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SMITHSONIAN INSTITUTION.
UNITED STATES NATIONAL MUSEUM.

FIRST DRAFT OF A SYSTEM OF CLASSIFICATION
FOR THE WORLD'S COLUMBIAN EXPOSITION.

BY

G. BROWN GOODE, LL. D.,

Assistant Secretary, Smithsonian Institution, in charge of U. S. National Museum.

(REPRINT.)

From the Report of the U. S. National Museum, 1891.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.

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sand classes. First of all, I repeat, *visitors must be induced to come to the Exposition and to look at the exhibits.* The next thing to be accomplished is, *by means of careful installation and labeling, to make each object teach some useful lesson.*

The interest of the exhibitors is identical with that of the managers in this respect, and their coöperation in this higher class of exhibition work is indispensable to its success.

The classification scheme of every important exhibition of the past forty years has been studied for the purpose of embodying in the present plan the best features of all which have preceded it, and it is my hope that, after this has been modified to meet the special needs of the coming Exhibition in Chicago, it will prove to be thoroughly available in practical use.

I need scarcely remind you that no rules for the construction of exhibition classifications have ever been formulated. No two persons can possibly arrive at the same results in preparing a plan of arrangement, and it is unlikely that any scheme can ever be fully satisfactory to all. A plan of classification is a matter of compromise and convenience, and the only test of its value is in its practical working.*

An attempt has been made to present in this plan of classification a certain logical sequence of ideas. This sequence is perhaps somewhat obscured by the combination of many quite distinct groups in a few primary divisions, and a general review of the arrangement is therefore given.

A primary division into ten groups or departments is proposed. Their composition is shown in a general way below, as follows:

PRIMARY OR PRODUCTIVE ARTS.

1. *Agriculture and Allied Industries, including—*

Agriculture, in a limited sense.

Viticulture.

Horticulture and gardening.

* A unit of classification is not necessarily a unit of installation. Your officials in charge of installations may at any time combine a number of classes, or combine all the classes in a division for purposes of exhibition. Similar combinations will of course be made for jury work.

Please note particularly the possibilities in connection with Department 10, to which, in the form of *Collective Exhibits*, the management may assign, for monographic display, in separate halls or buildings, special subjects for which such treatment is desired.

When, for any reason, it is decided to remove a given group of objects from the place where it logically belongs, to some other place where it is more convenient to display it, it is possible by a system of cross-references in the catalogues and on the labels to keep its other relationships in the mind of the visitor. Indeed, it is often desirable to exhibit the same class of objects twice in different relationships. Cotton in the bale, for instance, is a *final product* of agriculture and the *raw material* of one of the textile industries, and for purposes of exhibition belongs in both departments, although, possibly, subject to jury award only where it appears as a product; and there are many similar cases with which you are of course familiar.

The importance of the cross-reference system, then, is very great.

1. *Agriculture and Allied Industries*, including—
 - Forestry (including, perhaps, the wood-working industries.)
 - Stock-raising, poultry, etc.
 - Dairy industries.
 - Minor animal industries.
 - Hunting and trapping for profit.
2. *The Mines and Metallurgy*, including—
 - Mining.
 - Metallurgy and metal-working (simple products only).
 - The quarries and stone-working.
 - Water and ice supply.
3. *The Fisheries*, including also, for reasons of installation, all marine and aquatic interests, as follows:
 - The fisheries.
 - Fish culture.
 - Vessels and boats.
 - Life-saving and subaquatic operations.

SECONDARY OR ELABORATIVE INDUSTRIES.

4. *Manufactures and Elaborative Industries*,* including—
 - Motors of all kinds.
 - Machinery in motion.
 - Railway plant.
 - Vehicles of land transportation.
 - Electricity and its application.
 - The chemical industries.
 - Pottery and glass-making.
 - The metal-working handicrafts (partly also under Mines and Metallurgy).
 - The wood-working industries (perhaps to be arranged under Forestry).
 - The stone-working industries and masonry (perhaps to be arranged with Mines and Metallurgy).
 - Fur and leather working.
 - The textile industries.
 - Paper manufacture.
 - Other industries and machines.

UTILIZATION OF RESOURCES AND MATERIALS.

5. *Food and its accessories*, including—
 - Food substances and cookery.
 - Beverages.
 - Tobacco and other narcotics.†
6. *House and dress*, including—
 - Domestic architecture and house-fitting.
 - Furniture (of dwellings and public buildings).
 - Heating, lighting, and ventilation.
 - Costume and its accessories, and the toilet.
 - Jewelry and trinkets.

*The subordination of so many important industries under one general head may at first sight be deemed inadvisable. It should be borne constantly in mind, however, that *a system of classification is only a device to facilitate administration*, and that the subordination of a given subject and the size of the types in which it is printed in the classification, have no relation whatever to its relative importance.

†This grouping may seem inappropriate, but it is that which for forty years has, for reasons of convenience, been adopted by exhibitions.

THE FINE ARTS.

7. *The pictorial, plastic, and decorative arts, including—*

Photography.
 Decorative arts in general.
 Sculpture.
 Architecture.
 Engraving.
 Drawing.
 Painting.

THE PHYSICAL, INTELLECTUAL, AND MORAL CONDITION OF MAN (including the
 "Liberal Arts" of the French classifications and much more).

8. *Social relations and public welfare* (physical and social condition of man).

Folk-lore and ceremony.
 Communication and record of ideas (language, writing and printing. Books
 not shown as literature).
 Engineering and constructive architecture.
 Property, trade, commerce, and intercommunication.
 Recreation and amusement.
 Music and musical instruments. The theater.
 Medicine, surgery, pharmacology, hygiene.
 Public convenience and safety.
 Government and law.
 Societies and federations.

9. *Science, religion, education and human achievement* (intellectual and moral condition of man).

Institutions and organizations.
 Science (research and record).
 History and biography. Representative men.
 Literature and books.
 Journalism.
 Religious organizations
 Primary education.
 Secondary instruction.
 Superior instruction.
 Human achievement.

10. *Collective or monographic exhibits.*

Collective exhibits of foreign governments.
 The Government of the United States. Collective exhibit of the Government
 Departments.
 American States and cities.
 The woman's department.
 Collective exhibits, isolated by the board of management for reasons of con-
 venience.
 Special industries. Collective exhibits (such as the leather, textile, or brew-
 ing industries).
 North American ethnography, and that of other countries (with tribes or
 families living in native dwellings).
 Special monographic exhibits, showing the civilization of countries which
 have contributed largely to the peopling of America.
 Special collective exhibits to be arranged for by the commissioners.

It will be observed that in the sketch of the plan of arrangement given above, no attempt has been made to follow the details of the secondary classification as presented in the formal plan. My idea has

been simply to show the relation of the ideas which underlie the main classification.

The minor headings may be made the basis of an alternative arrangement, which is quite practicable, if the commission should prefer to adopt a plan with a larger number of main departments. A rearrangement of the details would be simply an affair of paste and scissors.

Your attention is invited to the proposed adoption of the *decimal system* in the numeration of the classes.

Each number used in the classification will indicate in itself, in the simplest and clearest manner possible, the class, division, and department to which the object designated belongs. There are ten *divisions* in each group or *department*, and ten *classes* in each *division*, making one thousand *classes* in all.

At first sight this system may seem artificial and not practical. Its advantages are, however, many and positive, especially when in use by persons untrained in exhibition administration. It is not by any means a new idea. A somewhat similar system of class numeration was used with excellent results in the Philadelphia Exhibition of 1876. A simple illustration of the plan is found in the customary way of numbering the rooms and floors in large hotels, the numbering of the rooms on the first floor beginning with 1, those on the second floor 2, and so on.

The use of the decimal system is not, however, an essential feature of the plan and another method of designating the classes may readily be substituted.

This plan is purposely more minute and elaborate than that used by any previous exhibition, in order to call out material that otherwise might not be sent. If the classification were intended simply for the installation of material on the floors of the Chicago buildings, this one is surely fuller than it need be. If, however, *the most important function of a plan of classification is to serve as a stimulant and a guide to exhibitors and to show them what kind of objects they can and ought to send to the Exposition*, it is scarcely possible to have it too comprehensive.

It will be noticed that some classes are much more minutely subdivided than others. This is usually intentional. Where the details of a subject are to be found in the cyclopedias and common treatises, they are not included here. For instance, the breeds of poultry are not catalogued, because it is unnecessary. Sometimes, on the other hand, the omission is unavoidable, because the author of the classification is ignorant of the subject and has not as yet been able to find the proper persons to supply the needed information. So far as necessary, additions and alterations can be made in the next edition of the plan.

Let me say, however, that *the classification is intended to be suggestive rather than exhaustive*.

This plan calls for much material and information—historical, statistical, scientific, and educational—which no previous exhibition has obtained or asked for. I do not believe that private exhibitors will

undertake to supply any considerable amount of this kind of material, though much will be done by societies, commercial organizations, and public-spirited men and women who may become interested in the development of certain subjects. I am confident, however, that a moderate expenditure of money and effort in this direction on the part of the officers of the Exhibition will produce most satisfactory results. By no other means can the attractiveness, the educational value, and the permanent usefulness of the exhibition be so greatly enhanced.

If I understand rightly the spirit of the proposed exhibition, it is to show the history of our continent since its European occupation and its influence upon the history of the world. It is to expound, as far as may be, the steps of the progress of civilization and its arts in successive centuries, and in all lands up to the present time and their present condition; to be, in fact, *an illustrated encyclopedia of civilization*. It is to be so generous in its scope that *in its pictorial and literary remains will be preserved the best record of human culture in the last decade of the nineteenth century*. If such is to be the character of the undertaking, it will be necessary to depart very largely from the traditional methods of previous exhibitions, which have usually been preëminently industrial.

As a student of museum and exhibition administration for twenty years, and as commissioner in charge of the exhibit of the United States at two international exhibitions abroad and officially connected with all the home exhibitions in which the Government has ever taken part, it has been my privilege to observe the tendencies of public opinion in regard to such matters.

I am satisfied that more is expected of the Chicago Exhibition than of any previous undertaking of the kind, and that a pronounced departure from traditional methods and the introduction of features new, useful and improving are the conditions of a magnificent success.

Since 1876 a notable change in the theory and practice of exhibition administration has taken place. Magnificent as was the success of the Philadelphia exhibition in its day, if it could be reproduced exactly in Chicago in 1892, it would probably not be considered at all a remarkable affair.

The successes of the Paris Exposition of 1889, and the equally remarkable achievements of the quartet at South Kensington, namely, the Fisheries Exhibition in 1883, the Health Exhibition in 1884, the Inventions Exhibition in 1885, and the Colonial and Indian Exhibition in 1886, as well as of other special exhibitions in the European capitals, have, it would seem, left little new to be done.

Installation methods are much more elaborate and effective than ever before; catalogues and labels are more accurate and scholarly. There has been developed a system of handbooks, manuals, and expert reports which, after the close of the exhibition, standing on the shelves of all the great libraries of the world, constitute a lasting monument of the enterprise. A series of international conferences and assem-

blies of experts, bringing together in council wise men of all nations, were most successfully carried out at Paris. These were in many respects the most important features of the exhibition, and were so regarded by its management.

In the meantime the old system of competitive awards and medals has been falling into disfavor, just as similar methods are going out of educational institutions. What was once the chief feature is now only an incidental one, and, although doubtless still a necessary accompaniment of exhibitions, it is one which is usually a source of dissatisfaction to all concerned.

The theatrical features, at one time in favor in exhibitions, are less effective than in the past; unmeaning and pretentious display is not advantageous. Stupendous towers, barrels as big as houses, temples of cigar boxes, or armorial trophies of picks and shovels, though they have their uses for advertising purposes, and, it may be, for decoration, are matters of but the slightest importance in an exhibition which is intended to commemorate the anniversary of a great historical event.

The historical and educational idea is the one which seems to be most in keeping with the spirit of America at the present time, and no great exhibition has by any means exhausted the possibilities of effective work in this direction, wherein seems to lie the chief opportunity of doing something which has not already been magnificently done elsewhere.

The public has a lofty ideal for the Columbian Exposition. The tendency of thought has been well set forth in the admirable letters by Mr. Edward Atkinson to the New York Tribune on the subject of the plan of the World's Columbian Exposition, and in the interest manifested in the essay of M. Berger, the director general of the Paris Exposition, recently published in the Century Magazine. The Chautauqua movement and the National Agricultural Experimental Station enterprise illustrate the demand of the public for concrete information, and that of the highest order.

The visitors to the National Museum in Washington are numbered by hundreds of thousands and come from every portion of the United States. The Museum is, in a certain way, a permanent exposition of science and industry. Time after time new features have been introduced, seemingly in advance of the public taste, yet in every case the people have not only appreciated the idea at once and been pleased with it, but have also shown by their comments and suggestions and generous aid how further advances might be made in the same direction.

Please allow me to refer once more to the subject of labels and labeling. By a label I mean not merely the card attached to a given article, giving its name and that of its exhibitor: I mean all illustrative and explanatory matter displayed in connection with any group of objects, such as placards, pictures, maps, and books, placed where the visitor can use them. I once attempted to make a definition of a museum—an ideally useful museum—in the following words:

*"An efficient educational museum may be described as a collection of instructive labels, each illustrated by a well-selected specimen."**

The same principle, with obviously necessary modifications, may be said to be applicable in the administration of exhibitions.

A *live exhibition* is one in which each group of objects is made intelligible and instructive by the constant presence of a staff of experts to explain the teachings of the objects on view, and by an effective system of labels and explanatory placards.

The exhibition of the future will be an exhibition of ideas rather than of objects, and nothing will be deemed worthy of admission to its halls which has not some living, inspiring thought behind it, and which is not capable of teaching some valuable lesson.†

A leader in the educational work of America writes to me in the following words:

In the history of no nation before has there been such a thirst for knowledge on the part of the great masses of the people, such a high appreciation of its value, and such ability and readiness to acquire and use it. No other people get so much of education from what they read and see. No other nation has so large a body of citizens of high intelligence; never before has the public been so willing, and inclined, so anxious to receive with respect and use with intelligence the information which the thought and experience of the age are furnishing; never before have that thought and experience had so much to give. Let the Exposition be a display not merely of material products, but of the teachings of science and experience as regards their value, importance, and use.

The Exposition should be not merely a show, a fair, or a colossal shop, but also and preëminently, an exposition of the principles which underlie our national and individual welfare, of our material, intellectual, and moral status; of the elements of our weakness and our strength, of the progress we have made, the plane on which we live, and the ways in which we shall rise higher. It should be an exposition of knowledge, illustrated by the material objects shown. It should teach not only to our people, but to the world, what a young republic, with all the cradleness of youth, but heir to the experience of the ages, has done in its brief past, is doing in the present, and hopes to do in the greater future for its people and for mankind.

These are lofty ideals, but I believe that those of the principal promoters of the Chicago Exposition, and of the members of the World's Columbian Commission, are not less comprehensive.

The occasion is an inspiring one, and it may well be that the world will witness in Chicago the greatest of international exhibitions.

Very respectfully,

G. BROWN GOODE.

* Smithsonian Report, 1881, p. 85.

† The labor and thought required will be very great, and the expense will be not inconsiderable. Not only the advice but the active coöperation of the best talent of the country will be necessary. Services of this character will be required, not only in bringing the material together, but still more in its installation, and in the preparation of adequate labels, handbooks and catalogues.

Should a system of salaried jurymen, such as that recommended by Mr. Porter, be adopted, some of these men will doubtless be able to render professional and expert service of other kinds to the Exhibition.

GROUPS OR DEPARTMENTS.

1. Agriculture and Allied Industries. (Agriculture, Horticulture, Forestry, Stock-Raising, Etc.)
 2. The Mines and Metallurgy.
 3. Marine and Fisheries.
 4. Manufactures and Other Elaborative Industries. (Machinery, Processes, and Products.)
 5. Food and Its Accessories.
 6. The House and Its Accessories. Dress and Personal Equipment.
 7. The Pictorial, Plastic, and Decorative Arts.
 8. Social Relations and Public Welfare.
 9. Science, Religion, Education, and Human Achievement.
 10. Collective Exhibits.
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DEPARTMENT 1.—AGRICULTURE AND ALLIED INDUSTRIES.

DIVISIONS.

10. THE SCIENCE AND PRINCIPLES OF AGRICULTURE.
11. FARMS, BUILDINGS, TOOLS, AND MACHINERY.
12. CULTURE OF CEREALS, GRASSES, AND FORAGE PLANTS, ETC.
13. CULTURE OF TOBACCO, TEXTILE PLANTS, ETC.
14. VITICULTURE AND ITS PRODUCTS.
15. ECONOMIC HORTICULTURE—VEGETABLES AND FRUITS.
16. ORNAMENTAL AND RECREATIVE HORTICULTURE, WINDOW GARDENING, ETC.
17. FORESTRY AND FOREST PRODUCTS.
18. DOMESTICATED ANIMALS, STOCK-RAISING, THE DAIRY INDUSTRY, ETC.
19. THE MINOR ANIMAL INDUSTRIES.

DEPARTMENT 2.—THE MINES AND METALLURGY.

DIVISIONS.

20. THE SCIENCE OF MINES. ECONOMIC GEOLOGY AND MINERALOGY.
21. MINE ENGINEERING.
22. MINING AND METALLURGICAL TOOLS AND MACHINERY.
23. SELECTED MINING INDUSTRIES—SPECIAL MONOGRAPHIC EXHIBITS.
24. QUARRYING AND STONE-WORKING.
25. COAL, PETROLEUM, AND NATURAL GAS.
26. WATER AND ICE. SURFACE DEPOSITS.
27. METALLURGICAL AND METAL-WORKING PRODUCTS.
28. MINE PRODUCTS, NOT CLASSED ELSEWHERE.
29. MINERS, QUARRYMEN, AND OPERATIVES.

DEPARTMENT 3.—MARINE AND FISHERIES.

DIVISIONS.

30. THE SEA AND INLAND WATERS. (PHYSICAL CONDITIONS. AQUATIC LIFE.)
31. SEAPORTS AND HARBORS—OCEAN AND RIVER COMMERCE.
32. MARINERS, FISHERMEN, MARINE-CAPITALISTS, AND OUTFITTERS.
33. BOATS AND SAILING VESSELS.
34. STEAMSHIPS AND STEAMBOATS.
35. SEA FISHING.
36. FRESH-WATER FISHING AND ANGLING.
37. FISHERY PRODUCTS—THEIR PREPARATION AND USES.
38. FISH CULTURE AND ACCLIMATIZATION.
39. LIFE-SAVING AND SUBAQUATIC OPERATIONS.

DEPARTMENT 4.—MANUFACTURES AND OTHER ELABORATIVE INDUSTRIES.*

DIVISIONS.

40. MACHINERY AND MOTORS.
41. MACHINERY, ETC. (CONTINUED). RAILWAY PLANT.
42. ELECTRICITY AND ITS APPLICATIONS. A MONOGRAPHIC EXHIBIT.
43. CHEMICAL MANUFACTURES, OILS, SOAPS, WAXES, GLUES, PAINTS, DYES, ETC.
PAINTING AND DYEING.
44. POTTERY AND ITS MANUFACTURE.
45. GLASS AND ENAMELS.
46. METAL-WORKING HANDICRAFT—CLOCKS AND WATCHES, CUTLERY AND OTHER PRODUCTS.
47. FURS AND LEATHERS. TANNING AND CURRYING.
48. THE TEXTILE INDUSTRIES.
- 49A. PAPER MANUFACTURE AND ITS APPLICATIONS.
- 49B. APPLICATIONS OF ANIMAL, VEGETABLE, AND MINERAL MATERIALS NOT ELSEWHERE CLASSED.

DEPARTMENT 5.—FOOD AND ITS ACCESSORIES.

DIVISIONS.

50. THE SCIENCE OF FOOD AND NUTRITION.
51. ANIMAL FOODS AND PRODUCTS FROM THEM.
52. VEGETABLE FOOD PRODUCTS.
53. SUGAR. CONFECTIONERY, FATS AND OILS.
54. FOOD ADJUNCTS. CONDIMENTS AND STIMULANTS.
55. BEVERAGES AND MATERIALS FOR BEVERAGES.
56. TOBACCO.
57. PECULIAR AND LESS COMMON FOOD AND FOOD PRODUCTS.
58. COOKING UTENSILS. PRODUCTS. COOKING SCHOOLS.
59. CONSERVATION AND TRANSPORTATION OF FOOD. FOOD SUPPLY.

Nos. 51 to 56 may include adulterations and methods of adulterating. With the prepared products, the machinery and methods used in preparation may be shown.

* Stone-working industries, see Division 29, Stone-working industries, see Division 17.

DEPARTMENT 6.—THE HOUSE AND ITS ACCESSORIES, COSTUME
AND PERSONAL EQUIPMENT.

DIVISIONS.

60. CITIES, TOWNS, AND VILLAGES.
61. DOMESTIC AND ECONOMIC ARCHITECTURE—DOMESTIC APPLIANCES.
62. INTERIOR ARCHITECTURAL FIXTURES AND DECORATION.
63. FURNITURE OF THE DWELLING HOUSE.
64. FURNITURE AND FIXTURES FOR PUBLIC BUILDINGS.
65. HEATING, LIGHTING, VENTILATION, AND WATER SUPPLY.
66. COSTUMES AND PARTS OF COSTUMES.
67. JEWELRY AND TRINKETS.
68. THE TOILET AND ITS APPLIANCES.
69. ACCESSORIES OF COSTUME AND PERSONAL EQUIPMENT.

DEPARTMENT 7.—THE PICTORIAL, PLASTIC, AND DECORATIVE
ARTS.

DIVISIONS.

71. PHOTOGRAPHY.
72. PHOTO-MECHANICAL AND OTHER MECHANICAL PROCESSES OF ILLUSTRATING.
73. THE DECORATIVE ARTS.
74. SCULPTURE.
75. ARCHITECTURE (AS A FINE ART).
76. ENGRAVING, ETCHING, AND LITHOGRAPHY.
77. DRAWING.
78. PAINTING IN WATER COLORS, ETC.
79. PAINTING IN OIL.

DEPARTMENT 8.—SOCIAL RELATIONS AND PUBLIC WELFARE.

DIVISIONS.

80. FOLK-LORE.
81. COMMUNICATION AND RECORD OF IDEAS.
82. ENGINEERING AND CONSTRUCTIVE ARCHITECTURE.
83. PROPERTY, TRADE, COMMERCE, AND INTERCOMMUNICATION.
84. RECREATION AND AMUSEMENT.
85. MUSIC AND MUSICAL INSTRUMENTS. THE THEATER.
86. MEDICINE. SURGERY. PHARMACOLOGY. HYGIENE.
87. PUBLIC CONVENIENCE AND SAFETY.
88. GOVERNMENT AND LAW. THE ART OF WAR.
89. SOCIETIES AND FEDERATIONS.

DEPARTMENT 9.—SCIENCE, RELIGION, EDUCATION, AND HUMAN
ACHIEVEMENT.

DIVISIONS.

90. INSTITUTIONS AND ORGANIZATIONS.
91. SCIENCE (RESEARCH AND RECORD).
92. HISTORY.
93. LITERATURE AND BOOKS.
94. JOURNALISM.
95. RELIGIOUS ORGANIZATIONS.
96. EDUCATION, PRIMARY.
97. EDUCATION, SECONDARY.
98. EDUCATION, SUPERIOR.
99. HUMAN ACHIEVEMENT.

DEPARTMENT 10.—COLLECTIVE AND MONOGRAPHIC EXHIBITS.

DIVISIONS.

101. FOREIGN GOVERNMENTS. COLLECTIVE EXHIBITS.
102. THE GOVERNMENT OF THE UNITED STATES. COLLECTIVE EXHIBIT OF THE GOVERNMENT DEPARTMENTS.
103. AMERICAN STATES AND CITIES.
104. THE WOMAN'S DEPARTMENT.
105. COLLECTIVE EXHIBITS, ISOLATED FOR REASONS OF CONVENIENCE.
106. SPECIAL INDUSTRIES. COLLECTIVE EXHIBITS.
107. NORTH AMERICAN ETHNOGRAPHY AND THAT OF OTHER COUNTRIES.
108. SPECIAL MONOGRAPHIC EXHIBITS, SHOWING THE CIVILIZATION OF COUNTRIES WHICH HAVE CONTRIBUTED LARGELY TO THE PEOPLING OF AMERICA.
109. SPECIAL COLLECTIVE EXHIBITS TO BE ARRANGED FOR BY THE COMMISSIONERS.

DEPARTMENT 1.—AGRICULTURE AND ALLIED INDUSTRIES.

10. The Science and Principles of Agriculture.

100. THE HISTORY OF AGRICULTURE.
 - Retrospective exhibits.
 - Agriculture of the past.
 - Agriculture of other countries not elsewhere assigned.
 - Agriculture of the Indians.
 - Western ranch life. Frontier life.
101. AGRICULTURAL SCIENCE AND EDUCATION.* EXPERIMENT STATIONS.
 - History of the development of experimental agricultural science.
 - Experiment stations of the United States and other countries.
 - Agricultural geology, physics, chemistry, and biology. (Economic botany and zoölogy.) Physiology of plant and animal life. Agricultural meteorology.
 - Literature of agricultural science.
102. AGRICULTURAL RESOURCES.
 - Resources by geological formations.
 - Resources by regions.
103. SOILS.
 - Classified by characters and by regions.
 - Experimental exhibits.
104. SYSTEMS OF TILLAGE.
 - Planting and cultivation. Rotation.
105. DRAINAGE.
106. IRRIGATION.
107. FERTILIZERS AND THEIR APPLICATION.
 - Results of chemical and physiological experiments.
 - Statistics and history of natural and artificial fertilizers.
 - See also Subclass 116.
108. AGRICULTURE IN RELATION TO STOCK-RAISING.
109. STATISTICS OF AGRICULTURE AND THE COMMERCE IN ITS PRODUCTS.

*For Agricultural Schools, see also Group 9.

II. Farms and Farmers. (Agricultural Engineering and Architecture. Buildings, Tools, and Machinery.)

110. HISTORY OF FARMS.

Systems of land-ownership among early peoples, with reference to history of systems of tillage and primitive methods of government. Land and village systems of the early Germans and English.

Maps and plans of ancient farms and farm communities.

Plans of early farm buildings not elsewhere shown.

Historical exhibits relating to other rural occupations.

111. FARM LANDS.

Maps and statistics showing relation of agriculture to other industries.

Areas of agricultural holdings in various States and countries.

Percentages of population, agriculturists to others.

Sizes of farms and holdings.

Statistical exhibits of all kinds, showing the utilization of land for productive industry.

Prices of land in various localities. Renting values. Land grants (treated historically and statistically). Individual grants. Homestead grants.

Timber grants. Military and other bounty grants.

Grants to corporations. Railroad grants and their relation to agricultural occupation.

Exhibits showing increase or deterioration of productive value of land in various localities.

Railways and other transportation systems in relation to the agricultural lands of various localities.

112. THE FARMER. HIS RELATIONS TO THE COMMUNITY AND HIS CONDITION AND PRIVILEGES, PAST AND PRESENT.

Social and economical condition.

Special and economical statistics. Capital in agricultural investment.

Profits of agriculture. Wages of agricultural laborers.

Farm literature; agricultural and rural books and journals.

113. FARM ENGINEERING.

Maps of farms and farming regions, showing road systems, locations of buildings, utilization of water supply, etc.

Laying out and improving farms.

Local irrigation and drainage—drain tiles.

Fences and gates—models and plans.

Farm roads and bridges—systems of construction for country roads.

Water and tide gates. Drains and embankments. Outfalls.

