins, shells, 131; Fibres, etc., 133.
 Boileau, A., Trees, 155.
 Bolinder, J., Sweden, 240.
 Bollinger, J., Champagne, 50.
 Bols, de Erven Lucas, Fine liquors, 58.
 Bolton S., & Sons, Ale, 136.
 Bolufer, C., Raisins, 88*r*.
 Bomfin, F. T. do, Vegetable fibres, 75.
 Bomhauer, Dr. E. H. von, Netherlands, 234.
 Bon, R., Wine, 88*x*.
 Bonanno, Michele, Baron, Wine, 66.
 Bond, Geo. W., Commercial wools, 24.
 Bonei Cassuccini Ottavio, Wine, 65.
 Bonfils Bros., & Co., Truffles, 49.
 Bonnement, I. B., Wool, 87.
 Bonnet, M., France, 209.
 Bonnett, Schenck, & Earle, Spices, 17.
 Bonn-Retiro, Viscount de, Brazil, 263.
 Bontou, jr., Wines, 50.
 Bonvoisin, A., Plans, 157.
 Bonzano, H., Pecan nuts, 15.
 Boomer & Boschert Press Co., Presses, 34.
 Boothly, J. J. P., South Australia, 184.
 Bootz, Erven Wed. F. A., Liquors, 58.
 Borba, N. M., Cigarettes, 70.
 Borbujo, J., Flax, 88*ii*.
 Bordallo, R., Wine and brandy, 88*z*.
 Borden, John G., Condensed milk, 20.
 Bordewich & Co., Fish meal, etc., 61.
 Bordoni, Natale, & Co., Sausages, 64.
 Borelli, Luigi, Eau-de-vie, 65.
 Borge, Franciso Maximino, Wines, 108.
 Borges, A. P. De Carvalho, Brazil, 263.
 Borges, Candido Marcelino, Wines, 113.
 Borges de Sousa, Asambuja, Wine, 112.
 Borges, José Corroados, Wines, 108.
 Borhegyi Bros., Wine, 56.
 Borissovki, P., Apiary, etc., 127.
 Bornaud, L., Coffee, 69.
 Bornia Brothers, Pickles, 64.
 Bornibus, A., Mustard, 49.
 Borrallo, M., Rye, 88*c*.
 Borrás, S. S., & Lassalle, Wines, 88*aa*.
 Borriol, Provincial Board of Agriculture of, Vinegar, 88*v*.
 Borthwick, W., Mineral waters, 46.
 Borzell, Edith, Mexico, 274.
 Bosca y Pascual, B., Wine, 88*bb*.
 Bosch y Grau, J., Brandy, 88*z*.
 Boschiero, Cav. Giovanni, Wines, 65.
 Boseh, J., & Co., Fruits, 88*r*.
 Bosh y Gausa, I., Wheat, 88*c*.
 Bosisto, J., Victoria, 182.
 Bost, Caleb E., Beehive, 37.
 Botejana, J. V., Olive oil, 88*dd*.
 Botelho, A. C. A., Skin of a boa, 72.
 Botelho, Antonio C., Sausages, 104.
 Botelho, Antonio da Costa, Wine, 113.
 Bothamley, A. T., New Zealand, 177.
 Botilheiro, J. F., Walnuts, 91; Beans, 97.
 Boto, Joao de Sousa Dounas, Wine, 109.
 Botti, Alessandro, Dried fruits, 64.
 Bottinger, H. F., Beer, etc., 54.
 Boucinha, Marmel da Costa, Honey, 101.
 Boudon, L., Silk, 51.
 Bouguese Bros. & Co., Paste for soup, 64.
 Bouille, M., Count de, France, 209.
 Boulé, J., Wines, 88*z*, 88*aa*.
 Bouille, E., Wines, 50.
 Bouilly, J., Wine, 73.
 Bouma, N. G. & J. G., Buckwheat, 57.
 Bourgeois, Edmund, Tobacco, 16.
 Bourgoin-Jamain, jr., Wines, 50.
 Bouscaven, G., Model, 37.
 Boutelleau & Co., Brandies, 50.
 Bütteville, Baron von Mering, Beer, 54.
 Bowen, C. M., Extractor, 36.
 Bowers & Sitzer, Beam plow, 26.
 Bowes, John L., & Bro., Raw materials, 41.
 Boyd, G., & Co., Coffee, 16; Dried grain, fruit, 19; Dryer, 37.
 Boyd, J., Cereals, 44.
 Boyens, P. W., Spirits, 54.
 Boyer, P., & Co., Olives, 49.
 Boyer, Wm. L., & Bro., Machines, 33.
 Boyle, W. F., Plants, 151.
 Brabo, B., Almonds, 88*e*.
 Bradbury, Henry, Boxes, 37.
 Bradford, H., Ties, 37.
 Bradford, W. A., & Co., Cider mill, 34.

- Bradley Fertilizer Co., Fertilizers, 36.
 Bradley Mfg. Co., Self-dumping hay rake, 29.
 Braga & Bro., Brandy, 73.
 Braga & Co., Syrups, 73.
 Braga, J. F. C., Oil, 74.
 Braga, J. M. da Silva, Leaves, 70.
 Braga, Joao Ferreira, Portugal, 284.
 Braga, Joas Jose de Sousa, Honey, 101.
 Braga, Jr., Pharmaceutical preparations, 75.
 Braga, Luiz Barbosa, Beans, 97.
 Braithwaite, Arthur, Wool, 42.
 Branca Bros. & Co., Vermouth, 66.
 Branco, Joao Vicente, Gin, 108.
 Brandao, Augusto Ferreira, Wine, 109.
 Brandao, F. A., Corn, 93; Wine, 109.
 Branden Mfg. Co., Howe scales, 33.
 Brandmüller, J. B., Wines, 53.
 Branson, D. H., Indian corn, 15.
 Brant, J. F. d'Andrade, Manioc roots, 69.
 Brava, F. L. da, Cotton, 74.
 Bravo, Antonio, Barks, 133; Sugar, 131.
 Brayley, James, Threshing machine, 32.
 Brazil, Peter B., Snow plow, 47.
 Brazil, Statistics of, 262.
 Brecht, C. F., Wines and brandies, 22.
 Brecht, Carl J. P., Wines, 42.
 Breckmann, Charles, Russia, 294.
 Breitholtz, C. G., Sweden, 240.
 Bremer, J. L., Bro., & Co., Seamless bags, 138.
 Bremont, M. S., Olive oil, 88*hh*.
 Brenna, Santo, Liquors, 66.
 Brett, J. M., Great Britain, 173.
 Breuer, Miromil, Patent leather, 55.
 Breve, Souza, Coffee, 71.
 Breves, J. J. de Sz., Coffee, 69.
 Brewery Administration, Beer, 55.
 Brewster, Dodge, & Huse, Cultivator, 25.
 Briantzeff, V., Liquors, 125.
 Brichta, Jacob, Juniper berries, 56.
 Bricker, Jac., Separator, 46.
 Brigham, Wm. Tufts, Hawaii, 261.
 Bright, Hon. H. E., South Australia, 184.
 Brisuela, Primitivo, Grape syrup, 83.
 British Guiana, Statistics of, 193.
 Brito, Augusto Pereira, Wines, 108.
 Brito, J. F. L. Costa, Wine, 109.
 Brito, J. F. S. de, Oil, 118.
 Brito, J. M. de B., Brandy, 113.
 Brito, Joseph Z., & Co., Cigarettes, 17.
 Britto, Joao de, Grain, 92; Wine, 117.
 Briviesca, Corporation of, Flax, 88*ii*.
 Brizard & Roger, Liquors, 50.
 Broddelius & Akerman, Punch, 59.
 Brodie & Harvey, Corn, 44; Flour, 45.
 Brogsitter, P. F., Wines, 54.
 Brolo, Duke F. L. di, Honey, 63.
 Bromvers, E., Crackers, 86.
 Bronsons & Weston, Pine, 134.
 Brooks, C. D., Pickles, preserves, etc., 20.
 Brosse, Madame S. C., Mosses, 152.
 Brot, L., Furniture, 52.
 Brotons Bros., Pepper, 88*m*; Hemp, 88*hh*.
 Brotons, C., Flaxseed, 88*u*.
 Brotons, Don Enrique, Spain, 280.
 Brous, T. Miles, Plows, 25.
 Brovold, T., Grain, 61.
 Brown, A. & F., Engine, 139.
 Brown, Clark D. W., Birds, 18.
 Brown Cotton Gin Co., Gins, machines, 32.
 Brown, Geo. W., Corn planter, 28.
 Brown, H. L. & C. P., Grain drill, 28.
 Brown, Hinman, & Co., Weeding hoes, etc., 26.
 Brown, J. B., & Co., Wire netting, 41.
 Brown, J. Morton, Trellises, 154.
 Brown & Jones, Stove to dry hops, 138.
 Brown, Miss Nellie, Silk worms, 18.
 Brown, Wm. H., Prepared sizing glue, 19.
 Brownback, P. N., Threshing machine, 26.
 Bruce, H., & Co., Wines, 88*v*.
 Bruce, Robert, Tree pruner, 47.
 Brück, E., Wines, 53.
 Brugalieres, E., Wines, 50.
 Brugsch, E., Egypt, 252.
 Brugsch Bey, H., Egypt, 252.
 Brumby, G., Bitters, 54.
 Bruner, M., jr., Hay press, 34.
 Brunner, A. F., Plan of ice house, 138.
 Bruno, Domingo, Wheat, 78.
 Bruno, Giuseppe, Preserves, 64.
 Bruschetti, C. Vincenzo, Wine, 66.
 Bruse, J. M., Barley, 88*e*.
 Brusewitz, E., Sweden, 240.
 Buada, F., Flour, 85.
 Bucher, Gibbs, & Co., Plows, 25.
 Bucher, S., Switzerland, 225.
 Buck Bros., Vinegar, 54.
 Buckhardt, W. H., & Co., Tank and cask, 35.
 Budios, L., Wine, 83*r*.
 Buena Vista Vinicultural Society, Wines, 22.
 Bueno, J., & Co., Liquors, 88*y*.
 Bueno, Pimenta, Woods, 68.
 Buenos Ayres Prov. Com., Hides, 82; Wool, 8*e*.
 Buffa, Augustin, Wheat, 78.
 Buffalo Scale Co., Scales, 139.
 Buife, Louis, Chili, 267.
 Bufill, B., Almonds, 88*6*; Olive oil, 88*gg*.
 Buford, B. D., & Co., Plows, etc., 26.
 Buhl, F. P., Wines, 53.
 Buil, J., Wheat, 88*t*.
 Buison, Julian, Sugar, 132; Bark, 133.
 Buist, David, Seed sower, 27.
 Buist, Robert, jr., Seeds, 17; Plants, 154.
 Bujalance, Corp. of, Wheat, 88*d*; Oil, 88*ee*.
 Bujanda, P., Wine, 88*r*.
 Bulacan, Provincial Board of, Roots, 130.
 Bull, W., Plants, 156.
 Bullon, A., Olive oil, 88*ff*.
 Bulnes, F. de P., Walnuts, 88*a*.
 Burchi, Serafino, Liquors, 66.
 Burd, Dr. J. Patterson, Chili, 267.
 Burdekin, M., New South Wales, 180.
 Burden, H., & Sons, Model, 38.
 Burel, J., Peltry, 49.
 Burela, Serapio, Tobacco, 81.
 Bureta, Countess of, Olive oil, 88*hh*.
 Burgeff, N., Wines, 53.
 Búrgos, F. de, Cereals, 88*h*; Peas, 88*l*.
 Búrgos, Provincial Commission of, Vegetables, 88*i*; Hides, 88*o*; Hemp, 88*u*; Wool, 83*ff*.
 Búrgos, Prov. Dep. of, Vegetables, 88*i*, 88*l*.
 Búrgos, R., Wheat, 78.
 Burguete, Miguel Serrao, Nuts, 91; Olives, 105.
 Burk, W. B., & Co., Corks, 15.
 Burke, Edward & John, Ales, 49.
 Burkhardt, G. F., & Co., Steep tub, 138.
 Burkhardt, Geo. J., & Co., Dye tub, 35.
 Burlage, R. C., Netherlands, 234.
 Burmeister, C. C., Denmark, 236.
 Burnham & Morrill, Canned meats, 20.
 Burt, Hildreth & Co., Machines, 32.
 Buruago, Francisco Solano Asta, Chili, 267.
 Bushfield, W. H., Beef cutter, 34.
 Bushnell, E., Esparto grass, 88*hh*.
 Bussaco, Jose Rodrigues, Honey, 101.
 Bustamante, A. M., Cordial, 88*r*.
 Bustamante, B., Wine, 88*u*.
 Bustamante, O., Tobacco, etc., 80.
 Bustindui, J. A., Wines, 88*w*.
 Bustos, Sophia G., Quince preserve, 84.
 Butchers' Slaughtering & Melting Association, Steamed bones, 19.
 Buton, G., & Co., Liquors, 65.
 Butowsky, Alexandre, Russia, 294.
 Butz, A. L., Corks, 15.
 Bykoff, T., Flax, 126.
 Byrns, J., 180.

C.

- C—, A. M., Coffee, 71.
 C—, J. T. A., Cotton, 74.
 Caballero, A., Wine, 88*x*.
 Caballero y Cabello, M., Wine, 88*bb*.
 Caballero, Marquis of, Wine, 88*cc*.
 Cabanar y Blanco, R., Barley, 88*d*; Vegetables, 88*7*.
 Cabello, J. G., Olive oil, 88*ee*.

- Cabezas y Saravia, J., Hazelnuts, 88*a*; Olives, 88*g*; Olive oil, 88*ee*.
 Cabezuelas, Count of, Cereals, 88*d*.
 Cabilla, A., Grits, 85.
 Cabra, Corporation of, Wheat, 88*d*; Vegetables, 88*g*; Esparto grass, 88*ii*.
 Cabral, Antonio Paes, Wine, 112.
 Cabral, Constantino do Valle, Wine, 108.
 Cabral, J. F. D., Milk, 72.
 Cabral, P. F., & Sons, Wines, 107; Cocoons, 122.
 Cabré, J. N., Wine, 88*bb*.
 Cabreira, Antonio, Wine, 112.
 Cabrero, V., Wheat, 88*f*; Wool, 88*jj*.
 Cabrito Joao Carlos, Wines, etc., 113.
 Caceres, D., Olive oil, 88*dd*.
 Caceres, Francisco, Wines, 113.
 Cachurro, Modesto, & Bro., Wines, 88*e*.
 Cadaval, F. de S., Grain, beans, 97; Flax, 120.
 Cacedo, A., Retortuno, 77.
 Caetano, Joaquim Antonio, Corn, 94.
 Caevuo, Viscount of Gaira, Wine, 116.
 Caglietti, R., Plow, 67.
 Cagwin & Young, Spading plow, 25.
 Caillebotte & Dumagnou, Preserves, etc., 49.
 Caipora, G., Laranginha, 74.
 Caires, Manuel A., Wine, 117.
 Calabuig, B., Seed, 88*n*; Raisins, 88*r*; Wine, 88*bb*; Olive oil, 88*hh*.
 Calafate, A. F., Wheat, 88*c*.
 Calamianes, Provincial Board of, Wax, 131.
 Calasons, José Dias de S., Wine, 112.
 Calatrava, F. G., Cereals, 88*f*; Peas, 88*k*; Wine, 88*y*.
 Calatroni, Pedro, Liquors, 85.
 Calca e Pina, Antonio, Corkwood, 90; Grain, cereals, 92, 95; Cheese, etc., 100; Honey, etc., 102; Wool, 121.
 Calcada, Antonio da Costa, Beans, 97.
 Calcedine Bone Mfg. Co., Manures, 127.
 Caldas, M. D. de S., Vinegar, 112; Wine, 116.
 Caldeira, Joaquim de, Wine, 115.
 Caldeira, Miguel Joaquim, Seeds, 96.
 Caldeira, R. J., Wine, 107.
 Calderon, J. Leon, Mexico, 274.
 Calderon, P., Woods, 77.
 Callegari, Giuseppe, Wines, liquors, 64.
 Calero, J., Olive oil, 88*gg*.
 Calheiros, L. d'O., Oil, 120.
 Caliri, Salvatore, Candied fruits, 64.
 Calisto & Dias, Rice, 92.
 Callado, J. da C., jr., Cheese, 99; Oil, 118.
 Callado Senior, Joao da Costa, Grain, 94.
 Callejon, F. G., Cheese, 88*o*.
 Calleya, Cypriano Ribeiro, Wine, 108.
 Callisto, Manuel M., Preserved fish, 104.
 Calvache, D., Palmetto leaves, 88*ii*.
 Calvo, A., Claret, 88*r*.
 Calvo, F., Orange wine, 88*bb*.
 Calvo, L., Flax, 88*ii*.
 Calzoni, A., Agricultural machine, 67.
 Camacho, Fernando, Mexico, 274.
 Camacho, Henrique José Maria, Wine, 111.
 Camacho, M. G., Cheese, 88*o*.
 Camara, D. H., Flour, 106.
 Camara, Hermelinda Gago da, Flour, 106.
 Camara, José Maria, Wine, 108.
 Camara, Nuts, 91; Seed, 92.
 Camara, Tristao Prestello da, Wine, 112.
 Camargo, Pomperi de, Coffee, 71.
 Camargo, S., Coffee, 71.
 Camargos, Baron de, Tea, coffee, 71.
 Camarines Sur, Prov. Board, Coffee, 131.
 Cambaceres, Antonio, Jerked beef, etc., 85.
 Cambland, M., Wool, 87.
 Camello, J. A., Corks, 90; Seeds, 99; Wines, 113.
 Cameron, R. W., New South Wales, 180.
 Cameta, Municipality of, Cocoa, 69.
 Cammarato, Carmelo, Paste for soup, 64.
 Campanha das Lezirias do, Grain, 93.
 Campas, Antonio Carlos de, Almonds, 91.
 Campbell, C. A. J., Horse shoes, 38.
 Campbell, Geo., Wool, 24.
 Campbell, J. & J. A., Drill, 27.
 Campbell, Thomas, Whiskey, 40.
 Campello, E. J. F. de M., Raisins, 104.
 Campo, F., Olive oil, 88*ee*.
 Campo, V. M. del, Wheat, 88*h*.
 Campoamor, R. de, Esparto grass, 88*hh*.
 Campora, A., Wine, 86.
 Campos, A. d'A. J. de, Oil, 120.
 Campos, A. J. P., Wine, 107.
 Campos, A. L., Olive oil, 88*ff*.
 Campos, Antonio de Freitas, Wine, 113.
 Campos, E., Wine, 88*s*.
 Campos, Enrique, Milk extract, 84.
 Campos, Francisco Ferreira, Wine, 113.
 Campos, Luis José de, Olives, 104.
 Campos, V., Wine, 88*bb*.
 Campubí, J., Liquor, etc., 88*u*.
 Canada, Statistics of, 202.
 Canada Wine Growers' Ass'n, Wines, 45.
 Canadian Commission, Corn, 44, 45; Wool, etc., 46; Yarn, etc., 47; Arbutus, 134.
 Canadian Meat & Product Co., Meats, 45.
 Cañamás, B. A., Raisins, 88*r*; Olive oil, 88*hh*.
 Cañamas, J. D. C., Wine, 88*bb*.
 Canby, George, & Co., Pumps, 39.
 Cancellada, Francisco, Wines, 113.
 Candedo, M., Hazelnuts, 88*a*.
 Canela, A., Wine, 88*vv*.
 Canela, J., Wine, 88*vv*.
 Canela, Agostinho, Wines, 113.
 Cano, A., Crackers, 88*cc*.
 Cano, J., Olive oil, 88*ee*.
 Cano, R., Olive oil, 88*ee*.
 Canoza, Rosaline R., Vegetables, 72.
 Cantelli, Giuseppe, Torrone, 66.
 Canto e Castro, Miguel do, Wine, 112.
 Cantrell & Cochrane, Ale, 41.
 Cantual y Lopez, J., Olive oil, 88*ee*.
 Capdevila é Ibern, J., Wine, 88*aa*.
 Capdevila, J. D., Wine, 88*e*.
 Cape of Good Hope, Statistics of, 185.
 Capello, Manuel Joaquim da Silva, Wine, 112.
 Capsir, I. D., Preserves, 88*g*; Syrup, 88*s*.
 Caramés, J. G., Wax, 88*g*.
 Carande, I., Peas, 88*k*.
 Caras, S., Walnuts, 88*a*.
 Carbayo, L., Wheat, 88*g*; Vegetables, 88*k*.
 Carceller, S., Peanut oil, 88*hh*.
 Cardoso, F. A. L., Oil, 118.
 Cardoso, Francisco de Paula, Sumac, 90.
 Cardoso, Joaquim Maria, Wine, 113.
 Cardoso, jr., Wines, 112.
 Cardoso, M. P., Wine, 107.
 Cardoso, Manuel Gualdino, Wines, 115.
 Cardozo, A. A. C. da S., Grain, 95; Oil, 119.
 Cardozo, Antonio, Wine, 113.
 Cardwell, J. W., & Co., Rice thresher, 32.
 Carenon, E. & J., Model of pump, 83.
 Caretti Bros., Liquors, 65.
 Carey Bros. & Co., Wines, 88*aa*.
 Carignano Bros., Wheat, 80.
 Carinho, Bartholomeu Montargil, Wine, 112.
 Carl, J., Beer, etc., 54.
 Carl, R., Wine, 88*v*.
 Carlos, Brandao, & Son, Cork, 90.
 Carmichael, G. L. & J. B., Wines, 42.
 Carmino, C., & Co., Cigarettes, 88*m*.
 Carmo, Bazilia Maria do, Preserved meat, 104.
 Carmona, J., Olive oil, 88*ee*.
 Carmona, J. G., Liquors, 88*vv*.
 Carmona, M., Olives, 88*g*.
 Carmona, S., Wheat, 88*d*.
 Carnana Bros., Wine, 88*bb*; Olive oil, 88*hh*.
 Carnaru, Commission of, Cotton, 74.
 Carné, J., Wine, 88*vv*.
 Carneira, A. S., Wine, 107.
 Carneiro, B. Rodrigues, Cheese, 72.
 Carneiro, Custadio Gil dos Reis, Wine, 113.
 Carneiro, F. L., Pao wine, 73.
 Carneiro, J. A., Wool, 121.
 Carneiro, Joao Bento Sil, Wine, 111.
 Carnelho, Victorino A. do R., Vinegar, 112.
 Carnell, J. H., Stuffed birds, 44.

- Carnero & Colsa, Starch, 88s.
 Carnes, E. M., Walnuts, 88a; Hams, 88g;
 Olive oil, 88ff.
 Carnide, Viscount of, Wine, 110; Portugal, 284.
 Carol, A., & Co., Olive oil, 88zh.
 Carpanetti, Luciano, Liqueurs, 65.
 Carpenter, Mrs. G. W., Plants, 152.
 Carpinter & Co., Wines, 88v.
 Carr & Hobson, Plows, etc., 26.
 Carraffa, V., Wines, 86.
 Carralho, Alhino Justiniano, Dried figs, 104.
 Carranza, Carlos, Argentine Rep., 265.
 Carrao, Councillor, Coffee, 67.
 Carrasco, A., Wine, 88u; Wool, 88jj.
 Carrasco, A. G., Peas, 88k.
 Carrasco, J. M., Wheat, 88e; Beans, 88j;
 Wine, 88u; Olive oil, 88ff.
 Carratalá, F., Olives, 88p.
 Carrugo, R., Beet roots, 88m.
 Carré, W. W., Wagon, 135.
 Carreira, F. L., Wines, 73.
 Carreira, Joaquin de S. S., Brandy, 116.
 Carreira, José Ivo, Woods, 92; Beans, 99.
 Carreras, R. C., Chard thread, 87.
 Carretero, A. Acorns, 88n.
 Carretero, E., widow of, Flour, 88r.
 Carretero, M., Flour, 88r.
 Carretero, P., Wheat, 88k; Wine, 88v.
 Carrick, David, & Co., Crackers, etc., 24.
 Carrilho Bello, Antonio Marcellino, Wine, 117.
 Carrillo, L., Beans, 88f.
 Carrillos, Pablo, Tobacco, 81.
 Carroll, John W., Tobacco, 17.
 Carroll, Wm., Horseshoes, 39.
 Cartau, R., Flax, 126.
 Cartaya, Corporation of, Seed, 88n; Figs, 88g.
 Carter, Henry C., Butter pail, 35.
 Catrite, Barnard, Fanning mill, 32.
 Caulli, David, Bologna and salted meats, 64.
 Carvalho, A. J. de, Oil, 118.
 Carvalho, Alonso Pinto Teixeira, Wine, 112.
 Carvalho, Ananias Cardoso de, Wine, 112.
 Carvalho, Antonio José de, Seed, 97.
 Carvalho, Antonio Marques de, Wine, 112.
 Carvalho, Antonio Miguel de, Olives, 104.
 Carvalho, B. Rocha, Rice, 69.
 Carvalho, Manioc, 73.
 Carvalho, Carlos Manuel de, Wine, etc., 115.
 Carvalho, Dionisio A. N. de, Wine, 113.
 Carvalho, E. N. de, Oil, 122.
 Carvalho, Francisco Garcia de, Vinegar, 112.
 Carvalho, Francisco José de, Brandy, 112.
 Carvalho, Izidoro T. de M., Portugal, 284.
 Carvalho, J. A., Oil, 122.
 Carvalho, J. A. de, Oil, 120.
 Carvalho, J. B., Oil, 118.
 Carvalho, Joao Affonso de, Wine, 112.
 Carvalho, Joao Antonio, Wine, etc., 115.
 Carvalho, Joao Antonio de, Grain, 93.
 Carvalho, Joaquim A. da S., Rice, maize,
 beans, peas, 91; Flax, 120.
 Carvalho, Joaquim Freire de, Wines, 108.
 Carvalho, José Avelino N. de, Red wine, 108.
 Carvalho, José F. A. de, Beans, 97; Honey,
 101.
 Carvalho, José J. de, Wheat flour, 106; Wine,
 112.
 Carvalho, José R. L. de, Wine, 112.
 Carvalho, José Teixeira da, Wine, 113.
 Carvalho, José Velloso Pinto de, Wine, 113.
 Carvalho, L. de, Gin, 73.
 Carvalho, Luis Canlido, Grain, 94.
 Carvalho, Luis Xavier de Amaral, Wines, 116.
 Carvalho, M. de, Gin, 73.
 Carvalho & Oliveira, Syrup of ipecac, 73.
 Carvalho, Rosa G. de, Chocolate, 104.
 Carvalho, S. P. de M., Oil, 118.
 Carvalho, Z. de, Coffee, 71.
 Carvalhosa, José Felix de Almeida, Wine, 112.
 Caryl, A. H., & Son, Horseshoe nails, 38.
 Casa de Pasos, Wine, 113.
 Casa Nova, Manuel Gonsalves, Corkwood, 90;
 Grain, 97; Barley flour, 106.
 Casado, F., Olive oil, 88ce.
- Casado, F. N., Raisins, 88r.
 Casado y Febrero, Hempen ropes, 88ii.
 Casamayor, M., Wine, 88z.
 Casano, Juan, Flax and spurge seed, 81.
 Casarino, Mariellus, Leather, 63.
 Casas, C., Pasilles, 131.
 Casas, Molino de, Flour, 85.
 Casci, V., Wines, 45.
 Case, J. I., & Co., Threshing machine, 32.
 Caselles, P., & Co., Wine, 88aa.
 Casembroot, F. de, Netherlands, 234.
 Casey, Hon. J. J., Victoria, 182.
 Casillas, R. A., Olive oil, 88dd.
 Caso-Galindo, Wheat, 88g.
 Casoni, Giuseppe, Liqueurs, 66.
 Casqueiro, José Maria, Grain, 96; Wine, 115;
 Wool, 121.
 Cassale Brothers, Wine, 66.
 Cassard Bros. & Co., Refined lard, 19.
 Cassard, Geo., Pepper hams, 22.
 Cassolo, Antonio Joaquin, Leather, 101.
 Casta, J. P. de la, Carrots, 88f.
 Castañeda, R. R., Arrope, 88s.
 Castanheira, José R. M., Wine, 113.
 Castanheiro, B. R., Sweet fruit, 103.
 Castel-Branco, A. M., Preserved meat, 104.
 Castel Branco, F. B. C., Wool, 122.
 Castel Branco, M. de B., Nuts, 91; Acorns, 99.
 Castell, J., Olives, 88p.
 Castell de Mts, J. P. de, Wine, 88f, 88u;
 Olive oil, 88dd.
 Castellarnau, J. de, Wine, 88aa.
 Castello, A. de G. R., Flax, 122.
 Castello Branco, A. P. de T., Wine, 117.
 Castello Branco, D. Joaquina, Wine, 103.
 Castello Branco, F. d' A., Wine, 112.
 Castello Branco, Ignacio Cardozo, Wine, 117.
 Castello Branco, J. da S. F. de, Oil, 104, 119.
 Castello Branco, Manuel A. P., Wine, 113.
 Castello de Borges, Viscount of, Wines, 116.
 Castello, Guadalupe, Grape syrup, 85.
 Castello, Lucas da Silva Carlozo, Wine, 108.
 Castello y Olivares, J. del, Wines, 88v.
 Castellon, Provincial Board of Agriculture of,
 Walnuts, 88a; Cereals, 88d; Vegetables,
 88j; Garlic, 88i; Seeds, 88n; Cheese, 88o;
 Starch, 88s; Cordage, 88ii; Figs, 88p; Bar-
 rilla, 88jj.
 Castelnau, Count de, Victoria, 182.
 Castelnuova, T., Absinthe, 73.
 Castes, M. A., Wool, 87.
 Castiglioni, Domenico, Wines, 64.
 Castilho, A. de, Wine, 107.
 Castilla, C., Wines, 88y.
 Castilla, J. E., Olive oil, 88ee.
 Castillejo, P., Olive oil, 88ec.
 Castillo, J. H., Honey, 88p.
 Castillo y Mesquita, F., Palmetto leaves, 88ii.
 Castino, G. B., & E. Scotto, Paste for soup, 64.
 Castorina & Parlato, Sumac, 63.
 Castro, A. M. Q. de M. e., Oil, 120.
 Castro, Antonio A. d' A., Wine, 113.
 Castro, Ayres de S. Maiiz, Wine, 113.
 Castro, Borja, Woods, 68.
 Castro, Damiao Martins, Wine, 113.
 Castro, Diego de, Argentine Rep., 265.
 Castro, E. C. de, Chocolate, 88cc.
 Castro, E. R., Wheat, 88c.
 Castro, J. J. P. de, Oil, 118.
 Castro, Joao Lopes de, Grain, 92.
 Castro, Joao Vaz Pacheco, Woods, 89.
 Castro, Joaquim Caetano de, Hams, 104.
 Castro, José d' A. S. e., Beans, 97; Wine, 119.
 Castro, José de Braganca, Wine, 113.
 Castro, Luis B. L. M., Nuts, 91.
 Castro, Luis de, Wine, 117.
 Castro, Luis de Mello, Brandy, etc., 115.
 Castro, M. José de, Sweetmeats, 72.
 Castro, M. O. C. de, Wines, 118.
 Castro, Miguel Ozorio, Seed, 97.
 Castro, Pedro, White corn, 78.
 Castro, R. de, Sugar, 74.
 Castro, S., Brandy, 86.
 Castro y Torres, Wheat, 88g.

- Catala, A., Raisins, 88r.
 Catamarca, Prov. Com. of, Seeds, 76; Tobacco, 79; Shells, 81; Skins, 82; Cotton, 86.
 Cataneo, J., Flax, 87.
 Catanzaro, Giuseppe, Wines, 65.
 Catelli Bros., Vermicelli, 45.
 Cathrineholm's Foundry, Implements, 62.
 Catigbac, N., Coffee, 131.
 Cattermole, E., Wines, 74.
 Catz, S., Bitters, liquors, 58.
 Causland, McCoy, & Causland, Pickaxe, 25.
 Cavadas, J. da S., Flax, 120.
 Cavalcante, J. B., Oil, 74.
 Cavalcanti, Samples of woods, 68.
 Cavalleri, P., & Co., Cheese, etc., 100.
 Cavallone, Giovanni, Vermouth, 66.
 Cavanaugh, Hon. W., South Australia, 184.
 Cavite, Provincial Board of, Rice, 131.
 Cazol, Eliziario, Cheese, etc., 100.
 Ceará, Province of, Oils, etc., 74; Fibres, 75.
 Ceballos, D., Leather, 83.
 Cecenarro, V., Wood, 76.
 Cecero y Barreda, E., Wine, 88r.
 Cederlund's, J., Sons, Punch, 59.
 Celis, J. G. de, Wine, 88z.
 Cellas Convent, Preserved fruits, 104.
 Central Exportation Co., Matte, 71.
 Cepeda, I., Honey, 88o, 88p.
 Cepeda, I. de, Wine, 88w; Olive oil, 88ff.
 Cepeda, J. J., Olive oil, 88ze.
 Cepeda, M., Wines, 88r.
 Cercal, M. d'Oliveira, Matte, 70.
 Cerda, E., Vinegar, 88f.
 Cereals Manufacturing Co., Wheat, 21.
 Cerero, L. T., Olive oil, 88ff.
 Cerero y Barreda, E., Wheat, 88e.
 Ceretti, L., Wheat, 79.
 Cernigliano, Vizzi Carmelo, Sumac leaves, 63.
 Cernstein, Anton V., Leather, 55.
 Cerqueira, Lima, & Co, Leather, etc., 101.
 Cerqueira & Co., Snuff, 70.
 Cerri, Luigi, Torrone, 66.
 Cervantes, Pedro, Weed, 92.
 Cerveira, Jose Rodrigues, Wines, 113.
 Cespedes, Jose, Dried apples, figs, 84.
 Ceylon, Statistics of, 191.
 Chabert, J., & Co., Silk, 51.
 Chaboseau & Payen, Liqueur, 50.
 Chaco Argentine Territory Com'n, Woods, 76.
 Chaco Argentine Territory, Provincial Commission of, Skins, 82; Cotton, 87.
 Chadborn & Coldwell, Lawn mower, 29.
 Chalmers, James, & Sons, Gelatine, 19.
 Chalvin, H. A., Cordials, etc., 22.
 Chamber of Commerce & Arts, Almonds, mustard seed, olives, 63; Figs, 64.
 Chambers, Jos. M., Canned goods, 20.
 Champalimaud, Antonio Montes, Wines, 113.
 Champion, A., Thresher, 46.
 Champion Machine Co., Reapers, etc., 31.
 Chandler & Taylor, Saw mill, 33.
 Chaplin, C. H., Rake, 29.
 Chapman Binder Co., Reaper, 30.
 Chapman, Edwin, & Co., Koumiss, 40.
 Chapman, Frank W., Honey extractor, 37.
 Chapman, J., Painter, 147.
 Chapman, John Winslow, Barrel heading, 37.
 Chappée, A., Iron pipes, 48.
 Charlesworth, M., & Son, Bran, 44; Flour, 45.
 Charozé Bros., Fruits, 48.
 Charrington, E., Great Britain, 173.
 Chas. F., Fleece, 87.
 Chase, B., jr., Stakes, 153.
 Chase & Co., Confectionery, 23.
 Chase, J., Fernery, 153.
 Chateau d'Issan, R. G., Wines, 50.
 Chaves, Antonio Joaquim, Wine, 113.
 Chaves & Brother, Flowers, 90; Grain, 93.
 Chaves, C., Seeds, 77; Wines, 86.
 Chaves, José Luciano, Wine, 112.
 Chaves, Manuel José da Cunha, Wine, 113.
 Chaves, Rosaura, Olives, 84.
 Cheasham, John T., Cotton plants, 24.
 Cheavin, G., Filters, 41.
 Chenaillier, Evaporator, 52.
 Chenu, Lafitte, & Co., Wines, 50.
 Chenu, P., Confectionery, 51.
 Chesley, Plumer, Meat chopper, 34.
 Chevallier, A., Food, 49.
 Chiapella, J., Wines, 51.
 Chicago Scraper & Ditcher Co., Scraper and ditcher, 36.
 Chicago Plow Co., Plows, etc., 26.
 Chick, W. H., & Co., Freezers, 35.
 Chiclana, Corporation of, Cereals, 88d.
 Chicorro, A. G., Oil, 119.
 Chicorro, A. M., Oil, 118.
 Chicorro, Andre Guilherme, Grain, 94.
 Chief Intendency of War, Meats, 124.
 Chili, Statistics of, 266.
 Chillaron, S., Saffron, 88m; Seeds, 88n.
 China, Statistics of, 256.
 Chiozza, Luigi, Maize, 55.
 Chisfield, W., & Son, Isinglass, 136.
 Chleborad, Franz, Hops, 55.
 Christesen, V., Denmark, 236.
 Christian, J. A., & Co., Flour, 22.
 Christian, P., Canned lobsters, 45.
 Christiania Brewery, Ale, 62.
 Christina, Manuel Lopes, Grain, 97.
 Christophersen, W. C., Norway, 243.
 Chudaca, L., Oil, 51.
 Ciaccio, F. Paul, Various grains, 63.
 Cicile, L., Bottle cleaner, 52.
 Cid, J., Olive oil, 88ze.
 Cid, Jose Ignacio, Olives, 104; Wool, 122.
 Cills, Wm., Tobacco packing box, 17.
 Ginzano, Franco, & Co., Vermouth, 66.
 Girat y Villafranca, Count of, Medoc, 88y.
 Cirer, M., Rice, 130.
 Cisnero, J. B., Wine, 86.
 Cisneros, H. de, Olive oil, 88gg.
 Cita, Francesco, & Co., Liquors, 66.
 City Chemical Laboratory, Candy, etc., 129.
 City Council of Spalt, Beer, etc., 54.
 City of Gloucester, Exhibit of progress, 19.
 Claghorn, Herring, & Co., Cotton, 24.
 Clariano, R., Wine, 88za.
 Clark & Dunham, Millstones, 41.
 Clark, E. W., Plants, 152.
 Clarke, C., Wool, 87.
 Clarke, N. W., Fish-hatching apparatus, 19.
 Clarke, W. B., New South Wales, 180.
 Clarkson, F. M., & Son, Fruits, 20.
 Claro, Francisco Germano, Wine, 112.
 Clarridge, John, Planter, 27.
 Classen, E., Wool, 87.
 Classification of Agriculture, 12.
 Classification of Horticulture, 149.
 Clausen, H., & Co., Beer, 137.
 Clausen, H., & Son, Ale, beer, 136.
 Claussen, Chas. A., Clover seed, 18.
 Clavarino, S., Wine, 86.
 Clavé, B., Leather, 49.
 Clavelle, J., Wines, 51.
 Claver, M., Wheat, 88f.
 Clear, E., Wheat, 43.
 Clegg, Wood, & Co., Hay rake, 29.
 Clément, Clément, & Co., Diamonds, 48.
 Clement & Co., Pearls, 49.
 Clement & Dunbar, Churns, 35.
 Clemente, M. M., Cheese, 88o.
 Clerc, J. B., Wines, 51.
 Clerfeyt, J., Belgium, 228.
 Clerici, Costantino, Vermouth, 65.
 Climaco, J., jr., Wine, 107.
 Climent, V., Wine, 88o.
 Cloramunt, H., Wines, 88z.
 Coates, A. W., Hay rake, 29.
 Coates, C. J., Australia, 184.
 Coates, H. C., Cape of Good Hope, 186.
 Cobo, L., Tobacco, 80.
 Coca, J. de, Cereals, 88c.
 Coca, J. M., Cheese, 88o.
 Cocho, T., Vegetables, 88f.
 Cochran & Gillespie, Leaf tobacco, 17.
 Coddle Separator Mfg. Co., Machines, 32.
 Codes, T. L. de, Fish, 88n, 88o; Oil, 88o.

- Codina, R., Wine, 88*r*.
 Codina y Riu, R., Wine, 88*u*.
 Coelho, A. F., jr., Wine, 107.
 Coelho, Antonio, Cheese, 99.
 Coelho, Antonio Jose, Nuts, 91; Grain, 97.
 Coelho, J. J., Flax, 120.
 Coelho, Joao dos Santos, Grain, 97.
 Coelho, Jose Fialho, Grain, 93; Honey, etc., 102.
 Coelho, Jose Justino, Nuts, 91; Seed, 97; Beans, 99.
 Coelho, L. P., Wool, 122.
 Coelho, Luis Pires, Grain, 94; Seed, 96; Santarem, 108.
 Coelho, Manuel Diogo, Timber, 90; Nuts, 91; Seed, 96; Cheese, etc., 100; Oil, 118.
 Cohen, John B., Cigars, 17.
 Cohin, E., Oil, 74.
 Cohu, A. B., Implements, 32; Jack, 37.
 Coignet, sen. & jr., & Co., Manure, 52.
 Cokin, E., Tobacco, 70.
 Colambres, G., Vetch, 88*k*.
 Colburn, A., & Co., Spices, 17.
 Coleman & Gowinlock, Salt, 47.
 Colina, jr., Fish, 48.
 Colina, J. N., Cotton, 86.
 Coll, F. M., Wine, 86.
 Coll, J., Walnuts, 88*b*; Raisins, 88*g*; Wine, 88*u*.
 Coll, Vitoria, & Co., Cigarettes, 81.
 Colla, Juan, Flour, 85.
 Collin, A., Champagne, 51.
 Collings, E. Z., Cranberries, 15; Plants, 37.
 Collins & Co., Axes, etc., 25.
 Collison, H. C., Syrup-drip, 39.
 Collyer, Robt. H., Glass, 24; Machinery, 31.
 Coln, Joseph, Food, 49.
 Colodrero, A., Yata y palm cocoanuts, 84.
 Colombini, Ulisse, Sausages, 64.
 Colonia San Carlos Sub-com., Barley, 79.
 Colony of Angelina, Wheat flour, 73.
 Colony of Blumenau, Various products, 72, 74.
 Colony of Iataya, Sugar cane, 73; Cotton, 74.
 Colthurst, Symons, & Co., Bricks, 41.
 Colwell, H., & Son, Ash, 134.
 Comas, F., Hazelnuts, 88*b*.
 Comas y Delgado, R., Wine, 88*b**b*.
 Combet, J., Confectionery, 51.
 Combier, J., Liquors, 50.
 Cominada, Elias Rebeiro, Wine, 113.
 Commerce, Board of, Dried fish, 61.
 Commercial Exchange Ass'n, Flour, 18.
 Commission General, Cereals, 69; Wax, etc., 72; Hemp, etc., 75.
 Commission of the Chaco Argentine Territory, Corn, etc., 8; Rattlesnake, etc., 81.
 Commission of Corrientes, Sugar cane, 80.
 Company for the Supply of Food, Meats, 125.
 Company of Lezirias do Tagus & Sado, Cork-wood, 90.
 Compondu, L. F., Colens, 151; Pansies, 154.
 Compte, J., Wines, 88*u**a*.
 Compte, J. A., Wine, 88*u**a*.
 Conari, G., Italy, 249.
 Conceicao, Joas Nunes da, Dried fruit, 104.
 Conceicao, Jose dos Santos, Flour, 106.
 Conceiro, J. R., Oil, 118.
 Conde & Bros., Flour, 88*r*.
 Conde da Graciosa, Oil, 119.
 Conde de Junqueira, Wines, 115.
 Conde, D. L., Oil, 118.
 Conde, J., Vetch, 88*j*; Seeds, 88*u*.
 Conde, J. M., Hides, 88*o*; Wool, 88*j**j*.
 Condessa d'Anadia, Santa Clara, Beans, 97; Wine, 117.
 Condessa Geraz de Lima, Wine, 112.
 Congosto, Corp. of, Chestnuts, 88*a*; Cereals, 88*e*; Vegetables, 88*j*; Wine, 88*x*; Flax, 88*z*.
 Congressional Library of the U. S., Committee of, Plants, 152.
 Connell Bros., Plow, 46.
 Conrad, E. C., Coffee machine, 34; Cage, 37.
 Conroy, Bissett, Fishing rods, 19.
 Consolidated Tobacco Co., Tobacco, 17.
 Constanca, Maria, & Sons, Coffee, cocoa, 71; Tapioca, 73.
 Constantino, J., Tobacco, 70.
 Consul & Virgili, Hazelnuts, 88*b*; Wine, 88*u**a*; Olive oil, 88*g**g*.
 Contada, Jose D., Corn, 92; Wine, 113.
 Contarella, Franco, Baron, Wine, 65.
 Conte Gran, A., Elixir, 86.
 Contessini, Gerini, & Co., Candied fruits, 64.
 Continho, F. A. d'A., Oil, 119; Wool, 121.
 Continho, J. da F., Oil, 118.
 Contreiras, Jose da Silva, Honey, 97, 101.
 Conver, W. H., Churns, 35.
 Converse, Bolivar C., Reaping machine, 29.
 Cook, Isaac, Hops, 44.
 Cook, J. W. & V., Canned salmon, 20.
 Cook, L. C., Trout rod, 19.
 Cook, Mrs. O. A., Flowers, 151.
 Cooke & Foulke, Cultivator, 25.
 Cooley, John E., & Co., Native wines, 22.
 Cooper, E. E., Great Britain, 173.
 Cooper, I. G., Cutter, 34.
 Cooper, J. G., Brace, 33.
 Cooper, Mark, Fertilizer, 28.
 Cooper, Sir D., New South Wales, 180.
 Cooper's, Peter, Glue Factory, Glue, etc., 13.
 Cope, A., Plants, 152.
 Cope & Maxwell Mfg. Co., Pumps, 139.
 Coquillat y Sempere, J., Wine, 88*k*.
 Corac, A., Olive oil, 88*f**f*.
 Corado, Vincente Joaquin, Grain, 92.
 Corbalán, J., Almonds, 88*b*; Honey, 88*f*; Wine, 88*e*; Olive oil, 88*f**f*.
 Corbel, E., & Co., Leather, 49.
 Corbett, A., Incubator, 33.
 Corde, J., Cereals, 88*d*.
 Cordeiro, Antonio Montes, Wine, 113.
 Cordeiro, Cataeno Manuel, Cork, 90.
 Cordeiro, jr., Rice, 73.
 Cordero, Pedro J., White corn, 78.
 Cordes, Balthasar, Grain, 95; Wines, 108.
 Cordini, Gaetano, & Brivio, Vermouth, 66.
 Cordoba, Demetrio, Lima beans, 80.
 Cordoba, Provincial Commission of, Woods, 76; Wheat, 80; Skins, 83; Cacti, 159.
 Cordojueta, R., Red wheat, 88*d*.
 Corinho, Jose Maria, Grain, 92; Oil, 118.
 Cork Distillery Co., Whisky, 40.
 Cormier & Véron, Food, 49.
 Corn Exchange Ass'n, Grain, 44; Flour, 45.
 Cornejo, J., Resin, 76.
 Cornejo, John, Sugar cane, 78.
 Cornell, G. B., Bung bushes, 138.
 Cornish & Curtis, Churn, 35.
 Cornu, E., & Co., Marble, 48.
 Corral, L. M. del, Tobacco, 88*m*.
 Corrales, I. W., Wool, 87.
 Correa, Antonio de Sousa, Olives, 104.
 Correa, Benedicto, Corn, etc., 78; Wool, 84.
 Correa, Ildefonso, Matte, 70.
 Correa, Joaquin, Nuts, 91; Grain, 94; Oil, 118.
 Correa, Jose, Augusto, Wine, 113.
 Correa, Laurencio, Medicinal plants, 69.
 Correa, P., Matte, 76.
 Corrella, Manuel, Mexico, 274.
 Correras, S., Skin, 83.
 Corrientes, Agricultural Dept. of, Wood, 76.
 Corrientes, Prov. Com. of, Woods, 76; Viper's skin, shells, 81; Skins, 83; Ropes, 87.
 Corry, Wm., & Co., Aërated waters, 40.
 Corte Real, Antonio Freire, Dyewood, 90; Beans, 97; Wine, 112.
 Cortes, B., Wines, 88*y*.
 Cortés, J. I., Wine, 88*u*.
 Cortés y Velarde, E., Wool, 88*j**j*.
 Cortez, Benedicto Celorico, Red wine, 108.
 Cortez, P., Steer hide, 72.
 Cortez, P. de Siqueira, Matte, 623.
 Cortina, M. de la, Resin, 130.
 Cortines, C., Liquors, 88*e*.
 Cortinez, Domitilio, Honey, 84.
 Cortino, Mariano, Maguey plant, 133.
 Cortlandt Wagon Mfg. Co., Wagon, 135.
 Cosio y Cuenca, Liquors, 88*e*.

