

NINTH ANNUAL REPORT

OF THE

SECRETARY OF COMMERCE AND LABOR

1911



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CONTENTS.

	Page.
Introduction.....	7
Office of the Secretary.....	19
Office of the Chief Clerk.....	19
Quarters occupied by the Department in Washington.....	19
Proposed new building for the Department.....	20
Provisions for the better protection of life and property.....	21
Cooperation with the President's Commission on Economy and Efficiency.....	22
Disbursing Office.....	22
Appropriations.....	23
Disbursements.....	24
Appointment Division.....	28
Presidential appointments made solely on merit.....	30
Thirteenth Decennial Census.....	30
Legislation affecting positions in the Steamboat-Inspection and Shipping Services.....	30
Foreign-born employees in the Immigration and Naturalization Services.....	31
Temporary appointments.....	31
Promotions.....	32
Transfer restrictions.....	32
Inquiry into the efficiency of the personnel.....	33
Superannuation and retirement.....	33
Leaves of absence.....	34
Executive orders affecting the personnel.....	35
Classification of presidential positions.....	35
Alleged political activity.....	36
Designations of officials to act as chiefs of bureaus.....	36
Division of Publications.....	37
Volume and cost of printing.....	37
Distribution of printed supplies.....	39
Publication work.....	39
Distribution of publications.....	39
Sale of public documents.....	41
Office of the Solicitor.....	42
Bureau of the Census.....	43
Field work.....	43
General scheme of census publications.....	43
General progress of census work.....	46
Office force.....	47
Tabulating machines.....	49
Census frauds.....	51
Appropriations.....	52
Proposed work for the fiscal year 1913.....	54

	Page.
Bureau of Immigration and Naturalization.....	57
Immigration in general.....	57
Ages, literacy, and financial condition of immigrants.....	57
Ages and periods of residence of departing aliens.....	58
Occupations of immigrants and emigrants.....	58
Sources of immigration.....	58
Rejections of arriving aliens.....	59
Alien contract laborers.....	59
Arrests and deportations.....	60
Japanese and Korean laborers.....	60
Chinese immigration.....	60
Immigration stations.....	61
Division of Information.....	61
Division of Naturalization.....	63
Bureau of Corporations.....	65
Reports published.....	65
Pending investigations.....	65
Corporate regulation.....	66
Bureau of Labor.....	67
Reports published.....	67
Bimonthly bulletins.....	67
Reports transmitted and in course of preparation.....	68
Government workingmen's compensation act.....	69
Bureau of Manufactures.....	70
Increased publicity secured.....	71
Commercial agents.....	71
Extension of work of commercial agents.....	72
Publications.....	72
Foreign tariffs.....	73
Bureau of Statistics.....	75
Values of imports and exports.....	75
Characteristics of foreign-trade movements.....	75
Needed extension in range of statistics.....	76
Quarterly statement of imports for consumption.....	76
Bureau of Standards.....	78
Custody of the standards.....	78
Comparison of the standards.....	79
Construction of standards.....	79
Testing and calibration of standards and instruments.....	80
Problems in connection with standards.....	81
Determination of physical constants.....	82
Determination of the properties of materials.....	83
Trade weights and measures investigation.....	83
Bureau of Fisheries.....	85
Fish culture.....	85
Biological investigations.....	86
Commercial fisheries.....	87
Alaska salmon service.....	88
Fur-seal service.....	88
Minor fur-bearing animals of Alaska.....	90
International fishery matters.....	91
Recommendations.....	92

CONTENTS.

5

	Page.
Bureau of Lighthouses.....	93
Reorganization of Lighthouse Service.....	93
Cooperation with the Canadian Government and the Engineer Corps.....	94
Business methods.....	95
Improvement of apparatus.....	96
Increase in aids to navigation.....	96
Lighthouse vessels.....	97
Economy in appropriations.....	98
Coast and Geodetic Survey.....	99
Bureau of Navigation.....	101
Panama Canal tolls.....	101
Free ships.....	104
Shipbuilding materials.....	105
Wireless ship act.....	105
Motor-boat act.....	107
Navigation revenues.....	107
Miscellaneous recommendations.....	108
Steamboat-Inspection Service.....	110
Statistical summary of work.....	110
Scope of the Service.....	111
Motor vessels.....	112
New features of hull inspection.....	113
Rearrangement of supervising-inspection districts.....	113
Transportation of explosives by water.....	113
Conclusion.....	115

NINTH ANNUAL REPORT
OF THE
SECRETARY OF COMMERCE AND LABOR.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, January 2, 1912.

To the PRESIDENT:

I have the honor to submit my third annual report.

The total appropriations for the fiscal year ended June 30, 1911, were \$15,775,940.58, which, compared with the fiscal year ended June 30, 1910, shows a decrease of \$6,641,551.56. This decrease is more apparent than real, because the chief expense of the Thirteenth Decennial Census was borne by the appropriations for 1910.

Eliminating the census, with respect to which it is difficult to make comparisons, there is an increase over the preceding year of \$498,448.44 in the appropriations for the fiscal year ended June 30, 1911. This increase was made necessary chiefly by the demands of the Bureau of Immigration and Naturalization for improved accommodations and service, but in some measure by the growth of other bureaus. In fact, the activities of the Department have been extended in many ways—sometimes by the provision of new legislation, at other times by natural development.

As will appear in my reference to the office of the Disbursing Clerk, this Department collected in the course of its work during the fiscal year ended June 30, 1911, the total sum of \$5,691,256.06, a sum which might be substantially increased if the right to collect fees for services and to sell publications were extended by law. The net appropriations out of the usual revenues amounted, therefore, to a balance of only \$10,084,684.52. Furthermore, the books of the Department show that on December 1, 1911, there were unexpended balances of appropriations for the fiscal year 1911 aggregating \$518,697.62. Against this amount payments are still being made, but it is estimated that the net balances of 1911 appropriations to be turned into the surplus fund of the Treasury Department will be somewhat in excess of \$400,000.

The entire force of the Department on July 1, 1911 (not counting 2,014 employees appointed for all or part of the Thirteenth Decennial Census and some temporary appointments in other branches of the

service), amounted to 10,413, a net increase over the preceding year of 155 employees. Of these, 8,464 are employed outside of the District of Columbia, chiefly in the Bureau of Lighthouses, Steamboat-Inspection Service, Bureau of Fisheries, and Bureau of Immigration and Naturalization.

Some of the bureaus may be expected to continue their work at about the stage which they have now reached, incurring little increased expense, and answering all legitimate demands upon them. Of others this is hardly true. It will appear from the discussion of the activities of the several bureaus that there is a constant normal expansion in all of them, while in case of a few it is hardly an exaggeration to say that the possibilities of their development have not been more than suggested.

Generally speaking, the Department was designed to answer the needs of the general public. Its organization was a response to the modern demand for greater governmental assistance in the solution of problems and regulation of interests which concern all the people, and with which the individual is unable to cope. Especially such modern bureaus as Corporations, Labor, Standards, Manufactures, Fisheries, and even Immigration and Naturalization, represent this idea. The older bureaus, too, such as the Coast and Geodetic Survey, Lighthouses, Steamboat-Inspection, Navigation, Statistics, and the Census (more especially in its later development), belong to the constructive branch of the Government, which encourages active cooperation between public and private energy and between Federal and State authority in the promotion of a common policy.

The general condition of the work of the Department is good. This must be attributed to close organization and the observance of economy, for which credit should be given to the Assistant Secretary, the personnel of the Secretary's Office, and the chiefs of the bureaus and divisions; as also to the devotion and vigilance of the general force, to which I am glad to testify.

While all branches of the Department are discussed in my report, there are some things to which especial attention may be called.

