

SEVENTH ANNUAL REPORT

OF THE

SECRETARY OF COMMERCE AND LABOR

1909



WASHINGTON
GOVERNMENT PRINTING OFFICE
1909

	Page.
Bureau of Navigation—Continued.	
Maritime-law conference.....	41
Installation of wireless telegraphy.....	41
Enforcement of navigation laws.....	42
Steamboat-Inspection Service.....	43
Light-House Establishment.....	45
Bureau of Fisheries.....	48
Propagation of food fishes.....	48
Scientific researches and experiments.....	49
Commercial fisheries.....	50
Alaskan salmon fisheries.....	51
Alaskan fur-seal service.....	52
International fishery relations.....	53
International Fishery Congress.....	54
Coast and Geodetic Survey.....	55
Field work.....	55
Office work.....	57
International Geodetic Conference.....	58
Arctic tidal observations.....	59
Bureau of Standards.....	60
Office of the Secretary.....	65
Appointment Division.....	65
Statistics of the personnel.....	65
Efficiency reports and resulting changes in the personnel.....	66
Inadequate salaries.....	68
Superannuated employees.....	68
Disbursing Office.....	69
Appropriations and disbursements.....	69
Division of Printing and Publications.....	74
Cost of printing.....	74
Distribution of publications.....	75
Sale of public documents.....	75
Building for the Department.....	76
Conclusion.....	77

SEVENTH ANNUAL REPORT
OF THE
SECRETARY OF COMMERCE AND LABOR.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, December 1, 1909.

To the PRESIDENT:

I have the honor to submit my first annual report. This report of course covers a portion of the administration of my predecessor, Mr. Straus, to whose preparatory work I am in large measure indebted for some of the recommendations which are herein contained.

This Department embraces bureaus of such varied interests that it is altogether impossible to consider the work of the Department without giving a detailed account of the activities of each branch. Perhaps the one comment of general interest which may be made with entire justice to all is that during the last four years the appropriations for the entire Department have been increased only 3.2 per cent. It may be assumed that the activities of none of the older bureaus can be reduced, with proper regard to the needs to be served, and that some of the more modern bureaus, whose activities have been more or less experimental, must necessarily be extended. If the appropriations are to be held at the present figures, it will therefore become necessary to make a dollar go farther than it has. This may, in my opinion, be accomplished in some measure; not so much by exacting more work of the employees as by a reorganization of the work itself. How much it may be possible to accomplish by this means, I am not now able to say; but that much may be done I hope to demonstrate by a few recommendations which I am now prepared to make, and which are referred to under the heads of the Light-House Board, the Bureau of Statistics, and the Bureau of Manufactures.

BUREAU OF CORPORATIONS.

PUBLICATION OF REPORTS.

During the past fiscal year the Bureau of Corporations carried on its work of investigating corporate affairs along the lines followed since its creation.

In February the Bureau published Part I of its Report on the Tobacco Industry. This part dealt with the position of the "Tobacco Combination" in the industry. It gave the result of a long and careful examination of the history, organization, and general development of the American Tobacco Company and its subsidiary concerns, including also certain independent tobacco companies. The American Tobacco Company afforded the Bureau practically complete access to all its records, which were very extensive and voluminous, and the results, when digested into logical shape, presented an unusually complete and reliable view of the history and organization of one of the great interstate-commerce industries of the country. Further parts of this report are now in preparation.

In June the Bureau prepared for the President a report on "Prices of Tobacco, and the Operations of Corporations and Others Dealing Therein," in response to a resolution of the Senate adopted May 14, 1909, and the President transmitted the same to the Senate, where it was consulted in connection with proposed changes in the internal-revenue tax on tobacco products.

During May the Bureau published Part I of its Report on Taxation of Corporations, which dealt with the systems of taxing manufacturing, mercantile, transportation, and transmission corporations in the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. It set forth these systems in a uniform shape. It gave for each of these States the financial results of the system of taxation for the latest fiscal year. A large part of its value was due to the fact that in each case the proper state officials were consulted, as a result of which an understanding of the practical enforcement of the laws was secured from the best possible sources. No taxation system as it appears on the statute books can be properly understood without a knowledge of the spirit, manner, and practical results of its enforcement. Similar reports on other sections of the country are in preparation. The subject is of such current importance, and reveals such remarkable differences and inconsistencies in theory and practice, that a comparative statement of the important state systems of corporate taxation should be of considerable and immediate value.

PENDING INVESTIGATIONS.

At the end of the fiscal year the Bureau had on hand as current work investigations also of the lumber and steel industries, the International Harvester Company, concentration of water-power ownership, and transportation by water in the United States, and was continuing its investigations of the tobacco industry, the operation of cotton exchanges, and state systems of corporate taxation.

GOVERNMENT SUPERVISION OVER CORPORATIONS.

The problem of the proper control of our enormous commercial and financial forces is admitted to be one of the great questions before the country.

For this great problem there is imperative need of two things—first, reliable information upon which the Government may take proper legislative and administrative action; second, reliable information in concise and available form to serve as a basis for public opinion. The first step to be taken is an advance toward a complete system for obtaining and making public this necessary information. The Bureau of Corporations, through its investigatory power, has been obtaining this information in those specific instances and industries which, with the force and money available, it has been able to cover. The value of this work has been demonstrated beyond dispute.

It is clear, however, that the time has come for a far wider and more complete application of those principles. This can be accomplished only by the establishment of a definite federal system of statutory publicity by which all important corporations engaged in interstate commerce shall be required to report at stated intervals to a federal agency such as the Bureau of Corporations the essential facts in regard to their organization, management, and condition. This will accomplish for the entire business machinery of the country, in so far as it is in the hands of corporations, what the Bureau has been doing in specific cases. It must be carried on by the Federal Government, because that agency is the only one whose jurisdiction is commensurate with the subject-matter and which can prescribe uniform conditions for the entire country. Any attempt to solve the problem through state action has been and necessarily will be futile. No considerable number of States can ever agree in establishing or maintaining any one system. No State alone can make its own system effective. In financial and commercial conditions, the business of the country has become nationalized. Its legal regulation also must be national.

Brief outlines of such a system as pointed out in previous reports of the Secretary are substantially as follows:

The system should be carried on by the Federal Government.

It should require regular reports from all large corporations engaged in interstate commerce to a federal administrative office, supplemented by the power on the part of that office to verify and enlarge by further investigation these reports and the facts connected therewith.

It should provide for the publication in concise and intelligible form of all the important facts of corporate operations which are of public interest, but should at the same time safeguard from unnecessary publication all proper business secrets.

It should recognize the fact that if the Government regulates corporate business it should also extend to it, as far as possible, that proper protection which is the necessary corollary of such regulation. If the Government undertakes to regulate corporate combination, it is also obvious that such combination must be recognized within its proper limits. It is useless to ignore the plain fact that business centralization has been largely accomplished already and that this centralization has been forced by imperative economic law. The problem before the Government in this connection is, therefore, not that of the existence of combination, but that of the misuse of the vast commercial powers acquired thereby.

To prove the power of publicity, there has been cited already in the reports of the Commissioner of Corporations the remarkable example of the abolition in 1906 of a great system of railway discriminations through the simple publication of the facts relating thereto. This abolition was voluntarily effected by the railroads concerned. Another example equally significant occurred during the last fiscal year. In May, 1908, the Commissioner of Corporations published three reports in which certain operations of the important cotton exchanges of New York and New Orleans were criticised. In July of that year each of these exchanges appointed a special committee to consider those reports and questions raised thereby, with express instructions to confer with the Commissioner of Corporations in such consideration. Conferences taking up thoroughly the questions involved were thus had between the exchanges and the Commissioner. As a result, in February of this year, after an extended conference at New Orleans, the cotton exchange of that city adopted by a practically unanimous vote all of the recommendations of the Commissioner for important reforms in its methods—reforms which will affect the interests of cotton producers, merchants, spinners, and consumers, and will tend, as is believed, to put this great central market in a position where it can far better perform the beneficial functions which the industry has a right to expect.

BUREAU OF LABOR.

INVESTIGATIONS DURING THE YEAR.

The principal work upon which the Bureau of Labor has been engaged during the year is the investigation authorized and directed by Congress relating to the condition of woman and child workers in the United States. The field work has been practically completed and the Bureau is now engaged upon the preparation of the report, which it is expected will be finished by the close of the calendar year. In this work extensive investigation has been made in four important industries employing large numbers of women and children, namely, cotton textiles, silk manufacturing, men's clothing, and glass making. Studies have also been made on a number of topics pertaining to the general subject.

During the year the twenty-second annual report of the Bureau, entitled "Labor Laws of the United States," was printed and quite generally distributed.

The report on workmen's insurance and benefit funds in the United States has been completed and will be published as the twenty-third annual report of the Bureau. This report is exhaustive as to the benefit funds of the national labor organizations, and is nearly exhaustive as to railroad benefit and pension funds. In addition, the report covers several hundred benefit funds maintained by industrial establishments, local labor organizations, and workingmen's societies.

During the year a report on workmen's insurance in foreign countries has been in course of preparation. It is expected that this report will be completed by the close of the calendar year, when it will be published as the twenty-fourth annual report of the Bureau.

By a Senate resolution the Secretary of Commerce and Labor was directed to make an investigation of the telegraph and telephone business in the United States, and part of this task was assigned to the Bureau of Labor. Data concerning both industries were obtained, and that portion relating to the telegraph industry has been compiled and published as a Senate document. As soon as the clerical force is available the telephone data will be compiled and published.

At the request of the Select Committee of the House of Representatives on Paper and Wood Pulp the Bureau made an investigation of the labor cost of production of paper and wood pulp in the United States, Canada, Sweden, and Norway, and the information gathered has been transmitted to the committee.

A brief preliminary study has been made of fatal industrial accidents, the chief points of such inquiry being the cause of such accidents and the compensation, if any, received by the families of

the deceased. A comprehensive investigation of this subject is being planned by the Bureau.

Under the provisions of the Erdman Act the Commissioner of Labor and the chairman of the Interstate Commerce Commission have, upon request of contending parties, considered a number of disputes between interstate-commerce carriers and their employees.

BIMONTHLY BULLETINS.

In addition to the usual matter pertaining to labor laws and decisions of courts and digests of state and foreign labor reports, the bimonthly bulletins for the fiscal year, based on investigations of the Bureau, present articles and reports as follows:

Bulletin 77: Wages and Hours of Labor, 1890-1907, and Retail Prices of Food, 1890-1907.

Bulletin 78: Industrial Accidents, and Mexican Labor in the United States.

Bulletin 79: Mortality from Consumption in Dusty Trades, and Charity Relief and Wage-Earnings.

Bulletin 80: Women and Child Wage-Earners in Great Britain.

Bulletin 81: Wholesale Prices in the United States, 1890-1908.

Bulletin 82: Mortality from Consumption in Certain Occupations.

GOVERNMENT WORKINGMEN'S COMPENSATION ACT.

The Bureau of Labor is charged with the details of the administration of the act of Congress granting compensation for injuries to certain classes of artisans and laborers employed by the United States Government. This law went into effect August 1, 1908. During the eleven months ended June 30, 1909, claims to the number of 1,545 were made under this law, of which number 1,504 were acted upon and 41 were in the course of investigation or adjustment at the close of the year.

In order that full data may be available in regard to accidents to all classes of employees, should question arise in future as to the extension or modification of the principle of the act, regulations have been issued requiring a report to the Department of all injuries to government employees occurring in the course of their employment whenever such injuries disable them from work for a period of one day or longer. The total number of accidents reported under these regulations during the eleven months ended June 30, 1909, was 4,146. It is probable, however, that all cases have not been reported and that the total number of accidents in the civil service exceeds, to some extent at least, the number stated. It is believed that in a comparatively short time the statistics of such accidents will be of considerable general value aside from their bearing upon legislation to enlarge the scope of the law which Congress may consider. It is apparent that the law in its present form does not assure equality or proportion and that its provisions ought to be liberalized.

BUREAU OF IMMIGRATION AND NATURALIZATION.

It is of course unnecessary to comment upon the importance of the Immigration Service. We are interested in the character of the people who are admitted, and we are concerned that the treatment accorded to them, and also to those who may be rejected, shall be indicative of the spirit of our institutions. This involves, of course, the state of the law, the morale of the force to carry it out, and the condition of the stations at which immigrants are received.

It is believed that very satisfactory progress has been made in the equipment and management of the stations which have so far been provided, although it may be necessary to make provision for still more stations. At Ellis Island improvements of very great importance have been completed that afford fair facilities for the examination and the treatment of immigrants at that point. It is proper to add that the administration of the present commissioner has greatly promoted the equal enforcement of the law and the scrupulous protection of the immigrants while in his charge. At San Francisco it is hoped that the new station will be put in use not later than January, 1910; and that with this change all grounds for complaint at that point will be removed. It had been thought that the quantity of immigration at San Francisco did not justify the large station at Angel Island. But for many reasons the careful treatment of immigrants at that station is of such importance that it was regarded as controlling in the decision to make the change.

In Boston, Philadelphia, New Orleans, Galveston, and Charleston sites for stations have been selected, and the construction of the necessary buildings is waiting upon the perfection of titles or the compliance with certain conditions. In every instance it is my purpose to proceed with the utmost promptness, both because I regard the making of an appropriation as a substantial instruction to build, and because in the absence of regular stations the conditions under which immigrants are landed are usually intolerable.

While the Immigration Service is assuming very large proportions, and the expense is running into considerable figures, it is well to remember that the protection and fair treatment of human beings is one of its purposes, and that the head tax paid by the immigrants themselves still exceeds the cost of the entire Immigration and Naturalization Services.

In the administration of the laws relating to the above-mentioned subjects the Bureau of Immigration and Naturalization is organized under three heads: First, the Bureau proper, which is the headquarters of the Immigration Service, engaged in the enforcement of

the general immigration law, the alien contract-labor law, and the various statutes regulating the admission of Chinese; second, the Division of Naturalization, established by the act of June 29, 1906, having control of questions affecting naturalization; and, third, the Division of Information, created under section 40 of the act of February 20, 1907, and charged with the duty of collecting and disseminating all available information as to physical resources, etc., of the different sections of the country with the purpose of aiding a beneficial distribution of landed immigrants. This report can not properly contain any extended discussion of these various important questions. The details thereof are succinctly and comprehensively set forth in the report of the Commissioner-General of Immigration. I therefore attempt no more than to direct attention to some of the more important facts with respect to each question, considering them under the several appropriate headings.

IMMIGRATION IN GENERAL.

It is possible to gain from the compilation of immigration statistics for the past fiscal year a comprehensive and approximately accurate idea of the net increase of population by immigration. Of the total of 944,235 aliens entering the country, 751,786 were of the immigrant class (i. e., had left a permanent residence outside the United States and were entering with the intent to reside permanently in this country), while 192,449 were of the nonimmigrant class (i. e., were either former residents of the United States returning after a temporary absence or were permanent residents of foreign countries entering for temporary purposes only). On the other hand, of the total of 400,392 departing, 225,802 were of the emigrant class (i. e., were leaving a permanent residence in the United States with the intent to reside permanently abroad), and 174,590 were of the nonemigrant class (i. e., were departing with the intent to remain abroad temporarily, or were returning to their native lands after a temporary stay in the United States). During the fiscal year 1908, aliens to the number of 924,695 (of whom 782,870 were immigrant and 141,825 non-immigrant) entered the United States, while 714,828 aliens (395,073 emigrant and 319,755 nonemigrant) left the country. Therefore, while immigration for 1909 exceeded that for 1908 by 19,540 (31,084 less immigrant and 50,624 more nonimmigrant), the emigration for 1908 exceeded that for 1909 by 314,436 (169,271 more emigrant and 145,165 more nonemigrant), and there has been an actual increase in the alien population of the United States of 543,843. In 1908 the actual increase was 209,867; so that the increase for the past year exceeded that of the preceding year by 333,976. This growth is confined to the last half of the fiscal year, the first six months having shown even a less increase than the same months of 1908.

This would seem to indicate that the trend of immigration is upward, and that it is rapidly reassuming the large proportions from which there was a temporary departure in the fiscal year 1908 and the first half of the past year.

AGES, LITERACY, AND FINANCIAL CONDITION OF IMMIGRANTS.

Some striking facts are shown with regard to the 751,786 immigrant aliens who entered and the 225,802 emigrant aliens who departed. Of the former 624,876 were between the ages of 14 and 44, while 88,393 were under 14 and 38,517 were 45 or over, which figures relatively correspond with those for the preceding year. As to illiteracy 191,049 could neither read nor write and 2,431 could read but not write, these figures including no aliens under 14 years of age. Compared with the corresponding figures for 1908 this is an increase in illiterates from 26 per cent of the total to 29 per cent. In 1907 the ratio was 30 per cent, and in 1906, 28 per cent, on the basis of a very much larger immigration. Arriving aliens brought \$17,331,828, an average of about \$23.50 apiece. These figures, however, are not particularly valuable, as it is not certain that all money possessed was shown to inspection officers, nor is there any way to ascertain how much of that shown consisted of amounts sent abroad by relatives or friends of aliens located in this country, although a large proportion of it undoubtedly did so consist. With regard to the payment of passage, 523,718 claimed to have bought their own tickets, while 220,352 admitted assistance by relatives, and 7,716 by friends; so that, even on the basis of the aliens' statements, it appears that almost one-third of those admitted were assisted to reach this country.

AGES, PERIODS OF RESIDENCE, AND OCCUPATIONS OF DEPARTING ALIENS.