- Cosmacendi, Anton, Liquors, 55.
 Cosolero, M. G., Oil, 118.
 Cossart, Gordon, & Co., Wine, 112.
 Cosset, D., Lamps, 48.
 Cossola, Antonio Joaquim, Barks, 90.
 Costa, A., Charcoal, 82.
 Costa, A. da, Oil, 118.
 Costa, Agostinho N. d'Oliveira, Wine, 108.
 Costa, Antonio Ferreira da, Seed, 97.
 Costa, Antonio Ignacio da, Flour, 106.
 Costa, Antonio Jacome da, Brandy, 112.
 Costa, Bartolo, Wheat, 78.
 Costa & Bro., Corn flour, 106.
 Costa, Cabral Joao Rebello da, Wine, 112.
 Costa & Co., Sugar, 73; Fruit, 88r.
 Costa da Mendiga, Jose da, Honey, 101.
 Costa, Domingos Antonio da, Wine, 112.
 Costa, E. A. da, Biscuits, 118.
 Costa, Eymoll, & Co., Hides, 72.
 Costa, F. C., Wine, 107.
 Costa Falcao, Antonio, Olives, 105.
 Costa, Francisco Bentoda, Wine, 113.
 Costa, Gaudencio da, Caoutchouc, 68.
 Costa, J. P., Wine, 88bb.
 Costa, J. V. P. da, Wine, 107.
 Costa, Joao Carlos, Acorns, 91; Wool, 122.
 Costa, Joao Cezario, Red wine, 108.
 Costa, Joao Maria da, Wine, 112.
 Costa, Jose da Abrazeves, Wine, 112.
 Costa, Jose Joaquim Pintoda, Wine, 113.
 Costa, Jose Rodrigues da, Olives, 105.
 Costa, L., Liquors, 86.
 Costa, L. J. da F., Wine, 118; Oil, 119; Wool, 121.
 Costa, M. da, Coffee, 71.
 Costa, M. J., Oil, 120.
 Costa, Manuel Jorge da, Barley and beans, 94; Flax, 120.
 Costa, P. M., Coffee, 69.
 Costa-Pereira, A. B. da, Coffee, 71.
 Costa, Pereira, & Co., Wines, 113.
 Costa, R. de, Sugar, 73.
 Costa, Victorino Alves da, Wine, 113.
 Costeira, M. F., Wine, 118.
 Costin, P., Cider, 45.
 Cotan, A., Vinegar, 88z.
 Cotan, A. G., Wheat, 88g.
 Cotan y Muñoz, Wheat, 88g.
 Cotrofe, M., Fish, 88z; Preserved meat, 887.
 Cotter, Forge Candido Berkely, Portugal, 285.
 Cotton, A. C., Hoe, 25; Extractor, 36.
 Cotton Exchange, Raw cotton, 24.
 Couceiro, Samples of woods, 68.
 Coudert, A., Cigarettes, 80.
 Coudert, G., & Son, Brandies, 51.
 Couette, Tents, 157.
 Council of Agriculture, Cereals, 44.
 Council of Polizzi, Avellane nuts, 63.
 Coupiac, E., Cheese, 49.
 Couraca, Jose de G., Wine, 108; Wool, 121.
 Court, P. W., Wool, 43.
 Cousland & Cousland, Picks, 34.
 Coutinha, Dr. J. M. de Silva, Brazil, 263.
 Coutinho, A. J. de M., Wines, 113.
 Coutinho, Fernando A. d'A., Grain, 96.
 Coutinho, Joaquim Jose, Wine, 111.
 Coutinho, Jose Maria d'Almeida, Wines, 113.
 Coutinho, Luis C. de L. A., Nuts, 91; Seed, 99; Wine, 112.
 Couto, Antonio Severino do, Wine, 112.
 Coutto, Joaquim Lucio do, Grain, 95.
 Couture, Textile stripper, 51.
 Cowder & Jones, Windmill, 37.
 Cowdrey, E. T., & Co., Canned vegetables, 20.
 Cox, Hon. G. H., New South Wales, 180.
 Craig, Daniel, Parlor aquarium, 19.
 Crater, Chas. H., Coupling, 135.
 Crawford & Walton, Bleached sponge, 19.
 Crenshaw, Geo., Stuffed fowls, 18.
 Crespo, José S., Chocolate, 88dd.
 Crespo, M., Wheat, 79.
 Crespo, R., Cereals, 88z.
 Cresswell & Co., Wine, 111.
 Cresswell, Samuel J., Cast iron, 147.
 Creutz, A., Punch, 59.
 Creux, T., Wines, 88u.
 Criado, D., Olive oil, 88ee.
 Criado, J. G., Wheat, 88d.
 Criqui, Joseph, Wines, 23.
 Crispo, M. C., Lemons, oranges, 63; Wine, 65.
 Croft, Wilbur, & Co., Confectionery, 23.
 Crompton, J., South Australia, 184.
 Crook, Graham, & Co., Boilers, 41.
 Croskill, G. H., Cordials, 45.
 Cross & Mehling, Imitation walnut buhl, 15.
 Crosse & Blackwell, Sauces, 40.
 Crowe, A. H., Fishes, etc., 45.
 Crowell, J. B., & Co., Grain, etc., 28.
 Crozier, Hon. J., South Australia, 184.
 Crusat, E. L., Wine, 88bb.
 Cruz, B. A. da, & Bomfun, Fibres, 75.
 Cruz Durán, J. de la, Walnuts, 88a.
 Cruz Gomez, J. de la, Shoddy, 88jj.
 Cruz, J. F. da, Biscuits, 118.
 Cruz, Joao Lopez de, Grain, 92.
 Cruz, Joaquim Rodrigues, Wine, 113.
 Cruz, Jose Bento, Beans, 97; Honey, 104.
 Cruz, Jose Lopes da, Wine, 113.
 Cruz, Manuel Mendes da, Wine, 113.
 Cruz, R. T. de la, Figs, 88g; Olive oil, 88ff; Models, plans, 88jj.
 Cuadra, E. de la, Cereals, 88h; Vegetables, 88k; Olive oil, 88gg; Wool, 88jj.
 Cuba, Central Commission of, Tobacco, 88m; Sugar, 88o; Honey, 88p; Sherry, 88cc.
 Cuellar, J. A., Cereals, 88h.
 Cueva, F. de la, Almonds, 88a; Liquors, 88u.
 Cueva, M. de la, Liquors, 88x.
 Cuevas & Garcia, Vermicelli, 88s; Chocolate, 88dd.
 Cuevas, J. de las, Sausages, 88f.
 Culbertson, J. Brandon, Rice, 16.
 Cummings, W., Banana, 152.
 Cundall, J. H., Great Britain, 173.
 Cunha, Alexandre de Sena, Red wine, 113.
 Cunha, Antonio Duarte da, Wine, 113.
 Cunha, Antonio Jose, Seed, 99.
 Cunha, Bernardino Alves Teixeira, Wine, 113.
 Cunha, Gregorio da, Wine, 108.
 Cunha, J. J. Alves da, Coffee, 70.
 Cunha, Joao Augusto da, Wine, 112.
 Cunha, Joaquim Guilherme da, Olives, 104.
 Cunha Ozorio, J. F. da, Grain, 92; Oil, 118.
 Cunibert, Baron von, Wines, 53.
 Cunliffe, Dobson, & Co., Wines, 51.
 Cunningham, Edward, China, 257.
 Cunningham, P., & Co., Wheat, 42.
 Cunto, Manuel d'Aguino Alves do, Wine, 113.
 Curlier Bros. & Co., Brandies, 51.
 Curry, Giacomo, Preserves, 64.
 Curte, L. de, Belgium, 228.
 Cusack, H. P., Barrel hoops, 134.
 Cusenier, E., & Co., Liquors, 51.
 Cusi y Ferret, F., Wine, 88f.
 Cusick, Linn, & Co., Tea boxes, 17.
 Cuthbert, A., Tree, 152.
 Cuvier Club, Fish, 18.

D.

- Da Costa, Antonio Adirano, Portugal, 284.
 Da Silva, Manuel Gomes, Portugal, 284.
 Dabner, G. H., Agave, 88ii.
 Dagorret, M., Hides, 83.
 D'Aguiar, Antonio Augusto, Portugal, 284.
 Dahl, E. C., Pale ale, 62.
 Dahl, Jens O., Fish nets, lines, 61.
 Dahl, P., Snuff, 59.
 Dahlen, F. K., Wines, 53.
 Dahlen, J. F. J., Wines, 53.
 Dahlheim & Engstrom, Punch, 59.
 Dairit, F., Seeds, 131; Oil, 132.
 Dalbello, Antonio, Liqueur, 55.
 Dalen's Tannery, Leather, 62.
 Dalman y Amat, D. de, Wine, 88aa.
 Dalmatia, Prima Societa Enologica, Wine, 56.

- Daman, Samuel C., Hawaii, 261.
 Damiros, M., Egypt, 252.
 Dammann, L., & Cordes, Bitters, 54.
 Dana, C. H., Label machine, 38.
 Dandicolle & Gaudin, Wines, 50.
 D'Andrade, L. A. M., Portugal, 285.
 Danks, J., Victoria, 182.
 Dannfelt, C. J., Sweden, 240.
 Dantas Pimenta, Jose Maria, Dried fruit, 103.
 Daoiz, Count of, Olive oil, 88gg.
 Daoiz, J., Olive oil, 88gg.
 Darcher, A., Skins, 83.
 Dardel, F. L. von, Sweden, 240.
 Dardelle & Co., Vegetables, 49.
 D'Aristarchi, G., Turkey, 288.
 Dassi, Joseph, Italy, 249.
 Daubin & Co., Lard, 49.
 Daumas, J., & Co., Cigarettes, tobacco, 81.
 Dávalos, A., Wine, 86.
 Davalos, Benjamin, Tobacco leaves, 81.
 Davenport, S., South Australia, 184.
 Davernat & Co., Brandy, 88f.
 Davey, Bickford, Watson, & Co., Fuse, 48.
 Davey, W. O., Oakum, 24.
 Davidson, G., & Co., Cochineal, 88n.
 Davila, Bonifacio, Beans, 80; Wines, anise, brandy, 86; Wool, 88.
 Dávila, Carmen T. de, Preserved olives, 84.
 Dávila, D., Wines, 86.
 Dávila, G., Beans, 79; Syrup, 85; Cotton, wines, 86.
 Dávila, N. V. de, Wines, 86.
 Dávila, Nicolasa, Monogasta syrup, 85.
 Davis, H. S., Horseshoes, 38.
 Davis, S. jr., & Co., Smoked hams, etc., 21.
 Davis, T., & Bro., Porter, 45, 139.
 Davis, Wire, & Co., Shingles, 15.
 Davison, E. Mara, Argentine Rep., 265.
 Davison, Edw. T., Argentine Rep., 265.
 Davison, G., & Co., Wines, 88v.
 Dawson, W. G., Axe handles, 134.
 Day, A. G., India rubber, 15, 39.
 Day, Edmund, Viper, 81.
 Day, Frederica, Wheat, 78.
 Day, S. A., & Co., Incubator, 33.
 Daza, F., Cereals, 88c.
 Daza y Ruiz, F., Grapes, 88x; Beans, 88f; Wines, 88f; Flax, 88i.
 De Bont, M. J., Confectionery, 58.
 De Chabrol, Mr., France, 209.
 De Fallois, Mr., France, 209.
 De Jough, Wz. D., Vegetable oils, 58.
 De la Cruz Videla, Juan, Wheat, 80.
 De Laforest, Mr., France, 209.
 De Nava, Giuseppe di P., Wines, 65.
 Dean, William G., Mustard, 17.
 Deardorff, Isaac N., Stove, 38.
 Deas, J. S., Canned salmon, 45.
 Deats, L. M., & Co., Plows, 25.
 Deby, J., Belgium, 229.
 Decker, J., Cotton, 74.
 Decker, J., & Son, Ice swimmers, 137.
 Decker, P. H., Hollow tooth harrow, 25.
 Decrow, A. W., Scavenger, 135.
 Dederick, P. K., & Co., Machines, 33.
 Deener, Cissel, & Welsh, Flour, 21.
 Deere & Co., Steel plows, etc., 25.
 Defagot, C., Peach liquor, 86.
 Deitz, George A., Dryer, 37.
 Dejante & Co., Wine, 107.
 Déjardin, E., Syrup, 50.
 Dejorti, E., Wine, 86.
 Del Bono, Enrico, Wine, 65.
 Delaware, State of, Timber, 15; Cereals, 16.
 Delcheralerie, M., Egypt, 252.
 Delf, W., Wheat, 40.
 Delgado, Daniel, Potatoes, 80.
 Delgado, F. G., Olive oil, 88dd.
 Delgado, M., Wool, 88ff.
 Delgado, M. G., Wheat, 88g.
 Delgado, Manuel, Dried figs, 84.
 Delgado y Palacios, J., Alcohol, 88v.
 Delizy & Doistau, jr., Liqueurs, 51.
 Delmas, A., Woods, 42.
 D'Elpeux, Ravin, France, 209.
 Delta Moss Co., Moss, 15.
 Dengink, H., Maize, 123; Lentils, 124.
 Dénia, R., Wine, 88s.
 Denmark, Statistics of, 235.
 Denner, Santiago, Lima beans, 80.
 Dennis, F. A., Wool, 88.
 Dennis, Rowland, & Co., Plow, 46.
 Denny, L., Sugar press, 51.
 Deplanque, jr., Emery, 48.
 Deriviere, J., Food, 49.
 Dernel, H. F., & Co., Tools, 34.
 Descals, F. P., Wine, 88w.
 Desfeux, P., Sheds, 52.
 Deshariot, A., Liqueurs, 125.
 Desmoutis, Quennens & Le Brun, Platinum, 48.
 Dessandier, F., & Co., Brandies, 51.
 Dessauer, A., Glue, 53.
 Detlós, G. de, Maize, 88c; Seeds, 88n.
 Detrie-Grandjean, Kirschwasser, 51.
 Detring, G., China, 257.
 Deu, J., & Co., Wine, 88x.
 Deus, J. R. de, Wine, 107.
 Deus, J. R. de, & Co., Oil, 120.
 Dexter, E. M., & Co., Confectionery, 24.
 Dezincourt, Arrowroot flour, 72; Sugar, 73.
 D'Haussonville, Viscout, France, 209.
 Diamante, Sub-commission of, Cochineal, 77.
 Diarson, J., Matte, 71.
 Dias, C. F., Plants, 69; Pharmacies, 75.
 Dias, D., Drugs, 75.
 Dias, D. J. F., Wine, 107.
 Dias, J. da, Oils, 74.
 Dias, J. da F., Wine, 107.
 Dias, Luis Antonio, Beans, 98.
 Dias, M. L., Vinegar, 107.
 Diaz, A., Hemp, 88ii.
 Diaz, Bances, & Co., Tobacco, 88nn.
 Diaz, C., Wine, 88y; Wool, 88ff.
 Diaz, E., Wheat, 77.
 Diaz, Eulogia, Stuffed viper, 81.
 Diaz, F., Walnuts, 88b; Rye, 88f.
 Diaz, G., Wheat, 88g.
 Diaz, I., Sugar, 73.
 Diaz, J., Sweetmeats, 88g; Liqueurs, 88cc.
 Diaz, L. B., Wine, 88y.
 Diaz, R., Wheat, 79.
 Diaz y Gomez, E., Wines, 88w.
 Dibble, Andrew J., Churns, 35.
 Dick, J., Ferns, 151; Boiler, 152; Plants, 154.
 Dickey, A. P., Mills, 34.
 Dickson, C., Sweden, 240.
 Diego, F. de, Wheat, 88h.
 Diego, F. P., Carrobs, 88l; Wines, 88bb.
 Diego, Wood, & Co., Wines, 88v.
 Diego y Carsi, I. & J., Carrobs, 88l; Oil, 88hh.
 Dieguez, M., Anise seed cordial, 88cc.
 Diener, H., Wines, 53.
 Dier & Dietz, Skins, wool, 43.
 Dieringer, C., Coopers' work, 138.
 Dietrich, A., Tobacco, 70.
 Dietrich & Co., Wines, 53.
 Dietz-Monin, France, 209.
 Diez, C. P., Liqueurs, 88cc.
 Diez y Diez, L., Wine, 88cc.
 Dilthey, Sahl, & Co., Wines, 53.
 Dimayuga, Procesa, Cotton, 132.
 Dingee, Squire, Pickles, chow-chow, etc., 21.
 Diogo, Paulo Joao, Grain, 94.
 Dione, A. C., Food, 49.
 Dios Aguado y Alarcon, J. de, Cereals, 88c.
 Dios Quemada, Juan de, & Sons, Root, 88m.
 Direction of the Works of the River Mondego, Timber, 90; Olives, 91; Grain, 95.
 Ditely, E., Wines, 51.
 Diz, M. F., Wine, 88z.
 Dobrozelsky Sugar Mfg. Co., Sugar, 125.
 Dods, John, Sulky horse hay-rakes, 29.
 Dodero y Ponte, J., Carrobs, 88d; Wines, 88v.
 Doel, W. H., Nest, 45.
 Doerchuck, G., Varnish, 138.
 Dole Bros., Hops, 136.

- Dolin, Mrs., Vermont, 51.
 Domec, G., Honey, 88*f*.
 Domech, P., Sherry, 88*cc*.
 Domenech, A., Wine, 88*bb*.
 Domenech y Monte, J., Almonds, 88*h*.
 Domenici, Annibale, Meat, 64.
 Domeyko, Ignacio, Chili, 267.
 Domingo, D., Almonds, 88*h*; Cereals, 88*h*.
 Domingo, G. de, Honey, 88*o*.
 Domingo, T., Olive oil, 88*gg*.
 Domingues, V. J., Oil, 119.
 Dominguez, B., Honey, 88*o*.
 Dominguez, F., Brandies, 88*vv*.
 Dominguez, J., Skins, 81; Vinegar, 85.
 Dominguez, J. D., Syrups, 85.
 Dominguez, M., Barley, 88*f*; Wine, 88*z*.
 Dominguez, P., Maize, 88*h*; Olive oil, 88*gg*.
 Donadio, Count del, Spain, 280.
 Doncel, J. E., Wine, 86.
 Doncel, R., Wine, 86.
 Dorner & Suhl, Hay cutter, 33.
 Dons, Henrik, Fish, 61; Meats, 62.
 Dookhinoff Brothers, Linseed, 124.
 Doolvetoff, D., Wine, 125.
 Doonaieff, N., Tobacco, etc., 124.
 Dordin, J., Beer, 126.
 Doorontcha, M., Tobacco, etc., 124.
 Doorontcha, S., Tobacco, etc., 124.
 Dorado, M. L., Flax, 88*ii*.
 Doria, B., Wine, 107.
 Doria, J., Wine, 107.
 D'Orleans, Gaston, Brazil, 263.
 Dornas, Luis Cazemiro Pinto dos, Grain, 93.
 Dornon, L., Gauzes, 52.
 Dortmund Brewery, Beer, 54.
 Dos, F., Wheat, 88*g*.
 Doulton, H., & Co., Vases, 156.
 D'Outremont, Count, Belgium, 229.
 Dow & Co., Wine, 107.
 Dow, John, Harrow, 46.
 Downie, W., Hops, 44.
 Downs, W. H., Churns, 35.
 Doyle, J. F., Wines, 42.
 Drach, J. R. G., Wine, 107.
 Draisma Van Valkenburg, S., Liver oil, 57.
 Drake & Parnley, Fence post base, 36.
 Draper y Precios, S., Starch, 88*s*.
 Dreer, H. A., Ferns, 151; Tools, 153; Plants, 154.
 Dreher, Anton, Beer, 55.
 Dreifuss & Binswanger, Beer, etc., 54.
 Drew, E. B., China, 257.
 Dreydelsohn & Co., Wines, 53.
 Dreyfus, B., & Co., Wines, 22.
 Driessen, C. A., J. P., & H. T., Cacao, 58.
 Dronne, L. F., Meats, 49.
 Drouven, J., & Co., Liqueurs, 34.
 Drown, W. A., Umbrellas, 57.
 Druelle, Wine, 51; Corking apparatus, 51.
 Du Summerard, France, 209.
 Du Vivier & Co., Pickles and delicacies, 20.
 Duarte, E. J., Oil, 119.
 Duarte, J. B., Wine, 107.
 Duarte, J. C. F., Wine, 107.
 Dubois, B. B., Cheese, 82.
 Dubois, E., Bottling machine, 51.
 Dubois, E., & Co., Brandies, 51.
 Dubois, José B., Flour, 85.
 Dubois, L., Chocolate, 88*dd*.
 Duchesne Bros., Leather, 49.
 Duclerc, M., France, 209.
 Duff, Gordon, & Co., Sherry, 88*cc*.
 Dufour, A., & Co., Wines, 49; Sardines, 49.
 Dugage, R., France, 209.
 Dugan, T., Skins, 82.
 Duhayon, F., Belgium, 228.
 Duijvis, J., Starch, 58.
 Duisberg, E., Belgium, 229.
 Dulce y Alvarez, B., Flour, 88*r*.
 Dumontier, C., Agricultural products, 48.
 Dunn Edge Tool Co., Scythes, 31.
 Dunn, T. J., & Co., Cigars, 17.
 Duperon, Chas., Harrow, 46.
 Dupland, E., Sardines, 49.
 Duportal, E., Skins, 82; Wool, 87.
 Duportal, Emilio, Argentine Republic, 265.
 Duquênél, Wines, 51.
 Duraes, L. A., Wine, 107.
 Duran, E., Wine, 88*z*.
 Durand, A., Wool, 87.
 Durango, M. M., Barley, 88*f*; Flour, 88*r*.
 Durao, Pedro Manuel, Vinegar, 116.
 Durenne, A., Fountains, 48, 157.
 Duret, J., & Co., Cognac, 51.
 Durlacher, S., & Sons, Wines, 54.
 Duro, Francisco dos Santos, Grain, 94.
 Durozier, M., & Co., Liqueurs, 51.
 Durrschmidt, Emery, 48.
 Durvie, Kneading trough, 52.
 Duryea's Glen Cove Starch Co., Starch, 22.
 Dutch Agricultural Society, Agriculture, 57.
 Dutch Association for Encouragement of Flax Industry, Flax, 58.
 Dutton, R., Reaping and mowing machine, 29.
 Duvalliers, F., Plans, 157.

E.

- Eagle Co., Scythes, 29.
 Eagle, L. J., Plants, 151.
 Eagle Mfg. Co., Walking cultivator, 28.
 Eagle Mowing & Reaping Machine Co., Mowing and reaping machines, 28.
 Eastern Burnetting Co., Lumber, 15.
 Eastwood & Co., Shafts, 41.
 Ebert, J., Fountain, 153.
 Ebling, P. & W., Beer, 137.
 Eca, José Ferreira de, Brandy, 106.
 Echarrieta, S., Paste, 88*r*.
 Echeberria, P., Woods, 77.
 Echevarria, C., Dyes, 76; Vipers, 81; Skins, 83; Cotton, 87.
 Echevets, Gabriel, Stuffed wildcat, 81.
 Eckel Bros., Wines, 53.
 Eckstein, A. M., & Sons, Tobacco, 53.
 Eckstein, H. M., Kid leather, 55.
 Eclipse Windmill Co., Windmills, 140.
 Economical Society, Tea, 131.
 Economical Society of Friends of the Country, Grapes, 88*a*.
 Ecorcheville & Legrand, Fruits, 49.
 Edwards, J. Fenton, Porcelain, 41.
 Edwards, J., & Son, White ware, 41.
 Egan, Thos. J., Birds, 44.
 Egberts, B. H., Succory, 58.
 Egert, J. v. H., Oats, etc., 123.
 Egidius, Peter, Herring, anchovies, 61.
 Egreja, José Francisco de Serra, Grain, 95; Flour, 106.
 Egreja, Manuel Antonio, Indian corn, beans, 95; Flour, 106.
 Egypt, Statistics of, 250.
 Ehrel, Geo., Beer, 137.
 Ehrhardt, C., Wines, 53.
 Ehrhardt, J., Wines, 53.
 Eichler, G., Plans, 158.
 Eigeman, A. H., Netherlands, 234.
 Eisenmayer & Co., Flour, 22.
 Eklundh, L. P., Plows, 60.
 Elfving, N. H., Sweden, 240.
 Elia, Antonia, & Sons, Pistachio almonds, 63.
 Elia, E., Cheese, 82.
 Elias & Betz, Beer, 137.
 Elias, Edward, Egypt, 252.
 Elligot, James, Bottles, etc., 35.
 Elliott, Thos., Hay rake, 46.
 Ellis, Chas. R., Tank, 37; Boilers, 152.
 Ellis, Hoffman, & Co., Machines, 32.
 Ellis, Minot, Swivel plows, 25.
 Ellsbury & Hayward, Fruit, 37.
 Ellsworth, John T., Churn, 35.
 Elmore, Daniel, Settees, 154; Pagodas, 155.
 Flola, P., Woods, 77.
 Elphée, Edmund, Seed wreath picture, 37.
 Elten, D. P. K. van, Netherlands, 234.
 Elvira, J., Jam, 88*g*.
 Emery, Horace L., Machine, 34.

Emmert, Wm P., Churns, 35.
 Empire Portable Forge Co., Forges, 33.
 Encineto, Corporation of, Rye, 88c; Beans, 88j; Flax, 88ii.
 Enciso, A. M., Pepper, 88n.
 Engineers of Woods and Forests, Insects, 88n;
 Esparto grass, 88ii; Implements, etc., 88jj.
 Enison, Catalino, Sugar, 132.
 Entological Society of Savigliano, Wine, 65.
 Entological Society of Scandiano, Wine, 65.
 Ensenada, Justice of the Peace of, Woods, 76.
 Entre Rios, Prov. Com. of, Woods, 77; Skins, 83
 Ergueta, M., Skin, 82.
 Erichsen, Thomas, Fish hooks, 61.
 Ericsson, Anders, Calfskins, 59.
 Ericsson, N. O., Anchovies, herrings, 59.
 Eric Preserving Co., Canned fruits, 21.
 Erkenbrecher, Andrew, Starch, 22.
 Ermoloff, A., Grain, 123.
 Errazuriz, Sr. Francisco Gonzalez, Chili, 267.
 Errazuriz, Sr. Maximiano, Chili, 267.
 Erskine, W. A. E. W., South Australia, 184.
 Erwin & Wise, Isinglass, 45.
 Escalada & Co., Skins, 82.
 Escamilla, S., Wheat, 88i.
 Escarda, S. M., Chocolate, 88aa.
 Escobar, Don Alfredo, Spain, 280.
 Escobar, H., Oil, 120.
 Escobar, Juan de Dios, Lima beans, 80; Snake
 skin, 81; Dried figs, peaches, 85.
 Escobar y del Campo, F., Wine, 88zw.
 Escoda, A., Hazelnuts, 88b.
 Escoda y Teixido, A., Carrobs, 88l.
 Escofet Nello, M., Wine, 88u.
 Escoffier, J., Fruits, 49.
 Escolá y Franch, R., Hazelnuts, 88b.
 Escolar, A., Olive oil, 88ff. /
 Escribano, F., Wheat, 88g.
 Escribano, José, Carrobs, 88l.
 Escribano, J. V., Olive oil, 88ee.
 Escribano, Luis, Wheat, 88d; Acorns, 88n;
 Peas, 88j; Olive oil, 88ee.
 Escudero, D., & Son, Chocolate, 88dd.
 Escudero, F., Wheat, 88f.
 Esinond & Dunham, Press, 34.
 Espada, J. C., Honey, etc., 101.
 Espada, T., Wine, 86.
 Esparsa, J., Seed, 77.
 Esperanca, Viscount of, Wine, 109; Brandy,
 vinegar, oil, 117.
 Espina, J. M., Vinegar, 88x.
 Espinós, J., & Co., Raisins, 88p; 88r.
 Espinosa, F. M. de, Wool, 88j.
 Espinosa, J., Wheat, 88c.
 Esquivel, Peter A., Cigars, 80.
 Estapé y Cardona, J., Pastes, 88r.
 Esteban, F., Wheat, 88h; Flour, 88r.
 Estéban y Balen, A., Peas, 88j.
 Estéfani, J. G., Champagne, 88y.
 Estellés, G., Raisins, 88q.
 Esterly, Geo. W., Cultivator, seeder, 28.
 Estes, William A., Anti-friction plow, 26.
 Esteve, D. E., widow & son of, Nuts, 88c;
 Olives, 88q; Vinegar, 88aa; Olive oil, 88th.
 Esteve, J. M., Starch, 88s.
 Esteves, Felipe, Nito, 133.
 Esteves, J. M., Wine, 107.
 Esteves, M. de M., Wine, 107.
 Estévez, J. V., Wine, 88y.
 Estrada, E., Olive oil, 88ee.
 Estrada, L., Barley, 88g.
 Estrada, Ramon, Cereals, 88d.
 Estrada, S., Wax, 131.
 Estradé y Alsamora, J., Wine, 88aa.
 Estrado, D. P., Wine, 88x.
 Estrado y Perjano, R., Olive oil, 88ee.
 Eugenia & T., White silk, 75.
 Euplio, Reina, Wine, 65.
 Evans Bros., Hams, shoulders, etc., 21.
 Evans & Baird, Machines, 33.
 Evans, C. H., & Co., Ale, 136.
 Evans, Lippincott, & Cunningham, Bacon,
 hams, etc., 21.
 Evans & Stafford, Cheese, 40.

Evans, Wm. P., Engine, 33.
 Everard, Hon. W., South Australia, 184.
 Evoli, Ma. Giovanni, Liquor, 66.
 Exhibition of Live Stock, 142, 143, 144.
 Exton, Adam, & Co., Butter, etc., 24.
 Eyries, A., Wine, 88cc.

F.

Fabarés, F. R., Wheat, 88f.
 Fabiá, M. A., Syrup, 88r.
 Fabra, F. Loyser, Spain, 280.
 Fábregues, G., Nougat, 88r, 88o; Milk, 88o.
 Fabrica, Povoense, Fish, 99.
 Facchini, Pietro F., & Co., Hemp, 66.
 Facheris, Enrico, Wines, 66.
 Factory of Miguel A. da S. P., Tobacco, 99.
 Factory of Tobacco, Lealade, Tobacco, 99.
 Factory of Tobacco, Liberdade, Cigars, 99.
 Faes Bros. & Co., Cordial, etc., 88z.
 Fagerheim Net Co., Nets, 61.
 Fairbanks & Ewing, Scales, 33.
 Fairfax, J. R., New South Wales, 180.
 Falcao, D. C., Oils, 74.
 Falcao, F. P. de M., Wine, 107.
 Falcao, J. C. da C., Woods, 89; Oil, 120.
 Falcao, J. de S., Wine, 107.
 Falcao, J. J. Franco, Coffee, 69.
 Falcao, J. M. F., Wine, 107.
 Falcao, Jeronymo F., Honey wine, 101.
 Falcao, L. D., Wool, 122.
 Falcao, Luis da Costa, Wine, 116.
 Falcao, M., Oil, 120.
 Falcao, Maria M., Beans, 98; Brandy, 109.
 Falcao, P., Aguardente, 73.
 Falcao, P. P., Sugar-cane brandy, 73.
 Falck, Ytter, Norwegian fishing sled, 61.
 Falcon, F., Wheat, 88z.
 Falero y Fajardo, P., Cheese, 88o.
 Fallon, James T., Wines, 42.
 Falz, F., Wool, 127.
 Fantozzi, Cesare, Liquors, 66.
 Faria, Arnaldo A. P. de, Portugal, 285.
 Faria, B. de, Tobacco, 70.
 Faria, Francisca Albertina de, Wine, 109.
 Faria, M. A. P. R., Wine, 107.
 Faria, Manuel Simplicio, Corkwood, 89.
 Faria, S. P. de, Wine, 107.
 Faria, Souza, Samples of woods, 68.
 Farias, José A., Beans, etc., 80.
 Farinola, M. Paolo, Wine, 66.
 Farmers' Friend Mfg. Co., Implements, 27.
 Farmers' Fruit Preserving Co., Fruits, 20.
 Faro, J. de C. A., Beans, 98; Wine, 116.
 Farra, L. D., Sprinkler, 152.
 Farrar, G. H. & L. E., Flower pots, 157.
 Farrell, A. P., Wine, 45.
 Fastzembzky, Stanislas, Grains, 123.
 Fatz, T., Wool, 126.
 Fau, J., Prunes, 40.
 Fauqueux, A., Millstones, 48, 52.
 Faure, J., & Co., Brandies, 51.
 Faurie, J., sr., Wines, 51.
 Fausá, P., Almonds, 88b; Vegetables, 88z.
 Faust, W. F., Lily, 152.
 Fava, C., Cochineal, 77; Skins, 81; Cotton, 87.
 Favare, Marquis Delle, Sumac leaves, 63.
 Fay, C. J., Hay press, 32; Rock lifter, 36.
 Fayn, J., Belgium, 229.
 Febur, Michel Le, Vinegar, 45.
 Feenders, Harm., Clod crusher, 25.
 Feigh, A., Beer, 137.
 Feijo, A. G. B., Wine, 107.
 Feio Cordeiro, Daniel, Portugal, 284.
 Feis, L., Wines, 53.
 Feist Bros., & Sons, Wines, 53.
 Feith, H. J., & Son, Biscuits, 60.
 Felgner, F. W., & Son, Smoking tobacco, 17.
 Feliú, J., Almonds, 88z.
 Feliú y Rodriguez, J., Almonds, 88z.
 Felix, E., Austria, 221.
 Fell, C. J., & Bro., Spices, 16; Gelatine, 21.
 Felten, A. L., Vegetables, 16; Plants, 154.

- Fendel, H. J., Wines, 53.
 Ferreira, Joao Dias, Beans, 98.
 Feria, José Maria de la Scrupa, Olives, 105.
 Fernandes, A. V. d' A., Grain, 95; Wines, 107.
 Fernandes, J., Cork, 89; Oil, 120.
 Fernandes, J. C., Wine, 107.
 Fernandes, J. J., Oil, 120.
 Fernandes, Joaquim Filipe, Grain, 95;
 Seeds, 99; Cheese, oil, 100.
 Fernandes, Joaquim P., Beans, 98; Oil, 120.
 Fernandes, Jose Antonio, Beans, 98.
 Fernandes, Jose Manuel, Honey, etc., 102.
 Fernandes, Lucas, Skins, 101.
 Fernandes, M. T., Wool, 121.
 Fernandes, Manuel I., Grain, 95; Honey, 102.
 Fernandez, A., Wheat, 88*d*; Wine, 88*s*; Choc-
 olate, 88*dd*.
 Fernandez, C. J., Coffee, 69.
 Fernandez de Villalta, A., Seed, 82*n*.
 Fernandez, F., Honey, 85*p*; Wine, 88*w*.
 Fernandez, F., & Bro., Chocolate, 88*dd*.
 Fernandez, G., Wheat, 88*d*.
 Fernandez, J., Olives, 88*g*; Wine, 88*x*; Choc-
 olate, 88*cc*, 88*dd*.
 Fernandez, M., Wheat, 88*k*.
 Fernandez, P., Cereals, 88*d*.
 Fernandez, S., Olive oil, 88*dd*.
 Fernandez, Severo, Viper skins, 81.
 Fernandez, T., Walnuts, 88*a*; Cereals, 88*e*;
 Vegetables, 88*j*.
 Fernandez, T. V., Walnuts, 88*c*.
 Fernandez y Conde, P., Wine, 88*y*.
 Ferran, M., Olive oil, 88*dd*.
 Ferrandis y Soler, J., Maize, 88*h*; Carrots,
 88*l*; Wine, 88*bb*.
 Ferrando, Juan, Lima beans, peas, 80.
 Ferrant, M., Vinegar, 88*l*.
 Ferrari, G., Wine, 107.
 Ferrari, Sebastiano, Paste for soup, 64.
 Ferrarini Bros. & Co., Rice, 63.
 Ferratges, J. V., Wine, 88*aa*.
 Ferraz & Choque, Wine, 107.
 Ferré, Vincente, Sugar canes, 80.
 Ferreira, A. A., Wine, 107.
 Ferreira, Adriano Baptista, Wine, 109.
 Ferreira, Antonio Cypriano, Leather, 101.
 Ferreira, Antonio M. T., Dried fruits, 105.
 Ferreira, Augusto Dias, Wine, 116.
 Ferreira & Bros., Kidskins, 101.
 Ferreira, Canillo P. da C., Leather, 100.
 Ferreira, Candido J., Cigars, 70.
 Ferreira & Co., Chocolate, 99; Candy, 105.
 Ferreira & Co., Gasper P., Fibres, 75.
 Ferreira Convent, Dried plums, 103.
 Ferreira & Dourado, Wine, 107.
 Ferreira, E. A., Cigarettes, 70.
 Ferrcirra, F. de S., Wine, 107.
 Ferreira, Francisco Jose Lopes, Portugal, 284.
 Ferreira, J. D., Flax, 121.
 Ferreira, J. da M., Oil, 120.
 Ferreira, J. I., Wine, 107.
 Ferreira, J. J., Oil, 120.
 Ferreira, J. J. G., Wine, 107.
 Ferreira, J. M., Wine, 107; Oil, 120.
 Ferreira, Januario da Silva, Corn flour, 106.
 Ferreira, Joao Dias, Grain, 94.
 Ferreira, Jose, Grain, 94.
 Ferreira, Jose Henriques, Wine, 108.
 Ferreira, Manuel da Costa, Beans, 98.
 Ferreira, Manuel Felix, Corkwood, 90.
 Ferreira, Mathews, Portugal, 284.
 Ferreira, S. P., & Negroal, J. de S., Fibres, 75.
 Ferreira, V. R. J., Oil, 74.
 Ferreiro, A., Seed, 88*u*.
 Ferreiro y Hermida, A., Maize, 88*f*.
 Ferronda, I. N., Oil, 120.
 Ferrer, J., Vinegar, 88*l*.
 Ferré, V., Woods, 76.
 Ferrer Bros. & Co., Wines, 51.
 Ferris, H., & Son, Ale, 137.
 Ferriz y Martinez, C., Wine, 88*s*.
 Ferro, B., Wine, 88*y*.
 Ferro, G. Vigna del, Italy, 249.
 Ferro, Martinho Luis, Grain, 94.
 Ferro, N. T. M., Wine, 107.
 Feydel, Son, Hides, 72.
 Fialho, F. A., Wine, 107.
 Fialho, Francisco d'Abreu, Wine, 108.
 Fialho, Jacintho Maria, & Son, Wine, 106.
 Fibbi, Raffaele, Glue, size, 63.
 Fiedlerlin, F., Washing machine, 139.
 Field & Carpenter, Hay-rake, 29.
 Field, W., Oatmeal, 40.
 Fieldskov, V., Denmark, 236.
 Figatner, Enrico, Dried meat, 64.
 Figueira, Boaventura da Piedade, Wine, 108.
 Figueira, G. A., Sugared almonds, 105.
 Figueira, J. R. de C., Wine, 107.
 Figueira, Manuel D., Olives, 91; Oil, 120.
 Figueiredo, A. J. M., Wine, 107.
 Figueiredo, Antonio Jose de, Olives, 105.
 Figueiredo, Augusto de Sa, Grain, 94.
 Figueiredo, J. F. de, Oil, 120.
 Figueiredo, Joaquim de, Honey, 101.
 Figueiredo, Jose Ceira de, Honey, etc., 102.
 Figueiredo, Jose Paulo, Grain, 95; Oil, 120.
 Figueiredo, Manuel Consalves, Wine, 109.
 Figueora, Sr. Eugenio, Chili, 267.
 Figueras, I., Wine, 88*cc*.
 Figuero, P. de, Twisted tobacco, 71.
 Figueroa, Andres, Fibres, 133.
 Figueroa, E., Olive oil, 88*ff*.
 Figueroa, Jose E., Syrup, 85.
 Figueroa, M., Wine, 86.
 Figueroa, Molas & Co., Wine, 86.
 Figueroa, Tomas, White corn, 78.
 Figuerola, A., Wine, 88*aa*.
 Figuerolo, J., Wine, 88*aa*.
 Fil, F., Wines, 51.
 Filippe, Jose Antonio, Corn, 94.
 Filopanti, Q., Plan of irrigation, 67.
 Finck, A., & Son, Beer, 137.
 Finnegan, A. J., Butter, 35.
 Fino, Luigi, & Co., Albumen, 63.
 Firsoff, G., Grain, 123.
 Fischer, Johann, jr., Champagne, 55.
 Fish Bros. & Co., Wagons, 135.
 Fisher & Hall, Cedar tubs, 138.
 Fisher, Henry, Mower knife, etc., 29.
 Fisher, J. H., Refrigerator, 35.
 Fisher, M., Cranberries, 44.
 Fisher, Samuel, Gang plow, 26.
 Fisher, W. A., Fertilizers, 36.
 Fison, J. P., Steam engine, 41.
 Fisse, Thirion & Co., Clasps, champagne, 51.
 Fitch, Homer W., & Co., Hay conveyer, 37.
 Fiton & Nouvialle, Liqueurs, 49.
 Fitz, W. Scott, China, 257.
 Fitzgerald, R., Cactus, 151.
 Fitzhugh, J. R., Hay elevator, 34.
 Fiuza, Domingo Antonio, Grain, 95.
 Flanagan & Wallace, Ale, 137.
 Flandre, H. R. H. the Comte de Belgium, 228.
 Flemming, M., Seeds, 77; Potatoes, 79; Wine,
 86.
 Flood, E., New South Wales, 180.
 Flood, Wm. M., Mutton in alcohol, 20.
 Floral Works, Fountains, 153.
 Flores, A., Wines, 88*aa*.
 Flores, N., Tar, 77; Wines, 86.
 Flores, P. M., Olive oil, 88*kk*.
 Florio, Ignazio & Vincenzo, Wines, 65.
 Flotard, Mr., France, 29.
 Fluminense Agricultural Institute, Tea, 71;
 Starch, 73.
 Fluxa y Palet, Oils, 88*dd*.
 Fock, Baron A. H. E., Sweden, 240.
 Fogelmark, Sixten, Cereals, 59.
 Foges, I., Leather, 55.
 Foggia, Z. M., Medicinal plants, 69.
 Fokrath & Co., Cordials, 125.
 Folch, J. B., Wine, 88*bb*.
 Foley, C., Stuffed birds, 44.
 Foley, Margaret A., Fountain, 159.
 Fonrodona, Don Jose, Spain, 280.
 Fonseca, B. da S. P. da, Wine, 107.
 Fonseca, Francisco da Costa, Grain, 94.
 Fonseca, J. A., Wines, 107.