The Chief Clerk has, in addition to his regular duties and the extraordinary work which a hearing before an investigating committee entailed, rendered valuable service to the President's Commission on Economy and Efficiency. In this he has had the cooperation of other members of the force, who have from time to time been assigned for that purpose.

The Chief of the Appointment Division renews his recommendation for the enactment of a law providing for the retirement with partial pay of superannuated employees, in which I earnestly join, as I did in my last report. This subject was fully discussed in a

report submitted by this Department on the 23d day of February, 1910, to the chairman of the Senate Committee on Civil Service and Retrenchment.

Mr. W. L. Soleau, in September, 1911, resigned the position of Disbursing Clerk. As his successor I appointed Mr. George Johannes, who has risen from the position of messenger, which he held as late as 1902.

The economies which were introduced by the Chief of the Division of Publications, and to which reference was made in my last report, find further illustration in this year's showing of that Division.

The Solicitor's Office is not strictly a branch of my Department, but dependence upon that office is so constant that I must express my indebtedness to the Solicitor and his associates for their regular assistance, and more especially for the unremitting interest which they have shown in the success of the Department's general work.

About the Bureau of the Census an adequate impression can be gained only by reading the more complete report. The work of the Thirteenth Decennial Census has, however, advanced sufficiently to justify the statement that the regular administration in the District of Columbia will cost less than it did in the last census; also that a larger total appropriation than was made for the Twelfth Census will be needed. This is explained by the larger territory to be covered, by the increase in population, by the enormous growth of industries, by the requirement for taking a census of a large class of objects not heretofore included, by the statutory provision for higher compensation to supervisors, and in certain instances to enumerators, and by the absolute necessity for paying higher compensation to enumerators generally. The reports of this Bureau, it is believed, will be issued in a form both useful and convenient, and if necessary appropriations are made will appear within the time contemplated by law.

In connection with the Bureau of Immigration and Naturalization, I renew my recommendations of last year; more particularly that inspectors and physicians be placed on ships carrying large numbers of immigrants, and that heavier fines be imposed upon steamship companies for bringing aliens afflicted with contagious diseases. I also recommend that provision be made for the continued protection of immigrants after their landing, even to the extent of having receiving stations at important inland points; that a larger discretion be lodged in some official to admit unfortunate members of an incoming family, where the showing made protects society against burden and danger; that more discretion be given commissioners to sustain appeals from the decisions of boards, so as to relieve the immigrants from unnecessary discomfort and delay and the Secretary's Office from the constantly increasing burden of detail work; that the period

for deporting confessed criminals be extended; and that amendments to the immigration laws, whatever their form, may look as far as possible to examinations to be had before embarkation or at the time of entry, and may not place too much reliance upon the drastic writ of deportation.

I call particular attention to the much-needed improvements at Ellis Island, a situation which was clearly shown during the hearings before the House Committee on Rules. As much is true at Galveston, where the detention station is finished and has been accepted, but a small appropriation is needed to furnish the station. In Philadelphia an appropriation is needed to complete the authorized expenditure for the completion of the station. In connection with all of them it may be well to remember that the cost of the Immigration Service does not exhaust the head tax collected from immigrants and turned into the Treasury.

The Division of Information has had increased success in the distribution of immigrants to points where labor is needed. This, of course, means chiefly farm employment, for the supply of which there is a steadily growing demand. The plans of the Chief of the Division contemplate a system of cooperation between his Division and the State immigration commissioners.

The Division of Naturalization is working with an inadequate force, but returns a balance of \$65,982.60 to the general revenue.

The Bureau of Corporations had an unexpected opportunity to demonstrate the value of its work in connection with the reorganization of the Tobacco Trust. This business had been investigated and reported upon. When the Attorney General came to consider plans for the reorganization, the Bureau was in a position to meet his request for assistance by assigning for that purpose an expert who was thoroughly acquainted with the character and operations of the concern. Other investigations and reports pertain to the lumber industry, transportation by water, the International Harvester Co., steel industries, and State taxation of corporations.

The Bureau of Labor is engaged in a number of investigations, among which, perhaps, the most immediately interesting is the inquiry into the cost of living. This report promises to be thorough and to provide a basis for intelligent discussion of this much-mooted question. In addition, reports are being prepared on conditions of employment in the iron and steel industry, on the employment of women and girls in the larger cities, on industrial diseases in various industries, and on the labor laws of the principal industrial countries of the world.

The Bureau of Manufactures reports unprecedented growth. Its correspondence with representatives of commerce and industries has almost doubled in the last year; the demand for Daily Consular and

Trade Reports has nearly reached the authorized limit; acknowledgment for opportunities presented and availed of are many; and the suggestion and demand for a closer relation between governmental activity and general commerce and industry are becoming more and more urgent.

The Bureau of Statistics has perfected its system of publications so that its reports of exports and imports are promptly given to the public. This information is of such general interest that it reaches the public through the press at stated intervals in advance of regular publications.

The Bureau of Standards is extending its work. Lengths, mass, volume, temperature, quantity of heat, light, electrical quantities, and properties of materials constitute the chief subjects of its investigations. Work done for private parties is paid for at fixed rates. If its tests for departments of the Government were charged for at like rates, a considerable sum would be collected. This Bureau establishes standards, sometimes for the use and guidance of private parties, and sometimes to enable State officials to enforce such standards. In the latter cases it furnishes a happy illustration of successful cooperation between Federal and State authority.

The work of the Bureau of Fisheries may be illustrated by the single statement that during the year the fish and fish-egg output totaled considerably more than 3,500,000,000; that is, 558,000,000 eggs, over 3,000,000,000 fry, and 14,800,000 fish of fingerling, yearling, or adult size. It operates four steamers and one seagoing schooner in connection with its work, has 37 hatcheries, and several stations for scientific experiment and investigation. Since the seal treaty has been ratified, legislation must be had to carry out the terms of that treaty. The value of this year's yield of seal furs is about equal to that of last year, which was \$403,946.94 (the number of skins sold being 12,920). It exceeded that of last year under the leasing system by \$250,571.94 (the number of skins sold that year being 15,000). As a result of the discontinuance of pelagic sealing it may be assumed that within a few years the share for the United States will show a large increase, even after the stipulated amounts have been paid to participating nations.

The Bureau of Lighthouses has successfully reorganized its Service in obedience to the act of June 17, 1910. The magnitude of this Service may be appreciated when it is stated that it employs about 5,500 men and that it has under its control about 110 vessels (of which 45 are steam and 2 gasoline vessels), 64 lightships (33 of which are propelled by steam), lighthouses numbering about 775, and aids to navigation of every grade numbering about 12,000. As to the latter, particularly, constant experiments and improvements are in progress.

The Coast and Geodetic Survey employs 14 steam and 3 sailing vessels. In anticipation of the early completion of the Panama Canal, instructions have been given to make a detailed survey of the approaches to the canal. This Bureau furnishes another illustration of cooperation with other governmental agencies. The State of Delaware was assisted by experts from this Bureau and from the Bureau of Fisheries in making an oyster survey. The delimitation of the Alaska frontier and the re-marking of the boundary between the United States and Canada is progressing under the direction of the Superintendent of the Coast and Geodetic Survey acting for the Department of State.

Under the direction of the Bureau of Navigation a complete wireless system has been installed in obedience to the act of Congress of June 24, 1910. It has hired various motor boats to enforce navigation laws, and is now engaged in bringing to justice persons who have been guilty of procuring crews by improper methods. Its immediate force is small, because in many respects officials of the Treasury Department represent this Bureau. In this connection the proposed readjustment of customs districts is of great importance. Ports that have practically no customs collections may have important work for the Bureau of Navigation, and if the customs office is abolished at such a point it may become necessary to provide another officer for this Bureau. This would become even more important if provision is made for the police control upon navigable waters. It appears to be a well-founded complaint that frequently the police control of municipalities is evaded by vessels that go out beyond State jurisdiction, and that many of the worst crimes are to be attributed to this lack of police control. This condition can probably not be corrected without Federal aid.