With respect to emigrant aliens it has been possible to keep a record of age and period of residence in the United States concerning 196,094 of the 225,802 departing, and to find that 9,804 were less than 14, 165,778 were from 14 to 44, and 20,512 were 45 years of age or over; 160,154 had resided in the United States less than 5 years, 26,967 from 5 to 10 years, 4,027 from 10 to 15 years, 2,666 from 15 to 20 years, and 2,280 over 20 years. As to occupations, it is interesting to note that 174,800 of the immigrant aliens entering and 118,936 of the emigrant aliens departing were common unskilled laborers, against 87,160 immigrant aliens entering and 21,919 emigrant aliens departing who were members of the skilled trades, which figures appear to substantiate the general impression that the so-called "bird-of-passage" element of our immigration is constituted largely of the unskilled.

SOURCES OF IMMIGRATION.

During the past, as in the several preceding years, a very large proportion of immigration has been from countries of southern and eastern Europe. Italy, Austria-Hungary, Greece, Turkey in Europe and the smaller principalities adjacent, and Russia have supplied about 67 per cent of the immigrants admitted. In 1908 these same countries furnished 64 per cent. It is impossible to say with any degree of confidence how far this change in the source of immigration has been caused by natural conditions and to what extent it may be stimulated by promoters or by the dissemination of exaggerated reports about opportunities for labor in this country.

REJECTIONS OF ARRIVING ALIENS.

There have been rejected at the United States ports during the past year 10,411 aliens, or about 1.09 per cent of the total number applying for admission. The following comparative statement relating to the period 1904 to 1909, inclusive, as to principal causes, moral, mental, and physical, for which aliens have been rejected, is abstracted from the report of the Commissioner-General:

Cause of rejection.	1904.	1905.	1906.	1907.	1908.	1909.
Idiots.....	16	38	92	29	20	18
Imbeciles.....					45	42
Feeble-minded persons.....					121	121
Insanity (including epileptics).....	33	92	139	189	184	167
Likely to become a public charge, including paupers and beggars.....	4,798	7,898	7,069	6,866	3,741	4,458
Afflicted with contagious diseases.....	1,560	2,198	2,273	3,822	2,900	2,308
Afflicted with tuberculosis.....					58	82
Criminals.....	35	30	205	341	136	273
Prostitutes and other immoral women.....	9	24	30	18	124	323
Procurers of prostitutes.....	3	4	2	1	43	181
Contract laborers.....	1,501	1,154	2,814	1,434	1,932	1,172

There has been a marked increase in the number rejected on moral grounds, namely, criminals, procurers, and prostitutes, due to the unremitting efforts to detect members of these especially undesirable classes and turn them back at the ports. The figures with regard to the other excluded classes require no special comment at this point.

ARRESTS AND DEPORTATIONS.

Closely related to the rejection of aliens is the matter of arresting and deporting those who enter the country unlawfully, or who, within three years after entry, become public charges. During the year 2,124 warrants of deportation were executed after granting

hearings to the arrested aliens, compared with 2,069 executed during the previous year. This number is segregated into the following principal causes for deportation: Members of excluded classes at time of entry, 685; public charges from causes existing prior to entry, 990; became prostitutes after entry, 133; entered without inspection, 258. The addition of the number of any one of these classes arrested and deported to the number of the same class rejected at ports of entry will show the total number of such a class removed to country of origin during the year. These totals do not need to be discussed in detail, but it should be stated that during the year 5,266 aliens physically, mentally, or morally below the mark set by the law have been returned to the foreign ports of embarkation; and special note should be made of the fact that 69 "criminals," 261 immoral women, 30 procurers, and 1 anarchist have been arrested and deported, which, added to the number of these morally defective classes already mentioned, makes a total of 1,138 of these particularly undesirable aliens removed during the year to the countries whence they came, against a total of 392 for the preceding year. On this subject the following is quoted from the report of my predecessor for the fiscal year 1908, attention also being directed to a similar recommendation contained in the report of the Commissioner-General of Immigration for the past year:

The law regarding these moral defects needs to be amended and strengthened in several important respects. In the first place, there is no occasion with regard to this class, as there is regarding the classes merely physically unsound, to fix a definite limit within which the Government can proceed for their deportation. It is obvious that such persons can not, merely by living here for a period of time, in any way correct their moral status at the time of entry, and the Government ought not to be restrained from removing from this country an anarchist, a criminal, or a moral degenerate merely because such person has been able to avoid detection for three years. As a further means of insuring the country against the introduction and residence here of members of the lawless or criminal class, section 20 of the immigration act should be so amended as to add to the deportable class of aliens therein described as persons who become "public charges from causes existing prior to landing," within three years after entry, aliens who, within such period, are convicted of or admit having committed a felony or other crime or misdemeanor involving moral turpitude, deportation to be effected at the expiration of such term of imprisonment as may be imposed.

WHITE-SLAVE TRAFFIC.

Especial efforts have been made by the Immigration Service to enforce the provisions of law which are partially related in purpose to those of the International White Slave Agreement. The result, in so far as the deportation of immoral women is concerned, is shown by the figures above given. A large number of prosecutions have been instituted by officers of the Department of Justice on information furnished by the immigrant inspectors engaged upon this branch of the work. To the extent that such prosecutions have covered

the importation of immoral women considerable success has been attained. The decision of the Supreme Court in the Keller case to the effect that the keeping, maintaining, and controlling of alien prostitutes in houses of ill fame is a matter which must, under the Constitution, be supervised, if at all, by the various States has of course embarrassed the efforts of federal authorities in this direction. It is much easier to prove charges of the latter character than that any particular person has been engaged in importing alien immoral women. The investigations which have been conducted in connection with this work have shown that trafficking in immoral women is an established and extensive business, and is by no means confined to trading in women who have been imported, but includes alien women who have entered the country in a regular way, and American women, as well. The federal officers, however, are powerless under existing law to deal with more than a very small factor of this proposition, and if the evil is to be eradicated the States and municipalities must be brought to realize its gravity and to take proper steps for its control. The law now prohibits the bringing of women into this country for immoral purposes. It is recommended that the law be so amended as to prohibit as well the bringing of women for such purposes from one State into another State, and that a sum of at least \$50,000 be appropriated to enable the Department to enforce all federal laws against this traffic. At present there is no appropriation to cover this work, and what has been accomplished has been merely incidental to the general control exercised over immigration.

JAPANESE AND KOREAN LABORERS.

The Japanese and Korean laborers first became a separate class of excludable persons in March, 1907, when the President issued a proclamation putting into operation the proviso of section 1 of the act of February 20, 1907, dealing with that subject. For some time after that date the exclusion of such laborers apparently was not accomplished, but as the plan was developed and a thorough understanding secured with Japan with regard to the issuance of passports to subjects of that country of the laboring class proceeding to the United States it became quite evident that an efficient system for the control of the subject was perfected. This result is extremely gratifying, especially as the statistics for the past fiscal year show that with the lapse of time the system has improved and that it now works with a degree of success which has surpassed all expectations. During the year 2,644 Japanese applied for admission to continental United States, 2,432 of whom were admitted and 212 debarred. Of the number applying 2,407 were, and 237 were not, in possession

of proper passports. Of those holding such passports 2,203 were found on examination to belong to classes entitled under the proclamation and understanding with Japan to receive such credentials, and only 204 were found not to be entitled thereto. The said 2,203 entitled to passports consisted of 768 former residents, 942 parents, wives, or children of residents, and 493 new arrivals who were non-laborers. The 204 not entitled to passports were found to be laborers who were not former residents or the parents, wives, or children of such residents. During the same period 1,539 Japanese applied for admission to Hawaii, 1,493 of whom were admitted and 46 debarred. All but 11 of these applicants were in possession of passports, and 1,375 were found on examination to be entitled to the same and 153 not so entitled. Of the 1,375 entitled to passports 266 were former residents and 1,109 were parents, wives, or children of residents.

ALIEN CONTRACT LABORERS.

The provisions of the immigration law which relate to the subject of alien contract laborers were among the first to be enacted, and there has been a constant tendency on the part of the legislative branch to make such laws more restrictive and thereby afford a greater degree of protection to American labor. The act of 1907 has cured some of the most important defects in previous statutes and has made possible an improved enforcement. The Attorney-General rendered an opinion on a case referred to him from this Department that the alien contract labor provisions relate only to manual laborers, skilled and unskilled. This resulted in a reversal of the Department's practice in that regard, but as a practical matter has not so far led to the admission of more than a negligible number of aliens who would not otherwise have been admitted.

It is often difficult in specific cases in which only one or two aliens are seeking admission to determine whether the claim that employment has been prearranged for them involves a violation of the spirit and intent of the law, or is merely an indication of commendable precaution upon the part of the applicants. In such cases the Department endeavors, so far as possible, to ascertain the motives of the parties involved and to decide the case in such a way as, on the one hand, to permit of no violation or evasion of the intent of the statute, and, on the other hand, to avoid if possible the rejection on technical grounds of aliens who are shown to be of a commendably cautious disposition, and who in most instances belong to the very best element of foreigners that seek to come among us.

In several respects, as pointed out in the report of the Commissioner-General, the provisions of law dealing with this subject need to be

strengthened. This is particularly true of the penal clauses, which do not now always operate to bring to justice parties responsible for the importation of contract laborers. It would be especially desirable to authorize the preinvestigation of the claims of employers who seek the benefit of the exception under which skilled labor may be imported if labor of like kind can not be found in this country. It is as important that the benefit of this exception shall be granted in deserving cases as that the general provisions of the law shall be enforced in undeserving ones. The present practice, based upon the statute, does not permit of the predetermination of this question, and skilled laborers must come to a port, seek entry, and, if rejected, appeal to the Department before the question can be decided.

A number of important prosecutions of importers of contract laborers have been instituted during the year and fairly satisfactory results obtained. Several typical cases of this kind are set forth in the Commissioner-General's report.

CHINESE IMMIGRATION.

The statutes relating to the immigration of Chinese, commonly called the "Chinese-exclusion laws," have now existed, more or less completely, for about a quarter of a century, and by the reenactment of those statutes in 1902, "without modification, limitation, or condition," the policy of excluding Chinese laborers assumed a permanent character. The Commissioner-General in his report for 1909, as in those for several preceding years, devotes considerable space to an explanation of the many serious defects in the methods prescribed by those laws as compared with methods more recently developed under the general immigration statutes. These Chinese-exclusion laws have been so construed, administratively and judicially, as often to give unnecessary embarrassment to persons of the Chinese race. They were enacted at a time when there was little desire upon the part of Chinese, other than laborers, to enter the United States. Under the treaty and laws a practice grew up which gave the description of the classes excluded by the terms of the statute its broadest scope, while the definition of the classes exempted was given a narrow meaning.

The Commissioner-General is now endeavoring, without in any sense surrendering the real purpose of the law, to have it so administered as to give the smallest degree of embarrassment and the least grounds for complaint.

In the report of my predecessor for the fiscal year 1908 a comparison was drawn between the results accomplished in the arrest and deportation by executive process of aliens of other races unlawfully resident in the United States with the results accomplished in the arrest of Chinese by judicial process under the exclusion laws. The

argument of that comparison is unanswerable. The determination of the status of an alien found within the country is essentially an executive act, to the exercise of which the administrative machinery is well adapted, while the attempt to reach the same result by judicial processes is necessarily met with delay. A similar comparison for the past fiscal year shows that 2,124 aliens were deported under the administrative process prescribed by the immigration act. In the accomplishment of this, practically no difficulty, delay, or injustice arose. On the other hand, of the 836 Chinese arrested, and the 445 similar cases which remained pending at the close of the previous year (a total of 1,281), 39 died or escaped, 189 were discharged, 665 were deported, and 338 cases remained pending. Notwithstanding the fact that almost 90 per cent of the Chinese involved were apprehended in sections immediately on the land boundaries and obviously had but just entered, delays and miscarriages of justice were frequent, not to mention the enormous expense occasioned both the Chinese and the Government.

I earnestly urge the adoption of the recommendation made in my predecessor's last report that the Chinese immigration service be consolidated with the general service. I am persuaded that such a course would promote efficiency and economy and a more harmonious operation of the law.

The plan under which officials of the State Department stationed in China cooperate with this Department in the enforcement of section 6 of the act of July 5, 1884, in accordance with which members of the exempt classes of Chinese are supplied with certificates assuring, in the absence of fraud, their admission, has continued to operate with entire satisfaction. Of these exempt classes 507 applied during the past year, 484 of whom were admitted and only 18 deported, and the majority of the deportations were necessitated by the fact that the aliens were afflicted with dangerous contagious diseases, and not by the discovery of fraud. It is customary in these cases to make no further inspection than is necessary to identify the alien presenting the certificate with the person named therein, unless it is apparent on the face of the certificate or from the appearance and conduct of the applicant that the alien is not in fact a member of the exempt classes, in which event a sufficient examination is made to reach a conclusion.

In 1908 the Department authorized, on the recommendation of the Commissioner-General, the adoption of a plan under which all American citizens of the Chinese race residing in the Hawaiian Islands could be furnished with a certificate of identity that affords them protection and the right of prompt ingress and egress. This proved so satisfactory that during the past year the Commissioner-General recommended that a similar plan be adopted with respect to all Chinese hereafter admitted to the mainland, either as members

of the "section 6" class, as domiciled merchants, or as the wives or minor children of such classes and merchants, or as American citizens by birth. This recommendation was approved, and it is believed the arrangement will be of benefit both to the Chinese and to the Government. A regulation has also been adopted by the Department with the purpose of affording to Chinese residents of claimed American birth a means of establishing such claim before the administrative officers in advance of a projected trip abroad. By this rule a Chinaman of the said claimed status is, upon proving it, furnished with a return certificate under which his prompt readmission at the port through which he departs is insured.

In the above respects, and in every way consistently possible, the interests of the Chinese have been carefully guarded, the Department proceeding upon the belief that no precaution should be omitted to prevent the giving of undue embarrassment in the administration of a law drawn in unusually drastic terms and enforced of necessity in a rigid manner.

DIVISION OF INFORMATION.

This Division, which was established on July 1, 1907, and has for its function the promotion of "a beneficial distribution of aliens admitted into the United States among the several States and Territories desiring immigration," has directed a total of 5,008 persons to various localities—840 during the fiscal year 1908 and 4,168 during the fiscal year 1909. Of the total number thus involved, 2,565 were distributed among agricultural communities and received employment as farmers or farm laborers.

Common laborers to the number of 1,215 and domestics to the number of 269 were directed to work, the latter for the most part being the wives of men sent to the farms. One hundred and ninety-two children accompanied their parents.

Of the 168 who were directed to the mining regions, it is probable that many were employed as common laborers. The 599 remaining were divided among 72 occupations. Many of these can not be classed as skilled trades, 68 persons being woodsmen and 31 settlers on land.

Of the total directed, only 20 failed to reach their destinations. Of this number, the cost of transportation had been advanced by employers in 11 cases. Disappointment in 7 of these cases was avoided by directing alternate men without transportation cost to employers.

Forty States and one Territory are represented in the field of activity, no one so far as known having been directed to Florida, Idaho, Louisiana, Nevada, Utah, Washington, Wyoming, or Arizona.

New York State was selected by 2,202 and New Jersey by 676, the applicants naturally choosing the near-by States by reason of cheaper transportation thereto. In Vermont 300 were located, in Pennsylvania 220, and in Illinois 152, the balance being divided among the other States with the exceptions above noted.

Forty-five nationalities are represented in the distribution. Of those directed to employment, 1,028 were Poles, 879 Germans, 428 Russians, 406 Swedes, 256 Italians, 221 Norwegians, 202 Danes, 127 Finns, 73 Irish, 59 English, 43 Swiss, and 8 Scotch, the balance being divided among other nations, as shown in detail in the report of the Commissioner-General of Immigration.

The records of the branch offices at New York, N. Y., Baltimore, Md., and Galveston, Tex., show that 26,477 applicants sought and obtained information. These figures do not show the entire number, as many applicants represented groups ranging from 5 to 50, and care was exercised not to count an applicant twice.

Skilled workers, professional men, journalists, and scientists to the number of 2,823 sought the aid of the Division, but no assistance was rendered, as its activities were principally confined to distributing laborers and domestics.

Some idea of the progress made in the brief time the Division has been in existence may be gained from the following report of the branch office in New York City, showing the number for whom employment has thus far been secured:

January 1 to June 30, 1908.....	815
July 1 to December 31, 1908.....	1,636
January 1 to June 30, 1909.....	2,176

Particular care is exercised to direct no one to a place where he could be used to replace labor already employed. The demand for men is so great from sources that require additional help that this restriction did not affect the number directed, as in general the supply of good men does not meet the demand.

One of the sources of opposition to the work of the Division is the unscrupulous type of employment agent who deals in foreign-born labor for his livelihood. The inspector in charge at New York states that agents of this type warn immigrants against applying to the Division, giving as the reason that if they do they will be deported on account of being out of work. Each man directed by the Division means \$2 or \$3 less income for some agent, and as the applicant is liable to secure permanent employment through the Division a greater loss is sustained by the agents in that he will not return to be sold to some other employer.

In the furtherance of the Division's work the commissioners of immigration and inspectors in charge were instructed to cooperate to the fullest extent. It is noted that the inspector in charge at Galveston, Tex., provided 129 applicants with information that resulted in their securing employment as farm and common laborers.

Correspondence has also been had with state agencies and state boards of immigration, and harmonious working arrangements are being established as the work progresses.

The results accruing are largely traceable to an insistent demand for men to take the places of those who have deserted the farm for the city. Employers were found ready not only to seek the aid of the Division, but also in many instances to advance the cost of transportation in the hope of securing the much-needed help. A large number of letters testify to the satisfaction of the employers concerning the character of the men secured; and as the aliens themselves become educated to the opportunities which await them away from congested centers of civilization, it is believed that in larger degree a beneficial distribution will be effected through the efforts of the Division of Information to bring the agriculturists and the unemployed aliens into communication.

DIVISION OF NATURALIZATION.