Wind-mills, water-wheels, and other motors and power appliances for farm uses.

Stack building and thatching.

114. THE FARM HOUSE.

Plans and pictures showing farm houses for all localities, interior and exterior, with all appliances.

Furniture of all kinds for farm-houses.

Farm cottages and tenements and other dwellings for farm-laborers, with their fittings.

Log cabins and other dwellings for Southern farm-laborers.

Appliances of domestic industry, peculiar to the farm-house.

Pictures and other representations of farms and farm-houses, memorable as the places of birth or residence of famous men.

115. FARM BARNS AND OUT-HOUSES.

Barns in general: plans, sections, elevations, photographs, and models.

Representations of groups of farm buildings.

115. FARM BARNS AND OUT-HOUSES—Continued.

Stock barns, stables, and folds. Poultry houses, apiaries, cocooneries. Piggeries. Kennels.
 Hay barns, ricks, barracks.
 Vegetable store-houses, silos.
 Granaries, fruit-driers, smoke-houses.
 Dairy buildings, spring-houses, ice-houses.
 Tool-houses, wagon-houses.
 Hot-houses and other accessories of farm horticulture.
 Slaughter-houses, compost-houses, manure-pits.

116. AGRICULTURAL TOOLS AND AGENCIES.

Implements of clearing: Woodman's tools—axes, etc. Stump and root pullers. Stone implements.
 Implements of tillage: Manual implements—spades, hoes, rakes. Animal power and machinery—plows, cultivators, horse-hoes, clod-crushers, rollers, harrows. Steam-power machinery—plows, breakers, harrows, cultivators. Digging and trenching machines.
 Implements for planting: Manual implements—corn-planters and hand-drills. Animal power—grain and manure drills, corn and cotton planters. Steam-power machinery—grain and manure drills.
 Implements for harvesting: Manual implements—scythes, grain cradles, reaping hooks, sickles. Animal-power machinery—reapers and headers, mowers, binders, tedders, rakes, hay-elevators, and hay-loaders. Potato diggers.
 Implements used preparatory to marketing: Flails, thrashers, clover-hullers, corn-shellors, winnowers; hay, cotton, wine, oil, and sugar making apparatus.
 Implements applicable generally to farm economy: Portable and stationery engines, chaffers, hay and feed cutters, slicers, pulpers, corn mills, farm boilers and steamers, cider presses.
 Dairy fittings and appliances: Churns for hand and power, butter-workers, cans and pails, cheese presses, vats and apparatus.
 Wagons, carts, sleds, harness, yokes, traction engines.
 Apparatus for road-making and excavating.

117. FERTILIZERS.

Phosphates, potash salts, nitrogen compounds, ashes, marls, and plasters, etc.
 Cotton seed, fish scrap, etc.
 Manufacturing establishments.
 Statistics of trade and consumption.
 Farm manures and their value. Production. Management. Application.

118. AGRICULTURAL SOCIETIES AND LEAGUES.

Literature and statistics. History.
 Departments and boards of agriculture.
 The Grange, the Wheel, the Alliance, the League, and other farmers' societies.

119. AGRICULTURAL FAIRS AND EXHIBITIONS.

Literature and statistics. Pictures.

12. *Cereals, Grasses, and Forage Plants.*

Under each head are to be shown the natural history of the plant under consideration; theories and methods of culture, past and present; peculiar implements for its tillage, planting, harvesting, preservation [ensilage], preparation for market, and specimens of the final products as ready for the market.

In special instances, as in the tobacco class, for instance, it may be found advisable to install in this section the methods and products of its final treatment.

Pictures and other illustrative exhibits to be shown in each class.

121. INDIAN CORN. (MONOGRAPHIC EXHIBIT.)

Natural history of Indian corn. Varieties, and their history. Geographical distribution of corn-culture. Corn-culture in other countries. Maps, retrospective and for the present.

Culture and use of corn by the American aborigines. Instruments of tillage and utilization. Stone hoes and spades. Mortars and pestles. Aboriginal forms of use. Hominy, samp, pones, succotash, and their history.

Planting, tillage, and harvesting of corn. Husking and shelling tools.

Exhibits of all varieties of corn.

Utilization of the grain. Exhibits of all food products: Flours, meals, hominies, popcorn preparations; also cooked preparations, so far as practicable.*

Utilization of stalks and husks. Stuffings. Mats, brushes, horse collars, and other domestic manufactures. Broom-corn and its uses.

Distillation of corn, alcohols, whiskies, etc.

Folk-lore and legend of corn. Shucking bees. Indian ceremonies. Literature of corn. Corn as a motive in the decorative arts, etc.

122. THE SUGAR CANE AND SORGHUM.

Treatment as for Indian corn.

If a monographic display is desired, molasses and cane sugar and rum might be shown, and even the preparation of sugar and its utilization in general.† Sorghum, its culture and applications included here.

123. THE OLD WORLD CEREALS.‡

Wheat, rye, barley, oats, etc.

124. RICE AND ITS CULTURE.

125. THE GRASSES.

Hay and its management.

126. THE FORAGE PLANTS.

Clover, alfalfa, cowpea, and other leguminous species.

Other forage plants.

127. FARM GARDENING.

Field culture of esculent plants and roots.

Peanut culture.

128. TROPICAL PLANTING, NOT ELSEWHERE CLASSED.

Tapioca, arrowroot, etc.

*A special temporary exhibition might be held for the display of all cooked preparations of this peculiarly American grain, in connection with a monographic display of all other matters connected with its history and uses.

†By building a light protection of glass and an occasional use of steam, it would be possible to show all the operations of a Southern sugar plantation—planting and raising the cane, gathering and making the molasses, etc.—on the Exposition grounds, employing a characteristic gang of Southern negroes, who would form a most peculiar and interesting feature of the exhibition.

‡Under wheat, Assistant Secretary Willits, of the Department of Agriculture, suggests an exhibit of varieties grown in this country and other parts of the world, accompanied by data which will bring out the effects of climate, soil, culture, and other conditions upon the size, shape, color, weight, hardness, chemical composition, and other properties of the grain which decide its value for milling, cooking, and nourishment. The ultimate object would be to determine and illustrate for different varieties the quantity and quality of produce, changes under influence of varied conditions, and the adaptations of varieties to different localities.

129. THE BAMBOO, PALM, AND OTHER TROPICAL PLANTS, THEIR CULTURE AND APPLICATIONS IN THE ARTS.

13. Textile Plants. Tobacco and Medicinal Plants.

131. COTTON.

Cotton on the stem, in the boll, ginned, and in the bale.

Treatment similar to Indian corn.

A monographic display not impracticable.*

132. TOBACCO.

Treatment as for corn and cotton.

Tobacco growing, picking, drying, pressing, and cigar and cigarette making, with laborers and music of the negro operatives.

133. FLAX AND HEMP.

Monographic displays possible.

Primitive spinning, on old wheels, and modern methods.

Hatchels and combs.

A rope-walk of the old style by the side of modern machinery.

• Net making, by hand and by machinery.

Primitive looms and weaving.

134. OTHER TEXTILE PLANTS AND THEIR CULTURE.

Jute, ramie, etc., etc.

135. HOPS, TEA, COFFEE, SPICES, AROMATIC HERBS, ETC.

Culture and preparation.

136. INDIGO AND OTHER DYE PLANTS AND THEIR CULTURE.

137. CINCHONA AND OTHER MEDICINAL PLANTS.

Acclimatization of cinchona in Africa and the South of France, and Eucalyptus in California and elsewhere.

138. OPIUM AND ITS CULTURE.

The opium trade.

139. OTHER MEDICINAL PLANTS.

The castor bean, etc.

14. Viticulture.

140. VITICULTURAL ECONOMICS.

The natural history of the vine.

Enemies of the vine and their prevention.

Folk-lore and history of the vine.

141. VARIETIES OF THE VINE.

Collections of vines and illustrations of the varieties.

142. SYSTEMS OF VITICULTURE AND VINE TRAINING.

Implements. Trellises and supports.

143. GRAPE RAISING FOR THE FRUIT MARKET.

144. THE RAISIN INDUSTRY.

Methods of drying and packing.

Statistics of trade.

145. WINE-MAKING.

Processes and history.

146. BRANDY AND OTHER DISTILLED PRODUCTS OF THE GRAPE.

147. WINE CELLARS, VAULTS AND VATS.

Manipulation of wine and distilled products.

148. VITICULTURE OF THE EAST. (SPECIAL EXHIBIT.)

149. VITICULTURE OF THE WEST COAST. (SPECIAL EXHIBIT.)

*Cotton might be grown and picked, ginned and packed in the bales on the Exposition grounds by a gang of Southern negroes living in their log cabins, with characteristic domestic life, music, etc.

15. *Economic Horticulture (Vegetables and Fruits.)* *

150. GARDEN ECONOMICS.
 - Soils and fertilizers.
 - Principles of gardening.
 - Tools and appliances as distinct from those of agriculture.
 - Folk-lore and history of gardening.
 - Species of vegetables and specimens of cultivation, indicating the characteristic types of the kitchen gardens and fruit gardens of every country.
151. HOT-HOUSES, ETC., FOR GARDENING.
 - Plans and drawings.
 - Devices of construction. Arrangement of glass.
 - Interior fittings. Methods of heating.
152. PULSE, CEREALS, AND FRUIT-LIKE VEGETABLES. †
 - Beans of all kinds.
 - Okra, martynia, peppers, tomatoes, etc.
 - Squashes, pumpkins, melons, etc.
 - Sugar-corn, etc.
153. PLANTS CULTIVATED FOR SPROUTS AND LEAVES, BUDS AND FLOWERS.
 - Asparagus, cabbage, cauliflower, endive, kohl-rabi, lettuce, rhubarb, spinach, sprouts of all kinds, etc.
 - Capers, nasturtiums, onions, etc.
154. ROOTS, TUBERS, ETC.
 - Artichokes, carrots, egg-plants, parsnips, potatoes, radishes, salsify, turnips, yams, etc., etc.
 - Cryptogamic plants—mushrooms, truffles, tuckahoe.
155. POMOLOGY OF TEMPERATE AND TROPICAL REGIONS.
 - Culture of apples, pears, quinces, peaches, nectarines, apricots, plums, grapes, cherries, strawberries, melons, etc.
 - Culture of oranges, bananas, plantains, lemons, pine-apples, pomegranates, figs, cocoanuts, etc.
156. NUTS AND NUT-LIKE SUBSTANCES, SPICES AND CONDIMENTS, AND THEIR CULTURE.
 - Nuts of all kinds.
 - Pits, as almonds and pistachio nuts.
 - Tubers, as peanuts.
 - Berries, fruits, seeds, buds and leaves.
 - Barks and roots used for flavoring.
 - Aromatic herbs.
157. GARDEN SEEDS, PRODUCTION AND COMMERCE.
 - Seed-raising. Methods and appliances.
 - Special exhibition of seeds, and methods of preparation, labels, etc.
 - Tests of purity and vitality.
 - Statistics of trade.
158. MARKET AND TRUCK GARDENING.
 - Statistics and history.
 - Special methods in the vicinity of different towns.
159. THE FRUIT AND VEGETABLE MARKET.
 - Packing and transportation.
 - Packing devices.
 - The market stall.
 - Statistics of trade, prices, etc.

* Fresh vegetables and fruits to be the subject of special temporary exhibitions. Models and pictures shown here.

† Under each class of gardening, all methods and tools to be shown, with statistics, etc.

*16. Ornamental and Recreative Horticulture.**

160. THE PLEASURE GARDEN.

- History and folk-lore. Literature of the pleasure garden. Periodicals.
- Pictures of representative gardening, past and present.
- Dutch topiary or formal gardening.
- Japanese miniature gardening.
- Other examples of the curious and beautiful in the art of gardening.
- Species of plants and specimens of cultivation exhibiting the characteristic types of the outdoor and indoor gardens of the natives of every country.

161. MODERN LANDSCAPE GARDENING.

- Plants and drawings.
- Photographs of finished work.

162. BEDDING PLANTS, ORNAMENTAL BULBS, AND THEIR USES.

163. HARDY PERENNIALS, SHRUBBERY, ROSES, ETC.

- Shade and ornamental trees.
- Nurseries and the nursery trade.

164. THE WINDOW AND ROOF GARDEN. HOUSE PLANTS.

- The Wardian case. Fern culture. House plants in general.
- Window gardens.

165. THE LAWN AND ITS CARE.

- Special seeds and fertilizers.
- Mowers and trimming tools.

166. THE PLEASURE CONSERVATORY.

167. THE ORCHID HOUSE AND ORCHID CULTURE.

168. COLD GRAPERIES, GRAPE HOUSES, PINERIES, AND OTHER RECREATIVE FRUIT PROPAGATING HOUSES.

169. FLOWER MARKETS.

- Bouquets. The flower trade. The seed trade.

17. Forestry and Forest Products. The Wood-working Industries.

Note.—This classification is based upon that prepared by Dr. B. E. Fernow, Chief of the Division of Forestry, U. S. Department of Agriculture.

170. FOREST BOTANY.

- Distribution of forests, of genera, of species (maps).
- Wood sections and herbarium specimens of the economically important timber trees. Seed collections—not herbarium—etc.
- Illustrations of forest growth, typical trees, botanical features.
- Anatomy and structure of woods. (Veneer sections and photo-micrographs.)
- Peculiarities of forest growth—cypress-knees, burls, etc.
- Diseases of forest trees and timber. Injurious insects.

171. TIMBER CULTURE.—PLANT MATERIAL.

- Conifers, seedlings and transplants.
- Broad-leaved trees—seedlings, transplants of various sizes, cuttings.
- Seed collections and means for storing seed.
- Means employed in gathering and preparing seed and other plant material for market and seed-testing.

172. TIMBER CULTURE CULTIVATION.

- Implements for the cultivation of the soil. Special adaptations.
- Sowing machines and tools.

* It is suggested that florists and gardeners be encouraged to show all the classes of gardening provided for in this class in actual growth. A wonderfully attractive exhibition might thus be made. A Dutch bulb garden, with Dutch gardeners, would be a striking feature, and others might be added.

172. TIMBER CULTURE CULTIVATION—Continued.

Implements and machines used for planting.

Implements used in after-culture.

Means of protection against insects, animals, climate.

Seed beds and other graphic illustrations of nursery practice.

173. FOREST MANAGEMENT.

Maps, plans, illustrations, calculations illustrating forest management.

Instruments for measuring standing timber.

Growth of different ages and soils. Graphic or other illustrations showing rate of growth. Graphic or other illustrations showing influence of various management on tree growth.

Statistics of lumber trade and of forestry.

Exhibits showing relation of forests to climate.

Literature and educational means.

174. LUMBERING AND HARVESTING OF FOREST PRODUCTS.

The lumbering industry. Logging and transportation. Implements, machines, plans, drawings, and statistical material. Loggers' tools—stump-pulling devices, marking devices, measuring tools. Loading devices—sleds, flumes, slides, rope tramways, railroads, methods of water transportation, rafts, booms, etc.

The tan-bark industry. Other barks.

The turpentine industry.

The charcoal industry.

175. PREPARATION AND MANIPULATION OF LUMBER.

Dressing, shaping, and preparation of wood. Hewing of logs, spars, etc.

Shaping of knees. Sawing and milling.

Drying and seasoning of wood.

Seasoning, kiln-drying, steam-bending, etc.

Preservation of wood by use of antiseptics, etc.

Saw-mills and saw-mill tools.

Wood-working machinery.

Wood-working tools and minor appliances.

176. FOREST PRODUCTS.—WOOD.

Wood for fuel.

Raw materials, unshaped and partly shaped.

Trees, round timber, masts, knees, hoop poles, telegraph poles, piles, posts, and all other material used as grown.

Saw logs, blocks and corded wood.

Shaped or otherwise prepared material.

Hewn timber, building timbers, railroad ties, etc.

Rived or split material—Coopers' stock, shingles, staves, etc.

Sawed lumber.

Rough—Boards, planks, etc.

Finished—Matched, molding, etc.

Veneers and fancy woods—Curly woods, bird's-eye, burls, etc.

Turned material.

Charcoal and by-products of its manufacture—Wood-vinegar, tar gas, etc.

Pulp manufacture, cellulose, etc.

Impregnated woods, various processes.

177. FOREST PRODUCTS OTHER THAN WOOD, AND THEIR DERIVATIVES.

Chemical and pharmacological substances.

Barks, galls, resinous substances for tanning, coloring, scenting, etc. Textile substances.

Naval stores, resin, gum, caoutchouc, gutta-percha, vegetable wax.

Potash in the raw state.

177. FOREST PRODUCTS OTHER THAN WOOD, AND THEIR DERIVATIVES—Continued.
 Fruits, nuts, and edible plants or products of same.
 Roots, herbs, lichens, mosses, fungi.
 Other materials, obtained without cultivation.
178. THE WOOD-WORKING INDUSTRIES.
 Carpentry, joining, and cabinet-making.
 Sash, door and blind manufacture.
 Wood-working auxiliary to carpentry. Machine-planing and polishing.
 Dovetailing, mortising, etc., by machinery. Turning. Manufacture of veneers. Wood stamping.
 Wood carving, etc. Architectural carving. Carving of ornamental articles.
 Bowl and spoon making.
 Marquettas and inlaying.
 Wood engraving (see 58).
 Furniture manufacture.
 Parquetry, wood tapestry and fancy wood-work.
 Toy manufacture.
 Carriage, car, and wagon building.
 Ship and boat building.—Cooperage products.
 Wood-working machinery, tools.
 Tool stocks, handles, mill-work.
179. THE MINOR WOOD-WORKING ARTS.
 Manufacture of bent wood articles.
 Bamboo and rattan splint wares, making "excelsior" chips, etc.
 Wood composition and wood pulp (see 30).
 Manufacture of chip hats, chip baskets, boxes, plates, wooden shoes (see 29).
 Cork and substitutes for cork, as root of *Ochroma lagopus*, *Anona palustris*, etc. Materials and products.
 Brier-root pipes. Root and knot carving.
 Birch bark in various uses.
 Piths and their uses.
 Match manufacture. Toothpick manufacture.
 Straw goods, willow ware, and basketry.

18. *Domesticated Cattle—Stock Raising, Dairy Industries, etc.*

180. PRINCIPLES AND ECONOMICS OF ANIMAL CULTURE.*
 Illustrations of heredity and the variations of animals under domestication.
 Charts showing methods of breeding, inbreeding and outcrossing, with results. Pedigrees of general interest.
 Results of scientific experiment, by breeders, or by research stations, tending to the advancement of the animal-breeding industries, or to the improvement or better utilization of the product,—tabulated and arranged either in this class or by the side of the exhibit which they most fully illustrate.
 The geographical distribution of the animal-breeding industries, the original source and present site of special breeds, and the principal centers of trade and lines of traffic, shown by maps and tables.
 Prices of live stock, past and present, shown by tables and curves; similar exhibits of the aggregate and per capita values of live stock by districts and countries.
 Breeding establishments, private and public:—maps, plans, statistics and literature.

* The details of the classification of the stock-raising industries are taken without material alteration, except a few additions, from the plan prepared by Col. G. E. Gordon, which he has permitted me to examine.

180. PRINCIPLES AND ECONOMICS OF ANIMAL CULTURE—Continued.

Animal pathology, surgery, and dentistry. History and literature. Methods and instruments. Research upon contagious disease, its origin and prevention. Sanitation and quarantine.

Feeding of animals. Results of experimental feeding and chemical and physiological research. Feed-standards and rations. Economy of feeding stuffs.

Illustrations of results of feeding for specific objects, as bone and muscle, meat, fat, milk and butter, wool, etc.*

181. THE HORSE AND ITS MANAGEMENT.

The breeds of the domesticated horse. History shown by models, maps, pictures.

Thorough-bred horses.

Standard-bred horses, and horses of record.

Light harness horses. Roadsters and trotters. Racing stock. Driving turnouts.

Coach horses. Coach turnouts.

Saddle horses, hackneys, hunters, cavalry horses. Combined riding and driving horses.

Educated and trick horses.

Ponies. Performing ponies, etc.

Draft horses.

Asses and mules.

Harness trappings and saddles. Carriages, wagons, etc., not elsewhere classed. Shoes and farriery. Grooming appliances.

182. CATTLE.

The breeds of domestic cattle. History shown by models, maps, pictures and literature.

Beef cattle. Breeding cattle. Registered breeding stock and fat cattle, registered and grade.

Dairy cattle. Registered breeding stock and cattle entered for comparative yield of prodnet.

Cattle useful for general qualities.

Oxen. Oxen at work.

Crosses of domestic cattle with the buffalo.

Brands, ear-marks and stamps, tethers, bells, etc.

183. THE DAIRY INTEREST.

Geographical distribution of dairy farms, etc., in North America.

Farm products, butter, cheese, etc., with churns and other implements for the domestic dairy industry. Domestic creamery implements.

Fancy butter and cream for luxurious markets.

Milk supply of towns and cities.

Milk supply to evaporating factories.

Spring-houses and dairy-building generally.

For dairy products, see Class 189, and also in connection with food products in Division 5, where the methods and statistics of secondary handling, factories, etc., will be shown.

Dairying in foreign lands and among primitive people.

184. SHEEP AND GOATS.

The breeds of the sheep, goat, etc.

Sheep for mutton.

Fine-wooled sheep.

* Use of animals for food shown in detail in Class 43. An educational exhibit of same might well be repeated here with such other applications of the results, primary or secondary, of the animal industries as is of value to the breeder.

184. SHEEP AND GOATS—Continued.

Middle-wooled sheep.

Long-wooled sheep.

Sheep and goats for dairy use.

Miscellaneous dairy animals.

Miscellaneous fiber-producing animals.

Sheep pastures, washing and smearing, shearing, and care of fleeces.

185. SWINE.

The breeds of swine. Fat swine.

Domestic products of the hog.

185-A. OTHER DOMESTICATED ANIMALS.

Camels and elephants, llama, vicugna, alpaca, guanaco, yaks, etc.

186. POULTRY, PIGEONS, ETC.

The breeds of poultry and pigeons, and all domesticated birds. Poultry shows. Standards of perfection. Literature.

Fowls and capons.

Ducks and geese. Swans.

Turkeys.

Pigeons and pigeon-lofts. Homing pigeons.

Guinea fowls, peafowls, ostriches, etc.

Pheasants and other ornamental birds. Pet birds in general. Cages.

Poultry and bird houses and their fittings. Incubators.

Artificial stuffing, caponizing, *paté de foie gras*.

The market for poultry, eggs, feathers, down, quills, and all products.

Methods of packing and transportation. Prices. Statistics, etc.

187. DOGS.

All races and breeds of dogs. Ancestry of the dog. Bench shows. Breeding kennels, registers, standards and literature.

Sporting dogs. Field trials.

Watch-dogs and pet dogs.

Dogs used as burden bearers.

188. RABBITS, CATS, FERRETS, ETC.

189. PRODUCTS OF THE STOCK-RAISING INDUSTRIES.

Results of all scientific experiment by stock-breeders or stations tending to the advancement of the animal-breeding industries or to the improvement or better utilization of the product, tabulated in the most effective manner—and arranged here, or by the side of the individual exhibits.

Meats—Fresh, salted, dried, smoked, the products of farm industry. Implements and methods of preparation. Butchers' tools and methods. Abattoirs.

Dairy products—Milk, cream, butter and cheese. Implements and methods of preparation.

Oils and fats—Lards, tallows, butterines, etc. Implements and methods of preparation on the farm.

Hides and skins of farm animals as prepared on the farm, salted or rough-tanned, with examples of factory-tanned hides, so far as necessary for study.

Fleece and wools, washed and unwashed, as they leave the farm. (With such illustrative matter in the way of results of experiment and manufactured products as may be necessary for the proper understanding of the methods and results of scientific sheep-breeding.)

Hairs of all kinds produced on the farm, or stock establishment:—horse, goat, cow, cashmere, angora goat, etc.

Waste products of the farm. Hoofs, bones, etc. Implements and methods of preparation.

189. PRODUCTS OF THE STOCK-RAISING INDUSTRIES—Continued.

Cold storage, refrigeration and transportation of farm products by farmers.
 Appliances, methods, and statistics.
 Markets. History. Prices, commissions, freight charges, etc., from the standpoint of the farmer.

19. The Minor Animal Industries.

190. WILD-PRODUCT GATHERING.

Primitive hunting, etc.
 Gathering of animal products, obtained without culture, and not elsewhere classed.

191. BEES AND BEE CULTURE.

Natural history of bees. Geographical distribution of the bee industry.
 Hives and housing. Feeding and care. Protective devices.
 Honey and wax. Gathering, preparing, packing and uses.
 Commerce in the products of apiculture. Literature and statistics.

192. SILK CULTURE AND SILK REELING.

Natural history and geographical distribution of the silk-worm and related forms used as substitutes. Larva, pupa and imago of each species.
 Cocoons and silk of each from the industrial standpoint, with tests of strength, etc.
 Methods of caring for the eggs, feeding of larvæ, care and gathering of cocoons. Food plants and prepared food. Implements and processes.
 Cocoon stifling.
 Implements and methods of filature. Pictures of reeling establishments.
 Markets and prices.
 History, statistics and literature.

193. THE COCHINEAL INDUSTRY.

Care of the cochineal bugs.
 Gathering and primary preparation of cochineal.

194. THE LEECH AND MAGGOT TRADES AND OTHER UTILIZATION OF INVERTEBRATE ANIMALS NOT ELSEWHERE CLASSED.

Leech gathering—Leech culture, methods and statistics of trade.
 Maggot culture for bait and pet-bird food.

195. THE WILD BIRD'S EGG AND DOWN INDUSTRY.

Monographic exhibit. Literature and statistics.

196. THE IVORY TRADE.

The elephant hunt and ivory traffic of Africa.
 Fossil ivory in the far North.

197. THE FUR TRADE. HUNTING AND TRAPPING FOR PROFIT.

Trappers' methods and implements. Hunters' methods.
 Peltries, hair, feathers, down, horns, teeth, bones, musks, castoreum and similar products, and other results.
 History, literature and statistics.

198. THE WILD ANIMAL AND MENAGERIE-SUPPLY TRADE.

Literature and statistics.
 Methods of administration in menageries and zoölogical gardens.

199. PROTECTION OF WILD ANIMALS AND GAME. GAME LAWS, PRESERVES.

DEPARTMENT 2.—THE MINES AND METALLURGY.

20. Economic Geology and Mineralogy, and the History of Mines, Etc.

201. GEOGRAPHICAL DISTRIBUTION OF MINERAL DEPOSITS.

Maps, relief-models, and pictures to illustrate the resources of countries and regions, the location of mines and mineral localities; to illustrate specific mines and deposits.

Treatises on general resources of regions, and on special mines and deposits.

202. FORM OF MINERAL DEPOSITS. MINERAL STRATIGRAPHY.

Sections—graphic and stereographic—to illustrate veins, their location and character. Strata and beds, oils and gas layers, water layers.

Pictures of mines, quarries, and workings.

203. CHARACTER OF MINERAL DEPOSITS. ECONOMIC MINERALOGY.

Collections of minerals arranged topographically—to illustrate the resources of regions; to illustrate the character of special deposits; arranged systematically; to show the present state of knowledge; for comparative study of local resources.

Analyses of special deposits.

204. ROCK DEPOSITS, ETC. DISTRIBUTION, FORM AND CHARACTER.

Quarries, beds, etc., illustrated by maps, sections, pictures and literature.

Collections of rocks, arranged stratigraphically, to illustrate location of deposits; arranged by regions; arranged systematically; arranged to show possibilities of application.

Collections of other non-metallic mineral substances.

205. METALLURGICAL CHEMISTRY AND PHYSICS.

Methods and results to be shown from standpoint of direct value to the industrial arts.