- Fonseca, J. M. da, Wine, 107.
 Fonseca, Manuel Coelho da, Wine, 109.
 Fonseca, Santos A. G. da, Honey, etc., 102.
 Fonseca Santos, Antonio Germano, Grain, 94.
 Fonseca, Francisco Maximo da, Wine, 109.
 Font, S., Liqueurs, 83*u*.
 Fontaine, S. de la, Wines, 50.
 Fontam, L. T., Anise liquor, 86.
 Fontanals, J. T., Beer, 83*u*.
 Fontes & Neygra, Skins, 83.
 Fontes, Vicente, & Neyra, Woods, 77.
 Fontordera, J. de, Beaus, 88*f*.
 Fontoya, M., Flour, bran, 88*r*.
 Fouts, M., Olives, 83*g*; Barley, 83*h*; Beans, 83*i*; Garlic, 83*n*; Wine, 88*aa*.
 Foonoocley, J., Wine, 125.
 Forkhin, P., Fruit paste, 125.
 Foot, Scovill D., Fruit preserver, 37.
 Fora, Jose Augusto dos Santos, Wine, 109.
 Forbes, Dr. R. W., New South Wales, 180.
 Forestal District, Esparto grass, 88*i*.
 Forkel, F., Plans, 159.
 Formosinho, J. M. G., Grain, 95; Cheese, 99.
 Formosinho, Widow of Joao M., Wines, 110.
 Fornasa, Vicenzo, Cereals, 63.
 Fornell, Ramon, & Co., Olive oil, 88*dd*.
 Fornell y Battlaura, J., Wine, 83*u*.
 Forni, Alessandro, Sausages, etc., 64.
 Forniár, Antonio J. Batta, Leather, 63.
 Forresté y Ferré, J., Nuts, 83*b*; Wheat, 88*h*.
 Forseth, O. N., Pale ale, 62.
 Forst, J., Wines, 53.
 Forster, Christian, Birds, 18.
 Forsyth & Co., Reaper, 45.
 Fortes, J. M., Wines, 107.
 Fortier, B., Leather, 49.
 Fortunny, L., Wool, 87.
 Forzano, Don Bernardo, Spain, 280.
 Forzano, Don Francisco, Spain, 280.
 Fos, Miss J., Cigarettes, 48.
 Fossen's Tannery, Leather, 61.
 Foster, Calvin A., Machines, 34.
 Fouchez, L., & Co., Brandies, 51.
 Fouchadé, Pedro, Wheat, 89; Flour, bran, 84.
 Fournier, A., Wines, 51.
 Fournier, J., Champagne, 51.
 Fowler, Hon. H., Bermudas, 190.
 Fox, Geo., Starch, 22.
 Fox, Geo., jr., Fishing rods, 18.
 Foyen, Sven, Fish guano, 62.
 Fraile, A. M. de la, Wines, 83*v*.
 Fragozo, Luis Antonio F., jr., Wine, 108.
 Fragozo, Manuel Figueira Sonto, Wine, 108.
 Frajozo, J. M., Wine, 107.
 Fragozo, S. Thiago, Grain, 95.
 Fraguero, G., Skins, 82.
 Frauca, F. A., Tea, 70.
 France, Statistics of, 205.
 Franch & Segriá, Hazelnuts, 88*b*.
 Francia Brothers, Wine, 66.
 Francioze, Maria do Carme, Olive oil, 116.
 Franco, Eduardo, Grain, 94.
 Franco, Francisco Guedes, Vinegar, 116.
 Franco, J., Flax, 121.
 Franco, Joaquim, Dried figs, 103.
 Franco, Jose da Costa, Grain, 94; Cheese, 99.
 Franco, L. A., Wines, 86.
 Franco, Luis A., Bird, 81; Quinces, 86.
 Franco, M. A., Wine, 107.
 Franco, R. S., Wine, 88*u*.
 Franco, Viscount de Souza, Brazil, 263.
 Franco, Vital Jose Percira, Wine, 116.
 Frank & Lami, Flour, 85.
 Franke, I. G. & L., Austrian timber, 55.
 Franke, Louis, Yeast, 136.
 Franklin Gluc Works, Glue, oil, 19; Hair, 24.
 Franqueira, R., Brandy, 107; Cocoons, 122.
 Franquet y Dara, J., Olive oil, 88*g*.
 Frauenheim & Vilsack, Beer, 136.
 Frausto, Antonio Joaquim, Corkwood, 89.
 Frausto, L. P., Flax, 121.
 Frazer, Hon. J. J., Canada, 204.
 Fréal, E., Bottling machine, 51.
 Frebeck, P. N., New South Wales, 180.
 Frederick, L. W., Wagon, 33.
 Freeman & Clarke, Machines, 32.
 Freeman, J. R., Begonia, 151.
 Freeman & Smith, Ferneries, 153.
 Freire, A. A. de S., Beans, 93; Wine, 106.
 Freire, Bernardo Xavier, Wine, 106.
 Freire & Bros., Coffee, 71.
 Freire, J. L. F., Oil, 122.
 Freire, Joao Pereira, Seed, 97; Wine, 109.
 Freire, M., Coffee, 71.
 Freire, M. S., Maize, 83*f*; Peas, 88*j*.
 Freires, M. S., Wool, 88*jj*.
 Freitas, D. A. de, Wine, 107.
 Freitas, G. de Sz., Medicinal plants, 69.
 Freitas, J. M. de, Flax, 121.
 Freitas, Joao S., jr., Sardines, 99.
 Freitas, Jose Alves Pinto de, Grain, 94.
 Freixa, S., Hazelnuts, 88*b*; Carrobs, 83*z*.
 Freixedas, E., Oil, 120.
 French & Co., Truck, 135.
 French Steam Flour Mills, Flour, 59.
 Frers, G., Wool, 87.
 Frixedas, J. F. de F., Wine, 107.
 Frey, Abram, Portable fence, 36.
 Frey, O., Liqueurs, 73.
 Freyung, O., Liqueurs, 73.
 Frias, Musk raisins, 84.
 Frias, Salvador, Corn, 78; Flour, 85.
 Friburgo & Sons, Coffee, 71.
 Friedrichshöhe Joint Stock Brewery, Beer, 54.
 Friestedt, A. W., Commercial fertilizers, 60.
 Frigieri, Giuseppe, Hams, sausages, etc., 64.
 Frischi, Cristiano, Wheat, 80.
 Frismuth Bros. & Co., Tobacco, 16.
 Fritsch, Joseph, Sun-bleached wax, 19.
 Frizzi, Luigi, Wine, 55.
 Frois, Leo, & Co., Wines, 51.
 Frölich, F. A., Wines, 53.
 Frommel, C. J., Preserved fruits, 59.
 Frosini, Edoardo, & Bro., Paste for soup, 64.
 Fruit Growers' Trade Co., Cranberries, 20.
 Fry, Joseph Storrs, & Sons, Chocolate, 41.
 Frydenlund Brewery, Ale, 62.
 Fuente el Salce, Count of, Olive oil, 88*ee*.
 Fuente, D. de la, Plant, 153; Argentine Republic, 265.
 Fuente, D. G. de la, Toads, 81; Skins, 82.
 Fuente, G. F. de la, Wool, 88.
 Fuentes, J., Cereals, 88*f*; Peas, 88*k*.
 Fuentes y Ponte, J., Olives, 88*g*; Seed, 88*u*.
 Fuentesauco, Corporation of, Chick peas, 88*z*.
 Fuento, G. T. de la, & Del Carril, Skins, 83.
 Fujita, H., Tea, 128.
 Fukukawa, S., Tea, 128.
 Fuller, S. S., Flaxseed, 44.
 Fulton, Jos. W., Corns, etc., 18.
 Fumaña Bros., Almonds, 88*b*; Wine, 88*aa*; Olive oil, 88*h*.
 Funck & Herbzeter, Wagon, 135.
 Furitero, L., Wine, 88*cc*.
 Furst & Bradley, Machines, 34.
 Fussell, James, Sons, & Co., Edge tools, 41.
 Fuster, F., Almonds, 88*z*.
 Fuster, M., Almonds, 88*z*.
 Fvanoff, A., Winnowing machine, 127.

G.

- G. B. T., Cotton, 74.
 Gaar, Scott, & Co., Machines, 33.
 Gabaldoni, Andrea Carlo, Wines, 65.
 Gabarres, M., Wheat, 88*e*.
 Gade, G., Norway, 243.
 Gadrad, D. G., & Co., Brandies, 51.
 Gadsden, John W., Anatomical specimens, 38.
 Gago, J. B., Wheat, 88*f*.
 Gago, Joao Henriques Nunes, Corkwood, 89;
 Acorns, 90; Grain, 92; Cheese, oil, 100;
 Wool, 88.
 Gail & Ax, Tobacco, 17.
 Galan, A., Olive oil, 88*ee*.
 Galan, A. B., Wheat, 88*d*; Acorns, 88*u*.
 Galarani, Carlos, Flax, etc., 78 87.

- Galesboot, J. P. R., Trees, 158.
 Galhardo, F. F., Wine, 107.
 Gali, A., Wines, 88*u*.
 Galibert, A., Apparatus, 48.
 Galimberti, Giuseppe, Liquors, 66.
 Galindo, Widow of, Wine, 88*z*.
 Galitzyn, Prince Victor, Sugar, 125.
 Gallardo, F., Coffee, 130.
 Gallardo, J., Wines, 88*u*.
 Gallego, F., Peas, 88*k*.
 Gallegos, M., Woods, 76.
 Gallegos, Tomas, Abaca lupiz, 133.
 Gallino, J. A., Woods, 77.
 Gallisa, J. A., Wine, 88*bb*.
 Gallo, B., Flour, bran, 85.
 Galloni, Luigi, Wines, 66.
 Gallope, Fernando dos Santos, Wine, 104.
 Galloway & Graff, Vases, 153.
 Galvao, Jose Augusto Ferreira, Brandy, 106.
 Galvao, S. J. M. dos A., Wine, 107.
 Gama, Antonio Damingo d'Olivciro, Hides, 101.
 Gama, Azarias, Wood, 68.
 Gama, J. A. S., Oil, 120.
 Gama, J. C. L. da, Oil, 120.
 Gama, M. T. da, Wines, 106, 121.
 Gama, P. N. Nogueira da, Coffee, 71.
 Gama, T. J. de Sz., Cigars, 70.
 Gambrell, C. A., & Co., Flour, 21.
 Gammon & Deering, Harvester, automatic binder, wind-mill, 30.
 Gandara, Alvaro de La Don, Spain, 280.
 Ganeshin Bros. & Co., Wool, 126.
 Ganz, Joseph, Wine, 55.
 Ganzalez, B., Wine, 88*cc*.
 Garcia, José Maria, Honey, etc., 101.
 Garcés, V., Almonds, 88*a*.
 Garcia, A., Barley, 88*g*, Peas, 88*k*.
 Garcia, A. G., Vegetables, 88*f*; Preserves, 88*g*.
 Garcia, Antonio Joaquim, Wine, 106.
 Garcia, B., Chocolate, 88*dd*.
 Garcia, Cirilo, Abaca, 133.
 Garcia, D., Tobacco, 88*u*; Olive oil, 88*ff*.
 Garcia, Domingo, Glue, 83; Raisins, 84.
 Garcia, F., Wine, 88*bb*.
 Garcia, Fidel, Bros., Sugar, 85.
 Garcia, I., Peas, 88*k*.
 Garcia, J., Honey, 88*g*.
 Garcia, J. A., Wine, 88*g*.
 Garcia, J. S., Almonds, 88*b*; Wheat, 88*c*; Olive oil, 88*ff*.
 Garcia, Jose Camillo, Wax, 101.
 Garcia, L. G., Brandies, 88*l*.
 Garcia, M., Cereals, 88*f*; Fig bread, 88*g*; Fruits, 88*r*; Chocolate, 88*dd*; Wool, 88*jj*.
 Garcia Muñoz, E. S. de, Sugar, 88*s*.
 Garcia, N., Nets, 131; Model, 133.
 Garcia, P., Wines, 88*u*, 88*bb*; Syrups, 132.
 Garcia, P. L., Olive oil, 88*gg*.
 Garcia, Pedro de Souza, Wine, brandy, 108.
 Garcia & Piñon, Meat, 88*g*; Fish, 88*u*.
 Garcia, R., Cereals, 88*g*; Peas, 88*k*.
 Garcia, Regino, Rice, 131.
 Garcia, S., Sugar, 85; Dried fruit, 88*g*; Olive oil, 88*hh*.
 Garcia y Garcia, Wool, 88*jj*.
 Garcia y Garcia, F., Beans, 88*f*.
 Garcia y Garcia, M., Liquors, 88*g*.
 Garcia y M. J., Olive oil, 88*ee*.
 Garcia y Ruiz, P., Wines, 88*u*.
 Gardenghi, Enrico, Sausages, etc., 64.
 Gardner, J., & Co., Ale, porter, 136.
 Gardias, M. J. de L., Almonds, 91.
 Garneau, Hon. P. A., Canada, 204.
 Garnier, P., Liquors, 51.
 Garran, A., New South Wales, 180.
 Garrido, J., Walnuts, 88*b*.
 Garriga, F. D., Cereals, 88*c*; Vegetables, 88*f*; Systems, models, 88*jj*.
 Garriga, L., Rigging, 88*ii*.
 Garrigos, J. M., Woods, 77.
 Garros, J. L., Wines, 51.
 Garst, David W., Chopper, 34.
 Garun, N., Nets, 131.
 Garvino, Signor, Salt meat, 85.
 Gasca y Beitran, J., Fruits, 88*r*; Syrup, 88*s*.
 Gascó, F. B., Brandy, 88*r*.
 Gascon, A. S., Honey, 88*g*; Olive oil, 88*gg*.
 Gastinel, M., Egypt, 252.
 Gasull, B., Almonds, 88*b*; Olive oil, 88*hh*.
 Gatehouse, J., Victoria, 182.
 Gatecliff & Folch, J., Olives, 88*g*; Maize, 88*k*; Beans, 88*u*; Flour, 88*r*; Oil, 88*hh*.
 Gates, H. C., Eels, etc., 18.
 Gattola, N., Plow, 67.
 Gaus, A., Tobacco, 53.
 Gauther, A., Tallow, 82.
 Gauvea, Jose das Santos, Honey, etc., 102.
 Gaviao, B., Coffee, 71.
 Gavino, D., Wool, 88.
 Gay & Bryant, Post hole digger, 37.
 Gayoso, T. R., Chestnuts, 88*g*.
 Gazzo, Luis, Vermicelli, 85.
 Geary, H. Seymour, China, 257.
 Geilfluss, H., Confectionery, 24.
 Geissel, L., Beer, etc., 54.
 Gelabert, M., Fibre, 87.
 Gelos, M., Dyes, 77; Skins, 82; Grass, 87; Oak, 159.
 Gendar, W. T. & T. V., Brewers' tools, 138.
 Gener, J., Tobacco, 88*m*.
 Gent & Co., Flax, 126.
 Genta, Giovanni, Vermouth, 65.
 Gentili, Ferdinando, Paste for soup, 64.
 Geological Survey, Clam shells, 45.
 George, D. F., Clapboards, 134.
 George, P. T., & Co., Hams, lard, etc., 21.
 Gerades, M. V. P., Wool, 122.
 Gerin, E., Brandies, 51.
 German Brewery, Beer, 85.
 German Rock Asphalt Co., Flooring, 138.
 Germany, Statistics of, 210.
 Germersheimer, J., Wines, 53.
 Germont, L. F., Wines, 53.
 Gerolamy, Wm. A., Fanning mill, 46.
 Gerona, M., Wine, 88*u*.
 Gerra, Sr. E., Chili, 267.
 Gervais, E., Corking machines, 51.
 Geyelin & Co., Food, 40.
 Gfall, Josef Anton, Condensed milk, 55.
 Ghizzoni, Luigi, Liquors, 64.
 Ghys-Bruneel, P. F., Belgium, 229.
 Giacobini, Carlolano, Liquors, 65.
 Giacone, Pietro, Wines, 65.
 Gianello, Angelo, Italy, 249.
 Giannelli, Raffaello, Honey, 64.
 Gibbs, B. T. B., Great Britain, 173.
 Gibbs & Lee, Steam spader, 28.
 Gibbs & Sterrett Manufacturing Co., Mower, hay conveyor, 29.
 Gibelli, S., Wine, 86.
 Gibson & Bennet, Verbenas, 154.
 Giese, Auguste, Turkey, 288.
 Gifford, Johnson, & Co., Cultivators, 26.
 Gijon, T., Wine, 88*v*.
 Gil Bros., & Rico, Flour, 88*r*.
 Gil, A. M., Liquors, 88*g*.
 Gil, E., Wine, 88*r*.
 Gil, F., Almonds, 88*b*; Beans, 88*f*; Wine, 88*aa*; Olive oil, 88*hh*.
 Gil, G., Starch, 88*s*.
 Gil, J., Wheat, 88*c*.
 Gil, Rafael, Sugar, 132.
 Gil, S., Beans, 88*f*.
 Gilka, J. A., Spirits, 54.
 Gillis, George, Harrow, 46.
 Gimenez, B., Liquors, 88*g*.
 Gimenez, F., Wool, 88*jj*.
 Gimenez, F. S., Wheat, 88*c*.
 Gimenez, J., Wheat, 88*k*; Peas, 88*k*.
 Gimenez, J. M., Wheat, 88*d*; Vegetables, 88*f*.
 Gimenez, L. C., Figs, 88*g*.
 Gimenez de Tejada, Bros., Wines, 88*u*.
 Gimenez de Tejada, S., Wines, 88*u*.
 Gimeno, M., Wine, 88*cc*.
 Giojuzza & Giobertini, Wines, 51.
 Giordano, Gio. Batta, Wine, 65.
 Giraldez, V., Olive oil, 88*gg*.

- Girart, N., Sap, 88s.
 Girdlestone, C. H., & Co., Tobacco, 44.
 Girona, S., Cordial, 88u.
 Girona y M. R., Olive oil, 88ee.
 Girones, M., Olives, 88f.
 Girones y D., Almonds, 88r.
 Gisbert, M., Wine, 88bb.
 Gisbert y Marco, F., Wine, 88f.
 Gisborne, Hon. W., New Zealand, 177.
 Gissing, Anthony S., & Sons, Cocoa, 41.
 Githens & Rexasmer, Canned fruits, etc., 20.
 Glinka, N., Wool, 126.
 Gnevan Sugar Mfg. Co., Sugar, 125.
 Godinho, Francisco, Wines, 108.
 Godinho, Francisco Ferreira, Leather, 100.
 Godoy, Nicolas, Preserved citrons, 84.
 Gody, J., Belgium, 229.
 Goede, D., Cheese, 57.
 Goerg, L., & Co., Champagne, 51.
 Goetze, F. A., Wines, 23.
 Goetze, F. A., & Bro., Snuff, 16.
 Gog, Dr., jr., Mustard, 55.
 Gogueira y Diaz, M., Wines, 88y.
 Golar y Sirasol, J., Wine, 88f.
 Gold Coast Colony, Statistics of, 192.
 Goldechen, Alexandre, Russia, 294.
 Goldsmith, Francis J., Troughs, 37.
 Golikoff, K. P., Starch, etc., 125.
 Gomes, Antonio L., Grain, 92; Wines, 114;
 Flax, 121.
 Gomes, Antonio Xavier Correa, Grain, 95.
 Gomes, Cordeiro, Unhulled rice, 69.
 Gomes, Francisco Antonio, Olives, 91.
 Gomes, J. Carlos, & Maura, F. A., Peas,
 lupines, lentils, 98; Oils, 99.
 Gomes, J. M., Oil, 120.
 Gomes, Joao Carlos, Beans, 98; Brandy, 106.
 Gomes, Jose, Brandy, 108.
 Gomes, Jose Libanio, Seed, 98; Dried figs,
 133.
 Gomes, Jose da Costa, Grain, 94.
 Gomes, Jose da Costa Balazar, Flour, 106.
 Gomez, A. E., Acorns, 88u; Olive oil, 88ee.
 Gomez, A. J., Raisins, 88g.
 Gomez, B., Saffron, 88u.
 Gomez, C., Skin, 83.
 Gomez, Enrique, Textile substances, 132.
 Gomez, F., Wool, 83.
 Gomez, J., & Co., Confectionery, 88r.
 Gomez, J. C., Olive oil, 88dd.
 Gomez, L., Flamingo skin, 82.
 Gomez, M. M., Peas, 88k.
 Gomez y Gomez, E., Figs, 88g.
 Gonsalves, J. P., Cigars, 70.
 Gonsalves, Jose dos Santos, Wine, 108.
 Gonsalves, Jose J., Cheese, honey, 100.
 Gonzalez, A., Wine, 88y.
 Gonzalez, Biass, & Co., Wines, 88v.
 Gonzalez, D., Wheat, 88d.
 Gonzalez, Daniel, Wool, 88.
 Gonzalez, Don Miguel, Spain, 285.
 Gonzalez, E., White wheat, 88g.
 Gonzalez, F., Wines, 88z.
 Gonzalez, J. M., Chocolate, 88dd.
 Gonzalez, Joaquin, Roots for dyeing, guano,
 77; Corn, 79; Skins, 82.
 Gonzalez, Juan, Polecat, small fox, 81.
 Gonzalez, M., Peas, 88i; Flax, 88x; Onions,
 88i; Wine, 88ii.
 Gonzalez, Meliton, Woods, 77.
 Gonzalez, N. G., Liquors, 88v.
 Gonzalez, P., Cocoons, 88j.
 Gonzalez, Pedro J., Dissected guano, 81.
 Gonzalez, R., Maize, 88g; Beans, 88k; Wool,
 88j.
 Gonzalez, T. D., Flax, 88ii.
 Gonzalez, Ventura, Wheat, 79; Raisins, dried
 figs, 84; Sugar, 132.
 Gonzalez, Z. D. de, Liquors, 86.
 Goodale, S. L., Food extract, 18.
 Goodall, Backhouse, & Co., Sauce, 40.
 Goodell Co., Broadcast seed sower, 28.
 Goodrich, C. C. & F. W., Tobacco hooks, 37.
 Goodwin, Wm. F., Mowers, reapers, 30.
 Goozov Sugar Manufacturing Co., Sugar, 125.
 Gordillo, Alcibiades, Nanogasta syrup, 85;
 Wines, 86.
 Gordo, F., Wheat, 88g.
 Gordo, J., Flour, 88r.
 Gordon & Dilworth, Preserved fruits, 20.
 Gordon, Hon. S. D., New South Wales, 180.
 Gordon, James F., Harvester, 29.
 Gordon, W. R., Queensland, 195.
 Gori, M. W. C., Netherlands, 234.
 Gorki Model Farm, Grain, 123.
 Gomez, John M., Horseshoes, 39.
 Gorter Brothers, Flax, 58.
 Gossin, F., Terra-cotta vases, 154.
 Göteborg Machine Co., Plows, 60.
 Gotell y Folch, J., Wine, 88z.
 Goulao, Joao Pereira, Corkwood, 89.
 Gourlié, A., Wines, 88z.
 Gourry & Co., Brandies, 51.
 Gouturon, M., Corks, 48.
 Gouvea, Jose dos Santos, Products, 92.
 Gouvea, Josea B. d'A., Preserved fruits, 103.
 Goubeyre, A. I., France, 209.
 Gove, E., Panels, 15.
 Government Cotton Factory of Sakai, Cotton,
 129.
 Government of Prov. San Juan, Grasses, 78.
 Goya y Lopez M., Vinegar, 88u.
 Goyaz, Province of, Tobacco, 70.
 Goyena, John, Stuffed toad, rabbit, 81.
 Goyri, B., Seeds, 77; Corn, 79; Skins, 83.
 Grace, Wm. Russell, Peru, 270.
 Graham, Dorsett, & Co., Woods, 15.
 Graham, Emlen, & Passmore, Mower, 29.
 Graham, H., Ferns, 151; Plants, 152.
 Graham, John, Bacon, 45.
 Granada, Salvador, Chocolate, 81.
 Grande Latino, Baron C., & Bros., Grain, 63.
 Grangell, P., Olive oil, 88ee.
 Grant, L. J., & Co., Tobacco, 17.
 Grant, Peter, Pitchfork, 46.
 Grant, Thomas, Brandy, 40.
 Grás, P., Wine, 88z.
 Grasser & Brand, Beer, 157.
 Grasso, Carmelo, Liquors, 65.
 Gratcheff, E., Grains, etc., 124.
 Grau, J., Seed, 88u.
 Grau, J. M. de, Olive oil, 88gg.
 Grau y Fló, J., Olives, 88f.
 Grau y Plá, J., Vegetables, 88f.
 Grau y Vilanova, J. M., Hazelnuts, 88b.
 Gray, A. G., Mower, 46.
 Gray, Young, & Sparling, Salt, 46.
 Great Britain, Statistics of, 169.
 Greecke, P., Ale, etc., 156.
 Greco-Cassia, Cav. Luigi, Wine, 65.
 Greco, Marco, Liquors, 64.
 Green Bros., Single reaper, 46.
 Green, John, Gelatine, 45.
 Green, T., Denmark, 256.
 Greening & Sons, Woven wire, 41.
 Greenfield, Nelson, Flavors, etc., 20.
 Greenfield & Strauss, Confectionery, 24.
 Greenough, J. J., Machine, 38.
 Greenway, J., Ale, porter, 136.
 Greenwich Machine Works, Cultivator, 25.
 Greggs & Co., Sulky plow, 26.
 Grego, A., Wheat, 77.
 Gregoire, N., Wool, 87.
 Gregori, T., Cereals, 88c.
 Gregorio, S., Cereals, 88f.
 Gerrerar, John W., Wool, 43.
 Grevsmil, A., Spirits, 125.
 Griffiths, George, Shovels, etc., 26.
 Grillini, Nanni, & Co., Sausages, 64.
 Grillo, M. F., Nuts, 91; Seed, 97; Oil, 120.
 Groen, Gz. J. B., Bitters, wine, 58.
 Groenewegen, A. C., Flowers, 158.
 Grootes, Pz. M., Cacao, etc., 56.
 Gros, F., & Co., Raisins, 88g.
 Grös, J. A., Wheat, 88f.
 Grös, M., Wheat, 88f.
 Grosskopf, L., Cigarettes, 53.
 Grote, Avon, Liquor, 126.

Grottenfeld, N., Buckwheat, 123.
 Groul, jr., Conserves, 49.
 Grubinsky, F., Reaping machine, 127.
 Grün, W., Wines, 53.
 Gualeguaychu Sub-commission, Wheat, 79.
 Guapo, Jose Daniel, Wines, 108.
 Guedes, A. P. de C., Wine, 107.
 Guedes, Alfredo De Queiros, Portugal, 285.
 Guedes, F. D., Olives, 91; Sausages, 105.
 Guedes, Viscount de, Beans, 99.
 Guerin, E., Wines, 86.
 Guerin, N., Wheat, 78.
 Guernsey, Daniel, Milk pans, 35.
 Guerra, B., Wheat, 88c.
 Guerra, F. L., Pepper, 88n; Olive oil, 88ec.
 Guerra, Francisco A. do A., Wine, vinegar, 108.
 Guerra, Joaquim Jose da, Olives, 91; Grain, 95; Wine, 116.
 Guerra, Jose da C., Olives, 91; Dried fruits, 104.
 Guerra, Jose Ignacio Pinto, Wine, 108.
 Guerra, Jose Manuel, Corkwood, 89.
 Guerra, T. I. de M., Oil, 120; Flax, 121.
 Guerreiro, A. M., Grain, 92; Linseed, 99; Flax, 121.
 Guerrero, C. T., Wool, 87.
 Guerrero, J., Wheat, 82c.
 Guevara, E. L. de, Fleece, 87.
 Guevara, V. L. de., Wheat, 88c; Hemp, 88hh.
 Guevedo y Perez, J. C., Wines, 88v.
 Guglielmini, Andrea, Dried fruits, 64.
 Guichard-Potheret & Son, Wines, 50.
 Guilhou, A., sr., Wines, 50.
 Guillaume, Mr., France, 209.
 Guillen, V. N., Wine, 88bb.
 Guimaraes, Oil, 118.
 Guimaraes, Ant., Coffee, 71; Rice, 73; Figs, 103.
 Guimaraes, J. F., Medicinal plants, 69.
 Guimaraes, Jose Fernandes, Grain, 94.
 Guimaraes, Jose Lopes, Wine, 116.
 Guimaraes, M. A., Betas, fibres, 75.
 Guimaraes, M. A., & Pedrozo, H., Vanilla, 89.
 Guimaraes, M. A. da C., Oil, 120.
 Guimaraes, Victorino Barbosa, Beans, 98; Wine, 115; Wool, 122.
 Guimera, G., Wool, 88j.
 Guisado, J. B. R., Wine, 107, 115.
 Guisones, J., Sugar, 131.
 Guitian, J., Wine, 88y.
 Gukes, C., Ale, 137.
 Gulden, Chas., Mustards, 17; Catsup, 20.
 Guli, Salvatore, Cav., Candied fruits, 64.
 Guli, Salvatore Luigi di, Wines, 65.
 Gulick, Edwin, Safety seat for harvesters, 31.
 Gumiel y Garcia, L., Cordial, 88s.
 Gumpert Bros., Cigars, 17.
 Gunther, G., Cages, 37.
 Gurney, Wm., Cotton, 24.
 Gurrído, V., Wine, 88b.
 Guscetti, E., Cheese, 63.
 Guth, H., Brewers' instruments, 139.
 Gutierrez, C., Beans, 88k.
 Gutierrez, J. F., Cereals, 88f; Peas, 88k; Wine, 88z.
 Gutierrez, S., Rye, 88f.
 Gutierrez, V., Gin, 88z.
 Gutmann & Bloch, Barley, 48.
 Guttier & Wagner, Preserved fruits, 72.
 Guttierrez, G., Wool, 87.
 Guyer, E., Switzerland, 225.
 Guzman, M. de, Seed, 131.

H.

Haagen, R. C. van, Cacao, 58.
 Haar & Wessnaes, Preserved meats, etc., 62.
 Haas, E., Malt mill, 138; Scales, 139.
 Haas & Rosenfeld, Ether, 56.
 Haberman, S., Beer swimmer, 137.
 Hacke, W., South Australia, 184.
 Hafner, John A., Threshing machine, 32.
 Hagendahl, C. A., Cereals, 59.

Hagerstown Agricultural Implements Mfg. Co., Grain, seed, and fertilizing drills, 28.
 Hagerstown Steam Engine & Machine Co., Machines, 32.
 Haggert Bros., Separator, 46.
 Haig, J., & Co., Whisky, 40.
 Halderman, Frank, Bird cage, 37.
 Hale, S. B., Wool, 88.
 Hall, H. L., Sower and cultivator, 28.
 Hall, John, Wool, 42.
 Hall, S. W., Fences, 56.
 Hallen, J. P., Leather, 61.
 Haller, Ella G., Choice fruits, 20.
 Hallgren, J. J., Anchovies and herrings, 59.
 Halloran, H., New South Wales, 180.
 Hall's Self-feeding Cotton Gin Co., Machines, 32; Cotton gin, 34.
 Hamar Brewery, Ale, 62.
 Hammer, W., Denmark, 236.
 Hammond, J. L., China, 257.
 Hampel, O., Model malt kiln, 138.
 Hance, A., & Sons, Revoluta, 152; Flants, 154.
 Hanck, S., & Bro., Vegetable cutters, 34.
 Hancock, Salmon, & Co., Tobacco, 17.
 Hand, S. A., Lawn mower, 30.
 Handy Horse Hay-Fork Co., Hay-fork, 30.
 Hanes, John, Corn sheller, 31.
 Hannis Distillery Co., Whisky, 22.
 Hanot, Jorge, Liquor, 85.
 Hansen, C., Denmark, 236.
 Hansen, J., Denmark, 236.
 Hansen, O., Denmark, 236.
 Hanson, F. O., Galvanized railing, 154.
 Hapgood & Co., Preserved salmon, 18.
 Harbert & Raymond, Mower, hay-rakes, 31.
 Harbison, W. C., White mountain honey, 19.
 Harbor-Master, Sugar-cane plant, 80.
 Harder, Minard, Machines, 32.
 Hardin, L. S., Butter making, 35.
 Harman, G. W., Chicory, 124.
 Harnish, Edward P., Cultivator, 26.
 Harper, Smith, Steel hoes, 25.
 Harper, Twelvetras, & Co., Soap powder, 41.
 Harrauff & Engle, Tobacco, 16.
 Harris, A., & Son, Mower, 46.
 Harris, J., & Co., Plows, 46.
 Harris, Milo, Dried fruits, 21; Dryer, 37.
 Harris, Wm. K., Collection of geraniums, 154.
 Harrisburg Fertilizer Co., Flour of bone, 36.
 Harrison & Evans, Salt, 47.
 Harrison, Lautz Bros., & Co., Wagon, 135.
 Harrison Manuf'g Co., Knife-head, 30.
 Hart, James H., China, 257.
 Hart, Robt., China, 257.
 Hart, R. T., Manufactured tobacco, 17.
 Hartford Pump Co., Wind mill, 140.
 Hartley, Richard, Birds, etc., 18.
 Hartman, John, Crackers, etc., 23.
 Hartsen, P., Netherlands, 234.
 Hartung & Krantz, Beer, 136.
 Hartwig, H., Beer, etc., 125.
 Harvey & Adamson, Vases, 153.
 Harvey, J., & Co., Wool, 46.
 Hashimoto, S., Spirits, etc., 129.
 Hastings, James, Wines, 45.
 Hathaway, Vincent & Co., Ginger ale, 22.
 Hatheway, F. A., Moose heads, 45.
 Hatter, Carl, Bottle stoppers, 138.
 Hattori, Z., China grass, 129.
 Häusler, C. S., Cider, 54.
 Havemeyer, T. A., Austria, 221.
 Havenith, J., Belgium, 229.
 Hawaii, Statistics of, 260.
 Hawaiian Islands, Ferns, 159.
 Hawkins, Chas. P., Ale, 137.
 Hay, Hon. J., New South Wales, 179.
 Haya, Sanchez, & Co., Cigars, 17.
 Hayashi, Y., Tea, 128.
 Hayer, M., Cotton, 74.
 Haynes, W. H., Hay elevator, 29.
 Hayward & Jenkinson, Mouldings, 134.
 Hazard, E., & Co., Canned fruits, 20.
 Hazard, Thomas, Straw cutters, 34.
 Hazelhurst & Young, Flowers, 152.

- Head, James S., Shingles, 134.
 Head, Thos., Potato digger, 46.
 Headden, W. P., Sweden, 240.
 Heamer, Andrew J., Hedge-trimmer, 28.
 Heaton, Edward, Granum, 21.
 Hecker, Geo. V., & Co., Self-raising flour, 21.
 Hector, J., New Zealand, 177.
 Heebner & Sons, Machines, 32.
 Heemskerck Van Beest, J. E. van, Netherlands, 234.
 Heide & Wirtz, Almond paste, 24.
 Heijnsbergen, P. van, Liver oil, 57.
 Heil, L. W., Edam cheese, 57.
 Heissinger, F. X., Designs, 153.
 Helgesen, H. A., Preserved salmon, 61;
 Meats, 62.
 Hellin, D., Wheat, 88z.
 Hemp, Day, & Co., Canned fruits, 21.
 Henderson, P., Designs, 151; Trellises, 153;
 Plants, 154.
 Henderson, Peter, & Co., Seeds, 18.
 Hendryx & Bartholomew, Bird cages, 37.
 Henkell & Co., Wine, 54.
 Hennig & Papenhagen, Chicory, 59.
 Henry, L., Paté de ioie gras, 49.
 Heras, A. A. de las, Beans, 88j.
 Herbst, Augusto, Tobacco, 75.
 Herbst, J., Wines, 54.
 Herdeiros de Roberto & Hunter Reynolds,
 Corks, 89.
 Heredia, Sa, Dr., Hereida root, 69.
 Hermanoff Sugar Mfg. Co., Sugar, 125.
 Hermeiin, Baron O., Sweden, 240.
 Hernaiz, F., Wool, 88j.
 Hernandez, A., Wheat, 88g.
 Hernandez, Antonio, Peru, 270.
 Hernandez, B., Beans, 88k.
 Hernandez, J., Wheat, 88g.
 Hernandez, J. G., Olive oil, 88dd.
 Hernandez, P., Wool, 88j.
 Hernandez, R., Liquors, 88z.
 Hernandez, T., Coffee, 131.
 Hernandez, V., Peas, 88k.
 Hernando y Nieto, F., Wheat, 88f.
 Herraiz, E., Honey, 88p.
 Herran & Co., Wine, 88u.
 Herrera, J., Wine, 88bb.
 Herrera, José, Almonds, 84.
 Herrera, M., Wheat, 79.
 Herrera, P., Brandy, 86.
 Herrera, P. J., Nuts, 84.
 Herrera, Ramon, Musk raisins, 84.
 Herrero, A., Wheat, 88f.
 Herrero, J., Olive oil, 88gg.
 Herrero, P. R., Wheat, 88f; Wine, 88z.
 Herreros, J. I., Wheat, 88e; Peas, 88j.
 Herzog, J., & Co., Eureka hair, 24.
 Hess, J. M., & Sons, Vases, 153.
 Hetsch, C., Denmark, 236.
 Hewit, John C., Potato digger, 29.
 Hews, A. H., & Co., Vases, 153.
 Hexamer, F. M., Russet cider, 22; Plant, 154.
 Heydrick, W. H. H., Steam plow, etc 25.
 Hevl, J. B., Bermuda, 192.
 Heytler, Frank, Wagon, 135.
 Hiatt, E. J., & Bros., Merino wool, 24.
 Hidalgo, V., Seed, 88u.
 Hidalgo y Verjano, Wines, 88u.
 Higganum Mfg. Co., Plows, 26; Trucks, 37.
 Higgin, T., & Co., Salt, 41.
 Higuera, T., Flour, 88s.
 Higueras, J., Lentils, 88j.
 Hildebrand, J., Beer, 54.
 Hill, E. S., New South Wales, 180.
 Hill, Hon. P. C., Canada, 204.
 Hill, W., Queensland, 195.
 Hillborn, Buckman, & Co., Plows, 27.
 Hills' Archimedean Lawn Mower Co., Lawn
 mowers, 29.
 Hills, G., Stand, 153.
 Hincke, Julius, Domestic wines, 22.
 Hinckel, F., Beer, 136.
 Hinson, H. J., Bermuda, 190.
 Hirano, H., Tea, 128.
 Hirner, C. G., Cattle powder, 38.
 Hiromichi, Kubo, Japan, 259.
 Hiroshi, Shibata, Japan, 259.
 Hirsh, A., Switzerland, 225.
 Hitchcock, H. R., Hawaii, 261.
 Hitchings & Co., Boilers, 152.
 Hitz, J., Switzerland, 225.
 Hivert, Pellevoisin, & Godet, Brandies, 50.
 Hjorth, Fr., Anchovies, 61.
 Hjul & Platon, Anchovies, 61.
 Hoadley, J. C., Co., Engines, 33.
 Hobson, W., Flower pots, 157.
 Hoces, A. de, Wheat, 88d.
 Hodgkinson, F. J., Great Britain, 173.
 Hoepiner, Martin, Prepared food, 38.
 Hoffman, I. & S., Leather, 55.
 Hoffman & Merkel, Beer, 137.
 Hoffmann, M. & J., Liqueurs, 54.
 Hoffner, J., Palm, 152.
 Hoffstedt, W., Sweden, 240.
 Hofman, A. J. T., Liquors, 58.
 Hofmark, B., Chicory, 124.
 Ho-meister, Ch., Cereals, 59.
 Högstedt & Co., Punch, 59.
 Höhl Bros., Wines, 53.
 Holbrook & Cummington, Salmon, 45.
 Holbrook, Edward, Tobacco, 16.
 Holbrook, Harry C., Plug tobacco, 17.
 Holcomb, E., Deer skin lace leather, 19.
 Holden, D. L., Drawings of machines, 138.
 Holden, J. A., South Australia, 184.
 Holgate, Geo., & Co., Preserved fruits, 21.
 Holl, S. J., Chalk, 48.
 Holland, Ed., Buggy plow, 25.
 Hollender & Co., Beer, 137.
 Hollister, King, & Young, Shipping boxes, 35.
 Holmblad, J., Denmark, 236.
 Holmen's Sawing & Planing Mills, 61.
 Holst, Chr., Samples of Norwegian wood, 61;
 Artificial manure, 62.
 Holt, Hiram, & Co., Scythes, 30.
 Holt, Hon. T., New South Wales, 180.
 Homann, C., Beer, etc., 54.
 Homedia y Velasco, P., Flour, 88r.
 Hontoria y Tezanos, J., Wine, 88u.
 Hoogenstraaten, D. A. J., Vegetables, 57.
 Hooker, J., Condensed milk, 40.
 Hoopes, Bro., & Thomas, Plants, 154.
 Hoosier Drill Co., Wheat drill, 28.
 Hopkins, A. P., Road scraper, 25.
 Hoppe, P., Gin, etc., 58.
 Horcajo, M., Cereals, 88d.
 Hori, G., Tea, 128.
 Hornachuelos, Corporation of, Wheat, 88d.
 Hornig, E., Austria, 221.
 Hornly, Alex., Cereals, 16.
 Hortal, I., Almonds, 88b; Wines, 88z.
 Horticulture, Classification of, 149.
 Hotsenpiller & Co., Mill, 33.
 Houtman, A., & Co., Gin, 58.
 Howard & Fuller, Ale, 137.
 Howe & French, Isinglass, 136.
 Howlett, C. K., Birds, 18.
 Huber, Alfred, China, 257.
 Huber Manufacturing Co., Hay-rake, 29.
 Huck, John A., Wines, 23.
 Huelbes y Ortis, E., Cereals, 88k; Seed, 88u;
 Flour, 88r.
 Huelin, G., & Son, Almonds, 88a; Raisins,
 88g; Sugar, 88s.
 Huergo, A., Wool, 87.
 Huerta, C. de la, Wine, 88z.
 Huesco, Corporation of, Esparto grass, 88ii.
 Hughes, H. D., Flour barrel, 33.
 Hughes, H. R. & M., Ale, 22, 137.
 Hughes, W. W., & Son, Malt kiln, 138.
 Hughes, G. H., Wine, 88v.
 Hull, David H., Tobacco machine, 25.
 Hull, Theodore, Horseshoes, 38.
 Hulshizer & Larzelere, Machines, 32.
 Hulskamp, F. A., Cork, 57.
 Hultenberg, C. A., Barley, 59.
 Humbert, N., Wines, 88z.
 Hunt, Roope, Teage, & Co., Port wine, 106.

Hunter, John, & Son, Oatmeal, 40.
 Hunyady, Count Emerich, Wool fleeces, 56.
 Hupiel, A. G., Barrel-rolling machine, 138.
 Hupfel, J. C. G., Barrel-rinsing machine, 138.
 Hupiel's, A., Sons, Beer, 137.
 Hurd, Lewis, Fruit honey, 19.
 Hurley, T., Dyes, 77.
 Huss, J. & F., Ferns, 151.
 Hutchinson, Samuel, Adjustable harrow, 26.
 Hutter, Robert, Grape sugar, 22.
 Hydraulic Lime Stock Co., Lime, 48.

I.

Ianesch, Edward, Leather, 55.
 Ibanez, L., Olive oil, 88*ff*.
 Ibanez, L. G., Pears, 88*a*.
 Ibarra, J. M., & Son, Wines, 88*z*; Oil, 88*gg*.
 Ibern, y Roviro, J., Carrots, 88*f*.
 Icely, J. E., Switzerland, 225.
 Icleinek, Adolph, Glove leather, 55.
 Iglesias, A., Lentils, 88*k*.
 Iglesias, M., Wine, 107.
 Iglesias, R., Cereals, 88*f*; Beans, 88*k*.
 Ignes, P., Hazelnuts, 88*a*; Vetch, 88*f*.
 Igualada, F., Cordage, 88*ii*.
 Iles, F., Designs, 151; Baskets, 153.
 Iljine, Nicolas, Russia, 294.
 Ilañes, J. M., Wheat, 79.
 Illas, J. M., Hazelnuts, 88*b*.
 Illinois State Board of Agri., Samples, 18.
 Ilocos Sur, Provincial Board of, Seeds, 131.
 Iloilo, Provincial Board of, Seeds, 130.
 Imai, K., Tea, 128.
 Imaz Bros., Wheat, 77.
 Imperial Nikitzky Garden, Wine, 125.
 Imperial Russian Horticultural Society, 123.
 Inchado, José Antonio Dias, Nuts, 91; Grain, 95; Oil, 120.
 Inchausti & Co., Alcohol, 132.
 Ind, Coope, & Co., Ale, 40.
 India, Statistics of, 199.
 Indiana, State of, Timber, 15; Wheat, etc., 16.
 Indo, V. M., Wheat, 88*k*; Oils, 88*hh*.
 Infante, J. de Dios, Olive oil, 88*ee*.
 Infante, J. E., Wine, 88*z*.
 Infante, J. M. de M., Wine, 107.
 Ingraham & Beard, Grain separator, 137.
 Iniguez, A., Charcoal, 82.
 Iniguez, E., Olive oil, 88*ff*.
 Iniguez, J., Liquors, 88*v*; Olive oil, 88*ff*.
 Iniguez, M., Woods, 76.
 Iniguez, M. A., Vipers in alcohol, 81.
 Iniguez, R., Wines, 88*w*.
 Inman Brothers, Aërated waters, 40.
 Inspection General of Woods & Forests, Timber, 130, 131; Oils, 132.
 Institute of Agriculture & Forestry, Wheat, 123.
 International Salt Co., Salt, 47.
 Invernice, Pedro, Spurge, 80.
 Invernizzo, J., & Toschini, J., Wax, honey, 84; Cotton, 87.
 Iontoja, M., Wheat, 88*e*.
 Iowa, State Board of, Woods, grains, 15.
 Iraiza, G., Wool, 87.
 Iramon, Juan, Honey, wax, 84.
 Iranzo, J., Wine, 88*bb*.
 Iriarte, J. M., Chocolate, 88*dd*.
 Iriartete, C., Skins, 83.
 Iron Clad Can Co., Apparatus for ales, 137.
 Iroy, E., & Co., Wines, 50.
 Isaacs, Fred. H., Sulky gang plow, 25.
 Isæus, M., Sweden, 240.
 Isbary, R., Austria, 221.
 Isham, Chas. R., Glass honey boxes, 37.
 Isla, P., Wine, 88*r*.
 Isolattelli & Co., Vermouth, 66.
 Israel, J. N., Cigars, 16.
 Itabapoana, Baron de, Laranginha, 74.
 Itajahy Colony, Woods, 68; Tobacco, 71.
 Italian Enological Committee, Liquor, 65.
 Italy, Statistics of, 244.

Itarra, Venero, Wheat, 78.
 Ithaca Agricultural Works, Wheel rake, 30.
 Itschner, W., Switzerland, 225.
 Iturraspe Co., Wheat, 79.
 Iturraspe & Co., Bran, etc., 85.
 Iznaga, N., Sugar, 88*s*.
 Izquierdo, N., Honey, 88*f*.

J.