Declarations of intention to the number of 143,212 were filed with clerks of courts exercising naturalization proceedings during the fiscal year 1909. Compared with 136,725 in 1908, this was an increase of 6,487. Of those filed in 1909, 282 were by native-born Americans who, having renounced their allegiance to the United States, returned and took the preliminary step toward resuming their original status. There was a decrease of 1,700 in the number of petitions for naturalization filed, the totals for 1908 and 1909 being, respectively, 43,878 and 42,178. The number of certificates of naturalization issued, however, shows an increase of 11,820, the total in 1909 being 37,337, against 25,517 in 1908; while there was an increase of practically 100 per cent in the number of petitioners who were denied citizenship, the total being 6,341 as compared with 3,330 in 1908 and 250 in 1907. The denials in most instances were based rather upon the failure of petitioners to comply with the requirements of the law than upon lack of the necessary qualifications.

During the year the number of courts exercising naturalization jurisdiction increased 150—from 2,244 to 2,394. This increase was confined altogether to state courts. In fact, a few of the federal courts which entertained naturalization jurisdiction in the fiscal year 1908 have apparently discontinued business of this character.

A total of 1,013 cases were submitted to the Division by the Steamboat-Inspection Service for inquiry into the validity of certificates of naturalization. Investigation of these cases disclosed the fact that 35 of the certificates had been illegally procured, many of them being held by persons who actually maintain a residence in Canada and come to the United States during the open season on the Lakes only for the purpose of securing employment as pilots. Of 14 certificates investigated at the instance of the Civil Service Commission 6 were ascertained to have been illegally procured.

By correspondence with the clerks of courts entitled under the law to naturalize aliens it was ascertained that since the act of June 29, 1906, became effective there have been filed illegally with the clerks of said courts 163 declarations of intention, and that by the same courts 192 orders of naturalization have been issued in disregard of the provisions of the above-mentioned act. All of these cases were reported to the Department of Justice for appropriate action.

Under the criminal provisions of the naturalization law prosecutions were instituted in 35 cases, with the result that in 7 cases fines were imposed and in 6 jail sentences were inflicted, while 5 resulted

in acquittal and 17 were pending at the close of the year. The fines imposed aggregate \$1,115.

In a few instances loss of naturalization records by fire was reported. Thus was demonstrated the wisdom of the provision in the law which requires that duplicates of all records be filed in this Department.

Specific legislation is again recommended, with a view to the removal of any doubt as to how far certain classes of aliens are exempted from compliance with the provisions of the act of June 29, 1906. These special classes are aliens honorably discharged after military service in the United States Army, referred to in section 2166 of the Revised Statutes; aliens engaged in the merchant marine, to whom section 2174 of the Revised Statutes relates; and aliens who have served in the United States Navy or Marine Corps. To these classes should be added those who are employed in the government service on vessels of the War Department, the Coast and Geodetic Survey, the Light-House Establishment, or upon other vessels the duties of which prevent them from complying with the terms of the law in relation to residence within the territory of the United States.

The total amount of naturalization fees collected during the fiscal year and deposited in the Treasury on account of miscellaneous receipts was \$186,581.28. The appropriation for the salaries of the Division of Naturalization was \$38,960, of which \$38,789.42 was expended. In addition to this, there was expended out of the contingent fund of the Department a total of \$5,639.03 for stationery, supplies, and office equipment. Thus it is seen that the amount of receipts under the act of June 29, 1906, was \$142,152.83 in excess of the cost of the administration of the naturalization law under this Department.

BUREAU OF THE CENSUS.

STATUS OF INTERCENSAL INVESTIGATIONS.

During the year the Bureau of the Census issued 27 publications, 10 being reports of some magnitude and 17 bulletins and pamphlets. The Bureau now publishes annually statistics on four subjects, namely:

1. Official statistics of cities containing over 30,000 inhabitants.
2. Statistics of ginning, consumption, and stocks of cotton.
3. Vital statistics for those States and cities which maintain a system of registration of births and deaths.
4. Statistics of forest products, collected and published in cooperation with the Forest Service of the Department of Agriculture.

The Bureau of the Census also publishes from time to time special reports on subjects not covered by the annual statistics or the regular decennial census. During the year 1908 the Bureau completed and published its report on Marriage and Divorce, covering the forty years from 1867 to 1906 and including a presentation of the laws and statistics on this subject in 20 foreign countries in addition to the data for the United States. A census of religious bodies relating to the year 1906 has been completed and the results published in a bulletin, the final report being now in press. The Bureau has also completed an investigation of electrical industries, covering the year 1907 and continuing a series of quinquennial reports on this subject, initiated in 1902. This general subject includes central light and power stations, street and electric railways, and telegraphs and telephones. The Bureau also issued during the year a special report on industrial districts, and a report entitled "A Century of Population Growth, from the First Census of the United States to the Twelfth, 1790-1900." This report contains a complete analysis of the available data regarding the First Census of the United States, much of which had not been published hitherto. At the request of committees of Congress the Bureau has also compiled statistics relative to the paper and wood-pulp industry, and statistics comparing the production of manufactured articles with the amount of imports and exports, the results of these investigations being published in the reports of the respective committees. The Bureau has nearly completed the work on the fisheries statistics and has published preliminary bulletins covering several of the States.

Much of the time of the census employees during the fiscal year was devoted to preparations for the Thirteenth Census, to be taken in 1910. The creation of the permanent Census Bureau has, as was anticipated, proved a very great advantage in facilitating such preparation and avoiding the excessive haste which was necessary formerly when the entire census force had to be organized de novo between the time of the adoption of the census act by Congress and the date of the actual enumeration.

THE THIRTEENTH CENSUS ACT.

The existence of the permanent Census Bureau has largely obviated any disadvantage which might have arisen otherwise from the fact that the act of Congress providing for the Thirteenth and subsequent decennial censuses was not passed and approved until July 2, 1909, a date much nearer to the time of the actual enumeration than in the case of most of the preceding census acts.

The principal respects in which the Thirteenth Census Act differs from that providing for the Twelfth Census are as follows:

(1) The present act provides for a census of mining statistics in 1910, while a census of mining was not taken in 1900, but was taken in 1902. There is an obvious advantage in having the census of mining cover the same period of time as the censuses of manufactures and agriculture.

(2) On the other hand, the Thirteenth Census Act makes no provision for special statistics of births and deaths during the census year, as was required at the Twelfth Census. It had been found impossible to secure accurate statistics of births and deaths by census methods, and the Census Bureau now confines itself to the publication of annual statistics covering those areas in which state and municipal governments maintain efficient registration systems—areas which are rapidly being extended, in large part through the influence of the Census Bureau.

(3) The census of population is to be taken in April instead of June, as formerly, largely for the reason that fewer people are absent from their homes in April than in June.

(4) The censuses of manufactures and mining are to cover the calendar year 1909. By the Twelfth Census Act the inquiry concerning manufactures covered the fiscal year of each concern ending next preceding June 1, 1900, but practically in most cases covered the year 1899. This definite change, which was originally suggested at the time of the publication of the results of the census of 1900, will make it possible to put field agents at the task of collecting manufacturing statistics in January, 1910, and will materially facilitate the completion of the report within the time limit fixed by law.

(5) The act provides for the appointment of the temporary clerical force necessary for the census work after civil-service examination, which was not required by previous acts.

APPROPRIATION FOR THE THIRTEENTH CENSUS.

As stated in the annual report of my predecessor for 1908, the Director of the Census estimated the cost of taking the Thirteenth Census, and at the same time continuing the regular work of the Census Bureau for the three-year "census period" ending June 30, 1912, at \$14,117,000, of which \$12,930,000 was estimated as the cost of the Thirteenth Census proper. It is still believed that this estimated expense will not be exceeded, notwithstanding the fact that it is substantially the same amount as was spent upon the Twelfth Census, since which there has been an increase of approximately 20 per cent in the population to be enumerated and a still greater increase in the volume of agriculture, manufacturing, and mining. On June 29, 1909, an appropriation of \$10,000,000 was made by Congress for the salaries and necessary expenses of the Thirteenth Census. This appropriation is not limited to the current fiscal year, but it is probable that the greater part of it will be required during that time, as the cost of collecting statistics, which is the greatest element of the total expense, will mainly fall during the present fiscal year. A further appropriation, therefore, will be necessary to cover the cost of tabulation and publication to be incurred during the remainder of the census period.

TABULATING MACHINERY.

During the fiscal year the Bureau completed its designs and models for a punching machine and a tabulating machine to be used in handling the population statistics of 1910, and since the end of the year contracts have been entered into for the construction of 300 of the punching and 100 of the tabulating machines. The total cost of these machines of both types, under the contract, will be \$122,800, to which about \$30,000 must be added to cover the cost of materials furnished the contractors and of the counters used in connection with the tabulating machines, which are to be constructed in the machine shop of the Bureau itself. It is certain that these new machines will enable each operator to turn out a decidedly larger number of cards than was possible during the Twelfth Census, and thus very materially reduce the cost of tabulation. Experiments are still under way with regard to automatic tabulating machines of even greater efficiency.

At the Twelfth Census the statistics of agriculture were also handled by the punching of cards and the use of tabulating machines. Because of the elaborate character of the data required on the farm schedule, a large number of cards were provided for each farm. The

Bureau will probably abandon the card system in the agricultural census of 1910, and use instead either "typewriter adding machines" or ordinary adding machines.

ORGANIZATION OF BUREAU FOR THIRTEENTH CENSUS WORK.

The existence of a permanent Bureau renders the task of organizing the office work in connection with the Thirteenth Census comparatively simple. During the Twelfth Census there existed five principal divisions, each headed by a chief statistician, namely, the divisions of Population, Manufactures, Agriculture, Vital Statistics, and Methods and Results. All of these divisions were continued in existence as part of the permanent census organization after the completion of the Twelfth Census, and each has taken up from time to time special investigations appropriate to its general field, although certain special investigations not naturally falling to the field of any one of the existing divisions have been assigned more or less arbitrarily.

These divisions have for some time past been preparing for the work of the new Census, and most that will still be necessary to perfect the organization of the force for the Thirteenth Census is an increase in the number of clerks, especially of the lower grades. A Division of Mining has been created to take charge of the mining census provided for by the new law. This division is subject to the general supervision of the chief statistician of manufactures, and under the immediate control of an expert chief of division and an expert special agent. The provision of the Thirteenth Census Act for the positions of Assistant Director of the Census, appointment clerk, and geographer have greatly facilitated the administrative and the technical work of the Bureau.

An examination for the additional clerical force required for the Thirteenth Census work was held on October 23 by the Civil Service Commission. Although the law does not require any examination for special agents, it was deemed wise to hold such an examination throughout the country with a view to securing as competent employees of this class as possible. This examination was held on November 3. These special agents will be employed chiefly to collect the statistics of manufactures and mines and quarries.

The statistics of population and agriculture will be collected, under the direction of the supervisors of the census, by enumerators. Of the 330 supervisors provided for by law all but two or three have already been appointed by the President during the recess of the Senate. The enumerators, of whom about 65,000 will be needed, are by law required to be designated by the supervisors subject to the approval of the Director of the Census. In order that that approval may be intelligently exercised, as well as in order to assist the super-

visors in selecting competent persons, an examination for enumerators will be provided. This will be open to all candidates. The papers will be forwarded to the supervisors, who will be directed to examine them and to pay due regard to them in making their selections, although they will not necessarily in every case select those whose examination papers grade the highest. The supervisors will then designate for each enumeration district one of the persons who took the examination, but will forward all the papers in order that the Director may determine whether the persons designated are competent.

THE CENSUS SCHEDULES.

The Director of the Census and his permanent force of expert assistants, together with a number of temporary expert special agents, have given careful attention to the preparation of the schedules that are to be used for collecting the various classes of statistics. While the general contents of the schedules are prescribed by law, the form and detail of them are left to the determination of the Census Bureau. The aim has been to simplify the schedules as much as possible, in order to reduce the amount of work of the enumerators or special agents who collect the statistics, and to reduce the danger of errors in judgment on their part in interpreting the questions. In the schedules of manufactures and mining a number of questions formerly asked have been eliminated, partly for the purpose of simplification and partly because of objections raised by manufacturers and mine operators regarding the alleged inquisitorial character of these inquiries. The instructions to the enumerators and special agents have also been revised with great care.

BUREAU OF STATISTICS.

The Bureau of Statistics during the year materially increased its usefulness to the commercial interests through the publication of the Statistical Abstract of Foreign Countries, on which it has been engaged for several years; the readjustment of the Statistical Abstract of the United States and addition thereto of many important statistical statements, and the enlargement of the classification of articles imported and exported.

The Statistical Abstract of Foreign Countries presents the records of the imports and exports of all the principal countries for a long term of years; their trade with other countries, and the principal articles which form their imports and exports, the latter being stated with reference to the probable wants of the importers and exporters of the United States in studying commercial opportunities in various parts of the world. The work as completed in the current year brings down to date the earlier figures of total trade and presents for the first time the details of the trade of each country by articles. The statements in this publication have been compiled from the official records of the governments represented, and all have been transformed from the language, currency, weights, and measures of the respective countries to those of the United States, thus presenting a complete picture of world commerce in the principal articles in which the importers, exporters, consumers, and producers of the United States are interested in convenient terms for reference and covering a long period of years.

The readjustment of the Statistical Abstract of the United States has been accomplished with but slight addition to the total number of pages, space for the new matter having been obtained by the omission of certain features not now essential to this publication.

Preliminary steps have been taken during the year looking to a marked improvement in the promptness of presentation of the records of imports and exports. Under existing laws and regulations governing the reports of collectors of customs to the Bureau, the monthly record of imports and exports can not be presented with the promptness desirable. The Bureau has entered upon a careful study of the methods by which trade statistics are collected in other countries, and is formulating a plan by which it is believed the Department of Commerce and Labor will be able, through the cooperation of the

collectors of customs, to present the monthly and annual records of imports and exports with much greater promptness than hitherto and with no material increase in expenditure.

COASTWISE AND INTERNAL COMMERCE OF THE UNITED STATES.

The coastwise commerce of the United States is the one important feature of our trade for which statistics are not now available. The value of merchandise moving between the cities on the coasts of the United States, including those on the Great Lakes, is probably greater than that of all the merchandise exported to foreign countries, and it is considered especially desirable that a complete record be established of this important interchange of commodities between all the great sections of a country producing, in its varied climatic and physical sections, the several requirements of a great industrial community. The system of internal-commerce reports established by the Bureau during the past few years has produced statistics of very considerable importance regarding the concentration of principal articles of commerce at the great interior points and their movements thence toward the coast. The work of recording the coastwise commerce on the Great Lakes, undertaken by the Bureau in 1900, has also been successful, and in each year since 1901 the Bureau has presented to the country a record of that important feature of our internal commerce, this record now being sufficiently complete to permit a comparison of present trade conditions on the Great Lakes and at the principal cities with like conditions for several earlier years.

It is the Department's desire to extend this work to the Atlantic, Pacific, and Gulf coasts of the United States. While records of the movement of a few articles on the coasts have been established, the Bureau desires to greatly enlarge its activities and has made a systematic effort to obtain the cooperation of steamship companies engaged in coastwise commerce along the coasts. Thus far efforts along this line have been only partially successful, though it is hoped that the necessary cooperation of those steamship companies not already participating in this work may be obtained.

FOREIGN COMMERCE OF THE UNITED STATES.

The foreign commerce of the fiscal year, as recorded by the Bureau of Statistics, showed a marked increase in value of imports and a decline in value of exports when compared with the immediately preceding year. The increase in imports occurred chiefly in materials for use in manufacturing. Foodstuffs showed an advance of 37 million dollars and materials for use in manufacturing an increase of 114 millions, while manufactures showed a decline of 32 millions. In

exports, foodstuffs showed a falling off of 83 million dollars, crude materials for use in manufacturing a fall of 36 millions, manufactures for further use in manufacturing a fall of 30 millions, and manufactures ready for consumption a fall of 49 millions.

The causes of the increased importation of both foodstuffs and manufacturers' materials are apparently found chiefly in the increased business activities in the fiscal year 1909 when compared with 1908, while the fact that prices of manufacturers' materials in 1909 were in many cases lower than in earlier years indicates that the increase in quantities of those materials imported is even greater than that shown by mere figures of values. The falling off in exportation of foodstuffs is due in part to increased consumption at home and in part to increasing supplies of meats, corn, and wheat reaching the European markets from other parts of the world. The reduction in value of manufacturers' materials exported is probably due to lower prices of cotton in 1909 than in the immediately preceding year, with which comparison is made. The fall in value of manufactures exported, whether for further use in manufacturing or for consumption, occurred chiefly in manufactures of iron and steel, of which the value of the exports during the fiscal year 1909 fell 39 million dollars below that of the immediately preceding year, this fall being due partly to lower prices and partly to a reduction in demand from foreign countries. The total value of imports in the fiscal year 1909 was \$1,311,920,224, against \$1,194,341,792 in the immediately preceding year; and the total value of exports, \$1,663,011,104 in 1909, against \$1,860,773,346 in 1908. The falling off in exports is apparently due in part at least to a general reduction in imports by other countries, since merchandise from the United States formed in 1908 a larger percentage of the imports of the principal countries of the world than in the immediately preceding years.

COORDINATION OF STATISTICAL WORK.

The departmental committee appointed during the prior fiscal year to consider the coordination of the statistical work of the Department recommended that the Bureau of Manufactures and the Bureau of Statistics be consolidated. In the consideration of preliminary action with the view of carrying out this recommendation the question arose whether such consolidation could be legally made without express authority of Congress, and whether appropriations for either of the bureaus would be available for the consolidated bureau, and an opinion on this point was obtained from the Comptroller of the Treasury. In this opinion, dated July 27, 1909, the Comptroller points out that the organic act of February 14, 1903, *creates* the Bureau of Manufactures and provides that the Bureau of Statistics of the Treasury Department and the Bureau of Foreign Commerce of the State Department should be consolidated and transferred to this Department to constitute one bureau to be called the Bureau of Statistics, and he was of opinion that while section 4 of the act referred to gives the Secretary power and authority to rearrange the statistical work of the bureaus and offices confided to said Department and to consolidate any of the statistical bureaus and offices *transferred* to said Department, it does not authorize him to consolidate bureaus expressly created by the act, and that such bureaus should be maintained as created.