Historical exhibit to show the importance of these sciences to the arts of mining and metallurgy.

206. PETROGRAPHY AND ITS ECONOMIC APPLICATION.

Methods and results, as in Class 205.

Microscopic structure of rocks, shown by slides, etc.

Tests of strength and resistance power of building stones, with machinery.

Tests of durability, weathering, etc., with examples.

207. HISTORY OF MINES AND MINING.

Prehistoric mining in Europe and America.

Early commerce in metals.

Specimens of primitive tools and products.

History and relics of special mining enterprises, and their relation to the history of civilization, *e. g.*, the gold mines of California, the diamond mines of Africa, etc.

Retrospective exhibits of all kinds.

Literature and statistics.

208. MINING COMMERCE.

Markets and centers of consumption, past and present.

Storage methods. Piling coal, etc.

Prices, past and present. Duties, etc.

Transportation routes and methods. Export and import.

Petroleum, pipe-lines, etc.

209. MINING SANITATION AND LIFE-SAVING METHODS.

(See also Class 865.)

21. Mine Engineering. (Illustrated by Models, Maps and Sections.)

- 210. HISTORY OF MINING METHODS.
Retrospective exhibits. Plans of abandoned mines. Ancient methods.
Early literature of the art. Pictures and models.
- 211. PROSPECTING AND PLOTTING OF MINES.
Surface surveying and maps. Nature and extent of deposits.
Underground surveys and projection of work, location of shafts, tunnels, etc.
Surveys for aqueducts and drainage.
- 212. MINING SHAFTS AND TUNNELS.
Sinking and lining of shafts, wells, adits, tunnels, levels, aqueducts, timbering, lagging, etc.
Cutting stalls, headings, etc.
Opening, stopping and breaking down ore.
Hoisting and delivery of ore. Raising and lowering miners.
- 213. DRAINAGE, VENTILATION AND LIGHTING OF MINES.
Drainage by pumps, pumping engines, buckets or adits.
Ventilation—Methods and apparatus.
Lighting—Lamps, safety lamps.
Signals. Parachutes. Safety apparatus.
- 214. SUBAQUEOUS MINING, BLASTING, ETC.
Methods, apparatus and history.
- 215. QUARRY ENGINEERING.
- 216. OIL WELLS: MACHINERY AND MANAGEMENT.
(See Class 153.)
- 217. NATURAL GAS: MACHINERY AND MANAGEMENT.
(See Class 154.)
- 218. INSTRUMENTS OF PRECISION USED IN MINE ENGINEERING.
- 219. MODELS AND PLANS OF REPRESENTATIVE MINES.

22. Mining and Metallurgical Tools and Machinery.

- 220. ANCIENT TOOLS FOR MINING, QUARRYING AND SMELTING.
Retrospective exhibits, literature, etc.
- 221. MINERS' TOOLS.
Hammers and mauls, picks, chisels, crowbars, wedges, drills.
Other tools and articles of personal equipment. Sieves, shovels, scoops and barrows.
- 222. DRILLING AND BORING MACHINES FOR USE IN ROCK AND EARTH.
Machinery of shaft and well-cutting.
- 223. MACHINES AND APPARATUS FOR COAL CUTTING, ETC.
- 224. EXCAVATING AND DREDGING MACHINES.
Steam scoops and shovels. Steam dredge scoops, suction excavators, etc.
Machinery for hydraulic and placer mining.
- 225. HOISTING MACHINERY FOR MINES.
Hoisting appliances for miners or product.
Machinery used in pumping, draining and ventilation.
- 226. BLASTING AND EXPLOSIVES.
Retrospective exhibit. History of blasting. Literature.
Explosives of all kinds (exhibit to be by model or empty package).
Fuses and accessories of blasting.
- 227. CRUSHING AND SORTING MACHINERY, ETC., FOR ORES AND ROCKS.
Crushing, grinding, sorting and dressing machines. Breakers, stamping mills, sieves, screens, jigs, concentrators.

228. SMELTING FURNACES, ETC.

Furnaces and smelting plant of all kinds.

229. BESSEMER PLANT, ETC.

NOTE.—A place is also assigned to mining and metallurgical machinery in connection with the general machinery exhibit. It may be installed in either place, but would probably be more instructive here.

23. *The Principal Mining Industries. Special Monographic Exhibits.*

231. GOLD MINING.

Stream-bed and placer working.

Lode working.

Monographic exhibit—Tool, methods, miners and results.

Extraction of free gold from auriferous gravel by amalgamation, and from auriferous pyrite in quartz by stamping and amalgamating.

Extraction of gold from auriferous mispickles (arsenical pyrites) by roasting and chlorination.

Extraction of gold and copper from auriferous copper ores by the fusion and electrolytic process.

The manufacture of gold leaf.

232. SILVER MINING.

Extraction of silver from base ores by chlorodizing, roasting, and milling (amalgamation).

Smelting of argentiferous lead ores and the refining of the base bullion (silver and lead).

The refining of base bullion (silver and lead).

233. IRON AND STEEL.

Monographic exhibit.

234. COPPER.

Native copper, sulphide ores, oxidized ores.

Smelting and refining of copper by the fusion process.

Refining of pig copper.

Rolling of copper.

235. DIAMONDS AND PRECIOUS STONES IN GENERAL.

236. LEAD, QUICKSILVER, ANTIMONY, TIN, NICKEL, ARSENIC, BISMUTH, CADMIUM AND COBALT, ETC.

237. ZINC.

238. BARITES, FELDSPAR, ETC.

239. OTHER INDUSTRIES.

24. *Quarrying and Stone Working.*

240. HISTORY OF THE USE OF STONE.

Early quarries and stone masonry. Literature. Folk-lore.

241. HISTORY AND STATISTICS OF QUARRIES AND BUILDING STONE.

Prices, past and present. Markets and traffic.

Comparative use of stone and other materials, past and present, and in various localities.

Social and economic condition of operatives.

242. GRANITE, GNEISS, PORPHYRY, ETC.

243. MARBLE AND LIMESTONE.

244. SANDSTONE, FREESTONE, AND OTHER MASSIVE BUILDING STONES.

245. SLATES FOR ROOFING, ETC., AND THE OTHER FLAGGING AND SHEATHING STONES.

246. BUILDING STONE, MARBLES, SLATES, ETC.

Rough hewn, sawed or polished, for buildings, bridges, walls, or other construction, or for interior decoration.

246. BUILDING STONE, MARBLES, SLATES, ETC.—Continued.
 Stone ready for use for building-decoration, statuary, monuments and furniture, in blocks or slabs, not manufactured.
247. STONE WORKING. METHODS AND PRODUCTS.
 Stone breaking, crushing, and pulverizing.
 Stone-dresser's art.
 Carver's and sculptor's art. (From mechanical side.)
 Lapidary's and gem-cutter's art.
248. MASONRY. (See also Construction.)
 Stone and brick laying in mortar, etc.
 Stuccoing and plaster molding.
 Construction of concrete and other roads and pavements.
249. MOSAICS AND ORNAMENTAL STONEWORK.
 (See DEPARTMENT 7.)

25. Coal, Petroleum, and Gas. A Comprehensive Monographic Exhibit.

250. HISTORICAL EXHIBIT OF MINERAL COMBUSTIBLES AND THEIR USES.
251. CHEMISTRY AND GEOLOGY OF COAL, ETC.
252. THE COAL MINES.
253. THE PETROLEUM REGION.
 History of petroleum.
 Methods of exploitation.
 Transportation and consumption.
254. NATURAL GAS.
 A monographic display.
255. ILLUMINATING GAS AND ITS MANUFACTURE.
256. BITUMENS AND ASPHALTUMS. TARS.
257. PEAT, ETC.
258. THE APPLICATIONS OF COAL, PETROLEUM, ETC.—A MONOGRAPHIC DISPLAY.
 The objects to be shown here for a special purpose in limited number will, of course, be shown elsewhere in their customary relationships.
259. COMMERCE IN COAL, PETROLEUM, AND THEIR DERIVATIVES.
 Historical and statistical data showing relations of coal and petroleum to all the arts of civilization.
 Prices. Routes of traffic, etc.

26. Exploitation of Water and Ice and other Surface Deposits.

261. WATER SUPPLY.
 Springs and fountains. Utilization. Retrospective exhibits.
 Cisterns and storage tanks. Other receptacles.
 Artesian wells. Pumps. Well apparatus.
 Water supply (independent of engineering and sanitary considerations).
 Dams, aqueducts, sluices.
262. THE ICE INDUSTRY.
 Harvesting ice. Tools and methods. Pictures.
 Ice storage. Ice supply. Methods and statistics.
 Ice manufacture, refrigerators, cold storage, etc., may possibly be conveniently shown in this connection.
263. MINERAL WATERS.
 Geographical distribution. Chemistry.
 Sources. Exhibits of special springs, with pictures, etc.
 Methods of bottling, etc. Transportation, prices, markets.
264. THE SALT INDUSTRIES.
 Salt springs and evaporating works.

264. THE SALT INDUSTRIES—Continued.

Sea salt. Natural evaporating basins, and artificial methods, as on Cape Cod. Methods, statistics and history.

Salt mines. Methods, tools, products, trade, etc.

265. PHOSPHATE AND MARL INDUSTRIES.

266. THE GUANO ISLANDS.

History, statistics, methods and product

267. AMBER DREDGING.

Monographic exhibit.

268. SAND OF SEA AND RIVER AND OTHER STRAND WORKINGS.

269. SULPHUR, EARTHS, CLAYS AND SALTS, NOT ELSEWHERE CLASSED

Monographic exhibits of each industry.

*27. Metallurgical Products.**

270. PRECIOUS METALS.

Examples in various stages, not shown elsewhere

271. IRON AND STEEL.

In the pig, ingot and bar.

Plates and sheets.

Specimens of slags, fluxes, residues, and products of working.

Edge tools.

272. COPPER.

In ingots, bars and rolls.

Specimens showing stages of production.

273. LEAD, ZINC, ANTIMONY, ALUMINUM, ETC., THE RESULT OF EXTRACTIVE PROCESSES.

Illustrations of manufacture and products.

274. ALLOYS USED AS MATERIALS.

Statuary, bronze, gun, bell and speculum metal.

Brass, and alloys used as a substitute for it.

White alloys, as Britannia metal, German silver, pewter, etc.

Type metal, sheathing metals, and other alloys.

Babbitt or anti-friction metals.

275.

276. PRODUCTS OF THE WORKING OF CRUDE METALS.

Castings, bells, etc.

Commercial iron. Special kinds of iron. Architectural iron and railroad iron, etc. Plates for sheeting and construction.

Sheet iron and tin. Sheet iron coated with zinc or lead.

Copper, lead and zinc sheets, etc.

277. WROUGHT MATERIALS.

Forge work.

Wheels and tires.

Chains.

Unwelded pipe.

278. PRODUCTS OF WIRE DRAWING.

Needles and pins.

Wire rope. Wire in general. Barbed and other fence wire. Wire gauzes, lattices. Perforated iron.

279. MISCELLANEOUS PRODUCTS OF METAL WORKING.

Tin-ware of all kinds.

Sheet-iron work.

Copper sheet and its applications.

Wrought and forged work not elsewhere classed.

*For products of the metal-working arts, see Class 46.

28. *Products of Mines not Elsewhere Placed.*

281. CEMENTS, LIME, ETC.

Lime, cement and hydraulic cement, raw and burned, accompanied by specimens of the crude rock or material used, etc.

Specimens of lime-mortar and mixtures, with illustrations of the processes of mixing, etc.; hydraulic and other cements.

282. ARTIFICIAL STONE, ETC.

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.

283. CLAYS, ETC.

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 furniture, sandstone, steatite, etc., and refractory furnace materials, bricks, and tiles.

284. GRAPHITE, ETC.

Graphite—crude and refined—for polishing purposes, for lubricating, electrotyping, photography, pencils, etc.

285. POLISHING AND ABRADING MATERIALS.

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.

Sandpaper and its manufacture.

286. BRINES AND ALKALIES.

Natural brines, saline and alkaline efflorescences and solutions.

287. MINERAL FERTILIZERS.

Mineral fertilizing substances, gypsum, phosphate of lime, marls, shells, coprolites, etc., not manufactured.

288. MINERAL COMBUSTIBLES.

Coal, anthracite, semi-bituminous and bituminous; coke, coal waste, and pressed coal; albertite, asphalt, and asphaltic limestone; bitumen, mineral tar, crude petroleum. (See also Class 117.)

289. ASBESTOS AND ITS APPLICATIONS.

29. *Miners, Quarrymen, and Operatives.*

291. NUMERICAL STATISTICS. NATIONALITY, ETC.

292. SOCIAL STATISTICS—PHYSICAL CONDITION.

293. INTELLECTUAL AND MORAL CONDITION.

294. CUSTOMS, DIALECTS.

295. FOOD.

296. CLOTHING AND PERSONAL EQUIPMENT.

297. HABITATIONS.

298. MINERS' SOCIETIES.

299. MINING TOWNS.

Mining towns in America and other countries. Pictures, maps. Special local exhibits.

DEPARTMENT 3.—MARINE AND FISHERIES.

30. *The Sea and Inland Waters. Physical Conditions. Aquatic Life.*

300. THE SEA AND ITS PHYSICAL CONDITIONS. (THALASSOGRAPHY.)

Oceanic basins. Coast lines. Depths and soundings. Temperatures. Currents. Salinity. Pressure. Light.

Characteristic deep-sea deposits. Character of the bottom. Characteristic plant and animal life of the great depths.

300. THE SEA AND ITS PHYSICAL CONDITIONS—Continued.

Geology of the depths. Maritime geography. Charts of ocean areas.

Models in relief of the oceanic basins.

Fishing grounds. Models and maps. Special research.

301. INLAND WATERS. CONTINENTAL HYDROGRAPHY.

Hydrographic basins. Maps showing limits. Maps and relief models of special basins. Watersheds and divides. Elevations. Special hydrographic faunas.

Rivers and their characteristics. Fall, and its relation to water power.

Obstructions, natural and artificial.

Cataracts and rapids. Plans. Pictures of surrounding scenery.

Lakes and ponds. Pictures. Surroundings. Physical characteristics.

Brooks and creeks.

302. MARINE METEOROLOGY.

Winds and storms. Tornadoes. Fogs.

Storm charts and warnings at sea.

303. THE SCIENCE OF NAVIGATION.

Charts of all kinds. Routes of travel.

Instruments and methods of observation.

Signal codes.

Obstructions to navigation. (Ice, derelicts, etc.)

304. VOYAGES AND EXPLORATIONS.

Literature and history of voyages.

Voyages of circumnavigation, deep-sea exploration, etc.

Arctic and antarctic voyages.

305. MARINE AND AQUATIC RESEARCH.

Institutions and organizations. Fish commissions.

Literature.

Apparatus.

Methods and instruments.

306. LIGHT-HOUSES.

History and literature.

Methods of construction.

Distribution, maps, etc.

307. LIGHT-SHIPS.

308. AQUATIC LIFE: SCIENTIFIC COLLECTIONS AND LITERATURE.

Works on aquatic zoölogy and botany. Maps illustrating geographical distribution, migration, etc., of fishes and other aquatic animals.

Specimens and representations illustrative of the relations between extinct and existing forms of life.

Specimens (marine and fresh water), fresh, stuffed, or preserved, in alcohol or otherwise, casts, drawings, and representations of.

Algae, genera and species, with localities.

Sponges, corals, polyps, jellyfish, etc.

Eutozoa and Epizoa.

Mollusca of all kinds and shells.

Starfishes, sea urchins, holothurians.

Worms used for bait or noxious; leeches, etc.

Crustacea of all kinds.

Fish of all kinds.

Reptiles, such as tortoises, turtles, terrapins, lizards, serpents, frogs, newts, etc.

Aquatic birds.

Aquatic mammalia (otters, seals, whales, etc.).

309. AQUARIA IN OPERATION.

31. Seaports and Harbors. Ocean Commerce. River Commerce.

310. HISTORY OF WATER COMMERCE.
Retrospective collections. Seaports and fishing ports of old times. Maps, views and literature.
311. MODERN SEAPORTS AND FISHING TOWNS.
Maps and views. Statistical statements.
Systems of marine insurance. Systems of salvage. Wrecking systems.
Maps showing relationships and commercial connections.
312. OCEAN COMMERCE.
Routes of traffic. History and statistics.
History and statistics of trading companies.
Foreign trade and coasting trade. Tonnage statistics.
313. RIVER AND HARBOR COMMERCE.
Maps and charts.
History and statistics by rivers and by countries. Ferry systems.
314. LAKE COMMERCE.
Treatment as above.
315. CANAL SYSTEMS.
History and literature.
Maps and systems.
Methods and appliances. Locks and towpaths.
316. FERRIES.
Treatment as above.
317. HARBOR PROTECTION AND REGULATION.
Breakwaters.
Other appliances for breaking the force of the sea at the entrance of harbors.
Harbor lights and signals. Beacons, bells and whistles.
Buoys and buoy systems.
Harbor police. Police boats. Quarantine.
318. PIERS, SLIPS AND DRY DOCKS.
Wharves of all kinds.
Floating docks and landings.
Dry docks. Graving docks.
Marine railways.
319. PILOT SYSTEMS.
History and literature.
Systems of organization. Pilot boats and signals.
Fees and financial methods.

32. Mariners and Fishermen. Outfitters and Capitalists.

320. THE FOLK-LORE OF MARINERS, ETC.
Literature of sea-faring life, etc.
Dialects as shown in books, songs, etc.
Tales and traditions of the sea.
321. SHORE LIFE OF MARINERS.
Houses and boarding houses. Places of amusement.
Churches and bethels.
Seamens' homes and retreats. Hospitals.
Shops and outfitting establishments.
322. SEA LIFE OF MARINERS.
Interior views and plans.
Sleeping accommodations, bunks and hammocks.
Rations. Galley and its outfit.
Handicraft. Ropework. Scrimshandy. Tatooing.
Amusements.

323. COSTUME AND PERSONAL EQUIPMENT OF MARINERS, ETC.
 Clothing of sailors and fishermen of all nations.
 Waterproof garments, etc.
 Personal equipment, knives, etc.
 Clothing of fisherwomen and fish-women of all nations.
324. ECONOMICAL CONDITION OF MARINERS AND FISHERMEN.
 Wages and profits.
 Insurance systems. Benefit societies.
325. STEAMBOATMEN. ECONOMIC CONDITION, ETC.
326. POPULATION OF SEAPORT TOWNS. ECONOMIC CONDITION, ETC.
327. CAPITAL AND ITS EMPLOYMENT IN MARINE AFFAIRS.
328. MARINE INSURANCE SYSTEMS. UNDERWRITERS.
 History and literature.
- 329.

33. Boats and Sailing Vessels.

330. SHIP BUILDING AND BOAT BUILDING.
 History, literature and statistics.
 Pictures of shipyards and of vessels on the stocks.
 The evolution of the ship, of rigging, and of hull, shown by progressive series of building models.
 Methods of designing and projection.
 Lines of representative ships.
 Tools of shipbuilding. Materials and their sources.
 Timber and forms.
 Shipbuilder's hardware.
 Riggers' lofts and methods of rigging. Riggers' tools. Ropes and canvas.
 Ways and launchings.
 Boat building.
331. SHIP RIGGING, CANVAS AND CORDAGE.
 Spars and masts, and all accessories.
 Sails and sail-making. Tools and methods.
 Canvas for sails and other marine uses. Sails, awnings, etc.
 Cordage of all kinds for marine use.
 Riggers and sail-makers. Lofts, etc.
332. SHIP CHANDLERY AND BOAT FITTINGS.
 Hardware of all kinds for use on vessels and boats. Blocks and cleats, rowlocks.
 Anchors, killicks and drags.
 Steering gear of all kinds.
 Oars, sweeps and boat-hooks.
 Ship tools. Carpenters' tools. Boatswains' tools.
 Other fittings.
 (For ship's instruments, see Class 358.)
333. SQUARE-RIGGED VESSELS.
 Models and pictures.
 Builders' models and lines.
 Evolution of hull and rigging.
334. FORE AND AFT RIGGED VESSELS.
 Models, pictures, etc., as in previous class.
 The American schooner: Monographic exhibit.
 The English cutter: Monographic exhibit.
 Fishing vessels, pleasure yachts, etc.
 Pilot boats (see also Class 319).
335. SEAGOING VESSELS OF FOREIGN TYPES.
 Junks, etc.

336. SAILBOATS OF ALL KINDS AND NATIONS.

Catboats, etc.
Sloop-rigged sailboats.
Schooner-rigged sailboats.
Cutter-rigged sailboats.
Sailboats of other rigs.
Flying proas, etc.
Ice boats.

337. CANOES AND ROWBOATS.

Coracles and curraghs. Skin boats, as the Eskimo kyak and umiak.
Bark canoes. Dugouts. Punts and scows for poling. Modern canoes for cruising and fishing. Other types.
Dories and sharpies, etc. Sneak-boxes, etc. Yawls, dingies, etc. White-hall boats and others of similar construction. Whale-boats, seine-boats, etc. Racing shells and barges. Other types.

338. SCOWS AND LIGHTERS. CANAL BOATS.

Coal barges. Dredging scows. Boats for carrying telegraph cable or railroad trains.
"Camels."

339. BOATS FOR SPECIAL PURPOSES.

Water boats, fire floats, bathing boats, house boats, screw and floating docks, police boats, portable boats, canvas boats, folding boats, rafts, catamarans, balsas, used for navigation or life-saving.
Life boats.

34. Steamships and Steamboats.

340. HISTORICAL AND RETROSPECTIVE EXHIBIT.

Drawings and models. Relics of the work of Rumsey, Fitch, Fulton, Stevens and other pioneers.

341. OCEAN STEAMSHIPS AND COAST STEAMERS.

Paddle-wheel and screw-propeller.

342. STEAMBOATS.

River, lake and sound steamboats.
Paddle-wheel and screw-propeller and stern-wheel.

343. ARMORED CRUISERS, TORPEDO BOATS AND APPLIANCES.

344. LAUNCHES, TENDERS, ETC.

Boats burning coal, naphthaline and petroleum. Electric boats.

345. STEAM LIGHTERS AND FLOATING ELEVATORS.

Car floats, barges, etc.

346. THE STEAM PLEASURE YACHT.

Monographic exhibit.

347. ENGINES AND MACHINERY.

Single, double and triple expansion boilers.
Coal handling and stoking appliances.
Steam and steam-steering appliances.
Devices for hoisting sail and handling cargo. Winches and ships' pumps.

348. SHIP INSTRUMENTS AND FURNISHINGS.

Compasses, barometers, telescopes, quadrants, and sextants, trumpets, fog horns, lamps and lanterns. Electric search lights, luminous paints, logs, and log-lines, lead and lead-lines. Log-books and ship stationery.

349. STEAMER'S COMMISSARY.

Cabins and state rooms. Cabin and deck furniture. Emigrant bunks. Culinary and eating arrangements. Store-rooms and refrigerating appliances.

35. Sea Fishing and Angling.

350. HISTORY OF FISHING, FISHERY LAWS, AND FISH COMMERCE.
 Ancient fishing implements or their reproductions. Models. Pictures.
 Books. Emblems. Charters and seals of ancient fishermen's guilds.
 Fishery laws of different countries.
 Copies of treaties, conventions, etc., dealing with international fishery relations.
 Reports, statistics and literature of fish, fishing and fisheries.
 Reports of acclimatization of fish, and of attempts in that direction.
351. GEAR OF EVERY DESCRIPTION AND OF ALL NATIONS, USED IN TRAWL, HERRING, LONG LINE, HAND LINE, AND EVERY OTHER MODE OR SYSTEM OF FISHING.
352. FISH HOOKS, JIGS AND DRAILS.
353. FISHING LINES AND RIGGED GEAR.
354. FISHING RODS AND REELS FOR LINES AND NETS.
355. NETS AND SEINES, RAKES AND DREDGES, AND MATERIALS USED IN THEIR MANUFACTURE.
356. FISH TRAPS, WEIRS AND POUNDS.
357. FISHING STATIONS AND THEIR OUTFIT.
358. KNIVES, GAFFS AND OTHER APPARATUS.
359. ILLUSTRATIONS OF SPECIAL FISHERIES.
 The whale and seal, cod, mackerel, halibut, herring, haddock, pollock, menhaden, swordfish, bluefish, oyster, sponge, and other sea fisheries.

36. Fresh-Water Fishing and Angling.

361. HISTORY AND LITERATURE OF ANGLING.
 Waltonian literature.
 Folk-lore. Anglers' trophies.
362. SALMON NETS AND FIXED APPLIANCES FOR CATCHING SALMONIDÆ IN ALL THEIR VARIETIES.
363. SALMON RODS, REELS, LINES, ARTIFICIAL FLIES AND BAITS, GAFFS, SPEARS, CREELS, ETC.
364. BASS, PIKE, PERCH RODS, REELS AND TACKLE, ARTIFICIAL SPINNING BAITS, ETC.
365. TRAPS, NETS, BUCKS, WHEELS, AND ALL KINDS OF APPARATUS FOR CATCHING EELS, LAMPREYS, ETC.
366. ANGLERS' APPAREL OF EVERY DESCRIPTION.
367. THE ANGLERS' CAMP AND ITS OUTFIT.
368. ILLUSTRATIONS OF SPECIAL FRESH-WATER FISHERY.
 Shad and alewife, sturgeon, eel, salmon, whitefish, and Great Lake fisheries, etc.

*37. Products of the Fisheries and their Manipulation.***A. Preparation, Preservation and Utilization of Fishery Products.***a. For edible purposes.*

371. MODELS OF FISH-CURING AND CANNING ESTABLISHMENTS.
 Methods of and models and other representations of any appliances for drying, curing, salting, smoking, tinning, cooking, etc.
372. FISH, DRIED, SMOKED, CURED, SALTED, TINNED, OR OTHERWISE PREPARED FOR FOOD.
373. ALL PRODUCTS PREPARED FROM FISH, SUCH AS OILS, ROES, ISINGLASS, ETC.
374. ANTISEPTICS SUITABLE FOR PRESERVING FISH FOR FOOD.

b. For other than edible purposes.

- 375. OILS, MANURES, AND OTHER PRODUCTS PREPARED FROM FISH.
- 376. METHODS OF AND MODELS AND OTHER REPRESENTATIONS OF APPLIANCES FOR PREPARING OIL AND MANURES FROM FISH.
- 377. SEA AND FRESH-WATER PEARL SHELLS; MOTHER-OF-PEARL MANUFACTURED; PEARLS SORTED.
- 378. PREPARATION AND APPLICATION OF SPONGES, CORALS, PEARLS, SHELLS, AND ALL PARTS AND PRODUCTS OF AQUATIC ANIMALS, ETC., TO PURPOSES USEFUL AND ORNAMENTAL, WITH SPECIMENS.

B. Transport and Sale of Fish.

- 379. APPLIANCES FOR CARRYING FISH, AND FOR PRESERVING FISH DURING TRANSPORT OR OTHERWISE, AND MODELS OF THE SAME. MODELS OF FISH MARKETS AND APPLIANCES CONNECTED WITH THE SAME.