The Steamboat-Inspection Service reports 392 lives lost out of a total of 314,768,885 passengers carried by water. This includes every loss from any cause. Nevertheless, I am disposed to recommend that the law governing the personnel of crews should be strengthened so as to afford better guaranty, more especially as to the fitness of men so employed. It appears to me that in this respect the law has not kept pace with statutes governing common carriers by land.

COMPLAINTS.

There have been complaints made of the Immigration Service and of the management of the seal interests in the Fisheries Bureau, both of which have been conducted under my immediate supervision.

IMMIGRATION.

In the Immigration Service it would be unreasonable to look for peace. The questions involved are in their very nature calculated to excite controversy; particularly in a country which, on the one hand, has a large population whose interest in new immigration is based upon considerations of immediate relationship and natural sympathy, and which, on the other hand, has a citizenship which is strongly impressed with the need for more restriction. Such a situation makes for unceasing agitation for the amendment of the immigration laws, and it goes without saying that so intense a conflict must be reflected in public judgment of the administration of existing law. In point of fact, the contending forces to this controversy are much more evenly divided than appears on the surface. It is true that the critics of the law and of its enforcement are most successful in bringing their grievances to public attention. It is equally true that the files of the Department contain earnest declarations from representatives of State eleemosynary institutions, from labor organizations, and from others in favor of a strict administration of the immigration laws. Again, while the criticism of too strict administration has been practically centered upon one point—Ellis Island—the criticism of too lax administration comes from different parts of the country. The first appears to be predicated more especially upon interest in individual cases, while the latter seems to be concerned more with the general problem.

With the effect of this agitation upon proposed amendments the Department has, of course, nothing to do, unless it be, upon invitation, to make recommendations. The immediate effect upon immigration may be matter of speculation. It is my impression that the kind of criticism which has at times been offered must serve to discourage desirable immigration. If people abroad who are free to choose give any heed to the extravagant accounts which have found their way into the press, the effect must be discouraging as to them. On the other hand, undesirable immigrants are probably affected very little by these reports, because it may be assumed that at least a certain proportion of them do not come to our shores induced by their own initiative or decision.

With respect to the administrators of the law, the effect has been to guard in every way against hardship and discomfort, always with an eye to the rational enforcement of the law. It is perfectly true that many immigrants are temporarily detained, to their disappointment and discomfort, although they may subsequently be found to be clearly admissible. But it would be unsafe to argue from this premise that the detention was improper. We know from complaints

of State officials and from our own deportation records that a large number of immigrants are improperly admitted. We know that the amount of false testimony given even in otherwise good cases is very considerable, and our desire to make allowance for poor advice and coaching by interested parties is often strained to the breaking point. Questions of physical or mental soundness, and particularly questions of character, involving criminal records, can not be determined at a glance.

Under these circumstances the effort to segregate those who should be admitted from the rest involves patience, discretion, and, often, time. Frequently the deserving suffer for the undeserving, but this is not an uncommon experience. It is exemplified at the dock upon the return of any steamer laden with American travelers. If all passengers made proper returns, there would be little delay. But they do not all do it, and so there is delay and annoyance for everyone.

To sum it up, the administration of the Bureau has endeavored to observe the general mandate of the law and to relieve against hardship for the individual wherever the statute allows it. This appears to be a reasonable administration of a law which deals with men, women, and children who have disposed of their belongings, who often have immediate alliances in this country, who may be destined to become citizens, and who, in any event, are entitled to the fairest possible treatment. Perhaps the hearing had before the House Committee on Rules is best calculated to give a true picture of the character of the Service.

All this is not said with the hope to satisfy criticism, which, under existing conditions, is probably unavoidable, and which should be accepted as a further incentive to care, vigilance, and sympathy. In the meantime Lincoln's advice finds renewed application: "If both factions, or neither, shall abuse you, you will probably be about right. Beware of being assailed by one and praised by the other."

SEAL HERDS.

With respect to the management of the seal herds, the controversy that was inaugurated in 1909 is still alive and is now pending before the House Committee on Expenditures in the Department of Commerce and Labor. Indiscriminate attack has been visited upon everyone who is concerned with the administration of the seal interests, embracing those who have to do with making orders as well as those who are charged with their enforcement. It is difficult to divine a reason for such attack, because in no event can anything but a question of judgment be involved; and it will be well at this time not to permit the real issue to be obscured by a consideration of personal controversy.

Originally three suggestions were advanced: First, that every effort should be made to stop pelagic sealing—that is, killing at sea; second, that at the expiration of the North American Commercial Co. lease, on May 1, 1910, the Government should take over the management of the seal herds; third, that all killing of seals on land should be abated for a number of years.

As to the first proposition, as far as I know all were of one mind—those who believed that pelagic sealing was only in part responsible for the depletion of the seal herds and those who contended that it was the sole cause of the depletion. As is well known, the Department of State had for many years endeavored to secure a treaty to abolish pelagic sealing, and was, at the time this controversy originated, actually engaged in negotiations looking to that end. The only practical question, therefore, was how this much-desired purpose could be best promoted by the Department of Commerce and Labor.

The second proposition (to have the Government take over the herds) is one which had been advanced but was rejected upon the ground that such a course would involve a business undertaking on the part of the Government. However sufficient this ground may have been in the past, it was not so regarded by those who now considered this matter. For one reason it may be said that perhaps such an undertaking by the Government may not now be regarded quite as it was then. No doubt the controlling reason for the changed attitude was that, owing to the depletion of the herds, the business feature of the undertaking had ceased to be paramount. Inasmuch as the problem had really become one of conservation, there appeared to be no impropriety, upon any theory, in having the Government assume complete control. It was therefore recommended by me, with the concurrence of the Secretary of State, that the law providing for leasing the right to kill seals be repealed, and that the Government be placed in control. The President made the recommendation to Congress, the law of April 21, 1910, was enacted, and as Secretary of Commerce and Labor I took charge.

This law presented for immediate decision the one question, whether the Government should continue to kill any male seals upon the Pribilof Islands, and the law placed the responsibility for that decision upon the Secretary of Commerce and Labor. Two considerations were weighed by me in reaching a conclusion: (a) What would be the effect of my decision upon the prospect of securing a treaty to abolish pelagic sealing? (b) Apart from this, what effect would the killing of a certain percentage of male seals have upon the herd itself?

Those who opposed all killing asserted, as their chief ground, that unless a closed season was declared we could not hope to secure a

treaty. It was urged that we must approach foreign countries with clean hands. Undoubtedly one of the avowed grounds for the changed policy in placing the Government in control and in giving the Secretary discretion to kill or not to kill was to leave the Government free to respond to any exigency that might arise during the negotiations for a treaty. To abolish pelagic sealing was the primary purpose. To accomplish this, obviously, the policy in the management of the herds best calculated to secure that result must be adopted. In other words, all questions were subordinated to the one controlling purpose—to stop pelagic sealing.

It appeared to me that this argument in favor of declaring a closed season might have some weight. On the other hand, it was urged that our failure to kill male seals on land would only serve to increase the pelagic sealers' catch and might therefore render it more difficult to secure a treaty. The State Department, which was engaged in negotiating the treaty, rather favored a continuation of the practice of killing surplus male seals.

The second question (whether or not such killing would have a deleterious effect upon the herds), while not of such immediate importance, was also fully considered. As to it, the conclusion was reached upon the advice of experts that the killing of such surplus male seals would not have such an effect, but that, on the contrary, the failure to kill them would positively injure the herd. The policy to continue killing surplus male seals was therefore adopted and the necessary rules were made.

It is unnecessary now to argue about the correctness of the decision in so far as it affected the chances of a treaty. That question has been disposed of, and the question as to the propriety of killing surplus male seals may be judged upon its merits.