This decision was afterwards confirmed by an opinion of the Attorney-General. If the consolidation is to be had, additional authority must therefore be given by Congress, and I recommend that legislation to this end be asked. The report of March 2, 1908, to Secretary Straus, made by a committee of which Lawrence O. Murray was chairman, and which report was approved by Professors Edwin R. A. Seligman and J. W. Jenks and Mr. H. Parker Willis, seems to demonstrate the wisdom of the proposed consolidation. It would serve to concentrate work; it would dispense with some duplication, and it would result in general economy. The reasons which existed at the time for the conclusions reached by the committee are, if anything, strengthened by the creation since then of the Tariff Board, and by the larger activity of the State Department in the same general field of inquiry. A proper cooperation of these several agencies seems to demand the closest possible organization of each, while at present the tendency is to duplication of work and to dissipation of effort.

BUREAU OF MANUFACTURES.

The continued expansion of the work of the Bureau of Manufactures furnishes unmistakable evidence of increasing interest on the part of American manufacturers and merchants in the foreign trade of the country. This improvement is attributable mainly to the fact that our manufacturers and merchants have recognized the importance of acquainting themselves with conditions abroad and with the wants of the people there before entering foreign markets.

The Bureau of Manufactures has contributed largely to this improved condition through the circulation of its publications and by means of other agencies of its initiation. Since its organization the Bureau has persistently adhered to the policy of obtaining early and accurate information about the physical, commercial, and financial conditions of every country of the world; the quantities of materials of every description imported; the preferences, prejudices, habits, tastes, and purchasing power per capita of the people, and other details believed to be helpful in securing the introduction of American products or increased sales of those found already in the markets. The Bureau's efforts in this direction have been of great value to manufacturers and merchants engaged in foreign trade and helpful to those seeking to enter that trade, and in proportion as it becomes known to business men that such information is in possession of the Bureau the demands upon it increase.

FOREIGN TRADE OPPORTUNITIES.

A most effective agency of the Bureau in extending foreign trade is the "Foreign Opportunities" column published from time to time in Daily Consular and Trade Reports. The information is furnished by consular officers and special agents, and is concisely stated in brief paragraphs and entered under serial numbers. During the year such paragraphs, each furnishing an opportunity for the sale of merchandise abroad, were published to the number of 1,282. It is noticeable that there has been a decided increase in the number of manufacturers who are applying for this class of information, which indicates that efforts of the Bureau to bring manufacturers at home into direct communication with importing merchants abroad are meeting with success.

CONFIDENTIAL BULLETINS AND CIRCULARS.

In addition to the above-described method of promulgating foreign opportunities, the Bureau issues confidential bulletins and circulars containing information in regard to particular industries that require immediate attention. These confidential communications are mailed direct to those who are known to have facilities for performing the required service. During the year a large number of such circulars, with explanatory blueprints and specifications, were sent out, and resulted in securing a number of orders for the shipment of American manufactured products.

The value of this particular service would be materially enhanced if provision were made for authorizing consular officers to expend a reasonable sum of money to procure several sets of blueprints, specifications, etc., in cases that offer opportunities for the extension of American trade. Under existing conditions a single set only of these necessary papers is transmitted to the Bureau of Manufactures, and this set must be circulated in turn to numerous applicants. This method of conveying to our manufacturers information that might result in the sale of their products fails in large measure to accomplish the desired object, as time is an important factor and several weeks are at times required to transmit specifications to applicants. With several sets of these important papers interested parties could be simultaneously made acquainted with requirements and the chances for securing foreign contracts vastly improved.

WORK OF SPECIAL AGENTS.

The work of the special agents during the year was mainly performed in Europe. These experienced and expert men, by their technical descriptions and expert analyses of conditions and agencies in the countries visited, have rendered valuable service to the great industrial interests of the country. The investigations during the year covered cotton fabrics (and to a limited degree the woolen industry of the United Kingdom), the fabrication and employment of machine tools, the flour-milling industry, the sale and consumption of cottonseed products, the pottery industry, the iron and steel industry, and the boot and shoe industry. Preliminary reports of the several agents were as a rule published in the Daily Consular and Trade Reports when received, and subsequently issued in pamphlet form and transmitted to Congress.

The importance to the Government of a force of trained and expert men who have passed from technical schools in which fundamentals are taught to the great industrial establishments in which theories are tested and applied, and their value to the country in creating new and extending old lines of trade, can not be too highly estimated. It

is significant that several of the principal commercial nations have introduced this method for promoting their foreign trade and have assigned to special agents much of the work that has been performed hitherto by diplomatic representatives.

WORK OF THE TARIFF DIVISION.

During the year the tariffs of Italy, Brazil, Australia, the United Kingdom, Turks and Caicos islands, and the Bahamas, British West Indies, were published, as were tariffs on petroleum and petroleum products in foreign countries, the export tariffs of all foreign countries, and a monograph containing the laws and regulations governing the treatment of commercial travelers in various countries. The Bureau also published translations of the tariff bill now pending before the French Parliament and the commercial agreement between France and Canada, which is expected to go into effect in the near future.

In response to requests of this Department, diplomatic and consular officers are furnishing an increasing number of reports in regard to tariff legislation in the countries to which they are respectively accredited. Great care has to be taken in editing these reports to insure accuracy of translation of the laws and decrees to which they refer. During the year reports as to tariff legislation were received from 49 countries, some of which were represented by several reports, all requiring examination and annotation.

PUBLICATIONS OF THE BUREAU.

Reports from diplomatic and consular officers and special agents are published and widely circulated through the medium of Daily Consular and Trade Reports. The demands for this publication from business men have pushed the circulation to the statutory limit, 10,000 copies, and notwithstanding attempts to secure relief by frequent revision of the mailing list the Bureau is unable to meet popular needs. The circulation of the monthly edition of Consular and Trade Reports is also steadily advancing, having reached nearly 8,000. The limitation on the distribution of the daily edition is cause for complaint on the part of business men whose requests for the publication must necessarily be denied. It also causes much embarrassment to the Department, as no explanation that can be offered will satisfy applicants. It is recommended that authority be given to extend the edition of Daily Consular and Trade Reports to meet the needs of the service, if necessary by making a small charge to cover the cost of printing.

Tariffs of foreign countries are published in pamphlet form and constitute what is known as "Tariff Series." Twenty-one different

tariffs have been published, changes in a number of them later requiring supplemental publications. Reports of special agents are assembled and published, and are transmitted to Congress as required by law.

During the year the several publications of the Bureau aggregated 3,140,100 copies, to which the daily edition of Consular and Trade Reports contributed 2,969,000 and the monthly edition 91,000 copies.

NECESSITY FOR EXTENSION OF WORK.

Finally, there can be little doubt that the work of collecting and distributing information, whether carried on by the Bureau of Manufactures as now constituted or after the proposed consolidation, must be extended. The comparatively small number of agents has necessarily compelled the Bureau to specialize to a great extent. Certain industries have been inquired into; others have not been touched. New ones have been taken up only to dismiss earlier ones from attention. Such a system brings about inequality of service at all times and does not permit of comprehensive observation at any time. The information collected has secured a number of valuable contracts abroad, but the Bureau has so far not been able to do enough to stimulate American producers generally to compete for foreign trade.

BUREAU OF NAVIGATION.

OUTPUT OF AMERICAN SHIPYARDS.

The record output of our shipyards during the fiscal year 1908, as anticipated, proved to be the culmination of a decade of exceptional activity in shipbuilding. During the past fiscal year merchant vessels built and documented in the United States numbered 1,247, of only 238,090 gross tons, the smallest product since 1898, yet larger than the average annual output of the decade ended that year. Under normal conditions our shipyards may now be expected to complete annually about 400,000 gross tons, and unless the unforeseen occur an approach to that product may be looked for during the current fiscal year. Our shipbuilding is confined to the needs of coastwise or domestic transportation and to naval or government construction. Of late years we have built fewer steel steamships for foreign trade than ten years ago.

Progress in constructing the Panama Canal should encourage our shipbuilders, and when the canal is completed a large increase in commerce by water between our Atlantic and Pacific coasts must follow. Under our coastwise laws this commerce will be conducted in American steamships, and it is not too soon now to begin planning the types of steamships best adapted for trade through the canal. Last year only one ocean steel steamship of over 4,000 gross tons was built. The steady increase in the construction of such ships which may now confidently be looked for should do something to reduce the difference in the cost of building here and abroad, which has been a large factor in causing the decline of our over-sea shipping. By extending from two to six months the time during which vessels built wholly or partly of free imported materials may engage in the coasting trade, the new tariff law tends further to reduce that difference.

On June 30, 1909, the total documented merchant shipping of the United States comprised 25,688 vessels, aggregating 7,388,755 gross tons. Over one-third of this tonnage is employed on the Great Lakes, where through the liberality of Congress in improving channels and harbors we have built a merchant fleet greater than that under any foreign flag, except the British and the German, and have developed what is probably the most efficient and economical system of water transportation in the world. Through natural conditions and the coastwise laws it is practically without foreign competition.

AMERICAN SHIPS ENGAGED IN FOREIGN TRADE.

Our shipping registered for foreign trade on June 30, 1909, consisted of 1,633 vessels of 887,505 gross tons, but even these modest figures are an overstatement of our resources in international competition. They include a number of vessels which have outlived their usefulness and others which, though registered, are engaged in trades from which foreign ships are excluded. For effective competition in foreign trade any one of several of the great British and German steamship companies is better equipped than the entire steam fleet in that trade under the American flag. If a change in our policy of restricting the national register to vessels built at home alone would remedy this situation, few would oppose such a change. It is significant, however, that during the past year three of our trans-Atlantic steamships, built recently in the United States, were transferred to the Belgian flag.

At the beginning of the current fiscal year we had only four American steamships regularly engaged in European trade, only five in trade with Asia, and none with South America below the Caribbean, or with Australia or Africa. Under existing conditions the number will not increase, and may decrease. Last year our exports and imports by sea in round numbers amounted to \$2,721,000,000, of which only \$258,657,000, or 9.5 per cent, was carried in American ships.

OCEAN MAILS AND COMMERCE.

With good reason we are building a powerful navy, and Congress has been generous in its appropriations for the purpose. The argument for an adequate merchant marine is fully as strong and should appeal with equal force to men of all parties. By the common consent of civilized nations the policy of discriminating duties was abandoned long ago. The conditions of our foreign commerce render it particularly inapplicable to our own situation. At the present time foreign governments are spending annually about \$45,000,000 upon certain types of merchant steamships. The form of expenditure varies, of course, and the objects differ. In some instances the prime object is to promote regular transportation facilities, in others to provide reserve cruisers or army transports, while the creation of a body of naval reserve seamen, the encouragement of shipbuilding, and regular and swift carrying of ocean mails are reasons for other appropriations. Whatever the purpose, the result in each case is the same—the increase of the nation's merchant marine and merchant seamen. It is not material that in some instances the amounts are described as subsidies and in others as payments for services rendered. Nor do I deem the amounts and conditions of appropriations essential. The fact, common to all these expenditures, suffices—that each nation desires certain types of ocean steamships under its own flag on certain

routes, and where they do not exist it is willing to pay enough to get them.

The creation of a merchant marine in foreign trade proportionate in any degree to our rank among nations must be a slow undertaking. The approaching completion of the Panama Canal, as already indicated, will create some favorable conditions, but it also imposes the obligation of early action. Several measures to this end are now pending in Congress. While differing in important respects, they all provide for an extension of the ocean-mail act of 1891. The special reasons for American ocean-mail steamship lines to South America, and by way of Hawaii to Australia and to Asia, including the Philippines, have been repeatedly set forth, as have been the reasons for increasing the per-mile compensation of American ocean-mail steamships, under the conditions prescribed by the act of 1891, on routes to South America, Asia, and Australia.

TONNAGE DUTIES.

Tonnage duties during the fiscal year amounted to \$1,052,374.37, of which only \$84,662.37 was paid by American vessels. By section 36 of the tariff act of August 5, 1909, the law relating to tonnage duties was changed in two particulars to accord with recommendations made for several years by the Department. The so-called reciprocal tonnage duties exemption sections, enacted in 1884 and extended in 1886, were repealed. Theoretically those sections were designed to secure exemptions for American ships abroad, but, as we have few ships crossing the oceans, they of course receive few benefits. The revenue surrendered for the direct benefit of foreign ships during the past twenty-four years has amounted to fully \$2,000,000. The repeal of those sections should add annually about \$110,000 to our revenues. This addition made it possible to reduce from 3 to 2 cents per ton the rate imposed on vessels from foreign ports in North America, South America bordering on the Caribbean, and the islands of our hemisphere—a reduction estimated at \$56,000.

WORK OF SHIPPING COMMISSIONERS.

Shipping commissioners at 19 seaports have shipped, reshipped, or discharged 341,980 seamen on American vessels during the past year, an increase of 34,681 over the previous year. In the decade the number of men shipped, reshipped, and discharged annually has increased from 142,632 to 341,980, while the cost to the Government in salaries to commissioners and clerks has increased from \$55,619.13 to \$62,944.79, which shows that the service has been economically administered. Its approval by American shipping interests is shown by its growth, for resort to shipping commissioners is mainly optional.

MARITIME-LAW CONFERENCE.

An international diplomatic conference on maritime law was held at Brussels in October to review drafts of treaties relating to collisions, salvage, shipowners' liability, and maritime mortgages and liens, at which our Government was ably represented. These subjects have been considered carefully by admiralty lawyers of various nations for some years past, and the Brussels Conference was designed to bring the various propositions considered into shape for definite action by treaty-making powers. The advantage of uniform laws on these subjects is manifest, and the results of the conference are awaited with interest in American maritime and exporting circles. The conference will reassemble in April. If international uniformity shall not prove feasible, Congress could legislate upon the subject of liens on vessels for supplies and repairs, and thus bring about uniformity in our own country on that subject.

INSTALLATION OF WIRELESS TELEGRAPHY.

Within the past two years wireless telegraphy has demonstrated its value as one of the most useful appliances for saving life and property at sea. A practice voluntarily adopted by the most humane and progressive shipowners seems to be a proper basis of legislation for the regulation of those less attentive to the present needs of mankind. Of 282 steamships which carried steerage passengers to and from the United States under the passenger act of 1882 during the first half of this year, 143 were equipped with wireless installations. The vessels so equipped were, as a rule, the largest and best in the trade, and together carry on each trip about 174,000 passengers, of whom 147,000 are steerage passengers. The 139 steamships not equipped carry about 6,000 cabin and 55,000 steerage passengers.

In our coastwise passenger trade, of ocean steamers carrying 50 passengers or more over routes of 200 miles or more, 97, with a capacity of 32,000 passengers, were equipped with wireless, while 70, with a capacity of 18,000, were not so equipped. Through the efforts of the Navy Department, the War Department, and private enterprise the coasts of the mainland of the United States, and even of Alaska, Hawaii, Porto Rico, and the Canal Zone, are now so provided with wireless shore stations that a vessel at sea almost anywhere within 300 miles of the shore can communicate with the land as well as usually with other vessels. The passage of a bill requiring wireless installations as a measure of safety on ocean passenger steamers carrying more than a given number of passengers over more than a given distance is recommended. Such a law would be legislative approbation of a measure of prudence, voluntarily adopted by some, which should be obligatory on all similarly placed. Experience has shown the value

of the appliance. Such a bill should provide that the different systems of communication must interchange with one another messages involving safety. If it can be done, the measure should also provide against excessive charges for apparatus or for messages connected with safety. This legislation need not await a solution of the larger questions of international regulation of wireless telegraphy involved in the treaty drafted by the Berlin Conference of 1906, in which the United States participated.

ENFORCEMENT OF NAVIGATION LAWS.

Offenses against the navigation and inspection laws occur, of course, usually on the water. Collectors of customs charged with the enforcement of these laws have not, as a rule, facilities for being on the water. Formerly revenue cutters were at their disposal. These cutters are now large seagoing steamers and the cost of operation is considerable. Small launches, chartered from time to time, would be equally effective and more economical in enforcing the laws mentioned. Under section 2763 of the Revised Statutes collectors of customs, with the approval of the Secretary of the Treasury, may use such small vessels to detect frauds on the revenue. The navigation and inspection laws could be more generally and better enforced if section 2763 were amended to permit the use of launches for that purpose, which I recommend, and in this recommendation the Secretary of the Treasury concurs.

Within ten years conditions of navigation have been appreciably changed by the rapid growth of the motor-boat industry. The "rules of the road," enacted before these boats came into general use, require in some cases useless or impossible equipment, and other laws fail to provide adequately for equipment. The laws should be adjusted to the conditions.

The subjects mentioned and others are considered in detail in the report of the Commissioner of Navigation, to which attention is invited.

STEAMBOAT-INSPECTION SERVICE.

During the calendar year ended December 31, 1908, there were transported on vessels which by law are required to report the number carried, 413,531,305 passengers. The total number of accidents resulting in loss of life during this period was 74, an increase over the previous year of 10, and the number of lives lost 278, including passengers and crew, a decrease of 107 from the previous year. Of the total number of lives lost, 154 were from causes beyond the power of the Service to avert (such as suicide and carelessness), leaving 124 lives lost that can be fairly chargeable to accident, collision, or foundering. The total number of 278 lives lost, when compared with the four hundred-odd millions of passengers that were carried, makes a ratio of one life lost, including passengers and crew, for every 1,440,000 passengers carried. If we add to the number of passengers carried the large number of persons comprising the crews of vessels under the jurisdiction of this Service, the ratio will be considerably lessened, and indicates a condition of safety that is not shown by any other method of transportation.