38. Fish Culture.

- 380. THE HISTORY OF FISH CULTURE.
- 381. HATCHING, BREEDING AND REARING ESTABLISHMENTS, INCLUDING OYSTER AND OTHER SHELL-FISH GROUNDS.
- 382. APPARATUS AND IMPLEMENTS CONNECTED WITH FISH CULTURE AND FOR TRANSPORTING FISH AND FISH OVA. FOOD FOR FRY.
- 383. REPRESENTATIONS ILLUSTRATIVE OF THE DEVELOPMENT AND PROGRESSIVE GROWTH OF FISH.
- 384. MODELS AND DRAWINGS OF FISH WAYS AND FISH LADDERS.
- 385. DISEASES OF FISH, WITH SPECIAL REFERENCE TO THEIR ORIGIN AND CURE. MODELS AND DRAWINGS.
- 386. PROCESSES FOR RENDERING STREAMS POLLUTED BY SEWAGE AND CHEMICAL OR OTHER WORKS INNOCUOUS TO FISH LIFE. (Illustrated by models and drawings.)
- 387. PHYSICO-CHEMICAL INVESTIGATION INTO THOSE QUALITIES OF SALT AND FRESH WATER WHICH AFFECT AQUATIC ANIMALS; INVESTIGATION OF THE BOTTOM OF THE SEA AND OF LAKES, SHOWN BY SAMPLES; AQUATIC PLANTS IN RELATION TO FISHING, ETC.; RESEARCHES INTO THE AQUATIC FAUNA (animals of the several classes, preserved in alcohol or prepared, etc.); APPARATUS AND IMPLEMENTS USED IN SUCH RESEARCHES.
- 388. ACCLIMATIZATION OF FISH. MARKING OF INTRODUCED FISH FOR PURPOSES OF IDENTIFICATION.
- 389. STATISTICS OF THE RESULTS OF FISH CULTURE.
Specimens of fish artificially propagated or introduced.

39. Aquatic Life-Saving Systems. Swimming and Diving.

- 391. DIVING APPARATUS.
Apparatus for diving and swimming practically exhibited.
- 392. LIFE PRESERVERS, SWIMMING BELTS, ETC.
- 393. APPLIANCES OF MARITIME LIFE-SAVING SERVICE.
- 394. MORTARS FOR CASTING LINES.
- 395. LIFE BOATS, ETC.
- 396. APPARATUS TO PREVENT COLLISION AT SEA.
- 397. DISTRESS SIGNALS.
- 398. THE RESUSCITATION OF THE APPARENTLY DROWNED.
- 399. DIVING MACHINERY, DIVING BELLS, NAUTILUSES, DIVING ARMOR, ETC. SUBMARINE BOATS.

DEPARTMENT 4.—MANUFACTURES AND OTHER ELABORATIVE INDUSTRIES.*

40. *Machinery and Motors.*

401. MOTORS AND APPARATUS FOR THE GENERATION AND TRANSMISSION OF POWER.

Early history of motors and power.

Boilers and all steam and gas generating apparatus for motive purposes.

Appliances for removal of boiler incrustation.

Water-wheels, turbines, water engines, hydraulic rams, water-pressure engines, wind mills. Utilization of tide forces.

Steam, air and gas engines, stationary and portable.

Apparatus for the transmission of power—shafting, belting, gear-wheels, cables, etc.

Screw propellers, wheels for the propulsion of vessels, and other motors of similar nature. (See also Class 347.)

Implements and apparatus used in connection with motors: Steam gauges, dynamometers, pressure gauges, etc.

Lifting appliances and cranes, hoists, screw jacks, etc.

Electric motors. (See Division 42.)

Hydraulic motors and hydraulic lifts. (See Class 412.)

402. HYDRAULIC AND PNEUMATIC APPARATUS, AERONAUTICS AND LIFTING. (See also Class 261.)

Pumps and apparatus for lifting and moving liquids. Tympanums, hydraulic rams, etc.

Stop valves, cocks, pipes, etc.

Pumps and apparatus for moving or compressing air or gas or vapors.

Pumps and blowing engines, blowers, and ventilating apparatus.

Hydraulic jacks, presses, elevators, lifts, cranes, and all appliances for moving heavy weights.

Fire engines—hand, steam or chemical—and fire-extinguishing apparatus, hose, etc. (See also Class 865.)

Soda-water machines, bottling apparatus, corking machines, beer engines. (See also Classes 557 and 559.)

Diving apparatus and machinery. (See Class 391.)

Aeronautics. A monographic display. †

Books, MSS., photographs, drawings and models relating to aeronautics.

Raw materials used in the construction of balloons, such as silk, cotton, rope, nets, cane, etc.

Gas balloons, captive or steering, montgolfiers, and separate parts used in the construction or working of balloons.

Parachutes, kites and mechanical birds.

Instruments for use in aeronautic meteorology, such as barometers, thermometers, hygrometers, registering appliances and photographic apparatus.

Apparatus for making pure hydrogen, carbureted hydrogen, and carbureted air.

Light motors, gas and petroleum engines.

Electrical apparatus, susceptible of being utilized in aeronautics, such as motors, telegraphs, telephones and electric lamps.

Appliances for aerial correspondence by optical telegraphy or by carrier pigeons.

403. MACHINERY AND APPARATUS OF MINING, METALLURGY, CHEMISTRY, ETC. (See also Department 2.)

Rock-drilling machinery. Well and shaft boring. Apparatus for artesian wells and water supply in general. Quarrying, etc.

* Stone-working industries, see Division 29. Wood-working industries, see Division 17.

† Classification that of the Aeronautical Exhibition, Paris, 1883.

403. MACHINERY AND APPARATUS OF MINING, METALLURGY, CHEMISTRY, ETC.—
Continued.

Hoisting, and machinery accessories, pumping, draining, and ventilating, for mines.

Crushing, grinding, sorting and dressing. Breakers, stamps, mills, pans, screens, sieves, jigs, concentrators, compressors.

Furnaces, smelting apparatus, and accessories.

Machinery used in Bessemer process.

Chemical manufacturing machinery. Electroplating. (See Class 428.)

Gas machinery and apparatus. Natural-gas appliances.

404. MACHINES AND TOOLS FOR WORKING METAL, WOOD AND STONE. (See also Department 2 and Division 46.)

Machines and tools used by carpenters. Planing, sawing, veneering, grooving, mortising, tonguing, cutting, molding, stamping, carving, cutting veneers, and cask-making machines, etc. Cork-cutting machines, scroll-saws; direct-acting steam sawing machines, with gang saws.

Machines for cutting moldings, borders for frames, floor squares, furniture, etc. Turning lathes and different apparatus of joiners and cabinetmakers.

Machines for sharpening saws.

Rolling mills, bloom squeezers, blowing fans.

Furnaces and apparatus for casting metals, with specimens of work.

Steel, trip and other hammers, with specimens of work. Anvils, forges.

Planing, drilling, slotting, turning, shaping, punching, stamping, slotting and screw-cutting machines. Lathes. Wheel cutting and dividing machines, emery machines, drills, caps, gauges, dies, etc. Coining presses. File-cutting machines. Engineers' machine tools. Boiler-makers' tools, punching, riveting, drilling, plate-planing and welding machinery, etc. Nail and rivet making machines.

Stone sawing and planing machines, dressing, shaping, and polishing, sand blast, glass-grinding machines, etc. Coal-cutting machines.

Brick, pottery and tile machines. Machines for making artificial stone.

Furnaces, molds, blowpipes, etc., for making glass and glassware.

405. MACHINES AND IMPLEMENTS OF SPINNING, WEAVING AND FELTING. (See also Division 39.)

Appliances used in preparatory operations: Fiber-extracting machines, upright looms, and methods of spooling. Accessory apparatus. Machines for fulling, calendering, embossing, watering, measuring, folding, etc.

Appliances for hand-spinning separate pieces pertaining to the appliances of spinning mills. Machines and apparatus used in the preparation and spinning of textile substances. Apparatus and methods used in the operations complementary to these, drawing, winding, twisting, and throwing; mechanical finishing. Apparatus for drying and determining the thickness and numbering the threads.

Appliances of ropewalks, round cables, flat cables, tapering cables, ropes, twine, wire cable, cables with metal core, fuse, quick matches, etc.

Machines and looms for the manufacture of plain fabrics, of silks, figured and embroidered stuffs.

Machines for the manufacture and printing of cotton and linen goods.

Machines for the manufacture of woolen goods and mixed fabrics.

Looms for manufacturing carpets and tapestry. Looms and machines for the manufacture of hosiery and net. Appliances for lace making. Appliances for making trimmings. Rug-making machinery. Mat-making machines.

Machines for the manufacture and printing of felting.

Machines for the manufacture of India-rubber goods.

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

Sewing and knitting machines, clothes-making machines. Tools for sewing and making garments. Machines for sewing, hemming, stitching and embroidering.

Machines for preparing and working leather cutters.

Machines for making, nailing or screwing boots and shoes.

Machines for washing, ironing, drying and scouring, not shown in Class 632.

Plant for public laundries.

Machines for making clocks and watches.

Machines for making jewelry and trinkets.

Machines for making buttons, pins, needles, etc. Machines for manufacture of rubber goods.

Machines for making brushes.

407. MACHINES USED IN PREPARING FOODS, ETC.

Flour mills. Mills for arrowroot, starch, etc.

Sugar-refining machines. Confectioner's machinery.

Machines for making capsules and other pharmaceutical products.

Oil-making machinery. Presses and stills.

Appliances and machines for manufacture of tobacco.

Mills for spices, coffees, etc.

Evaporating machinery for making condensed milk. Fruit evaporators.

Machinery and plant of abattoirs and slaughter-houses.

Distillers' and brewery machinery. Bottling machinery.

408. MACHINERY FOR PAPER MAKING AND PAPER WORKING, AND ALSO FOR TYPE-SETTING AND PRINTING. (See also Classes 816, 817.)

Paper-making machinery of all kinds.

Printing presses.

Bed and platen machines, hand presses, lithographic presses, and copper and steel plate presses.

Cylinder printing machines.

Rotary machines.

Type-setting and type-casting machines, etc.

Type-casting and type-finishing machines.

Apparatus for electrotyping, stereotyping in papier-mache, plaster, celluloid, rubber and kaolin.

Type-setting and casting machines.

Type-setting and distributing machines.

Matrix type-setting and type-casting machines.

Matrix-waxing and type-casting machines.

Book-binding machines.

Machines for book sewing and stitching. Cover making and printing machine, embossing and stamping, slotting and stapling, paging and numbering.

Paper-folding machines.

Newspaper and book folding machines.

Newspaper wrapping and addressing machines.

Folding attachments for printing presses.

Bag-making machines. Tag machines.

Paper and card cutting machines.

Book trimming and edge cutting.

Paper cutters: Guillotine, under-cut, plow cutters, slitters (rotary), shear knife.

Card cutters: Rotary, shear knife, perforating, punching and stamping machines.

Envelope and embossing machinery.

409. WHEEL VEHICLES, ETC.

History of wheel vehicles. Retrospective collections. Early methods replaced by present ones. Sedan chairs, litters, etc.

Carts and wagons and trucks for movement of heavy objects and goods.

Farm and country wagons. Milk and market wagons. Emigrant wagons. (See also Class 116.)

Freight and express wagons, drays, trucks, dumping wagons, etc.

Wagons for special use. Merchants' delivery and advertising wagons, ice-wagons, furniture vans.

Carriages for pleasure and travel: Coaches and carriages of all kinds, drags, buggies, road-wagons, sulkies, carts, buckboards.

Public vehicles: Stages, omnibuses, herdies, cabs, hacks, droskys, cab systems, etc. Hearses, ambulances, etc.

Parts of vehicles and wheelwright's work. Wheels, tires, hubs, axles, etc. Shafts and poles, bodies, covers, seats, springs, and systems of hanging vehicles. Cushions and upholstery, lamps, wheelwright machines, hardware.

Hand trucks, handcarts, wheelbarrows, bath chairs, jinrikishas, etc.

Road and street machinery. Rollers on wheels. Street-sweeping machines, street-sprinkling, road machinery.

Sleighs, sleds, and sledges. Snow-plows.

Cyclist's wheels. Bicycles, tricycles—foot, chain, steam, electric. (See also Class 832.)

Harness and saddlery: Saddles, pack-saddles, bridles, and harness for riding animals. Stirrups, spurs, driving and riding whips, blankets, robes, etc.

Sleigh bells. (See also Class 181 and Class 837.)

41. *Machinery and Motors (Continued). Railway Plant. (See also Class 822.)*

NOTE.—For the arrangement of Classes 410-419, as well as that of 340-449 (relating to the steamship) I am indebted to Mr. J. Elfreth Watkins, of the National Museum.

410. LOCOMOTIVE ENGINES.

Steam engines, passenger and freight.

Electrical engines, passenger and freight.

Compressed-air and gas engines.

Boilers and gates. Gauges.

Pumps, injectors, and gauge cocks.

Pistons, slide valves, and steam chests.

Throttle levers and reversing gear.

Spark arresters, extension smoke boxes, and cinder collectors.

Tenders, tanks, water scoops and coal magazines.

411. CARS.

Passenger cars, parlor, dining, sleeping, special, observation, emigrant, sportsman's, officer's and paymaster's.

Express and baggage cars.

Mail cars: Appliances for dropping and picking up mail bags, for storing mail bags, and handling mail.

Freight cars: Box cars, gondola cars, coal and mineral cars, tank cars, refrigerator cars (meats and fruits).

Seats and furniture.

Lighting plant: Oil, gas, electricity.

Heating plant: Stove, hot air, hot water, steam, electricity.

412. PARTS AND APPLIANCES FOR LOCOMOTIVES AND CARS.

Wheels, wheel centers and tires.

Axles, journals, journal boxes and lubricating apparatus.

Truck frames, springs and appliances.

412. PARTS AND APPLIANCES FOR LOCOMOTIVES AND CARS—Continued.

Couplers and buffers, draw bars, vestibule appliances.
 Brakes—Air, direct and automatic, steam, vacuum, electric.
 Reservoirs, valves and other appliances.
 Brake beams, brake shoes.

413. PERMANENT WAY.

Rails and splices.
 Cross-ties, spikes and rail fastenings.
 Splice bars, track bolts, stop washers.
 Frogs and crossings.
 Switches, points, levers, switch stands.
 Models and drawings of permanent way, excavation and embankment, retaining walls, ballast, drainage systems, pipes and culverts.

414. SIGNALS.

Block system and semaphores.
 Interlocking switch apparatus (lever, pneumatic and electric).
 Railway telegraph and train telegraph apparatus.
 Draw-bridge and tunnel signals.
 Train signals—Bell cord and gong, pneumatic and electric.
 Train flags, lanterns, torpedoes, fusees.

415. MECHANICAL ACCESSORIES TO RAILWAY PLANT.

Machine shops—Special tools for construction of rolling stock, erection of locomotives and manufacture of appliances for permanent way. Portable cranes and special tools for wreck cars and construction cars.
 Graders, ditchers, and steam shovels. Snow plows and centrifugal excavators.
 Wreck cars, dump cars, hand-lever cars and trucks.

416. STATIONS AND ENGINE HOUSES.

Passenger and freight elevators, transfer tables, furniture, ticket racks, baggage barrows.
 Engine and car houses, turn tables and round houses, water tanks, track tanks.

417. RAPID TRANSIT IN CITIES.

Street railways—Permanent way. Rails, chairs, cross-ties and longitudinals.
 Switches and frogs.
 Street railways and tramways—Horse cars and street-rolling stock.
 Underground railways—Entrance to stations, stairways, platforms, safety gates, exit signals. Snow scrapers and track brooms. Grip devices, brakes. Lighting and heating arrangements. Safety gates.
 Steam, electric and compressed-air motors.
 Traction cable and pneumatic systems.

418. TICKETS, TICKET PUNCHES, FARE REGISTERS, STATION AND STREET ANNUNCIATORS, AND ALL MECHANICAL APPLIANCES FOR COLLECTING FARES ON ELEVATED AND STREET RAILWAYS.

419. GRAVITY ROADS AND TELFERAGE SYSTEMS.

Inclined planes, rack railroads, vertical railroads.
 Telferage and suspended-cable lines. Machinery and appliances.

42. *Electricity and its Applications.* Special Monographic Exhibit.*

420. HISTORY AND PRINCIPLES OF ELECTRICITY.

Instructive apparatus to illustrate the history and to demonstrate the laws of magnetism and electricity to the student of natural philosophy.
 Friction machines, Leyden jars, etc.

* For the arrangement of this class I am indebted to Mr. J. Elfreth Watkins, of the National Museum.

421. MAGNETS, ETC.
Lodestone, compasses (marine and surveyors'). Horseshoe and other magnets. Magnetic needle.
Appliances for making permanent magnets.
422. MACHINES AND APPARATUS FOR PRODUCING AND STORING ELECTRICITY (FOR POWER AND LIGHT).
Chemical batteries, coils and electro-magnets.
Dynamoes—High and low voltage, direct and alternating. For arc and incandescent systems.
Storage batteries.
Portable batteries.
Special shafting and appliances for increasing speed.
423. APPLIANCES FOR THE TRANSMISSION AND REGULATION OF THE ELECTRICAL CURRENT.
Cables, wires and insulators, rheostats, switches, ammeters, resistance boxes, indicators and meters, voltmeters, hydrometers and converters.
Safety and protective appliances.
Lightning rods and ornaments, insulators, rods, cables and "grounds."
424. APPLIANCES FOR THE UTILIZATION OF ELECTRICITY DIRECT OR BY STORAGE BATTERIES.
Boat and car motors, boat-steering apparatus, electric locomotives. Overhead and underground systems. Fan, sewing-machine, dental and other small motors. Cables, insulators, etc.
Thermal batteries, etc. Electric musical appliances. Magnetic locks. Chandelier and lamp lighters. Appliances for igniting torpedoes and explosives.
Apparatus for removing incrustation from steam boilers.
425. ELECTRIC TELEGRAPH AND SIGNALS.
Transmitters, receivers, switch boards, and all special appliances for single, duplex, and quadruplex telegraphy. Keys, relays, repeaters. Tickers and brokers' lines.
Bells, burglar alarms, clocks.
Mechanical code transmitters.
426. ELECTRIC LAMPS AND FIXTURES.
Arc lamps—Single, duplex. Carbons and attachments. Incandescent lamps, etc.
Plugs and all other appliances for lighting.
427. TELEPHONES. (See also Class 813.)
Receivers, whisperphones, switch boards, indicators and safety appliances, annunciators. Special wiring.
Auxiliary apparatus for central stations and series systems.
428. ELECTRO-CHEMISTRY.
Electro-metallurgy, electric welding, electrolysis.
Electroplating. Reproduction of relief work and works of art.
Electrotyping. Appliances used for making plates for printing and illustration.
429. THERAPEUTIC AND OTHER APPLIANCES, NOT ELSEWHERE CLASSED.
Medical machines, baths, brushes, rollers, galvanic chairs, circuit terminals, body wear, electrodes.
Instruments for criminal execution may also be shown.
Electric pens and gravers.
43. *Chemical Manufactures, etc., Oils, Soaps, Waxes, Glues, Paints, Dyes, etc., Painting and Dyeing.*
430. PRINCIPLES OF APPLIED CHEMISTRY.
431. THE MANUFACTURE OF ACIDS AND ALKALIES.
Vegetable acids—Acetic, citric, tartaric, oxalic, etc.

431. THE MANUFACTURE OF ACIDS AND ALKALIES—Continued.

Mineral acids—Sulphuric, nitric, boracic, hydrochloric, etc.

The common commercial alkalies—Potash, soda and ammonia, and their compounds.

Neutral salts of the alkalies, as saltpeter, borax, sulphate of soda, nitrate of soda, etc.

Lime, magnesia, barytes, strontia, alum, etc.

Acetate of lime, etc.

432. MISCELLANEOUS CHEMICAL PRODUCTS OF INORGANIC ORIGIN, PYROTECHNICS, EXPLOSIVES.

Sulphur, and its uses.

Non-metallic substances, as sulphurate of carbon, chloride of sulphur, prussiate of potash, etc.

Metallic compounds, as salts of iron, copper and lead.

Explosive and fulminating compounds.

Black powder of various grades and sizes. Nitro-glycerine and the methods of using and exploding. Giant powder, dynamite, dualin, tri-nitro-glycerine.

Pyrotechnics for display, signaling, missiles.

433. THE MANUFACTURE OF GASES.

Manufacture of illuminating gas and coke. Tanks and plant.

Nitrous oxide, oxygen, for heating, lighting, metallurgical and remedial uses, chlorine and carbonic acid gases.

434. DISTILLING INDUSTRIES. MANUFACTURE OF PERFUMES, ETC.

Distillation of spirits. Wood alcohol.

Distillation of turpentine and its products.

Distillation of coal-tar products.

Refuse petroleum, slate oil, paraffine, phenyl, acid benzoic, aniline, etc.

Distillation of essential oils and perfumery manufacture. Materials, methods, products.

Musk, civet, ambergris.

435. OILS, FATS, SOAPS AND WAXES. THEIR PREPARATION AND USE.

Organic oils and fats: Mammal oils and fats. Whale and sperm oils. Butters, lards, tallows. Bird and reptile oils. Fish oils, derived from body tissue (as menhaden oil), and from liver (as cod-liver oil).

Vegetable oils, from various seeds—Olive, cotton-seed, peanut, palm, coconut, etc.

Methods and implements of oil rendering. Boiling and steaming. Sun rendering. Cold pressing. Chemical processes. Churning.

Products of organic oils, soaps and detergents. Glycerine. Stearine.

Oleomargarine, etc. Pomades and cosmetic products. Drying oils, candles, of stearine, glycerine, paraffine, etc.

Lubricating oils.

Waxes, spermaceti, etc.

Bees-wax and other animal waxes, wax candles.

White wax and other vegetable waxes.

Vegetable substitutes for soap, such as soap-berries (*Sapindus saponaria*), soap-roots (*Saponaria officinalis*), iuillac bark, etc.

Spermaceti and sperm candles.

Mineral oils: Petroleum and its manipulation.

Petroleum products, paraffine, vaseline, benzine, naphthaline, aniline, etc.

436. GLUES AND CEMENTS, GUMS AND RESINS.

Gums and mucilaginous substance. Mucilaginous seeds, barks, pods and algae. Gums, made artificially, as "British Gums." Glues prepared from vegetables.

436. GLUES AND CEMENTS, GUMS AND RESINS—Continued.

Resins. Gum resins and balsams. Tars. Gum elastics and gutta-percha. Distilled resins.
Mineral resins, polishers and glues. Asphalt and bitumen. Coal tar. Soluble glues. Mortars. Cements. (See also under 22.)
Varnishes and japans, and their manufacture.
Gelatinés. Glues, etc., of animal origin, from mammal hides and hoofs. Fish glues. Isinglass, etc. Court-plaster.

437. INDIA RUBBER AND CELLULOID.

India rubber, gutta-percha and caoutchouc.
Impermeable articles—Clothing and foot wear, hydrostatic and air beds, water and air cushions, gas bags, bellows, valves, water and air-proof articles of every description.
Elastic articles—Elastic webbing and its uses, accessories of costumes, springs and buffers of every description, washers, valves, etc., surgical and hygienic articles, rubber corks and stoppers.
Molded, embossed and colored. Maps, bottles, bags, furniture covers, etc.
Vulcanized rubber, in all its applications and in combination with metals. Gutta-percha in all its applications as a solid material and in solutions.
Other uses of rubber.
Celluloid and its applications.
“Coralline,” and other similar materials.

438. PIGMENTS AND DYES.

Pigments, stains and dye materials of animal origin. Galls, etc., from animals: Ox gall. Colors from insects: Cochineal lac, etc. From mollusks: Tyrian purple, etc., lehia. Essence d'Orient, or pearl white. Mummy pigment, bone black, animal charcoal. Hydrocarbon blacks. Thickeners used in dyeing albumen.
Pigments and stains from vegetables. Flowers and leaves: Indigo, Persian berries, safflower, saffron. Roots: Madder, turmeric.
Dye-woods and barks: Log-wood, Brazil wood, sandal-wood, peach wood, cane wood, fustic, quercitron, etc.
Nutmegs from Hymenopterous insects and Aphides.
Lichen colors: Archil, cudbear.
Argol, cream of tartar, oxalic acid.
Astringents used in dyeing: Sumac, myrobalans.
Pigments, stains, etc., from earths, oxides of iron, lead, zinc, etc.
Chemical dyes: Prussiate of potash, *album græcum*, permanganate of potash, etc.
Aniline, naphthaline and phenol dyes.
Mordants, salicylic acid, tin, iron.
Mineral thickeners, metallic paints for vessels, gilts, bronzes.
Flockings.
Colors and dyes mixed for use.

439. PAINTING, DYEING, STAINING, VARNISHING, GILDING, BLEACHING, ETC.

Use of water colors.
Use of distemper colors, kalsomines, fireworks.
Use of oil colors.
Painting with vitrifiable colors on glass or pottery. (See 25–126.)
Staining and dyeing of silk and wool.
Color printing on cotton, etc.
Color printing in manufacture of wall paper.
Staining glass. (See also Class —.)

439. PAINTING, DYEING, STAINING, VARNISHING, GILDING, ETC.—Continued.

Varnishing, lacquering, japanning, polishing, preserving on wood and metals. Samples of lacquer. Inlaid lacquer, etc.
 Gilding with gold leaf and water gilding.
 Bleaching materials and processes.
 Cleansing of soiled fabrics
 Fabrics of all kinds, shown as results of dyeing or painting processes.

44. *Pottery and its Manufacture. The Ceramic Art.*

440. HISTORICAL COLLECTION.

Prehistoric pottery: Old World, New World.
 Pottery of uncivilized races: Asiatic, Australasian, African, South American, North American.
 Oriental Pottery: Egyptian, Phœnician and Judean, Assyrian and Babylonian, Western Asiatic, Arabian and Maghreb, Persian, Hindoostanese, Chinese, Corean, Japanese.
 European Pottery—Classical Period: Grecian, Etruscan, Roman and of the Roman Colonies.
 European Pottery—Mediaeval Period: Hispano-Moresque, Italian, French, German, English.
 European Pottery—Renaissance and Recent Period: Italian, French, German, Swiss, Dutch and Belgian, English, Spanish and Portuguese, Scandinavian, Russian.
 South American Pottery: South American and Mexican.
 North American Pottery: United States.

441. SOFT POTTERY.

Unbaked bricks, adobe, etc.
 Terra-cotta, bricks, common and pressed, tiles, architectural forms, etc.
 Tessaræ from powdered clay.
 Unglazed pottery.
 Lustrous pottery.
 Glazed pottery (drain tiles, sewer pipes, etc.).
 Enameled pottery (including delft, majolica, enameled lava, etc.). Enameled tiles.

442. HARD POTTERY AND ITS MANUFACTURES.

Fire bricks, crucibles and pots.
 Stone ware, hard pottery, iron stone china. Druggists' and chemical ware.
 Floor tiles. Encaustic tiles.
 Brown ware, with salt glazing, colored and uncolored bodies.
 Other articles of hard pottery.

443. PORCELAIN AND ITS MANUFACTURES.

Hard paste porcelain, including parian, statuary, porcelains, etc. Biscuit ware.
 Soft paste porcelain, tender and with silicious bodies, implements and processes.

444. MATERIALS OF MANUFACTURE.

Clays (china, ball, sagger), kaolin, feldspar, etc., enameling and coloring materials.

445. LATHES, APPARATUS FOR ENGINE TURNING, STAMPS, ETC.

446. PROCESSES AND IMPLEMENTS OF PAINTING, PRINTING, GLAZING, CRACKLING, ETC.

On bisque by hand.
 On bisque transferred.
 On the glaze by hand.
 On the glaze printed by force.

446. PROCESSES AND IMPLEMENTS OF PAINTING, ETC.—Continued.

On the glaze printed by hand.

Gold, silver and steel lashes.

Enameling.

Gilding.

447. POTTERY OVENS AND ENAMEL KILNS.

448. DICTIONARY COLLECTIONS.

Forms of vessels and other articles of pottery.