One of the results of the hearing before the House committee has been the introduction of a resolution declaring a closed season on the Pribilof Islands for 15 years, which is the period fixed by the seal treaty for the suppression of pelagic sealing. It is not for me at this time to discuss the wisdom of this resolution. I may, however, call attention to the fact that, while by the terms of the treaty each country reserves control over its herds, nevertheless the interests mutually set aside by the several countries clearly contemplate that there shall be sealskins to divide, and, indeed, the treaty provides money compensation in the event of a failure in that respect.

But in any event it is proper that I should at this time state unreservedly what course I shall follow if the resolution referred to is not adopted, and if the law leaves the decision with me. In the light of what I have seen and heard; there is but one conclusion to reach, which is to continue to kill surplus male seals. As to the correctness of the principle, I have no question; my only doubt arises

as to the percentage which should be reserved and as to the age at which it is most advantageous to take the seal.

As to the past I should say that if it was ever proper to kill any male seals for their furs it would appear to have been so when the number of female seals was reduced by pelagic sealers. According to reports, 80 per cent of the seals taken at sea by pelagic sealers were females; and it is admitted that those caught were only a small percentage of those destroyed. It stands to reason, therefore, that in any view of the question the policy so far pursued was calculated to prevent the accumulation of more male seals than female seals.

But apart from conditions that obtained in the past, no recognized authority doubts that the seal is highly polygamous; perhaps more so than any other known animal. The consensus of scientific opinion is that there is as little reason for saving all male seals as there is in the case of cattle, sheep, and horses. In reaching my conclusion I relied, as I was bound to do, upon the advice of the seal board in the Bureau of Fisheries and the advisory board which had been appointed by my predecessor. The first is composed of Dr. Barton Warren Evermann, chairman, and Walter I. Lembkey, James Judge, A. B. Alexander, and M. C. Marsh. The second is composed of Dr. David Starr Jordan, president of the Leland Stanford University; Dr. Leonhard Stejneger, head curator of the National Museum; Dr. C. Hart Merriam, Director of the Biological Survey; Dr. Frederic A. Lucas, director of the Brooklyn Institute of Arts and Sciences; Mr. Charles H. Townsend, director of the New York Aquarium; Hon. Edwin W. Sims, and Hon. Frank H. Hitchcock. Their reports have been confirmed by personal interviews or correspondence had, both before my decision was reached and since this controversy has been renewed, with those members who by experience and training were particularly qualified to judge of the question.

The advice of all experienced and unbiased men is that, whatever the conditions, only a small percentage of male seals need and should be reserved; and since the leasing system has been abolished, and the treaty to suppress pelagic sealing has been ratified, there appears to be no obstacle in the way of a rational system for the Government's management of the seal herds. On the other hand, it seems to me that since the treaty is to go into effect the changed conditions should at once be taken into account. A very considerable increase in the number of female seals must be looked for. This would necessarily affect the number of males to be reserved, and this number should be large enough to meet every possible contingency. It will be safe to err on the side of too large rather than too small a reservation.

Again, it may be well to increase the age at which seals may be taken. The law now fixes the limit at one year; the rule of the Department at two years. Strictly speaking, assuming that a proper

reservation has been made for the preservation of the herds, the age at which killing is to be done presents a purely commercial question. But now that the seal herds are to be left undisturbed at sea, it would appear to be the part of wisdom to permit the seal to mature to the highest commercial value. Furthermore, the higher age may enable those who are charged with selecting seals to make more sure of reserving the best specimens, in order that the herds may in that respect be protected against deterioration. Upon these questions it is proposed to invite again the advice of everyone who may be induced to render assistance, and then to formulate new regulations in accordance with such advice.

The several bureaus represent activities differing so widely from each other that each must be separately and more extensively discussed.

OFFICE OF THE SECRETARY.

OFFICE OF THE CHIEF CLERK.

QUARTERS OCCUPIED BY THE DEPARTMENT IN WASHINGTON.

During the year it has been necessary to acquire additional space for those of the Department's bureaus occupying rented quarters in the District of Columbia. Thus far no additional appropriation has been necessary for this purpose, the annual expenditure for rent being \$47,581.24 out of the appropriation of \$50,000. In some respects present conditions are bad, and unless there is an increase in the rent appropriation no satisfactory solution of the problem is possible. It would be manifestly poor administration to move a bureau from one location to another unless conditions would be thereby improved. It is equally clear that better conditions can not be found without some increase in rent. The extraordinary growth of the Division of Naturalization, located in the Adams Building, at 1333-1335 F Street, presents a good illustration. The situation was for a time relieved by the conversion of a hall on the top floor into a workroom; but this was only a temporary expedient, and larger quarters for this Division had to be secured. Accordingly, space was rented in the building next door, which avoided the necessity of moving and further scattering the Department's activities, and which permitted the rearrangement of the bureaus in this building so as to give the Division of Naturalization sufficient room for its present needs.

In the meantime a more comprehensive plan for the relief of all the Department's bureaus has received the attention of the Chief Clerk's office, and it was as the result of this investigation that a plan was submitted to the Congress at its last session which would enable the Department to enter into a lease for a term of years for a building to be immediately erected large enough to accommodate all of its bureaus now in rented quarters, except the Census.

At present the quarters occupied by some branches of the work are especially unsatisfactory. The Divisions of Publications and Supplies are occupying a building two doors from the Annex, where the main offices of these divisions are located, which is not suited to its present uses. This building is not fireproof and has no elevators. Consequently, the expense of handling the heavy publications which are largely stored on the second floor is out of all proportion. It is not possible to rent other quarters for this purpose unless the main offices of these divisions should be moved, and it is not possible to move these offices to suitable quarters with our present appropriation.

It is therefore apparent that any arrangement that can now be made for the accommodation of a division or a bureau, while it may afford temporary relief, will not solve the problem and will only add to the complexity of the situation. Loss of efficiency in administration is unavoidable where bureaus are scattered over considerable distances; and any further scattering will obviously result in further loss of efficiency. The only possible solution, until the Department occupies the building which will be constructed by the Government, is to find some building large enough to house all of the bureaus (except the Census Bureau) now in rented quarters. There is no satisfactory building available in this city at the present time which can be rented upon terms which we may consider, and the only alternative is to find some person or persons willing to construct such a building.

Whether or not the Department is successful in its efforts to obtain a building large enough to admit of consolidation, some increase in the appropriation for rent for the coming fiscal year is necessary.

PROPOSED NEW BUILDING FOR THE DEPARTMENT.

Whatever has been done or can be done in the way of providing quarters for the Department in Washington must ultimately have reference to the fact that in time the Department will occupy the proposed new building to be located in the recently acquired area between Fourteenth and Fifteenth Streets and south of Pennsylvania Avenue. This proposed new building has now reached a stage where the architects are engaged in the preparation of detailed plans for submission to the board authorized by law to pass upon the building for this Department and the Departments of State and Justice.

It is now manifest that the ground area which it is understood may be occupied by the building for this Department will not permit the erection of a building sufficiently large to satisfactorily accommodate the whole Department. Should the Department attempt to crowd all of its bureaus and branches into this building, the inevitable result would be that within a few years, perhaps not more than two or three, it will be found absolutely necessary to remove some of the bureaus to rented quarters. The wiser thing to do, therefore, would seem to be to attempt to provide in the beginning only for those bureaus and branches which are occupying rented quarters. This would include everything under the Department of Commerce and Labor in Washington, except the Bureau of Standards, the Coast and Geodetic Survey, and the Bureau of Fisheries. The Bureau of Standards is satisfactorily located in buildings already the property of the Government, and has not been considered at all in connection with the new building, except in respect to the provision for one

storeroom and one office room, the latter to be used as a downtown office. Neither the Coast and Geodetic Survey nor the Bureau of Fisheries is satisfactorily accommodated at present. The buildings occupied by the former are old, largely nonfireproof, and unsuited for modern office purposes. The same is true of the building of the Bureau of Fisheries. But to omit these bureaus from the new building does not place them in any worse position than they were before, and the reasons for omitting them are apparently good. The Coast Survey is a producing bureau. It has considerable machinery in its printing and lithographic departments. The Bureau of Fisheries has laboratories and an aquarium, neither of which is properly placed in an administrative building. It was therefore thought that these buildings might be left out of consideration in the preparation of detailed plans. There is no question that both bureaus should have better and more modern accommodations at the earliest possible moment; but this does not appear to be sufficient reason for forcing them into a building which would immediately be inadequate and which is intended for purely administrative purposes.