The number of vessels inspected and certified in the fiscal year 1909 was 8,381, an increase of 191 in number, with an increased tonnage of 383,627, as compared with the previous fiscal year. Of the vessels certified, 7,152 were domestic steamers, with a tonnage of 4,389,741, a decrease of 251 steamers and 2,632 tons; 419 were foreign passenger steamers, with a tonnage of 2,890,903, a decrease of 33 in number and of 25,369 in tons. Sail vessels and barges to the number of 36 were inspected, with a tonnage of 18,127, a decrease from the previous year of 8 in number and 2,379 in tons; and also 448 seagoing barges of 411,740 gross tons were inspected for the first time, under act of Congress approved May 28, 1908.

Motor vessels with a tonnage of 18,111 were inspected and certified to the number of 326, an increase of 35 in number and 2,267 in tons.

Of all classes of vessels inspected, the Pacific coast has an increase of 22 in number and 54,649 in tons; the Atlantic coast an increase of 288 in number and 393,735 in tons; the western rivers a decrease of 24 in number and 3,694 in tons; the Great Lakes a decrease of 107 in number and 61,557 in tons; and the Gulf coast an increase of 12 in number and 494 in tons.

The decrease in the number and tonnage of vessels inspected on the Great Lakes was due undoubtedly to the fact that owing to the

conditions which prevailed in that district during the last half of the fiscal year a large number of vessels were not put in commission and still remain idle.

Licenses were issued during the year to 15,331 officers of all grades, while of 1,362 applicants who were examined for color-blindness 36 were rejected and 1,326 passed. As compared with the previous fiscal year these figures show an increase of 519 in the number of applicants examined and of 535 in the number of applicants passed.

At the various mills 3,059 steel plates for the construction of marine boilers were inspected (a decrease from the previous year of 632), and of this number 285 were rejected. In addition to these plates there were inspected at the mills a large number of steel bars for braces and stay bolts in marine boilers, and also several hundred plates for stock and repair purposes. Many requests were received from other branches and departments of the Government for tests of boiler material at the mills. These received the attention of the Service, and prompt reports were rendered to the proper officials.

During the year there were examined and tested at the various manufactories 161,206 life-preservers, of which only 770 were rejected, which, compared with the previous year, indicates an improvement in the manufacture of those articles.

The total expenses of the Service were \$524,823.79, an increase over the previous fiscal year of \$2,631.72. Its personnel at the close of the fiscal year consisted of 259 officers and clerks and 1 messenger. Two boards of local inspectors, one at San Juan, P. R., and one at Honolulu, Hawaii, were added to the force to meet the growing demands of the Service.

LIGHT-HOUSE ESTABLISHMENT.

During the fiscal year 1909 the Light-House Establishment, which is charged with the maintenance of, and has jurisdiction over, all aids to navigation, established 78 lights, 15 fog-signals, 4 submarine signals, 196 daymarks, 388 buoys, and 162 post-lantern lights.

Of the 8 light-house tenders and 7 light-vessels commissioned during the year 3 of each class were built for service on the Pacific coast, which was reached on January 23, 1909. The voyage from the General Light-House Depot, at Tompkinsville, N. Y., where the vessels were fitted out, through the Straits of Magellan to San Francisco, was without mishap. After slight repairs at San Francisco the vessels assumed their respective stations.

The efficiency of the service regarding light-vessels is likely to be impaired at an early date unless some remedial action is taken. Owing to age and deterioration, due to constant service on exposed stations, it has been found necessary to withdraw 3 of the regular station vessels and supply their places with vessels intended for relief duty. Upon survey, 1 vessel was condemned as being no longer fit for outside work, and the 2 others are in need of such extensive repairs that it will take several months to accomplish the work. The withdrawal of 3 of the 6 relief light-vessels available for outside stations on the Atlantic and Gulf coasts leaves but 3 vessels available for the relief of 26 outside stations scattered from Maine to Texas.

The installation at stations of the incandescent oil-vapor system of lighting, which is a strong rival of electricity and acetylene gas, is progressing as rapidly as practicable.

The approaching completion and opening to commercial uses of the Ambrose Channel in New York Harbor required the matter of its marking by the best system of buoyage to be given serious consideration, as it is felt that this important deep-water approach to New York deserves the most complete and effective system of navigational aids extant. The use of acetylene buoys was decided upon, and bids were invited for the number required. In the meanwhile the increasing inefficiency of some of the types in use indicated that the most appropriate buoy had not been selected. With a view to determining the system best adapted for the use of the service, apparatus of several makers has been ordered and will soon be subjected to competitive tests. In the meanwhile the matter of finally lighting Ambrose Channel will be held in abeyance until these tests for endurance, efficiency, and adaptability have been completed.

By the act of March 4, 1909, Congress authorized the employment of not to exceed 1,700 light-house and fog-signal keepers and laborers attending other lights for the fiscal year 1910, an increase of 50 over the preceding year. On June 30, 1909, keepers to the number of 1,643 were employed, which was within 7 of the number authorized for that year. During the present fiscal year it is estimated that 61 lights requiring the services of 47 keepers will go into commission, thus leaving but 10 authorized positions available for such stations as may be established during the fiscal year 1911. That number is inadequate, when the rapid development of this branch of the public service is taken into consideration, and I therefore recommend that the authorized number of light-house and fog-signal keepers and laborers attending other lights be increased to 1,750.

During the year special attention has been given to the buoyage of the western rivers. As a result of investigation and experiment a suitable type of buoy has been adopted, and it is intended to place about 150 of these buoys in the Mississippi River above St. Louis this fall.

The act of March 1, 1905, authorizing the transfer of a strip of land occupied by the Light-House Establishment at Tompkinsville, N. Y., appropriated the proceeds of the sale of this property as an additional amount to the general maintenance appropriation for repairing and improving light-houses, etc., for the fiscal year 1906. The sale was consummated June 10, 1909, the United States receiving the net sum of \$45,894.70 for the property, which amount was covered into the Treasury. Owing to the delay in making the transfer, this money is not available for the restoration of the remaining property at the depot, consisting of rebuilding retaining walls, and the removal and reconstruction of houses and buildings, which must be done before the city of New York can take possession. I have therefore to recommend that the sum of \$45,894.70 be reappropriated and made available for the restoration of the grounds and buildings at the General Light-House Depot.

The reasons given by my predecessor in his report for the fiscal year 1908 still exist for legislation that will create 3 additional light-house districts, comprising the Territory of Alaska, the island of Porto Rico and naval station at Guantanamo, Cuba, and the Hawaiian Islands. The rapid commercial development of Alaska demands an extension of the service impracticable of accomplishment without the creation of an independent district embracing that Territory. The recommendation to increase the number of districts to not exceeding 19 is therefore renewed.

In order to meet the demands of the increasing commerce of the Yukon River, Alaska, the inspector of one of the Mississippi River districts was ordered to make a complete examination of the river

and recommend the establishment of such necessary aids to navigation as were deemed advisable.

At the suggestion of the Light-House Board, and as the result of a resolution adopted at one of its meetings, I authorized the chairman, Rear-Admiral Marix, U. S. Navy, to visit such European countries as would be advisable for the purpose of studying the organization of the light-house services abroad, and to inspect and report upon such modern aids to navigation as are not in use in the United States.

In accordance with this authority, the chairman, accompanied by the superintendent of the General Light-House Depot, at Tompkinsville, Mr. A. C. Conover, sailed from New York on June 8 with the intention of visiting England, Scotland, France, Holland, Denmark, Sweden, Norway, and Germany. The results of his investigation will be printed in the forthcoming annual report of the Light-House Board.

I renew the recommendation contained in the report of my predecessor that legislation be enacted authorizing the Board to pay the surgical and hospital expenses of seamen employed on board vessels of the Light-House Establishment injured in the performance of duty.

I am persuaded that a very material saving can be effected in the Light-House Establishment by a more or less radical reorganization. Just how the system now in vogue found acceptance it is unnecessary to describe. There appears to be no doubt that it has moved far from the purpose of its founders, and that to-day few care to stand sponsor for its continuance. Repeated reports in favor of a more direct and simple administration have been submitted, and I see no reason for further delay in making at least a beginning. The chief difficulties appear to be these:

First. The Light-House Establishment has no executive head with authority and responsibility.

Second. The service is divided between representatives of the Navy and the Army, and inevitably invites friction and increases cost.

Third. The number of light-house tenders could be kept down, and expenses generally could be reduced, by abolishing the system of separate tenders for district inspectors and for engineers by placing an entire district in charge of one officer instead of two, and by making all inconsiderable repairs on the spot instead of having tenders haul the materials long distances.

The work done appears to be of a high order, but a system of divided responsibility and dual representation is necessarily expensive and is in conflict with the rules of good administration. A complete reorganization can probably not be had without legislative authority; but it is believed that the essential difficulties can be cured by administrative action, and so much it is now proposed to do.

BUREAU OF FISHERIES.

PROPAGATION OF FOOD FISHES.

The important work of stocking the public waters of the country with food fishes and of providing food and game fishes for private ponds, lakes, and streams has proceeded along established lines. Thirty-five fish-cultural stations and twice as many substations and auxiliaries were operated during the year in thirty States and Territories, while all of the States and Territories shared in the output of the hatcheries.

All of the usual species of food and game fishes have been cultivated, some of them in unprecedentedly large numbers. Species of which there has been a noteworthy increase in production are red or sockeye salmon, landlocked salmon, steelhead trout, blackspotted trout, lake trout, pike perch, white perch, winter flounder, and catfishes. The output of shad, whitefish, chinook salmon, Atlantic salmon, brook trout, grayling, black basses, yellow perch, cod, pollock, and lobster either has shown no marked change or for reasons connected with the fisheries or due to meteorological conditions has fallen below the previous year's record. The artificial propagation of the smelt of the northeast coast has been taken up for the first time with considerable success, and preliminary work done looking to the cultivation of the white bass of the south-central region. The newly constructed salmon station at Afognak, Alaska, has been successfully opened, and over 39 million young red salmon have been liberated therefrom as the initial output.

A new fish-cultural record has been made, and in 1909 for the first time the distributions passed the 3-billion mark. The total number of young and adult fish deposited in public and private waters and of eggs transferred to state hatcheries for final incubation was over 3,117,000,000.

The growing interest in the utilization of waters for the cultivation of food and game fishes is a hopeful sign, and is, to a certain extent, gauged by the demands made on the Bureau for desirable fishes for that purpose. During the year over 10,000 applications were received for fish to be used in stocking waters more or less under private jurisdiction. This is an increase of 25 per cent over 1907 and of 400 per cent over 1900.

The time is ripe for active cooperation between the Bureau of Fisheries and various other branches of the government service that have

to do with the natural and artificial waters of the country. Matters of great importance to fish life are involved in the reclamation and irrigation work and in the construction of dams in navigable streams, and it is desirable that a definite policy affecting this entire subject be determined on.

SCIENTIFIC RESEARCHES AND EXPERIMENTS.

The Bureau has continued its cooperation with the Coast and Geodetic Survey and the Maryland Shell Fish Commission in surveying the oyster beds of Maryland, in accordance with act of Congress. This survey, which probably will be completed during the fiscal year 1910, is the most extensive, most accurate, and most elaborate work of the kind ever undertaken. Arrangements have been made for a similar survey, on a small scale and with a definite object in view, of certain oyster grounds in Virginia.

Reference was made in previous reports to the very practical experimental oyster work conducted by the Bureau in Louisiana, which was brought to a conclusion in January, 1909. As the immediate outcome, extensive areas of previously unproductive bottoms have been brought under cultivation, and phenomenally large crops of high-grade oysters marketed therefrom in a very short time. The State has received in a single season from this new source of revenue an amount that offsets all the expenses of the Bureau's experiments, and immense possibilities for oyster culture have been provided, so that two bays producing no oysters when the work began have been shown to be capable of yielding an amount of oysters equal to the entire output of the State at the present time.

In view of the very valuable industries dependent on the pearly fresh-water mussels, the Bureau has conducted extensive investigations addressed to the biology of the mussels and the physics of the waters they inhabit. The streams to which particular attention has been given with reference to their mussel fauna are the Mississippi in Wisconsin and Iowa, the Minnesota, the Iowa, the Illinois, the Ohio, the Wabash, the Maumee, and the Kentucky. In this work the Bureau has had the efficient cooperation of the universities of Minnesota, Iowa, and Missouri and of various other educational institutions in the Mississippi Basin, as well as persons connected with the mussel-fishery and pearl-button industry. The information now being collected will be of great value in connection with the cultivation and preservation of the mussels.

Congress having directed the establishment in the upper Mississippi Valley of a biological station for the propagation of fresh-water mussels, available sites in Iowa, Wisconsin, Minnesota, Illinois, and Indiana were examined, and a location near Fairport, Iowa, was

found to possess the greatest advantages and was accordingly selected.

In continuation of the systematic examination of the waters of the country with reference to their general biological and physical characters, Sebago Lake and connecting waters in Maine, Lake Champlain in Vermont, and various small lakes in Wisconsin have been under investigation. The work in Wisconsin has been in cooperation with the State Geological and Natural History Survey, and results of great importance in fish culture have been obtained. Special studies and experiments relating to western salmon and trout, diamond-back terrapin, and various other aquatic creatures have been conducted.

Such progress has been made in experimental sponge culture at certain points on the coast of Florida that the Bureau is now in position to recommend the growing of sponges from cuttings as a commercial enterprise, and will shortly make public the methods and outcome of the experiments that have extended over a series of years. The outcome of the past season's operations has been the production of marketable sponges, of an average weight of 1½ ounces, in twenty-nine months. It is understood that a private company has been organized to carry on sponge culture on a commercial basis, following the methods made known by the Bureau; and it is believed that very important economic results must accrue to prospective sponge planters, while at the same time the stability of the sponge crop is assured.

Investigators from all parts of the country have availed themselves of the facilities afforded at the seaside laboratories at Woods Hole, Mass., and Beaufort, N. C., for the study of problems connected with marine life and physics. Such investigations have a more or less intimate relation to aquiculture and the commercial fisheries, and during the past year matters of direct economic importance received an unusual amount of attention.

The steamer *Albatross*, which has for several years been engaged in a survey of the fishing grounds and aquatic resources of the Philippine Islands, has actively prosecuted the work and covered a large territory, securing information that will be valuable in developing the commercial fisheries of the archipelago. This survey will be brought to a close during the fiscal year 1910.

COMMERCIAL FISHERIES.

Inquiries of the Bureau relative to and in the direct interest of the commercial fisheries of the country were conducted as usual. The general canvass of the fishing districts for the collection of data on the methods of fishing and the apparatus pertaining thereto has continued, and a large territory has been covered. A special canvass of the fishery for shad and alewives in Chesapeake Bay was begun in the

spring of 1909, and the steamer *Fish-Hawk* was detailed to locate and plot the fixed devices set for these fish. The number of pound and other nets in Chesapeake Bay and tributaries has become so great that the migrating schools of fish are to a very large extent prevented from reaching the stretches of the rivers where the spawning grounds are located, and in consequence the trend of the fishery is steadily downward, and artificial as well as natural production has been reduced to a very low ebb. It seems to be incumbent on the Bureau to obtain authentic data with which it can demonstrate to the States interested the grave conditions that exist, so that remedial measures may be taken.

The erratic movements of the schools of mackerel on the east coast are not understood by even the most experienced fishermen; and notwithstanding that a large body of mackerel has appeared each season for the past five years, the fishermen have been unable to keep in touch with the fish except for a few weeks. The Bureau has been prompted to respond to requests for assistance coming from the New England fishing interests, and in April detailed the schooner *Grampus*, with an experienced mackerel fisherman on board, to make an extensive cruise on all the fishing grounds from Cape Hatteras to Labrador with a view to determining the whereabouts of this valuable fish and gaining other useful information thereon. Many vessels are dependent on this fishery, and it is hoped that the inquiry will yield some practical results.

The valuable vessel fisheries centering at Gloucester and Boston, representing about seven-eighths of the off-shore food-fish fisheries of the Atlantic coast, have received the special attention of the Bureau, and elaborate and accurate statistics of their yield have been taken for a long series of years, such figures affording an invaluable basis for gauging the condition and trend of the industry. Monthly and annual bulletins, giving detailed returns by species and grounds, are issued and distributed to the trade. During the calendar year 1908 over 6,600 fares of fish were landed at these ports by American fishing vessels, the aggregate catch being more than 181 million pounds, valued at \$4,629,000.

At the request of the Bureau of the Census, four agents of the Bureau of Fisheries were detailed to assist in taking a general census of the fisheries for 1908.

ALASKAN SALMON FISHERIES.

The administration of the law regulating the very valuable salmon fisheries of Alaska was satisfactorily performed, and the service has become more efficient than ever before. The agents were active in enforcing the law, securing 53 indictments against the owners of traps operated in violation of it. A conviction was obtained in

each case, and fines to the amount of \$7,950 were imposed. These first convictions under the present law do not indicate that there are more violations than formerly, but rather that the agents are more successful in detecting the few violators. There is a healthy public sentiment throughout Alaska in favor of a strict observance of the law for the protection of the salmon, and there is reason to believe that this sentiment is increasing among those engaged in the fisheries.

The season of 1908 was the most successful in the history of the salmon fishery, and the run of fish in southeast and western Alaska was especially noteworthy. There were taken for commercial purposes over 43,300,000 fish, which as sold in a canned, salted, smoked, or fresh condition had a value of \$10,683,000.

Five salmon hatcheries operated by private fishing companies under the provisions of the salmon law handled 78,910,000 eggs of the redfish and liberated 73,158,750 fry in adjacent waters. At the two government hatcheries 87,960,000 redfish fry were produced and planted.

General statistics of the Alaska fisheries incidentally gathered in connection with the salmon inspection show that in 1908 the industry gave employment to 13,337 persons and represented an investment of \$10,319,784. The value of the products was \$11,847,443.

ALASKAN FUR-SEAL SERVICE.