Manufacturers' marks.

449. POTTERY AND PORCELAIN FOR ARCHITECTURAL, TABLE AND TOILET USES.

45. *Glass and Enamels.*

450. ANCIENT GLASS AND ITS HISTORY.

Glass of Assyria and Cyprus. Ancient European glass.

451. MATERIALS FOR GLASS MAKING AND THEIR COMBINATIONS.

Sands. Limestone. Potash.

452. GLASS CASTING. MANUFACTURE OF PLATE GLASS.

Plate glass—rough, ground and polished. Pressed. Rolled.

Glass for floors and pavements.

453. GLASS MOLDING.

Molded bottles and other wares.

454. GLASS-BLOWING AND ITS PRODUCTS.

Manufacture of cylinder glass. Glass for windows, of all grades and qualities.

Manufacture of bottles, vials, tubes and pipes. Chemical glassware.

Fancy glass blowing and welding.

455. PREPARATION OF "SURFACE GLASS."

Polishing glass.

Grinding glass surfaces. Cut glass and crystal for table use.

Engraving with lathes.

Etching and embossing.

Sand-blast processes.

456. MANUFACTURE OF ORNAMENTAL AND DECORATIVE GLASS.

Bohemian glass-working. Venetian glass. Austrian glass. Ruby glass.

Manufacture of Roman pearls, beads, etc., crustated jet, spun glass, paste jewelry, colored glass for mosaics, etc., stained glass, pot metal and tinted.

Other ornamental glass—crackled filigree, tempered.

Millefiori and aventurine glass.

457. MANUFACTURE OF LENSES AND OPTICAL INSTRUMENTS.

Lenses for telescope, microscope, photo-camera refractive apparatus. Prismatic lenses for light-houses.

458. MIRROR FABRICATION.

Mirrors for optical and decorative use.

Looking-glasses.

459. ARTICLES OF GLASS, OR GLASS IN COMBINATION, NOT ELSEWHERE CLASSED.

Manufactured windows. Ventilators and shades.

46. *Metal-working Handicraft: Clocks and Watches, Cutlery, and other products, not elsewhere classed.*

461. PRODUCTS OF THE SILVER AND GOLDSMITH'S ART.

Hall marks in plate. Church plate. Decorative and table plate. Articles of gold and silver for personal use or the house. Trophies and prizes.

462. PRODUCTS OF THE CUTLER'S ART.

Grinding, sharpening, polishing, burnishing.

Hand tools and instruments used by carpenters, joiners, and for wood and stone in general.

Miscellaneous hand tools used in industries, such as jeweler's, engraver's, etc.

Cutlery, knives, penknives, scissors, razor straps and other implements.

Other edge tools.

463. PRODUCTS OF THE CLOCK MAKER'S ART.

Watches, chronometers, clocks, mantle clocks, and all other timepieces and reckoners, not shown as accessories of costume, of house fitting, of the decorative arts, or of sciences.

Astronomical clocks and chronometers.

Public clocks and their illumination.

Pedometers.

464. PRODUCTS OF THE GUNSMITH'S ART.

Firearms, guns and pistols, not shown as military and hunting weapons.

465. PRODUCTS OF THE BELL-MAKING ART.

Hand bells, steeple bells, etc.

466. HARDWARE (SHOWN AS A PRODUCT, RATHER THAN AS A MATERIAL OR ACCESSORY).

Hardware used in construction, exclusive of tools and instruments. Spikes, nails, screws, tacks, bolts, locks, latches, hinges, pulleys. Plumber's and gasfitter's hardware, furniture fittings, ship's hardware, saddler's hardware, and harness fittings and trimmings.

467. GOLD-BEATING AND THE MANUFACTURE OF FOILS.

Materials, processes and products.

468. CASTINGS IN VARIOUS METALS, NOT ELSEWHERE PLACED.

469. FORGED WORK IN VARIOUS METALS, NOT ELSEWHERE PLACED.

47. Furs and Leathers.—Tanning and Currying.

471. LEATHERS.*

Tanned leathers—belting, grain, harness leather. Sole leather. Oak, hemlock and union leather. Upper leather, and leather tanned for all other purposes. Calf, kip and goat skins tanned and finished. Sheepskins tanned. Splits tanned. All other tanned leather.

Curried leathers—calf, kip and sheep skins finished. Sides of finished leather for all purposes. All other skins finished.

Patent and enameled leathers. Morocco—black enameled leather. Black japanned grain leather. Colored enameled leather (Morocco finish). Black and colored splits. All other products.

Other leathers—rawhides, babiche, etc. Bull sinew. Rough-tanned leathers; crop kid, offal, bragils. Horse butts and hides; calf, seal and hog skins. Alligator, porpoise, walrus and kangaroo leather. Russia leathers; imported and American. Oil leather; buckskin, doe, calf, lamb, sheep, ox, ewe, cape sheep. White or alum leather. Horse, calf, sheep, lamb, kid, for gloves, white and dyed. Parchment for deeds and bookbinding. Vellum for bookbinding, painting, drumheads, and gunpowder sieves. Bladder. Gold beater's skin, etc. Catgut. Fish leather, eel skins, shagreen. Stamped and embossed leather. Other leathers.

472. FURS AND SKINS.

Furs of the cat tribe.

Furs of the wolf tribe.

*The classification of tanned, curried, and patent leathers is that adopted by the Eleventh Census.

472. FURS AND SKINS—Continued.

Furs of the weasel tribe.

Furs of the bear tribe.

Furs of the seal tribe—fur seals, Alaska, Oregon, South Georgia, Shetland and Siberia, undressed, plucked and dyed. Hair seals—Greenland and

Labrador seals, spotted seals, silver seal, harp seal, saddle-back.

Furs of rodent animals, squirrels, chinchilla, beaver, hares and rabbits.

Skins and rugs of hoofed animals.

Miscellaneous furs.

Bird skins treated as furs—swan and swan-down skins, goose and goose-down used as swan-down, grebe, eider duck, penguin.

473. TANNING MATERIALS.

Tan barks, as hemlock, oak, Brazilian, acacia, etc.

Oak and hemlock bark extracts.

“Pods, berries, seeds, and fruits, as Algaraab, acacia, Nib-Nib, and Divi-Divi pods.”

Galls.

Catichu Kino. Gambier. Sumac.

Mineral substances, as alum.

Currier's oil.

474. METHODS OF TANNING AND PREPARATION.

Tanning and currying of leather.

Dressing fur skins. Indian tanning. Oil dressing.

Preparation of white or alum leather, red leather, etc.

Preparation of parchment and vellum.

Manufacture of enameled and japanned leather.

Manufacture of Morocco, roan and other dyed leathers.

Manufacture of rawhide, babiches, etc.

Plucking and dyeing furs.

475. BOOT AND SHOE MAKING.

Products of all kinds.

476. HARNESS AND SADDLERY MAKING.

Products of all kinds, not shown in Class—.

477. MANUFACTURE OF TRUNKS AND BAGS.

478. MANUFACTURE OF BRACES, BELTS, ETC.

479. LEATHER ARTICLES NOT ELSEWHERE CLASSED.

48. *The Textile Industries.*

NOTE.—For the arrangement of this division I am indebted to Mr. S. N. D. North. The classification is that adopted for the Eleventh Census of the United States, and it is suggested that, for purposes of future comparison and reference, the uniformity thus insured will justify the somewhat more minute specification than would otherwise be necessary.*

480. THE HISTORY OF CARDING, COMBING, SPINNING, WEAVING AND FINISHING.

Implements, and their evolution.

(Machinery now in use under 405.)

481. TEXTILE FIBERS, VEGETABLE, ANIMAL AND MINERAL.

Systematic collection of types.

Tests of tensile strength.

Illustrations of all fibers at all preliminary stages of manipulation.

* Certain products of the textile industries will, of necessity, be shown in Department 6, in connection with house fittings and costume. In many instances this display will be made by dealers, while manufacturers will arrange their products in Department 4.

482. CORDAGE.

Ropes and twines, and all applications.

Cordage in general is shown in connection with its manufactures in Class 405.

483. COTTON FABRICS.

Yarns, twines, sewing cotton.

Tapes and webbings.

Battings and waddings.

Plain cloths for printing and converting.

Print cloths.

Brown and bleached sheetings or shirtings.

Drills, twills and sateens.

Ginghams.

Cotton flannels.

Fine and fancy woven fabrics.

Duck, ticks, denims and stripes.

Bags and bagging.

Upholstery goods—tapestries, curtains, chenilles.

484. WOOLEN AND WORSTED FABRICS.

1. Partly manufactured products.

Woolen card rolls.

Woolen yarns, all wool; union or merino.

Worsted tops, noils and yarns.

Shoddy and mungo.

Wool extracts.

2. Woolen goods—all wool.

Woolen cloth. Doeskins, cassimeres, cheviots, indigo flannels and broadcloths, for men's wear.

Overcoatings, cloakings and kerseys, for both men's and women's wear.

Carriage cloths of all weights.

Wool dress goods, sackings, tricots, ladies' cloth, broadcloth, and other all-wool goods, for women's wear.

Flannels, blankets, horse blankets, carriage robes.

Buntings.

Woven shawls (woolen).

3. Worsted goods.

Worsted coatings, serges and suitings, for men's wear.

Worsted dress goods, cashmeres, serges and other worsted goods; for women's wear.

4. Union or cotton mixed woven goods.

Unions, tweeds, cheviots, cassimeres, and other goods for men's wear.

Overcoatings and cloakings.

Sackings, tricots and dress goods for women's wear.

Flannels and linseys.

Blankets, horse blankets.

5. Goods woven on cotton warps.

Cassimeres, doeskins, jeans, coatings and suitings for men's wear.

Overcoatings and cloakings.

Satinets.

Worsted-filling dress goods, delaines, cashmeres, serges, mohairs, alpacas, and other stuffs for women's wear.

Wool-filling dress goods and repellents.

Domett flannels and shirtings.

Cotton-warp blankets.

Linings and Italian cloths, lastings.

484. WOOLEN AND WORSTED FABRICS—Continued.

6. Upholstery goods.
 - Woolen upholstery goods—tapestry, terry, rep and damask.
 - Worsted or mohair upholstery goods—tapestry, plush, terry and rep.
7. Sundries and small wares.
 - Webbing and gorings.
 - Bindings, beltings, braids, galloons, fringes and gimps.
 - Cords and tassels.
 - Suspenders, braces, and all elastic fabrics.
 - Dress trimmings, embroideries, etc.
8. Felt goods.
 - Felt cloths.
 - Trimming and lining felt.
 - Felt skirts and skirting.
 - Table and piano covers.
 - Felts for ladies' hats. Saddle felts. Druggets.
 - Endless belts for printing machines.
 - Rubber-shoe linings and other foot wear.
 - Hair felting.
9. Carpets and rugs.
 - Ingrains, two-ply and three-ply and art carpets.
 - Tapestry and body Brussels.
 - Tapestry velvet, Wilton or Wilton velvet, Axminster, moquette.
 - Tapestry, Wilton, moquette, ingrain and Smyrna rugs.
 - Other woolen rugs.
 - Rag carpets.
10. Wool Hats of every description.

485. SILK FABRICS.

- Organzine, tram, spun-silk yarn.
- Machine twist and sewing silk.
- Fringe, knitting, embroidery and floss silk.
- Tie silks and scarfs.
- Gimps and trimmings, braids and bindings.
- Ribbons, laces.
- Dress and cloak trimmings.
- Military trimmings.
- Dress goods, figured and plain.
- Tailor's linings.
- Upholstery goods—Tapestries, curtains, velvets, plushes.

486. HOSIERY AND KNIT GOODS OF COTTON, SILK, WOOL, OR MIXED FIBERS.

- Shirts and drawers, hosiery, mittens and gloves.
- Jersey cloths.

487. FABRICS OF HEMP, FLAX, JUTE, AND OTHER VEGETABLE FIBERS OTHER THAN COTTON.

- Hemp jute and linen yarns.
- Bags and bagging, twines, threads.
- Linen cloths and drills, plain and mixed.
- Cambries.
- All other fabrics of flax, hemp, jute, ramie, and other vegetable fibers.

488. MIXED AND SPECIAL FABRICS, NOT ELSEWHERE CLASSED.

- Laces of thread and cotton; laces of silk, wool, or mohair, made with the needle or loom, and not classified with the fine arts.
- Silver and gold lace.
- Silk and cottonet, plain or figured.
- Embroidery and tambour work.
- Crocheting, etc. Embroidery in gold, silver and silk.
- Embroidery, tapestry and other work done by hand.

49a. Paper Manufacture and its Applications.

490. HISTORY AND SCIENCE OF PAPER-MAKING.

A historical series showing the development of paper as a material. Papers of primitive peoples, as "tappa."

Materials for paper-making. A systematic series, with illustrations of source, and examples of simple applications of little-known fibers.

491. METHODS OF PAPER-MAKING. (Machinery may also be classed under 408.)

Appliances and products of the manufacture of paper pulp, rags, wood, straw, etc.

Methods and products of the bleaching of wood fibers.

Appliances for the manufacture of paper by vat and by machine.

Apparatus for pressing, glazing, watering, embossing, water-marking and ruling paper. Machines for cutting, tearing and stamping paper, etc.

Appliances for bleaching, coloring and finishing paper and tissues.

Appliances for printing paper hangings and tissues.

492. WRITING PAPER.

Stationery, envelopes, blank-book paper, bond paper, tracing and linen-tissue paper, etc., as industrial products. (See also Classes 815-19.)

493. PRINTING AND WRAPPING PAPER.

Printing paper for books and newspapers.

Wrapping paper of all grades.

Cartridge paper. Botanical driers and covers.

Paper bags.

494. CARDBOARD AND PASTEBOARD. WALL PAPER.

Cardboard and cards. Playing cards (as articles of paper manufacture).

Binder's board and its uses.

Pasteboard, paper or cardboard boxes.

Pasteboard for walls, board roofs.

Tar-board and tar-paper.

Wall papers of all kinds, from paper-maker's standpoint.

495. PAPER PULP AND ITS USES.

Papier-maché, and articles of all kinds made from it.

Use of paper in making boats, buckets, etc.

Paper-felt for car wheels.

49b. Applications of Animal, Vegetable and Mineral Materials not Elsewhere Classed.

496. MISCELLANEOUS HARD TISSUES OF ANIMAL AND VEGETABLE ORIGIN.

Ivory, of elephant, whale, walrus and alligator.

Bones of cattle used in the arts, handles, etc. Albatross bones, for pipe-stems.

Horns of mammals, used solid and in laminæ. Horn combs, jewelry, etc.

Antlers, used for handles, etc.

Tortoise shell, and applications not elsewhere shown.

Whalebone, and applications not elsewhere shown.

Egg shells, as materials. Ostrich and emu eggs. Japanese egg-shell lacquer.

Quills and spines, for handles, etc., used in embroidery.

Quills, and their uses for pens, toothpicks, etc.

Bristles, as used in anatomy, etc.

Mother-of-pearl, or naacre, of pearl oyster, unio or river mussel, paliotes, for handles, inlaying, buttons, etc.

Corals, precious and white, and their use in the arts.

Corals and cameo shell, and other shells, used as material. Other uses of shells.

Fish scales, used in the arts. "Scale jewelry."

496. MISCELLANEOUS HARD TISSUES OF ANIMAL AND VEGETABLE ORIGIN—Cont'd.
 Vegetable ivory, and its applications.
 Nuts and nut shells used in arts.
 Berries used in arts. Doom palm nuts, coquilla nuts, nicker nuts, sea beans, etc.
 Gourds, calabashes, cocoanut shells, for dippers. Dutch rushes, aloe fiber, etc.
 Teasels.
 Fancy woods, used as material in small work, and illustrations of their use.
497. BRUSHES AND BRUSH-MAKING. (See also under 37.)
 Brushes of hair and bristles, feathers, baleen, broom and other vegetable fiber.
 Materials and methods of manufacture.
498. WADDINGS AND STUFFINGS.
 Hair, bristles, feathers and other substances used.
 Hair and wool of mammals.
 Feathers and down of geese, ducks and swans.
 Eider down.
 Sponges, byssus, etc., used for stuffing.
 Leaves and other vegetable products. "Pine tags."
 Shavings (excelsior), chips and sawdust, used as stuffing.
 Asbestos, hay, wool, etc.
 Cushions and mattresses, not elsewhere shown.
499. FANCY AND DECORATIVE MANUFACTURED ARTICLES, NOT ELSEWHERE CLASSED.
 Feathers, plumes, etc., of feathers or mammals' tails.
 Birds stuffed for decoration, or wings used. Fans and screens of feathers.
 Decorative taxidermy.
 Feather garments and robes. Feathers used as fur.
 Hair embroidery. Chains, guards, jewelry.
 Artificial flowers, not shown as articles of costume.
 Embalmed flowers.
 Ladies' ornamental and artificial work in wax, feathers, paper, wool, leather, or other material.
 Decorative devices in shells, mosses, dried ferns, sea weeds, animals, birds, insects, or any natural production.
 Articles of stone, metal, and wood, not elsewhere classed.
 Other similar objects, not mentioned in detail.

DEPARTMENT 5.—FOOD AND ITS ACCESSORIES.*

50. *Science of Food and Nutrition.*

NOTE.—For the arrangement of this division I am indebted to Prof. W. O. Atwater, Director of the Office of Experiment Stations of the U. S. Department of Agriculture.

500. THE HISTORY OF FOODS. LITERATURE. FOLK-LORE.

Geographical distribution of special foods.

Food constitutes the largest of our agricultural productions, of the living expenses of the people, and of our export to Europe.

The agricultural production of the United States is one-sided. Our food supply for man and beast contains an excess of the materials which make fat and serve the body for fuel, and is relatively deficient in the nitrogenous compounds which make

*Nos. 51 to 56 may include adulterations and methods of adulterating. With the prepared products, the machinery and methods used in preparation may be shown.

blood, muscle, and bone. The farmer loses because his products do not fit the demands of the home and foreign markets. At the same time our national dietary has become one-sided, so that though we live upon a high nutritive plane, our food might be better fitted to our needs.

Wage workers and people of moderate incomes generally spend and must spend more than half their earnings for food. They do not understand either the relation of the nutritive value of food to its cost or its physiological effects. The result is great waste in the purchase and use of food, loss of money, and injury to health.

The agricultural production and exchange of this country and Europe are out of balance. European nations do not avail themselves fully of the food supplies of which we have too much and they not enough. This is illustrated in their opposition to American meats. It is as unfortunate for them as for us. The laboring classes in Europe are underfed. To give them the bodily strength and vigor which characterize our own working people, they need the very nutriment which we produce in such large excess.

The research of later years is showing clearly how the products of our farms may be better adapted to the demand of home and foreign markets. It is bringing the information which the people need to help them to fit their diet to the demand of health and purse. It is also showing why foreign nations should, in the interest of their poorly fed masses, remove the barriers they now oppose to our meats and other food products.

It is eminently fitting that these things be illustrated at the Exposition, which is to be for the education of both our own people and those of other countries.

501. THE CHEMISTRY AND PHYSIOLOGY OF FOOD AND DRINK.

Composition of foods. Constituents of foods, and their uses in nutrition.

Nutritive values of different food materials.

502. DIETARY STANDARDS AND ACTUAL DIETARIES.

Food of people of different occupations, districts, countries, etc. Diets of factory operatives; mechanics; of the poor and the well-to-do.

Prison and workhouse diet. Army and navy rations.

503. FOOD AND HEALTH.

Hygienic effects of food and drink. Over-eating and drinking. Unwholesome and improper foods, and diseases due to them. Ptomaines and other poisons occurring in foods. Bacteria in foods. Animal parasites.

504. ADULTERATIONS.

Adulterants used, harmless and injurious. Coloring substances. Adulterated articles. Apparatus used in compounding.

51. *Animal Foods and Products from Them.*

510. HISTORY OF ANIMAL FOODS.

Statistics and literature. Conditions of animal food.

511. MEATS, AND PRODUCTS PREPARED FROM THEM. (See also Class 189.)

Beef, mutton, pork, etc. (Fresh meats of different kinds and qualities illustrated by models and charts.)

Salt meats. Meat preserved by various processes. Dried. Smoked. Hams. Sausage. Other prepared meats. Canned meats. Preparations for soups. Meat extracts. "Peptones" and kindred preparations from meats. Proprietary articles.

512. POULTRY, GAME AND EGGS.

513. FISH.

Salt fish, pickled fish, codfish, herrings, etc. Fish preserved in oil—sardines, pickled tunny fish, etc. Canned fish. Caviar. Products prepared from fish. (See also Classes 371–373.)

514. SHELL FISH, ETC.

Crustacea and shell fish—lobsters, shrimps, oysters, preserved oysters, anchovies, etc. Canned oysters, lobsters, etc.

515. MILK AND DAIRY PRODUCTS.

Condensed milk, butter, cheese of all kinds, kunys.

516. GELATINE AND KINDRED SUBSTANCES.

52. Vegetable Food Products and Preparations from Them.

521. CEREALS AND PRODUCTS PREPARED FROM THEM.

Wheat, rye, barley, rice, maize, millet, and other cereals in the grain and when ground.

Flours and meals.

Hulled or decorticated grains. Grits, etc.

Crushed grains, etc.

Starch from potatoes, rice, lentils, etc. Tapioca, sago, arrow root, various starches, mixed farinaceous products.

Italian paste, semolino, vermicelli, macaroni.

Gluten and kindred products.

Products of the bakery and pastry shop.

Bread, all kinds, with or without yeast, fancy bread and bread in shapes, crackers, compressed bread for traveling military campaigns, etc., sea biscuit.

Various kinds of pastry peculiar to each country.

Ginger bread and dry cakes fit for preservation.

Domestic and home-made bread, cakes, pastry, etc.

Alimentary preparations as substitutes for bread, nouilles, pap.

Other products.

522. LEGUMES, BEANS, PEAS, ETC., AND PRODUCTS FROM THEM.

523. VEGETABLES AND PRODUCTS.

Potatoes, sweet potatoes, turnips, beets, carrots, etc.

Cabbages, canliffowers, lettuce, etc.

Melons, pumpkins, etc. Onions, garlic, etc.

Vegetables preserved and prepared by various processes, pickled, desiccated, compounded, canned.

524. FRUITS.

Apples, pears, peaches, plumbs, cherries, grapes, etc.

Fruits preserved in sugar. Fruits preserved with sugar.

Dried fruits, figs, raisins, etc.

Canned fruits.

Nuts and nut-like substances.

Other fruits and preparations from them.

525. ICELAND MOSS AND ALLIED PRODUCTS.

526. PREPARED FOODS FOR INFANTS AND FOR INVALIDS. PROPRIETARY ARTICLES.

527. PECULIAR AND LESS USUAL VEGETABLE FOOD PRODUCTS.

53. Sugar, Confectionery, Fats, and Oils.

531. SUGARS AND ALLIED PRODUCTS.

Cane sugars, sirups, molasses, etc.

Sorghum sugars, sirups, molasses, etc.

Beet sugars, sirups, etc.

Maple sugar, sirups, etc.

Palm sugar. Milk sugar.

Grape and fruit sugars, natural.

Glucoses, etc., prepared.

Honey.

532. CONFECTIONS AND CONFECTIONERY.

533. ANIMAL FATS AND OILS USED FOR FOOD.

Lard.

Oleomargarine. Artificial butter.

Cod liver oil.

Other animal fats and oils.

534. VEGETABLE FATS AND OILS USED FOR FOOD

Olive oil.

Cotton-seed oil.

Other vegetable fats and oils.

54. Food Adjuncts, Condiments, Stimulants.

541. SALT.

Table salts and salts used for preserving foods.

542. BAKING SALTS AND POWDERS.

Chemical salts, saleratus, cream of tartar, etc.

Proprietary articles. Baking powders.

543. SPICES, MUSTARD, ETC.

Allspice, pepper, cinnamon, nutmeg, etc.

Mustards, curries, compound sauces. Proprietary articles.

544. FLAVORS AND FLAVORING EXTRACTS.

Natural flavors and essences. Vanilla, lemon, orange, etc.

Artificial flavoring matters.

545. AROMATIC HERBS.

546. VINEGARS.

55. Beverages and Materials used for Them.

550. HISTORY AND FOLK-LORE OF BEVERAGES.

551. CARBONATED WATERS, SODA WATER, GINGER ALE, MINERAL WATERS.

552. TEA, COFFEE, AND OTHER MATERIALS CONTAINING ALKALOIDS, AND USED FOR INFUSIONS.

Teas, coffees, coffee substitutes, chicory, etc.

Cocoa. Chocolate, etc.

Proprietary articles.

553. MALT BEVERAGES.

Beers.

Ales.

Brewers' supplies.

554. WINES AND CIDERS.

Wines of all kinds.

Cider, perry, etc.

Coloring materials and flavoring extracts.

555. DISTILLED LIQUORS.

Rums, whiskies, brandies, gins, absinthes, etc.

556. PECULIAR AND LESS USUAL ALCOHOLIC LIQUORS.

Pulque, palm wine, etc.

557. ADULTERANTS AND ADULTERATING PRODUCTS.

Flavoring materials, colors, and other substances used in changing character of liquors.

558. APPLIANCES CONNECTED WITH THE USE OF BEVERAGES.

Drinking glasses and cups, etc.

Samovars, tea and coffee pots, etc.

Decanters, bottles, etc.

56. Tobacco.

560. HISTORY AND FOLK-LORE, LITERATURE, ETC.

561. CUT TOBACCO.

562. PLUG TOBACCO,

- 563. CIGARS.
- 564. CIGARETTES.
- 565. SNUFFS.
- 566. PIPES OF ALL NATIONS.
- 567. ACCESSORIES OF CIGARS AND CIGARETTES.
- 568. ACCESSORIES OF ALL OTHER KINDS.
- 569. FACTORIES OF ALL KINDS FOR MANUFACTURE OF ARTICLES SHOWN IN THIS DIVISION.

57. Peculiar and Less Common Foods and Food Products.

- 571. FOODS OF THE PEOPLE OF INDIA AS REGULATED BY CASTE AND TRADITIONS. OTHER NATIONS.
- 572. FOODS USED BY AMERICAN INDIANS.
- 573. FOODS USED BY PRIMITIVE PEOPLES ELSEWHERE.
- 574. MATERIALS NOT USEFUL FOR NUTRIMENT, BUT USED BY LESS INTELLIGENT PEOPLE.
Clay used by clay-eaters, etc.

58. Cooking Utensils, Products, Cooking Schools.

- Chemistry and physiology of cooking.
- 580. HISTORY OF COOKING.
Literature. Folk-lore.
- 581. DOMESTIC COOKING.
Utensils. Stoves, kitchen and pantry conveniences, in use or otherwise.
Products.
- 582. COOKING IN PUBLIC INSTITUTIONS. UTENSILS. METHODS. PRODUCTS.
- 583. COOKING SCHOOLS.
The cooking-school movement in the United States and elsewhere.
Cooking as taught in public schools and by private enterprise.
- 59. Preparation, Conservation and Transportation of Food. Food Supply of the United States and Europe.*
- 590. APPARATUS AND PROCESSES FOR STORING, CONVEYING AND DISTRIBUTING FOODS.
- 591. REFRIGERATION, ICING.
- 592. DRYING AND DESICCATING.
Drying without salt. Jerking. Desiccating. Drying with salt. Dry salting.
- 593. PICKLING AND CONSERVING (WITH ANTISEPTICS, SALT, VINEGAR OR SUGAR).
(a) In salt, brine, pickling.
(b) In vinegar, pickling.
(c) In sugar, conserving.
- 594. CANNING.
- 595. PREPARATION OF FOOD MATERIALS, EXTRACTS, ETC.
Machinery and appliances for the preparation of articles under Class 407.
- 596. TRANSPORTATION AND DISTRIBUTION OF FOOD.
- 597. THE PRESENT AND PROSPECTIVE FOOD SUPPLY OF THE UNITED STATES AND OTHER PARTS OF THE WORLD.
Exportation and importation. Shown by statistical charts, diagrams, etc.