It is hoped that with the omission of the bureaus just named the new building will afford adequate space for a number of years. If the Department of Commerce and Labor is properly developed, it must grow with the commerce of the nation; and it would be poor policy to provide for only immediate needs in a structure which will endure for generations.

I therefore recommend that steps be taken to acquire property in the immediate vicinity of the proposed new building of the Department for the erection of one or two buildings for the accommodation of the Coast and Geodetic Survey and the Bureau of Fisheries. In order to bring about the most efficient administration, these buildings should be adjacent to the main building, so that there may be direct communication.

PROVISIONS FOR THE BETTER PROTECTION OF LIFE AND PROPERTY.

During the year the matter of the safety of employees and of the better protection of records has received the Department's attention. All elevators in buildings occupied by the Department have been and are regularly inspected and certificated by the District authorities at the Department's request. New fire escapes have been erected where necessary, stair wells and elevator shafts have been protected by fireproofing, and fire signals have been installed. In the more crowded buildings fire drills have been inaugurated, and every reasonable step has been taken to guard against loss of life and property by fire. Early in the year the District authorities examined the buildings occupied by the Department at the Department's request, and submitted a full report of conditions. Most of the recommendations have been followed and others are still under consideration.

COOPERATION WITH THE PRESIDENT'S COMMISSION ON ECONOMY AND EFFICIENCY.

The Committee on Economy and Efficiency of this Department, appointed in September, 1910, has cooperated with the President's Commission on Economy and Efficiency as fully as the regular work of individual members of the committee would permit. I may say that members have shown great devotion in their efforts to advance the general economy and efficiency program without permitting their regular work to suffer.

The members of this Department's committee have worked with the President's Commission both as a committee and individually; and at the same time have independently of that body given attention to questions of economy within the Department. Much detailed information on various subjects has been furnished the Commission, especially in respect to the details of administration, organization, business methods and procedure, and along the lines of expenditure, appropriation, and estimate classifications. Each member of the Department's committee has served on one or more special committees appointed at the suggestion of the President's Commission, and has assisted in the formulation of reports which have already been submitted. In addition, other employees of the Department, not members of the departmental committee, have served from time to time on special committees, several of which are still at work.

Apart from the advantageous changes in Government methods, which may result from expert study of the detailed information which has been furnished the President's Commission, it is thought that the mere compilation of this information has been of substantial advantage to the Department. It has afforded those in authority an opportunity to analyze their own duties and responsibilities and has thus put them in position to look at their own work from an entirely new viewpoint.

While an advance has been made in this Department in the direction of efficiency and economy, much remains to be done, especially in respect to duplication which is now unavoidable owing to the fact that the Department's bureaus are scattered over so wide an area. As soon as these bureaus are brought together in one building a new field will be opened to the Department's committee, and it is the intention to formulate a plan for closer and more compact cooperation which it is hoped and expected will bring about greater efficiency and substantial economy.

DISBURSING OFFICE.

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, 1911, required to be submitted to Congress by section 193 of the Revised Statutes of the United States, the itemized statement of expenditures under all appropriations for propagation of food fishes during the fiscal year ended June 30, 1911, required by the act of Congress approved March 3, 1887 (24 Stat. L., 523), and a statement showing travel on official business by officers and employees (other than the special agents, inspectors, and employees in the discharge of their regular duties, who are required to travel constantly) from Washington to points outside of the District of Columbia during the fiscal year ended June 30, 1911, as required by the act of Congress approved May 22, 1908 (35 Stat. L., 244), 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, 1911, 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 year, and of all permanent indefinite and deficiency appropriations:

Objects of appropriations.	Annual appropriations, 1911.	Appropriations for public works.	Permanent indefinite appropriations.	Total.
Office of the Secretary of Commerce and Labor.....	\$266,740.00	.....	.....	\$266,740.00
Bureau of Corporations.....	254,620.00	.....	.....	254,620.00
Bureau of Manufactures.....	85,100.00	.....	.....	85,100.00
Bureau of Labor.....	178,570.00	.....	.....	178,570.00
Bureau of Lighthouses.....	5,461,110.00	.....	.....	5,461,110.00
Construction of oil houses, etc.....	.....	\$78,000.00	.....	78,000.00
Bureau of the Census.....	3,000,000.00	.....	.....	3,000,000.00
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.....	.....	.....	\$532,270.98	532,270.98
Bureau of Navigation.....	33,380.00	.....	.....	33,380.00
Shipping Service.....	10,850.00	.....	67,058.51	77,908.51
Refunding penalties or charges erroneously exacted.	.....	.....	12,718.46	12,718.46
Refunding moneys erroneously received and covered into Treasury.....	.....	.....	25.00	25.00
Refund of certain tonnage taxes and light dues.....	.....	.....	4,737.00	4,737.00
Bureau of Immigration and Naturalization.....	2,995,527.67	.....	.....	2,995,527.67
Immigrant stations.....	.....	316,158.00	.....	316,158.00
Bureau of Standards.....	367,790.00	25,000.00	.....	392,790.00
Coast and Geodetic Survey.....	996,790.00	.....	.....	996,790.00
Bureau of Fisheries.....	888,470.00	.....	.....	888,470.00
Construction of fish hatcheries, etc.....	.....	92,000.00	.....	92,000.00
Miscellaneous expenses:				
Judgments, Court of Claims.....	4,840.00	.....	.....	4,840.00
Special appropriations.....	4,832.49	.....	.....	4,832.49
Certified claims.....	802.52	.....	.....	802.52
Total.....	14,634,972.68	511,158.00	616,809.90	15,775,940.58

¹ Includes a deficiency appropriation amounting to \$13,000.

The disbursements by the Disbursing Clerk of the Department of Commerce and Labor during the fiscal year ended June 30, 1911, arranged according to items of appropriation, are as follows:

OFFICE OF THE SECRETARY.

Salaries, Office of Secretary of Commerce and Labor, 1910.....	\$6,806.11
Salaries, Office of Secretary of Commerce and Labor, 1911.....	148,717.17
Contingent expenses, Department of Commerce and Labor, 1908.....	9.06
Contingent expenses, Department of Commerce and Labor, 1909.....	236.48
Contingent expenses, Department of Commerce and Labor, 1910.....	23,918.70
Contingent expenses, Department of Commerce and Labor, 1911.....	72,346.01
Rent, Department of Commerce and Labor, 1910.....	5,744.71
Rent, Department of Commerce and Labor, 1911.....	43,429.03
Payment of attorney's fees to R. L. Reid.....	150.00
Payment of fees to Rafael Chapa and others.....	663.00
Payment to John J. Cannon and Benjamin Smith.....	1,250.00
Total.....	<u>303,270.27</u>

BUREAU OF CORPORATIONS.

Salaries, Bureau of Corporations, 1910.....	3,464.79
Salaries, Bureau of Corporations, 1911.....	73,264.61
Salaries and expenses, special attorneys, examiners, etc., Bureau of Corporations, 1910.....	5,650.43
Salaries and expenses, special attorneys, examiners, etc., Bureau of Corporations, 1911.....	112,505.58
Total.....	<u>194,885.41</u>

BUREAU OF MANUFACTURES.