The Alaskan fur-seal service, formerly a distinct branch of the Department and administered through the Secretary's office, was transferred on December 28, 1908, to the Bureau of Fisheries, where a special board has been formed with general direction over all matters connected with the Pribilof Islands. In order that the Department might be in position to avail itself of the expert knowledge possessed by various naturalists and officials who, through visits to the seal islands and through previous duty on fur-seal commissions, are familiar with conditions on the islands and the problems involved in the proper care of the seal herd and the natives dependent thereon, the Department appointed on January 13, 1909, an advisory board for the fur-seal service, consisting of Dr. David Starr Jordan, Dr. Leonhard Stejneger, Dr. C. Hart Merriam, Mr. Frederic A. Lucas, Hon. Edwin W. Sims, Hon. Frank H. Hitchcock, and Mr. Charles H. Townsend.

The report of the agent at the seal fisheries for the season ended July 31, 1909, shows that the lessee secured 14,336 skins, of which 11,022 were taken on St. Paul Island and 3,314 on St. George Island. The quota of 15,000 skins was not secured for the reason that the requisite number of bachelor seals did not appear in the drives during the legal season. Statistics of seals driven for killing show that on St. Paul Island 31 per cent of the seals and on St. George Island 37 per cent were released as being too large, too small, or marked as

breeders. There was a noteworthy scarcity of small seals in the drives on St. Paul. A count of the breeding bulls made July 13 to 16, inclusive, disclosed 1,071 bulls with harems and 352 other bulls on St. Paul Island, and 267 bulls with harems and 80 other bulls on St. George Island. The quota of bachelors to be marked and released for breeding purposes was obtained in the latter part of June; of the 2,000 bachelors 2 years and 3 years old thus marked, 800 of each age were on St. Paul Island and 200 of each age on St. George Island. In view of a surplus of bulls and of an increase in the number of bulls on the breeding grounds as compared with 1908, further reservations of young males for breeding purposes appear to be unnecessary for several years.

The information on hand indicates that there has been an approximate decrease of 10 per cent in the number of breeding females since 1908, less than 50,000 such seals being now left. The entire herd of seals on the Pribilofs now numbers less than 140,000. The destruction which these seal herds have suffered during the last ten years forces the subject of pelagic sealing upon public attention. At the present rate of decrease the end is a matter of a few years. With that prospect in view it is difficult to see what authority can be interested to maintain a system of such uneconomic and brutal destruction.

INTERNATIONAL FISHERY RELATIONS.

Pending the settlement of the question of the rights of American fishermen in Newfoundland waters, vessels engaged in the herring fishery on the "treaty shore" of that Province have been operating under the terms of a *modus vivendi*. In compliance with the wishes of the Department of State, a representative of the Bureau of Fisheries has been for four years detailed to remain on the grounds during the fishing season and keep the Government advised of the conditions under which our fishermen were plying their trade. In the past fiscal year this detail extended from September to January, during a part of which time the revenue cutter *Gresham* was assigned to this inquiry and served as the headquarters of the Bureau's representative. The forty-two vessels that were employed in the fishery secured frozen and salted herring to the value of \$237,744.

Pursuant to the terms of a treaty between the United States and Great Britain, signed April 8, 1908, the control of the fisheries of the waters contiguous to and forming a part of the northern boundary of the United States is vested in the Governments of the United States and the Dominion of Canada, and the administration of the fisheries is intrusted to an International Fisheries Commission composed of one member from each country. This Commission has made field investigations and drawn up uniform regulations for the protection

and preservation of the food fishes of the boundary waters from Passamaquoddy Bay to Puget Sound. The report of the Commission has been submitted and now awaits formal approval and promulgation by the two Governments.

INTERNATIONAL FISHERY CONGRESS.

Responding to an invitation extended by this Department and by the American Fisheries Society, the Fourth International Fishery Congress convened in the city of Washington in September, 1908. The membership of the congress numbered over four hundred. Fifteen countries were represented by official delegates, and 11 other countries by delegates of societies and by private individuals; 43 American States and Territories and 20 American societies, clubs, and institutions had duly appointed representatives. Many of the leading fishery authorities and workers of the world were in attendance, and the gathering was the most important of the kind ever held in the Western Hemisphere. A large number of papers of exceptional merit were presented, which, with the discussions they elicited, covered nearly every phase of fishing, fish culture, fishery legislation, and scientific investigation. The Department has assumed the publication of the proceedings and papers of the congress, and reserved for this purpose the 1908 volume of the Bulletin of the Bureau of Fisheries. The next congress will meet in Rome in 1911.

COAST AND GEODETIC SURVEY.

FIELD WORK.

The field work of the Survey during the last fiscal year covered a wide range of subjects, and operations were conducted not only within the United States but also in several of its insular possessions.

In cooperation with the insular government satisfactory progress was made in charting the unsurveyed coasts of the Philippine Islands, and about 10 per cent of the estimated extent of the coasts was covered during the year.

In Alaska vessels and men have been engaged in the work of charting unsurveyed coasts where charts are urgently needed to meet the constantly increasing demands of commerce.

The first survey of Porto Rican waters has been completed, except for a small amount of offshore sounding.

The usual progress was made in the collection and preparation for publication of all obtainable information useful to navigators relating to the coasts of the United States and to coasts under its jurisdiction.

The long wire drag now in use by the Survey was considerably modified and improved during the year. The use of this or some similar apparatus is believed to be the only way of definitely determining whether many important bodies of water are free from dangers to navigation.

Under the direction of the Superintendent as Commissioner representing the United States, considerable progress was made in recovering and marking the international boundary between the United States and Canada and in the demarcation of the Alaska boundary. The old monuments recovered and the new ones established on the United States and Canada boundary between Lake Osoyoos and Point Roberts were inspected and numbered, and the recovery and re-marking of the line between Point Roberts, Washington, and the summit of the Rocky Mountains was completed. A vista has been opened along the line through the wooded sections and the 409 miles of boundary is marked by 272 monuments, many of which are the original monuments recovered and restored. Progress was made by United States parties in surveying and marking the boundary east of the Rocky Mountains in the following localities: On the eastern slope of the mountains, along the Pigeon River (at the west end of Lake Superior), along the eastern boundary of Maine, and along the St.

Croix River. In the demarcation of the Alaska boundary the line in southeast Alaska was marked at the crossing of the Alsek River and preliminary work was done at the crossing of the Unuk and Leduc rivers.

On the one hundred and forty-first meridian the line was located to a point 195 miles south of the Yukon River and surveyed to a point 145 miles south. The location of the line north of the river is progressing satisfactorily. In this connection attention is again called to the importance of having a triangulation extended from the initial point of the boundary on the Yukon River down the great valley to its mouth, to furnish a connected line of geographic positions along the Yukon to correlate detached portions of work already in progress or authorized for the economic development of the country and to form a basis for all future surveys in the valley of one of the great rivers of the world.

In response to a request from the governors of the States of Louisiana and Mississippi, and under the authority of the Secretary of Commerce and Labor, an officer located and marked the water boundary between those States as established in a decree of the United States Supreme Court.

The triangulation of the city of New York by the corporation, under the direction of an officer of the Survey, was completed and the results published. As a result of this cooperation a valuable co-ordination of certain portions of the coast triangulation has been secured at a nominal cost to the United States and to the expressed satisfaction of the city authorities.

Astronomic observations to determine latitude, longitude, or azimuth were made in 13 States and Territories and in British Columbia. Observations to determine the relative force of gravity were made in 6 States and in the District of Columbia, standard levels were extended in 7 States and Territories, and topographic surveys were made in 8 States.

Triangulation was done in 12 States, and supplementary triangulation, including the determination of the geographic positions of aids to navigation, was continued along the coasts of Massachusetts, Connecticut, Maryland, North Carolina, and the west coast of Florida. This work was completed along the east coast of Florida and the Florida keys to Key West.

The investigation with the long-wire drag of the navigable waters on the coast of Maine and in the vicinity of Key West, Fla., was continued, and other hydrographic work was done in the waters of 7 States.

The collection of information for revised editions of the two volumes of the Coast Pilot covering the coast from Point Judith,

Rhode Island, to the entrance to Chesapeake Bay was completed in the field and a new edition of one volume prepared and published. A revised edition of the Coast Pilot covering the coasts of California, Oregon, and Washington was prepared and published.

The magnetic survey of the country was continued by making observations at 265 stations distributed over 36 States and Territories, and numerous observations were made at sea, on board the surveying vessels, on their cruises to and from fields of work in various portions of the country.

A continuous record was also obtained of the variations in the force of terrestrial magnetism at five observatories equipped with self-registering instruments. Continuous tide observations were obtained at six stations on the Atlantic and Gulf coasts and at three stations on the Pacific coast.

In Alaska surveys were made in Dixon Entrance, Controller Bay, Prince William Sound, Cook Inlet, Shelikof Strait, and along the shores of Kodiak Island. A revised edition of the Coast Pilot volume covering the coast from Dixon Entrance to Yakutat Bay, and sailing directions from Yakutat Bay to Cook Inlet, were prepared and published.

In the Philippine Islands one Coast and Geodetic Survey steamer and four steamers loaned to the Survey by the insular government were engaged in charting unsurveyed portions of the coasts, and other surveying parties were stationed on land and used chartered launches. Surveys were made along 10 per cent of the total estimated extent of the coasts.

The organization of the work in the Philippine Islands remains unchanged. The usual computations of field observations, including the establishment of tidal planes, reduction of soundings, and preparation of magnetic data for compasses, were made at the suboffice in Manila, and drawings for new charts and new editions of charts were prepared and sent to Washington for completion and publication. New editions of the sailing directions for the islands are prepared and published as often as necessary, and a monthly Notice to Mariners is published.

OFFICE WORK.

Good progress was made in the various branches of the office work, including computation, plotting, and discussion of the results of the work in the field, and the preparation of data for publication by chart or otherwise. The ever increasing number of requests for information have been promptly met and are a gratifying evidence of the wide appreciation of the value of the archives of the Survey.

Among reports covering the more important work of the Survey during the year that have been published or are in course of preparation may be mentioned the following:

A new adjustment of the results of precise leveling in the United States.

A discussion of the "Figure of the Earth and Isostasy from Measurements in the United States."

Results of observations at the five magnetic observatories in past years.

Tables of predicted tides for numerous ports on the coasts of the United States and in foreign countries.

The amount appropriated for the Coast and Geodetic Survey for the fiscal year ended June 30, 1909, and accounted for by the Bureau disbursing agent was \$996,290, of which \$245,000 was for manning and equipping the vessels of the Survey, \$40,000 for repairs and maintenance of vessels, and \$50,000 for office expenses. The remainder of the appropriation was divided between the expenses of parties in the field, \$325,400, and salaries of field and office forces, \$335,890.

A detailed description of the work of the year with maps illustrating its progress will be found in the annual report of the Superintendent.

INTERNATIONAL GEODETIC CONFERENCE.

On the invitation of Great Britain the International Geodetic Conference was convened in London and Cambridge on September 21, 1909. This convention is held under the terms of a formal convention between the signatory powers which are parties to it, and its main object is to determine the figure of the earth, which is a prime factor in all astronomical measurements. The conference combines and utilizes the extensive geodetic operations in the various countries of the world to the best advantage, suggesting improvement and economy in methods and indicating a plan of work which will best further its aims.

Great Britain, recognizing the importance of the results likely to be the outcome of this convention, called her sons from India, from Egypt, from Australia, from South Africa, and from Canada. Besides Canada, our Western Hemisphere is represented in the association by Argentina, Chile, Mexico, and the United States. By law our delegates are selected from the Coast and Geodetic Survey.

It gratifies me to be able to state that this Bureau was referred to as having accomplished epoch-making results by its advanced methods of conducting geodetic operations throughout the United States. In addition its publications were recommended to all countries as models of clearness and perfection of statement.

From the funds under the control of the conference an appropriation of 12,000 francs was made for instituting special latitude observations by a method devised by an American observer at one of the two international observatories located in this country and which are under the supervision of the Superintendent of the Coast and Geodetic Survey.

ARCTIC TIDAL OBSERVATIONS.

In accordance with his assignment by order of the Secretary of the Navy, Commander Robert E. Peary, previous to his departure on his last memorable polar expedition, received instructions from the Superintendent of the Coast and Geodetic Survey for obtaining a series of tidal observations within the Arctic Circle. On his return Commander Peary turned in to the Coast and Geodetic Survey Office a very complete set of records which are of great practical value in the study of the mechanism of the tides in those distant and unknown regions of the globe.

BUREAU OF STANDARDS.

The growing demand for standardized measuring instruments in every branch of science, industry, engineering, and daily trade has brought to the Bureau a volume of work unequaled since its establishment. The increased work could be handled only by devising more rapid and accurate methods of routine testing, by adopting more rigorous specifications for such instruments, and by an increase in the scientific staff and laboratory facilities. These factors have made the past year the most successful in the history of the Bureau. Tests to the number of 38,089 were made of standards, instruments, and materials, an increase of 84 per cent over the preceding year.

The results of 23 technical investigations, published during the year, cover a wide range of researches upon units, standards, instruments, and methods of measuring heat, light, and electricity. These results, while primarily contributions to the theory and technology of precision measurements, have wide industrial and scientific applications in electrical and illuminating engineering, metallurgy, optical industry, telephony, wireless telegraphy, and general technology. Existing methods of testing are being steadily improved and in many lines entirely new methods devised. The study of the defects in working standards and instruments is of keen technical interest, since by thus aiding the makers of measuring instruments to maintain accurate master standards the Bureau insures accuracy for the public at its source.

The new building, which is nearly completed, will permit the expansion of important lines of work. Although it nearly doubles the space, the work has so outgrown its present quarters that all laboratory space in the new building will be needed at once.

The work in weights and measures has grown rapidly, in some branches more than 100 per cent, due to the newly awakened interest in the subject throughout the country. High-grade standards in increasing number were submitted for test and the demand grows apace for uniform and better methods of inspecting trade weights and measures.

The Bureau maintains correspondence with all the States cooperating in the movement for correct weights and measures in trade and commerce to secure full weight and measure for the consumer. Kansas and New York have acquired new equipment for

their state sealers and the standards of Massachusetts, furnished years ago by the Federal Government, are being reverified. Other States are being supplied with information regarding weights-and-measures laws and practice. With the special fund for the purpose, two inspectors will thoroughly study in the field the methods of daily trade.

The Fourth Annual Conference of State Superintendents and Inspectors of Weights and Measures of the United States, which was held at the Bureau of Standards, reflected the interest in correct trade weights and measures in all parts of the country. National commercial organizations are favorable and letters from them, received in large numbers at this conference, show that the movement has the support of the merchants of the country. The delegates favor local inspection by the States, but desire a fundamental federal statute to avoid conflict in interstate commerce, and accordingly recommend that Congress amend the pure-food law to require quantity labels on package goods.

Apparatus in large quantities has been tested for the Government departments, notably volumetric glassware used in enforcing the pure-food law and measuring apparatus in connection with the purchase of supplies. Capacity measures to the number of 10,765 were tested by new methods and apparatus developed by the Bureau. A marked improvement is evident in the quality of such apparatus since this work was begun.

In the measurement of liquid densities, good progress has been made and two important circulars were published upon the subject. The many industrial applications of hydrometry and the existing confusion of scales made it an urgent subject. Verified density tables were adopted and issued, and specifications and methods published by the Bureau to enable manufacturers to make and verify hydrometers on a uniform exact basis. Researches of this nature will be of great value to the makers and users of these useful instruments, and with enhanced accuracy the range of their application will be widely extended.

The International Electrical Commission, which met at London in October, 1908, adopted a new value for the unit of electromotive force. A new international committee on electrical units and standards, three of which are officers of the Bureau of Standards, will prepare specifications for the concrete standards and, at the Director's invitation, will conduct a joint international investigation at the Bureau. This important work will help to secure precision and international uniformity in electrical units and standards.

Progress was made in work on the primary mercurial resistance standards and the Weston standard cell, and an investigation on the

electrical properties of copper and aluminum was made at the request of the American Institute of Electrical Engineers. Work on the absolute measure of electric current and resistance has been continued and a thorough study of the silver voltameter, the concrete standard of electric current, begun.

Electric instruments and magnetic specimens have been tested in larger quantities than ever, many of these tests being practically investigations of great value to the electrical industries.

The success of the Bureau in securing an agreement upon a uniform international unit of light in England, France, and America, and its adoption in the gas and electrical industries in this country, caused an increase in the Bureau unit of 1.6 per cent on July 1, 1909. The differences in the sperm candles used made the old unit unreliable and the new unit of light will be maintained by the Bureau by selected electric lamps carefully intercompared with those of other countries. Electric lamps to the number of 628,400 were sampled for the Government for inspection during the year, and tests were made of life and candlepower at the Bureau to insure satisfactory delivery. In one research, artificial illuminants were compared with daylight and a combination derived to yield a close color equivalent to sunlight. This desirable result will be useful in illuminating engineering. Standard specifications for electric lamps, including the new high efficiency lamps, have been issued for general distribution.

The work in heat measurements increased 40 per cent over the prior year. This comprises the testing of nearly all kinds of pyrometers used to measure and control high temperatures in the industries; mercurial thermometers; flash-point, viscosity, and setting-point tests of illuminating and lubricating oils; determination of heat values of combustibles, and the melting points of alloys and lubricating oils. A research was completed at the urgent request of the refrigeration industries upon the specific heats of calcium brines. These data are necessary for efficient refrigeration engineering and will be prepared for early publication.

An extended investigation of the action of platinum resistance thermometers at high temperatures was completed during the year. These important instruments are used to control various chemical operations, hardening and annealing temperatures in the arts and industries. Optical and radiation pyrometers, investigated several years ago by the Bureau, are now widely used in the industries, largely as a result of the Bureau's work. The testing of thermometers by the Bureau, to the extent of about one thousand a month, shows the demand for guaranteed accuracy in temperature measurements. The thorough calibration of thermometer makers' standards furnishes precision to the thermometer industry and through it to the entire country.