J. C. A., Cotton, 75.
 Jaap, J., Curry, 40; Yeast, 41.
 Jabon, B., Pepper, 88*n*.
 Jacintho, Maria F., & Sons, Wine, 108.
 Jackson, James L., Stable fixtures, 38.
 Jacobi, A. E., Sweden, 240.
 Jacobi, Dr., Germany, 215.
 Jacobini Brothers, Wine, 66.
 Jacobs, Chas., jr., & Co., Hams, etc., 21.
 Jacoby, S., & Co., Cigars, 17.
 Jacquand, sr. & jr., Phosphates, 52.
 Jacquemard, V., Charcoal, 82; Manure, 88.
 Jacquier & Saupiquet, Sardines, 49.
 Jäger & Son, Wines, 54.
 Jagt, P. G. van der, & Francois, J., Cigars, 57.
 Jaime, M., Cordial, 88*f*.
 Jamaica, Statistics of, 187.
 James, Jos., Bag holder, 46.
 Jané, M., Tobacco, 88*uz*.
 Janes, J. A., Wine, 107.
 Janes & Kirtland, Ornamental fountain, 39.
 Jansen, E., Flowers, 151.
 Jansen, J. H., & Co., Beer, 108.
 Japan, Statistics of, 258.
 Jaquary, Viscount of, Coffee, 71; Brazil, 263.
 Jara, Loulé, Almonds, 91; Beans, 98.
 Jarboe, John W., Model, 135.
 Jardim, J. R. de Moraes, Tobacco, 70.
 Jarrin, B., Pastes, 88*s*.
 Jarvis & Hooper, Fertilizers, 36.
 Jausa, P., Maize, 88*k*.
 Javerzac, Viremondoy, & Co., Wines, 50.
 Jenks, G. E., Sprinkler, 152.
 Jenner, Hon. C. J., Australia, 182.
 Jennings, P. A., New South Wales, 180.
 Jeremoabo, T., Aguardente, 73.
 Jeronymo, Francisco Manuel, Hides, 101.
 Jesus, F. de, Bark, 130; Seed, 131; Sugar, 132; Cord, 133.
 Jesus, Laureano, Sugar, 132.
 Jewell Bros., Flour, 21.
 Jewett, Solomon W., Models, 37.
 Joacks & Behrns, Millstones, 54.
 Joaquim Guelherme de Vascomellos & Sons, Corkwood, 89; Plants, 97; Vinegar, 116.
 Jofré, Roman, Red corn, 78; Figs, 84.
 Johannesson, C. S., Leather, 59.
 Johnsen, Chr., Salted and dried cod, 61.
 Johnson & Co., Pale ale, terra-cotta, 41.
 Johnson & Gere, Grain drill, 28.
 Johnson, J., Plants, 152.
 Johnson, Robbins, & Co., Garden seed, 18.
 Johnson, T. H., Unfermented wines, 22.
 Johnston Harvester Co., Reaper, 29.
 Johnston, Samuel, Harvesters, binders, 28.
 Jonckbloet, W. T. A., Netherlands, 234.
 Jones, D., Malt, 137.
 Jones, Fabian, Red corn, 78; Figs, 84.
 Jones Fruit Evaporating Co., Evaporator, 37.
 Jones, J. M., Implements, 152.
 Jones, John A., Potato assorter, 32.
 Jones, John Winslow, Canned green corn, 20.
 Jong, M. & K. de, Edam cheese, 57.
 Jopling, J. M., Great Britain, 173.
 Jordan Horticultural Co., Heater, 152.
 Jordan, L. A., Wines, 53.
 Jordan, M., Wine, 88*bb*.
 Jordao, Miranda, Coffee, 71.
 Jordao, R., Coffee, 71.
 Jordao, S., Coffee, 71.
 Jorge, M. F. A., Oil, 74.
 Jose Ferreira Pinto Basto, Wine, 116.

- Jose, J. das, Neves, & Sons, Almonds, 91.
 Jose Maria d'Andrade & Bros., Leather, 101.
 Jover, F., Grapes, 88a.
 Jover, L. de, Almonds, 88a; Wheat, 88e;
 Beans, 88f.
 Jover, Provincial Commission of, Ham, 88g.
 Juan Fernando, Abaca, 133.
 Juandó y Rafecas, J., Wines, 88f.
 Judge, Owen, Barrel heads, 35.
 Judice, A. J., Widow of M., Wines, 110.
 Judkins, Mark D., Grain separator, 33.
 Jujui, Governor of the Province of, Nuts, 84.
 Jujui, Prov. Com. of, Rice, 80; Skins, 83.
 Juliano, Fr., Cheese, 72.
 Jullien, M., France, 209.
 Jung & Co., Wines, 53.
 Jung, J. A., Wines, 53.
 Jung, J. J., Wines, 53.
 Juparana, Baron of, Woods, 68; Coffee, 71.
 Jurado, Doraliza G. de, Wasps' comb, 81;
 Honey, 84.
 Jurado, J., Wine, 88v.
 Jurafido, Jose M., Argentine Republic, 265.
 Jusarte, Jose Carlos, Wine, 115.
 Justice, L. B., Machine, 35.
 Justice of Peace, Bahía Blanca, Wheat, 78.
 Justice of the Peace of Juarez, Wheat, 78.
 Justice of the Peace of Patagones, Wheat, 78.
 Justice of the Peace of Zarate, Corn, 78.
 Juzarte, Jose Francisco, Honey, 101.
- K.**
- Kadach, J., Bitters, 54.
 Kadzemiari, Sugiyama, Japan, 259.
 Kagoshima-ken, Gov. of, Tobacco, 128.
 Kahn & Forbes, Hams, bacon, etc., 21.
 Kaitaku-Shi, Department of, Wheat, 128;
 Meats, 129.
 Kaku, S., Tea, 128.
 Kalashnikoff, P., Liqueurs, etc., 126.
 Kalden, Baron of, Tobacco, 70; Flax, 75.
 Kallinge Iron Works, Dairy utensils, 60.
 Kalmar Agricultural Society, Cereals, 59.
 Kalmweiler, David, Cotton seed huller, 32.
 Kambayashi, Sansho, & Sannin, Tea, etc., 128.
 Kamimura, N., Tea, 128.
 Kampf, S., Malt shovels, 137.
 Kamzaki, Liqueurs, etc., 129.
 Kane, E., & Co., Beer, 137.
 Kanitz, E., Austria, 221.
 Kansas Manufacturing Co., Wagons, 135.
 Kantorowicz, H., Liqueurs, 54.
 Kappe, W. J. H., Coop, 37.
 Karali, G. N., & Co., Cordials, etc., 126.
 Karamysheff, E., Linseed, 124.
 Karamysheff, E., Flax, 126.
 Karamysheff, N., Grain, 123; Flax, 126.
 Karlovka Estate, Wool, 126.
 Károlyi, Count Alois, Sheep wool, 56.
 Katakura, J., Tea, 128.
 Kaufmann, M., Malt, 55.
 Kaufmann, Mr., Germany, 215.
 Kawai, S., Tea, 128.
 Kawainui, J. N., Hawaii, 261.
 Kay & Hilton, Burr mill stones, 41.
 Kazan Model Farm, Grain, 123; Flax, 126.
 Keane, C. C., Bermuda, 190.
 Keastner, Chas., & Co., Feed mills, 137.
 Kebe, E., & Co., Wine, 107.
 Keck, J. L., & Bros., Pickled meats, 21.
 Keen & Hagerty, Freezers, 35.
 Keen, Robinson, Bellville, & Co., Mustard, 40.
 Kehrmann, F., Wines, 53.
 Keller, J. S., Liqueurs, 54.
 Keiser, Jos., Beer wagon, 135.
 Keith & Son, Ale, 139.
 Kellen, D. van der, jr., Netherlands, 234.
 Keller, Henry, Machines, 32.
 Keller, J. S., Wine, whisky, 22.
 Keller, M., Wines, brandies, 22.
 Keller, Philippe, Flax, 75.
 Kelley's Island Wine Co., Wines, 23.
- Kellogg, Adam, Bale of cotton, 24.
 Kelly, Wm. E., Mowing machine, 29.
 Kelsey, John, Harrow and scraper, 25.
 Kempe, G., Oil, 119.
 Kennard, Amos, Cant hook, 37.
 Kenosha Fanning Mill Co., Fanning mill, 32.
 Kenyon Bros., Potato digger, 30.
 Kenyon, Silas R., Corn husking machine, 32.
 Ker, Benito, Sugar, 132.
 Kerber, P. J., Wines, 53.
 Kerbs & Spiess, Cigars, 17.
 Kerkwyk, L. C. van, Netherlands, 234.
 Kerr, J. R., Oats, 44.
 Keshner, F., Sugar, 125.
 Kessler, C. E., & Co., Wines, 54.
 Ketterman, V., Tobacco, 70.
 Keyser, James, & Son, Fastenings, 36.
 Keystone Bridge Co., Iron, 147.
 Keystone Mfg. Co., Corn planter, 28.
 Kharkoff Model Farm, Hops, 124.
 Kibler, N., Machines, 32.
 Kiderlen, E., Alcohol, potash, 58.
 Kiesler, J., Beer wagon, 138.
 Kift, J., & Son, Bouquets, 151.
 Killian, J. E., Fibres, 75.
 Kimball, Wm. S., & Co., Chewing tobacco, 17.
 Kindlinger, V., Wines, 53.
 Kindt, J., Belgium, 229.
 King, Joseph G., Flour, 45.
 King, William, Table sauce, 20.
 Kingsford, T., & Son, Laundry starch, etc., 22.
 Kinney, Francis S., Cigarettes, tobacco, 16.
 Kirby Bung Man'g Co., Bung machine, 138.
 Kirchner, A., & Co., Liqueurs, 54.
 Kiriu-Kosho-Kuwaisha, Cigarettes, etc., 128;
 Fishing apparatus, 129.
 Kirk, Chas. H., & Co., Prepared food, 38.
 Kissell, Blount, & Co., Corn cultivator, 25.
 Kitakaze, Y., Vinegar, 129.
 Kitzing, Otto, Russia, 294.
 Kiyoto, Municipality of, Tobacco, 128.
 Klag, P., Flowers, 152.
 Kleia, Enrico, Candied fruits, 64.
 Klein, J., Wines, 53.
 Kleintjes, J., Plant 100 years old, 57.
 Klem, Hansen, & Co., Leather, etc., 61.
 Klippel & Brother, Hides, 72.
 Kluffinger, L., Hemp, 66.
 Klütjen, J. H., Bed feathers, 57.
 Knapp, S. P., Malt shovels, 137.
 Kniavjevitch, A., Wine, 125.
 Kniffler, Mr., Germany, 215.
 Knickerbocker Ice Co., Wagon, 135.
 Knight, C. P., & Bro., Fruit jellies, 20.
 Knight, F. P., China, 257.
 Knight, J., Liqueurs, 45.
 Knight, Sir J. M., New South Wales, 179.
 Knight, Sir W. M., New South Wales, 180.
 Knowles Steam Pump Works, Pumps, 139.
 Knowlton, E. J., Bathing apparatus, 39.
 Kobeko, Dmitri, Russia, 294.
 Kobori, C., Tea, 128.
 Koehler, J. G., Churns, 35.
 Körper & Co., Resin, 53.
 Kohei, Makiyama, Japan, 259.
 Kohler & Frohling, Wines, 22.
 Koldfossen's Bobbin Works, Bobbins, 61.
 Komarovskiy, Count, Wool, 126.
 Kongsberg Brewery, Pale ale, 62.
 König, J. B., Wines, 53.
 König, R., & Co., Sweetmeats, 86.
 Königstättler Bros., Alcohol, 55.
 Konnstein, Gottfried, Ether, 56.
 Koodriavzeff, A. & G., Sweetmeats, etc., 126.
 Kooshnareff, J., Tobacco, etc., 124.
 Kopke & Co., Wine, 108, 111.
 Köpp, T., & Son, Vinegar, 54.
 Koppen, H. T., & Son, Cigars, 57.
 Kopsch, Ch., Tobacco, 70.
 Koradi, R., Switzerland, 225.
 Korenaka Amori, Japan, 259.
 Korf, Baron K., Spirits, etc., 126.
 Korf, Baron Michael, Grain, 123.
 Korn, G. W., Refrigerator, 138.

Kozishnikoff, P., Bristles, 127.
 Kraasby Bros., Fish bait, 61.
 Kraft Bros., A. & O., Tobacco, etc., 124.
 Krakovicz, F. O., Ventilator, 139.
 Kramer, Jacob, Wagon, 135.
 Krapotkine, Prince Demetrius, Grain, 123.
 Krasinec Sugar Mill Co., Sugar, 125.
 Krass, J. A., Wines, 53.
 Krause, W., Beer, 126.
 Kreisler, J., Raisins, 887.
 Kreitner & Sons, Leather, 55.
 Krelage, J. H., Bulbs, 158.
 Kresken, H., Flowers, 151.
 Krichuber, Alois Edler von, Wine, 55.
 Kroh, C. & P. G., Cultivator, 25.
 Kruger, Dr., Germany, 215.
 Kruijsmulder, Cz. D., Vegetable oils, 58.
 Krull, Frederika, Coffee, 70.
 Kuechle, J., Beer, 137.
 Kühn, von, & Silberman, Tobacco pipes, 17.
 Kumagai, K., Incense, 129.
 Kümens, R., Sobolevka, & Tsharnomin, Sugar, 125.
 Kuroda, N., Tea, 128.
 Kuroki, Y., Tea, 128.
 Kuwangiyo-Riyo, Imperial Board of, Trees, etc., 128; Hides, etc., 129.
 Kuwangiyo-Riyo-no-yozankakari, Silk, 129.

L.

Labarta, M., Wines, 88z.
 Labatt, John, Ales, 45.
 Labenski, W., Grain, 123.
 Labensky, V., Wool, 126.
 Labhart & Co., Mastic, 130.
 Laborda, F., Insects, etc., 81; Syrups, 85.
 Laboulaye, Mr., France, 209.
 Labrador, C., Marchpane, 88r.
 Labroise Bros., Wines, 53.
 Labrunie, P. A., Wines, 50.
 Lacaze, J. P., Wine, 88cc.
 La Cenia, Marquis of, Wine, 88t.
 Lacerda, A. A. de, Wine, 115; Wool, 121.
 Lacerda, A. F. de, Coffee, 69; Fibres, 75.
 Lacerda, José de Aragoa Costa, Woods, 89; Trefoil, 93; Grain, 96; Olives, 105.
 Lacharme, F., Roses, 157.
 Lachaume, J., Cactus, 160.
 Lachicotte, P. R., & Sons, Carolina rice, 16.
 Lachlaw, W., Bros., Pine, 134.
 La Corte, Marquis of, Wine, 88w.
 La Croix, James, Canned vegetables, 20.
 Lacruz, A., Wine, 88x.
 Lacruz, F., Wines, 88x.
 La Cruz, V. de, Flax, 88ii.
 Lactinbros, Wm., Pine, 134.
 Lade, F., Wines, 53.
 Ladies' Commission, Sweetmeats, 83.
 Lafayette, Marquis de, France, 209.
 Lafarme, Tobacco, etc., 124.
 Lafone, Q., Wood, 76; Wines, 86.
 Lafont, A., Wheat, 88r; Olive oil, 88ff.
 Lagares, F., Olive oil, 88ff.
 Lagarú, F., Wine, 88w.
 Lagarza, E., Flour, 88r.
 Lage, Municipality of, Wheat, 69.
 Lages, District of, Cereals, 69.
 Lago, Francisco d'Assis Pereira de, Wine, 111.
 Lago & Son, Cigarettes, 81.
 Lagomarsino & Cunco, Macaroni, 21.
 Lagraña, C., Angora hair, 88.
 Lagrifa, Juan, Corks, 89.
 Laguña, Provincial Board of, Oil, 131.
 Laguna, A., Wines, 88x.
 Laguna, C., Olive oil, 88ff.
 La Hasta, L. D. de, Olive oil, 88gg.
 Lahiton, P., Hides, 83.
 Lahoz, V., Anise-seed cordial, 88cc.
 Laje, D. A., Rye, 88f.
 La Linde, Baron of, Olive oil, 88hh.
 Lamarche & Veillon, Game, etc., 49.
 Lamart, A., Liquors, 50.

Lamas & Co., Leather, 100.
 Lambas, M., Wheat, 88c.
 Lambas y Gutierrez, G., Peas, 88f.
 Lamborn, Lewis, Cultivator, etc., 25.
 Lamolla Bros., Cordial, 88x.
 Lamos, Jose, & Co., Belting, 100.
 La Motilla, Marquis of, Wine, 88z; Oil, 88gg.
 Lancki, R., Wine, 125.
 Landauer Bros., Rye whisky, 23.
 Landauer & Macholl, Liqueurs, 54.
 Land Department, Central Pacific R. R. Co., Woods, 15; Grain, 16; Birds, 18.
 Land & Forest Economy Union, Flax, 56.
 Landfried, P. J., Cigars, 53.
 Landis, Israel L., Tobacco, 17; Stepladder, 56.
 Landreth, D., & Sons, Cereals, etc., 16.
 Landrin, A., Fruits, 49.
 Landrin, G., Bonbons, etc., 126.
 Landsberger, J., & Co., Champagnes, 22.
 Lang & Co., Hemp, flax, 75.
 Lang, F. J., Wines, 53.
 Langenbach, J., & Sons, Wines, 53.
 Langley & Co., Oil, 45.
 Lanhoso, Jose, Nuts, 91.
 Lanin, N., Liquors, 125.
 Lankenau, J. D., Germany, 215.
 Lanza, Cav. Salvatore, Wine, 66.
 Lanzara, R., Lemons, oranges, 63; Wine, 66.
 Lanzarini Brothers, Sausages, 64.
 Lanzas, J. A., Wheat, 88e.
 Lanzon, N., Wheat, 78.
 Laorden, J. B., Pepper, 88m.
 Lapa, Joaquim Pereira, Grain, 94; Beans, 98.
 La Patilla, Count of, Flour, 88s.
 Lapidra, J., Wheat, 88e; Olive oil, 88ff.
 Lapin, N. & A., Frothers, Cakes, etc., 126.
 Laplante, E. de, Wines, 51.
 La Puebla de Eca, Corporation of, Saffron, 88m.
 Lara, A. C., Seed, 88z; Olive oil, 88cc.
 Lara, C., Wine, 88s.
 Lara, M. T. de, Licorice root, 88m.
 Lara, R. J. de, Oranges, 88a; Olives, 88p.
 Lara y Pineda, R. J., Olive oil, 88cc.
 Laranja, Manuel Duarte, Wine, 119.
 Larcher, Emelia A., Preserved fruits, 104.
 Larcher, Marcal, Brandy, 117.
 Larcher, Marcal M. A., Preserved fruits, 105.
 Larcher, Maria Jose, Vinegar, 117.
 La Rioja, Provincial Commission of, Woods, 76; Beans, 79; Skins, 82.
 Laroche, A., Coal, 48.
 Larrabee, E. J., & Co., Confectionery, 23.
 Larrain, Sr. Rafael, Chili, 267.
 Larravide, B. de, Fish, 88a.
 Larrohona, P., Nuts, 77; Beans, 79; Raisins, 84.
 Larronde Bros., Wines, 50.
 Lasala y Palomares, V., Cereals, 88h.
 Las Almenas, Count of, Wine, 88x; Oil, 88ff.
 Las Bargas, Corp. of, Wheat, 88f; Oil, 88ff.
 Las Cabezuellas, Count of, Beans, 88j.
 Las Cuebas, F. de, Olive oil, 88ff.
 Lasalia y Palomares, Olive oil, 88hh.
 Lasherias, M., Claret, 88x.
 Lasierra, F., Wheat, 88e; Claret, 88x.
 Lasiera, J., Wheat, 88e; Claret, 88x.
 Las Palmas, Friends of, Maize, 88d.
 Lassala, V., Wine, 88bb.
 Lassala y Camps, V., Beans, 88l; Cyperus, 88m.
 Lassala y Palomares, V., Almonds, 88c; Figs, 88r.
 Latham, W., Wool, 87.
 Latonycn, P., Cereals, 88g.
 Latorre, F., Wine, 88bb; Olive oil, 88hh.
 Lauer & Krämer, Wines, 53.
 Laugan, J., Woods, 76.
 Lannay, de, & Co., Wines, 50.
 Laurence & Chapin, Plows, 25.
 Laurent, F., Confectionery, 24.
 Lauzun & Co., Granite, 48.
 Lavado, A., Beans, 88k.
 Lavarios, A., Wine, 88bb.
 Laveissiere, J., France, 209.

- La Viesca, Marquis of, Oil, 88*f*; Silk, 88*j*.
 La Viñaza, Count of, Wheat, 88*i*; Seeds, 88*n*;
 Flax, 88*ii*.
 Lawrence & Co., Refrigerators, 139.
 Lawrence, Daniel, & Sons, Rum, 23.
 Layard, W. P., Oak flooring, 134.
 Lazan, Olive oil, 83*f*.
 Lazar Bros., Juices, 54.
 Lázaro, O., Anise-seed cordial, 88*bb*.
 Lázaro, O. T., Chocolate, 88*d*.
 Lazzaro, Salvatore, Liquors, 64.
 Lea & Perrins, Sauce, 40.
 Leach, Giró & Co., Wines, 88*f*.
 Leacock & Co., Wine, 111.
 Leal, A., Oil, 120.
 Leal, Costa, & Co., Preserved meats, etc., 103.
 Leal, F., Chocolate, 88*cc*.
 Leal, Francisco da Costa, Wine, 109.
 Leal, M. da C., Flax, 121.
 Leamas, Gabriel, Weed, 133.
 Leao, A. de, Paina, 75.
 Leao & Alves Grist Mill, Wheat flour, 73.
 Leao, Antonio Moreira, Grain, 94; Flour, 106.
 Leao, Dr. A. E., Cheese, 72.
 Leao, E. de, Flax, 75.
 Leao, Hermelino de, Coal, 68; Cereals, 69;
 Rice, 72; Biscuit, 74.
 Leao, José Maria Carneiro, Seed, 97.
 Leao, Major V. F. de, Matte, 72.
 Leao, Manuel da C., Corkwood, corks, 111.
 Leao, Rego B. S., Embira, 75.
 Leao, Souza, Sugar, 73.
 Leas, Manuel da Cunha, Grain, 95.
 Leatherbarrows, John, Fencings, 36.
 Lebaron Building & Paving Block Co., 155.
 Lebre, Manuel Ferreira, Wine, 110.
 Lebrun & Co., Wines, 88*v*.
 Lecanda, E., Chick peas, 88*f*; Honey, 88*g*.
 Le Cocq, Alfredo Carlos, Portugal, 235.
 Le Cocq, Joao José, Nuts, 91; Olives, 103;
 Wine, 117; Wool, 121.
 Lecourt, F., Food, 49.
 Ledesma Bros., Skins, 82.
 Ledesma, Dr., Cotton, 87.
 Ledesma, H., Wheat, 78.
 Leiger, H., & Co., Pure extract, 40.
 Ledoux, C. Z., Cigarettes, 17.
 Lee, E. S., Pruner, 33.
 Lee, Geo. W., Fodder cutter, 34.
 Lee, James, jr., Hay-udder, 31.
 Lefèvre & Rémondet, Wines, 50.
 Le Franc, Charles, Wine, brandies, 23.
 Lefroy, A. H. F., Bermuda, 190.
 Legaspi, J., Rye, 83*f*.
 Leguizamon, Onesimo, Argentine Rep., 265.
 Lehig Car Manufacturing Co., Wagon, 135.
 Lehman, J. W., Sweetmeats, 133.
 Lehment, F., & Co., Spirits, 54.
 Leipsic Malt Factory, Malt, 53.
 Leis, Wilow of the Marquis of, Wines, 88*y*.
 Leitao, A., Baptista Covilha, Wine, 111.
 Leitao, Alberto, Chick peas and beans, 98;
 Dried damsons, 103.
 Leitao, Alipio, Wine, 110.
 Leitao, J. P. d'A., Oil, 119.
 Leite, A. B. d'O., Grain, 93; Beans, 98; Flax,
 121.
 Leite & Co., Francisco, Fish, 99.
 Leite, Francisco de Moraes, Wine, 110.
 Leite, Francisco de Paula, Wines, 109.
 Leite, Guilherme da Costa, Wine, 110.
 Leite, J. A. P., Oil, 119.
 Leite, J. B. de A., Oil, 119.
 Leite, Joao Baptista de Araujo, Peas, 98.
 Leite, Joaquim M. F., Peas, 98.
 Leite, L. M. F., Hemp, 121.
 Leite, Severino, Ticus leaves, 63; Vegetable
 hair, 75.
 Leito, Manuel Pinto, Wine, 111.
 Leizaur y Rodriguez, G., Wine, 88*y*.
 Lemaistre, H., Liquors, 86.
 Lemas, Abraham, Birds, etc., 81.
 Leme, Pedro Paes, Brazil, 263.
 Lemos, Alexandre Maria de, Wine, 110.
 Lemos, Antonio da C. d'A., Honey, etc., 102.
 Lemos, Antonio Maria Tovar de, Olives, 105.
 Lemos, F. A. P., Grain, 93; Wool, 121.
 Lemos, Francisco A. P., Honey wine, 101.
 Lemos, Francisco Ferreira de, Macaroni, 106.
 Lemos, J. G. de, Corn, 93; Oil, 119.
 Lemos, Joao Gonzalvo de Saouo, Beans, 98.
 Le Mout, A., Flowers, 151.
 Lemp, W. I., Beer, 137.
 Lengert, George, & Son, Wagons, 135.
 Lenguas, P., Blue vetch, 88*f*.
 Lenning, J., Sweden, 240.
 Leno de Coronei, Nicolo, Wine, 65.
 Lenoir, A., Game, 49.
 Lensvelt, G., Table and ship biscuit, 58.
 Lentilhae, de, Wines, 50.
 Leon, Celestino de, Sugar, 132.
 Leon, J. P. de, Vegetables, 88*i*.
 Leon, José, Tobacco, 88*m*.
 Leon, M. G., Wheat, 88*g*; Peas, 88*h*.
 Leon, R., Esparto grass, 88*hh*.
 Leon & Santos, Sugar, 132.
 Leonard, Henry, Revolving ball, 37.
 Leonarde, Q., Seed, 131.
 Leonoff Sugar Manufacturing Co., Sugar, 125.
 Leopold, E. L., Baskets, 151.
 Le Page, Wines, 74.
 Lepage, F. J., Pharmaceutical products, 75.
 Lepage, J., Cigarettes, 70.
 Lepanto, Provincial Board of, Honey, 131.
 Lerche, Emile de, Russia, 294.
 Lerdia y Daniel, José, Peas, 88*f*.
 Leri, Petrona de, Grape syrup, 85.
 Lérin, E. C., Figs, 88*g*.
 Leroy, L., Plants, 157.
 Lesage & Paignard, Preserves, 50.
 Lescano, J. D., Leaves, 87.
 Lessa, Antonio dos Santos, Beans, 98.
 Letterstedt & Co., Wheat, 43.
 Le Valley, Darius A., Stool, 35.
 Levchine, T., Peas, 124.
 Leven, M., jr. & sen., Skin, 49.
 Levert & Co., Liquors, 58.
 Levey, G. C., Victoria, 182.
 Levin, W. H., New Zealand, 177.
 Leving, J., New South Wales, 180.
 Levita, Joaquim Fortunato, Brandy, 111.
 Levita, José Eduardo, Brandy, 117.
 Levy, Edward S., Raw cotton, 24.
 Levy, James, & Bro., Whiskies, 23.
 Levy, Salamon, Snuff, 70.
 Lewis, James H., Potato digger, 31.
 Lewis, W. K., & Bros., Preserves, etc., 19.
 Leygonier, C., Olive oil, 88*g*.
 Lhernault, Auguste, Machine, 38.
 Liaño, M. G. de, Wheat, 88*e*.
 Libby, McNeal, & Libby, Meats, 20.
 Liberia, Statistics of, 275.
 Liborio & Ferreira, Chocolate, 69.
 Liccioli, Filippo, Wine, 65.
 Lichtenfelder, Furniture, 157.
 Lichtenstein, J., Wine, 88*cc*.
 Lidy, Geo. F., & Co., Machines, 32.
 Lieber, R., Model of brewery, 138.
 Liebig, Franz R. von, Austria, 221.
 Liebman, S., & Sons, Beer, 136.
 Liebman's, S., Sons, Malt, 136; Beer, 137.
 Liendo, M., Wine, 88*e*.
 Likhonin, G., Cranberry juice, 125.
 Lillieroth, V., Punch, 126.
 Lill & Bullen, Malt, 136.
 Lilpop, Rau, & Loevenstein, Reaper, etc., 127.
 Lima, A. A. de, Oil, 119.
 Lima, A. J. F., Grain, 93; Beans, 98; Wine,
 111.
 Lima, Antonio dos Santos, Brandy, 111.
 Lima, Carlos Joas Ribeiro, Wine, 109.
 Lima, Dias, Chocolate, 69.
 Lima, F., Coffee, 71.
 Lima, Honorio Fiel, Preserved fruits, 105.
 Lima, Joao Ferreira, Wine, 111.
 Lima, Joao José Xavier de, Wine, 109.
 Lima, Jorge Abraham d'Almeida, Wine, 116.
 Lima, José Duarte Cartaxo, Wine, 110.

- Lima, Lino Ancaes, Wheat, 94; Flour, 105.
 Lima, Meyer, & Sons, Oil, 119.
 Lime, Cement, & Plaster Mig. Co., Lime, 48.
 Liñan, Diego, Rice, mongos, 130; Beneseed, 131; Sugar, 132.
 Linares, C., Cheese, 82.
 Linares, C., Hemp, 88*hh*.
 Linares, J. R., Almonds, 88*a*; Cereals, 88*c*; Peas, 88*i*.
 Linares, Salvador, & Alejandro, Beans, 88*k*.
 Linares y Obeso, D., Wine, 88*v*.
 Lindahl, Dr. J., Sweden, 240.
 Linducke, A. G., Wines, 54.
 Lindermann, O., & Co., Cages, 37.
 Liné y Canes, J., Camomile flowers, 88*m*.
 Link, J., Barrels, 138.
 Liñola, Corp. of, Camomile flowers, 88*m*.
 Lirer, Manuel, Sugar, 132.
 Liro, Hidaka, Japan, 259.
 Lisboa, Antonio da Silva, Wine, 109.
 Lisboa, Luis Emilio, Wine, 110.
 Lisbon, President of the Municipal Chamber of, Tallow, 101.
 Lisbon Tobacco Co., Tobacco, 99.
 Lista, Manuel, & Schröder, T., Tobacco, 21.
 Lister Bros., Glue, etc., 19; Fertilizers, 36.
 Lithographic Stone Quarry Co., Stone, 48.
 Litta, Count B., Italy, 249.
 Little Creek Canning Co., Fruits, etc., 20.
 Littlejohn, L., Bung bushes, 138.
 Live Stock, Exhibitions of, 142-144.
 Llaberia, J. S., Wine, 88*aa*.
 Llampallas, A., Carobs, 88*l*; Wines, 88*l*.
 Llander, M. O., Carobs, 88*l*.
 Llandes, M. O., Seeds, 88*n*.
 Llanos, A., Peas, 88*k*.
 Llançado y Pamies, J., Olive oil, 88*gg*.
 Llansola, V., Wax, 88*o*.
 Lledo y Gomis, V., Hemp, 88*hh*.
 Llobet, A. M., Wine, 88*u*.
 Llorat y Fontanillas, J., Wine, 88*aa*.
 Llovera y Llovet, V., Wine, 88*v*.
 Lloveras, Lisandro, White corn, 78.
 Lloyd & Sons, Flour Mills, Machines, 41.
 Lluch, F., Wine, 88*bb*.
 Llurba, F., Almonds, 88*b*.
 Llurba, J. B., Chick-peas, 88*l*.
 Lobao, Francisco Rasquilha, jr., Grain, 92.
 Lobo, B. J., Corn, 93; Cheese, etc., 100.
 Lobo, Bernardino Vas, Wine, 111.
 Lobo, Francisco Teixeira, Wine, 110.
 Lobo, José Maria, Nuts, 91; Grass, 93; Beans, 98; Cheese, 99; Oil, 119.
 Lobo, José Nogueira Pereira, Wine, 111.
 Lobo, Nicholau Joaquim, Wine, 110.
 Lobo, T. A. de A., Oil, 119.
 Lockhart, Capt., R. A., Bermuda, 190.
 Lockwood, James L., & Co., Dryer, 37.
 Loewer, V., Beer, 137.
 Löfvenskiöld, Ch., Drawings, 60.
 Logette, A., Clasps, 51.
 Loggie, A., & Co., Salmon, trout, cranberries, 41; Oil, 45.
 Loio, G. da S., Oil, 119.
 Lombard, Daniel, Shelling machine, 34.
 Lombart, Chocolates, 51.
 Long, Allstatter, & Co., Rake, etc., 29.
 Long Bros., Designs, 152.
 Long & Co., Wax, 72.
 Long, J. C., jr., Prepared food, 38.
 Longaker, Thomas F., Staple hook, 34.
 Lootchunsky, L., Cocoons, etc., 127.
 Lopes, Alvaro Pereira, Flour, 105.
 Lopes, Antonio Camillo da Silva, Wine, 111.
 Lopes, Jacintho, Grain, 93; Seed, 98; Wines, 109.
 Lopes, Joao da Cunha, Wine, 111.
 Lopes, Joaquim Emilio, Wine, 117.
 Lopes, José Martins Thomar, Figs, 91.
 Lopes, José Olaia, Wines, 111.
 Lopes, José Ramos, Beans, 98; Wines, 110.
 Lopes, Manuel Joao, Wine, 111.
 Lopez, A., Brandy, 88*s*; Wines, 88*u*.
 Lopez, B., Esparto grass, 88*hh*.
 Lopez, C., Brandy, 88*s*.
 Lopez, E., Olive oil, 88*ee*.
 Lopez, F., Wines, 86; Coffee, 130.
 Lopez, F. R., Sardine oil, 88*o*.
 Lopez, J. A., Wines, 88*v*.
 Lopez, J. B., Hemp ropes, 88*hh*.
 Lopez, J. J. B., Wines, 88*v*.
 Lopez, J. M., Cereals, 88*c*; Olive oil, 88*ff*.
 Lopez, L. M., Wine, 88*u*.
 Lopez, M., Barley, 88*e*; Cereals, 88*g*; Chocolate, 88*dd*; Olive oil, 88*ff*.
 Lopez, M. G., Honey, 88*p*.
 Lopez, P., Wine, 88*v*.
 Lopez y Pastor, L., Olive oil, 88*hh*.
 Lopez y Vaguez, Chocolate, 88*dd*.
 Lopo, C., Cereals, 88*c*.
 Lopo, F., Cereals, 88*c*.
 Lord & Co., F., Liquor, 55.
 Lord, G. W., New South Wales, 180.
 Lorenzano, Corp. of, Nuts, 88*a*; Maize, 88*f*.
 Lorenzo, C., Arrowroot, 130; Sugar, 132.
 Lorenzo Puig Bros., Wine, 88*bb*.
 Loreti, Giocchimo, Candy, 66.
 Lorillard, P., & Co., Tobacco, 17.
 Loring Bros., Wheat, 88*t*; Wines, 88*cc*; Grass, 88*i*.
 Loro, Francisco, Maize, 88*d*.
 Losada, M. J., Wine, 88*y*.
 Losee, Alfred, Folding coop, 37.
 Lossy & Co., Wines, 50.
 Lottier, Lawrence, Manufactured tobacco, 17.
 Lotzbeck Bros., Snuff, 53.
 Loueiro, Antonio Lopez, Beans, 98.
 Louit Bros. & Co., Vingar, 50.
 Louquety & Co., Cements, 48.
 Loureiro, Bento Maria, Honey, 101.
 Lourinho, Antonio Jose, Nuts, 91.
 Louro, Francisco Rico, Wine, 111.
 Louisa, Jose Luis Rodrigues, Grain, 93.
 Louza, A. P. d'A., Flax, 120.
 Lovell & Buffington, Tobacco, 17.
 Lovering, J. S., Plants, 151.
 Lovett, Jos. L., Tobacco, 17.
 Lovey, Edward, Beehives, 40.
 Loy, José, Bitters, 85.
 Lozano, J., Wheat, 88*i*.
 Lozano, J. A., Wool, 88*jj*.
 Lozano, M. S., Barley, 88*g*.
 Lozoya, Marquis of, Wool, 88*jj*.
 Lubary, Tomas, Wheat, 79; Flour, 85.
 Lubian, S., Cereals, 88*c*.
 Luc Letellier de St. Just, Canada, 205.
 Lucca, de Francesco, Paste for soup, 64.
 Lucena, Corporation of, Wheat, 88*d*.
 Lucena, N., Wine, 88*e*.
 Luckhaupt Bros., Kegs, 138.
 Lugo, L. B. de, Tobacco, 88*u*.
 Lugo, Provincial Commission of, Eels, 88*u*.
 Luguiz, L., Olive oil, 88*ee*.
 Luke & Tolton, Straw cutter, 46.
 Lullato, G. Batta, Liqueurs, 65.
 Luna, J., Preserves, 88*p*.
 Lund, George, Anchovies, etc., 61.
 Lundgren, P. W., Preserved fish, 59.
 Lundstrom, C. F., Sweden, 240.
 Lundstrom, C. L., Sweden, 240.
 Lutoslavski, T., Beer, 126.
 Lutz, R. F., Kegs, 138.
 Luxardo, Girolamo, Liqueurs, 55.
 Luxembourg, Statistics of, 256.
 Luz, Ferreira de, Matte, 71.
 Lyka, Dementer, Wheat, 55.
 Lyman, T. C., & Co., Ale, 137.
 Lynch, Peter, Hog scalders, 135.
 Lynde, B. A., Malt, 136; Malt shovels, 137.
 Lysckowice Sugar Mfg. Co., Sugar, 125.
 Lysell, Aug., Anchovies, 59.
 Lysholm, Jorgen B., Norwegian brandy, 62.

M.

- Maas, A. E., Boats, nets, hooks, etc., 57.
 Mabbett, Truman, Cultivators, 26.

- Mabile Bros., Wine presses, 51.
 Macan, Luis, Sugar, 132.
 Macatangay, Ajaton, Cotton, 132.
 Macatangay, J., Nets, 131.
 Macatee & Bro., Sumac, 15.
 Macaya, J. R., Chocolate, 88*dd*.
 Macdougall, D., Canada, 204.
 Macedo, Antonio Luis de, Wine, 110.
 Macedo & Azeredo, Wax, 72.
 Macedo, Camillo de, jr., Brandy, 110.
 Macedo, J. de, Liqueurs, 74.
 Macedo, Joaquim Augusto de, Wine, 117.
 Macedo, Leon, Oil, 132.
 Macedo, Luis A. d'A. Estremos, Wine, 110.
 Macedo Pinto, J. F. de, Beans, 98; Fruits, 105.
 Macedo, T. de, Matte, 71.
 Macedo, Ventura Luis de, jr., Beans, 98.
 Macfarlane, N. H., & Co., Refined lard, 19.
 MacGowan, John K., Table sauce, 20.
 Machado, Domingas Alves, Wine, 115.
 Machado, Honorato J. T., Wine, 111.
 Machado, Joao José de Souza, Timber, 90.
 Machado, Manuel Alves, Wine, 115.
 Machado, M. B., Flax, 121.
 Machado, Marcondes, Coffee, 71.
 Machado, P. X., Grain, 92; Wine, 110, 117.
 Machado, R., Seeds, 77; Straw, 81.
 Machado, Thomaz José, Wines, 111.
 Macias, Francisco de Pera, Grain, 94.
 Maciel, D. F., Steer skins, 72.
 Mack, J. N., Alewives, 45.
 Mackay, A., Queensland, 195.
 Mackay, John, Quintessences, 40.
 Mackenzie, T. J., Plants, 152.
 Macleay, W., New South Wales, 180.
 Macpherson, Hon. J. A., Victoria, 182.
 Madeira, Alexandre J., Wine, 111.
 Madeira, Antonio, Brandy, 115.
 Madeira, Joaquim Anastasio, Grain, 93.
 Madeira, José Povoá de Midoes, Wine, 110.
 Madeira Sugar Mfg. Co., Sugar, 106.
 Madrid National Manufactory of Tobacco, Tobacco, 88*m*.
 Maegerlein, Chas., Hose, 139.
 Magalhaes, Almeida, Coffee, 71.
 Magalhaes, Antonio de Barros, Nuts, 92; Grain, 94; Wine, 115.
 Magalhaes, F. L. d'Almeida, Coffee, 69.
 Magalhaes, Francisco F. Sinde, Beans, 98.
 Magalhaes, Francisco José, Wine, 111.
 Magalhaes, Francisco T., Wine, 117; Flax, 121.
 Magalhaes, Joao da Veiga, Wine, 115.
 Magalhaes, Joao Guedes de, Wine, 110.
 Magalhaes, José J. do S., Wax, etc., 102.
 Magalhaes, Luis Antonio, Grain, 92; Timber, etc., 105.
 Magalhaes, Luis F. da S., Wine, 110.
 Magalhaes, Manuel Alexandre de, Wine, 115.
 Magalhaes, Roberto Augusto P. de, Wine, 110.
 Magalhaes, Vicente Xavier, Wine, 111.
 Magaz, Corporation of, Rye, 88*e*; Beans, 88*f*.
 Magazzin, Matteo, Liqueurs, 55.
 Magdelin, Fernando, Beer, 86.
 Maginly, Thomas J., Plants, 154.
 Maglioni, F., Skins, 83.
 Magnaghi, Girolamo, Vermouth, 65.
 Magriña, A., Almonds, 88*b*.
 Magriña, L., Hazelnuts, 88*b*.
 Magriña, L. de, Wines, 88*bb*.
 Magriña, M. S., Hazelnuts, 88*b*.
 Magriña y Suñer, A., Olive oil, 88*gg*.
 Mahé, Gustave, Golden wine, 23.
 Mahmoud, M., Egypt, 252.
 Maia, José Gomes, Seed, 98.
 Maia, Manuel de Arevedo, Beans, 98.
 Mailfert & Mathelin, Sand, 48.
 Maillard, Henry, Confectionery, 24.
 Maille & Tandéau, Anchovies, 49; Vinegar, 50.
 Mainba, Provincial Board of, Cinnamon, 130.
 Maino, R., Tea, 128.
 Maizner, N. Lanenta, & Fzabelin, Sugar, 125.
 Makaroff, P., Wines, 125.
 Makoto Fukui, Japan, 259.
 Malatesti, Augusto, Wine, 65.
 Malfaz, A., Wine, 88*cc*.
 Malgarejo, Maria Josefa, Wheat, 88*d*.
 Malheiro, Lourenco, Portugal, 284.
 Malheiro, Manuel Joao Barrellas, Corn, 94.
 Malinvernì, Secondo, Rice, 63.
 Mallet, I., Nectar, 88*s*.
 Malligand, E., jr., Alcohol tester, 52.
 Maita, Alfonso Bernardino Ochoa, Grain, 94.
 Maltese, Alessandrello, Wine, 65.
 Maltese, Felice, Wine, 65.
 Maltzoff, M., Wheat, 123.
 Malvichini, N., Wheat, 78.
 Mamanal, L., Seed, 131.
 Mame, A., France, 209.
 Mamede, Wine, 74.
 Mancini, Antonio, Wine, 65.
 Mandado, N., & Sons, Sardines, 88*a*.
 Mangataren, Parson of, Bark, 133.
 Mangold, C., Fish, 124; Meats, 125.
 Manila, Prov. Board of, Nuts, 130; Shells, 131.
 Manjou, J. A., Olive oil, 88*ff*.
 Manley, Almond D., Machine, 33.
 Mann, H. F., Harvesting machines, 30.
 Mann, J. W., Grass, 44; Drill, 46.
 Mannino, Francesco, Baron, Wine, 65.
 Mansell, Carré, & Co., Sugar, 73.
 Mansfield, G. H., & Co., Fishing lines, 18.
 Mansfield Machine Works, Steam engine, 34.
 Mansilla de las Mulas, Corporation of, Cereals, 88*e*; Vegetables, 88*f*.
 Mansilla Mayor, Corporation of, Cereals, 88*e*; Vegetables, 88*f*.
 Manso, José Marques, Orgeat syrup, 106.
 Mantell, The Hon. Walter B. D., New Zealand, 177.
 Manuel, Antonio Manguel de, Nuts, 92.
 Manuel Luis, Gondivac, Grain, 94.
 Mapes, Chas. V., Guano, 56.
 Mar, R., Camomile flowers, 88*m*.
 Maranhao, Com. of, Coffee, tobacco, 71.
 Maranhao, Province of, Cotton, oil, 74.
 Marburg Bros., Tobacco, 17.
 Marc, Gabriel, Collection of roses, 154.
 Marcal & Bro., Wool, 121.
 Marcal, J. L., Corkwood, 89; Honey, oil, 102.
 March, J. de, Wine, 88*aa*; Olive oil, 88*gg*.
 Marchand Bros., Liqueurs, 50.
 Marcon, W. H., Crushed bones, 46.
 Marcos, E., Wheat, 88*g*.
 Maré, C., Peas, 49.
 Marga, E., Marble, 48.
 Margales, F., Almonds, 88*b*.
 Margalhaes, Francisco T., Corn, 93.
 Margalhaes, Louis Antonio, Nuts, 90.
 Margarido, Luis J. F., Almonds, 91; Sumach, 99.
 Marge, jr., Patés, 51.
 Margenas, A. B. R., Beans, 88*f*.
 Margenat, A. B., Millet, 88*e*; Seed, 88*n*.
 Margiochi, F. S., jr., Corkwood, 89; Honey, etc., 102.
 Maria d'Andrade, J., & Bros., Leather, 100.
 Maria do Gloria, & Co., Fruits, 103.
 Maria, J. M. S., Dried beef, 88*p*.
 Marie, Angelica, Corkwood, 89.
 Mariette Bey, M., Egypt, 252.
 Marin J., Wine, 88*x*.
 Marin, J. F., Beans, 88*e*.
 Marin, Juan J., Spain, 280.
 Maringan, Jocinto, Oil, 132.
 Marini, Ambrogio, Liqueurs, 66.
 Marini & Poggi, Liqueurs, 66.
 Mariolaki, P., Wool, 126.
 Marynska Model Farm, Cereals, 123; Beans, 124; Wool, 126.
 Marizon, F. M. C. de, Laraginha, 73.
 Mark, J. A., Raisins, 88*r*.
 Mark, J. & F., Beer, 137.
 Markham, H. C. & D. C., Sink, 35.
 Markó & Weyden, Turkish prunes, 55.
 Marmello, José, Corn, 93.
 Maroni, J., Wheat, 88*c*; Olive oil, 88*dd*.