Salaries, Bureau of Manufactures, 1910.....	1,405.87
Salaries, Bureau of Manufactures, 1911.....	34,290.70
Collating tariffs of foreign countries, 1910.....	375.96
Collating tariffs of foreign countries, 1911.....	7,514.77
Salaries and expenses, special agents, Department of Commerce and Labor, 1910.....	7.31
Salaries and expenses, commercial agents, Department of Commerce and Labor, 1911.....	1,282.89
Total.....	<u>44,877.50</u>

BUREAU OF LABOR.

Salaries, Bureau of Labor, 1910.....	4,392.42
Salaries, Bureau of Labor, 1911.....	100,849.58
Miscellaneous expenses, Bureau of Labor, 1910.....	13,407.99
Miscellaneous expenses, Bureau of Labor, 1911.....	56,119.80
Library, Bureau of Labor, 1910.....	235.55
Library, Bureau of Labor, 1911.....	829.06
Medical examination of injured employees, 1911.....	249.00
Total.....	<u>176,083.35</u>

STEAMBOAT-INSPECTION SERVICE.

Salaries, Office of Supervising Inspector General, Steamboat-Inspection Service, 1910.....	\$601. 69
Salaries, Office of Supervising Inspector General, Steamboat-Inspection Service, 1911.....	13, 677. 20
Salaries, Steamboat-Inspection Service.....	427, 178. 11
Contingent expenses, Steamboat-Inspection Service.....	92, 563. 39
Total.....	<u>534, 020. 39</u>

BUREAU OF STATISTICS.

Salaries, Bureau of Statistics, 1910.....	2, 885. 53
Salaries, Bureau of Statistics, 1911.....	66, 435. 98
Collecting statistics relating to commerce, 1910.....	240. 17
Collecting statistics relating to commerce, 1911.....	3, 718. 45
Total.....	<u>73, 280. 13</u>

BUREAU OF NAVIGATION.

Salaries, Bureau of Navigation, 1910.....	1, 349. 21
Salaries, Bureau of Navigation, 1911.....	30, 538. 29
Contingent expenses, Shipping Service, 1909.....	28. 80
Contingent expenses, Shipping Service, 1910.....	1, 166. 50
Contingent expenses, Shipping Service, 1911.....	5, 493. 58
Salaries, Shipping Service.....	65, 305. 15
Instruments for measuring vessels and counting passengers, 1911.....	195. 04
Refund to Judson S. Walter.....	21. 00
Total.....	<u>104, 097. 57</u>

BUREAU OF STANDARDS.

Salaries, Bureau of Standards, 1910.....	6, 511. 08
Salaries, Bureau of Standards, 1911.....	181, 406. 84
Equipment, Bureau of Standards, 1910.....	8, 370. 18
Equipment, Bureau of Standards, 1911.....	38, 350. 18
General expenses, Bureau of Standards, 1909.....	9. 22
General expenses, Bureau of Standards, 1910.....	2, 648. 67
General expenses, Bureau of Standards, 1911.....	17, 775. 16
Improvement and care of grounds, Bureau of Standards, 1910.....	309. 06
Improvement and care of grounds, Bureau of Standards, 1911.....	2, 192. 65
Laboratory, Bureau of Standards.....	1, 910. 00
Testing machine, Bureau of Standards.....	65, 463. 03
Gaslight standards, Bureau of Standards, 1910.....	1, 338. 53
Weights and measures, Bureau of Standards, 1910.....	641. 31
Weights and measures, Bureau of Standards, 1910-11.....	7, 466. 59
Investigating effects of electric currents, Bureau of Standards, 1911...	11, 587. 65
Testing structural materials, Bureau of Standards, 1911.....	49, 417. 24
Freight truck, Bureau of Standards.....	4, 000. 00
Testing machine, Bureau of Standards, Pittsburgh, Pa.....	146. 00
Testing structural materials of the United States, Bureau of Standards.	15, 000. 00
Total.....	<u>414, 543. 39</u>

BUREAU OF IMMIGRATION AND NATURALIZATION.

Salaries, Bureau of Immigration and Naturalization, 1910.....	\$4,380.18
Salaries, Bureau of Immigration and Naturalization, 1911.....	116,087.72
Expenses of regulating immigration, 1909 and prior years.....	11,678.18
Expenses of regulating immigration (special fund).....	11,686.49
Expenses of regulating immigration, 1910.....	135,355.68
Expenses of regulating immigration, 1910-11.....	105,534.26
Expenses of regulating immigration, 1911.....	2,232,308.10
Immigrant station, Boston, Mass.....	58.00
Immigrant station, Charleston, S. C.....	2,086.00
Immigrant station, Ellis Island, N. Y. (special fund).....	118,109.47
Immigrant station, Ellis Island, N. Y., 1910.....	21,959.36
Immigrant station, Galveston, Tex.....	1,312.76
Immigrant station, Philadelphia, Pa.....	19,698.45
Immigrant station, San Francisco, Cal.....	42,032.25
Ferry steamer, Immigration Service, San Francisco, Cal.....	66,523.12
Special examiners, etc., Division of Naturalization, 1910.....	10,101.22
Miscellaneous expenses, Division of Naturalization, 1911.....	137,566.91
Additional assistants to clerks of courts in naturalization cases.....	503.05
Additional assistants to clerks of courts in naturalization cases, 1910..	1,707.12
Enforcement of the Chinese-exclusion act, 1909.....	9.00
Payment of fees to Austrian seamen detained at Ellis Island, N. Y....	260.00
Total.....	<u>3,038,957.32</u>

BUREAU OF FISHERIES.

Salaries, Bureau of Fisheries, 1910.....	20,773.97
Salaries, Bureau of Fisheries, 1911.....	295,252.28
Miscellaneous expenses, Bureau of Fisheries, 1910.....	45,828.36
Miscellaneous expenses, Bureau of Fisheries, 1911.....	328,324.21
Salaries, agents at salmon fisheries in Alaska, 1910.....	104.17
Salaries, agents at salmon fisheries in Alaska, 1911.....	4,620.83
Salaries, agents at seal fisheries in Alaska, 1909.....	365.00
Salaries, agents at seal fisheries in Alaska, 1910.....	6,228.76
Salaries, agents at seal fisheries in Alaska, 1911.....	8,970.91
Supplies for native inhabitants of Alaska, 1910.....	16,329.39
Supplies for native inhabitants of Alaska, 1911.....	19,210.84
Biological station, Mississippi River Valley.....	41,678.41
Protecting seal fisheries of Alaska.....	133,980.41
Protecting seal and salmon fisheries of Alaska, 1911-12.....	3,834.52
Fish hatcheries:	
Alaska.....	2,211.46
Boothbay Harbor, Me.....	807.68
Clackamas, Oreg.....	4,000.00
Green Lake, Me.....	459.62
Lake County, Colo.....	4,200.64
Mammoth Spring, Ark.....	2,614.51
Montana.....	725.59
Puget Sound, Wash.....	5,866.13
Put-in-Bay, Ohio.....	3.35
Tennessee.....	622.28
Upper Mississippi River Valley.....	32,307.33
Vermont.....	10,745.65
Total.....	<u>990,066.30</u>

BUREAU OF LIGHTHOUSES.