Optical methods have become so general in biology, chemistry, metallurgy, and technology in general that new optical data find almost immediate application. The Bureau has conducted important researches in radiometry and spectroscopy during the year. These are valuable in determining the properties of materials, and supplement other methods employed by the Bureau for that purpose. Besides these researches, 1,316 optical tests were made, and a complete equipment has been installed for the study and testing of photographic lenses, and new methods have been devised for testing lenses.

The optical laboratory of the Bureau also cooperates with the customs service in the testing of sugars imported at the various ports. Such analyses are made optically by the polariscope, and the duty levied only upon the percentage of pure sucrose in the raw sugar. These methods have now been placed upon a scientific basis, verified instruments and exact procedure introduced, and daily samples from all sugar ports are now tested at the Bureau to check the accuracy of such analyses at the ports. This is but one function of the polariscopic work of the Bureau, which has many other useful technical applications.

The distribution of certified sugar samples, prepared by the Bureau under conditions which insure exceptional purity, gives the engineers and chemists means to standardize the instruments used to measure the heat value of fuels, as well as to standardize the optical apparatus used to test sugars. Sugar of such high purity has not until now been available for these purposes, and the distribution of these samples by the Bureau marks a distinct step forward both in polarimetry and in heat measurements. The appreciation of this by the technical interests of the country is shown by the instant demand for these standardized sugars.

Nearly all kinds of testing involve some chemistry or require expert chemical advice. The demands for this information are such that it is possible to satisfy only the more urgent cases. These come from the Government departments and also from the general public in connection with the purchase of supplies and the preparation of proper specifications for materials.

Over two thousand tests, many of which involved elaborate investigations, were made of writing and printing inks, mucilage, lubricating and other oils, turpentine, paints, soap, rubber, boiler compounds, brines, flooring compositions, type metal, alloys, steels, glass, silks, papers, and other materials involving chemical as well as physical analyses. Investigations of the combustibility of celluloid and of naphtha soaps were completed for the Steamboat-Inspection Service and the Panama Railroad, respectively.

The distribution of analyzed and certified samples of steels and irons of definite composition has met with great success, the demand

increasing 30 per cent over the previous year. This work, undertaken at the request of the American Foundrymen's Association, enables the metallurgical industries to keep constant and reliable check on their analyses, upon which depend so largely the success of the industry. The Bureau is arranging with the American Brass Founders' Association, at its request, to furnish standard analyzed samples of brass to improve the methods of brass analysis in that industry.

In anticipation of the increased facilities of the new building, preparatory work was begun on new investigations of materials and engineering instruments, and some new equipment has been purchased for delivery as soon as the new laboratory is available. Plans and specifications for the large Emery testing machine, which was authorized by Congress, are about completed, and the machine, which will be built during the coming year, will enable the Bureau to make exhaustive investigations of engineering materials.

The testing of water-current meters for the use of hydraulic engineers in gauging streams has been taken up at their request, to perfect satisfactory methods of testing. The engineering testing of pressure gauges of all kinds, anemometers, water-current meters, and water and gas meters has increased 70 per cent over the preceding year. By careful calibration of such instruments, precision is afforded directly to investigations in all parts of the country.

Physical and chemical tests were made of several thousand samples of materials—an increase of almost 100 per cent over the prior year—such as metals, building materials, paper, textiles, cordage, rubber, leather, lubricants, and many others. These tests were made largely in connection with Government purchases of supplies and materials not only for the purpose of protecting the Government in such purchases, but with a view to perfecting the standards, the specifications, and the methods of testing employed. Information has been furnished to the public and to the departments of the Government on a wide range of technical topics involving the properties of materials and the methods of measuring such properties.

OFFICE OF THE SECRETARY.

APPOINTMENT DIVISION.

The work of the Appointment Division during the year was exceedingly heavy owing to the preliminary work connected with the Thirteenth Decennial Census, the preparation of the data for the next edition of the Biennial Register, and especially the work relating to the changes made in the personnel, based upon the efficiency records recently taken.

STATISTICS OF THE PERSONNEL.

The following table shows by bureaus the number of regular positions in the Department on July 1, 1909, and the increase or decrease in each bureau as compared with July 1, 1908:

Bureau.	Stat- utory.	Non- stat- utory.	In Dis- trict of Colum- bia.	Outside District of Co- lumbia.	Total.	In- crease.	De- crease.
Office of the Secretary.....	137		137		137		4
Bureau of Manufactures.....	27	10	32	5	37	3	
Bureau of Corporations.....	65	55	120		120	16	
Bureau of Labor.....	80	45	125		125		67
Light-House Establishment.....	41	5,441	49	5,433	5,482		125
Bureau of the Census.....	28	1,326	640	714	1,364		20
Coast and Geodetic Survey.....	246	102	206	142	348		3
Bureau of Statistics.....	55	3	58		58	1	
Steamboat-Inspection Service.....	111	150	9	252	261	9	
Bureau of Fisheries.....	338	3	79	262	341	14	
Bureau of Navigation.....	23	53	23	53	76		
Bureau of Immigration and Naturalization.....	76	1,377	81	1,372	1,453	17	
Bureau of Standards.....	135	4	139		139	21	
Total.....	1,362	8,569	1,698	8,233	9,931	81	* 228

* Net decrease, 148.

NOTE.—The items of decrease are almost entirely due to the discontinuance of mechanics, laborers, and other employees in the Light-House Service, of employees in the Bureau of Labor engaged in the work of investigating the condition of woman and child workers now nearing completion, and of special agents in the Bureau of the Census. The items of increase are due to the creation of 43 new statutory positions, the transfer from the Department of Justice to this Department, on July 1, 1909, of 40 positions in the Bureau of Immigration and Naturalization (in the field service of which there was a reduction of 25 positions, leaving a net increase of 15), the net increase of 19 positions under lump-sum appropriations, and the transfer of the 4 seal agents of Alaska to the Bureau of Fisheries.

EFFICIENCY REPORTS AND RESULTING CHANGES IN THE PERSONNEL.

It is a reasonable presumption that in a large department of the Government there is necessity for occasional inquiry into the conduct and efficiency of those who have to do with its policies and the administration of its affairs. Without such inquiry and the application of proper remedial measures there is bound to be increasing inefficiency in the service. Proceeding upon this premise I decided not only to institute a thorough inquiry with respect to the efficiency of the personnel, but also to obtain a record showing the nature of the duties performed by every employee of the Department, how well he performs them, whether he is fully earning his salary, and whether he manifests a disposition to familiarize himself with the work of the office in the sense of adding to the efficiency of the Department as a whole.

During the early part of May a question blank was prepared with the view of obtaining the desired information and sent to the bureau officers for execution. Upon receipt of the reports they were reviewed in the Appointment Division, and those which indicated that the employees were below the required standard of efficiency were made the subject of more critical and thorough examination by a committee consisting of the Assistant Secretary of the Department, the chief of the particular bureau under consideration (and occasionally other officers of the bureau), the Chief Clerk of the Department, and the Chief of the Appointment Division. In this examination the basic considerations upon which subsequent action was predicated were as follows:

First. That the Government had the right to expect the performance of a day's work for a day's pay.

Second. That the pay received should be commensurate with the character of the work performed.

Third. That the quantity and quality of work performed should not be below that which might be reasonably expected of a thoroughly efficient employee.

Fourth. That an employee should not only render efficient service in his particular position, but should also show an inclination to contribute toward the general efficiency of the office.

Fifth. That assignment to duty for which an employee is not fitted should be remedied.

Sixth. That due consideration should be given to the cases of veterans and those who have become more or less incapacitated for duty through long and faithful service.

Seventh. That an employee who has ability to work but does not give his best efforts to the Government is entitled to little or no consideration.

Eighth. That sex, politics, religion, or race should not affect an employee's standing.

The reports considered by the committee presented a great variety of conditions. For instance, in some cases it was shown that em-

ployees were performing but two, three, four, or five tenths of the amount of work that should be reasonably expected of them; in some that the employees had practically no ability to perform the work to which they were assigned; in others that the employees were receiving salaries far in excess of what they were actually earning; and in still others that circumstances such as bad habits, unfortunate temperament, and general incompatibility seriously interfered with the performance of duty. The members of the committee took up each case individually, and in reaching a conclusion they were actuated only by motives of justice, fairness, and a proper regard for their obligations as officers of the Government. As the result of their labors several employees were removed, several who would otherwise have been removed were permitted to resign, a large number were reduced (which reductions led to the promotion of a substantially corresponding number of other employees), and a still greater number were cautioned or placed on probation. Some idea of the actual results which thus far have been accomplished may be had from the following statement showing the status of the matter as it stood at the close of business on September 15:

Number of efficiency reports received.....	7,105
Number of reports indicating that employees were not below the required standard of efficiency.....	6,089
Number of reports indicating that employees <i>might</i> be below the required standard of efficiency.....	1,016

Upon more thorough and critical examination of the last-stated number it was decided that in 221 cases no disciplinary or other action was required. The remaining 795 cases were disposed of as follows:

By dismissal.....	14
By acceptance of resignations.....	20
By discontinuance of services.....	25
By demotion.....	119
By transfer.....	4
By transfer and demotion.....	8
By cautioning, warning, admonishing, or reprimanding.....	299
By placing on probation subject to further report.....	51
By suspension.....	1
Cases still pending.....	254

It is the opinion of the chiefs of bureaus and divisions that the system inaugurated by the Department and now being carried out to a final conclusion (and which, by the way, has since been adopted by another department) has had a most salutary effect. No employee who has been faithfully and efficiently performing his duties has been disturbed; nor has he at any time had the slightest reason for feeling uneasy. On the contrary, the few employees who have shirked their duties, who have been inefficient or generally unreliable and unworthy of confidence, have been discovered and appropriate disciplinary action has been or will be taken.

In a large department, with its many ramifications and diversity of conditions, the officer in charge must of necessity depend upon

the honesty and judgment of his subordinate officials for information upon which to take official action; and this is particularly true with respect to the conduct and capacity of the personnel. While the efficiency reports show quite conclusively that certain officials have been lax in reporting upon the inefficiency of employees under their supervision and indicate that they might have postponed indefinitely making reports which would lead to the removal or reduction of some of the employees affected by the recent reports, it is thought that, in so far as those employees whose inefficiency is due to causes not under their control are concerned, the condition can be largely accounted for, and to some extent excused, on the double grounds of human sympathy and the anticipated action of Congress in providing a plan of retirement for superannuated employees.

INADEQUATE SALARIES.

Owing to the small salaries paid in positions of the lower grades, some of the bureaus have found it difficult to secure from the civil-service registers employees properly equipped to perform the duties required. Specially qualified eligibles do not care to accept appointment at less than \$900, \$1,000, or even \$1,200 per annum, realizing that, unless through some fortunate chance vacancies occur in the higher grades, they may be compelled to remain several years at salaries entirely incommensurate with the duties expected of them. It is now quite generally conceded that private employment offers greater inducements than employment under the Government, and, quite naturally, persons who have specialized in some particular line frequently renounce the idea of entering the government service when they are tendered appointment with such inadequate salary as \$600, \$720, or \$840 per annum. As a remedial step I am constrained to advocate the abolishment of clerical positions paying less than \$900 per annum and the creation in their stead of places paying salaries of \$900 or \$1,000 per annum; also that there be uniformity in the compensation of persons employed as laborers.

SUPERANNUATED EMPLOYEES.

Most civilized countries have provided some system of retirement for superannuated employees. A like practice now prevails in some of the municipal governments of this country. Many corporations and large industries have similarly provided for employees who may become incapacitated by reason of old age. Humanitarian reasons may have suggested the idea, but it is gratifying to know that economy has justified it. Tenure of office necessarily retains in the service employees who have become more or less incapacitated by old age. It seems to me that this situation should be met by a law which may at once protect the employee against the hardships of old age and the Government against the loss occasioned by superannuated service.

DISBURSING OFFICE.

APPROPRIATIONS AND DISBURSEMENTS.

The itemized statement of the disbursements from the contingent fund of the Department of Commerce and Labor, and the appropriation for "General expenses, Bureau of Standards," for the fiscal year ended June 30, 1909, required to be submitted to Congress by section 193 of the Revised Statutes of the United States, and the itemized statement of expenditures under all appropriations for propagation of food fishes during the fiscal year ended June 30, 1909, required by the act of Congress approved March 3, 1887 (24 Stat. L., 523), will be transmitted to Congress in the usual form.

The following table shows the total amounts of all annual appropriations for the various bureaus and services of the Department of Commerce and Labor for the fiscal year ended June 30, 1909, of all appropriations made for public works in the various services of the Department, which, under the law, may be disbursed without regard to any particular fiscal year, and of all permanent indefinite appropriations:

	Annual appropriations, 1909.	Appropriations for public works.	Permanent indefinite appropriations.	Total.
Office of the Secretary of Commerce and Labor.....	\$285,340.00			\$285,340.00
Bureau of Corporations.....	247,720.00			247,720.00
Bureau of Manufactures.....	78,300.00			78,300.00
Bureau of Labor.....	322,570.00			322,570.00
Light-House Board.....	48,720.00			48,720.00
Light-House Establishment.....	6,357,060.00			5,357,000.00
Light-houses, beacons, fog signals, etc.....		\$812,650.00		812,650.00
Bureau of the Census.....	1,150,940.00			1,150,940.00
Bureau of Statistics.....	74,110.00			74,110.00
Office of Supervising Inspector-General, Steamboat-Inspection Service.....	14,440.00			14,440.00
Steamboat-Inspection Service.....			\$506,415.54	506,415.54
Bureau of Navigation.....	32,380.00			32,380.00
Shipping Service.....	9,100.00		69,840.84	78,940.84
Refunding penalties or charges erroneously exactd.....			2,134.79	2,134.79
Bureau of Immigration and Naturalization.....	103,900.00			103,900.00
Enforcement of the Chinese-exclusion act.....	500,000.00			500,000.00
Expenses of regulating immigration.....			2,036,840.13	2,036,840.13
Immigrant stations at Ellis Island, N. Y., Philadelphia, Pa., and San Francisco, Cal.; boarding cutter and ferry steamer at San Francisco, Cal.....		500,000.00		500,000.00
Bureau of Standards.....	200,540.00	50,000.00		250,540.00
Coast and Geodetic Survey.....	1,018,290.00			1,018,290.00
Bureau of Fisheries.....	730,250.00			730,250.00
Fish hatcheries and biological station.....		89,500.00		89,500.00
Miscellaneous:				
Judgments, Court of Claims.....	3,107.59			3,107.59
Reliefs, refund of fines, etc.....	2,579.95			2,579.95
Total.....	10,179,287.54	1,452,150.00	2,615,231.30	14,246,668.84

The disbursements by the disbursing clerk of the Department of Commerce and Labor during the fiscal year ended June 30, 1909, arranged according to items of appropriation and fiscal periods of accounting are as follows:

Bureaus and titles of appropriations.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
OFFICE OF THE SECRETARY.					
Salaries, Office of Secretary of Commerce and Labor, 1908.....	\$7,123.66				\$7,123.66
Salaries, Office of Secretary of Commerce and Labor, 1909.....	30,948.17	\$38,140.34	\$38,410.29	\$37,712.95	145,211.75
Contingent expenses, Department of Commerce and Labor, 1908.....	8,142.29	6,261.02	1,513.06	31.18	15,947.55
Contingent expenses, Department of Commerce and Labor, 1909.....	8,872.72	25,605.91	19,598.61	14,846.59	68,923.83
Rent, Department of Commerce and Labor, 1908.....	2,978.66				2,978.66
Rent, Department of Commerce and Labor, 1909.....	7,039.94	11,319.94	9,661.60	12,032.21	40,053.69
Salaries, agents at seal fisheries in Alaska, 1907.....	2,920.00				2,920.00
Salaries, agents at seal fisheries in Alaska, 1908.....	5,475.00	240.00			5,715.00
Salaries, agents at seal fisheries in Alaska, 1909.....	486.66	1,892.50	1,277.50	851.67	4,508.33
Supplies for native inhabitants of Alaska, 1908.....	4,800.00	14,486.14			19,286.14
Total.....					312,666.61
BUREAU OF CORPORATIONS.					
Salaries, Bureau of Corporations, 1908.....	3,324.55				3,324.55
Salaries, Bureau of Corporations, 1909.....	14,401.78	16,995.61	17,543.11	18,009.00	66,949.50
Salaries and expenses, special attorneys, examiners, etc., Bureau of Corporations, 1908.....	13,279.82	310.61			13,590.43
Salaries and expenses, special attorneys, examiners, etc., Bureau of Corporations, 1909.....	38,782.13	40,862.45	34,377.11	30,460.60	144,482.29
Total.....					228,346.77
BUREAU OF MANUFACTURES.					
Salaries, Bureau of Manufactures, 1908.....	1,283.36				1,283.36
Salaries, Bureau of Manufactures, 1909.....	6,611.63	8,050.56	8,193.60	8,093.21	30,949.00
Collating tariffs of foreign countries, 1908.....	212.51				212.51
Collating tariffs of foreign countries, 1909.....	1,062.49	1,234.35	1,275.00	1,511.89	5,083.73
Salaries and expenses, special agents, Department of Commerce and Labor, 1908.....		12.68			12.68
Salaries and expenses, special agents, Department of Commerce and Labor, 1909.....			2.94	3.55	6.49
Total.....					37,547.77
BUREAU OF LABOR.					
Salaries, Bureau of Labor, 1908.....	4,345.19				4,345.19
Salaries, Bureau of Labor, 1909.....	22,226.14	26,608.81	26,266.14	26,696.67	101,787.76
Miscellaneous expenses, Bureau of Labor, 1908.....	4,471.00	2,031.70			6,502.70
Miscellaneous expenses, Bureau of Labor, 1909.....	7,122.03	12,418.11	14,023.47	14,275.45	47,839.06
Library, Bureau of Labor, 1908.....	8.49	132.61			141.10