DEPARTMENT 6.—THE HOUSE AND ITS ACCESSORIES—COSTUME
AND PERSONAL EQUIPMENT.

60. *Cities, Towns, and Villages.*

Historical matter, plans, views, etc.

61. *Domestic and Economic Architecture, Domestic Appliances.*

611. THE DWELLING HOUSE.

Models and designs for, and specimens of, buildings.

612. MANUFACTURED PARTS OF BUILDINGS.

Sash, blinds, etc.

Fittings and accessories for dwelling houses.

613. MATERIALS FOR HOUSE CONSTRUCTION.

Materials for roofs, walls, damp courses, solid floors, damp proof, wall coverings, cements, etc.

614. LITERATURE OF DOMESTIC ARCHITECTURE.

Models, pictures, diagrams, etc.

615. LABORING MAN'S HOUSE.—CITY AND COUNTRY.

616. THE VILLAGE HOUSE.

As above.

617. THE SUBURBAN COTTAGE AND VILLA.

As above.

618. THE CITY HOUSE.

Drawings and models of dwellings characterized by cheapness, comfort, health. Cheap, moderate, expensive.

619. THE FLAT AND THE TENEMENT HOUSE.

62. *Interior Architectural Fixtures and Decoration.*

620. PRINCIPLES OF INTERIOR DECORATION AND ARRANGEMENT AND SANITATION.
PLANS AND LITERATURE.

621. FLOOR COVERING.

Carpets of all kinds. Rugs. Druggets. Matting.

Oil-cloths and linoleum.

622. WALL COVERING AND DECORATION.

Printed papers. Paper with velvety surface, marbled, veined, etc. Artistic papers. Enameled and varnished papers. Imitations of wood and leather. Painted and printed shades.

Frescoing. Masticking. Papering, plastering, panneling, cornices, brackets, picture frames. "Carton-Pierre," "Lincrusta," etc.

Covered and decorated walls. Drawings.

623. WINDOW AND DOOR ARRANGEMENTS.

Curtains, screens, movable screens.

Fixtures. Cornices and brackets.

624. SEATS AND CHAIRS. SOFAS, DIVANS, ETC.

625. TABLES, FLOOR SCREENS, ETC.

626. CLOSETS, ETC.

Cupboards, wardrobes, sideboards, bookcases.

627. MANTELPIECES, ETC.

628. FABRICS USED IN FURNISHING.

Such as cotton, wool, or silk, plain and figured. Fabrics of horsehair, vegetable, leathers, moleskin, etc. Leathers used for hangings and furniture. Oil-cloths and linoleums.

629. IMPLEMENTS OF DOMESTIC INDUSTRY, NOT ELSEWHERE PLACED.

63. Furniture of the Dwelling House.

631. THE KITCHEN, PANTRY, AND LARDER.
Stoves and ranges for cooking. (See also Class 651.)
Cookery utensils of all kinds.
Tinware.
632. THE LAUNDRY.
Appliances for washing. Washing machines, clothes wringers, mangles, clothes bars, and other drying devices. (See also Class 406.)
Ironing tables. Irons, crimping and goffering machines.
633. THE DINING ROOM.
Tables, chairs, sideboards, buffets.
Table furniture. Glass, china, metal. Tureens, dishes, épergnes, tea and coffee urns and kettles. Decanters, wine coolers, castors. Knives, forks, spoons, chopsticks, etc. Nut crackers. Toothpicks. Drinking vessels.
634. THE SLEEPING ROOM.
Bedsteads, bed fittings, mattresses, bed covering, folding and adjustable beds.
Wardrobes.
The dressing and toilet table. Toilet mirrors.
635. THE NURSERY.
Cradles, cribs.
Baths and toilet fixtures.
Perambulators, etc. Baby carriages.
Nursery toys.
636. THE LIBRARY.
Bookcases, desks, tables, chairs, cases.
637. HALL, PORCH, AND LAWN.
Hat and coat racks, cane and umbrella racks.
Chairs, benches, rustic furniture.
Hammocks.
Lawn seats, tents, etc.
638. RECEPTION ROOM.
Chairs, tables, and all fine furniture.

64. Furniture and Fixtures for Public Buildings.

641. OFFICES AND COUNTING ROOMS, BANKS.
Desks, safes, file cases, etc.
642. SHOPS AND STORES.
Counters. Show cases. Shelf appliances.
Fittings for special establishments, as grocers, butchers, druggists, tobacconists, confectioners, batters, hardware, books and stationery. News stands.
Devices for display of goods.
Lay figures.
643. HOTELS AND RESTAURANTS.
Special furniture.
Furniture of ordinary types.
Annunciators.
644. PUBLIC HALLS, THEATERS, ETC.
645. CHURCHES.
646. SCHOOLS.
647. RAILWAY AND RAILWAY STATIONS.
648. VESSELS AND STEAMERS.
649. OTHER SPECIAL TYPES OF FURNITURE, NOT ELSEWHERE CLASSED.

65. Heating, Lighting, Ventilation and Water Supply.

651. STOVES, ETC.

Fireplaces, grates and stoves for domestic use. Apparatus for heating and warming, by hot air, gas, hot water, steam. (See also Class 631.)

Smoke abatement, etc.

Apparatus for the use of mineral oil for domestic and industrial purposes.

652. VENTILATING APPARATUS.

Ventilators, air inlets and outlets, cowls. Air straining and cleansing.

653. LIGHTING APPARATUS. (Shown also in Class 426.)

a. Electrical apparatus for illumination and domestic use, secondary batteries, electroliers, etc.

b. Apparatus for lighting by gas, gas-producers, gas meters, gas fittings, chandeliers, etc.

c. Oil and other lamps; mineral oil, vegetable and animal oils.

d. Candles and candle-holders.

e. Accessories of lighting, matches, safety matches.

654. FIRE PREVENTION APPARATUS.

Extinguishers, portable engines, domestic fire escapes, etc.

655. WATER SUPPLY.

Water supply and purification. Meters, water fittings, cisterns, etc.

656. HOUSE DRAINAGE.

Drains, construction and ventilation. Sewer, disconnection; sinks, traps, gulleys; the disposal and utilization of house refuse.

Disinfectants for domestic use.

657. CLOSETS.

Water and earth closets, ash closets, hot-air closets, commodes, latrines, disinfecting powders and fluids, insect-destroyers.

658. BATHS, ETC.

Bathing requisites of all kinds. Shower baths. Public and private wash houses; washing apparatus, etc.

659. HOUSEWIFERY.

Sweepers, washers, dusters, polishers, detergents.

66. Costumes and Parts of Costumes.

660. THE HISTORY OF COSTUMES, ETC.

Retrospective collections. Costumes of all lands and times. Costumed figures. Costumes as shown by portraits and other pictures. Fashion plates.

Literature of dress.

Curiosities, etc., of dress and bodily adornment. Tattoo patterns and processes. Mutilation and deformation.

Physiological effects of abuses of dress.

661. FEMALE COSTUME IN 1892-'93.

Complete costumes and separate outer garment. Fashion plates of the day.

662. ACCESSORIES OF FEMALE DRESS, 1892-'93.

Head covering. Bonnets and millinery.

Gloves, etc.

Foot covering.

Linen and made-up articles of all kinds.

Shawls, etc.

663. MALE COSTUME IN 1892-'93.

Complete costumes and separate outer garments.

Fashion plates of the day.

664. ACCESSORIES OF MALE DRESS, 1892-'93.

- Hats of all models.
- Boots, shoes, etc.
- Gloves, mittens, etc.
- Underwear and made-up articles of every description.
- Haberdashers' goods in general.
- Ready-made clothing in general.

665. SPECIMEN FABRICS OF ALL KINDS FOR MATERIAL FOR DRESS, NOT SHOWN IN CONNECTION WITH ITS MANUFACTURE.

666. ARTISTIC AND DECORATIVE TISSUES FOR USE IN DRESS.

- Laces.
- Embroidered tissues.

667. FURS, ETC., IN CONNECTION WITH COSTUME.

668. FEATHERS AND OTHER DECORATIVE MATERIALS.

669. COSTUMES FOR SPECIAL PURPOSES.

- Stage costumes.
- Dress of various trades and handicrafts.
- Athletic and recreative costumes. (See also Class 892.)
- Masquerade and fancy dress.

67. *Jewelry and Trinkets.*

670. HISTORY AND FOLK-LORE OF JEWELRY.

671. ORNAMENT PINS, BROOCHES, CLASPS, BUTTONS AND STUDS.

672. FINGER RINGS.

673. EAR-RINGS, NOSE-RINGS, AND LABRETS.

674. CHAINS AND ORNAMENTS CONNECTED WITH TIME-KEEPERS.

- Chatelaines, pendants, seals, keys and amulets.

675. ORNAMENTS CONNECTED WITH COIFFURE.

- Tiaras, pins, combs.

676. APPENDAGES TO GARMENTS.

- Buckles.

677. TRINKETS OF ALL KINDS.

- Decorated objects.

678. PRECIOUS STONES IN MOUNTING.

- Manner of setting and cutting. Imitations. Jewelry of jet. Amber, pearl, mother-of-pearl, coral, steel, ivory, feather and hair work jewelry. Plated and imitation jewelry.

679. SNUFF-BOXES. CASES.

68. *The Toilet and its Appliances.*

680. HISTORY AND FOLK-LORE OF THE TOILET.

- Retrospective collections. Literature.

681. DRESSING CASES.

- Mirrors, brushes, combs, hair-dressing utensils.

682.

- Work-boxes, glove cases, fancy notebooks, jewelry boxes, caskets and scent bottles. Vinaigrettes, etc.

683. COSMETICS AND PERFUMERY.

- Pomatus and bandolines. Almond paste, enamels, whitening powders, and rouges. Toilet masks. Actors' make-up articles. Perfumed oils, essences, extracts, and scent water, powders, pastiles, and scent bags. Aromatic vinegars, perfumes for burning, toilet soaps, anointing oils.

684. APPARATUS AND APPLICATIONS FOR BEAUTIFYING THE HANDS.

- Manicure outfits.

685. APPARATUS FOR DRESSING THE HAIR.

686. APPARATUS FOR SHAVING AND TRIMMING THE BEARD.

69. Accessories of Costume and Personal Equipment.

690. GENERAL ACCESSORIES.

Brooches, buckles, pins, buttons, hooks and eyes, flowers and their holders.
Artificial flowers.

691. MASKS, FANS, ETC.

692. CANES, UMBRELLAS, ETC.

Canes, umbrellas, parasols, hand screens.

693. BAGS, TRUNKS, ETC.

Bags, trunks, baskets, valises, saddlebags, pocketbooks, and other receptacles.

694. SMALL GOODS AND FANCY ARTICLES.

Eyeglasses, lorgnettes, etc.

Cigarette cases, cigar pipes, and pipe cases. Cigar and cigarette holders and cases. Snuffboxes.

Miscellaneous fancy articles and small goods in leather, wood, metal, glass, ivory, shell, lacquer, basketry.

695. POCKET CUTLERY AND WEAPONS FOR PERSONAL USE AND PROTECTION.

696. TRAVELING RUGS AND CUSHIONS.

697. WATERPROOF GARMENTS.

698. MISCELLANEOUS PERSONAL ACCESSORIES OF TRAVELING.

699. CAMP EQUIPAGE.

Tents, etc. (See also Class 849.)

DEPARTMENT 7.—THE DECORATIVE, PLASTIC, AND PICTORIAL ARTS.

71. The Decorative Arts.

710. HISTORY AND METHODS OF DECORATIVE ART.

Architectural exteriors and interiors. Decorative arrangement. Frames, pedestals and other accessories for uses of art.

711. ARTISTIC POTTERY.

Porcelains, tiles, etc.

Mosaics, tessellated, sectile, fictile, verniculated, and groove. Venetian, Alexandrine, Florentine, Roman, and Indian.

712. ARTISTIC GLASS.

Engraved, painted, chased, etched, iridescent.

713. ECCLESIASTICAL AND OTHER ARCHITECTURAL GLASS.

714. ENAMELS.

Incrusted, cloisonné, champlevé, translucent, in relief. Painted enamels, Niello enamels. Incrustations of all kinds and inlaid enamels.

715. TAPESTRIES, EMBROIDERIES, AND NEEDLEWORK.

Products of the Jacquard loom.

716. METAL WORK.

Cast, forged, repoussé work.

Art bronzes and castings. Ormolu.

Gold and silversmiths' art. Filigrees. Galvanoplastic reproductions. Castings with metallic coating.

Gems and precious stones in metal work.

717. CARVINGS.

Carvings in stone (jade, agate, rock crystal), wood, ivory, and other hard materials.

718. WALL DECORATIONS.

Marquetry in fresco, distemper, polychromy, and by other methods.

719. COMPOSITE PRODUCTS OF DECORATION.

72. Architecture.

720. HISTORY OF ARCHITECTURE.

Schools of architecture.

721. ARCHITECTURAL DESIGNS FOR BUILDINGS.

722. METHODS OF STRUCTURE.

(See Engineering.)

723. ARCHITECTURAL MASTERPIECES.

Representations or plans of existing buildings.

Restorations from ruins or documents.

724. INTERIOR PLANS AND REPRESENTATIONS.

Apartments and details.

725. MONUMENTS AND MAUSOLEUMS.

726. PLANS OF FOUNTAINS AND STRUCTURES NOT EDIFICES.

727. STUDIES AND FRAGMENTS.

728. LANDSCAPE ARCHITECTURE.

Parks and grounds.

73. Sculpture.

730. HISTORY OF SCULPTURE.

731. STATUARY IN STONE.

732. STATUARY IN BRONZE AND OTHER METALS.

733. BAS-RELIEFS.

734. CARVED SEALS, DIES, AND GEMS.

735. MEDALS, DIE-ENGRAVING, ETC.

736. MODELS AND CASTS.

74. Drawing.

740. METAL-POINT DRAWINGS.

Silver point, etc.

741. LEAD PENCIL DRAWINGS.

742. CRAYON DRAWINGS.

Black chalk.

Sanguine, etc.

Colored crayons or pastel.

743. CHARCOALDRAWINGS.

744. PEN-AND-INK AND BRUSH-POINT DRAWINGS.

745. WASHED DRAWINGS.

India ink.

Sepia.

Other monochromes.

746. CARTOONS AND STUDIES FOR FUTURE WORK.

747. DRAWING FOR PROCESS WORK. (See 806.)

748. MATHEMATICAL AND MAP DRAWING.

749. MISCELLANEOUS.

Poker (burnt wood) pictures and other "sports."

75. Painting in Water Colors, etc.

- 750. WATER-COLOR PAINTING.
- 751. MINIATURES.
- 752. PAINTINGS ON POTTERY, PORCELAIN AND ENAMEL, AND ON MUSICAL INSTRUMENTS, FURNITURE.
- 753. PAINTING ON GLASS.
- 754. PAINTING ON TEXTILES, PAPER-MACHÉ, ETC.
- 755. PAINTING ON IVORY, TALC, ETC.
- 756. CARTOONS FOR FRESCOES AND STAINED GLASS.

76. Painting in Oil,

- 760. HISTORY OF PAINTING.
Art museums. Portraits of artists. Schools of painting, etc. (Literature, prints, etc.)
- 761. ANCIENT PAINTINGS AND PICTORIAL DESIGNS.
- 762. ITALIAN SCHOOLS.
- 763. FRENCH SCHOOLS.
- 764. GERMAN AND AUSTRIAN SCHOOLS.
- 765. DUTCH AND FLEMISH SCHOOLS.
- 766. ENGLISH SCHOOLS.
- 767. SCANDINAVIAN, RUSSIAN, AND MINOR EUROPEAN SCHOOLS.
- 768. AMERICAN SCHOOLS.

77. The Reproductive or Multiplying Processes not involving Photography.

- 770. RELIEF-ENGRAVING.
Wood-cutting.
Wood-engraving.
Relief-engraving on metal.
Machine-ruling applied to relief-engraving.
- 771. INTAGLIO-ENGRAVING.
Line-engraving.
Etching.
Soft-ground etching.
The sand manner.
Dry point.
Mezzotint.
Ronlette work.
Aquatint.
Punching. (Opus mallei.)
Imitation of crayon.
Stipple.
Machine-ruling applied to intaglio-engraving.
Mixed methods.
- 772. PLANOGRAPHY. (LITHOGRAPHY, ZINCOGRAPHY.)
Crayon.
Pen-and-ink and brush work.
Engraving.
Etching.
Spattering.
Stamping, washing, scraping, etc.
Machine-ruling applied to planography.
Autography.

773. SUBSTITUTE PROCESSES, *i. e.*, PROCESSES PARTLY CHEMICAL, PARTLY MECHANICAL, DEVISED AS SUBSTITUTES FOR THE OLDER HAND PROCESSES.

- Relief-etching.
- Clay-surface processes.
- Graphotype.
- Wax processes.
- Methods involving the use of soft blocks.
- Stenochromy.
- Galvanography.
- Processes involving the use of mercury.
- Processes involving the use of gelatine surfaces.
- Engraving by machinery. Relief.
- Engraving by machinery. Intaglio (medal-ruling).
- Nature-printing.
- The Anastatic process.

774. COLOR-PRINTING.

- From relief blocks.
- From intaglio plates.
- From planographic surfaces.

78. Photography.

780. HISTORY AND PRINCIPLES OF PHOTOGRAPHY.

- The Daguerreotype.

781. APPARATUS AND ACCESSORIES.

- Cameras of all kinds.
- Flash apparatus, etc.

782. MATERIALS, FILMS, NEGATIVES, POSITIVES.

- The studio and its accessories.
- Silver prints, platinotypes, carbon prints, etc.

783. PORTRAIT WORK. COMPOSITIONS.

784. LANDSCAPE AND ARCHITECTURAL WORK.

785. APPLICATION OF PHOTOGRAPHY TO THE ARTS AND SCIENCES.

- Prints on wood, stuffs, enamels, etc. (For photo-mechanical processes of engraving, see Division 79.)

786. PHOTOCHROMY.

787. THE STEREOSCOPE. THE STEREOPTICON.

788. ENLARGEMENTS (SOLAR AND ELECTRIC) AND RETOUCHE PHOTOGRAPHS, ETC., IN CRAYON, WATER COLOR, BY AIR BRUSH, ETC.

789. AMATEUR PHOTOGRAPHY AND ITS RESULTS.

79. Photomechanical Processes.

790. PROCESSES PRODUCING RELIEF BLOCKS (Line-Work, Half-Tone).

791. PROCESSES PRODUCING INTAGLIO PLATES (Line-Work, Half-Tone).

792. PROCESSES PRODUCING PLANOGRAPHIC PRINTING SURFACES, *i. e.*, PHOTO-LITHOGRAPHY AND PHOTO-ZINCOGRAPHY (Line-Work, Half-Tone).

793. COLLOGRAPHIC PROCESSES.

794. WOODBURYTYPE.

795. THE PHOTO-MECHANICAL PROCESSES APPLIED TO COLOR-PRINTING.

- From relief blocks.
- From intaglio plates.
- From planographic surfaces.
- From collographic films.
- From Woodburytype molds.

796. DRAWING FOR PROCESS WORK, INCLUDING AIDS DEVISED FOR THIS KIND OF DRAWING. (See 747.)

DEPARTMENT 8.—SOCIAL RELATIONS AND PUBLIC WELFARE.

80. *Folk-lore.*

NOTE.—For the arrangement of this Division I am indebted to Prof. Otis T. Mason, whose judicious advice has also been of the greatest service in connection with the general plan.

800. FOLK-LORE IN GENERAL.*

Treatises upon the whole subject, encyclopedias, dictionaries. Systems of nomenclature.

Societies, their scope, organization and methods. Their publications, periodicals.

Libraries of books devoted to this subject.

Museums or collections of folk apparatus.

801. FOLK-TALES.

Sagas, hero tales, place legends, and all folk-philosophy or belief embodied in stories or in verse. In short, the method of accounting for natural and historical phenomena.

Books, toys and other illustrations.

802. FOLK-WISDOM.

Weather-lore, predictions, signs, omens. Whatever the folk pretend to know about the future of natural phenomena.

Books and other illustrations.

803. FOLK-SAWS.

Proverbs, riddles. The gathered wisdom of the folk.

Rule of thumb, etc.

Illustrations and literature.

804. FOLK-CRAFT.

Medicine, leechcraft, magic, hoo-doo prescriptions, whatever ignorant people do to heal the sick.

Amulets and talismans.

Pocket pieces, such as the *os mirabilis* of the raccoon, the horse-chestnut, the hare's foot, the nicker nut, etc.

805. FOLK-LAW (PRACTICE, TRIAL, JUSTICE, ETC.).

All things and practices of the folk for administering justice.

Lynch law, etc.

806. NURSERY RHYMES.

Lore of and for children. Child-lore has two meanings: 1. What the folk believe and practice about children. 2. Counting-out rhymes and other lore of the children themselves.

Books, toys, pictures, etc.

807. FOLK-RELIGION.

What the folk believe and practice respecting the spirit world. Their simple creeds and quaint worship.

808. FESTIVALS.

Public gatherings of all kinds for merry-making or celebrations.

* Folk-lore is the beliefs and practices of the folk. By folk we mean all peoples that are uncivilized, all unlettered people among the civilized, and even the most enlightened persons when they are controlled by the beliefs of the unlettered or fall into their practices.

It will be readily seen that the materials of this science are embodied in what is said, called folk-moot; and what is done, called folk-life or custom. In each division of the subject will appear both kinds of material.

809. CEREMONIES.

- Christenings, etc.
- Weddings—Ceremonies and other accessories.
- Funerals—Accessories of all kinds.
- Other ceremonies.

81. *Communication and Record of Ideas. (Language, Writing and Printing. Books not shown as literature.)*

810. PRIMITIVE LANGUAGE.

- Sign language. Pictographs.

811. LANGUAGES OF ALL NATIONS.

- Alphabets, etc.
- Examples in manuscript and printed.
- Dictionaries and grammars.
- Geographical distribution of languages, shown by charts, etc.
- Linguistic systems.
- Jargons and dialects. "World languages." Volapuk, etc.

812. ARTIFICIAL LANGUAGE.

- Cryptograms and cipher systems.
- Telegraphic and commercial codes. Code books, etc.
- Semaphores, military and railway systems.
- Stenography in all its aspects.

813. MESSENGER SERVICE.

- Animals and birds. Carrier pigeons.
- Mail and mail express systems, not governmental. History of mails.
- Pneumatic messenger service. The "Rohr post."

813. TELEGRAPHS AND TELEPHONE. ETC.

- The electric telegraph. History and accessories. Operatives and organization of service. Geographical distribution, etc., shown by maps. Statistics and literature.

(For instruments, etc., see 42.)

Telephone. Aërophone.

The photophone.

The graphophone and the phonograph.

Annunciators. "Tickers."

814. WRITING MACHINES.

- The typewriter in all its forms.
- The typewriter applied to type-setting. The linotype, etc. (See also 408.)

815. WRITING IMPLEMENTS AND METHODS.

- Tools and methods. Historical—inscribed stones, notches on trees and sticks, primitive tallies. Tablets of stone, wood, metal (bronze), clay, wax. Palm leaves, bark, papyrus, skins, leather, parchment, paper. Parchment writings. Old manuscripts. Specimens of calligraphy of all nations. Systems of penmanship.

Stylus pencils of all kinds, for writing or drawing.

Pens and accessories.

Reservoir pens.

Inks and colors. Inkstands, etc. Erasers and all the appliances accessory to writing.

Duplicating apparatus. Stamps and pads. Stencils. Hectographs, etc.

Electric pen. Manifoldings. Presses and copy books.

816. THE ART OF PRINTING.

Type and its history. (See also 408.)

Type-setting and proof-reading.

Make-up. Sizes of books.

816. THE ART OF PRINTING—Continued.

Imposing and press work.

Examples of the art of printing in all countries and at all times.

Incunabula. Curiosities of printing.

Results of the various methods of illustration of books in black and colors.

817. THE ART OF BOOKBINDING.

Historical series. Examples of the finest work. Curiosities of binding.

Binders' materials and examples of the work in each. Vellum, leathers of all kinds, woven fabrics, papers, woods, metals.

Blank-books of all kinds, and blank-book paper, diaries, note and memorandum books. Journals and record books. Books for office and counting house. Albums and scrapbooks.

Portfolios and cases, pads and other forms.

All products of printers' and binders' work for use in writing, for economy of writing, and for use on the desk or writing table.

818. STATIONERY IN GENERAL. (See also 490-493.)

Paper of all kinds in form for writing or printing. Embossed and decorated note paper. Designs and methods.

Ruled paper. Specimens of ruling.

Receptacles for paper, envelopes, etc.

Blotting paper and pounces of all kinds.

Paper weights, files, cutters.

Clips, fasteners, binders, etc.

Wafers, glues, and all similar appliances, with their receptacles and accessories.

Sealing wax, signets and seals, and all accessories.

Scales, etc.

Blanks and bill-heads.

819. FILING AND INDEXING.

Appliances of all kinds for the permanent preservation and convenient use of letters, memoranda, cuttings, manuscript, and printed matter of all kinds.

82. *Engineering and Constructive Architecture.* (Illustrated by Models and Drawings.)

820. HISTORICAL AND RETROSPECTIVE EXHIBIT.

Illustrating methods of ancient engineer architects—Chaldean, Egyptian, Babylono-Assyrian, Greek, Etruscan, Roman, Byzantine, Arabic.

821. SURVEYING AND TOPOGRAPHICAL ENGINEERING.

Surveys and division of the public domain.

State boundaries, monuments, boundary stones, and methods of marking territorial divisions.

Location, surveys and plots of cities and towns, parks, streets and suburban extension.

Routes of internal communication.

Plans for turnpikes and highways, and devices for construction and maintenance of roads, streets and subways, sewers, underground water pipes, gas mains, conduits, cables.

Systems of drainage.

822. HYDRAULIC AND MARINE ENGINEERING. (Marine Architecture—shipbuilding, etc., see 336.)

Plans showing methods of reclaiming land, arresting and controlling the flow of water—dikes, weirs, dams and water gates, aqueducts, reservoirs, water-works (water supply, see 261; canal system, see 315), canals, locks, slack-water navigation, removal of marine railways, ships, and hydraulic docks.

822. HYDRAULIC AND MARINE ENGINEERING—(Continued.)

Obstructions in rivers and harbors.

River, harbor and coast surveys. (Seaports and harbors, see 31.)

Plans of submarine structures—foundations for piers, light-houses, docks and breakwaters. (Light-houses, see also 306; harbor protection, etc., 317, 318; for tools and machinery for hydraulic work, see 402.)

823. BRIDGE ENGINEERING. (Illustrated by drawings and models.)

Bridge designing. Drawings and charts showing methods of calculating stresses.

Foundations, piers, abutments, and approaches of stone, wood, etc.

Arch bridges of stone, wood or iron.

Suspension bridges of fiber, iron, chain and cable.

Truss bridges of wood, iron and steel—pony, bowstring, and plate girders, lattice girders, Fink, Bollman, Howe, Pratt, Warren, Post, Long, Whipple, and other trusses of special design.

Cantilever bridges. Draw-bridges. Rolling and swinging machinery.

Tubular bridges.

Railway, aqueduct, and other bridges of special design, not elsewhere classed.