Salaries, Office of Lighthouse Board, 1910.....	\$1,998.52
Salaries, Bureau of Lighthouses, 1911.....	55,985.38
Supplies of lighthouses, 1911.....	3,515.39
Repairs and incidental expenses of lighthouses, 1911.....	3,102.41
Expenses of buoyage, 1911.....	3,190.55
Expenses of light vessels, 1910.....	10,825.00
Expenses of light vessels, 1911.....	248.88
Maintenance of lighthouse tenders, 1911.....	43.07
Repairs to lighthouse tenders, 1911.....	2,826.17
Repairs of light vessels, 1911.....	2,847.59
Frying-Pan Shoal light vessel, N. C.....	8,717.56
Milwaukee light vessel, Wis.....	38,504.16
Relief light vessel, Ninth and Eleventh lighthouse districts.....	16,141.84
Tender for the First lighthouse district.....	17.02
Tender for the Fifteenth lighthouse district.....	341.25
Tender for engineer, Third lighthouse district.....	8,360.90
Tender for engineer, Sixth lighthouse district.....	6.51
Tender for inspector, Eighth lighthouse district.....	20,262.37
Expenses of fog signals, 1911.....	.61
Lighting of rivers, 1911.....	5.69
Total.....	176,940.87
Grand total.....	6,051,022.50

The following statement shows the expenditures during the fiscal year ended June 30, 1911, 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, Fisheries, and Lighthouses, the Office of the Supervising Inspector General, Steamboat-Inspection Service, expenses of regulating immigration, 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).....	\$6,051,022.50
By the authorized disbursing officers of the Lighthouse Establishment.....	5,130,028.92
By the disbursing clerk, Bureau of the Census, on account of salaries and expenses of the Bureau of the Census.....	7,841,583.69
By the special disbursing agent, Coast and Geodetic Survey, on account of salaries and expenses of the Coast and Geodetic Survey.....	955,418.36
By the special disbursing agents of the Immigration Service.....	35,467.95
By the special agents of the Department investigating trade conditions abroad, as special disbursing agents.....	35,516.85
By special disbursing agents, Bureau of Fisheries.....	38,961.52
By special disbursing agents, Bureau of the Census.....	3,449.60
By customs officers on account of witnesses' fees in steamboat investigations.....	706.95
By warrants drawn on the Treasurer of the United States to satisfy accounts settled by the Auditor for the State and other Departments.....	419,182.79
Total.....	20,511,339.13

MISCELLANEOUS RECEIPTS, FISCAL YEAR 1911.

Coast and Geodetic Survey:	
Sale of Charts, Coast Pilots, and Tide Tables.....	\$14, 037. 88
Sale of property, outside work, etc.....	2, 208. 83
Bureau of Standards: Standardizing and testing weights, etc.....	10, 880. 73
Bureau of Immigration and Naturalization:	
Head tax.....	3, 655, 721. 00
Exclusive privileges.....	13, 262. 86
Naturalization fees.....	288, 034. 00
Fines and court costs.....	37, 338. 12
Telephone rentals and sale of ice.....	1, 618. 14
Bureau of Navigation: Navigation fees.....	137, 632. 08
Bureau of Fisheries: Sale of sealskins.....	403, 946. 94
Bureau of the Census:	
Transcripts of census records.....	492. 64
Sales of publications.....	432. 40
Sale of Government property.....	238. 47
Bureau of Lighthouses: Sale of condemned property, rentals, etc.....	31, 963. 21
Proceeds of sale of condemned property, exclusive of Bureau of Light-houses.....	10, 193. 42
	<hr/> 4, 608, 000. 72
Other receipts: Tonnage tax.....	1, 083, 255. 34
	<hr/>
Total.....	5, 691, 256. 06

APPOINTMENT DIVISION.

The accompanying table shows by bureaus the number of positions in the service of the Department on July 1, 1911, and the increase or decrease in each bureau as compared with July 1, 1910.

Bureaus.	Statu-tory.	Non-statutory.	In Dis-trict of Colum-bia.	Outside District of Co-lumbia.	Total.	In-crease.	De-crease.
Office of the Secretary.....	161	.....	161	.....	161	24	.....
Bureau of Manufactures.....	27	15	33	9	42	2	.....
Bureau of Corporations.....	64	63	127	.....	127	8	.....
Bureau of Labor.....	72	25	97	.....	97	.....	14
Bureau of Lighthouses.....	59	5, 396	42	5, 413	5, 455	.....	34
Bureau of the Census.....	43	1, 457	723	777	1, 600	.....	26
Coast and Geodetic Survey.....	245	108	266	87	353	7	.....
Bureau of Statistics.....	57	1	58	.....	58	1	.....
Steamboat-Inspection Service.....	194	69	9	254	263	1	.....
Bureau of Fisheries.....	376	2	82	296	378	17	.....
Bureau of Navigation.....	42	35	24	53	77	2	.....
Bureau of Immigration and Naturalization...	99	1, 539	104	1, 534	1, 638	76	.....
Bureau of Standards.....	192	72	223	41	264	91	.....
Total.....	1, 631	8, 782	1, 949	8, 464	10, 413	* 229	74

* Does not include the following employees appointed for all or a part of the Thirteenth Decennial Census period, who were on duty at the close of June 30, 1911: 1,948 clerks, 52 subclerks, 14 special agents; total, 2,014.

* Net increase 155, against a net increase of 327 in the fiscal year 1910.

The classification of positions in the Department with respect to the Civil-Service Act and Rules is shown below:

[illegible]

PRESIDENTIAL APPOINTMENTS MADE SOLELY ON MERIT.

During the incumbency of the present head of the Department (Mar. 4, 1909, to Sept. 1, 1911), 29 appointments have been made to presidential positions in this Department, some by the President alone and others, as required by law, through nomination by the President and confirmation by the Senate. No better indorsement can be given to the principle of making appointments to public office solely on merit than to refer to the fact that 15 of the 29 appointments mentioned were made by the transfer, promotion, or reinstatement of persons who by reason of training and experience possessed the qualifications required of them in their new and more important positions. Of the remaining 14 presidential appointments made under this administration, 6 were of former officials who had demonstrated their fitness and were deserving of the consideration shown; 4 were of persons outside the service because competent ones could not be found within it who would accept positions in Alaska; and 4 were of persons having well-known qualifications developed in lines of work not pertaining to Government service.

THIRTEENTH DECENNIAL CENSUS.

The following statement shows the number of appointments to and separations from the Thirteenth Decennial Census roll made by the Director of the Census during the fiscal year:

Positions.	Appoint-ments.	Separations.
Supervisors.....		327
Special agents.....	6,407	6,186
Clerks.....	1,087	979
Temporary clerks (not exceeding 60 days).....	385	300
Subclerks.....	78	32
Temporary subclerks (not exceeding 60 days).....	9	10
Total.....	7,966	7,894

Satisfactory results have been obtained from the appointment of the clerical force from the special examination provided for by the census act.

LEGISLATION AFFECTING POSITIONS IN THE STEAMBOAT-INSPECTION AND SHIPPING SERVICES.

By the legislative, executive, and judicial appropriation act approved March 4, 1911, Congress transferred, effective July 1, 1911, the assistant inspectors of hulls and boilers in the Steamboat-Inspection Service (83 in number), the shipping commissioners under

the Bureau of Navigation (17 in number), and a janitor in the Shipping Service at New York City from the nonstatutory to the statutory rolls.

The maximum pay allowed clerks in the Steamboat-Inspection Service was decreased from \$1,600 to \$1,500 per annum. This particular change did not necessitate any reductions in pay, as none of the clerks was receiving more than \$1,500 per annum when the act was passed. There was, however, a decrease of \$2,560 in the total amount of the appropriation for clerk hire for the fiscal year ending June 30, 1912, which was met by the discontinuance of two positions and a general rearrangement of the salaries.

The change in the maximum compensation of clerks in the Shipping Service to \$1,600 per annum, and the reduction in the appropriation for clerks for the fiscal year 1912 by \$2,440, necessitated, on July 1, 1911, the reduction of 1 clerk from \$1,620 to \$1,600 per annum, the reduction of 11 clerks in amounts ranging from \$20 to \$132 per annum, and the discontinuance of 2 positions at \$900 per annum.