Bureaus and titles of appropriations.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
BUREAU OF LABOR—continued.					
Library, Bureau of Labor, 1909.....	\$179.98	\$131.28	\$83.74	\$133.52	\$528.52
Investigating the condition of woman and child workers, 1907-8.....	15,042.10	172.10			15,214.20
Investigating the condition of woman and child workers, 1909.....	34,160.40	44,048.48	41,218.90	25,600.65	145,028.43
Total.....					321,386.96
STEAMBOAT-INSPECTION SERVICE.					
Salaries, office of the Supervising Inspector-General, Steamboat-Inspection Service, 1908.....	560.02				560.02
Salaries, office of the Supervising Inspector-General, Steamboat-Inspection Service, 1909.....	3,008.31	3,610.00	3,610.00	3,610.00	13,838.31
Contingent expenses, Steamboat-Inspection Service.....	25,475.02	19,887.29	15,777.42	23,531.73	84,671.46
Salaries, Steamboat-Inspection Service.....	103,624.44	104,827.56	106,907.23	106,996.11	422,355.34
Total.....					521,425.13
BUREAU OF STATISTICS.					
Salaries, Bureau of Statistics, 1908.....	2,905.81				2,905.81
Salaries, Bureau of Statistics, 1909.....	14,358.36	17,171.72	17,523.05	17,492.50	66,545.63
Collecting statistics relating to commerce, 1908.....	455.84				455.84
Collecting statistics relating to commerce, 1909.....	740.83	775.00	891.29	1,281.13	3,688.25
Total.....					73,595.53
LIGHT-HOUSE BOARD.					
Salaries, office of the Light-House Board, 1908.....	1,943.38				1,943.38
Salaries, office of the Light-House Board, 1909.....	9,991.96	12,075.21	12,179.96	12,005.01	46,252.14
Total.....					48,195.52
BUREAU OF NAVIGATION.					
Salaries, Bureau of Navigation, 1908.....	1,408.70				1,408.70
Salaries, Bureau of Navigation, 1909.....	6,724.96	7,550.36	8,001.57	8,020.00	30,296.89
Contingent expenses, shipping service, 1908.....	1,563.64	5.60			1,569.33
Contingent expenses, shipping service, 1909.....	640.22	1,716.88	1,729.89	1,535.19	5,622.18
Salaries, shipping service.....			4,801.66	9,680.41	14,482.07
Total.....					53,379.17
BUREAU OF STANDARDS.					
Salaries, Bureau of Standards, 1908.....	5,132.73				5,132.73
Salaries, Bureau of Standards, 1909.....	28,656.06	34,243.80	34,843.88	35,175.00	132,918.74
Equipment, Bureau of Standards, 1908.....	4,948.24	3,356.51			8,304.75
Equipment, Bureau of Standards, 1909.....	5,671.31	6,257.91	6,575.82	11,626.49	30,131.53
General expenses, Bureau of Standards, 1908.....	1,043.07	525.66			1,568.73
General expenses, Bureau of Standards, 1909.....	1,706.91	4,399.89	4,688.59	2,466.86	13,262.25
Improvement and care of grounds, Bureau of Standards, 1908.....	86.19				86.19
Improvement and care of grounds, Bureau of Standards, 1909.....	176.75	548.05	325.13	638.36	1,688.29
Laboratory, Bureau of Standards.....	1,600.00	4,124.51	32,364.19	34,645.76	72,734.46
Testing machine, Bureau of Standards.....				250.00	250.00
Total.....					266,077.67

Bureaus and titles of appropriations.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
BUREAU OF IMMIGRATION AND NATURALIZATION.					
Salaries, Bureau of Immigration and Naturalization, 1908.....	\$4,141.84				\$4,141.84
Salaries, Bureau of Immigration and Naturalization, 1909.....	20,788.99	\$24,338.52	\$25,488.84	\$25,132.49	95,748.84
Enforcement of the Chinese-exclusion act, 1908.....	38,414.13	6,163.26			44,577.39
Enforcement of the Chinese-exclusion act, 1909.....	70,340.99	114,845.86	129,411.90	117,216.40	431,815.15
Expenses of regulating immigration.....	491,198.72	475,585.16	523,407.79	504,315.88	1,994,507.55
Immigrant station, Ellis Island, New York.....	212,767.04	306,328.82	211,283.78	130,202.75	860,602.37
Immigrant station, Galveston, Tex.....	93.77	6,247.84	3,800.41		10,142.02
Immigrant station, San Francisco, Cal.....	43,922.38	40,836.14	9,722.70	4,758.35	99,239.56
Boarding cutter, Immigration Service, San Francisco, Cal.....			19,800.00	2,200.00	22,000.00
Total.....					3,564,769.71
BUREAU OF FISHERIES.					
Salaries, Bureau of Fisheries, 1908.....	18,636.13	32.50			18,668.63
Salaries, Bureau of Fisheries, 1909.....	51,687.65	73,659.35	72,343.02	72,887.09	270,577.11
Miscellaneous expenses, Bureau of Fisheries, 1908.....	49,999.95	4,845.45			54,845.40
Miscellaneous expenses, Bureau of Fisheries, 1909.....	50,847.15	91,229.06	74,779.12	73,516.84	289,912.17
Fish hatcheries, Alaska.....	5,789.36	2,861.89	1,123.70	845.00	10,619.95
Biological station, Mississippi River Valley.....		50.99	11.47	3,927.71	3,990.17
Salaries, agents at salmon fisheries, Alaska, 1908.....	104.17				104.17
Salaries, agents at salmon fisheries, Alaska, 1909.....	520.83	625.00	1,041.66	187.51	2,375.00
Fish hatchery, Baird, Cal.....	43.00				43.00
Fish hatchery, Battle Creek, Cal.....	50.00				50.00
Fish hatchery, Boothbay Harbor, Me.....	1,347.39	21.00		1,212.93	2,581.32
Fish hatchery, Cold Springs, Ga.....				1,600.00	1,600.00
Fish hatchery, Duluth, Minn.....	63.90	90.50		1,877.55	2,031.95
Fish hatchery, Green Lake, Me.....		1,225.84	16.81		1,242.65
Fish hatchery, Iowa.....	140.28		926.00	27.74	1,094.02
Fish hatchery, Lake County, Colo.....	189.09	31.90		11.70	232.69
Fish hatchery, Mammoth Spring, Ark.....	177.39	2,297.96	127.64	116.21	2,719.20
Fish hatchery, Montana.....	13.00		61.10	242.95	317.05
Fish hatchery, Neosho, Mo.....	11.15	159.79	19,593.71	464.76	20,229.41
Fish hatchery, South Dakota.....	74.31				74.31
Fish hatchery, Tennessee.....			496.90	1,574.59	2,071.49
Fish hatchery, Vermont.....	80.58	8.00	15.00		103.58
Fish hatchery, West Virginia.....	31.63				31.63
Fish hatchery, Wytheville, Va.....			575.99	181.76	757.75
Total.....					686,272.65
Grand total.....	1,528,756.25	1,625,516.07	1,557,692.27	1,401,698.90	6,113,663.49

The following statement shows the expenditures during the fiscal year ended June 30, 1909, on account of all appropriations under the control of the Department of Commerce and Labor, giving the

total amounts disbursed by the various disbursing officers of the Department, and miscellaneous receipts for the same period:

By the disbursing clerk, Department of Commerce and Labor, on account of salaries and expenses of the Office of the Secretary of Commerce and Labor, the bureaus of Corporations, Manufactures, Labor, Statistics, Navigation, Immigration and Naturalization, Standards, and Fisheries, the Light-House Board, the Office of the Supervising Inspector-General, Steamboat-Inspection Service, expenses of regulating immigration, expenses of enforcing the Chinese-exclusion act, salaries and expenses of Steamboat-Inspection Service at large, and public works of the Immigration and Fisheries services (shown in detail in foregoing table of disbursements).....	\$6, 113, 663. 49
By the engineer and naval secretaries of the Light-House Board, engineers and inspectors detailed from the Army and Navy to duty in the Light-House Establishment, and all other officers who disbursed money for the Light-House Establishment.....	6, 183, 608. 18
By the disbursing clerk, Bureau of the Census, on account of salaries and expenses of the Bureau of the Census.....	1, 083, 415. 27
By the special disbursing agent, Coast and Geodetic Survey, on account of salaries and expenses of the Coast and Geodetic Survey..	983, 326. 09
By the special disbursing agents of the Immigration Service.....	46, 636. 21
By the special agents of the Department investigating trade conditions abroad, as special disbursing agents.....	34, 818. 34
By customs officers on account of witnesses' fees in steamboat investigations.....	585. 05
By special disbursing agents, Bureau of Fisheries.....	47, 061. 53
By special disbursing agent, Bureau of Corporations.....	4. 89
By special disbursing agent, Steamboat-Inspection Service.....	108. 70
By warrants drawn on the Treasurer of the United States to satisfy accounts settled by the Auditor for the State and other Departments.....	262, 226. 39
Total.....	<u>14, 755, 454. 14</u>
Miscellaneous receipts:	
Coast and Geodetic Survey—	
Sale of charts, coast pilots, and tide tables	12, 293. 97
Furnishing data from the archives.....	261. 04
Bureau of Standards—For standardizing and testing weights, measures, measuring instruments, and materials	
	6, 001. 06
Bureau of Immigration and Naturalization—	
Head tax.....	3, 243, 220. 00
Exclusive privileges at immigrant stations.....	14, 016. 00
Naturalization fees.....	186, 516. 75
Bureau of Navigation—	
Tonnage tax.....	1, 054, 494. 47
Navigation fees.....	129, 274. 23
Bureau of Fisheries—Sale of sealskins	
	153, 375. 00
Bureau of the Census—	
Transcripts of census records.....	32. 10
Sales of the publication "Heads of Families, 1790".....	6, 935. 70
Light-House Establishment—Proceeds of sale of condemned property, damages, rentals, etc.....	
	19, 725. 12
Proceeds of sale of condemned property (exclusive of Light-House Establishment).....	
	9, 609. 88
Sale of land at the light-house station, Tompkinsville, N. Y., after deducting expenses of sale amounting to \$619.85.....	
	45, 894. 70
Total.....	<u>4, 881, 650. 02</u>

DIVISION OF PRINTING AND PUBLICATIONS.

COST OF PRINTING.

For the fiscal year ended June 30, 1909, the Department was allotted \$500,000 for printing and binding, of which sum \$125,000 was for the Bureau of the Census, which renders a separate accounting of its expenditures. Of the \$375,000 available for the other offices, bureaus, and services of the Department, \$374,939.91 was expended. This expenditure represents an increase of \$31,977.55, or 9.32 per cent, over the fiscal year 1908.

For comparative purposes there is presented below a table giving the cost to the Department, the cost to Congress, and the total cost of all printing originating in the Department of Commerce and Labor for the past five fiscal years.

Year.	Charged to Department. ^a	Charged to Congress. ^b	Total cost.
1905.....	\$209,286.08	\$244,653.48	\$453,939.56
1906.....	172,562.19	237,266.67	409,827.86
1907.....	332,185.05	26,585.66	358,770.71
1908.....	342,962.36	21,537.61	364,499.97
1909.....	374,939.91	25,504.08	400,443.99

^a These charges represent the expenditures from the regular allotments to the Department for printing and binding.

^b The decrease in the charges against Congress and the proportionate increase in the charges against the Department after 1906 is due to public resolution No. 13, approved March 30, 1906, which transferred from Congress to the Department charges for composition and electrotyping for publications printed under legislative direction.

The following table shows the number and cost of each class of printing and binding chargeable against the allotments of the Department for the past three years:

Class.	1907.		1908.		1909.	
	Quantity. ^a	Cost.	Quantity.	Cost.	Quantity.	Cost.
Reports, documents, and pamphlets.....	2,740,821	\$241,556.15	2,996,420	\$257,631.88	4,261,069	\$288,079.38
Blank forms.....	10,668,353	43,797.64	13,846,706	44,226.42	12,415,840	46,103.86
Circulars and decisions.....	368,708	3,846.19	261,620	3,818.86	409,450	3,865.83
Stationery, letter heads, etc....	1,796,140	7,563.18	1,474,622	8,152.26	2,244,074	7,080.26
Blank books.....	27,204	28,744.68	25,178	23,856.56	22,502	26,462.43
Miscellaneous binding.....	3,324	4,755.48	2,855	4,762.26	2,570	4,268.21
Miscellaneous.....		1,921.73		514.12		79.96
Total.....		332,185.05		342,962.36		374,939.91

As indicated by these figures, there is no more accurate barometer of the growth and activities of the Department than its printing bills, for when a division or bureau is organized or discontinued, or when one is widened or contracted in authority and endeavor, the fact is immediately recorded by an increase or a decrease in the cost of printing. This would not necessarily be true but for the fact that the Department has since its organization jealously guarded its printing allotments, and has effected and practiced every reasonable economy to avoid excessive expenditures for printing. In carrying its supervision and scrutiny of these expenditures to its logical conclusion, the lowest ebb was reached in the fiscal year 1907, when careful editing and preparation of all manuscripts in that and prior years was rewarded by a low-water mark in the matter of cost of printing. Since 1907 these figures have gradually increased in proportion as the work and responsibility of the Department have broadened.

DISTRIBUTION OF PUBLICATIONS.

Section 92 of the act approved January 12, 1895, entitled "An act to provide for the public printing and binding and the distribution of public documents," directs that, in order to prevent waste and duplication, the head of each department designate a competent person to distribute all publications issued by it. Because of a lack of floor space it has not been possible in the past for the Department to comply with this provision of law in its entirety, but by the removal last May of the Division of Printing and Publications to the Department Annex, at 462-464 Louisiana avenue, where ample storage and working spaces have been provided, it is possible to concentrate there the distribution of the Department's publications. This work is now being taken over by the Division, and every economy possible from the use of modern mailing machines and concentration of supervision will be effected. In the future the great majority of these publications will be wrapped for mailing instead of being placed in envelopes, as has been the practice hitherto. Wrapping will not only afford the same protection to the publications, but will result in a saving to the Department of from \$3,000 to \$4,000 a year.

SALE OF PUBLIC DOCUMENTS.

A number of the European governments have partially solved the problem of waste and extravagance in the printing of public documents by authorizing that they be sold at a price fixed in accordance with the actual cost of production, after the volume is ready for the press. Under this plan the circulation of a publication is confined to persons who have an actual need for it, and costs of printing are

correspondingly reduced. In this country, however, sales of Government documents have been limited almost entirely to a few of a technical or scientific nature, but in each case where the experiment has been tried it seems to have been a success.

In the Department of Commerce and Labor a nominal price is placed upon the Tide Tables, Coast Pilots, and Coast Charts, issued by the Coast and Geodetic Survey, and upon Heads of Families: First Census of the United States, 1790, issued by the Bureau of the Census. The success that has attended the sale of these publications leads me to believe that the plan can be advantageously extended, and it is therefore recommended that the Secretary of Commerce and Labor be authorized in his discretion to sell any or all of the publications, other than annual administrative reports, issued by the several bureaus and offices of the Department.

BUILDING FOR THE DEPARTMENT.

The various bureaus and divisions of this Department are housed in ten buildings widely scattered over Washington. Under these conditions the rent involved, the time consumed in dispatching business, and the expense of maintaining separate messenger, labor, and char forces are some of the many objectionable features encountered in the administration of the affairs of the Department. In an effort to remove some of these disadvantages the Bureau of Labor, the Steamboat-Inspection Service, the Bureau of Navigation, the Light-House Board, the Division of Printing and Publications, and the Division of Supplies were removed last spring from a number of outlying buildings to what is known as the Department Annex, at 462-464 Louisiana avenue. This change naturally resulted, to some extent at least, in bettering conditions, and brought about a considerable saving in rent and reduction in administrative expenses.

In spite of this consolidation, however, the business of the Department is seriously embarrassed by the lack of a structure large enough to accommodate its varied services, and it is earnestly hoped that Congress will appropriate sufficient money for the erection of the building contemplated by the public buildings act of May 30, 1908.

The following table shows the location of the buildings now rented by the Department and the annual rentals paid therefor, no reference being made to the buildings occupied by the Bureau of Standards, the Coast and Geodetic Survey, and the Bureau of Fisheries, which are owned by the Government:

Location.	Occupied by—	Annual rental.
Willard Building, 513-515 14th street NW.	Secretary's Office, Bureau of Immigration and Naturalization, and Bureau of Corporations.	\$11,830.00
Emery Building, northwest corner 1st and B streets NW.	Bureau of the Census.....	21,000.00
Department Annex, 462-464 Louisiana avenue NW.	Light-House Board, Bureau of Navigation, Steamboat-Inspection Service, Bureau of Labor, Division of Printing and Publications, and Division of Supplies.	18,800.00
Adams Building, 1333-1335 F street NW. (in part).	Bureau of Statistics and Bureau of Manufactures ..	6,499.80
Munsey Building, E street between 13th and 14th streets NW. (in part).	Division of Naturalization.....	4,299.98
Basement, 920-922 E street NW.....	Light-House Board and Bureau of Statistics (storage of records and documents).	1,500.00
Kellogg Building, 1416 F street NW...	Bureau of Immigration and Naturalization (Division of Chinese Records).	510.00
1137-1139 17th street NW	Department stable.....	1,500.00
Total	66,039.76

* To provide for the increased force required in connection with the Thirteenth Decennial Census, steps are being taken to rent additional quarters for office and storage purposes. From present indications the rent for these additional quarters will amount, approximately, to \$19,000 a year.

CONCLUSION.

For more detailed information I have to refer to the reports of the chiefs of bureaus.

Respectfully,

CHARLES NAGEL,
Secretary.

O