- Marot, C. H., Magazine, 151.
 Marques, Estevao José, Brandy, 111.
 Marqués, J., Wines, 88f.
 Marques, Jacintho, Wine, etc., 115.
 Marques, Joao A. de M., Wine, 110.
 Marques, Joaquin Moreira, Portugal, 284.
 Marques, José Parada, jr., Wines, 115.
 Marques, Maria José Perpetua, Wine, 111.
 Marquez, Cavalit, & Co., Hemp thread, 88ii.
 Marquez de Pombal, Wines, 111.
 Marquez, R. J., Wines, 88r; Olive oil, 88ff.
 Marquise Foundry & Construction Works, 48.
 Marreco, Miguel Antunes, Grain, 95.
 Marron, J. V., Wheat, 88i; Flax, 88ii.
 Marsceilles Gas Co., Iron, 48.
 Marsh, A. M., Malt, 136.
 Martel, Joao Campello Trigueiros, Wine, 111.
 Martel, Joaquim T. P., Cheese, oil, 100.
 Martel, Joaquin Triguera, Olives, 91.
 Martens, J., Coffee extract, 125.
 Marti, Bornas, & Co., Wheat, 88h.
 Marti y Badia, R., Mistela, alcohol, 88aa.
 Marti, D. G., Wheat, 88e; Wines, 88zv.
 Marti, E., Preserves, 88r.
 Martillaro, Mar. Carlo, Wines, 65.
 Martin & Colombo, Liqueurs, 88zv.
 Martin, F. G., Wines, 88z.
 Martin, F. R., Walnuts, 88a.
 Martin, L. C., Nuts, 88b; Figs, 88g; Oil, 88ff.
 Martin, Lorenzo C., Wine, 88z.
 Martin, P. E., Iron, 48.
 Martin, R., Peas, 88z.
 Martin, S., Wheat, 88f.
 Martin, Stephen, Potato digger, 46.
 Martin & Sons, Oatmeal, 44.
 Martin y Valverde, L., Marchpane, 88r.
 Martinez, A., Wine, 88v.
 Martinez, E., Wines, 88r.
 Martinez, G. G., Wine, 88zv.
 Martinez, Gomez, & Co., Rice, 88r.
 Martinez, Hercules, Corn, 78.
 Martinez, J., Shellfish, 88o; Preserves, 88g.
 Martinez, J., Bros., Olive oil, 88gg.
 Martinez, J. P., Honey, 88p.
 Martinez, Jonas, Ostrich feathers, 84.
 Martinez, L., Hides, 82.
 Martinez, L. P., Wine, 88r.
 Martinez & Laplaceta, Wool, 87.
 Martinez, R. A., Cereals, 88f; Beans, 88j.
 Martinez, Sainz, Bros., Wheat, 88g; Pastes, etc., 88s.
 Martinez, V., Ybor, & Co., Cigars, 17.
 Martini, G., Spirits, etc., 126.
 Martini, Sola, & Co., Vermouth, 65.
 Martins, Andre, Wax, 101.
 Martins, Anselmo José, Grain, 94; Beans, 98.
 Martins, Ant., Barley, 68.
 Martins, Antonio J. da S., Olives, 91.
 Martins, Benedicto Mathews, Wine, 110.
 Martins, Isidoro, Dried fruits, 104.
 Martins, J. A., Barks, 68.
 Martins, Jeronymo, & Son, Nuts, 90; Beans, 98; Dried fruits, 105.
 Martins, Joao Pedro, Wines, 111.
 Martins, Joaquim, Beans, 97.
 Martins, José da Veiga, Wine, 115.
 Martins, José Maria, Wines, 111.
 Martins, L., Tea, 71.
 Martins, Luis Antonio, Wine, 110.
 Martins, Manuel José, Wine, 115.
 Martins, Manuel José, jr., Beans, 98.
 Martins, Miguel Castro, Wines, 110.
 Martos, J. F., Flour, 88r.
 Maru, T., Ramie, 129.
 Marunaka, M., Tea, 128; Silk, 129.
 Marzi Bros., Wines, 64.
 Mas Blanch, J. C. de E. de, Rice, 88h.
 Masa, J. G. de la, Olive oil, 88gg.
 Masashi Shioda, Japan, 259.
 Masbate, Prov. Board, Pritch, 130.
 Mascarenhas, Luis de, Dried figs, 103.
 Mascarenhas, S., Dried fruits, 103.
 Mascaró, J., Peas, 88f; Olive oil, 88ee.
 Mascetti, Piero Pompeo, Count, Wine, 66.
 Masia, F., Saffron, 88m.
 Massachusetts, State of, Agricultural products, 15; Maps, plans, 37.
 Massardo, Nicolo, Preserves, 64.
 Masset, G., Crackers, 86.
 Massey Mfg. Co., Grain crusher, 46.
 Massien, D., Wine, 88v.
 Massó y Soler, F., Wheat and maize, 88e; Vegetables, 88j.
 Massuchi, M., Silk, 88.
 Mast, P. P., & Co., Grain drills, etc., 27.
 Masuelli, sr., Rafael, Chili, 267.
 Mata, T. de la, Liqueurs, 88y.
 Mate, A., Wheat, 88d.
 Mateos, F. M., Chick peas, 88f.
 Matheus, José Paulino S., Wine, 110.
 Matheys, Chas. F., Ground bone, 36.
 Matilla, C., Wheat, 88d; Peas, 88j.
 Matscheko, M., Austria, 221.
 Matsuo, I., Bamboo, 128.
 Matsuya, H., Liqueurs, etc., 120.
 Matta, A. da F., Nuts, 91; Beans, 99; Hemp, 120.
 Matta, Antonio Nunes, Honey, etc., 102.
 Mattheissen, N., Gall nuts, 123; Pepper, 124; Flour, 125.
 Matto, Antonio Mendes de, Fruits, 95.
 Matto Grosso, Province of, Tobacco, 71; Cotton, 74.
 Mattos, Pento F. M., Wine, 110.
 Mattos, Joao C. de C., Wine, 111.
 Mattos, Manuel Antonio de, Olives, 91; Seed, 98; Honey, etc., 102.
 Mattos, Manuel Henriques de, Beans, 98.
 Mattos, Maria do Livramento, Preserves, 103.
 Mattos, R. de, Linen, 120.
 Mattos, Rosa de, Flax, 121.
 Mattoso, Alfredo de Moura, Wine, 117.
 Maua, Viscount of, Sugar, 73.
 Maule, James S., Mower, reaper, 30.
 Mauprivez, A., Tapioca, 50.
 Maurice & Guenin, Corking machines, 51.
 Mauritius, Statistics of, 193.
 Mavit, José, Honey, 84.
 Maw, Thomas, Sauces, 40.
 Maximoff, B., Hops, 124; Flax, 126.
 Maxit, José, Potatoes, 80.
 Maxwell, David, Straw cutters, 46.
 Maxwell, Edward, Cotton, 24.
 Maxwell & Goodman, Raw cotton, 24.
 Maxwell, Rowland, & Co., Shovels, etc., 25.
 May, David T., & Co., Artificial leg, 38.
 Mayer, A., Liqueurs, 50.
 Mayer & Bachman, Beer, 137.
 Mayer, C., Fountain, 153.
 Mayer & Co., Winnowing machine, 54.
 Maylasky, Cotton, 74.
 Mayo, I. A., Liqueurs, 88y.
 Mayo, M. C., Mowing machine, 30.
 Mayo, P. H., & Bro., Plug tobacco, 17.
 Mayoral, A., Wheat, 88g; Peas, 88k.
 Mayordomo, M., Honey, 88o.
 Mayorga, R. D., Beans, 88i; Wine, 88z.
 Maza, J. G. de la, Barley, 88g.
 Mazarron, M., Wines, 88z.
 Mazo, Julian, Corn, 78; Raisins and figs, 84.
 Mazorra, M., & Son, Wine, 88v.
 Mazziotti, Antonio Maria, Wine, 110.
 McBride, Miss Sarah J., Artificial flies, 19.
 McCann, John, Oatmeal, 40.
 McClunie, T., Vases, designs, 153.
 McClymont, G., Wool, 88.
 McCredie, T., Malt, 136.
 McCulloch, Hon. Sir J., Victoria, 182.
 McDonald, A. S., Cultivator, 46.
 McDonald, M. C., Crystal drips syrup, 22.
 McDougall, John, Flour, 45.
 McElroy & Co., Clay pipes, 39.
 McEwen, G., South Australia, 184.
 McGaughy, B. R., Cotton, 24.
 McIlvaine, John H., Birds, 18.
 McIlwraith, J., Victoria, 182.
 McIntyre, D., New Zealand, 177.
 McIntyre, J., Victoria, 182.

- McKay, Thomas, & Co., Oatmeal, 44.
 McKechnie, J. & A., Ale, beer, 137.
 McKelvey, Jas., Refrigerators, 47.
 McKenzie, Wm., Potato digger, 46.
 McLaughlin, J. M., & Son, Teaseis, 18.
 McLaurin, Edmund, Plow, 46.
 McLeod, McNaughton, & Co., Ales, 45.
 McLeod, R., Star fish, 45.
 McLeod, R. E., & Co., Cheeses, 45.
 McMurry, John, Reaper and mower, 31.
 McMurray, L., & Co., Canned vegetables, 20.
 McNaughton & Co., Bermuda vegetables, 10.
 McPherson, D., Automatic grain binder, 31.
 McSherry, D. E., & Co., Drills, 27.
 Mechanical Bakery, Corn, 93.
 Meck, C. von, Sugar, 125.
 Meder, J. J., Swan gin, 58.
 Medina del Campo, Corporation of, Wheat, 88*k*; Wine, 88*c*; Wool, 88*j*.
 Medina, J., Skins, 82.
 Medina, L. R., Woods, 77; Nuts, 84.
 Medinaceli, Duñess, Olive oil, 88*e*.
 Medinaceli, Duke of, Olive oil, 88*e*.
 Medino, Ildefonso, Abaca, 133.
 Medrano, F., Barley, 83*e*.
 Medrano, J., Wine, 88*v*; Olive oil, 83*e*.
 Medrano, S. B., Skins, 83*e*.
 Meehan, Thomas, Seeds, 18; Plants, 154.
 Meucus, E., Belgium, 220.
 Mehlshmidt, Franz, Kid leather, 55.
 Meijerberg, C. J., Sweden, 24*v*.
 Meira, Mathias, Seed, 98.
 Mirelles, Antonio N. de C., Wine, 110.
 Mjia, I., Cereals, 88*k*.
 Mlfi, Baron, G. B., S. Antonino, 66.
 Melgarejo, M., Wheat, 88*e*.
 Melgarejo, M. J., Cheese, 88*o*; Grass, 88*ii*.
 Melian y Artiles, M., Almonds, 88*a*.
 Mlleiro, F. C., Macaroni, 118.
 Millen & Co., Feathers, 19; Tickings, 24.
 Mellen, L. F., Tobacco, 17.
 Mellin, Gustav, Food, 49.
 Mello, Antonio José, Wax, 101.
 Mello, Antonio Maria de, Wine, 111.
 Mello, Bento de Castro, Beans, 97; Wine, 107.
 Mello, C. de, Cotton, 74.
 Mello, Faro Joaquin Carvalho, Nuts, grain, 92.
 Mello, H. O. de, Wine, 110; Oil, 119.
 Mello, J. C. de, Rice, 69; Cotton, 74; Wine, 110.
 Mello, J. J. de, Oil, 120.
 Mello, José de Thomar, Wine, 111.
 Meilo, Luis de M., Sweetmeat, 103.
 Mello, Miguel Antonio de Sousa, Wine, 111.
 Mello Netto, Franc de Paula, Coconos, 75.
 Menchero, E., Opium, 83*m*; Wine, 88*y*.
 Mendes, Augusto A. E., Meats, 103.
 Mendes, Bernardo, Corn, 93.
 Mendes, Carlos da Costa Pereira, Wine, 117.
 Mendes, Casimiro E., Nuts, 91, 98; Oil, 119.
 Mendes, J. J. S., Oil, 119.
 Mendes, J. Olinto, Honey, 72; Liquor, 73.
 Mendes, L. A. S., Grain, 96; Chestnuts, 105; Flax, 121.
 Mendes, Olinde, Corn, 69.
 Mendes, Raymondo J. S., Seed, 99; Oil, 119.
 Mendevil, Fidel, Sugar, 85.
 Mendez, A., Wheat, 88*e*.
 Mendez, A. P., Peas, 88*k*.
 Mendez, B. D., Tobacco, 88*m*.
 Mendez, F., Cereals, 88*g*; Peas, 88*k*; Olive oil, 88*g*.
 Mendez, J. P., Cereals, 88*f*.
 Mendez & Keller, Sugar, 85.
 Mendez, U. M., Wine, 88*y*.
 Mendonca, J. T. de O., Oil, 119.
 Mendonca, Manuel F. de, Corkwood, 89.
 Mendonca, Manuel Marcal, Wine, 111.
 Mendonca, Thomaz A. de, Starch, etc., 106.
 Mendosa, G., Coffee, 131.
 Mendouca, M. J., Tobacco, 70.
 Mendoza, Agricultural Villa, Corn, wheat, 80.
 Mendoza, F., Olive oil, 88*h*.
 Mendoza, I. H., Olive oil, 88*g*.
 Mendoza, Provincial Com. of, Resins, 76; Birds, 81; Skins, 83; Hemp, 87; Cacti, 159.
 Menezes, B. A. de, Liquor, 73.
 Menezes, C., & Co., Cork, 90.
 Menezes, José Correa, Dried fruits, 103.
 Menezes, José de Vasconcellos, Woods, 89; Grain, 94; Beans, 98; Honey, 102.
 Menezes, José Maria da Silveira, Wine, 110.
 Menezes, José Rabello Cardoso, Wine, 115.
 Menezes, Manuel Antonio, Figs, 91; Wine, 115.
 Menezes, Rev. M. de, Tobacco, 70.
 Ménier, Chocolate, 51.
 Menier, Emile, Coconos, 40.
 Mens, K. von, Wool, 54.
 Mercado, M., Wines, 88*r*.
 Merch, M., Cotton, 74.
 Mercier, E., Wines, 50.
 Merck, Maxim, Tobacco, 70.
 Mercurelli, Pietro, Leather, 63.
 Meriam Packing Co., Hides, tallow, etc., 19.
 Meric & Co., Coffee, 88*m*; Chocolate, 88*dd*.
 Merino, M., Wheat, 88*f*.
 Merlo, Vincenzo, Dried figs, 64.
 Merman, G., Wines, 50.
 Merman, J., & Co., Wines, 50.
 Merman & Maitre, Wines, 50.
 Merryweather, A. E., Aloe, 152.
 Mesa, F. C., Preserves, 88*g*; Brandy, 88*u*.
 Meschterin, J., Winnowing machine, 127.
 Meson, J., Olives, 88*h*.
 Meson, J. A., & Son, Olive oil, 88*dd*.
 Mesones, M. B., Wine, 88*c*.
 Mesquita, Antonio da Silva, Wines, 111.
 Mesquita, P. J. de, Corkwood, 89; Nuts, 90; Linseed, 99; Wine, 117; Flax, 121.
 Messina, Special Com., Sicilian products, 67.
 Mestrezat & Co., Wines, 51.
 Metternich, Prince von, Wines, 53.
 Metzger Bros., Beer, 65.
 Meuhort, Jos., Flour, 45.
 Meukow, A. C., Brandies, 50.
 Meuschel, J. W., sr., Wines, 53.
 Mexico, Statistics of, 271.
 Meyer, C. H., Germany, 215.
 Meyer & Coblenz, Wines, 54.
 Meyer, E., Bitters, 54; Wheat, 77; Hemp, 87.
 Meyer, L., Fig coffee, 124; Gingerbread, 126.
 Meyer, Samuel B., Leather, 61.
 Meyerhofer, C., Beer, 136.
 Meyers, A. G., Compound, 138.
 Mezio, Calcedonio, Wine, 65.
 Michel, S., Wines, 86.
 Michelond, Miguel, Peach sugar cane, 80.
 Michigan Double Stave Barrel Co., Barrels, 25.
 Michigan Pomological Society, Apples, 15.
 Michigan State Agricultural College, Farm products, 16; Birds, etc., 18.
 Michigan, State of, Soils, 38.
 Michon & Gussac, Brandy, 115.
 Middleton, G. W., & Co., Alcohol, 22.
 Midi Phosphate Mfg. Co., Lime, 52.
 Migerva, F., Austria, 221.
 Mignot, A. J., & de Block, A. A. M., Cigars, 97.
 Migueis, Antonio Dos Santos, Portugal, 864.
 Migueis, J., Wool, 122.
 Miguel, R., Almonds, 88*b*.
 Milborn Wagon Co., Wagons, 135.
 Mildred, Juan, Wheat, barley, 78.
 Miles, W. A., & Co., Ale, 136, 137.
 Mill Hill Wool & Rag Extr. Co., Wools, 41.
 Milla, M., Olive oil, 88*e*.
 Miller, A. S., Fruit ladder, 32.
 Miller, Chas. L., Pumpkin flour, 22.
 Miller, Frederick A., Condition powders, 38.
 Miller, Geo., & Sons, Confectionery, 23.
 Miller, H. J., & Co., Maple sugar, 22.
 Miller & Hayes, Ferns, 151; Designs, 153; Plants, 154.
 Miller, J. & J., Extract, 44.
 Miller & Sievers, Ferns, 151; Conos, 155.
 Miller & Wallace, Texas plow, 25.
 Millett, D. Caldwell, Hive and bees, 37.

- Milligan & Higgins Glue Co., Glue, 19.
 Mills', B., Sons, Oakum, 24.
 Mills & Combs, Wagon, 135.
 Mills, Peck, & Co., Hoes, 29.
 Mills, William H., Wines, 22.
 Mina, S. Thorne de, Preserved fish, 104.
 Mindanao, Provincial Board of, Gogo, 130.
 Minobe Chiubeye, Tea, 128.
 Miñon, P. A., Honey, 88*f*.
 Minutillo, Giovanni, Liqueurs, 65.
 Mira, José Maria de, Wine, 111.
 Mira, Jose Paulo de, Olives, 91; Grain, 96;
 Honey, 102.
 Miralles, C., Preserves, 88*f*.
 Miranda, Antonio Augusto Lobo de, Almonds,
 91; Grain, 92; Honey, etc., 102; Wool, 122.
 Miranda, Antonio Bernardino, Wine, 115.
 Miranda, Bernardo V. de, Sugar, 132.
 Miranda de Ebro, Corporation of, Maize, 88*d*;
 Cereals, 88*d*; Preserves, 88*f*.
 Miranda, Felix H. G. de, Wine, 111.
 Miranda, J., Acacia, 77.
 Miranda, J. A., Corn, 79; Wine, 86.
 Miranda, J. A. de R., Honey, 101.
 Miranda, J. B. de, Cigarettes, 70.
 Miranda, Joao E. L. de, Figs, 103.
 Miranda, Joaquim Lobo de, Almonds, 91;
 Beans, 98; Dried figs, 104.
 Miranda, José Victorino de, Wine, 110.
 Miranda, M. M. de, Cotton, 74.
 Miranda, Manuel Patricio de, Olives, 91.
 Miranda-Russo, F. A., Tea, 70.
 Mirandella, Pedro Aleixo de, Grain, 94.
 Mirat & Son, Starch, 88*s*.
 Miret, J., Wine, 88*a*; Olive oil, 88*g**g*.
 Miret y Segria, J., Walnuts, 88*b*.
 Miro, D. Maria, Wax, 72.
 Mitchell, J. E., Grindstones, 34.
 Mitchell, Wilson, Basins, 154.
 Mitler & Co., Malt, 56.
 Mura, G., Tea, 128.
 Miure y Fernandez, B., Wheat, 88*g*.
 Miyagi, C., Garden designing, 129.
 Miyazaki, T., Tea, 128.
 Miodzescin Sugar Mill, Sugar, 125.
 Moboda Manufacturing Co., Spirits, 59.
 Mocinha, M. J., Oil, 119.
 Mock, Isidor, Cement floors, 138.
 Mockridge, E., & Co., Azumeca, 24.
 Módenes, J. R., Wines, 88*v*.
 Moehonua, W. L., Hawaii, 261.
 Moffatt, L., Models, 151.
 Mohawk & Hudson Mfg. Co., Pressed hay, 16;
 Pressed cotton, 24.
 Mohr, Peter, White herrings, 61.
 Moimenta da Beira, Viscount of, Wine, 110.
 Moita, Antonio F. da Silva, Wines, 111.
 Moita, José Francisco, Honey, 101.
 Molano, M., Acorns, 88*v*.
 Molano, P., Cereals, 88*c*; Honey, 88*o*.
 Molina, F., Liqueurs, 88*u*; Olive oil, 88*ff*.
 Molina, I., Wine, 88*v*.
 Molina, J., Beans, 79.
 Molina, J. C., Wool, 87.
 Molina, M., Tow, 88*v*.
 Molina, Mardoqueo, Wine, 86; Cotton, 87.
 Molinari Prothers, Bologna sausages, 64.
 Molina's Widow & Son, Olives, 88*g*.
 Moline Plow Co., Wood beam plows, 25.
 Moline Wagon Co., Wagons, 135.
 Monchy, M. M. de, Netherlands, 234.
 Monongo River, Direction of the Works of,
 Fish, 99.
 Monedero, E., Wheat, 88*k*.
 Monedero, J., Wheat, 88*f*; Carrobs, 88*k*;
 Wine, 88*s*.
 Monedero, V., Wheat, 88*i*.
 Monforté, A. A., Honey, 88*h*.
 Moniz, Antonio B. da F., Grain, 96; Wine, 111.
 Monlleó, R., Almonds, 88*b*.
 Monner, J., Beans, 88*i*; Hemp, 88*ii*.
 Monroe & Hogan, Plow, 46.
 Monserrat y Cavallé, J., Carrobs, 88*i*.
 Montagut, J., Wine, 88*aa*.
 Montagut, J. I., Olive oil, 88*hh*.
 Montaña, F. R., Almonds, 88*o*; Carrobs, 88*f*.
 Montana Territory, Cereals, 16.
 Montaner, A., Olives, 88*g*; Panic grass, 88*h*;
 Beans, 88*f*.
 Montaner y Rincon, J., Wine, 88*aa*.
 Montariol, Viscount of, Wine, 115.
 Monte, José Manuel do, Wax, etc., 102.
 Monte, P. P. del, Vermouth, 88*u*.
 Montelagre, Widow & Son of, Wheat, 88*h*.
 Montebello, A. de, & Co., Wines, 50.
 Montefiore, The Hon. J. L., New South Wales,
 18*s*.
 Monteiro, Abilio Affonso da Silva, Wine, 111.
 Monteiro, Antonio Manuel, Wine, 111.
 Monteiro, Francisco Vaz, Beans, 98; Oil, 119.
 Monteiro, Joaquim Soares, Wine, 110.
 Monteiro, José de Sausa, Grain, 94.
 Monteiro, José Justino Teixeira, Wine, 110.
 Monteiro, Julio Pereira, Potatoes, 97.
 Montero, M. F., Vinegar, 107.
 Monteiro, P. J., Coffee, 69.
 Montemayor, M., Almonds, 88*a*.
 Montenegro, A., Wine, 88*y*.
 Montenegro, Commander, Coffee, tea, 69.
 Montenegro, J. P. T. de M. M., Flax, 121.
 Montenegro, M. P., Maize, 88*f*.
 Montero, R. B., Wine, 88*cc*.
 Montes, José Nunes Moraes, Wine, 110.
 Monteverde, A., Wine, 88*v*.
 Montheuil, F., sen., Wines, 50.
 Montiel, E., Wines, 88*r*; Olive oil, 88*ff*.
 Montigny, de, & Co., Wines, 50.
 Montileo y Mor, J., Mistela, 88*uu*.
 Montini, Pasquale, Vermouth, 66.
 Montlleo, J., Wines, 88*aa*.
 Montoia, Diogo Lopes, Honey, etc., 102.
 Montoliu, P. M. de, Hazelnuts, 88*b*; Wine,
 88*aa*; Olive oil, 88*g*.
 Montoso, Andre de Brito Monforte, Grain, 96.
 Montoya, D. L., Wool, 121.
 Montoya, V. L., Peanuts, 88*i*; Wool, 88*jj*.
 Moody & Nelson, Shingles, 134.
 Mookhin, J., Grasses, 123.
 Moon, Mahlon, & Son, Ferns, 151; Pineapple,
 152; Vase, 153; Ornamental trees, 154.
 Moore, C., New South Wales, 18*o*.
 Moore, Samuel H., jr., Fig tree, 154.
 Moore & Scattergood, 147.
 Moorhead Clay Works, Vases, 153, 154.
 Moos, Joseph, Apparatus, 35.
 Mora, A. de, Olive oil, 88*ff*.
 Mora, C. M. de la, Flour, 88*r*.
 Mora, J., Sheepskin, 82; Beans, 131.
 Mora, J. M., Wines, 88*z*.
 Moraes, Antonio Carlos, Wine, 115.
 Moraes, Antonio Fernandes, Wine, 115.
 Moraes, Antonio, S. T., Corks, 89.
 Moraes, Antonio da Silva, Almonds, 91;
 Wine, 117; Flax, 120.
 Moraes, Domingos Alves, Wine, 115.
 Moraes, Joaquim Claudino de, Wine, 110.
 Moraes, Joaquim Taibner de, Portugal, 285.
 Moraes, José Alves de, Wine, 110.
 Moraes, José Bazilio de, Wheat, 92; Olive
 oil, 119.
 Moraes, José B. de A., Honey, 101.
 Moraes, José Correa Pinto de, Wine, 111.
 Moraes & Mouro, Wine, 111.
 Moraes, Rodrigo Antonio L. de, Hides, 100.
 Moraes, R. M. G. de, Cheese, 72; Wines, 73.
 Moral, S., & Bros., Wheat, 88*d*.
 Morales, E., Bitters, 86.
 Morales, J., Tobacco, 88*m*.
 Morales, L., Lentils, 88*d*.
 Morales, P., & Co., Brandy, 88*y*.
 Morales, T., Olive oil, 88*ff*.
 Moran, José A. M., Beans, 98; Oil, 119.
 Morand, P., Esparto grass, 88*hh*.
 Morandi, Pietro, Wax, 63.
 Morao, M. E. d'Almeida, Olives, 90; Wine,
 118.
 Morehouse, W. Noyes, China, 257.
 Moreira, Antonio Ignacio, Brandy, 115.

- Moreira, C., Cotton, 74.
 Moreira, Dr. N. J., Butterfly, 71.
 Moreira, David Martins, Wax, 101.
 Moreira, Domingos, jr., Beans, 98.
 Moreira, Dr. d'Assis C., Tobacco, 70.
 Moreira, J. B., Grain, 94; Flax, 121.
 Moreira, Joas Baptista Rates, Flour, 106.
 Moreira, Luis José, Beans, 98.
 Moreira, N., Silkworms, 75.
 Moreira, Dr. Nicolas Joaquim, Brazil, 263.
 Morejon, M. S., Olive oil, 88*gg*.
 Morel, A., Belgium, 229.
 Morel, H., Belgium, 229.
 Moreno, C., Cereals, 88*c*; Peas, 88*i*; Wool, 88*z*.
 Moreno, D., Wine, 88*zv*.
 Moreno, F., Ox hide, 83.
 Moreno, J., Olive oil, 88*ee*.
 Moreno, J. M., Preserves, 88*g*.
 Moreno, J. S., Oats, 88*c*.
 Moreno, José Joaquim, Rice, 106; Wine, 111.
 Moreno, M., Figs, 88*g*; Olive oil, 88*ih*.
 Moreno, M. O., Cereals, 88*h*.
 Moreno, P. C., Olive oil, 88*dd*.
 Moreno, R., Walnuts, 88*a*.
 Moreno, R. A., Beans, 88*k*.
 Moreno, R. S., Wine, 88*y*.
 Moreno, P., & Sons, Corks, 90.
 Moreno, S., Olive oil, 88*ee*.
 Moreno, S. M., Vegetables, 88*m*.
 Morera y Jordana, Don José, Spain, 280.
 Morera y Polles, A., & Son, Wines, 88*aa*.
 Morgado, Francisco X. A., Cheese, 99.
 Morgado, J. A., Fruits, 96; Honey, 102.
 Morgan, D. S., & Co., Machines, 30.
 Morgan, N., Wool, 87.
 Mori, R. & K., Soy, 129.
 Morikawa, K., Tea, 128.
 Morillas, R. F., Wheat, 88*g*.
 Moriondo & Gariglio, Chocolate, 66.
 Morlius, J., Olive oil, 88*ht*.
 Moro, J., Starch, 88*s*.
 Moron, F. de P., & Co., Brandy, 88*bb*.
 Moron, J. G., Cheese, 88*a*.
 Morphy, Don Juan, Spain, 280.
 Morris, A., New South Wales, 180.
 Morris, E. S., & Co., Agr. products, 88.
 Morris, G. C., Plants, 152.
 Morris, W., New South Wales, 180.
 Morrison Bros., Plow, 25.
 Morrison & Fay, Plow, 26.
 Morrison, J., Hoghead, 138.
 Morrison, James, & Co., Hams, etc., 21.
 Morse, Dudley, Fork and jack, 34.
 Morse, G. Byron, Plain and fancy cakes, 23.
 Mort, T. S., New South Wales, 180.
 Morte Certa, Antonio P. C., Wine, 111.
 Morton, Geo., & Son, Malt, 44.
 Morvira, N. J., Cocoons, 75.
 Moscoso, Simao P. Velho, Wine, 115.
 Mosdorfer, Balthasar, Sickles, 56.
 Moses, D. D., Hops, 44.
 Mosher, A. J., Bagholder, 33.
 Moshevski, W., Wool, 126.
 Moskopf, T., Mustard, 53.
 Mosqueira, A. L. M., Tea, 70.
 Mosquera, A., Wine, 88*y*.
 Mossamedes, Viscount of, Wine, 110.
 Mossone, Antonio, Liqueurs, 65.
 Mostardinha, José Marques, Grain, 94.
 Mostardini, Adolfo, Liqueurs, 66.
 Motoakira, Sasase, Japan, 259.
 Mott & Co., Wine, 41.
 Mott, J. L., Vases, 153; Fountains, 154.
 Motta, Abel Maria, Peas, 98.
 Motta, Anacleto da Fonseca, Wine, 111.
 Motta, Luiz Antonio, Wine, 110.
 Motta, Ranulfo Antonio, Wine, 111.
 Mottet, J., & Co., Oil, 51.
 Moujon, Mercedes I., Raisins, 84.
 Moulton, Dr. J. T., Netherlands, 234.
 Mount, Joseph K., & Co., Hay conveyer, 37.
 Moura, Antonio Gomes de, & Co., Wine, 114.
 Moura, Augusto, Wine, 115.
 Moura, Christiano A. da S., Wine, 111.
 Moura, Ferreira de, Potatoes, 69.
 Moura, Francisco A. M., Olives, 103.
 Moura, Luis Manuel Alves, Wine, 115.
 Mourao, Luis Teixeira, Wine, 110.
 Mourao, Victorino F. C., Beans, 98.
 Mourao, Victorino T. C., Grain, 94.
 Mourato, M., Seed, 96; Oil, 119.
 Moure, M., Wines, 88*y*.
 Mousa, J. C., & Gomes, F., Grain, 94.
 Moutinho, J. T., Grain, 94; Beans, 98.
 Movas, J., Wool, 87.
 Mozas, A. A. de las, Wheat, 88*g*.
 Mudela, Marquis of, Wines, 88*z*.
 Mueller, H., & Co., Barley, malt, 136.
 Mueller, Quackenboss, & Co., Vases, 153.
 Muir, Jas., & Son, Ales, 41.
 Muirhead & Gray, Oatmeal, 44.
 Mujica, E. S., Blood, 82; Manure, 88.
 Mulas, S., Wheat, 88*f*.
 Muller, L., Agricultural newspaper, 58.
 Mulet, A., Almonds, 88*a*; Wine, 88*f*.
 Muller, A., Cigarettes, 53.
 Müller, C., Mustard, 124.
 Müller, Gottl., Wines, 53.
 Müller, Gustave, Isinglass, 18.
 Mullol, B. R., Wines, 88*u*.
 Mumelter, Alois, Wines, 55.
 Munar, G., Wines, 88*f*.
 Munhoz, C., Matte, 71.
 Munoz, A., Wines, 88*y*.
 Munoz, B., Girth, 88*z*.
 Munoz, Brancisco, Wheat, 78.
 Muñoz & Bro., Abacá and cabo negro, 133.
 Muñoz, F. R., Wine, 88*y*.
 Munoz, J. D., Flax, 88*z*.
 Muñoz, L. F., Wine, 88*f*.
 Muñoz, M., Wheat, 88*e*.
 Muñoz y Leon, A., Peas, 88*k*.
 Muñoz y Mendez, E., Wine, 88*w*.
 Munro, A., Wines, 42.
 Munro, D. R., Woods, 44.
 Munro, Hon. J., Victoria, 182.
 Munsel & Dexter, Lifting jack, 34.
 Munson Brothers, Mill, 34.
 Murcia, Economical Society of, Agave, 88*z*.
 Murcia, Provincial Deputation of, Almonds, 88*a*; Seeds, 88*u*; Spunk, 88*o*; Olives, 88*y*; Flour, 88*r*; Pastes, etc., 88*s*.
 Murdock, A. L., Sugar, 22; Cotton, 24; Dairies, 35.
 Murdock, Aug., American mustard, 16.
 Murdock, John, & Son, Wheat ricker, 36.
 Murias, P., & Co., Tobacco, 88*m*.
 Muricy, Leao, Ermelindo de, Biscuits, 74.
 Muricy, Dr., Pine heart, 68; Spices, 69; Cipo floro, 75.
 Muricy & Leao, Woods, 68; Beans, 69; Guano, 75.
 Murino, Nicola, Wine, 66.
 Muro, F., Peas, 79; Wine, 86.
 Muro, P., Preserves, 88*g*.
 Murphy & Broom, Aquarium tanks, 19; Garden furniture, 37.
 Murphy, C. J., Testing still, 138.
 Murphy, R. R., Extractor, 37.
 Murree Brewery Co., Bottled ales, 41.
 Murta, Ramiro Cesar, Corkwood, 89.
 Murteira, Antonio Maria, Grain, 92.
 Murteira, Joaquim Antonio, Timber, 89.
 Murteira, M. M., Olives, 91; Wool, 121.
 Murtfeldt, Miss, Botanical specimens, 39.
 Murton, H., Oatmeal, 44.
 Murucy, Dr., Rye flour, 72.
 Muschert, B. F., Cultivator plow, 25.
 Musgrave, Sir A., South Australia, 184.
 Musi, Luigi, Liqueurs, 66.
 Maysken, C., Netherlands, 234.
 Muzullo, Cav. Luigi, Dried nuts, 63.
 Myer, B., Plows, 25.
 Myers, Ephraim, Seeds, 18.
 Myers & Ervien, Hay forks, etc., 25.
 Myers, T. J., & Son, Boiler, 152.
 Mylnikoff & Zafzobrin, Tobacco, etc., 124.

N.

- N—, N—, Straw, 69; Rice, 73.
 Nacar, J., Chocolate, 88*dd*.
 Nachtmann, Jacob, Honey, 55.
 Nagamasa, Yoshio, Japan, 259.
 Naga-oka, Z., Liqueurs, etc., 129.
 Nagasaki-ken, Government of, Cigars, 128;
 Fishing apparatus, 129.
 Nagaya, B., Tea, 128.
 Nager y Juan, P. J., Wine, 88*bb*.
 Naglee, H. M., Brandy, 23.
 Nagura, O., Isinglass, 129.
 Nalda, P. G., Wine, 88*x*.
 Napheys, Geo. C. & Son, Lard, 19.
 Naples, Miguel T. de S., Wine, 111.
 Napoli, Francesco, Preserved tomatoes, 64.
 Napoli, Giuseppe, Wine, 66.
 Narbuth, Johann, Hemp, 56.
 Narvaez, D., Wines, 86.
 Nasarre, V., Wheat, 88*e*; Olive oil, 88*ff*.
 Nascimento, M. A., Liqueurs, 116; Wine, 109.
 Nascimento, Rev. A. F., Tobacco, 70.
 Nash & Bro., Potato planter, 27.
 Nathanson, J., Sugar, 125.
 National Horse Nail Co., Nails, 39.
 National Manufactory of Tobacco, Tobacco, 88*nn*.
 National Yeast Co., Dry hop yeast cakes, 24.
 Natividade, Jose Gonzalez, Wine, 110.
 Natus, T. & Co., Spirits, etc., 126.
 Naumann, F., Liqueurs, 54.
 Naumann, L., Spices, 53.
 Navajas, F. S., Wheat, 88*e*.
 Navarro, A. J., Wine, 88*vv*.
 Navarro, Antonio Jose Antunes, Portugal, 285.
 Navarro, Cornelio, Wheat starch, 85.
 Navarro, E., Wine, 88*bb*.
 Navarro, Jose C. D'A., Portugal, 284.
 Navarro, R., Cereals, 88*d*.
 Navas, M. G., Brandy, 88*y*.
 Naves, A., Tapican, 130; Oil, 132.
 Nazar & Co., Wool, 87.
 Neaffie & Levy, Engine, 39.
 Nebbe, J. M., Wines, 88*vv*.
 Needham & Kite, Filter press, 41.
 Neges, F. de P., Wine, 88*vv*.
 Negro, J. d'A., Seed, 98; Figs, 104.
 Negro, M. N. O., Oil, 119.
 Nègre, J., Confectionery, 51.
 Negreiros, Bento Antonio, Wine, 111.
 Negrete, A. F., Cereals, 88*k*; Seed, 88*xx*.
 Neidhardt, Dr., Germany, 215.
 Neidlinger, Schmidt, & Co., Malt, 136.
 Neighbour & Sons, G., Bee hives, 41.
 Nellis, A. J., Hay fork, 29.
 Nemiloff, A., Hemp, 126.
 Nennich, Henry, Vinegar, 22.
 Nenzioni Brothers, Preserved tomatoes, 64.
 Nes, A. P. van, Trees, 158.
 Netherlands, Statistics of, 230.
 Neto, Manuel Jose Setubal, Fish, 99.
 Netto, Felipe Lopes, Brazil, 263.
 Netto, Joao Mascarenhas, Corks, 89.
 Netz, Christian, Lard, 45.
 Neuman & Sons, Vinegar essences, 56.
 Neuner, Christof, Leather, 55.
 Neves, Adelino, Beans, 98.
 Neves, Adelino, & Son, Nuts, 91.
 Neves, F., Oil, 119.
 Neves, Fortunato Vieira das, Wine, 110.
 Neves, Francisco X., Grain, 93; Peas, 98.
 Neves, J. Ribeiro, Tea, 70.
 Neves, Jose Eloy das Cadaval, Wine, 110.
 Neves, Jose J. das, & Bros., Almonds, 91.
 Neves, Jose J. dos, & Sons, Figs, 103.
 Neves, Jose Marques das, Beans, 98.
 Nevins, Wm., Machines, 34.
 New Brunswick Adv. Board, Lumber, 134.
 New Era Manufacturing Co., Machines, 32.
 New Gellivara Co., Fir timber, 59.
 New Hampshire State Centennial Board,
 Woods, 15; Corn, etc., 16; Sugar, 22;
 Wool, 24; Implements, 32; *Books, 38.
 New Jersey, State of, Woods, 15; Wheat, 18;
 Soils, 38.
 New London Scythe Co., Scythes, 29.
 New Orleans Cotton Exchange, Cotton, 29.
 New South Wales, Statistics of, 178.
 New York Cotton Gin Co., Hand gin, 32.
 New York Desiccating Co., Coconut, 20.
 New York Hop Extract Co., Hop extract, 20.
 New York Manufacturing Co., Plow, culti-
 vator, etc., 25; Wine press, 32.
 New York Plow Co., Plows, 27.
 New Zealand, Roots, 156.
 New Zealand, Statistics of, 174.
 Newell, George, Ash, 134.
 Newton, J., New South Wales, 189.
 Newton, R., Silk, 88; Argentine Republic, 265.
 Neyralores, G., Wine, 88*vv*.
 Niagara Malt House, Malt, 136.
 Niagara Steam Pump Works, Pumps, 139.
 Niccforo, Nicola, Hazelnuts, 63.
 Nichols, Shepard, & Co., Machines, 32.
 Nicol Bros., Flax, 45.
 Nicoll, Donald, Starch, etc., 40.
 Nitheray, S. Joao de, Cigars, 70.
 Nieberding, Germany, 215.
 Nieto, F. H., Peas, 88*k*.
 Nieuwenhuijs, J. H., jr., & Co., Conserves, 57.
 Nieves, A., Coffee, 131.
 Nieveo, Calixto M., Abaca, 133.
 Nikisch, Manuel, Corn, 79; Pickled tongues,
 85.
 Nikitin, A., Preserves, 125.
 Nilkens, A., Wines, 53.
 Nilsson, Edv., Preserved mackerel, 59.
 Ninberg, O., Game, 125.
 Nishi-wo, M., Cracknel, 129.
 Nistri, Ferdinando, Liqueurs, 66.
 Nisuke, Yoshikawa, Japan, 259.
 Nittinger, A., jr., & Son, Machinery, 33.
 Noble, R. B., Mackerel, 45.
 Nobre, Manuel de Barros, Wine, 110.
 Nobrega, J., Coffee, 71.
 Nobuakira, Yamataca, Japan, 259.
 Noda, D., Tobacco, etc., 128.
 Nogueira, A., Coffee, 71.
 Nogueira, Dr. P. R., Coffee, 70.
 Nogueira, F. B., Flax, 121.
 Nogueira, Henrique de La, Barks, 90; Nuts,
 91; Wine, 109.
 Nogueira, Manuel Martins, Corn, 93.
 Nogueira, R., Coffee, 71.
 Nogues, R., & Co., Wine, 88*aa*.
 Nolcken, Baron Gustav, Russia, 294.
 Nolet, J. J. G., Gin, spirits, 58.
 Nolin, Hon. Mr., Canada, 204.
 Noll, J., Cigars, 53.
 Norbotten Agricultural Society, 59.
 Norcross, Kent, & Co., Shingles, 15.
 Nordrock, Wm., Anchovies, 61.
 Norman, V., Sweden, 240.
 Norris, J. W., & Co., Aromatic hams, 19.
 Northern Ohio Woolen Mills, Shoddies, 24.
 Northwood, Howard, Malt, 44.
 Norton, James, Potato digger, 29.
 Norvell, G. F., Stuffed birds, 44.
 Norwalk Lawn Mower Co., Lawn mowers,
 30.
 Norway, Statistics of, 241.
 Norwegian Condensed Milk Co., Milk, 62.
 Norwegian Fish Guano Co., Guano, 62.
 Norwegian Preserving Co., Meats, 62.
 Norwood, C., & Son, Isinglass, 18.
 Nostitz, Count John, Grain, 123.
 Nova Scotia, Advisory Board of, Cereals 44.
 Novaes, Antonio Jose Cabeceiras, Grain, 96.
 Novaes, S., Cigarettes, 71.
 Novelda, T. E., Brandy, 88*l*.
 Novoa, J. C., & Son, Butter, 88*o*.
 Novoa, M. R., Wine, 88*y*.
 Novossiltseff, J., Grain, 123.
 Noziczka, L. C. & W., Malt, 56.
 Nunes, A. M., Silk, 122.
 Nunes, Antonio, Grain, 93.
 Nunes, Antonio Candido, Honey, etc., 102.

Nunes & Co., Corks, 89.
 Nunes, Guithermes F. P., Olives, 91; Grain, 93; Dried fruits, 105.
 Nunes, Jose Cabrita, Wine, 109.
 Nunes, Jose Jacintho, Wine, 110.
 Nunes, Vincente Ferreira, Rice, 106.
 Nuñez, L., Wheat, 88e; Beans, 88j.
 Nuñez, Santos, Humming bird, 81.
 Nuttall, Enrique, Bitters, 85.
 Nye, S. R., Rake, 30.

O.

Oakes, G., New South Wales, 180.
 Oberleitner, K. von, 221.
 Obratnoff, P., Wheat, 123.
 O'Brien Bros., Rustic summer houses, 154.
 Ocampo & Acosta, Bark, 77; Hides, 83.
 Ocampo, B. de, Flour, 131; Sugar, 132.
 Ocampo, Manuel de, Sugar, 132.
 Ochoa & Bro., Claret, 88r.
 Ocon, M., Preserves, 88g.
 Odena y Pujol, J., Olive oil, 88kh.
 Odessa Exchange Com., Grain, 123; Peas, 124.
 Odnooshefsky, M., & Sons, Furs, 124.
 Offley, Cramp, & Forrester, Wine, 109.
 Ohio State Centennial Board, Grains, etc., 16.
 Ohmer, Augustus J., Mower, 29.
 Ocala, J. M. R., Wheat, 88g.
 Oje la, M., Peas, 88k.
 Oje la y Gomez, J., Peas, 88k; Maize, 88g.
 Olano, C., Wood, 130.
 Olavarrieta, M. S., Wine, 88y.
 O'Leary, H., Salmon, 45.
 Olias, V., Wine, 88bb; Olive oil, 88kh.
 Olijen, T., Oil, 82; Tongue, etc., 85.
 Oliva, G., Spirits of wine, 88aa.
 Oliva, J. M. de, Olive oil, 88ff.
 Olivares, J. de Sande, Sausages, 88b.
 Olivares, J. del Castillo, Coffee, 88m.
 Olivares, J. S., Wine, 88n.
 Olivares, M. G., Peas, 88k.
 Oliveira, Antonio Simoes de, Wine, 109.
 Oliveira, Augusto José de, Wine, 110.
 Oliveira, C. A. M., Corn, 93.
 Oliveira, C., & Sons, Wine, 73.
 Oliveira & Co., Preserved meats, etc., 103.
 Oliveira, Coelho d', Tobacco, 71.
 Oliveira, Custodio de, Glue, 101.
 Oliveira, D. M., Wool, 122.
 Oliveira, Domingos Carneiro de, Wine, 109.
 Oliveira, Fortunato Antonio, Beans, 98.
 Oliveira, Gaspar José, Nets, 99.
 Oliveira, Ignacio de, Glue, 72.
 Oliveira, J. D., Oil, 119.
 Oliveira, José Bernarda de, Brandy, 109.
 Oliveira, José Miguel de, Cheese, etc., 100.
 Oliveira, M. J. de S., Oil, 119.
 Oliveira, Manuel Rodrigues, Grain, 96.
 Oliveira, P. M. de, Wood for dyeing, 63; Tappur, 75.
 Oliveira, R. de, Liqueurs, 73.
 Oliveira, Rafael Rodrigues de, Wine, 116.
 Oliveira, Soares, Eduardo, Wine, 109.
 Oliveira Soares, M. E. de, Acorns, 90; Fruit, 98; Cheese, 100; Wool, 121.
 Oliveira, Verissimo Ferreira A. de, Olives, 90; Grain, 96; Wine, 117.
 Olivella, C., Wines, 88n.
 Olivencia Bros., Wine, 88z.
 Oliver Bros., Wines, 88u.
 Oliver, D., Esparto grass, 88iz.
 Oliver, D. L., Cereals, 88c; Wines, 88r.
 Oliver, Don Joaquin, Spain, 280.
 Oliver, John, Oak, 134.
 Oliver y Coll, F., Wine, 88u; Oil, 88dz.
 Olivera, Bernardo, Dried figs, 84.
 Olivera, Eduardo, Argentine Rep., 265.
 Olivares, M., Wheat, 88e; Beans, 88j; Olive oil, 88ff.
 Olivero, José V. R. de, Brandy, wine, 110.
 Olives, B. J. de, Honey, 88o.
 Ollendorf, Ernesto, Argentine Rep., 265.