(A chart showing date of completion, span, rise, weight and cost of the great bridges of the world would be of interest.)

824. TUNNELS. (For mine engineering, see 210-219.)

Profile and sectional plans of tunnels, shafts and approaches.

Air shafts and special devices for lighting and ventilation.

Shields, cases and protection of tunnel walls against water and landslides. (For building stones, see 242-246).

(For tools and machinery for blasting and drilling, see 222; blasting and explosives, see 226.)

Charts of the St. Gothard Railway and other great tunnels might be shown.

825. MECHANICAL ENGINEERING.

The designing of locomotives, engines, and machines.

Plans of machine shops, and systems of machinery for manufactories and metallurgical establishments.

Machine; for moving and handling heavy weights—cranes, etc.

(See also Classes 401-419).

826. RAILROAD ENGINEERING.

Location of railways—topographical maps showing preliminary surveys, profiles of cuts and fills, estimates of excavation and embankment, methods of determining curves and grades, locations of bridges and tunnels.

Plans of terminals with reference to water courses of other railways.

(For Permanent Way, Stations and Rolling Stock, see 41.)

827. MILITARY ENGINEERING.

Plans of fortifications and other military works.

Methods for the rapid construction of roads, railway bridges, telegraph lines, etc., in time of war.

Pontoons and other temporary bridges and structures of timber, etc.

Plans of portable hospitals and other buildings.

Field telegraphs, methods of transporting and erecting telegraph lines, captive balloon telegraph.

Field signal train.

(For War, see 886, A).

828. THE DESIGNING OF BUILDINGS AND MATERIALS OF CONSTRUCTION.

Plans of public buildings for special purposes. Large and small dwelling-houses.

Drawings and specifications for foundations, walls, partitions, floors, roofs and stairways.

828. THE DESIGNING OF BUILDINGS AND MATERIALS OF CONSTRUCTION—Continued.
 Estimates of amount and cost of material.
 Designs and models of special contrivances for safety, comfort and convenience in the manipulation of elevators, doors, windows, etc.
 (For Heating and Lighting Systems, see 65.)
 (For Drainage and Sanitary Plumbing, see 650 and 873.)
 Working plans for the mason, carpenter and painter—designs and models of bonds, arches, coping, vaulting, etc; plastering and construction of partitions; painting and glazing.
 Plans of appliances for hoisting, handling and delivering.
 Building materials to artisans—scaffolding and ladders. Special scaffolding for handling great weights. Portable cranes and power elevators.
 Illustrations of the strength of materials.
 Plans and sections of special architectural forms—metallic floor beams and girders. Hollow bricks and other architectural pottery for heating and ventilation. Metallic cornice and conduits. Shingles and sheathing. Glass roofs, floors, and accessories. Architectural hardware.
 Methods of combining materials.
 Protection of foundations, areas and walls against water.
 Working plans for paving and draining.
 (For Timber, see 176; for Building Stones, see 242-246; Masonry, see 248; Brick, Plain and Ornamental, see Division 44; Iron and Metals, see 276.)
 (Cements and Mortars, see No. 281; Artificial Stone, see Class 282.)
829. INSTRUMENTS OF PRECISION FOR THE ENGINEER AND ARCHITECT.
 Instruments of the draftsman.
 Field instruments for measuring angles and leveling—compasses, theodolites, transits, rods and flags, levels, leveling by barometer.
 Instruments for measuring lengths—rules, rods, chains, and tapes. Methods of adjusting instruments for temperature.
 Instruments designed for rapid work for calculating cross-sections, etc.
 Plumb lines for great depths, and appliances.
 Testing machines and other instruments, not elsewhere classed.
- 829a. ENGINEERING SOCIETIES AND ASSOCIATIONS.

83. Property, Trade, Commerce and Intercommunication.

830. HISTORY OF COMMERCE AND INTERCOMMUNICATION.
 Early routes of traffic and commerce. Commercial centers in past ages, shown by maps, etc.
 Statistics and literature.
831. METHODS AND MEDIA OF EXCHANGE. STORES AND SHOPS.
 Money—coinage and its equivalents. A collection to show the actual media of exchange in America in each period of a quarter of a century from the first settlement to the time of the confederation, and in each Presidential term since.
 Similar collections of money for other countries and periods (not to be confounded with a numismatic collection which includes coins only) with bank notes and other paper circulating mediums.
 Special collections of tokens, "shin-plasters," "wild-cat money," etc., illustrating the financial history of the country. Confederate bills. Continental bills. Postage-stamp money.
 Commercial paper—bills of exchange, securities.
 Methods of barter.
 Weights and measures as used in commerce. Scales, balances, solid and liquid measure as sold to merchants.

331. METHODS AND MEDIA OF EXCHANGE—Continued.

Methods of conveyancing. Deeds and titles. Bills and receipts. Examples of papers and systems and everything pertaining to record of commercial transactions between two parties.

Precautions against counterfeits and misappropriation of funds, bell-punches, cash and check registers.

Counting-houses, stores, and shops. Organization. Methods of bookkeeping. Plans and drawings of exteriors and interiors. Ground plans, showing systems of arrangement. Counters.

Mechanical devices for distributing change.

Furniture and fittings.

Methods of distributing goods to purchasers. Devices used for wrapping and tying. Baskets and boxes.

Pictures of representative houses in America and abroad.

(For Advertising Systems, See 838).

Auctions and auction houses.

Auction catalogues.

Pictures of representative establishments.

Boards of trade. Merchants' produce, and stock exchanges.

Market houses and their accessories. Bazaars. Arcades.

832. EXPORT AND IMPORT. INTERSTATE COMMERCE.

History of traffic. Early routes. Commercial routes.

Routes of transportation and traffic.

Land transportation, with reference to transporting commercial wares.

Warehouses and their arrangement—plans and pictures.

Cars and other vehicles, as arranged for special traffic.

Devices for loading and unloading.

Water transportation, with reference to commerce. (Heads as under Land Transportation.)

Express and delivery companies.

The handling and delivery of goods (Maintenance.)

Methods of record, etc. Custom-house methods.

Bills of lading, etc.

Duties. Bonded warehouses.

833. MARKETS. CENTERS OF SUPPLY AND DEMAND.

Maps, statistics and literature, showing the lines of distribution from the principal producing centers of the world to the countries which depend upon them for supply.

Similar exhibits, showing the lines of supply for the principal centers of consumption of mercantile wares.

Similar exhibits, showing lines of distribution for each of the principal articles of commerce.

Special market exhibits, showing the kind of wares especially acceptable to purchasers in non-producing countries. (Especially textiles, tools and food-products.)

Special collections showing the nature of articles exported or imported in large quantities from little-known countries.

Pictures of great market centers or other matters of interest in connection with the subject.

834. PRICES.

The history of prices as shown by ancient bills, etc. Ledgers, literature and statistical tables.

Curves showing fluctuations in prices and their causes.

Curves showing fluctuations of prices of real estate in America to town, in connection with increase of population and trade.

834. PRICES—Continued.

- Descriptive catalogues and price-lists—historical and of the present time.
- Trade journals—current numbers and files of back volumes.
- Wages in different parts of America and of the world. Wages of different occupations, past and present, shown by curve diagrams, literature and statistical tables. (Treatment same as for prices.)
- Cost of living in different places as shown by comparison of prices of commodities and of labor.

835. CAPITAL AND ITS INVESTMENT.

- Loans and their management. The broker's trade and its methods.
- The pawnbroker's business. Curiosities of same.
- Mortgages and securities. Mortgage investment companies.
- Building and loan associations.
- Stocks and stock brokerage. Methods and appliances. Stock exchanges. Pictures and plans. History of American stocks, and the enterprises upon which they have been established. Literature and statistics.
- The real estate business. Methods of advertising and exploiting. Real estate affairs in the several cities of the United States. Title companies. Examples of plats and methods of subdivisions.
- Banks and banking. Methods. Pictures of buildings.

836. INSURANCE.

- Fire insurance. History, literature and statistics.
- Pictures of offices and buildings.
- Marine insurance.
- Life insurance. Companies. Mutual companies and societies.
- Accident insurance.
- Live-stock insurance.
- Title insurance.
- Glass and other special insurance systems.
- Security and trust companies.
- Safe-storage systems and companies.
- (In every case the companies to be invited to exhibit to visitors in the exhibition the peculiar features of their systems.)
- (Buildings to be shown by pictures and models. Literature and statistics to be exhibited and, if desired, distributed.)

837. SAFES AND TREASURE STORAGE.

- Fire-proof and burglar-proof safes of all kinds.
- Safety locks.
- Safe-storage warehouses.
- Burglar alarms, etc.

838. THE ART OF ADVERTISING.

- History of advertising. Curiosities of advertising.
- Sign boards and sign symbols. Tobacconists', barbers', and pawnbrokers' signs, etc. Photographers' show frames.
- Show windows, and the art of arranging them. Examples and pictures.
- Sign bills, posters, dodgers. "Sandwich men."
- Delivery wagons, decorated and grotesque.
- Gift and prize systems. Cards and pictures. Cigarette cards, etc.
- Phonograph and other announcement systems.
- Pictures and devices to be shown in public places. Actors' photographs.
- Theatrical and amusement devices.
- Mechanical and other devices in cars, steamboats, and other public places.
- Albums and book covers.
- The circular systems. Mailing lists and mailing companies.
- The agent and canvasser system. Sample sales.

838. THE ART OF ADVERTISING—Continued.

“Nickel-in-the-slot machines.”

The advertisement pages of papers and magazines and their utilization.

Pictures. Narrative and facetious methods, etc.

Advertising agencies.

Trade and advertising journals. Specimens and files.

Advertising labels and trade-marks. Attractive methods of wrapping and packing.

839. AMERICAN TOWNS AND CITIES AS TRADE CENTERS.

Collective exhibits from individual towns, arranged by States.

Pictures of business streets and blocks.

Transportation facilities. Stations and depots. Warehouses. Elevators and manufacturing establishments.

Characteristic industries, fully illustrated.

Plans of suburban and other subdivisions.

Public buildings, churches, schools, markets.

Characteristic scenery.

Representative men.

Local newspapers and directories.

Books by local authors and publishers.

History, literature and statistics.

(Each town to be assigned space like an individual exhibitor, on application.)

84. Recreation and Amusement.

840. THE HISTORY OF RECREATION. AMUSEMENTS OF PRIMITIVE PEOPLES.

Amusements of all nations. Pictures and models.

841. TOYS FOR CHILDREN.

Infants' toys. Rattles, trumpets, etc.

Moving and mechanical toys. Harlequins, etc.

Dolls, doll-houses and furniture.

Blocks, puzzles, etc.

Fireworks.

842. ATHLETIC EXERCISES AND SPORTS.

Gymnastic and calisthenic exercises and their accessories, and all devices for physical development.

Boxing—gloves, costumes. Prize fights.

Fencing—foils, masks, etc.

Cycling—wheels of all kinds, and accessories.

Winter sports—skates, sleds, toboggans and slides. Costumes.

Ball games—baseball, cricket, lacrosse, lawn tennis, polo, golf, football.

Quoits, bowls, skittles, shuffleboard.

Croquet.

Archery.

843. AQUATIC SPORTS. (See also Department 3.)

Boating—row-boats. Portable boats. Shells and racing.

Canoeing—canoes, for paddle and sail.

Sail-boats and their use.

Ice boats.

Yachts and yachting—pictures and models.

Swimming and surf bathing—appliances and dress.

844. SHOTGUN AND RIFLE.

Marksmanship—the shooting gallery. Rifle practice at long and short range.

Pistol and air or spring gun. Weapons, targets, and methods of organization.

Hunting—blinds, decoys, sink-boxes, dogs, and their accompaniments and accessories. Costumes and accoutrements. Accessories of all kinds.

844a. ANGLING. (See Fisheries.)

844b. AMATEUR PHOTOGRAPHY. (See 71.)

844c. SKETCHING AND PAINTING. (See 75-77.)

845. ANIMALS AND PETS. HUNTING.

The saddles. Equestrian outfits. Saddles and harness for pleasure use.

Whips and stocks. Spurs. Male costume and woman's habits.

Tournaments, anise-chases, hurdle-riding, etc.

The pleasure vehicle and its equipment. Harnesses, etc.

Hunting and pet dogs (see 187). Whips, whistles, collars, harnesses, blankets, etc.

Pigeons and homing matches. (See 186.)

Poultry. (See 186.) The game-cock. Muffs. Gaffs.

Pet birds and other pet stocks. (See 186.) Cages. Pens.

Horse-racing.

Fox hunting, coursing, etc.

846. GAMES OF SKILL AND CHANCE, INDOOR.

Billiards—tables and all accessories.

Cards—playing-cards and all accessories of all games. Schemes of games.

Dice and accessories of all games. Exhibits of gamblers' methods.

Dranghts, dominoes, backgammon and similar games.

Chess—artistic chessmen. Schemes of games.

Miscellaneous games—puzzles and paradoxes of all kinds. Mechanical puzzles.

847. SOCIAL AMUSEMENTS, SHOWS AND DIVERSIONS.

Dancing and its accessories. Ball-room accessories. Favors. Masks and fancy dresses.

Ball-room decorations.

Private theatricals and tableaux vivants.

Pyrotechnic displays.

Fêtes, lawn parties.

Spectacles, pantomimes.

Panoramas and dioramas.

Stereopticon shows.

Jugglery and legerdemain.

Circuses, menageries, etc.

848. COLLECTING AND OTHER INDIVIDUAL RECREATIONS.

Amateur collections in natural history—minerals, fossils, birds, eggs, insects, antlers and trophies of the chase, plants, ferns, sea-weeds, etc.

Collections of coins, stamps, heraldic designs, advertising cards.

Collections of autographs, portraits.

Collections of play bills and historical pictures.

Collections of photographs, stereographs, etc.

Collections of prints, etchings, engravings.

Collections of pottery and porcelain.

Collections of general bric-a-brac.

Collections of literary bric-a-brac. Grangerized and extra illustrated books.

Collections, etc. First editions.

849. OUTDOOR COSTUME AND EQUIPMENT. TRAVELING EQUIPMENT. CAMP OUTFIT AND ACCESSORIES.

Athletic and outdoor costume for man and woman and for general and special use.

Canes, staves, alpenstocks.

Hammocks and settees, camp stools and camp beds and cots.

Tents and canopies.

Portable houses.

849. OUTDOOR COSTUME AND EQUIPMENT—Continued.

Camp-cooking outfit and other accessories.
 Traveling costumes. Rugs.
 Traveling bags, valises, shawl straps, etc.
 Trunks, chests.
 Steamer chairs.
 Lunch baskets and boxes. Hampers.
 Picnic outfits for table.
 Traveler's and camper's food and beverages.

849 a. PLEASURE RESORTS AND ROUTES OF PLEASURE TRAVEL.

Seaside and mountain resorts.
 Pictures, maps, and all illustrative literature.
 Hotels, guides, camps.
 Fishing and hunting privileges.
 Sportsman's gazetteers and directories.
 Sporting literature. Libraries. Journals devoted to athletics, travel and outdoor affairs.
 Public pleasure gardens, fest gardens, schuetzen parks, etc.

85. Music and Musical Instruments. The Theater.

850 HISTORY AND THEORY OF MUSIC.

Music of primitive people.
 Crude and curious instruments. Combinations of instruments, bands and orchestras. Music books and scores. Musical notation.
 History and literature of music. Portraits of great musicians.

851. SELF-VIBRATING INSTRUMENTS.

Drums and tambourines. Cymbals, triangles, gongs, castanets, "bones."
 Bells, chimes, and peals.
 Bell-ringer's instruments. Musical glasses.
 Glockenspiels, xylophones, marimbas.
 Music boxes.

852. STRINGED INSTRUMENTS PLAYED WITH THE FINGERS OR PLECTRUM.

Lutes, guitars, banjos and mandolins.
 Harps and lyres.
 Zithers, dulcimers.

853. STRINGED INSTRUMENTS PLAYED WITH A BOW.

The violin.
 The viol, viola da gamba, viola, viola di amore.
 The violoncello and the bass viol.
 Mechanical instruments—hurdy-gurdy and violin piano.

854. STRINGED INSTRUMENTS WITH KEYBOARD.

The pianoforte—square, upright and grand.
 Actions and parts of the piano.
 The predecessors of the piano: Clavicytherium, clavicymbal, clavichord, manichord, virginal, spinnet, harpsichord and hammer harpsichord.
 Instruments and methods of manufacture.
 Street pianos.

855. WIND INSTRUMENTS WITH SIMPLE APERTURE OR PLUG MOUTHPIECE.

The flute, flute-a- bec. Syrinx. Organ pipes. Flageolet.

856. WIND INSTRUMENTS, WITH MOUTHPIECE REGULATED BY THE LIPS.

The clarinet, oboe and saxophone.

857. WIND INSTRUMENTS, WITH BELL MOUTHPIECE, WITHOUT KEYS.

The trumpet (simple) and the bugle. Oliphant. Alpenhorn.
 The trombone (with slide and with finger holes).
 The serpent, bassoon and bagpipe.

- 857*a*. WIND INSTRUMENTS, WITH BELL MOUTHPIECE, WITH KEYS.
Key bugles, cornets, French horns. Cornoceans, ophicleides.
- 857*b*. WIND INSTRUMENTS WITH COMPLICATED SYSTEMS.
Accordion, concertinas, and mouth organs.
Melodeons and harmonicas. Reed organs of all kinds.
Hand organs and organettes. Automatic organs, orchestrions, etc.
The pipe organ.
- 857*c*. ACCESSORIES OF MUSICAL INSTRUMENTS.
Strings, reeds, bridges.
Conductors' batons, drum-majors' staves. Mechanical devices for the orchestra.
Tuning forks, pitch pipes, metronomes, music stands, etc.
858. MUSIC IN RELATION TO HUMAN LIFE.
Musical composers. Portraits. Biographies.
Great performers. Great singers.
Concerts and the concert stage.
The opera. Its history.
The oratorio. Masses.
Church music and sacred music of all periods. Hymnology, ballads, folk-song and folk-music of all lands.
National airs.
859. THE THEATER AND THE DRAMA.
The stage. Plans and models of stages and theaters.
History of the drama, so far as can be shown by literary record. Portraits of actors. Relics of actors.
Playbills, etc.
Costumes, masks, armor.
Scenery. Appliances of illusion, etc.
Plays of all ages and peoples.
The passion play of Oberammergau.

86. Medicine, Surgery, Pharmacology, Hygiene.

860. HISTORY OF MEDICINE.
Schools of medical theory. Portraits of physicians.
- 860*a*. APPLIANCES OF RESEARCH IN ANATOMY, PHYSIOLOGY, BACTERIOLOGY, ETC.
(See Science, 9216-9256.)
- 860*b*. APPLIANCES OF INSTRUCTION. (See 986.)
861. PATHOLOGY.
862. HYGIENE. PUBLIC HYGIENE AND SANITATION.
Hygienic chemistry.
863. INSTRUMENTS OF EXAMINATION AND APPARATUS OF GENERAL, LOCAL AND SPECIAL SURGERY. ANESTHETICS.
Instruments for physical diagnosis, clinical thermometers, stethoscopes, ophthalmoscopes, etc. (except clinical microscopes, etc., for which see Class 321).
864. APPARATUS FOR DRESSING AND CARE OF WOUNDS. ANTISEPTICS.
Surgical instruments and appliances, with dressings, apparatus for deformities, prosthesis, obstetrical instruments.
Anesthetics. Antiseptics.
865. APPARATUS USED IN PLASTIC AND MECHANICAL PROTHESIS.
Orthopedic apparatus.
Apparatus used in hernial surgery.
Bath and hydrotherapeutic apparatus.
Apparatus for medical gymnastics.
Appliances, instruments and apparatus used in special therapeutics.

866. DENTAL SURGERY AND DENTAL MECHANISM.

Operative dentistry.
False teeth and substitutes.
Office appliances, chairs, etc.

867. VETERINARY SURGERY AND MEDICINES.

(See also 180.)

868. PHARMACOLOGY, DRUGS, PHARMACY, ETC.

Medicines, official (in any authoritative pharmacopœia) articles of the materia medica, preparations, unofficial.
Pharmaceutical apparatus.

869. MISCELLANEOUS APPARATUS FOR THE USE OF THE SICK, INFIRM AND INSANE.

Accessory articles used in the medical, surgical, and pharmaceutical service of hospitals and infirmaries.
Vehicles and appliances for the transportation of the sick and wounded, on shore or at sea.

87. Public Convenience and Safety.

870. DEVELOPMENT OF PATERNAL AND PROTECTIVE RELATIONS OF GOVERNMENT TO PEOPLE.

Historical collections.

871. PUBLIC ACCOMMODATION BY ACT OF GOVERNMENT, OR UNDER ITS REGULATION.

Public highways—Roads and paths, streets, bridges, parks and squares.
Water supply—Public fountains and springs, "the town pump," domiciliary supply, public water privileges for industrial uses, reservoirs, aqueducts and their accessories, public baths and laundries.
Light supply (so far as regulated by the Government)—Street illumination, gas works and gasometers, electric-light plant. (For mechanical display, see 422 and 433.)
Transportation (so far as regulated by the Government)—Street passenger vehicles; railways and steamboats; common carriers; baggage and express; mail and messenger systems, not governmental; telegraphic and telephone service.

872. PROTECTIVE SUPERVISION.

Sanitary supervision—Vaccination and its enforcement. Isolation of contagious disease. Quarantine. Prevention and elimination of animal epidemics.
Food inspection: Treatment of adulterated foods. Inspection and analysis. Treatment of stale food substances. Regulation of abattoirs, mills, etc. Regulation of sale of horses. Protective devices.
Building inspection, etc.—Building regulations and inspection. Building drainage and plumbing. Fire regulations, fire escapes, etc.
Personal inspection—Color tests, etc., for transportation hands, etc. Professional examination for licenses.
Immigration—Reception, care and protection of immigrants. Statistics of enumeration.

873. PUBLIC AND DOMESTIC HYGIENE.

Appliances, instruments, and apparatus used in hygienic investigations.
Sanitary appliances and methods for dwelling houses, buildings, and cities.
Direct renewal of air—heating, ventilating, lighting, in their relation to health. Conduits of water and sewage. Drains and sewers. Flushing tanks, hydraulic syphons, water-closets, public and private latrines. Sinks, night-soil apparatus, sanitary plumbing, walls, bricks, roofs, flooring, etc. Sanitary house decoration, non-poisonous paints and wall papers, floor coverings, washables, decorations, etc.

873. PUBLIC AND DOMESTIC HYGIENE—Continued.

Apparatus for carrying off, receiving and treating sewage. Slaughter-house refuse, city garbage.

Apparatus and methods for filtering water and cleansing water courses.

Apparatus intended for the prevention of infectious diseases. Methods, materials and instruments for purifying and destroying germs and disinfecting.

Meteorological instruments, such as are used in climatological investigations: Barometers, aneroids, thermometers, earth thermometers, thermometer stands, hygrometers, anemometers, air meters, rain gauges, automatic meteorological apparatus, sunshine reporters, evaporation gauges, ozone papers, ozonometers, etc.

Diagrams, models, and apparatus illustrative of (a) the climatal conditions prevailing in various parts of the world; (b) the relations between health and disease; (c) rainfall, percolation, evaporation and flow from ground; and (d) other subjects embraced by the exhibition.

874. HYGIENE OF THE WORKSHOP AND FACTORY. (Classification modified from that of the London Health Exhibition.)

Designs and models for improvements in the arrangements and construction of workshops, especially those in which dangerous or unwholesome processes are conducted.

Apparatus and fittings for preventing or minimizing the danger to health or life from carrying on certain trades: Guards, screens, fans, air jets, preservative solutions, washes, etc.

Objects of personal use: Mouthpieces, spectacles, dresses, hoods, etc., for use in certain unhealthy and poisonous trades.

Illustrations of diseases and deformities caused by unwholesome trades and professions. Methods of combating these diseases. Preservative measures, etc.

Sanitary construction and inspection of workshops, factories and mines. New inventions or improvements for ameliorating the condition of life of those engaged in unhealthy occupations. Means for economizing human labor in various industrial operations.

Literature, statistics, diagrams, etc.

875. HYGIENE OF THE SCHOOL-ROOM.

Designs and models of improved buildings for elementary schools, infant schools, and crèches.

Apparatus and fittings for warming, ventilating and lighting schools, school latrines, closets, etc.

Special school fittings for storing and drying clothing.

School kitchens and arrangements for school canteens. Methods of warming children's meals, etc.

Precautions in schools for preventing the spread of infectious diseases, school sanitarium, infirmaries, etc.

Special apparatus for physical training in schools, gymnasia; apparatus for exercise, drill, etc.

Literature, statistics, diagrams, etc., relating to school hygiene.

876. LIFE-SAVING.

Life-saving at fires and prevention of fire.

Means for rendering materials incombustible, and for preventing the spontaneous combustion of coal. Fire-proof rooms and safes. Fire alarms and alarm systems. Fire indicators. Apparatus and chemical substances for giving alarms. Fire engines. Firemen's equipments. Fire escapes.

Lightning conductors.

Safety from floods—appliances for indicating a rise in the water of rivers.

876. LIFE-SAVING—Continued.

Safety from explosions—storing and transportation of explosive gases and inflammable substances. Gas-escape indicators. Alarm signals, feed appliances, and pressure gauges for preventing boiler explosions. Fire-damp indicators and safety lamps for miners.

Safety from accidents of land transportation—Brakes for horse vehicles. Railway signals, level crossings, automatic couplers. Precaution against color blindness.

Safety from accidents of water travel—Light-house systems. Vessel signals. Fog signals. Life-preservers, buoys. Appliances and organization of life-saving service.

Safety from rabid or venomous animals.

Relief of victims of accidents—relief of victims of suffocation. Relief of those apparently drowned. Relief of those who have taken poison. Treatment of cuts, bruises, and fractures. Aids of sick and injured.

Transport: By human agency—stretchers, litters, dhoolies, palanquins, handcarts. By animal traction—for accidents and injury, for infectious diseases, for ordinary sickness. By mechanical means—railway carriages for sick and injured, water carriage. Treatment (with appliances)—(a) shed hospitals for infectious fevers and epidemic diseases; (b) tent hospitals; (c) hospital ships; (d) furniture and fittings for sick rooms.

Aid to sick and wounded in war. Transport: (a) By human agencies—stretchers, litters, dhoolies, palanquins, handcarts, stretchers on wheels; (b) by animal traction—mule litters and chairs, camel and elephant litters, wheel carriages; (c) by mechanical means—railway ambulances, ship or water carriage. Treatment (with portable appliances and portable drugs)—(a) on the field; (b) in shed hospitals; (c) in tent hospitals. Naval and military hygiene.

877. PUBLIC CHARITIES.

Asylums—instruction and care of the defective classes. Blind asylums. Deaf and dumb asylums. (Plans, furniture, etc.)

Reformatory institutions—Inebriate asylums. Magdalen asylums. Crèches or day nurseries.

Orphan asylums. Foundling asylums. Children's aid societies.

Insane asylums.

Homes for the destitute, aged and infirm, for the maimed and deformed, soldiers' homes.

Emergency and lying-in, convalescent, and other hospitals. (From non-medical standpoint.)

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

Emigrant aid societies.

Treatment of aborigines.

Prevention of cruelty to animals.

88. *Government and Law. The Art of War.*

880. HISTORY OF ADMINISTRATION AND GOVERNMENTAL INSTITUTIONS.

Primitive systems. Governments of primitive people.

Evolution of monarchical systems.

Evolution of representative systems. The town meeting, the hustings, etc., in America.

Literature, etc.

Maps showing graphically the geographical distribution of governmental systems, past and present.