Ollér, P., Vegetables, 88l; Maize, 88k.
 Olmedo, J., Vinegar, 88z.
 Olmo, S. del, Brandy, 88z.
 Olmstel, John W., Ice cream freezer, 35.
 Omaña, Corporation of, Wheat, 88e; Beans, 88j; Flax, 88f.
 Omlin, J., Wine, 88bb.
 Onchica, Andrés, Sugar, 132.
 O'Neill, Wm. C., & Co., Barrels, 37.
 Onis, F., Cereals, 88f; Vegetables, 88k; Wines, 88z.
 Onis, F. de, Fruit syrup, 88g; Seed, 88n; Wool, 88ff.
 Ontario Advisory Board, Cereals, 44.
 Ookhin Brothers, Wheat, 123.
 Oostra, G. Wildervank, Liqueur, elixir, 58.
 Ootkin, B., Cakes, 126.
 Oporto, Agricultural Society of, Woods, 89; Wines, 114.
 Oppmann, J., Wines, 53.
 Orange Free State, Statistics of, 254.
 Orb, J. Auguste de, Corkwood, 89.
 Orb & Weiss, Wines, 54.
 Orchard City Agri. Works, Plows, rakes, 26.
 Orduña, C., Wines, 88y.
 Orduña, E., Resins, 130; Oil, 132.
 Orduña, S. N., Beans, 88n.
 Orebro Agricultural Society, Cereals, 59.
 Oregon, State of, Woods, 15; Grasses, 16; Glue, cider, etc., 19; Wool, woolen fabrics, 24.
 Orjeuela, F. de, Olive oil, 88gg.
 Orjeuela, J. de, Peas, 88k; Cereals, 88g.
 Orihuela, P., Olives, 88g.
 Orloff, N., Wool, 126.
 Orloff, Pierre, Russia, 294.
 Ornelas, Plurtao, Mexico, 274.
 Ornellas, A. de Funchal, Wine, 110.
 Ornellas & Linder, Fish, 99.
 Ornellas & Lisher, Preserved fruits, etc., 103.
 Ornellas & Lister, Olives, 96.
 Ororio, Manuel de A. F., Corkwood, 89.
 Orrovia, M. de, Olive oil, 88gg.
 Orsi, Raphael, Sausages, salted meats, 64.
 Ortá, M., Olive oil, 88ff.
 Orta, P. de, Maize, 88e.
 Ortá, I., Olive oil, 88gg.
 Ortega, D., Beans, 88k.
 Ortega, Maria Luisa, Grain, 93.
 Ortega, V., Liqueurs, 88bb.
 Ortiz, E., Cereals, 88c; Wine, 88bb.
 Ortiz, I., Cigarettes, 88m.
 Ortiz, J., Saffron, 88m.
 Ortiz, R. M., Wheat, 88k.
 Ortiz, T., & Sons, Chocolate, 88dz.
 Ortuno y Maestre, J. F., Wine, 88t.
 Osaka, Municipality of, Tobacco, 128.
 Osborne, D. M., & Co., Mower, 28.
 Osborne Manufacturing Co., Cages, 37.
 Osborne, Wm., Malt, 44.
 O'Shanassy, Sir J., Victoria, 182.
 Osmeña, Rita, & Co., Sugar, 131.
 Osorio, M. de E. F., Oil, 119.
 Ostroff Sugar Manufacturing Co., Sugar, 125.
 Ostrom Bros., Bark, 123.
 Oswego Milling Co., Flour, 22.
 Otal, J. M., Peas, 88j; Esparto grass, 88ii.
 Otal, J. M., Cereals, 88e; Wool, 88ff.
 Otard, Dupuy, & Co., Brandies, 50.
 Otero, F., Sardines, 88o.
 Otero, José, Honey, wax, 84.
 Otero, M. G., Rice, 130.
 Otis Bros., Elevator, 139.
 Otis Brothers & Co., Mower, 30.
 Otori, M., Tea, 128.
 Ottaviani Brothers, Wine, 65.
 Otto, J. M., Beer-cooler, 138.
 Oudermeulen, C. T. van der, Netherlands, 234.
 Outcalt, John, Hominy, etc., 21.
 Outeiro Fundao, Viscount of, Corkwood, 90; Wine, 109.
 Outerbridge, A. A., British Guiana, 101.
 Outry, Mr., France, 29.
 Ovejero, Sugar, 85.

Overbeck, P., Beer, 54.
 Oviado, Board of Agriculture, etc. of Nuts, 82*b*; Cereals, 88*f*; Vegetables, 88*k*; Cheese, 88*o*; Ham, 88*g*; Cider, 88*z*.
 Owen, Hon. L. C., Canada, 204.
 Owen, Judge, Barrel-heads, 35.
 Ozaki, I., Tea, 128.
 Ozene, M. M., France, 209.
 Ozorio, Alvaro de Azevedo, Beans, 98.
 Ozorio, Antonio Perfecto Pereira, Wine, 109.
 Ozorio, Jose Augusto, Wine, 109.
 Ozorio, Manuel de A. F., Beans, 98.

P.

Pacheco, R. G., Barley, 88*d*; Beans, 88*j*.
 Pagni, Faustino, & Co., Biscuits, 66.
 Pajares de Oteros, Corporation of, Cereals, 88*e*; Peas, 88*j*; Wine, 88*x*.
 Palá, J., Chocolate, 88*cc*.
 Palacin, D., Wheat, 88*f*.
 Palatin y M., Maize, 88*g*.
 Palau, J. de, Wines, 88*z*.
 Palazzo, Duke del, Paste for soup, 64.
 Palcois, Lino, Argentine Republic, 265.
 Palin, T., Malt, 136.
 Pallares, Count of, Wheat, 88*f*.
 Pallares, J., Wheat, 88*f*.
 Palma, A. J. da, Embira, 75.
 Palma del Rio, Corporation of, Walnuts, 88*a*; Honey, 88*o*.
 Palmeiro, Xavier Rosado, Grain, 95.
 Palmer, B., New South Wales, 180.
 Palmer Baking Powder Co., 24.
 Palmieri, Benedetto, Wine, 66.
 Palomar, N., Flour, 88*s*.
 Palomares, V. L., Vegetables, 88*l*.
 Palomino, T., Wine, 88*z*.
 Pamies y Orteneda, J., Olive oil, 88*gg*.
 Pampagna, Provincial Board of, Seed, 131.
 Pamperio, Antonio di S. M., Wheat, flour, 106.
 Pamperio, R. de S., Cereals, 93; Flour, 106.
 Panda, Corporation of, Fibres, 133.
 Panero y Martinez, Juan, Chocolate, 88*dd*.
 Panitz, J. C., Tobacco, 70.
 Pantion, M. F., Maize, 88*g*.
 Papanca, M. A. M., Oil, 118.
 Papotti, Cantalamessa N., Italy, 249.
 Paquot, R., Belgium, 229.
 Para, Province of, Guarana, 74; Jute, 75.
 Paradela, D., Cereals, 88*f*; Linseed, 88*n*.
 Paradinas, A., Cereals, 88*f*.
 Paradinas, G., Barley, 88*c*.
 Paradinas, J., Wheat, 88*c*.
 Parahyha, Province of, Cotton, 74.
 Paraiso, D. V., Tobacco, 70.
 Paramo del Sil, Corporation of, Maize, 88*e*; Flax, 88*ii*.
 Parana and other Provinces, Cereals, 69; Isinglass, furs, hides, etc., 72; Feculas, 73; Cotton, 74; Plows, wool, 75.
 Parana, Commission of, Woods, 77; Corn, 79; Cocoons, 87.
 Parana, Commission of, Sponges, etc., 81.
 Parana, D. V., Tobacco, 71.
 Parapanema, Director of, Butter, 72.
 Pardee, Chas. W., Barley, malt, 136.
 Pardo, J., Orange wine, 88*bb*.
 Pardo, R. & P., Flour, 88*s*.
 Paredes, C., Beans, 88*i*; Wine, 88*u*.
 Parent Bros., Sweetmeats, 88*h*.
 Parfonry & Lemaire, Marble, 48.
 Parilla, J. de P., Wine, 88*z*.
 Parisian Flower Co., Bouquets, 151.
 Park, H. & H., Fork, hoe, etc., 25.
 Parkin, W. W., China, 257.
 Parkyn, Jas., Flour, 45.
 Parlato, Luigi, Almonds, 63.
 Parmentier, E., Belgium, 229.
 Parnell, Montague, Wines, 42.
 Parochial Curate, Textiles, 133.
 Parody, Don Francisco, Spain, 280.

Parrales, V., Pepper, 88*m*.
 Parras, E., Esparto grass, 88*hh*.
 Parsons, R. B., & Co., Plants, 154.
 Parsons, S. B., & Sons, Plants, 151, 154.
 Pasali, Gaetano, Fermo, & Cottignano, Li-
 quors, 65.
 Pasaran, I., Wheat, 88*k*.
 Pascoal, Otero, Beer, 110.
 Pascual, E., Peas, 88*e*; Olive oil, 88*ff*.
 Pascual, E. A., Wool, 121.
 Pascual, M., Wines, 88*l*.
 Pascual, Widow & Sons of, Wine, 88*y*.
 Pascual y Caballero, P., Wine, 88*z*.
 Paseiro, B., Flax, 88*ii*.
 Pasig, A., Rice, 131.
 Paskevitch, F., Wine, 125.
 Passel, Theodore, Wax, 84.
 Passier, A., Wines, 50.
 Passos, Jose Francisco R., Dried figs, 104.
 Patagones, Justice of the Peace of, Wine, 82;
 Wool, 87.
 Patalano, Orazio, Wine, 66.
 Paterno, C. di B. G., Wine, 65.
 Patiño, J. M., Wine and oil, 88*u*; Wool, 88*jj*.
 Patrons' Manfg. Association, Mower, 31.
 Patterson, Wm., Road scraper, 36.
 Paula Bulnes, F. de, Peas, 88*j*.
 Paulino, C. P., Prunes, 88*g*; Olive oil, 88*gg*;
 Silk, 88*jj*.
 Paulino, D. P., Wheat, 88*g*; Olive oil, 88*gg*.
 Paulino, F. B., Almonds, 88*b*.
 Paulo Afonso, District of, Cajunot oil, 74.
 Paulo Cordeiro, J., Snuff, 71.
 Paulo Jorge, Wines, 114.
 Pauwels, F., Belgium, 229.
 Pavao, A. A. G., Wine, 111.
 Pavin de la Forge, L. & E., Lime, 48.
 Pavon, P., Olive oil, 88*ee*.
 Paya, C. P., Wines, 88*l*.
 Payas, C. P., Olive oil, 88*dd*.
 Peabody, Geo. H., Rice huller, etc., 34.
 Peacock, C. J. P., South Australia, 184.
 Pearson, J. R. & Co., Tobacco, 16.
 Pecanha, Jose Pereira de Castro, Wine, 112.
 Peck Brothers, Bone dust, 36.
 Peck & Skilton, Rustic goods, 154.
 Pedraja, B. G., Wine, 88*x*.
 Pedroso, Henrique Caldeira, Olives, etc., 103.
 Pedroza, Maria Jose Lopes, Seed, 96; Wine,
 117; Flax, 121.
 Peele, Hubbell, & Co., Abaca, 133.
 Peez, E., Wines, 53.
 Peinado y Lasa, T., Brandy, 88*v*.
 Peira y Mach, A., Nuts, 88*b*; Wine, 88*z*.
 Peireira, Henrique Augusto, Rice, 93.
 Peisen, J. J., Wheat, 88*f*.
 Peixoto, Antonio Jose da Cunha, Wine, 108.
 Peixoto, Jose N. de S., Acorns, 91; Seed, 97;
 Oil, 118.
 Peixoto, Augusto Gavia, Olives, 104.
 Pellicer, F., Almonds, 88*b*; Wine, 88*aa*; Figs,
 88*g*.
 Pellicér, J., Olive oil, 88*hh*.
 Pellet, A. P., Silk, 51.
 Pelletier, Ernest, Russia, 294.
 Peltier & Paillard, Sardines, 49.
 Peluffo, Angel, Barley, 78; Silk, 88.
 Peluffo, Vicente, & Co., Seeds, 77.
 Peña, J. E., Cheese, 88*a*.
 Peña, J. G. de la, Wheat, 88*f*; Oil, 88*gg*.
 Peña y Mach, Olive oil, 88*hh*.
 Penafiel, Flour, 106.
 Peñafior, Ines, Abaca, 133.
 Peñalosa, A., Cocoa, 131.
 Peñaloso, A. S., Seed, 131.
 Peñalver, J. D., Seed, 88*n*.
 Pendock Brothers, Cider, 41.
 Penedo, Francisco A., Grain, 93; Cheese, 99.
 Penillos, Garcia, & Co., Wine, 88*u*, 88*z*.
 Penitentiary, Rio de Janeiro, Showcases, 68.
 Pennock Bros., Plants, 151; Ferries, 13.
 Pennock Mfg. Co., Sheller, hay fork, 29.
 Pennsylvania Agri. Works, Plows, etc., 26.
 Penny, Hon. E. G., Canada, 204.

- Penzin, J., Wheat, 123.
 Peple, A., Baskets, 151.
 Pepler, Thomas, Plow, cultivator, 25.
 Pera, F. M., Grain, 93; Wool, 121.
 Peracchi, Enrico, Tomato sauce, 64.
 Perard, V., Sheep-shearer, 52.
 Peraza, A., Wine, 88*v*.
 Perdigao, Plants, 69; Oils, 74.
 Peredicu & Bradley, Wool, 87.
 Pereira, A. I., Brandy, 118.
 Pereira, Adriano Rodrigues, Wines, 114.
 Pereira, Antonio d'Almeida, Wine, 112.
 Pereira, Antonio Rodrigues, Wine, etc., 114.
 Pereira & Braga, Cigars, 70.
 Pereira, Candido Manuel, Wine, 108.
 Pereira de Mello, Antonio Leite, Wines, 114.
 Pereira, E., Laranginha, 74.
 Pereira, Eduardo Augusto, Wines, 115.
 Pereira, Francisco José, Cork, 90.
 Pereira, Henrique Augusto, Wheat flour, 106.
 Pereira, J., Wool, 121.
 Pereira, J. F., Wool, 121.
 Pereira, J. I., Oil, 118.
 Pereira, J. J., Farina, 73.
 Pereira, J. S. M., Oil, 119.
 Pereira, Jeronymo, Honey, 101.
 Pereira, Joao M., Honey, etc., 103.
 Pereira, Joaquim J., Wines, 114.
 Pereira, Joaquim J. P., Wines, 114.
 Pereira, José Agostinho Mancio, Grain, 95.
 Pereira, José Francisco, Cheese, 99.
 Pereira, José Geraldo de Sa, Beans, 97.
 Pereira, Manuel Augusta, Wine, 108.
 Pereira, P. M., Nuts, 90; Grapes, 104.
 Pereira, Widow Theotonio, & Sons, Wine, 110.
 Perera & Sons, Wine, 88*bb*.
 Peres, Joaquim Manuel de Mattos, Acorns, 91;
 Grain, 93.
 Peres, Roure, & Co., Corkwood, 89.
 Pereyra, Leonardo, Argentine Republic, 265.
 Perez, A. A., Flour, 88*v*.
 Perez, Albert, & Co., Almonds, 88*z*.
 Perez, Augustin, Fibres, 133.
 Perez, B., Hams, 88*v*.
 Perez, D., Wheat, 83*f*.
 Perez, D. E., Brandy, 88*v*.
 Perez, E., Wool, 87.
 Perez, F., Cultivator, 88*jj*.
 Perez, F. G., Peas, 83*f*.
 Perez, J., Barley, 88*g*.
 Perez, J. V., Cereals, 88*c*.
 Perez L., Wheat, 88*h*; Vegetables, 88*l*; Wool,
 88*jj*.
 Perez, M., Wine, 88*c*.
 Perez, M. V., Wheat, 88*c*; Peas, 88*l*.
 Perez, Roure, & Co., Honey, etc., 101.
 Perez, V. A., Wax, 88*o*.
 Perez Verdú Bros., Vinegar, etc., 88*z*.
 Perez y Romero, F. G., Cereals, 88*d*.
 Perez y Serrano, M., Peas, 88*l*.
 Perfecto, Teodora, Abaca, 133.
 Perine, M., & Sons, Flower pots, 153.
 Perkins, Stern, & Co., Wines, brandies, 23.
 Perko, Francis, Wine, 56.
 Perley & Patton, Laths, 134.
 Pernambuco, Province of, Manioc, 73; Cotton,
 74; Vegetable fibres, 75.
 Perneta, Stag horns, 72.
 Perneta, F. D., Cigarettes, 70.
 Pernia, N., Wine, 88*c*.
 Pernollet, J., Sieves, 52.
 Perot's, F., & Sons, Barley, malt, 136.
 Perrault, J., Canada, 204.
 Perrier, J., & Co., Wines, 50.
 Perry, F. H., Canned fruits, 21.
 Perry, John G., Mowers, 28.
 Perry, Stuart, Hay-tedder, 30.
 Peru, Statistics of, 268.
 Pessoa, Antonio José das Reis, Grain, 93.
 Peter, W. S., Mernu wood, 42.
 Petroff Bros., Tobacco, 124.
 Petroff, J., Cranberry juice, 125.
 Pessoa, Luis M. da C., Olives, 90; Honey,
 101.
 Petroff, W., Spirits, etc., 126.
 Petroski, M., Wheat, 124.
 Petroski Rural Academy, Grain, 123.
 Petterson, C. E., Scythes, 60.
 Petterson, Otto, Punch, 59.
 Peyron, K., Sweden, 240.
 Pfannenstiel, C., Beer, 137.
 Pfeiffer, H., Hazelnuts, 88*l*.
 Pfeiffer, Pedro, Potatoes, 80.
 Phelps, J. J., New South Wales, 180.
 Philip Best Brewing Co., Beer, 137.
 Philippe & Co., Food, sardines, 49.
 Philippine Islands, Ferns, 160.
 Phlitis, S., Tobacco, etc., 124.
 Phillipe, A., Medicinal plant, 69.
 Phillippi, Armando, sr., Chili, 267.
 Phillips, J. B., Horse training device, 38.
 Phillips, J., & Co., Drain pipes, 41.
 Phoenix Stone Mfg. Co., Stone, 153.
 Phosphorite Co., Lime, 122.
 Picao, Amaro José de Bastos, Grain, 93.
 Picazo, P. B., Wine, 88*s*.
 Pickering, Jonathan, Must, 139.
 Pickering, Thomas R., Tobacco, 17.
 Pico, J. M., Wine, 88*v*.
 Picó, M. de, Vegetables, 88*f*.
 Piedroia, R., Olive oil, 88*z*.
 Pierce, M. P., Native wood, 15.
 Pierce, Mrs. M. R., Stands, 153.
 Pierce, S. S., & Co., Champagne cider, 23.
 Pierpont, C., & Co., Fodder cutter, 34.
 Pierpont, Wm., Machines, 32.
 Pies, F. S., Chocolate, 88*dd*.
 Pieza, H., Wine, 88*bb*.
 Pila e Luxes, A. d'O., Nets, 99.
 Pillado, E. M., Cereals, 88*f*; Beans, 88*j*.
 Pillier, N., Wheat, 80; Flour, 85.
 Pilling, Geo. P., Instruments, 35.
 Pillsbury, Chas. A., & Co., Flour, 21.
 Pimenta, Anna A. de S., Dried fruits, 103.
 Pimenta, Isidora, Cheese, etc., 100.
 Pimenta, Isidoro E. O. C. Marques, Peas and
 beans, 97; Wool, 121.
 Pimenta, Jacintho Francisco, Wine, 114.
 Pimenta, Jose Maria Dantas, Nuts, 91; Dried
 figs, 105; Wine, 108.
 Pimenta, M., Yagnarembu, 73.
 Pimentel, Antonio Augusto de Moraes, Rye,
 wheat, 93; Seed, 98; Honey, etc., 102; Wool,
 121.
 Pimentel, C. A. de, Wine, 88*cc*.
 Pimentel, José Reis, Seed, 96; Cheese, 100;
 Flax, 121.
 Pimentel, P. A., Vinegar, 88*bb*.
 Piña, J. B., Almonds, 88*z*; Mistela, 88*l*;
 Olive oil, 88*dd*.
 Pina, M. M. de, Oil, 118.
 Piñango, N., Saffron, 88*uz*; Wine, 88*bb*.
 Piñar, E., & Bros., Olive oil, 88*gg*.
 Pinardi, Pietro, Mustard, preserves, 64.
 Pineda, E. de, Cereals, 83*f*.
 Pineda, J., Olive oil, 88*c*.
 Pineda, N. J., Olive oil, 88*ff*.
 Piñeiro, R. S., Cereals, 88*f*.
 Pinel, C. P., Treatise, 157.
 Piñero, Aurelio, Wax, 84.
 Pinet, Castillon, & Co., Cognac, 50.
 Pingercós y Anglés, F., Almonds, 88*l*.
 Pinheiro, Antonio Joaquim, Wine, 114.
 Pinheiro, Candido L. A., Olives, etc., 103.
 Pinheiro, Custodio José Valverde, Wine, 111.
 Pinheiro, Francisco Rodrigues, Corkwood, 90.
 Pinheiro, J. E., Tobacco, 70.
 Pinheiro, Joaquim Garcia, Red wine, 108;
 Vinegar, 114.
 Pinheiro, José Azambujo, Wine, 108.
 Pinheiro, José de Maura, Grain, 93.
 Pinheiro, José de Sousa Idanha a, Honey, 101.
 Pinheiro, José Henrique, Grain, 93.
 Pinheiro, T., Sugar, 73; Laranginha, 74.
 Pinho, F. do, Chocolate, 74.
 Pinho, L. F. do, Chocolate, 69.
 Pino y Gomez, J. del, Brandy, 88*v*.
 Pinós, J. M., Wheat, 88*f*; Olive oil, 88*ff*.

- Pinson, Ivory, 48.
 Pinto, A. L. de G., Wine, 118.
 Pinto, A. T. da C., Oil, 119.
 Pinto, Antonio Joaquim, Red wine, 105.
 Pinto, Antonio M. de, Seed, 97; Wool, 121.
 Pinto, Antonio R., Cereals, 93; Beans, 97; Flour, 106; Wine, 118.
 Pinto, Antonio Peixoto, Wine, 114.
 Pinto, Augusto Leal de Gouvea, Beans, 97.
 Pinto, Basto A. F., Honey, etc., 102.
 Pinto & Bro., Tobacco, 71.
 Pinto, Clemencia, Acorns, 90; Peas, 98; Honey, brandy, 102.
 Pinto, Coelho, Wines, 114.
 Pinto da Fonseca, Francisco R., Grain, 95.
 Pinto, Francisco X. de M., Raisins, 105.
 Pinto, J. C., Macaroni, 118.
 Pinto, Joao A. A. da Fé, Wine, 110.
 Pinto, Joao d'Azevedo, Corn, 93.
 Pinto, Joao di Azevedo, Flour, 106.
 Pinto, Joaquim P. da C., Cheese, etc., 100.
 Pinto, José Clemente, Grain, 92.
 Pinto, José, P., Corn, 93.
 Pinto, Luis Marques, Grain, 93; Beans, 97; Preserved meats, 100.
 Pinto, Manuel Ferreira, Wine, 114.
 Pinto, Maria R. R. B., Wines, 114.
 Pinto, O., Aguardente, 73.
 Pinzon, L. H., Liqueurs, 88*va*.
 Pinzon, R. I., Wines, 88*r*.
 Pionbino, Prince of, Wine, 66.
 Pioneer Iron Works, Road roller, 36.
 Pirapitinga, Baron of, Starch, tapioca, 73.
 Piratininga, L. Tebricra, Plants, 69.
 Pires, Antonio Joaquim, Sweet fruits, 105.
 Pires, Julio José, Portugal, 284.
 Pirronc, Antonino, Biscuit, 66.
 Piteira, F. J. F., Pork, 104; Wool, 121.
 Pitts, D. H., Fishing reel, 45.
 Pitts, H. A., Sons, Mfg. Co., Machines, 32.
 Pizey, S. V., South Australia, 184.
 Pizzona, Miguel, Wines, 85.
 Plá, F., Alcohol and cordial, 88*aa*.
 Plá, José, & Co., Brandy, 85.
 Plá y Vila, P., Brandy, 88*u*.
 Plagniol, J. de, Oil, 51.
 Plana, A., & Bro., Wheat, 88*h*.
 Plana & Co., Chocolate, 88*ad*.
 Plassa y Alfonso, J., Mistela, 88*aa*.
 Platen, Count Carl von, Cereals, 59.
 Platin, C. G., & Co., Punch, 59.
 Plaza, J. A., Olives, 88*g*.
 Plaza y Garrejo, F., Wheat, 88*r*.
 Pleasant Valley Wine Co., Wines, 22.
 Pleshonoff, J., Wheat, 124.
 Pletneff, Alexandre, Russia, 294.
 Pley y Bondigue, Maize, 88*d*.
 Plighin, P., Wheat, 123.
 Plunkett, John, & Co., Malt, 40.
 Poblete, F., Romerrillo, 77.
 Poblete, Tiburcio, Ostrich skin, 81.
 Podobedoff, Michel, Russia, 294.
 Poel, Cz. P. van der, Wheat, barley, oats, 57.
 Poeschel, M., & Sherer, Hermann, Wines, 22.
 Poey, J., Oranges, 88*c*; Vegetables, 88*l*; Coffee, 88*m*; Sugar, 88*o*; Honey, 88*h*.
 Poey, J., Plants, 160.
 Poglione, Widow, & Sons, Wines, 65.
 Pohl, C., Currants, 158.
 Poiares, Antonio José da Silva, Pitch, 90; Grain, 93; Beans, 97; Wine, 114.
 Pointe aux Peaux Wine Co., Wines, 23.
 Poisson, J. T., Seed, 77; Viper's skin, 81.
 Poitevin, C., & Co., Wines, 50.
 Poke, Charles, Malt, 136.
 Pokorny, Franz, Wine, 56.
 Pokrovsky Sisterhood, Cocoons, etc., 127.
 Polá, Juan, Potatoes, etc., 80.
 Poligny Society of Agriculture, Wines, 50.
 Pollen, L. P. M., Liqueurs, 58.
 Pollock, James, Flour, 21.
 Polo, B., Wine, 88*u*.
 Pombo, P., Wheat, 88*f*; Flour, 88*r*.
 Ponce de Leon, Juan, Cereals, 88*d*.
 Ponce, I., Seed, 77.
 Ponterrada, Corporation of, Walnuts, 88*a*; Cereals, 88*e*; Vegetables, 88*j*; Wine, 88*u*.
 Pons, A., Wines, 88*u*.
 Pons, A. C. de, Olive oil, 88*dd*.
 Pouseti y Gomila, J., Paste, 88*s*.
 Pontes, F. F. T. de, Wine, 118.
 Pont-Ollion, N., Cements, 48.
 Pontzen, E. von, 221.
 Poneyet, M., Cocoons, 88.
 Porcar, T. M., Olive oil, 88*dd*.
 Porcari, Baron Angiolo, Grain products, 63.
 Porqueras, J., Wine, 88*aa*.
 Porri, P., Plowshare, 67.
 Porta M., Alcohol, 88*cc*.
 Portella, F. F., Vanilla, 69; Hair, 75.
 Portella, José Ferreira, Wine, 114.
 Portella, Jr., Wine, 114.
 Portella, J. T. M., Coffee, 69.
 Porter & Mowbray, Flour, 22.
 Portillo, S. R., Wax candles, 88*h*.
 Portland Packing Co., Canned fruits, 19.
 Pórtoles, M., Anise-seed cordial, 88*cc*.
 Portugal, P. P. d'Azevedo, Matte, 70.
 Portugal, Statistics of, 281.
 Posadas, G., Fibre ropes, 87.
 Posar, J., Rice, 131.
 Posse, Count F., Sweden, 240.
 Possidonio, A., Oil, 118.
 Possiponti, A., Straw, 15.
 Post, C. C., Maple sugar, 22; Tools, 33.
 Post, C. G. van der, Cigars, 57.
 Potan y Mico, A., Wine, 88*aa*.
 Potts, Wm. W., Portable fence, 36.
 Poulson, H., & Co., Arrack punch, 62.
 Poneyet, Miguel, Garden seeds, 80; Honey, 84.
 Poveda, P., Cereals, 88*g*; Peas, 88*k*.
 Poves y Quintano, G. de, Wine, 88*d*.
 Powell, Edward, Wines, 42.
 Powell, J., New South Wales, 180.
 Poyato, M., Peas, 88*f*.
 Pozo Alcon, Corporation of, Seed, 88*n*.
 Pozoblanco, L. E., Cheese, 88*a*.
 Prado, M. A. de, Walnuts, 88*a*; Cereals, 88*e*; Vegetables, 88*j*; Flour, 88*r*; Chocolate, 88*cc*.
 Prados, Viscount of, Coffee, 71.
 Prascencio, M., Wine, 88*cc*.
 Prast, Q. A., Brandy, 88*l*.
 Pratt, C., Saucers, 157.
 Pratt, James, Sauce, 40.
 Pratt, José, Lupine, 88*z*.
 Pré, J. M., Wine, 88*z*.
 Prego, Ezequiel de Paula Sa, Wines, 108.
 Prego, Joaquim Romar Mendes, Wine, 114.
 Prentzel, Saml. F., Oatmeal, oatina, 21.
 Pressey, G. W., Stump puller, 36.
 Preusel & Bachmann, Wines, 53.
 Price, S. S., Plants, 152.
 Priego, R. M., Wheat, 88*d*.
 Priest, W., Wool, 43.
 Prieto, B., Wheat, 88*f*.
 Prieto, E., Walnuts, 88*h*; Vegetables, 88*l*.
 Prieto, F., Coffee, 131.
 Prieto, S., Wheat, 88*d*; Seed, 88*n*; Vegetables, 88*j*; Olive oil, 88*ee*.
 Prime, Viscount of Visen, Wine, 116.
 Prince Edwards Island Advisory Board, Cereals, 44.
 Principe, District of, Resins, 68; Wax, 72.
 Principe, Don Julian A., Spain, 280.
 Prins, F., Hazelnuts, 88*h*.
 Pripodi, Silvino, Coffee, 71.
 Pritchard, A., Raw cotton, 24.
 Pritz, A., & Sons, Grain drill, 31.
 Proenca, F. T. d'A., Corkwood, 90; Oil, 118.
 Proenca, V., Figs, 104.
 Prohens, D., Cordial, 88*l*.
 Promis, J., Wines, 50.
 Protective Fire Apparatus Co., 39.
 Prout, H. N., Adjustable hoeing machine, 29.
 Provincial Deputation, Oats, 88*d*; Honey, 88*h*; Barilla, 88*jj*.
 Provost, Stephen H., Tomato sauce, etc., 20.
 Prycisiewsky, C., Pulverized bones, 1:7.

Pschorr Brewery, 54.
 Pskoff Statistical Committee, Flax, 126.
 Puebla de Brollon, Corporation of, Beans, 88*k*.
 Puente, Salvador, & Alejandro L., Wheat, 88*g*.
 Puentes y Roldan, F., Barley, 88*d*.
 Puerta, Zayas A. de la, Olive oil, 88*gg*.
 Puga, Sons of, Liquors, 88*cc*.
 Puig, Andrés, Sugar, 132.
 Puig, J., Wheat, 88*g*; Peas, 88*k*; Oil, 88*gg*.
 Puig, J. B., Wines, 88*u*.
 Puig, José, Sugar, 132.
 Puig y Llagostera, Olives, 88*h*; Vinegar, 88*u*;
 Olive oil, 88*dd*.
 Puigvert, Corporation of, Barley, 88*e*; Olive
 oil, 88*ff*.
 Pujol, Eliza, Isyppouy, 77.
 Pujol, J. M., Wine, 88*bb*.
 Pujol, J. O., Wine, 88*ua*.
 Pujol y Salvat, F., Wine, 88*aa*.
 Pulzar, J. P. del, Esparto grass, 88*ii*.
 Pullés, A. M., & Son, Chick peas, 88*l*.
 Pellido, Manuel Marvao, Wheat flour, 106.
 Pulling, A. C., Malt, 136.
 Pumphrey, W. F., Machines, 33.
 Purdy & Green, Lime, 46.
 Purdy, Hiram, Operating apparatus, 34.
 Putnam, S. S., & Co., Nails, 38.
 Puzini Bros., Preserves, 88*h*.
 Pygnatelli, J. da C., Flax, 120; Beans, 97;
 Wine, etc., 116.
 Pykhoff Brothers, Chicory, 124.

Q.

Quebec Advisory Board, Lumber, 134.
 Quebranguelo, Dist. of, Resins, 68; Beans, 69.
 Quebranguelo, Municipality of, Cotton, 74.
 Queensland, Statistics of, 194.
 Queimado, Isiloro Maria, Honey, etc., 102.
 Queiroz, J. C. L., Flax, 120.
 Queiroz, José de Sequeira Pinto, Woods, 89;
 Seed, 96; Liquors, 97; Flax, 120.
 Queiroz, Sebastiao M. B., Corn, 93.
 Queiroz & Sons, Tobacco, 70.
 Quélet, Enrique, Wheat flour, 85.
 Quemada, J. de Dios, & Sons, Flour, 88*v*.
 Quereus & Genana, Oak, 134.
 Quesada, C. G. de, Peas, 88*g*.
 Quesada y Salazar, P. de, Peas, 88*g*.
 Quevedo, J. C., Beans, 88*i*; Cochineal, 88*u*.
 Quigley, P., Contractor, 9.
 Quintana, J. de, Wine, 88*v*.
 Quintana y Ruiz, Cereals, 88*d*.
 Quintanilha, Francisco, Wine, 117.
 Quintanilla, A., Wool, 88*jj*.
 Quintanilla, A. T., Olive oil, 88*gg*.
 Quintero, J. G., Vinegar, 88*w*.
 Quiroga, A., Wine, 86.
 Quiroga, V., Chestnuts, 88*a*.
 Quiros, Widow, & Son, Hides, 88*o*.
 Quitman, A., Wines, 53.

R.

Rabache, A., Plow, 51.
 Rabio, J. M., Wine, 88*z*.
 Racine Hardware Co., Vases, etc., 153.
 Rademakers, A. C., Gin, 58.
 Radtke, G. A., Germany, 215.
 Raigon, A., Wine, 88*w*.
 Rajevski, N., Wines, 125.
 Ramalho, Antonio José, White wine, 108.
 Ramalho, Antonio Pinheiro, Wine, 112.
 Ramalho, Domingos Antonio, Wine, 116.
 Ramalho, Est. vs Gonçalves, Wine, 108.
 Ramalho, José M., Corkwood, 89; Wine, 106.
 Ramao, Joanna Balbina, Fish, 97.
 Ramires, Balthazar Peres, Wine, 112.
 Ramires, José Peres S., Linseed, 97.
 Ramires, M. P., Oil, 119.
 Ramirez & Co., Grain, 78; Raisins, 84.

Ramirez, Antonio, Seeds, 88*u*.
 Ramirez, F. P., Wines, 88*v*.
 Ramirez, I. N., Olive oil, 88*ff*.
 Ramirez, M. T., Barley, 88*g*.
 Ramirez, P., Brandy, 88*z*.
 Ramos, Antonio Maria Taborda, Wine, 117.
 Ramos, Antonio Pedro de C., Wine, 112.
 Ramos, E., Chocolate, 88*dd*; Honey, 88*h*.
 Ramos, J. B., Wheat, 88*c*.
 Ramos, Joao Joaquim Redondo, Grapes, 105.
 Ramos, Joaquim Antonio, Goat skins, 100.
 Ramos, L. F., Cigarettes, 70.
 Ramos, M. N., Oil, 119.
 Ramos, Manuel Nogueira, Grain, 92.
 Randolph, Theodore F., Excavator, 36.
 Rangel, Diogo, Wine, 117.
 Rangel, Manuel de Souza, Grain, 96; Wine,
 117.
 Rank, Amos, & Co., Mowers, reapers, etc., 28.
 Rankin Manufacturing Co., Meat choppers,
 portable engine, etc., 33.
 Rankin, William, & Sons, Corkwood, 89.
 Rapela, L. D., Wine, 88*y*.
 Rapela, M., Wine, 88*y*.
 Raposa, Vicente Narcizo, Honey, 101.
 Raposo, A., Wines, 73.
 Raposo, Joao, Cheese, etc., 100.
 Rapozo, Joaquim Nunes Vieira, Wine, 112.
 Rapozo, Luis, Grain, 92; Flax, 121.
 Rasch, Wines, 53.
 Rasilla, J., Wines, 88*z*.
 Ratinet, Grotto, 157.
 Ratto, A. G., Oil, 119.
 Ratto, Antonio Gonsalves, Corkwood, 89.
 Rauch, Chas., Wagon, 135.
 Raumer, C. von, Books on irrigation, 54.
 Rawlins & Son, Smalts, 41.
 Read, C. A., Lawn mower, 30.
 Read, Calvin D. & Ellis D., Corn sheller, 32.
 Reali, Giuseppe & Gavazzi, Wax, 63.
 Rebello, Dr., Dyeing bark, 68.
 Rebello, Silva, Liquor from coffee, 74.
 Rebello Valente & Allen, Beans, 99.
 Rebocha, Francisco Freire, Timber, 89.
 Rebollo, D., Wheat, 88*c*.
 Rech, Jacob, Milk wagon, 135.
 Reckhow Preserving Co., Pickles, etc., 20.
 Red. B. de la, Wine, 88*cc*.
 Red Wing Mills, Wheat, 18; Flour, 21.
 Redondo Bros., Wine, 88*cc*.
 Redondo, J. B., Cereals, 88*h*; Potatoes, 88*m*;
 Oils, 88*hh*.
 Redondo, P., Wheat, 88*e*.
 Reeves, Parvin, & Co., Canned vegetables, 19.
 Regallo, A. M., Oil, 119.
 Regallo, José Maria da Fonseca, Olives, 104.
 Reggio, Arancio Francesco, Liquors, 66.
 Rego, Antonio Profrio Gomes do, Nuts, 90;
 Corn, 92; Wines, 117.
 Rego, Francisco M. do A. da F., Wine, 112.
 Rego-Freitas, A. P. de, Tea, 70.
 Rego, Manuel Diogo, Wine, 111.
 Regulez, D., Wine, 88*u*.
 Rehnström, W., Drawing of dairy, 60.
 Reibstein, Ignaz, Beehives, 56.
 Reid, A. H., Butter worker, 35.
 Reig y Garcia, F., Cereals, 88*h*; Wine, 88*bb*;
 Olive oil, 88*hh*.
 Reignard, Wines, 50.
 Reina, C. J. de, Olive oil, 88*gg*.
 Reina, J. M. de, Olive oil, 88*gg*.
 Reina, M. A., Wine, 88*z*.
 Reines, N. A., Coffee, 70.
 Reinhardt, L., & Co., Bombons, 51.
 Reis, A. des, Oil, 119.
 Reis, Antonio N. dos, Grain, 92; Wines, 117.
 Reis, Antonio Simoes dos, Beans, 90.
 Reis, Jayme Batalha, Portugal, 284, 285.
 Reis, L., Silk, 75.
 Reiser, Dr., Wine, 16.
 Reither, Dr., Germany, 215.
 Reixados, A., Wine, 88*d*; Chocolate, 88*dd*.
 Reixo, José Antonio Nunes, Wine, 108.
 Relvas, Carlos, Wine, 117.

- Remak, G., Germany, 215.
 Remington, E., & Sons, Plows, etc., 26; Carriage gearing, 37.
 Rennie, Wm., Grains, 44.
 Rentschler, D. & H., Grain and seed drills, 28.
 Repnin, P., Linseed, 124; Flax, 126.
 Reppard, R. B., Timber, 135.
 Requejo, M., Wine, 88cc.
 Requena, M., & Sons, Wine, 88bb.
 Resende, L. de, Silkworms, 75.
 Resoagli, L., Boxes, 76.
 Ressler, H. & G., Wagons, 135.
 Retamoso, Count of, Liquors, 88w.
 Reuleaux, F., Germany, 215.
 Reus Flour Association, Wheat, 88h.
 Reus, Industrial Flour Mill of, Flour, 88r.
 Reuter & Alley, Ale, 136.
 Revila, A., Wine, 88cc.
 Revillon Bros., Peltries, 49.
 Rey, L. J., Sugar, etc., 88s.
 Rey, M. P., Hazelnuts, 88a; Cereals, 88f; Olives, 88g; Beans, 88k; Onions, 88m; Potatoes, 88s; Wines, 88z.
 Reyes, A., Laurel, 130; Abacá, 133.
 Reyes, J. A., Wine, 88w.
 Reyes, Juana, Cotton, 132; Abaca, 133.
 Reyes, Vicente, Wine, 132.
 Reyes y Rich. J. A., Barley, 88e; Beans, 88f; Olive oil, 88ff.
 Reynolds, A. J., & Co., Evaporators, 37.
 Reynolds, E. D. & O. B., Gang plows, 26.
 Rezendé, L. de, Silkworms, 71.
 Rhenish Sparkling Wine Co., 54.
 Rhode Island Horseshoe Co., Horseshoes, 38.
 Rhodes & Waters, Digger, 36.
 Riarola, R., Cereals, 88h; Olive oil, 88gg.
 Ribas, A. L. d'Andrade, Cigarettes, 70.
 Ribas, J. L. Sã, Tobacco, 70.
 Ribas, Limas, Olives, 91; Wines, 107.
 Ribas, Simao, Grain, 95.
 Ribeiro, Francisco Maria, Wine, 111.
 Ribeiro, J. A. F., Chocolate, 69.
 Ribeiro, J. Lopes, Corkwood, 89; Grain, 96.
 Ribeiro, Joaquim Antonio, Wine, 112.
 Ribeiro, José Joaquim, Wine, 111.
 Ribeiro, José Rodrigues, Grain, 92.
 Ribeiro, Manuel José, Portugal, 284.
 Ribeiro, Manuel Penafiel, Brandy, 111.
 Ribeiro, S., Coffee, 71.
 Ribeiro, Serafim G., Corkwood, 89; Brandy, 111.
 Riber, Villa, & Puerta, Flour, 88r.
 Ribera, Guarner, & Bros., Vermicelli, 88s.
 Ribero, J., Skins, 83.
 Ribot, E., & Bros., Hemp, etc., 88ii.
 Ricart, J. M., Oil, 88ee.
 Ricart y Sanz S., Wine, 88bb.
 Ricasoli, Bettino, Baron, Wines, 66.
 Ricaumont, de, & Co., Wines, 50.
 Ricci, Emiliano, Liquors, 65.
 Rice, D., & Co., Sylva, 151.
 Rice, J., Contractor, 147.
 Richards & Co., Self-raising flour, 40.
 Richardson, Earp, & Slater, Ale, 41.
 Richardson, J. J., & Co., Confectionery, 23.
 Richardson Manfg. Co., Mower and reaper, 31.
 Richardson, Misses, Cactus, 151.
 Richardson, Peter, Hoops, 134.
 Richardson & Robbins, Canned fruits, 20.
 Richardson, Thomas, Plow, 46.
 Richardson, Wm. H., Machines, 32.
 Richey, Henry A., Tobacco, 17.
 Richmond and Gordon, His Grace the Duke of Great Britain, 173.
 Richmond Plow Works, Steel plows, 25.
 Richter, Frederico, Cereals, 68.
 Rickham, F. M., Wool, 42.
 Rico, A. C., Wheat, 88k.
 Rico, A. P., Wines, 88z; Oils, 88dd.
 Rico, J., Rice, 130.
 Rico, José, Sugar, 132.
 Rico y Albert. A., Wines, 88f.
 Rider, A. J., Cranberries, 38.
 Rieders, M. H., Cigarettes, 16.
 Riego, V., Sardines, 88o.
 Riera y Fernandez, J., Wheat, 88e; Vegetables, 88f.
 Rieter, Col. H., Switzerland, 225.
 Riga Exchange Committee, Flax, etc., 126.
 Rigg, Ben., Soap, 47.
 Riggs, M. B., Potato digger, 31.
 Rijs, Philippe de Jesus, Grain, 56.
 Rijo, Joaquim Antonio, Olives, 104; Oil, 119.
 Riley, Chas. W., Orange Free State, 255.
 Rinaldo, Raffaele, Dried fruit, 64.
 Rincon, J., Olive oil, 88hh.
 Ringwalt, G. P. B., Leaves, 151.
 Rio, A. M., Wool, 121.
 Rio, J. P. del, & Co., Tobacco, 88m.
 Rio, P. del, Olive oil, 88ee.
 Rio, T. R. del, Toads, 81.
 Rio-Grande do Norte, Province of, Cotton, 74.
 Rio-Grande do Sul, Province of, Tobacco, 71.
 Rio-Novo, Viscountess of, Coffee, 71.
 Rio de Janeiro, Military Hospital, Pharmaceutical preparations, 75.
 Rio de Janeiro, Province of, and various other Provinces, Samples of woods, 68.
 Riobó, J. F., Wine, 88y.
 Rion, J. H., Cork-oak, 153.
 Rios, E., Tropical fruits, 88b.
 Riuseco, Corporation of, Wheat, 88h.
 Ripley, Theodore, Shovel scraper, 36.
 Ripolles y Perez, M., Brandy, 88z.
 Riscal de Alegre, Marquis of, Seeds, 88n; Wine, 88s; Nettle, 88ii; Cocoons, 88j.
 Riso, P., Cherimolia, 77.
 Riso, V., Wheat, 79.
 Risques, Augusto, Cereals, 56.
 Ritsch, F., Roots, 77.
 Ritter, L., Garden seeds, 124.
 Ritter, Philip J., Butter, 20.
 Riudaveit y Femenias, F., Milk, 88o; Non-fat, 88r.
 Rivas, F., Wine, 88z.
 Rivas, G. R., Peas, 88k.
 Rivas, P., Wheat, 88h.
 Rivas, P. de, Beans, 88k.
 River Bermejo Navigation Co., Wood, 76.
 Rivera, A. M., Wines, 88r.
 Rivera, Gregorio, Fibres, 133.
 Rivera, Guarner, Chocolate, 88cc.
 Rivera, L. de, Bark, 133.
 Rivera, R., Wine, 88y.
 Rivero, T., Almonds, 88b.
 Rivière, Gardrat, & Co., Brandies, 50.
 Riu-kiu han, Fibres, 129.
 Rixas y Morillas, Barley, 88g.
 Rizo, Isidoro, Coffee, 80; Cotton, 86.
 Roa, A., & Son, Cotton, 132.
 Roberts, S. G. de, Wine, 88z.
 Robert, A., Belgium, 228.
 Robertson, T., Plants, 151.
 Robinson, C., New South Wales, 180.
 Robinson, George, Corkwood, 90.
 Rohira y Grau, J., Wines, 88u.
 Robles, S., Olive oil, 88hh.
 Robles, V., Pelt, 88ii.
 Robo, M. P., Wax, 88p.
 Robollo, Domingos Jose, Wine, 112.
 Robres, S. G. de, Almonds, 88c.
 Roca, B., Fish, 88n; Preserves, 88p; Wine, 88z.
 Rocamora, J., Leather, 88o.
 Rocamora, P., Brandy, 88aa.
 Rocha, A. C. da, Oil, 119.
 Rocha & Co. da, Snuff, 71.
 Rocha & Co., Guano, 122.
 Rocha, Feliciano A. da S., Fish, 104.
 Rocha-Ferreira, D. da, Tobacco, 71.
 Rocha, Francisco Coelho da, Corks, 89.
 Rocha, Ignacio da, Pine lumber, 68.
 Rocha, Jose Alexandre da, Wine, 108.
 Rocha-Leao, M. da, Coffee, 71.
 Rocha, S. de S., Oil, 110.
 Rochambeau, Marquis de, France, 209.
 Rochester Agri. Works, Reapers, etc., 29.
 Rochester, I., Pine, 134.

- Roco Bros., Pomegranates, 88*a*; Syrup, 88*s*; Wine, 88*y*.
- Roco, Vinardell, Preserves, 88*y*.
- Roco y Murra, R., Alcohol, 88*uu*.
- Rodo, L. P. de, Coffee, 130.
- Rodvalho, P., Matte, 71.
- Rodrigues, Antonio Caetano, Wines, 111.
- Rodrigues, Antonio Eiro, Brandy, 111.
- Rodrigues, Antonio Manuel, Sausages, 103.
- Rodrigues, F. P., Beans, 99*j*; Wine, 103.
- Rodrigues, J., Flax, 120.
- Rodrigues, J. J. L., & Sons, Wine, 108.
- Rodrigues, Joao Antonio, Wine, 117.
- Rodrigues, José Galhardo, Macaroni, 106.
- Rodrigues, Leito J. J., & Sons, Wines, 106.
- Rodrigues, M. A., Corkwood, 89; Wine, 112; Oils, 119.
- Rodrigues & Nephew, Preserved meats, 103.
- Rodriguez, A., Wheat, 130.
- Rodriguez, B. N., Wheat, 88*c*.
- Rodriguez, E., Wool, 88.
- Rodriguez, F. M., Barley, 88*c*; Peas, 88*f*.
- Rodriguez, J., Olive oil, 88*ee*; Cereals, 88*f*.
- Rodriguez, J. R., Olive oil, 88*ff*.
- Rodriguez, J. T., Wines, 88*r*.
- Rodriguez, José, Maguey, 133.
- Rodriguez, L., Seeds, 131; Sugar, 132.
- Rodriguez, M. I., Fruits, 88*b*; Cereals, 88*f*; Flax, 88*i*; Vegetables, 88*k*; Tubers, 88*m*.
- Rodriguez, R., Wheat, 80*c*.
- Rodriguez, S., Resins, 77; Wines, 83.
- Rodriguez, T., Wheat, 88*f*.
- Rodriguez, V., Butter, 88*o*.
- Rodriguez, Victor, Retortuno, 77; Grass, 78; Wines, 83.
- Rodriguez y Gomez, C., Peas, 88*k*.
- Rodriguez y Rodriguez, F., Wheat, 88*i*.
- Rodriguez, Z., Cereals, 83*f*; Carobs, 88*k*.
- Roederer, T., & Co., Wines, 50.
- Roehrs, I., Begonia, 151.
- Roempier, L., Plants, 157.
- Roepel, J. F., Macaroni, 54.
- Roger, jr., & Co., Millstones, 52.
- Roger, Son, & Co., Millstones, 48.
- Rogers, C. B., Seeds, 18; Cultivators, etc., 25.
- Rogers, Francis P., Milk cans, 35.
- Rogers, John S., Gelatine, etc., 18.
- Rogers, M., Egypt, 252.
- Roquette, José Ferreira, Seed, 96.
- Roibon, E., Wood, 76; Cord, 87.
- Roibon, F., Paintings, 76.
- Roig, P., & Co., Wine, 83*aa*.
- Roig y Sancho, I., Wine, 83*aa*.
- Roig y Serra, J., Wines, 83*aa*.
- Rojas Aguado, J., Wine, 88*s*.
- Rokat, J., Vinegar, 50.
- Rolau, M., Olive oil, 88*ee*.
- Rolau, M. M., Wine, 8*uu*.
- Rolker, A., & Sons, Flowers, 151; Stands, 153.
- Rolleston, C., New South Wales, 180.
- Roma, J. M. Goncalves, Wine, 112.
- Roman, J., Wood, 77.
- Roman, J. P., Honey, 88*f*.
- Roman, Medardo, Wheat, 80.
- Roman, S., Cereals, 88*d*.
- Romano, Gaetano, Sumac, 63.
- Romany, Vicente, & Sons, Wines, 88*s*.
- Romao, Joanna Balbina, Sweetmeat, 103.
- Romao, Visc. of Villarhino, Portugal, 285.
- Romco, Michele, Wine, 65.
- Romer & Son, I., Wine, 66.
- Romero, A. S., Wool, 88*ff*.
- Romero, E., Brandy, 88*s*.
- Romero & Ferrin, Preserves, 88*y*.
- Romero, J., Liquors, 88*y*.
- Romero, J. P., Cereals, 88*f*; Chestnuts, 88*y*.
- Romero, M. C., Grapes, 88*a*; Wine, 88*t*.
- Romero, R. E., Ropes, 88*ii*.
- Romero, R. G., Wine, 88*y*.
- Romero y Romero, J., Rye, 83*f*; Flax, 88*i*.
- Ronerotoro, Marquis of, Dried fruit, 83*y*.
- Ron, A., & Son, Coffee, 131.
- Ron, R., Wheat, 88*e*; Olive oil, 88*ff*.
- Ronchetti, Valentin, Pickled partridges, 85.
- Ronco, G., Peas, 88*k*.
- Ronnberg, A., Belgium, 229.
- Ronneberg, Carl A., Salt fish, 61.
- Ronzani, Camillo, Beer, 66.
- Rooke, H. A. P., Great Britain, 173.
- Roos, A., Beer cooler, 137.
- Root, D., Son, & Co., Plows, 26.
- Roquette, Francisco Ferreira, Portugal, 284.
- Roquette, José Ferreira, Wine, 112.
- Rosa de Jesus, Maria Angelica, Vegetables, 97.
- Rosa, J. da Graca, Wool, 121.
- Rosa, J. de la, Wool, 88*ff*.
- Rosa, Joaquim M. V., Honey, etc., 103.
- Rosa, José da G. P., Grain, 92; Honey, 102.
- Rosa, José Maria, Wine, 112.
- Rosa, Rosauo de la, Corn, 78.
- Rosa & Son, Sugar, 132.
- Rosa y Silva, Maize, 88*g*; Wine and brandy, 88*z*; Oil, 88*gg*.
- Rosado, Antonio J. da S., Honey, etc., 103.
- Rosado, Joao A. M., Olives, etc., 103.
- Rosaria Sub-commission, Skins, 83.
- Rosario, Tala, Stuffed birds, etc., 81.
- Rosas, M., Cereals, 88*f*.
- Rose, Miss S., Beer, 137.
- Rose, W. L., Cotton-tie, 38.
- Rosenbaum, F., Birds, 18.
- Rosenkrone, Baron, Grain, 61.
- Rosenstein, B., Wines, 53.
- Rosenstock, G., Tobacco, 70.
- Rosenthal, I., Wheat, 55.
- Rosette, José, Grain, 92.
- Rosing, Ulrik, Mask for killing cattle, 62.
- Rosing's, A., Widow, Condensed milk, 61.
- Rospigliosi, Clemente, Wine, 66.
- Ross, E. W., & Co., Straw cutter, 35.
- Ross, George, Plows, 46.
- Ross, John, Mills, 33.
- Ross, R. D., South Australia, 184.
- Rossi, Cav. Cesard Leopardi, Olives, 63.
- Rossi, E., Plow, 67.
- Rossi, Leopardi Cav., Wine, 65.
- Rossi, Tedeschi Francesco, Wine, 65.
- Rossi, Vittorio, Vermouth, 65.
- Rössler, A., Wines, 54.
- Rothchild, Joseph, Corn-planter, 28.
- Rothe & Thorndike, Wines, 53.
- Rothschild, Baron A. de, France, 209.
- Rouget, P., Cordials, etc., 126.
- Roullé, E., Wines, 50.
- Rousseau Bros., Liquors, 50.
- Roussillon, J., & Co., Wines, 50.
- Rouyet, Guillet, & Co., Brandies, 50.
- Roverano Bros., Sweetmeats in syrup, 85.
- Rovere, Caetano Olympio, Portugal, 285.
- Rowand, Hillman, & Son, Charcoal, 15.
- Rowland, T., & Sons, Shovels, spades, 26.
- Roy, Ponsetti, & Co., Hazelnuts, 83*b*.
- Royal Swedish Com., Fish, 59; Bread, 60.
- Royal Wine Company, Wine, 115.
- Royal Wurtemberg Furnaces, Scythes, 54.
- Royce, John S., Reapers, 29.
- Royo, D., Wheat, 88*b*; Blue vetch, 88*f*.
- Royo, M., Strawberries, 88*r*; Alcohol, 88*cc*.
- Roza, Julia, Preserved orange, 104.
- Rozas, M., Wheat, 88*f*.
- Rua, Manuel Ribeiro, Grain, 92.
- Ruata, J., Claret, 88*r*.
- Rubea, M., Wine, 88*r*.
- Rubidge, C., Grease wool, 43.
- Rubisco, C., Wax, 88*o*.
- Rubisco, C. C., Cereals, 88*d*; Beans, 88*f*.
- Ruddenkian, J. G., Wheat, 42.
- Rudolph, F., Wine, 88*r*.
- Rue, Geo. W., Garden cultivator, 31.
- Rue, J. Chalmers, Gang plow, 26.
- Rue, Miss Lizzie, Models, 151.
- Ruffino, Geronimo C., Corn, 78; Raisins, 84.
- Ruivo, Joao Lopes, Grain, 93.
- Ruiz, Clemente, Corn, 78; Skins, 83.
- Ruiz, Clemente S., Nuts, 84.
- Ruiz, F. E. de Chocolate, 83*dd*.
- Ruiz, F. M., Brandy, 83*o*.

Ruiz, G., White corn, 78.
 Ruiz, J., Coffee, 131.
 Ruiz, R., Wines, 88*v*.
 Ruiz, S., Rice, 88*v*.
 Rulsann & Horrman, Beer, 137.
 Rumford Chemical Works, Yeast powder, 23;
 Fertilizers, 36.
 Runkel, H., & Co., Chocolate, etc., 24.
 Ruppert, J., Beer, 137.
 Russ & Co., M. H., Hops, 56.
 Russell, C., & Co., Self raker, 29.
 Russell, G., New South Wales, 180.
 Russell, Wm., Horse shoes, 38.
 Russia, Statistics of, 289.
 Russian Society of Forestry, Seeds, 123.
 Russo, Biagio, Paste for soup, 64.
 Rustem Effendi, Turkey, 288.
 Rutherford, A. W., Wool, 42.
 Rutschman Bros., Self-feeding hand drill, 28.
 Rund, J. A., Pale ale, 62.
 Ryder, B. L., Dryer, 37.
 Rymarenko, M., Tobacco, 124.
 Rynal, P. H., Cattle food, 38.

S.

Sa, Antonio A. do C. e, Grain, 96; Honey,
 etc., 103.
 Sa, Antonio Manuel da Cunhae, Wine, 109.
 Sa, José Felipe de, A. de B., Wine, 117.
 Sa, Sabino Barros de, Honey, etc., 103.
 Saal & Schlich, Beer wagon, 138.
 Saarbach, E., & Co., Wines, 54.
 Saatchi & Mangoobi, Tobacco, etc., 124.
 Saavedra, F., Peas, 88*h*, 88*k*.
 Saavedra, J. M., Beans, 88*l*.
 Sabatier-Granier & Son, Wines, 50.
 Sachetti, C. B., Oil, 118.
 Sacristan, T., Wheat, 88*c*.
 Sadoine, E., Belgium, 229.
 Saenz, E. L., Olive oil, 88*ee*.
 Saenz, L., Wines, 88*y*.
 Saenz, V., Skins, 83.
 Safarana, A. T., Beeswax, 72.
 Safon, A., Vegetable hair, 88*ii*.
 Saga-ken, Government of, Tobacco, 128.
 Sagiosa, Viscountess of, Wine, 110.
 Sahlmann Bros., Beer, etc., 54.
 Sainz, M., Peas, 88*c*, 88*f*.
 Saiz, C. L., Wheat, 88*c*.
 Sala, Count Della, Turkey, 288.
 Sala, E. de, Almonds, 88*a*.
 Salarich, J., Silk, 88*j*.
 Salas, F. S., Wine, 88*v*.
 Salazar, M. M., Oil, 119.
 Salazar y Cuebas, P., Wheat, 88*e*.
 Salcede, A. P., Esparto grass, 88*ii*.
 Salcedo, J. L., Wine, 88*z*.
 Salcedo y Gamez, Olive oil, 88*ff*.
 Saldanha, Capt. Luiz de, Brazil, 263.
 Saldanha, Dr. José de, Brazil, 63.
 Salema, Mattas, & Co., Corks, 90.
 Salerno Special Com., Manna, 63; Paste, 64.
 Salgado, Antonio Lopes Vidigal, Wine, 109.
 Salgado, C., Wine, 88*y*.
 Salgado, Domingos, Wine, 114.
 Salgado, J. M., Wine, 88*y*.
 Salgado, Julio Eivar d'Azevedo, Corkwood,
 89; Seed, 96; Dried pears, 105.
 Salgado, Marianno Roza, Beans, 99.
 Salgado, P. A., Wine, 88*y*.
 Salgueira, José Anelino Alfonso, Corn, 93.
 Salgueiro, Baroness, Wine, 113.
 Salibra, Antonino, Wine, 66.
 Salicath, Oscar, Sugar drops and punch, 62.
 Salinas, F., Wine, 88*x*.
 Salivia, F., Rice, 130.
 Salles, José Joaquim Pereira, Corkwood, 89.
 Sallés, S., Wine, 88*z*.
 Salt, J., Tree, 153.
 Salta, Provincial Com. of, Seeds, 76; Wheat,
 79; Lines, etc., 81; Skins, 82; Cotton, 87;
 Hair work, 88.
 Salvadios, G. D.; Peas, 88*k*.
 Salvadó, J., Wax, 88*o*.
 Salvadó, M., Wine, 88*b*, 88*aa*.
 Salvadó, Mateo., Olive oil, 88*gg*.
 Salvadó, S., Hazelnuts, 88*b*; Olive oil, 88*gg*.
 Salvador, S., Carobs, 88*l*.
 Salvisberg, Mr., Switzerland, 225.
 Salvo, Salvatore de, Wines, 65.
 Samaniego, M. G., Wheat, 88*g*.
 Samar, Provincial Board of, Rice, 130.
 Samoggia, Gaet., & Bros., Sausages, 64.
 Sampaio, Alexandre T. de M., Seed, 98.
 Sampaio, J. M. Leite, Unhulled rice, 69.
 Sampaio, José da Cunha, Wines, 114.
 Sampedr, J., Wheat, 88*f*.
 Samper, R., Olives, 88*h*.
 Sampietra, A., Wine, 88*x*.
 Sanabria, J., Sausages, 88*h*.
 San Bernardo, Count of, Beans, 88*j*; Olives,
 88*g*, 88*ee*.
 San Carlos, Sub-commission of, Cocoons, 88.
 Sanchez, A., Wine, 88*v*.
 Sanchez, A. C., Oranges, 88*b*.
 Sanchez, B. I., Flour, 88*r*.
 Sanchez, B. N., Wheat, 88*g*.
 Sanchez Bros. & Granados, Grapes, 88*a*.
 Sanchez, F., Wheat, 88*f*.
 Sanchez, F. P., Wheat, 88*g*.
 Sanchez, J., Barley, 88*c*.
 Sanchez, J. A., Wine, 88*s*; Olive oil, 88*gg*.
 Sanchez, J. F., Beans, 88*j*.
 Sanchez, M., Wheat, 88*d*.
 Sanchez, M. R., Cereals, 88*c*.
 Sanchez, Modesto, Beans, 80; Viper, 81;
 Grapes, 84.
 Sanchez, R. H., Honey, 88*p*.
 Sanchez, S., Seed, 88*u*; Panic grass, 88*d*.
 Sancta Catharina, Presidency of, Coffee, 69,
 71; Flour, 73; Thread, 75.
 Sancta Maria de Soledade, Cotton, 74.
 Sande, O., Cyperus, 88*i*.
 Sande Olivares, J. de, Peas, 88*i*.
 Sandeman & Co., Wines, 114.
 Sandford, Col. Herbert, Great Britain, 173.
 Sandon, Rt. Hon. Visc., Great Britain, 173.
 Sandoval, J. J., Oil, 88*dd*; Esparto grass, 88*hh*.
 Sandpichler, Leopold, Candied fruit, 55.
 Sandusky Machine & Agricultural Works,
 Corn sheller, 34.
 Sandwich Manufacturing Co., Harvester, 31.
 Sanguinetti, P. A., Boxes, 153.
 Sanhoso, José Regoa, Ra'sins, etc., 103.
 San Isidro, Parson of, Baik, 133.
 San Juan, Provincial Commission of, Prepared
 skins, baskets, 81; Skins, 83.
 San Luis, Com. of, Resin, 77; Beans, 79;
 Nest, 81; Skins, 82; Cotton, wool, 87.
 San Paulo, Province of, Cotton, 74.
 San Roman, A. L. de, Liquors, 88*u*, 88*y*.
 San Vicente, Justice of, Horse-hair, 88.
 Sanroma y Bonda, D., Mistela, 88*aa*.
 Sans, J., Widow of, Leather, 88*o*.
 Sans, N. Roca, Potatoes, 80.
 Sant'Anna, Baron of, Portugal, 285.
 Santa Anna, José Candido de, Olives, 105.
 Santa Catalina, Agricultural School of, Bee-
 hives, 76; Beans, corn, grasses, 78.
 Santa Clara Convent, Sweetmeat, 104.
 Santa Clara, F. de P., Grain, 92; Oil, 119.
 Santa Coloma, Isaac, Raisins, 54.
 Santa Fé, Provincial Commission of, Woods,
 76; Dry lucern, 80; Wolf, lion, etc., 84.
 Santa-Maria da Soledade, Grain, 69.
 Santa Maria Sub-com., Corn, 79; Skins, 82.
 Santa Marta, Marquis of, Wool, 88*jj*.
 Santa Martin, M., Olive oil, 88*ff*.
 Santacana, J., Wine, 88*u*.
 Santaló, E., Wheat, 88*d*; Olive oil, 88*ee*.
 Santamarina, J., Olives, 88*g*.
 Santarelli Bros., Wines, 88*v*.
 Santiago del Estero, Prov. Com. of, Woods, 77;
 Wheat, 80; Flour, 85; Fibre, 87; Cacti, 159.
 Santullán Bros., & Co., Skins, 82.
 Santivañez, P. J. C. de; Olive oil, 88*ad*.

- Sande Olivares, J. de, Peas, 88*f*.
 Santos, A., Rice, 130.
 Santos, Antonio dos, Wine, 114.
 Santos, Antonio Ferreira dos, Grain, 93.
 Santos, Antonio Joaquin, Beans, 98.
 Santos, Antonio Vicente dos, Wine, 112.
 Santos, Ascencios José dos, Nuts, 91; Beans, peas, 97; Sweetmeats, etc., 103.
 Santos, C. dos, Coffees, 71.
 Santos & Ferreira, Preserved vegetables, 72.
 Santos, J. M. dos, Oil, 118.
 Santos, Joao Bernardo dos, Wine, 109.
 Santos, Joaquin F. S., Honey, 103.
 Santos, Joaquin Ferreira, Beans, 99.
 Santos, Jose Fogaco de C. e, Wine, 112.
 Santos, Luis Marcelino dos, Honey, 101.
 Santos, M. A. dos, Tobacco, 70.
 Santos, Narcizo José dos, Charcoal, 100.
 Santos, P., Cereals, 88*e*; Beans, 88*f*.
 Santos Reis & Co., P. A. dos, Silk, 75.
 Sañudo, R. T., Wine, 88*b*.
 Sanz, V., Coffee, 130.
 Sanz y C. Iatañzor, J., Peas, 88*f*.
 Sanz y Salvá, F., Olive oil, 83*gg*.
 Saperas, F., Wheat, 88*z*, 88*z*.
 Sarafana, Felix, Wax, 68.
 Saravia, Francisco Martins, Nuts, 90; Fruits, 91; Cereals, 95; Cheese, 99; Wool, 121.
 Saramago, Francisco Ferreira, Corkwood, 90; Almonds, 91; Honey, 101.
 Sarda, P., Wine, 88*z*.
 Sardinha, Resins, 68; Wine, 74.
 Sardinha, J. M. da S., Grain, 93; Wool, 121.
 Sarmiento, A. F., Wine, 114; Flax, 120.
 Sarmiento, Bernardo Figueiredo, Wines, 114.
 Sarmiento, M. G. de, Wool, 121.
 Sarmiento, A. A., Wheat, 88*z*.
 Sarmiento, J. L., Corn, 78; Raisins, 84.
 Sarro y Salat, A., Brandy, 88*aa*.
 Sasatin, Leoncia, Sugar, 132.
 Sasót, J., Wheat, 88*f*.
 Sato, I., Tea, 128.
 Sato, S., Tea, 128.
 Sattler & Co., Whisky, 22.
 Saucian, C., Cocoa, 131.
 Saunders, Robert, Ore dresser model, 43.
 Saunders, W., Plants, 151.
 Saur, Usteri, Switzerland, 225.
 Sauvage, C. Vendas Novas, Brandy, 112.
 Sauvour, J., Belgium, 229.
 Savorini, Francesco, Liqueurs, 66.
 Sawada, Z., Liqueurs, etc., 129.
 Sawyer, L. D. & Co., Mower, 46.
 Say, C., Sugar, 50.
 S. Bento d'Ave Maria Convent, Fruit, 104.
 Scala, Baron S. della, Sumac, honey, wax, 63.
 Scala, Giuseppe, Wines, 66.
 Scala, Pasquale, Wine, 66.
 Scals, J., Almonds, 88*z*; Wheat, 88*c*; Wine, 88*z*.
 Scantlin, Thos., & Sons, Sugar evaporator, 37.
 Scarizza, Giovanni, Liqueurs, 56.
 Scattergood, H. V., Cotton gin, 32.
 Schade van Westrum, J. C., Gin, 58.
 Schaffer, William L., Maize and sheaf, 16; Sago palms, 152.
 Scharhaus, John, Mashing machine, 139.
 Schalk, C. W., Malt mill, 138.
 Schall & Co., Ornamental confectionery, 23.
 Schamalake, Barly, 68.
 Scharf, Louis, Water cooler, 34.
 Scharr, E. E. A., Belgium, 229.
 Schary, Johann Michael, Hops, 55.
 Schauz, C., Wagons, 135.
 Scheele, G. von, Cereals, 59.
 Scheffer, Melchior, Barley, 68.
 Scheidecker, C., Shearers, 52.
 Scheierman & Co., Vinegars, 126.
 Schellhorn, Wines, 53.
 Schenck, Dr., Switzerland, 225.
 Schenck, Marcus P., Fruit press, 34.
 Schenck, P. C., jr., Mower and reaper, 29.
 Schenkel, August, Wine, 56.
 Schepp, Leopold, Desiccated cocoon, 20.
 Schere, S., Barley and malt, 136.
 Scherzinger, W., Tobacco, 53.
 Schild, Joao, Cigars, 70.
 Schimmelpfung, A., Rye flour, 72.
 Schimmelpfung, A., Wool, 75.
 Schimper & Immen, Mashing machines, 139.
 Schirod, Chr., Wheat, rye, corn, etc., 61.
 Schlemmer, August von, Malt, 139.
 Schlesinger Bros., Hops, 136.
 Schlitz, Jos., Brewing Co., Beer, 137.
 Schlotterer, S., Beer, 137.
 Schmahl, M., Copper-washing apparatus, 138.
 Schmalz, George, Leather, 55.
 Schmid, Bernheimer, & Co., Malt, 136.
 Schmidt & Kett, Wines, 53.
 Schmidt, T., Denmark, 236.
 Schmitle & Kohne, Beer, 137.
 Schmitt, Franz, Leather, 55.
 Schmitz, Theo., Measures, 139.
 Schnabel, Julius, Brandy, 56.
 Schneider, Edward Albert, Ess. of beef, 40.
 Schneider & Schorn, Rum, 54.
 Schober, J. H. S., Flour, 57.
 Schoenich, Charles, Russia, 294.
 Schoki, Málaga, 88*cc*.
 Scholander, F. W., Sweden, 240.
 Schomburgh, Dr., South Australia, 184.
 Schoonmaker, Henry, Cereals, 16.
 Schörke, A., Syrups, 53.
 Schrazer, P., Cocoons, 75.
 Schroeder, Nicolas, Leaf tobacco, cigars, 81.
 Schuling, G., Corn, 79.
 Schulmann & Co., Wine, 73.
 Schultz, A., Isinglass, etc., 124.
 Schulz & Reuter, Wines, 53.
 Schumacher, E., Switzerland, 225.
 Schumacher, Ferd., Oatmeal, etc., 21.
 Schurmann, Biscuits, 118.
 Schütt, A., Wines, 54.
 Schuttler, Peter, Wagons, 135.
 Schwaner & Amend, Beer, 1, 7.
 Schwartz's, A., Successors, Wine, 56.
 Schwarz & Sons, Hops, 55.
 Schwarzman, H. A., Architect, 147.
 Schwarzwalder & Son, Kegs, 138.
 Schweikart, A., Wool, 88.
 Sciacca, della Scala, Dried figs, 64.
 Scoccholini, Adone, Mustard, 63.
 Scott & Co., Oatmeal, 44.
 Scott, J. R., & Co., Hops, 136.
 Scott, Robert, Geraniums, 154.
 Screw Mower & Reaper Co., Grain drills, 28.
 Scuder, Giuseppe, Wine, 65.
 Seabra, A., Wines, 114; Oil, 118.
 Seabastean, Jacob, Wagon, 135.
 Sebastiao, S., Viscount of Leiria, Brandy, 117.
 Secrétan, E., Copper, 48.
 Sedo, J. V., Wheat, 88*f*.
 Seed, Frederick, Churn, 35.
 Segundo, F., Wine, 88*z*.
 Ségur & Obier, Paté de foie gras, 49.
 Segura, J., Grits, 88*s*.
 Seher, H. L., Leeches, 18.
 Seiberling, J. F., Mower and attachments, 29.
 Seibrecht, H. A., & Co., Rock-work, 155.
 Seidenbruch & Co., Cigars, 17.
 Seidler, C., Tobacco, 70.
 Seiger, I., Beer, 137.
 Seignouret Bros., Wines, 51.
 Seixas, Firmino, Portugal, 284.
 Seixas, José M. A. de, Beans, 99; Wine, 117.
 Sekizawa Akekio, Japan, 267.
 Selby, James, & Co., Corn planter, 27.
 Seligsberg, A., Tubs, grain box, 138.
 Sellers, J., jr., Plants, 152.
 Sellés, J., Maize, 88*c*, 88*r*.
 Sells, Hugh, Cider mills, 46.
 Selser & Bro., Canned fruits, 20.
 Semenkov, V., Meat extract, 124.
 Semide Convent, Preserved turnips, 104.
 Sena, Joao Pereira, Honey, 101.
 Sencadas, M. G. M., Flax, 120.
 Seneca Co. Agricultural Society, Grains, 16.
 Senna Bello, M. T. de, Oil, 119.

- Senna, N. B. de, Tobacco, 70.
 Sensenberger, Wm., Rennet, 19.
 Sensfelder, A., Manure, shearers, 52.
 Sepper, H., Matte, 70.
 Sepulveda, V. M. de, Olive oil, 88cc.
 Sequeira, Luis Clemente de, Wine, 114.
 Sequeira, Pedro Victor da C., Portugal, 284.
 Sequeira e Sa, Francisco Theo., Wine, 112.
 Sequeira, Thomaz Victor da C., Portugal, 285.
 Serreiz, E. C., Carobs, 887.
 Sereto, Domingos Francisco, Wine, 109.
 Sergeieff, Alexis, & Apraxin, Sugar, 125.
 Serodio, José Antonio Gonçalves, Wines, 114.
 Serpa, F. L., Oil, 119.
 Serra, Joaquim, Honey, etc., 103.
 Serra, O., Preserves, 889.
 Serrado, Viscount of, Wine, 109, 114.
 Serrano, J., Implements, 887j.
 Serrano, J. L., Wax, 88b, 88z.
 Serrano, M., Wine, 88cc.
 Serrano, M. P., Wheat, 88g.
 Serrano, M. R., Wine, 88s.
 Serrano, T., Wheat, 88d.
 Serrano y Fernandez, F., Wheat, 88h.
 Serrazanetti, Giovanni Anzola, Tomato sauce, etc., 64.
 Server & Brenz, Wagons, 135.
 Serzedello, J. P., Asparagus, olives, 104.
 Sessler, Moritz, & Leopold, Malt, 56.
 Seve, Sr. Don Eduardo, Chili, 267.
 Sevilla, J., Wheat, 88f.
 Sevilla National Manufactory of Tobacco, Tobacco, 88m.
 Seychelles Archipelago, Statistics of, 196.
 Seyler, F., Wines, 53.
 Seymour, John B., Seed-planter, 28.
 S. Francisco, Municipality of, Woods, 63.
 Shada, O. S., Coal, 138.
 Shafer, J. Calvin, Fruit syrups, etc., 22.
 Sharmon & Foster, Mower, 46.
 Sharp, J. S., Butter, 45.
 Shatloff, J., Grain, 123.
 Shaw, Philander, Machines, 35; Beehive, 38.
 Sheble & Fisher, Hay forks, etc., 25.
 Sheeler, Backwater, & Co., Machines, 32.
 Sheep-wool Washing Co., Cleaned wool, 56.
 Shelton Tobacco Curing Co., Hanger, 16.
 Sherrer, Edward, Turkey, 288.
 Sherrard, L. J., Victoria, 182.
 Shields & Bro., Huskers, 33; Rings, etc., 37.
 Shiga-ken, Government of, Tobacco, 128.
 Shigenao, Isuchiya, Japan, 259.
 Shipley, A. B., & Son, Fishing tackle, 18.
 Shippen, Edward, Argentine Rep., 265; Chili, 267.
 Shirakawa-ken, Government of, Tobacco, 128.
 Shove, G. A., Designs, 153.
 Shreiner, J. H., Machines, 32.
 Shuck, Saml., Anti-nervous cigars, 17.
 Siccoli, Guido, Wine, 66.
 Sick, C., Beer, 54.
 Sidenbladh, P. E., 240.
 Sidoroff, M., Woods, 123; Fish, 124.
 Siebenburger Wine Association, Wines, 55.
 Sieber, France, 209.
 Siegfried, Wines, 53.
 Siegfried, Col., Switzerland, 225.
 Sierra, Marquis of, Viesca de la, Wine, 882.
 Sierra, R. de la, Occiput of ostrich, 83.
 Siwert, M., Dyes, 77.
 Sifredi, J. B., Brandy, etc., 88u.
 Silges & Ferrando, Hides, 82.
 Silk Mfg. Co., Silk balls, 122.
 Silliman, James R., Pine, 134.
 Silva, A. Augusto da, Wine, 109.
 Silva, A. Ignacio da, Tobacco, 70.
 Silva, A. L. da, Corn, 93; Flour, 106; Flax, 121.
 Silva, Antonio da, Wine, 114.
 Silva, Antonio Ferreira da, Wine, 114.
 Silva, Antonio Jose da, Cherry tree, 90; Grain, 95; Seed, 96, 97; Beans, 99; Wine, 112.
 Silva, Antonio Mannel, Flour, 106.
 Silva, Antonio Martins da, Wines, 109.
 Silva, Antonio Mendes da, Honey, 101.
 Silva, Antonio Ires da, Wines, 109.
 Silva, Antonio Xavier Torres e, Wine, 114.
 Silva & Arcos, Wines, 88z.
 Silva, C. da, Larangirha, 74.
 Silva, C. J., & Sons, Cc fec, 69.
 Silva, Carneiro da, Manioc flour, 72.
 Silva Carvaiho, Jose Leonardo da, Grain, 93.
 Silva & Cosens, Wine, 108.
 Silva, D. d'A. e, Flax, 120.
 Silva, Daniel Pereira da, Wines, 109.
 Silva, Diogo Monteiro, Wax, 101.
 Silva, Domingos, Woods, 68; Olives, 103.
 Silva, E. da C. e, Biscuits, 118.
 Silva, E. R. da, Bread, 118.
 Silva, Eliza Ludovina da, Wines, 116.
 Silva, Ernesto de Mendonca, Wine, 109.
 Silva, F., Araza, 80; Cotton, 86.
 Silva, F. J. X. da, Cotton, 74.
 Silva, Francisco Can'ico da, Wine, 109, 117.
 Silva, Francisco da, Red wine, 106.
 Silva, Francisco Ferreira da, Sausages, 104.
 Silva, Francisco Jose de Bastos, Wines, 109.
 Silva, Francisco Pereira da, Wines, 114.
 Silva, G., Wheat, 887.
 Silva, Gaetano da Luz, Portugal, 284.
 Silva, J. D. de, Wool, 121.
 Silva, J. H. da, Brandy, 73.
 Silva, J. J. C. da, Farina, 73.
 Silva, Jeronimo Jose Alves da, Peas, 99.
 Silva, Jean Migucl, Honey, 101.
 Silva, Joaquim Jose de Freitas e, Wines, 112.
 Silva, Joaquim Medas da, Corn, 93.
 Silva, Joaquim N. da, Acorns, 90; Honey, etc., 102; Oil, 119.
 Silva, Joaquim Ribeiro da, Grain, 96.
 Silva, Joaquim Tavares da Cruz, Seed, 96.
 Silva, Jose Gomes da, Wine, 109.
 Silva, Jose Gonsalves da, Wine, 112.
 Silva, Jose Maria da, Wine, 112.
 Silva, Jose Nunes da, Beans, 98.
 Silva, Leal, & Santos, Preserves, 72; Vermicelli, 74.
 Silva, M. C., & Sons, Tapioca, 73.
 Silva, M. R. da, Oil, 118.
 Silva, Manuel Joaquim da, Woods, 90; Grain, 93; Wine, 112.
 Silva, Marcellino Ferreira da, Seed, 99.
 Silva & Sons, Cocoa, 69.
 Silva, T. R., Chocolate, 88cc.
 Silva, T. R. da, Resins, 68; Oil, 74.
 Silva y Perez, J., Maize 88g.
 Silveira, Joao Vicente da, Wines, 100.
 Silveira, Manuel Jose da, Nuts, 91; Corn, 93; Oil, 118.
 Silveira, N., Aguardente, 74.
 Silver & Deming Mfg. Co., Machines, 32.
 Silveyra, A., Artificial manure, 88.
 Simarro, M., Wine, 88s.
 Simmons & Sons, Ice cream freezer, 35.
 Simo, J. M., Wine, 88aa.
 Simó, P., Wines, 88aa.
 Sinaoes, Antonio Augusto da Costa, Wine, 114.
 Simoes, Francisco, Wine, 109.
 Simoes, Joaquim Antonio, Wine, etc., 114.
 Simon, A., Weather vanes, 138.
 Simone, Raffaele, Paste, 64.
 Simonis, A., Belgium, 229.
 Siqueira, M. B. de, Coffee, 70.
 Sirvent, A., Seed, 88n.
 Sirvent y Oliver, P., Almonds, 88b; Alcohol, 88aa; Olive oil, 88hh.
 Siscar, R., Wine, 88z; Nuts, 88b; Oil, 88hh.
 Sisley, J., Geraniums, 157.
 Sisternes, M., Wheat, 88d.
 Si-illa y Martorell, N., Wine, 88n.
 Sivokhin, E., Honey, 124; Gingerbread, 126.
 S. José, Municipality of, Woods, 68.
 Skinner, E. W., Cane crusher, 34.
 Skinner & Wood, Engine and boiler, 33.
 Skiret Bros., Sugar, 88s.

- Slack, Mrs. J. H., Coste trays, 19.
 Slater, R. P., Malt, 44.
 Sledge, McKay, & Co., Raw cotton, 24.
 Slocuni, W. H., & Bro., Mince-meat, 19; Machines, 33.
 Sloet van Marxveld, Baron, G., Syrup, 58.
 Smet-de Smet, C. de, Belgium, 228.
 Smidt, Joao Luis, Skins, 101.
 Smirnoff, P., Cordials, etc., 126.
 Smith, Aaron W., Horseshoes, 38.
 Smith, David, & Co., Wools, 41.
 Smith, Hamilton E., Churns, 35.
 Smith, Hon. J. T., Victoria, 182.
 Smith's Homeopathic Pharmacy, Soluble chocolate, 24.
 Smith, Isaac, Apple wine, 22.
 Smith, J. C., Grains, 16.
 Smith, J. G., Boiler, 34.
 Smith, J. M., & Son, Steep tub, 138.
 Smith & Lynch, Boilers, 152.
 Smith, Mrs. Gina, Anchovies, 61.
 Smith, Peter E., Sulky plow, 26.
 Smith, R., Ale, 136.
 Smith, R., & Co., Wines, 45.
 Smith, S. W., Flowers, 151.
 Smith & Sons, J. M., Tank, 33.
 Smith, T. & H., & Co., Ess. of coffee, 40.
 Smith, Thomas, & Co., Cakes, 41.
 Smith, W. E., South Australia, 184.
 Smith, Wright, Table sauce, 20.
 Smits, F. H. M., Strong beer, 58.
 Smythe, Earle & Co., Elastic gums, 15.
 Snedeker, David, Preserved fruits, 20.
 Snider Bros., & Co., Cream biscuit, 24.
 Soares, Antonio C. d' A., Vinegar, 108.
 Soares, Bento de Freitas, Portugal, 285.
 Soares, Joao B. R., Seed, 93; Wines, 114.
 Soares, Jose Severino, Wine, 112.
 Soares, O. J., Cotton, 74.
 Soberano & Co., Hazelnuts, 88b, 88z.
 Sobral, B. M. C., Oil, 118.
 Sobral, Jose Joaquim, Wines, 114.
 Sobrinho, Felix F. T., Macaroni, 106.
 Sobrinho, Jose Guerreiro de L., Cheese, 99.
 Sobrinho, Jose Martins Leitao, Wine, 112.
 Sobrinho, Rafael B., Grian, 95; Honey, etc., 102.
 Society "Burchers," Liquors, 88t.
 Society "El Porvenir Agricola," Tobacco, 88m.
 Society of Friends of the Country, Las Palmas, Agave, 88i.
 Society "La Edetana," Rice, 88r.
 Society "Palma y Quesada," Wines, 88w.
 Soeiro, Balthazar Rodrigues, jr., Brandy, 112.
 Sokoloff, J., Tobacco, etc., 124.
 Sokoloff, N., Isinglass, etc., 124.
 Sokolooka Sugar Mfg. Co., Sugar, 125.
 Solá, F., Wine, 88u.
 Sola, J., Cheese, 82.
 Soldan, A., Wine, 88e, 88x, 88j; Vegetables, tables, 88j; Olive oil, 88ff.
 Soldevilla, T. M., Pomegranates, 88a.
 Soler, L., & Co., Brandies, 88cc.
 Soler y Siguier, J., Wheat, 88c.
 Soler y Stussa, V., Vegetables, 88i, 88t, 88d.
 Soler, V., Dyes, 77; Feathers, 84.
 Solfatare de Pozzuoli Manufacturing Co., Manure, 52.
 Solinas, Anas Giuseppe, Wines, 65.
 Sollá, J., Yareta, 77.
 Solnitzky & Mittler, Malt, barley, 55.
 Solonzano, J., Oats, 88f.
 Somoza, R. M. N., Wine, 88t.
 Soria, F. F., Carob seed, 88n.
 Soria, M., Vinegar, 88z.
 Soria, M., de, Wine, 88z.
 Soriano, I. M., Almonds, 88a.
 Sorias y Domenech, J., Beans, 88f.
 Sorro Bros., Skiu, 49.
 Sorver, Cook, & Co., Tobacco, 16.
 Sostres, F., Hazelnuts, 88b.
 Sot's, A., Wine, 88r.
 Sotillo, M., Wine, 88cc.
 Soto, J. D., Peas, 88f.
 Sotomayor, E. A., Wine, 88to.
 Sotorra, A. C., Hides, 83o.
 Soubeyran, Baron de, France, 209.
 Soudeé, Wines, 50.
 Soullier & Brunot, Lime, 48.
 Soure, Joaquim Manuel Soares de, Wine, 112.
 Sousa, Bernardino J. de M., Vinegar, 108.
 South Australia, Statistics of, 183.
 South Australian Com., Reapers, 43.
 South Bend Iron Works, Plows, 25.
 Souto, A. D. da C., Flax, 120.
 Souto, Antonio D. da C., Nuts, 90; Grain, 96.
 Souto Maior, Laurenco da Cunha, Wine, 114.
 Souza, A. de, Sugar, 73.
 Souza, Antonio Joaquim, Corkwood, 90.
 Souza, Augusto Pereira d'Abreu, Corn, 93.
 Souza, Bento de, Wheat, 63; Matte, 71.
 Souza, Conceicao M. A., Preserved fruits, 104.
 Souza d'Alte, Francisco R. de, Wines, 116.
 Souza, Francisco Jose de, Wine, 113.
 Souza-Gueiroz, Baron de, Coffee, 71.
 Souza, Gustavo Adolpho Goncalves e, Portugal, 284.
 Souza, Hector de Lemos e, Wine, 114.
 Souza, J. S. O. e, Corkwood, 83; Grain, 92; Oil, 119.
 Souza, Joao Candide de Castro, Wine, 109.
 Souza, Joaquim da Silva, Brandy, 109.
 Souza, Joaquim Jose de, Wine, 114.
 Souza, Jose, Olives, 104.
 Souza, Jose d' A., Corn, 92; Oil, 119.
 Souza, Jose Henriques Coelho de, Wine, 114.
 Souza, Jose L. R. de, Beans, 97; Linseed, 99; Wine, 114.
 Souza, Jose Maximo Coelho J., Wine, 109.
 Souza, Julio Cesar, Wines, 114.
 Sousa, M. J. M. de, Brandy, 73.
 Souza, M. L. de, Cigarettes, 75; Nuts, 90; Grain, 95; Wines, 116; Wool, 121.
 Souza, Manuel Alves de, Olives, 105.
 Souza, Manuel Jose, Wines, 114.
 Souza, Manuel Paulo de, Grain, 96.
 Souza e Mello, Antonio M. de, Grain, 95.
 Souza, P., Coffee, 71.
 Souza, P. A. P. Abreu e, Cork-wood, 89; Beans, 99; Wine, 117.
 Souza Pinto, F. de G., Olives, 105.
 Souza, V., Tobacco, 71.
 Soveral, V. da C., Flax, 121.
 Souza, Victorino Alves, Grain, 93; Flour, 106.
 Soxias y Domenech, J., Maize, 88h.
 Soyland, L. B., Preserved fish, 61.
 Spain, Statistics of, 277.
 Spanish Nation, Tobacco, 130.
 Spankenberg, Schweder, & Co., Furnace, 138.
 S. Paulo, Province of, Woods, 68; Paina, plows, 75.
 Speakman, Miles, & Co., Machines, 35.
 Speakman, Thomas, Models, 36.
 Speer, Alexander, & Sons, Plows, 25.
 Speer, Alfred, Whisky, 22.
 Spence, L., Machines, 32.
 Spencer & Roda, E., Esparto grass, 88h.
 Spiess, Fr., Malt mill, pumps, 138.
 Spink, Jas. L., & Co., Mowers, reapers, 29.
 Spinnelli, M. K., Vermicelli, 45.
 Spidler & Lang, Mashing machine, 139.
 Spottorno, B., Wine, 88y.
 Spreng, Fridolin, Biscuits, 56.
 Springfield Mfg. Co., Corn planter, 28.
 Stackhouse, Com. T., New South Wales, 180.
 Sta. Clara Convent, Sweetmeats, 104.
 Stahlshmidt & Co., Wool, 45.
 Stampalia, Tommaso, Maraschino, 56.
 Staranger Preserving Co., Meats, 62.
 Starbuck, Nathan, Ditcher, 36.
 Stárico y Ruiz, R., Fig bread, 88g; Wine, 88bb.
 Sta. Rosa de Lima Convent, Preserves, 104.
 Star Plate Universal Polishing Powder Co., Polishing powder, 41.