Municipal government.

881. POPULAR PARTICIPATION IN GOVERNMENT.

Choice of rulers. Primitive methods. Successions and dynasties.

Ballot systems. All accessories of the ballot and voting. Voting machines.

882. LAW AND JUSTICE. (A suggestion.)

Legal codes. Retrospective collections. Legal codes of Babylonia. The Jews. India, Greece, Rome, shown by casts, fac-similes, and books. Documents in the history of English law. American law. Louisiana (civil or Roman law). Pacific coast and New Mexico. Literature.

The court. The judge. Usages and customs. Costume. The jury. Methods of polling. Arrangement of the hall of justice and its furniture. Literature. Pictorial illustrations and models. Customs of special courts. The legal profession in all its ramifications. Lawyers in court and other professional relations. Costumes. Special residences (Inns of Court, the Temple, etc.). Pictures, portraits, literature.

Laws of individuals. Master and servant. Husband and wife (forms of papers relating to marriage and divorce). Parent and child. Guardian and ward. Orphans' court. Chancery.

Bonds and agreements. Methods of signing, sealing, and delivering paper. Oaths and affidavits. Papers and other literature illustrating legal forms and methods of procedure. Writs (habeas corpus, ejection, etc.).

Police and police systems—Organization of local police. Costumes and weapons and other equipments, patrol wagons and wagons for transporting prisoners.

Detectives and systems of detective work.

Prisoners and malefactors—Statistics of crime. Criminal genealogy as shown by family trees of noted criminal families.

Portraits of criminals—Rogues' galleries. Thumb-mark identification. Composite portraits of special criminal groups, showing characteristic physiognomy of special crime tendencies.

Characteristics of the different kinds of lawbreakers—Implements and accessories. Weapons. Costumes and disguises.

Gamblers and gambling—Dens and halls. Implements and accessories of faro, rouge-et-noir, etc.

Burglary and theft—Forgery, etc. Pickpockets. Implements of house-breaking. Highway robbery. Sneak theft.

Counterfeiting—Tools and products in metal and paper. Altered coins and notes.

Murder and violence—Fights. The duel and its history.

Dissipation—Drunkenness. Opium and hashesh.

Vagrancy and disorder—Riots. Bombs and dynamite.

Cruelty to animals. Illustrations of cruel methods. Societies for prevention of cruelty to animals.

Administration of justice.

Arrest—Manacles and handcuffs.

Punishments—History. Stocks. Ducking stool and whipping post in America. Historical collections.

882 a. INTERNATIONAL LAW.

Sovereignty over seas—Ministers, diplomatic agents, consuls, forms, passports, certifications, etc. Features. Fac-similes of important treaties. Photographs, etc., of important diplomatic meetings (Berlin Congress, *c. g.*). Naturalization. Extradition. Allegiance and citizenship.

883. PRISONS AND REFORMATORIES.

Buildings, plans, and pictures of exteriors and interior arrangements. Cells. Prisons of all lands and times. Historical collections.

Dress and personal equipment of prisoners. Prison dietaries.

883. PRISONS AND REFORMATORIES—Continued.

Convict labor—in confinement, and in confinement and outside gangs. Convict labor leases. Examples of convict workmanship.
Prison discipline, instruction, and reform.
Reform schools and houses of detention.
Punishment at sea.

884. GOVERNMENT BUILDINGS.

National, state and provincial capitals. Pictures and plans. Executive dwellings. Palaces. Administrative offices. City and town halls. Custom and post offices. Public edifices of all kinds and all lands, not elsewhere classified.

885. TAXES AND CUSTOMS AND THEIR ADMINISTRATION.

Tax systems. Historical collections. Literature and statistics.
Tax collecting. Assessment.
The custom-house—appraisement. Collection of duties. Inspection of goods and baggage of passengers. Bonded warehouses. Systems of administration. Plans and pictures. Bonded distilleries.
The Revenue-Marine Service—revenue cutters. Revenue officers.
Smuggling—methods. Devices for concealment about person and otherwise.
Curiosities of smuggling.
Illicit manufactures—distilleries, etc. Moonshiners and their methods.

886. ARMIES AND NAVIES.

The military class in all lands in the past. Historical collections. Pictures.
Military costumes and accoutrements.
Costume and accoutrement of naval forces—marines.
Arms of all kinds (ordnance excepted), with all accessories.
Dietaries. Camp equipment and material.
Recruiting, and its methods.
Asylums and pension systems.
Militia—national guard, landwehr, etc. Illustrations of methods of organization. Collective exhibits for special localities.
Campaign and battles. Plans and pictures of engagements by land and sea in all lands. Historical collections, literature and relics.
Military and naval leaders and heroes. Portraits and biography. Personal relics.

886a. MILITARY ENGINEERING, ORGANIZATION AND ACCESSORIES.

Retrospective collections.
Fortifications. Coast and river defenses, not aquatic.
Heavy ordnance and projectiles, and all accessories.
Light artillery, composing guns, machine guns, mitrailleurs.
Military small arms, muskets, pistols and magazine guns.
Ammunition and its accessories.
Military topography and geography.
Systems of transport. Trains and wagons. Pontoons and bridges.
Camps, tents and barracks.
Arsenals and armories.
Clothing and supplies. Food.
Systems of organization. Composition of armies. Officers.
Systems of tactics.

887. THE ART OF NAVAL WARFARE.

Retrospective collections. War ships of all nations. Pictures, plans and models.
The modern war ship. Armored cruisers. Torpedo boats.
Ordnance and projectiles for naval use. Ammunition, etc.
Economy of ship life as modified for military purposes.

887. THE ART OF NAVAL WARFARE—Continued.
 Clothing and supplies for ship use.
 Food supplies.
 Organizations of naval forces and squadrons.
 Naval tactics.
 Coast and harbor defense.
 Torpedo warfare. Special torpedo boats.
- 887a. WEAPONS AND ARMOR OF ALL NATIONS.
 Clubs, staves, slung weights, flails, maces, "morning stars," etc.
 Swords, cutlasses, glaives, scythes, battle-axes.
 Daggers, rapiers, lances, spears, pikes, spades, halberds, bayonets.
 Hand missiles—Boomerangs, knob kerries, javelins, slings and all sling-stones, bolas, sling boards and darts.
 Bows and arrows, cross bows, blowguns and arrows. sumpitans.
 Catapults, balistas, spring guns.
 Fire-arms and projectiles.
 Armor of personal defense—Shields, helmets, suits of armor.
888. THE GOVERNMENT OF THE UNITED STATES.
 (See collective exhibit.)
- 888a. THE STATE GOVERNMENTS.
 Similar exhibits arranged by States.
889. FOREIGN GOVERNMENTS.
 Resources and powers of other governments arranged in a similar manner.

89. Societies and Federations.

890. BANDS AND LEAGUES OF PAST TIMES.
891. BENEVOLENT SOCIETIES.
 Humane and life-saving societies.
 Early bands and leagues.
892. COÖPERATIVE ASSOCIATIONS.
893. INSURANCE AND MUTUAL BENEFIT SOCIETIES.
894. TRADE UNIONS, ETC. INDUSTRIAL ORGANIZATIONS.
895. PATRIOTIC SOCIETIES.
 Military organizations and orders.
896. LITERARY SCIENTIFIC AND HISTORICAL SOCIETIES.
897. SOCIAL ORGANIZATIONS.
 Clubs and club houses.
898. POLITICAL SOCIETIES AND ORGANIZATIONS.
899. SECRET ORDERS AND FRATERNITIES.

DEPARTMENT 9.—SCIENCE, RELIGION, EDUCATION AND HUMAN
 ACHIEVEMENT.

90. Institutions and Organizations.

901. INSTITUTIONS OF GENERAL SCOPE FOR THE INCREASE AND DIFFUSION OF KNOWLEDGE.
 Such as the Royal Institution, the Smithsonian Institution, the Institute of France. Their organization, history and results.
902. ACADEMIES OF SCIENCE AND LETTERS.
 The Royal Society of London, the National Academy of Sciences, the British and American Associations for the Advancement of Science and others.
 State Academies of Science, etc.
903. LEARNED SOCIETIES NOT DEVOTED TO THE EXACT SCIENCES.
 Historical. Antiquarian, etc.

904. SCIENTIFIC SOCIETIES, DEVOTED TO LIMITED SUBJECTS.

Mathematical, astronomical, chemical, geological, geographical, zoölogical, botanical, ethnological, philological, etc.

905. EDUCATIONAL SOCIETIES AND ORGANIZATIONS.

Government Educational Board.

Societies, etc.

906. PUBLICATION SOCIETIES.

Society for the Promotion of Christian Knowledge, etc.

907. PROFESSIONAL SOCIETIES.

Engineering, military, legal, medical, dramatic, etc.

908, 909. OTHER ORGANIZATIONS.

91. Science and Philosophy.

910. HISTORY OF SCIENCE AND PHILOSOPHY.

Portraits and memorials of philosophers and scientific investigators.

911. METHODS OF INVESTIGATION.

Mathematics—Arithmetic, algebra, geometry, trigonometry, analytical geometry, calculus.

Physics—Mechanics, statics, dynamics, molecular physics, liquids, gas, sound, light, heat, electricity, magnetism.

Astronomy—Solar system, sun, moon, planets, stars, meteors, comets, earth, geodesy, etc. Chronology.

Chemistry—Inorganic and organic. Mineralogy and crystallography.

Geology—Physical and dynamic. Meteorology.

Biology—Zoölogy, botany, physiology, paleontology.

Anthropology and ethnology—Philology.

Sociology and history—Political economy and statistics. Governmental institutions.

Geography and physiography in general—Maps and atlases, geographical, topographical, hydrographical and astronomical. Relief maps. Economic geography.

912. INSTRUMENTS OF PRECISION FOR TEST AND RECORD OF SPACE, DISTANCE, DIMENSIONS, QUANTITY AND CAPACITY, FORM AND DIRECTION.

Scales of length—Standards of length compared. Accessories to scales of length, as calipers, verniers, micrometers, micrometric screws, dividing machines.

Quantity and capacity tests—Measures, gauges, for barrels, tonnage and cordage tests. Gas and water meters. Tell-tales, indicators, etc. Gangers' tools.

Pedometers, odometers, viameters, perambulators, etc.

Geodetic and surveying instruments—Theodolites, transits, needle compasses, base apparatus, etc., and other appliances for surveying, leveling, geodesy, topography. Instruments for underground surveys. Sounding apparatus.

Apparatus for astronomical observations—Transits, transit circles, zenith sections, equatorials, collimators, reflecting and repeating circles, heliostats and siderostats, bolometers, etc., and other apparatus used in observations.

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

Form: Appliances for registry of form—Geometrical record (with models), clinometers, crystalometers. Facial-angle systems. Draftsmen's instruments, pantographs, etc. (See also Pictorial arts.)

Direction: Leveling instruments and apparatus—Carpenters' and builders' levels, land levels, water levels, engineers' levels.

Compasses and their variations.

Plumb lines.

913. INSTRUMENTS OF PRECISION FOR THE TEST OF FORCE, SPEED, ETC.

Weight and specific gravity: Standards of weights and their comparison—Scales, balances, steelyards, assay balances, and ordinary scales for heavy weights special finding.—Instruments to determine specific gravity and density—Hydrometers, aërometers, invariable pendulums, etc.

Speed: Tachymeters. Current meters, ships' logs, electrical logs.

Force: Dynamometers. Gauges for hydraulic, pneumatic and steam machinery.

Heat and other physical effects: Thermometers and other instruments to measure meteorological effects. Barometers, pyrometers, eudiometers, electrometers, rheometers, magnetometers, etc. (See also Meteorology, Class 926.)

Tone: Tuning forks and pipes.

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, Ruhmkorff coils, etc. Magnets and magneto-electric apparatus.

914. INSTRUMENTS OF PRECISION.

Number, time, etc.

Number.

Tallies, automatic registers and abaci. Mathematical instruments. Calculating machines.

Time. (Horology.)

Ancient chronometry. Planetary motion. Dials, hour-glasses.

Modern chronometry—Clepsydra, clocks, weight, spring and balance, electric and astronomical. Watches, chronometers, stop watches.

Almanacs, calendars and time-tables. Ephemerides.

Registration of musical time or length. Metronomes.

915. INSTRUMENTS ACCESSORY TO RESEARCH.

Comparative meteorology: Scales of weights and measures of different countries.

Instruments accessory to research: Microscopes and lenses and their accessories. Telescopes and lenses and their accessories. Apparatus for polarization, refraction, photometry, etc. Spectacles and eye-glasses, field and opera-glasses, graphoscopes and stereoscopes. Instruments for the investigation of the principal mediums of heat, light, electricity, etc. Spectroscopes and accessories for spectrum analysis. Polariscopes. Thermotic apparatus.

Instruments used in anatomical and physiological investigation.

Instruments used in chemical and assay work.

Tables of all kinds for use in computation.

916. METEOROLOGY.

Modern meteorology and weather forecasts. History and present methods.

Meteorological instruments. (See also Class 922.)

Barometers, hygrometers and rain gauges. Maps, bulletins. Blanks for reports. Methods of recording, reducing and reporting observations.

917. APPLIED SCIENCE.

Mechanical engineering.

Civil engineering.

Navigation.

Invention.

All other departments of applied sciences, literature, statistics, and full exhibition of methods and instruments not elsewhere shown.

918. LABORATORIES AND OBSERVATORIES.

- A chemical laboratory in operation.
- A physical laboratory in operation.
- An astronomical observatory in operation.
- An astrophysical laboratory in operation.
- A biological laboratory in operation.
- An anthropometrical laboratory in operation.
- A taxidermist's workshop in operation.

919. SCIENTIFIC EXPLORATION.

- History and literature. Maps. Portraits.
- Relics of all great exploring expeditions of the past.
- Methods and results of recent explorations.

92. History.

920. PREHISTORIC ARCHÆOLOGY.

- America and Europe.*
- Ethnographical collections, illustrating the life of primitive man and modern savages, with specimens of prehistoric habitations.

921. HISTORIC ARCHÆOLOGY.

- Europe and Asia.

922. EARLY EUROPEAN HISTORY.

- Especially England, Ireland, Scotland, Scandinavia, Germany, France, Italy, Spain and Portugal.

923. THE DISCOVERY OF AMERICA AND THE EARLY PERIOD OF EXPLORATION AND CONQUEST. THE COLONIZATION AND SUBSEQUENT HISTORY OF LATIN AMERICA.

924. THE COLONIAL PERIOD IN NORTH AMERICA.

925. THE PERIOD OF THE REVOLUTION AND OF THE ORIGIN OF THE GOVERNMENT OF THE UNITED STATES.

926. LATER HISTORY OF THE UNITED STATES, 1789-1892.

927. LATER HISTORY OF EUROPE, ETC.

928. BIOGRAPHY AND FAMILY HISTORY.

- Portraits of representative men. Genealogical collections: Literature, pedigrees, heraldry, arms, private and public.

93. Books and Literature.

NOTE.—The classification is that of the Dewey Relative System, which may be used in detail to excellent advantage in many departments of the Exposition work.

930. GENERAL WORKS.

- Cyclopedias, magazines and newspapers. Bindings. Specimens of typography.

931. PHILOSOPHY.

932. RELIGION.

933. SOCIOLOGY.

934. PHILOLOGY.

935. NATURAL SCIENCES.

936. USEFUL ARTS.

937. FINE ARTS.

938. LITERATURE.

939. HISTORY AND GEOGRAPHY.

*An elaborate arrangement of this division has been prepared by Dr. Thomas Wilson, to which the attention of the commission is especially directed.

94. Journalism. (Special Monographic Exhibit.)

NOTE.—The details of the arrangement of this division are not worked out. The possibilities of an interesting display are very great. It should exhibit fully the history of journalism, and American periodical literature, past and present, should be very fully shown.

93. Religious Organizations.

950. RETROSPECTIVE COLLECTIONS.

951. HISTORY OF RELIGIOUS AND ECCLESIASTICAL ORGANIZATIONS.

Statistics and literature of religious organizations and systems. Origin, nature, growth and extent of various religious systems and faiths.

952. ECCLESIASTICAL EDIFICES.

Plans, models, and pictures of exteriors and interiors. Interior fittings.

Furniture.

Decoration. Windows. Painting.

Vestments and other accessories of ecclesiastical costume.

Church plate, etc.

953. RELIGIOUS MUSIC.

Choirs. Hymnology.

954. ACCESSORIES OF PRIVATE DEVOTIONS.

955. CHARITABLE AND REFORMATORY WORK.

Church guilds, etc.

956. SPECIAL EDUCATIONAL WORK.

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

Sunday schools, furniture and apparatus.

Associations for religious and moral improvement.

Academies and colleges under denominational control.

957. MISSIONS AND MISSIONARY WORK.

History of missions.

Maps, showing missions, past and present, in regard to geographical distribution.

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

Spreading the knowledge of religious systems by publications.

958. THE BIBLE.

Versions in every tongue. Editions of all kinds.

The English Bible.

Bible societies. Colportage.

*96. Education, Primary.**

960. PRINCIPLES OF PRIMARY EDUCATION.

Literature, statistics and diagrams. Statistics as to the effects of "cramming" and overwork on the young, etc.

961. HOME EDUCATION OF INFANTS.

Educational toys. Toy-books, home primers, children's periodicals.

962. KINDERGARTENS AND INFANT SCHOOLS AND CRÈCHES.

Apparatus and fittings, toys, games, and kindergarten amusements. Models and appliances for teaching, examples of school work.

963. PRIMARY SCHOOLS, CITY AND COUNTRY.

School houses and furniture. Apparatus and fittings. Models and appliances for teaching, text-books, diagrams, examples. Specimens of work in elementary schools.

*The classification is essentially that of the Philadelphia Exhibition.

64. DOMESTIC AND INDUSTRIAL TRAINING FOR GIRLS.

Models and apparatus for teaching of cookery, housework, washing and ironing, needlework and embroidery, dressmaking, artificial flower making, painting on silk, crockery, etc. Specimens of school work.

965. HANDICRAFT TEACHING IN SCHOOLS FOR BOYS.

Apparatus and fittings for elementary trade-teaching in schools. Specimens of school work.

966. SCIENCE TEACHING.

Apparatus and models for elementary science instruction in schools. Apparatus for chemistry, physics, mechanics, etc. Diagrams, copies, text-books, etc. Specimens of the school work in these subjects.

967. ART TEACHING.

Apparatus, models and fittings for elementary art instruction in schools, text-books, etc. Diagrams, copies, text-books, etc. Specimens of art-work, modeling, etc., in schools.

968. TECHNICAL AND APPRENTICESHIP SCHOOLS.

Apparatus and examples used in primary and secondary schools for teaching handicraft. Models, plans and designs for the fitting up of workshop and industrial schools. Results of industrial work done in such schools.

969. EDUCATION OF DEFECTIVE CLASSES.

Deaf, dumb, blind schools, etc. Adult schools for the illiterate.

97. *Education, Secondary. (Grammar School. High School. Seminary and Academy Gymnasium.)*

971. SYSTEMS OF SCHOOLS (State, city and town).

Organization, gradings, discipline, etc.

972. BUILDINGS AND THEIR ARRANGEMENTS.

Sanitary condition. Furniture.

973. APPARATUS OF GENERAL INSTRUCTION.

Maps, globes, diagrams.

974. PHYSICAL TRAINING.

Gymnasium. Military drill. Summer camp.

975. TRAINING IN DRAWING, MUSIC, ETC.

976. TRAINING IN PHYSICAL SCIENCE.

Apparatus, laboratories, etc. Cabinets.

977. BOOKS.

Text-books and other appliances.

978. MANUAL, AGRICULTURAL AND INDUSTRIAL EDUCATIONS.

Commercial and trades schools.

979. EDUCATIONAL ORGANIZATIONS FOR ADULTS.

Polytechnic schools. Reading rooms. Institutions. Chautauqua circles, etc.

98. *Education, Superior.*

980. THE COLLEGE AND THE UNIVERSITY.

981. SYSTEMS.

Curriculum, admission requirements, examination.

982. BUILDINGS.

983. APPARATUS, ETC.

984. THE COLLEGE.

985. THE UNIVERSITY AND POSTGRADUATE COURSES.

University extension, etc.

986. PROFESSIONAL SCHOOLS.

Art and design.

Music.

986. PROFESSIONAL SCHOOLS—Continued.

Mining and metallurgy. Engineering.

Military and naval.

Medicine and surgery. Veterinary medicine. Pharmacy.

Law.

Theological.

Normal.

987. THE LYCÉEUM, ETC.

Lectures.

988. PUBLIC MUSEUMS AND EXPOSITIONS.

989. THE PUBLIC LIBRARY.

99. Human Achievement. The Greatest and the Best.

The arrangement of the division is not worked out, but in proper hands the possibilities of interest in this direction are almost limitless. Among the suggestions are the following:

The great men and women of the world. Portraits, etc. (No one living to be admitted.)

Great works of art:

Copies of the greatest paintings—not to exceed one hundred.

Copies of the greatest sculptures—not to exceed twenty-five.

Copies of the greatest crayons and etchings—not to exceed twenty-five.

Models and pictorial reproductions of the greatest buildings of the world—not to exceed twenty-five.

The greatest books.

The greatest industrial and economical discoveries and inventions.

The invention of printing, gunpowder, the telescope, the railway, vaccination, the circulation of the blood, photography, fish culture, etc.

A special display ought to be made of great American discoveries—the steamboat, the telegraph, the telephone, the lightning rod, the cotton gin, the reaper, the sewing machine, anaesthetics, etc.

Actual reproductions of Old World monuments to commemorate historic personages and events might well be shown.

DEPARTMENT 10.—COLLECTIVE AND MONOGRAPHIC EXHIBITS.

100. Collective Exhibits.

101. FOREIGN GOVERNMENTS. COLLECTIVE EXHIBITS.

As is the universal practice in international exhibitions, foreign commissioners will expect to install their material collectively, making exceptions, possibly, in the matter of machinery in motion, agricultural products and living animals, and the fine arts. For convenience of the juries they will, of course, conform as nearly as may be to the official classification, within the limits of the space assigned to each country.

If the plan proposed by Mr. W. E. Curtis is accepted, a special building will be required for the combined collective exhibit of the Spanish-American Republics.

102. THE GOVERNMENT OF THE UNITED STATES. COLLECTIVE EXHIBIT OF THE GOVERNMENT DEPARTMENTS.

103. AMERICAN STATES AND CITIES.

State and city buildings, and their contents.

104. THE WOMAN'S DEPARTMENT.

105. COLLECTIVE EXHIBITS. ISOLATED BY THE BOARD OF MANAGEMENT FOR REASONS OF CONVENIENCE.

Machinery in motion. (See detailed classification under Division 40.)

Electricity and magnetism, and their applications.

Pomological exhibitions.

Horticultural displays in the open air.

Live-stock exhibitions, etc.

Agricultural machinery at work.

Waste products and their utilization.

Athletic contests and games. Angling tournaments, rifle practice, etc.

Military displays and competitive drills.

Fire companies and competitive contests.

Pyrotechnic competitions.

106. SPECIAL INDUSTRIES. COLLECTIVE EXHIBITS.

As in other exhibitions, organizations representing great industrial interests will desire to erect and maintain buildings for special collective exhibits—*e. g.*, the brewing industry, the leather industries, the textile industry, etc.

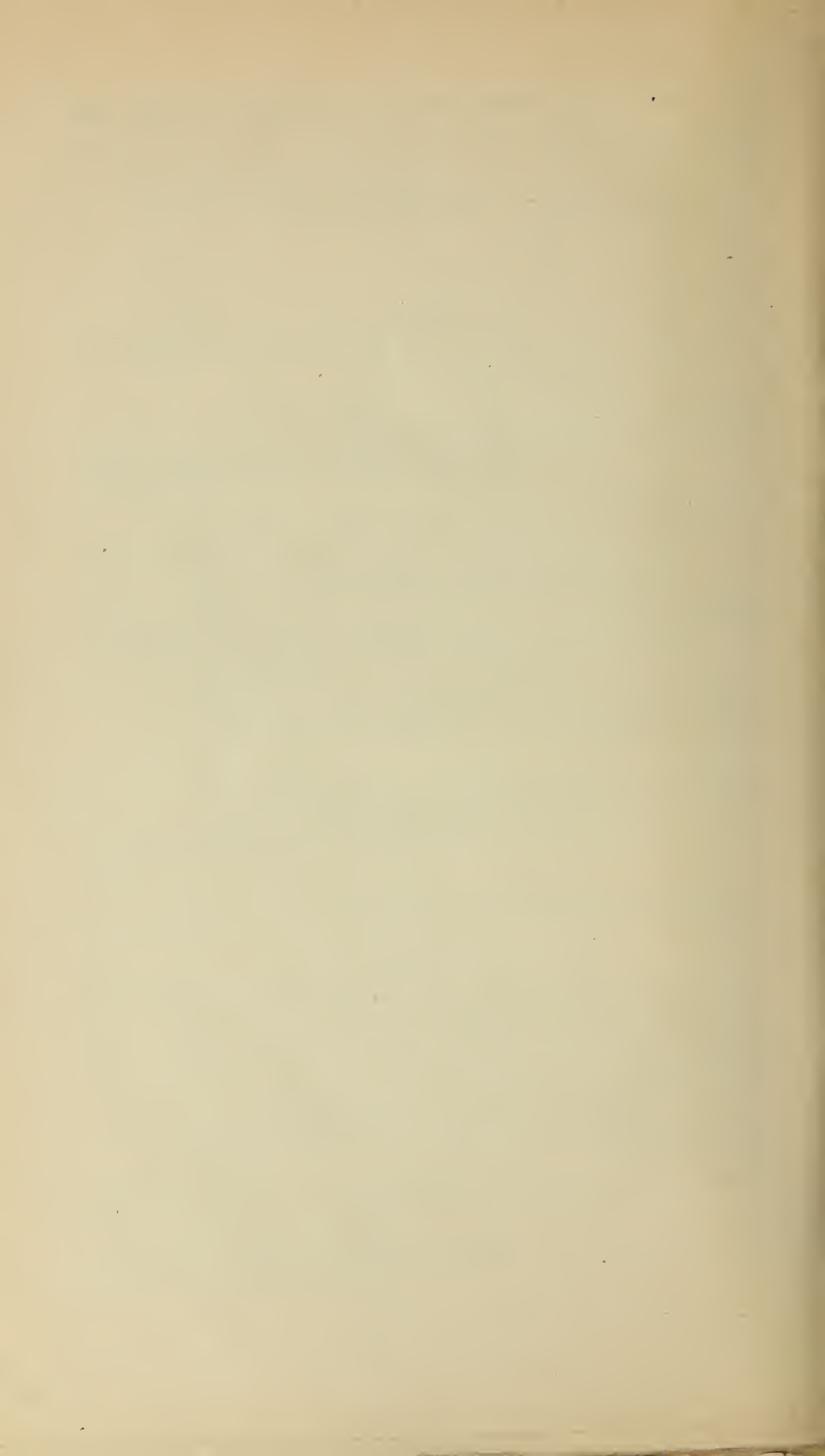
107. AMERICAN ETHNOGRAPHY AND THAT OF OTHER COUNTRIES.

Special monographic exhibit of the tribes of American aborigines. Similar collections from other lands.

Villages or families of various primitive peoples engaged in their native occupations.

108. SPECIAL MONOGRAPHIC EXHIBITS SHOWING THE CIVILIZATION OF COUNTRIES WHICH HAVE CONTRIBUTED LARGELY TO THE PEOPLING OF AMERICA.

109. OTHER COLLECTIVE EXHIBITS.



LIBRARY OF CONGRESS



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