St. Catharina, Prov. of, Coffee, 71.
 Stearne, P., Deer heads, 19.
 Stechel, F., Oils, 74.
 Steele, J., Jute, 75.
 Stegman, J., Wool, 87.
 Stein, Conrad, Beer, 137.
 Stein, G. & L., Liqueurs, 54.
 Stein, Hirsh, & Co., Albumen, 19; Hair, 54.
 Steinheimer, C. J. B., Wines, 53.
 Stella, Cav. Musio, Wine, 66.
 Stemmikooski, A., Brandy, etc., 126.
 Stenberg, S., Sweden, 240.
 Stend Agr. School, Corn, 61; Plows, 62.
 Stengel, W., Brandy, 54.
 Steinström, O. E., Cereals, 59.
 Stephany, F., Wheat flour, 125.
 Stephen, Alex., & Son, Brooms, 47.
 Steuben County Vineyard Ass'n, Wines, 23.
 Steubing, H., Ice swimmer, 137.
 Stevens, Ansel, Mower, 31.
 Stevens, Thomas, Confectionery, 41.
 Stewart, A. C., & Co., Angora hair, 43.
 Stewart, Isaac T., Tobacco, 17.
 Stewart, Ralph, & Co., Spices, 16.
 Stiassi, Filippi, Bologna sausages, 64.
 Stibbé, H., Essences, 54.
 Stibbé, Lz. G., Liqueurs, bitters, 58.
 Stichinsky, S., Wheat, 123; Wool, 126.
 St. Louis Cotton Exchange, Raw cotton, 24.
 Stoddard, J. C., Calliope, 33.
 Stokes, F. N., Planter, 28.
 Stokton, J. A., Tree, 152.
 Stoll, C., Model, 138; Scales, mill, 138.
 Stollwerk Bros., Chocolates, 54.
 Stoman, T., Queensland, 195.
 Stone & Co., Zoline, 22.
 Stone, General, Egypt, 252.
 Stone, S. M., & Porter, S., Grain fan, 32.
 Storer Wind Engine Co., Windmill, 140.
 Storms, J., Elevator, 138.
 St. Petersburg Agri. Museum, Cotton, 126.
 Strager, C., Queensland, 195.
 Strait, H., Potato digger, 29.
 Straits Settlement, Statistics of, 192.
 Strakosch, Ignaz, Liqueur essences, 56.
 Stratford, Geo., Oakum, 24.
 Stratton & Cullum, Hay-loaders, 31.
 Strombeck, Chas. W., Harrow, 25.
 Strong, J. E., Farm gate, 46.
 Strutt, Arthur I., Wine, 65.
 Stryker, Peter J., Excavator, 135.
 Stuart, A., New South Wales, 180.
 Stuart & Douglass, Oatmeal, 22.
 Stuart & Kirkland, Plows, 25.
 Studebaker Bros., Wagons, 135.
 Sturtevant, E. D., Plants, 152; Ferns, 154.
 Stuve, Dr., Germany, 215.
 Suarez, R., Ostrich feathers, 84.
 Subirach, M., Barley, 88c.
 Such, G., Cactus, 151; Ferns, 152; Plants, 154.
 Suchnel, Emil J., Cigars, 17.
 Success, A. H., & Sons, Leather, 55.
 Sneur, F., jr., Leather, 49.
 Sullivan & Burk, Cigars, 17.
 Sullivan, Hon. J. F., Victoria, 182.
 Suñer, E., Liqueur, 88bb.
 Superior Motor & Reaper Works, Mower, 29.
 Superphosphate Mfg. Co., Fertilizers, 60.
 Suppert & Notting, Trees, 159.
 Surie, Widow, J. W., Son, & Co., Preserved eatables, 57.
 Susuki, S., Tea, 128.
 Susumu, A. Kusawa, Japan, 259.
 Sutelo & Veiga, Wines, 88z.
 Svanoe, Chr., Grain, 61.
 Swank, M. J., Cigars, 16.
 Sweden, Statistics of, 237.
 Sweeney, H. M., Fertilizing machine, 28.
 Sweeney, H. W., Great Britain, 173.
 Swersedge, Prof., New South Wales, 180.
 Swift & White, Fertilizers, 36.
 Switzerland, Statistics of, 222.

T.

Taborda, Antonio T. F., Olives, 104.
 Taborda, Joao M. C., Cheese, etc., 100.
 Taborda, Joao Manuel, Almonds, 92.
 Taborda, R. M., Fibres, 75.
 Tacconi, Paolo, Sausages, salted meats, 64.
 Tacheret, Carlos, Figs, 84.
 Tacheret, Emilio, Figs, 84.
 Tacho, José Maria da Silva, Wine, 115.
 Tadashi Sando, Japan, 259.
 Tagliabue, Chas. J., Brewers' instruments, 139.
 Takamura, R., Fibres, 129.
 Taldykin, C., Wheat flour, etc., 125.
 Talhouet, Marquis de, France, 209.
 Tallman, G. W., Elastic stocking, 38.
 Talmadge, Dan., Sons, Grain, 16.
 Tamamura, Y., Silk, 129.
 Tamancoo Factory, Crushed rice, 72.
 Tamarit, E., Wine, 88bb.
 Tamburini, Giuseppe, Torrone, 66.
 Tametake Ishida, Japan, 259.
 Tanaka, K., Tea, 126.
 Tananan, Provincial Board, Sugar, 132.
 Tancrede Bros., Charcoal, 52.
 Tandberg, Frants, Norwegian cordials, 62.
 Tankowski, T., Cordials, 126.
 Tanzer Bros., Hops, 55.
 Tapadinha, José J., Preserved meats, 103.
 Tarbouriech, L., Wines, 50.
 Tareira, Henrique Pereira, Portugal, 284.
 Targia, Arezzo della, Liqueurs, 65.
 Tari-a, Corp. of, Cereals, 88d; Beans, 88f.
 Tarnoosky, B., Sugar, 125.
 Tarranbae, J., Flour, 73.
 Tarussi, Luigi, & Brothers, Wine, 65.
 Tasmania, Statistics of, 196.
 Tato, M., Wax, 88p.
 Tavares, A. J., Almonds, 91; Fruits, 92; Oils, 120.
 Tavares, Antonio Bernardo Xavier, Wine, 115.
 Tavares, J. Pinto, Coffee, 69.
 Tavares, Joao da Silva, Corkwood, 115.
 Tavares, José Antonio, Wine, 115.
 Tavares, José da C. A., Grain, 94; Wine, 115.
 Tavares, P., Coffees, 71.
 Tayabas, Provincial Board of, Pitch, 130.
 Tayler, D. M., Raw cotton, 24.
 Taylor, A. A., Flour, 21.
 Taylor, B. C., Grain rake, 29.
 Taxis, E. W., Aquarium tank, 19.
 Tchuga Asmi, Japan, 259.
 Teba, Corporation of, Olive oil, 88ff.
 Teferina, D., Wines, 86.
 Teixeira, A. de A., Liqueurs, 73.
 Teixeira, C. A., Grain, 92; Oil, 120.
 Teixeira, F. L., Nuts, 92; Grain, 94; Flour, 105.
 Teixeira, Francisco de Sa, Dried figs, 103.
 Teixeira, Francisco Manuel, Wine, 115.
 Teixeira, Joao B. Pacheco, Wine, 115.
 Teixeira, Joao Firmino, Wine, 115.
 Teixeira, José Luiz, Wine, 115.
 Teixeira, M. M., Oil, 120.
 Teixeira, Manuel J. X. E., Nuts, 92; Grain, 94.
 Tellefsen, Mrs. Rina, Anchovies, 61; Preserved game, 62.
 Telles, Manuel Joaquim, Wine, 115.
 Temprado, R. F., Coffee, 130.
 Temprano, J., Wheat, 88i; Wine, 88cc.
 Tendoro, G., Wine, 88s.
 Tenerife, Provincial Commission of, Cercals 88d; Peas, 88i.
 Tennent, J. & R., Bottled ales, 41.
 Tenorio, M. R., Beans, 98; Honey, 101.
 Tenreiro, Manuel Guerra, Cheese, etc., 100.
 Teodoro, S., Cocoa, 131.
 Terán, F., Peas, 88k.
 Tereul, P., & Bro., Wheat, 88g; Oil, 88gg.
 Teréz, I., Olive oil, 88ff.
 Terramola, Delfin, Wine vinegar, 85.
 Terranova Commillesi, G. B., Wine, 65.
 Terrell, J. A., Transparent float, 18.
 Terrenoire, La Voulte, & Pesseges, I'on, 48.
 Terron, J., Sausages, 88p.

- Terrero, S. J., Wheat, 88*g*; Peas, 88*k*.
 Terrien, sr., Food, 4*g*.
 Terrien, P., Sardines, 4*g*.
 Testa, U., Tobacco, 7*1*.
 Thalia, Waldemar, Punch, 5*g*.
 Tuams & Co., M., Wood, 6*1*.
 Themes, Fortunato de Cerqueira, Wine, 115.
 Themula, E., Oranges, 92; Sweetmeats, 163.
 Themulo, Antonio dias, Liquors, 115.
 Themudo, Jose Vicente, Preserved meats, 103.
 Theotonio, J. M. S., Olives, 104.
 Thilenius, G. C., Flour, 22.
 Thiry, J., jr., Trellises, 157.
 Thomas, F., Silk, 5*1*.
 Thomas, John H., & Sons, Rake, 28.
 Thomé, S., Viscount of Soure, Wine, 109.
 Thompson, A., New South Wales, 180.
 Thompson, C. B., Broom corn, 16.
 Thomson, Hon. Sir E. D., New South Wales, 17*g*.
 Thompson, J., New South Wales, 180.
 Thompson, Robert, Tropical fruits, 43; Economic plants, 156.
 Thompson, S. W., jr., Barrel shooks, 35.
 Thomson, W. R., Jamaica, 187.
 Thompson, Woodard, Machines, 36.
 Thorburn, J. M., & Co., See 18.
 Thoreau, E., & Son, Barley, 48; Wine, 51.
 Thorices, B., Wines, 83*r*.
 Thorices, F. R., Wines, 83*r*.
 Thorn & Bro., Crackers, etc., 24.
 Thorne, Chr., Anchovies, 6*1*.
 Thorne, Chr. Aug., Preserved meats, 62.
 Thornton, G., New South Wales, 180.
 Thornton, Hon. Sir Edward, Great Britain, 173.
 Thorrand & Co., Cement, 48.
 Thurlow, H., Teasels, 18.
 Thurston, Hall, & Co., Boston crackers, 24.
 Thyssen, C. J. F., Sieve frames, 57.
 Tibbles, Geo. N., Engines, 37.
 Tiero S., Oil, 120.
 Tiffany, O. F., Fruit dryer, 37.
 Tillar, Carlos, Flour, 85.
 Timiriasef, Dmitri, Russia, 234.
 Tinogasta Sub-commission, Skins, 82.
 Tison, José, Sugar, 132.
 Tivet, B., Bitters, 51.
 Tivollier, A., Paté de foie gras, 49.
 Tlgezem Brewery Company, Malt, 126.
 Tobacco Growers of Penn's Manor, 17.
 Tocha, Jose Rodrigues, Honey, etc., 102.
 Toll, Chas. H., Brooms, 34.
 Tolmie, Dr., Wheat, 44.
 Tolosa, E., & Bro., Tobacco, 88*m*.
 Tolosa, F., Wine, 88*v*.
 Tomaselli, G., Plows, 67.
 Tomé, G., Wool, 88*j*.
 Toopce, Chas., Grate bars, 139.
 Tooth, W. B., Queensland, 105.
 Topich, Antonio, Preserved fish, 55.
 Toribio, A. M., Cereals, 88*g*; Vegetables, 88*k*.
 Torkilnsen, J., Grain, 61.
 Torner, J., Wine, 83*bb*.
 Toro, I., Wheat, 79.
 Turoiatti, L. di Gio, Harrow, 67.
 Torralba, J., Honey, 88*h*.
 Torre Ajero, M. & C. de la, Cereals, 88*g*; Madder root, 88*m*.
 Torre y Figueroa, A. de la, Wine, 88*w*.
 Torre Novas, Count of, Wine, 107.
 Torre, P. de la, Wheat, 88*e*.
 Torre, R. de la, Cochineal, 88*n*.
 Torre y Salto, A. de la, Wine, 88*w*.
 Torregon, Antonio Joaquim, Honey, 101.
 Torrelli, Lenaf Luigi, Wines, 65.
 Torrent, F., Sugar, 88*s*.
 Torres, A. A., Flax, 121.
 Torres, A. V., Beans, 88*f*.
 Torres, Bernardo Jose, Seeds, 98.
 Torres, E. N., Fibres, 87.
 Torres, G. d'A., Matte, 70.
 Torres, J. L., Wine, 88*e*.
 Torres, M. A., Olive oil, 88*ff*.
 Torres, M. d'A., Matte, 70.
 Torres, M. L., Olive oil, 88*ff*.
 Torres e Oliveira, H. J. P., Wine, 115.
 Torres, Rodrigo Bravo, Olives, etc., 103.
 Torrico, M., Peas, 88*g*; Wool, 88*j*.
 Torriselli, Andrea, Liquors, 65.
 Torroja, R., Wool, 88*j*.
 Tortades, J. de, Beans, 88*f*.
 Tortosa, J., Bran, 3, 88*s*.
 Toshinobu Suzuki, Japan, 259.
 Tosi, Bellucci, Preserves, 64.
 Toval, A., Grits, 88*r*.
 Towanda Eureka Mower Co., Mower, etc., 30.
 Tower, L. C., Thermometers, 39.
 Toyoyasu, Ischihara, Japan, 259.
 Tracy, Jose Carlos, Peru, 270.
 Trageser, John, Copper work, 139.
 Tramontani, D., Honey, 63; Bee-hive, 67.
 Transto, Leandro Pinto, Nuts, 91.
 Travers, F., Wines, 53.
 Traverse, Marquis A. de L., Cordials, etc., 126.
 Traverso, J., Wheat, 77.
 Travis, A. B., Horse wheat hoe, 26.
 Travis, M. W., Instruments, 139.
 Treat, J. A., Boiler, 35; Gate, 36.
 Tréfousse & Co., Dyes, 49.
 Trelly & Chacon, M. del, Almonds, 88*a*; Wines, 88*z*; Esparto grass, 88*z*.
 Treloar, Guillermo A., Carob paste, 84.
 Treman, Valentine, & Green, Sheller, 30.
 Trendell, A. J. R., Great Britain, 173.
 Trias y Travesa, J., Vegetables, 88*h*.
 Tribula, Eleuterio, Oil, 132.
 Tricourt, A., Wine machines, 52.
 Trigo, A. M. de S., Almonds, 91; Sweetmeats, 103.
 Trigo, Jose Antonio Horta da, Grain, 94; Wine, 115.
 Trincão, Romão Antunes, Nuts, 91.
 Trindade, Alfredo, Figs, 103.
 Trinidad, Statistics of, 198.
 Trinoao, Roman A. L., Dried figs, etc., 105.
 Tripodi, Silvino, Rice, 72.
 Triste, J. M. d'Araujo, Cloves, 69.
 Troia, Afri, Paste for soup, 64.
 Troilus, C. O., Sweden, 240.
 Trommer Extract of Malt Co., Malt, 23.
 Troop, O. V., & Co., Vinegar, 45.
 Trotman, Ott., Cooler, 158.
 Trowbridge, W. H., Tobacco, 16.
 Troya, J., Wine, 88*n*.
 Tschopp, Albert, Hay-rake, 29.
 Tschudi, Dr. F. de, Switzerland, 223.
 Tschurtschenthaler, A., Conserved fruits, 55.
 Tsunetaro Yamao, Japan, 259.
 Tubbs, Hoyt, Machines, 32.
 Tubular Barrow & Truck Co., Barrows, 57.
 Tucci, Savo Benedetto, Wine, 66.
 Tuchfarber, F., & Co., Show cards, 138.
 Tucker, J., Bermudas, 190.
 Tucker, T. E. C., Wool, 87.
 Tucuman Provincial Commission c, Woods, 76; Corn, rice, wheat, 80; Skins, 33.
 Tula, N., Seed, 79.
 Tuldahl, A. H., Pale ale, 59.
 Tunis, Statistics of, 253.
 Turkey, Statistics of, 286.
 Turner, J., Mfg. Co., Sauce, 20.
 Turpin & Bro., Plug tobacco, 17.
 Tygert, J. E., & Co, Ground bone, 36.
 Tyler, Geo. H., Hops, 136.
 Tyrell, J. F., & Co., Oatmeal, 21.
 Tzelikoff, T., Oils, etc., 126.
 Tzytzoerin, T., Tobacco, 124.

U.

- Ubach de Colon, J., Dyes, 77.
 Ubatuba, D. M. P. S., Tallow, 72.
 Ubatuba, Dr., Condensed milk, 72.
 Uffredugi, Giacomo, Wine, 66.
 Uhlman, Simon, Hops, 136.
 Ulex, G. F., Bitters, 54.

Ulich, G., Albumen, 124.
 Uliengo, G., Butter machine, 67.
 Ullan, R., Olive oil, 88*f*.
 Ullander, A., Punch, 60.
 Ulrich, W. D., Ship biscuit, 58.
 Underberg, Albrecht H., Bitters, 54.
 Underwood, W., & Co., Canned meats, 20.
 Union Hardware Co., Beer coolers, 138.
 Union Machine Works, Malt mill, 138.
 United States Fertilizing & Chemical Co.,
 Fertilizers, 36.
 United States, Statistics of, 163.
 United Wine Growers, Wines, 22.
 Unsue, M., Wool, 87.
 Unzué, S., Wheat, 77.
 Upmann, H., & Co., Tobacco, 88*m*.
 Upsala Agricultural Society, Cereals, 59.
 Upton, Elijah W., Glue, 19.
 Upton, Geo., Glue in sheets, 19.
 Urbana Wine Co., Champagne, 22.
 Urig, J., Beer, 137.
 Urmenata, F. de, Brandy, 88*v*.
 Uruburu, J., Olive oil, 88*cc*.
 Uruguay & Parana Com., Cereals, 79.
 U. S. Agrl. Dept., Plants, 152.
 U. S. Hullers' Oat Co., Oats, etc., 16.
 U. S. Wind Engine & Pump Co., Windmills,
 38; Mills, 140.
 Usano, M., Marchpane, 88*r*.

V.

Vaamonde, R. M., Nuts, 88*a*; Maize, 88*f*.
 Vaca, F. C. de, Peas, 88*f*; Wine, 88*cc*.
 Vaca, J., Ham, 88*g*.
 Vaillard, H., Cheese, 82.
 Vaivas, Carlos, Wheat, 80.
 Val, M. H. del, Olive oil, 88*hh*.
 Valcárcel, T. P., Peas, 88*k*.
 Valckenberg, P. J., Wines, 53.
 Valdeavellano, J. G., Wool, 88*jj*.
 Valdecanas, Count of, Olive oil, 88*ee*.
 Valdefresno, Corporation of, Cereals, 88*e*;
 Vegetables, 88*j*; Wine, 88*r*.
 Valdemimbre, Corporation of, Wine, 88*r*.
 Valdes, E. & C., Woods, 76; Barley, 78;
 Rat, 81; Tongues, 85; Wool, 87.
 Valdez, A. de C., Grain, 93; Oil, 119.
 Valdez, Emiliano, Corn, 78; Hides, 82.
 Valdovi, R. G., Maize, 88*k*; Olive oil, 88*hh*.
 Valein, M. d'Aguiar, Coffee, 70.
 Valencia, J., Wines, 88*z*.
 Valencia National Manufactory of Tobacco,
 Tobacco, 88*m*.
 Valencia, Philadelphia Commission of, Hemp,
 88*ii*; Implements, 88*jj*.
 Valencia, Provincial Commission of, Harness
 appendages, 88*jj*.
 Valencia, Society of Agriculture of, Walnuts,
 88*c*; Cereals, 88*k*; Vegetables, 88*i*; Licorice
 root, 88*r*; Seeds, 88*u*; Fruits, 88*r*; Esparto
 grass, 88*ii*.
 Valente, Antonio Joaquim, Grain, 93.
 Valente, José Justiniano d'Oliveira, Woods,
 90; Grain, 94, 96; Seeds, 99.
 Valenti, J., Wine, 88*u*.
 Valentim, José, Preserved meats, 103.
 Valenzuela, J. V., Wine, 88*uv*.
 Valera, J. M., Wine, 88*uv*.
 Valero, F., Port wine, 88*aa*.
 Valero, J., Wine, 88*ab*.
 Valiente, E., Olive oil, 88*ee*.
 Valiente, Enrique, Peru, 270.
 Valk, J. van der, & Co., Gin, 58.
 Valladares, Pedro d'Ordaz, Cheese, oil, 90.
 Valladolid, Board of Agriculture of, Wine,
 88*cc*.
 Valle de Oro, Corporation of, Wax, 88*g*.
 Valle, J. M., Wine, 88*uv*.
 Valle, José de Seixas do, Wine, 100.
 Valle, Manuel de Sousa Dias, Wine, 109.
 Valle, R. J. F., Rice, 69; Cotton, 74.
 Valle, S., & Co., Tobacco, 88*m*.

Valle y Villar, L. del, Wine, 88*z*.
 Vallejo, J., Seed, 88*g*.
 Vallejo, R., Wheat, 88*d*; Beans, 88*j*.
 Vallier, J., Wine, 88*cc*; Olive oil, 88*hh*.
 Valls, P. & V., Wines, etc., 88*t*.
 Valmaceda, E., Gogo, 130.
 Valmorisco, P. N., Olive oil, 88*ee*.
 Valtueña, Corporation of, Saffron, 88*m*.
 Valverde del Camino, Corporation of, Cereals,
 88*e*; Vegetables, 88*j*; Wine, 88*u*.
 Valverde, F., Wheat, 88*d*; Olive oil, 88*cc*.
 Van Bree, J., Belgium, 229.
 Van Casteel, A. T., Flax, 56.
 Vander-Berg, Tobacco, 70.
 Vanderbilt, Henry S., Lifting jack, 33.
 Vandiver Corn Planter Co., Corn planter, 28.
 Van Dulken, Weiland, & Co., Gin, etc., 58.
 Van Marken, J. C., jr., Corn, 58.
 Van Vranken, J. B., Teasels set in frame, 18.
 Varale, Antonio, Dressed hides, 63.
 Varaskin, Demetrius, & Sanin, Spirits, 126.
 Varela, M. D., Wine, 88*y*.
 Varella, J. G., jr., Oil, 119.
 Vargas, A. A., Corkwood, 90; Grain, 93.
 Vargas, J. R., Wheat, 88*e*.
 Vargas, S., Wines, 88*v*.
 Varsea & Coelho, Preserved meats, 103.
 Vasconcellos, Adelino d'A., Wines, 106, 109.
 Vasconcellos, Antonio de, Wine, 109.
 Vasconcellos, Augusto C. C., Wine, 115.
 Vasconcellos, B. d'A. C. T. de, Wool, 122.
 Vasconcellos, Bento M. P. P., Wine, 115.
 Vasconcellos, Catharina M. A., Corkwood, 90;
 Honey, etc., 102.
 Vasconcellos, Mem Rodrigues de, Portugal,
 285.
 Vasconcellos, Duarte, Hops, 97, 99.
 Vasconcellos, Fzechiel Augusto de, Grain, 93.
 Vasconcellos, F. M. de, Oil, 119.
 Vasconcellos, F. P. de, Preserved vegetables,
 72; Wine, 73, 74.
 Vasconcellos, Francisco P. C., Wine, 115.
 Vasconcellos, J. G. de, Woods, 90; Wine, 109.
 Vasconcellos, M. S., Nuts, 91; Peas, 98; Oil,
 119.
 Vasella, José, jr., Grain, 95.
 Vas Freire, José S. T., Wine, 110.
 Vasquez, B., Honey, 88*g*; Figs, 88*g*.
 Vasquez, F., Peas, 88*j*; Wine, 88*r*.
 Vasquez, J., Liquors, 88*y*; Wool, 88*jj*.
 Vasquez, J. L., Maize, 88*f*.
 Vasquez, Lucrecio, Achala cheese, 82; Wool,
 88.
 Vasquez y Rodriguez, Cereals, 88*g*.
 Vassallo, José Baptista, Bleached wax, 101.
 Vassea & Coelho, Oil, 119.
 Vassilief, N., Flax, 126.
 Vassiltchikoff, Prince Victor, Grain, 123;
 Grass seeds, 124.
 Vauzeller, Constantino, Portugal, 285.
 Vaz, Eduardo Augusto da Cruz, Corkwood,
 90; Grain, 95; Preserved meats, 105.
 Vaz Preto Geraldez, Manuel Louza, Cork-
 wood, 89; Grain, 96; Cheese, 100.
 Vecinos, L., Cereals, 88*i*.
 Veenhoven, Schuringa, & Co., Potato flour, 58.
 Vega de Infanzones, Corporation of, Cereals,
 88*e*; Beans, 88*j*; Flax, 88*ii*.
 Vega, G., Corn, 79.
 Vega Grande, Count of, Maize, 88*d*; Beans,
 88*i*; Flour, 88*r*; Wine, 88*v*.
 Vega, L. O., Flour, 88*r*.
 Vega, M. P. de la, Butter, 88*z*.
 Vega y Lopez, L., Olive oil, 88*ee*.
 Vega y Tejada, E. de la, Wines, 88*u*.
 Vegüer y Naquer, J., Honey, 88*g*; Sugar, 88*s*.
 Vega, Francisco Antonio, Grain, 96.
 Veiga, J. A. da, Oil, 74.
 Veiga, J. d'A., Wool, 122.
 Veiga, José da Cunha Costa, Wine, 115.
 Veiga, José Mendes, Wood dyes, 90; Al-
 monds, 91; Seeds, 97.
 Veiga, Maria C. de N., Potato flour, 15.
 Veiga, Richardo Antonio da, Wine, 109.

- Veiga, Tobacco, 71.
 Veigas, Agostinho T. dos S., Cheese, etc., 100.
 Veira, Manuel, Honey, 101.
 Veitch, J., & Sons, Hollies, 156.
 Veja de Armijo, Marquis of, Oranges, 88a.
 Velarde, A., Coffee, 131.
 Velarde, J. E., Olive oil, 88ff.
 Velasco, B. D., Wheat, 88d.
 Velasco, C. S., Pepper, 88u.
 Velasco, F., Wheat, 88d.
 Velasco, M., Honey, 88p; Wine, 88y; Olive oil, 88ff.
 Velasco, R., Peas, 88t; Olive oil, 88gg.
 Velez, A., Wine, 86.
 Velho, Francisco da Rosa, Wine, 110.
 Velho, José Bernardino Bringle, Grain, 92.
 Velles, Luis Nunes de, Brandy, 110.
 Vellez, P. D., Alcoholic drinks, 73.
 Velloso, Antonio Guedes, Wine, 110.
 Venegas, J., Wheat, 88c; Beans, 88f.
 Ventalló y Llobateras, D., Wines, 88u.
 Ventura, José G. da C., Corkwood, 89.
 Ventura y Sampere, A., Liquors, etc., 88t.
 Vera, Matilde, Pigeons stuffed, 80.
 Vera, Rosade, Nito, 133.
 Verdier, C., Roses, 157.
 Verdier, E., Gladiolus, 157.
 Verdu, J., Seeds, 88u.
 Verdú, M., Wine, 88t.
 Verdú, R. P., Vinegar, etc., 88t; Oil, 88dd.
 Verdu y Cortés, V., Vinegar, 88t.
 Verdu y Perez, J., Almonds, 88a; Vegetables, 88t; Figs, 88p; Wines, 88t; Olive oil, 88dd.
 Verdu y Perez, L., Wines, 88t.
 Verdú y Rico, M., Vinegar, 88t.
 Verekha, P., Trees, etc., 123.
 Verevitiu, A., Wheat flour, 125.
 Vergara, A., Swan skin, 82.
 Verguciro & Co., Coffee, 71.
 Verguciro, J., Coffee, 70.
 Vermont Farm Machine Co., Rake, 31; Evaporator, 37.
 Vernis, J., Preserved meats, 88p.
 Verweij, N., & Co., Sugar of grape, 58.
 Vessot, J. & S., Harrow, 46.
 Vettigudino, Corporation of, Wheat, 88g.
 Vianna, Manuel de C. R., Portugal, 284.
 Vianna, O., Aguardente, 74.
 Vianna, P., Sugar, 73.
 Vianna, President of the Com. of, Fish, 104.
 Vicat, J. H., Pickles, 49.
 Vicente, P., & Co., Sardines, 88o.
 Vicondessa, d'Oleiros, Cheese, etc., 100.
 Victoria, H., Cocoons, 88.
 Victoria, Statistics of, 181.
 Victoria Sub-commission, Skins, 83.
 Victorica, Julio, Argentine Rep., 265.
 Victorino, José, Ham, 103.
 Vidal, Augustin, Wheat, 78.
 Vidal, J. C., Wine, 88t.
 Vidal, Marco A., Woods for dyeing, 77; Red corn, white wheat, 78.
 Vidal y Bas, B., Beans, 88t.
 Vidamrel, J. J. da, Preserved fish, 104.
 Vidart, J. A., Hides, 83.
 Vidaur, A. L., Insects, 88u.
 Videla, Victor, Syrup, etc., 84; Wood, 76.
 Vidial, Antonio Jose Rodrigues, Wine, 116.
 Viera, Francisco de Semas, Honey, 101.
 Vieira, A. J., Oil, 119, 120.
 Vieira, Ant., Coffee, 71.
 Vieira, Bernardo de Campos, Wines, 115.
 Vieira, Francisco de Lemos Cunha, Grain, 92.
 Vieira, José Augusto, Honey, wax, 101.
 Vieira, Manuel Pinto da Silva, Grain, 94.
 Vieira, P. M., Flax, 121.
 Vieira, Venancio Dias de Figueira, Beans, 98; Wine, 109.
 Viela, R. T. de, Barley, 88c.
 Viesca, Marquis of, Almonds, 88b.
 Vignolles, Henry, Preserved meats, patés, 84.
 Viguères y Monlilo, F., Almonds, 88b.
 Vila, F., Rye, 83f; Potatoes, 88m; Wines, 88z.
 Vila, J., Wheat, 88c.
 Vilanova y Piera, P., Wines, 88v.
 Vilaret, A., Wine, 88zu.
 Vilarinho & Nephew, Corks, 90.
 Vilches & Jover, Wines, etc., 88t.
 Vilhena, Agostinho de, Wine, 109.
 Vilhena, Barbosa Arthur Peres de, Wine, 110.
 Viliani, Dante, Liquors, 66.
 Villa Alcazar, Marquis of, Flour, 88r.
 Villa, L., Sugar-cane juice, 86.
 Villaboa, V., Wine, 88cc.
 Villafane, N., Corn, 79.
 Villafanha, Antonio de, Wines, 109, 114.
 Villa-Franca, Baron of, Wood, 68; Sugar, 73; Pains, 75.
 Villahermosa, M., Cheese, 88o.
 Villalba y Sotomayor, M., Wine, 88zu.
 Villalón y Torres, Cereals, 88g.
 Villalta y Uribe, A. F., Wheat, 88e; Cocoons, 88j.
 Villalva, A. T., Olive oil, 88ff.
 Villalba, B., Wine, 88cc; Hemp, 71.
 Villamarzo, Tiburcio, Fibres, 133.
 Villanueva, Felipe de, Wheat, 88d.
 Villar, Coffee, 81.
 Villar de Maya, Corporation of, Cereals, 88h.
 Villar, F. M. del, Projects, 88j.
 Villar, M., Wine, 88bb.
 Villar, M. P., Flour, 106; Wool, 121.
 Villar, S., Seeds, 76.
 Villaranda, J. R., Olive oil, 88gg.
 Villaranea, R. M., Olive oil, 88gg.
 Villarinho, Viscount of, Wines, 116.
 Villas, Manuel Pereira, Grain, 96.
 Villaturiel, Corporation of, Vegetables, 88j; Wine, 88r; Flax, 88i.
 Villaverde, R., Wine, 88cc.
 Villegas, V., Olive oil, 88dd.
 Villena y Para, S., Brandy, 88z.
 Villores, Marquis of, Wines, 88v.
 Vilmorin, A., & Co., Seeds, 157.
 Vinaisca, Corporation of, Wheat, 88e; Wine, 88r; Olive oil, 88ff.
 Viñas, A., Almonds, 88b.
 Viñas y Pamies, J., Wine, 88aa.
 Vinaz, J. M. G., Peas, 88t.
 Vintro y Vila, A., Yeast, 88cc.
 Vinva de Manuel, Pedro do, Wax, 101.
 Vinva, Jorge, & Sons, Almonds, 91; Brandy, 116.
 Viotti, Cigarettes, 71; Peach liquor, 74.
 Virgens, B. da, Sugar, 73.
 Virgens, M. B. das, Sugar, 73.
 Virgili, P., Cereals, 88t; Vegetables, 88t; Seeds, 88u.
 Visa, A., Sausages, 88p.
 Visa, A. B., Milk, 88o; Nougat, 88r.
 Viscardi, Geremia, Preserved fruits, 64.
 Viscount of Alcazer do Sal, Grain, 93.
 Viscount of Guedes, Honey, etc., 102.
 Visetto, Francisco Manuel, Carob, 98.
 Visetto, José Bernardo, Almonds, 91.
 Viseu, Central Com. of the Dist. of, Wool, 122.
 Viseu, Henriques Nunes, Wine, 114.
 Visser, J., Wax, 57; White mead, 58.
 Vitale, Tommaso, Liquor, 65.
 Viti, Chevalier A. M., Italy, 249.
 Vitiello & Torrese, Wines, 65.
 Vitoria School of Agriculture, Cereals, 88c; Vegetables, 88i.
 Vittono, Domenico, Vermouth, 66.
 Viuva, Chaves, & Son, Leather, 100.
 Viuva, Machado, & Sons, Hides, 101.
 Viuva, Pevelin & Sons, Wine, 110.
 Viuva, Pinto, & Son, Wine, 110.
 Viva, Barreto C., Wines, 116.
 Vives y Aspiroz, R., Raisins, 88r.
 Viza, A., Vinegar, 88t.
 Vliet, A. van, Cheese, butter, 57.
 Vogt, Henry, & Bro., Boiler, 139.
 Voigt, E. W., Beer, 137.
 Volck, F., Germany, 215.
 Volinia Farmers' Club, Farm products, 17.
 Von der Horst, J. H., Beer, 137.

Von Essen, H. H., Scissors, 158.
 Von Holloben, Germany, 215.
 Von Nostitz, Walwitz, Germany, 215.
 Von Spitzenburg, Baron, 215.
 Von Zedlitz, Baron, Germany, 215.
 Vornberger, J. M., Wines, 53.
 Votureava, Commission, 75.
 Votuvera, Commission of, Wine, 73.
 Votuverava, District of, Medicinal plants, 69.
 Vuva, Marques, & Sons, Grain, 96.
 Vyeira, M. L., Oil, 74.
 Vyeira, S. A., Oil, 74.

W.

Waag & Son, Mustard seed, 124, 125.
 Wackichiro, Tawara, Japan, 259.
 Wadsworth, J. P., Flour, 45.
 Wagner, C., Tree seeds, 123.
 Wagoner, Elijah, Feed cutter, 33.
 Wahl Bros., Glue, 18; Gelatine, etc., 19.
 Waile, S., Cigarettes, 81.
 Wain, N., Hops, 44.
 Waite, S. J., Mfg. Co., Breast drill, etc., 27.
 Wakeman, R., Presses, 32, 34.
 Walcker, W., Seats, 157.
 Walker, J., & Co., Ale, porter, 136.
 Walker, James R., Iron plow, 26.
 Walker, M., & Sons, Iron railing, 154.
 Wallace, John, Stuffed animals, 18.
 Wallace, Sam'l J., Straddle-row cultivator, 25.
 Wallés, E., Almonds, 88a.
 Wallis, A. B., Ale, 60.
 Wallis, W., New South Wales, 180.
 Walsh, B., Pork, 45.
 Walton, S., Garden and field cultivator, 26.
 Walton, Whann, & Co., Fertilizers, 36.
 Wandelt, S., Tubs, 138.
 Wanderley, Barros, Sugar, 73.
 Ward, Henry A., Casts, 18; Camel, 38.
 Ward, N., & Co., Cattle bones, etc., 19.
 Ward, Samuel B., Plow-rake, 25.
 Warder, Minchell, & Co., Reapers, 28.
 Wardle, George F., Plug tobacco, 16.
 Ward's Fertilizer Co., Harrows, 26; Odorless fertilizers, 36.
 Warmer, Sigmund, Drain pipes, 56.
 Warner, J., Boiler, 122.
 Warner, Rhodes, & Co., Canned fruits, 19.
 Warsaw Sugar Manufacturing Co., 125.
 Warschafsky, A., Grain, 123; Wool, 126.
 Warschawsky, Leon, Russia, 294.
 Wart, Carlos de, Flour, 85.
 Wasor, J. Cathcart, Wools, 42.
 Wassilchikoff, Prince Victor, Sugar, 125.
 Wasstfelt, Carl C., Rennet, 59.
 Watanabe, M., Tea, 128.
 Waterer, A., Rhododendrons, 156.
 Waterhouse, F. G., South Australia, 184.
 Waterhouse, Joseph, Ales, 45.
 Watkins, W. M. & C., Tobacco, 17.
 Watson, J., New South Wales, 180.
 Watson, John, Plows, 46.
 Watt, J. B., New South Wales, 180.
 Wayne Agricultural Co., Cultivators, 26.
 Weatherston, N., & Co., Grain, 44; Flour, 45.
 Weaver, J. R., Confectionery, 23.
 Webb, Dr. E. T., Bahamas, 188.
 Weches, S., Wine, 88cc.
 Wedding, Dr., Germany, 215.
 Wehn, G. H., Artificial stone, 138.
 Wehr, C. Werk, & Son, Wines, 22.
 Weidenmann, J., Survey, 153.
 Weightman, W., Plants, 152.
 Weikel & Smith Spice Co., Spices, 16.
 Weilbacher & Loewi, Hops, 136.
 Weilbacher, P., Hop kiln, 138.
 Weinhausen, H., Apparatus, 35.
 Weiss, C. A., Chicory, 124.
 Weissmann, David, & Isaac Leib, Sounding-board wood, 55.
 Welch, H. P., Tasmania, 198.

Welding, E., Saucers, 157.
 Wellock, J., & Co., Water-proof material, 41.
 Wells, French, & Co., Potato digger, 29.
 Wells, Hope, & Co., Metallic signs, 139.
 Wells, W., Saucers, 157.
 Welsh Bros., Wines, 110.
 Weltz, H., Beer, etc., 54.
 Wenkenbach, W., & Sons, Beer wagon, 135.
 Wenkenbach, W. L., Beer wagon, 138.
 Wentworth, F. W., New South Wales, 180.
 West Grove Manufacturing Co., Atomizer, 33.
 West Jersey Land & Cranberry Co., 15.
 West Virginia, State of, Forest products, 15; Grasses, etc., 16; Hemp, flax, 24.
 Westberg, N., Reaping machine, 127.
 Westerbottens Agr. Society, Cereals, 59.
 Westergaard, L., Netherlands, 234; Sweden, 240.
 Western N. Carolina Land Co., Cereals, 17.
 Western Washington Industrial Association, Grains, 16.
 Westfall, D. B., Potato digger, 31.
 Westinghouse, G., & Co., Thresher, 33.
 Westmanlands Agr. Society, Cereals, 59.
 Wetterhahn, G., Wines, 54.
 Weyl & Co., Mineral waters, 48.
 Wharry, John R., Fruit slicer, 33.
 Wharton, J., Eucalyptus, 151.
 Wheeler & Mellick Co., Horse-rake, etc., 27.
 Wheeler, W. F., Sprinkler, 152.
 Wheeler, W. G. B., Isinglass, 136.
 Wheelock, Jerome, Engine, 39.
 White Elk Vineyards, Wines, 22.
 White, Geo. E., Superphosphates, 36.
 White, Hon. James, New South Wales, 180.
 White, Jno. G., & Co., Barley, malt, 136; Malt mill, 137.
 White Mountain Freezer Co., Freezers, 35.
 White, R. P., Malt, barley, 136.
 White's N. Y. Malt House, Kiln flooring, etc., carts, 138.
 Whiteley, Fassler, & Kelly, Reapers, 29.
 Whitmore, D. H., Machines, 34.
 Whitman & Miles Mfg. Co., Knives, 29.
 Whitman, S. F., & Son, Confectionery, 23.
 Whiton, David E., Mowing machine, 29.
 Whittemore Bros., Hay-rake, etc., 29.
 Wickberg, C., Grain, 123.
 Wickel, Y., Punch, 126.
 Widgren, H., Sweden, 240.
 Widmark, F., Sweden, 240.
 Wiedenbrug, H. T., Liqueurs, 54.
 Wikstrom, Z., Preserved vegetables, 59.
 Wilcox, W. J., & Co., Refined leaf lard, 19.
 Wilder, S. G., Hawaii, 261.
 Wilkens, H., & Co., Smoking tobacco, 17.
 Wilkens, Theodore, Hair moss, 24.
 Wilkins, Robert, Rye grass, 42.
 Wilkins, William, & Co., Bristles, etc., 24.
 Wilkinson, C. L., New South Wales, 180.
 Wilkinson, George, Plows, 46.
 Wilkinson, William, & Sons, Shears, 41.
 Willi, Dr., Switzerland, 225.
 Williams, B. S., Plants, 156.
 Williams Bros., Fertilizer, grain sower, 28.
 Williams, J., New South Wales, 180.
 Williams, John, Fruits, 21; Model, 37.
 Williams, R. H., Quercitron bark, 15.
 Williams, T. C., & Co., Plug tobacco, 17.
 Williamson, A. & H. A., Models, 151.
 Willing & Co., Racking cock, 139.
 Willoughby, James D., Grain drill, 28.
 Wills, Arthur Winkler, Hoes, 41.
 Wilmot, Hon. R. D., Canada, 204.
 Wilson, Brothers, & Co., Fodder cutter, 34.
 Wilson, C. H., Geraniums, 153.
 Wilson, Chas., Aloes, 45.
 Wilson, Childs, & Co., Wagons, 135.
 Wilson, J. G., Boiler, 152.
 Wilson, Jas., Oatmeal, 44.
 Wilson Packing Co., Meats, 19.
 Wilson & Piper, Harrow, 46.
 Wilson, Thos., Fanning mill, 46.
 Wilson, Walter G., & Co., Crackers, 23.

Wilson, Wm. C., Plants, 154.
 Wimpfheimer, David, Apparatus, 37.
 Winchester & Partridge, Wagons, 135.
 Windeyer, W. C., New South Wales, 180.
 Windrim, J. H., Architect, 9.
 Winkel & Kotlenbach, Wines, 53.
 Winter, F., Glue, 53.
 Wirmond, E. E., Insects, 71; Wool, 75.
 Wischnegradsky, Ican, Russia, 294.
 Wisconsin, State of, Forest products, 15; Agricultural products, 16.
 Wisdom, R., New South Wales, 180.
 Wishaw, A., Flax, 126.
 Wisker, Aug., Model of brewery, 138.
 Wisner, J. E., Self-discharging rake, 29.
 Withington, Cooley, & Co., Hoes, etc., 26.
 Wittemann, P., Wines, 53.
 Woehrl, Chas., Buckets, 138.
 Woelmont, Baron G. de, Belgium, 228.
 Woerle, W., Ice swimmer, 138.
 Wolff, M. B., Flour, 57.
 Wolfen, W., New South Wales, 180.
 Wolowski, Mr., France, 209.
 Womura, I., Tea, 128.
 Wood, Hon. S. C., Canada, 204.
 Wood, Hon. T. L., Bermudas, 190.
 Wood, Julius J., & Co., Starch, etc., 22.
 Wood, O. K., & Co., Machine, 33.
 Wood, Robert, & Co., Bronze work, 38.
 Wood, W. D., Wheat, 42.
 Wood, Walter A., Droppers, 28.
 Woodrell, W., Beef, 45.
 Woods, J., New South Wales, 180.
 Woods, Perry, & Co., Lumber, 15.
 Worontzoff, Prince Simon, Wine, 125.
 Worrall, E. Penn, Beehive, 38.
 Wretzl, Michael, Wine, 56.
 Wriedt, Chr., Beer, 62.
 Wright, Herbert, & Co., Pale ale, 40.
 Wright, James W., Grain harvester, 29.
 Wright, Joshua, & Son, Minced meat, 19.
 Wright Spring Co., Wagon springs, 135.
 Wright, T. A., Great Britain, 173.
 Wurfbain, G., Roots, 77; Cotton, 87.
 Wyckoff & McDonald, Plow, 26.
 Wynand, Fockink, Fine liquors, 58.
 Wyndham, George, Wines, 42.
 Wyndham, Wadham, Wines, 42.

X.

Xavier, A. de Paula, Matte, 76; Honey, 72.
 Xavier, A. P., Honey wine, 73.
 Xavier, D. Leocadia de P., Wax, 72.
 Xavier, Francisco de Paulo, Grain, 94.
 Xavier, J. Ribeiro, Tea, 70.
 Xavier, M. C., Oil, 120.

Y.

Yacovleff, J., Preserved greens, etc., 124.
 Yanagida, K., Tea, 128.
 Yañez, F. V., Chestnuts, 88z.
 Yaniz, A., Wool, 88j.

Ybanez, Aurtro, Mexico, 274.
 Yeandle, Thomas, Plows, 46.
 Yebihara, Y., Tea, 128.
 Yeiga, F. A. da, Pharmaceutical products, 75.
 Yermakoff, Nicolas, Russia, 204.
 Yoosefow Sugar Mfg. Co., Sugar, 125.
 Yoshio, Tanaka, Japan, 259.
 Yoshitaka, Ishii, Japan, 259.
 Yosso, Joas Jose da Matto, Grain, 92.
 Young, Levi, Lumber, 134.
 Yuengling & Sons, Ale, etc., 136.
 Yuille, Andrew, Ess. of coffee, 40.
 Yuquete, J. de O., Oil, 120.
 Yvanez, Sr. Don Adolfo, Chili, 267.

Z.

Zablotsk-Dessetoysky, P., Grain, 124.
 Zablotsky, D. P., Oil, 126.
 Zaforta, J. B., Carobs, 88l.
 Zaforteza, J. B., Oils, 88dd.
 Zagallo, Antonio Carlos, Corkwood, 90.
 Zahrzevsky, F., Grain, 124.
 Zais, W., Wines, 53.
 Zaitzeff, S., Cakes, etc., 126.
 Zallas y Trigueros, M., Olive oil, 88gg.
 Zamacona, Manuel M. da, Mexico, 274.
 Zambrano, J. A., Wines, 88x; Olive oil, 88ff.
 Zamora, F., Olive oil, 88hh.
 Zamora, P., Olive oil, 88ee.
 Zane, Norney, & Co., Fruit-preserver, 20.
 Zanetti, Guido, Sausages, salted meats, 64.
 Zannini & Galliani, Liqueurs, 66.
 Zapevaloff, A., Garden plants, etc., 124.
 Zappoli Brothers, Bologna sausages, etc., 64.
 Zarracina, T., Cider, 88z.
 Zavalla, L., Wool, 88.
 Zavalla, Pedro J., Wine, 85.
 Zayas y Trigueros, M., Wool, 88j.
 Zealand Association for Encouragement of Agriculture and Cattle Breeding, 57.
 Zeller, Chas., Plants, 154.
 Zeni, Niccolo, Cordial, 65.
 Zerpa, J., Wine, 88z.
 Zeschks, L., Rags, 56.
 Ziegle, A., Beer, 137.
 Zierotin, Countess Gabriel von, Bushes, 55.
 Zigliani, Cammillo, Vermouth, 65.
 Zimmerman, Henry O. R., Insects, 18.
 Zinsser, Wm., & Co., Pumps, 139.
 Zironi, Giovanni Tiorano, Salted meats, 64.
 Zolezi, Nicolas, Snuff, cigars, 81.
 Zoller, A., Barrel washer, etc., 137.
 Zoological Society, Fern, 152.
 Zorilla, B., Skin, 83.
 Zubia, I., Sherry, 88y; Olive oil, 88ff.
 Zubiaurre, O., Wool, 87.
 Zugadi, Nicolas, Oils, 132; Nito, 133.
 Zujlekom, Van Lebert, & Co., Gin, 58.
 Zulueta, J., Brandy, 88cc.
 Zunzunegui, A., Wine, 88cc.
 Zurbano, J., Wine, 88c.
 Zyp, Baron W. G. B. van de, Netherlands, 234.
 Zzykin, M. Y., Bros., Cordials, etc., 126.

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