Seven thousand dollars was appropriated to enable the Department to employ such persons and means as may be necessary to enforce the act relating to the inspection of wireless apparatus on ocean-going passenger vessels. In pursuance of this authority, three wireless ship inspectors, with stations at New York, Baltimore, and San Francisco, have recently been appointed.

FOREIGN-BORN EMPLOYEES IN THE IMMIGRATION AND NATURALIZATION SERVICES.

In connection with the complaint made during the early part of the year that aliens coming to this country were not accorded fair treatment on reaching the ports of entry, the Department made an investigation and found that of 1,571 persons employed in the Immigration and Naturalization Services 391, or 24.8 per cent, were of foreign birth, and that 17 of this number were pensioners. Not including 1 born at sea, these employees came from 41 different countries. Practically every class of positions in the services, from commissioner of immigration and chief naturalization examiner to charwoman and laborer, was represented by naturalized citizens, while their aggregate salaries (not including 16 occasionally employed and paid by the day) was \$441,252.50.

TEMPORARY APPOINTMENTS.

Believing that temporary appointments are, as a rule, not conducive to the interests of good administration, the Department has adopted as a policy the reduction of such appointments to the lowest possible number. It is obvious that the Government derives more faithful and intelligent service from a continuously employed per-

sonnel than from a shifting, changeable, and temporary one, consisting largely of employees who are unable, on account of inexperience, to cope with even the ordinary run of Government work. Each recommendation for a temporary appointment is examined, and to receive favorable consideration it must show unmistakably that conditions justify the desired action. This procedure, and the surveillance of the Civil Service Commission of all temporary appointments, constitute what might be termed a double-check system.

PROMOTIONS.

The promotion of employees strictly on merit is one of the most important factors in raising and maintaining the efficiency of the service. This Department aims to reward those who perform the most efficient service and who possess the qualifications required in the positions to which promotions are made. The efficiency ratings submitted from time to time by the chiefs of bureaus and offices are used as the basis in determining who is best entitled to such promotions; and whenever an employee not having the highest rating in his class is recommended the officer making the recommendation is required to submit satisfactory reasons before favorable action is taken. In connection with the 1,378 promotions made during the current year, it was necessary in only 35 instances to request this additional information.

The doubtful results obtained through the promotion examinations which were held at one time, and the fact that the Civil Service Commission has not provided regulations on the subject, would seem to justify the statement that in the last analysis the real value of an employee can be best determined by the officer under whom he serves. Seniority should not determine the question; for if it did, the efficiency of the service would undoubtedly deteriorate, as there would be no incentive for employees younger in point of service to put forth their best efforts. Nor could anything be more demoralizing to an office than the promotion of an employee to a position requiring duties which he is unable to perform, for such a course would result only in decreased efficiency on the part of competent employees and, in many instances, their loss to the service.

TRANSFER RESTRICTIONS.

As the advantages which would accompany greater elasticity in the transfer rules were dwelt upon at some length in the last annual report, the Department desires merely to repeat its protest against such unnecessary restrictions to transfers as the three-year limit and apportionment rules have proved to be. The latter, in its practical application, has been found to be particularly objectionable.

due partly to the fact that it applies to every transfer from the nonapportioned to the apportioned service (both interdepartmental transfers and transfers within a department), and partly to the fact that it is practically impossible for a department to know prior to making formal request on the Civil Service Commission whether or not a transfer is permissible under the rules. Of course, the service suffers to just the extent of the time consumed by the Commission to decide the question and, if the decision is unfavorable, the additional time required to fill the position in some other way.

INQUIRY INTO THE EFFICIENCY OF THE PERSONNEL.

The Department has about completed the third inquiry into the efficiency of its subordinate officers and employees. In deciding upon this inquiry considerable weight was given to the fact that inquiries of this nature stimulate employees to increased activity and cause them to realize that they must give to the Government the service to which it is entitled. The primary object of the investigation, however, was the desire of the Department to obtain efficiency ratings to serve as a basis in determining the eligibility of employees for promotion, the records of two years ago having been found to be no longer satisfactory for this purpose. It is gratifying to note that the number of employees reported as inefficient is smaller than in the last investigation. This would seem to indicate that the beneficial results of that searching inquiry had been far-reaching, and that, in the majority of cases, the increased efficiency on the part of employees had been of a permanent rather than a temporary character.

SUPERANNUATION AND RETIREMENT.

Superannuation in the civil service and the proposed retirement of employees who have passed their age of greatest usefulness have attracted much attention. Considerable discussion of the subject has appeared in the public press, and many Government officials in reporting on conditions affecting the personnel of their respective departments or offices have laid more or less stress on the evils of superannuation in the service and the necessity of providing, as has been done by a number of countries and private business concerns, some equitable scheme of retirement of those who are no longer able to render a fair degree of service, but who would be left without adequate means of support if dismissed. Many difficulties, of course, may be expected to attend the passage of any law looking to the retirement on pay of superannuated employees in the civil service, whether such retirement is accompanied by annuities paid outright by the Government or whether it is made possible by contributions in whole or in part by the employees themselves.

Incomplete reports recently received from the bureaus show that there are 72 employees of this Department who are more or less superannuated; that the aggregate of their salaries is \$73,385; and that their average age is 70 years. Perhaps a greater amount of superannuation and consequent loss to the Government may be found in the older departments and offices. As this Department last year recorded its opinion on the subject of superannuation, it is unnecessary to again point out the advantages and economy that would result from the retirement, which practically everyone admits should be on an adequate annuity, of the civil employees of the Government who have become inefficient through advancing age.

LEAVES OF ABSENCE.

In December, 1910, after considerable discussion had taken place with regard to the claim that the leave privilege was being abused in all departments, this Department instituted an investigation with respect to its own employees in the District of Columbia. Briefly, without including statistics involving the bureaus separately, the following general information was compiled from a consideration of the leave taken during the calendar year 1909:

Sex.	Em- ployees con- sid- ered.	Days taken.		Days taken per employee.		Total.
		Annual.	Sick.	Annual.	Sick.	
Male	1,143	29,596.0	7,232.5	25.89	6.33	32.22
Female	418	10,690.5	4,965.5	25.55	11.88	37.43
Total	1,561	40,276.5	12,198.0	25.80	7.81	33.61

With a view to determining whether an arbitrary rule should be formulated which would absolutely prevent any infringement of the leave privilege, the Department, in February last, addressed letters to the officers presiding over bureaus and offices in which employees had taken practically the full amount of annual and sick leave during the past three years, and requested them to suggest what, if any, remedial measures should be prescribed. The answers submitted show that the cases of apparent abuse are very rare, so it was deemed imprudent and injudicious to enforce an arbitrary rule which would affect the guilty and the innocent as well. It was decided, however, to send to each chief of bureau or office the names of the employees subordinate to him who had taken excessive leave, with directions that, notwithstanding the regulations on the subject, no sick leave be granted the employees referred to unless, in addition to the usual physician's certificate, the officer under whom the employee serves

is personally satisfied, and so certifies, that such person is actually so physically incapacitated as to be unable to appear for duty. The burden therefore rests, as heretofore, with such officers, under the careful supervision of the Department, to enforce the proper discipline with respect to this subject. Finally, as an additional safeguard to prevent the abuse of the privilege, the leave status of the employee was made an important part of his efficiency rating and therefore an essential element in determining questions relating to promotions.

EXECUTIVE ORDERS AFFECTING THE PERSONNEL.

During the year ended June 30, 1910, five Executive orders having direct application to the personnel of this Department were promulgated. During the past year there were only two such orders. One authorized the reinstatement of a clerk without reference to the year limitation of the reinstatement rule, because of her efficiency while in the service and the general good that would accrue to the service by her return thereto. The other authorized the transfer to the departmental service at Washington, D. C., without regard to the apportionment of the States of which they were legal residents, of certain employees whose services had been satisfactory but who had been furloughed without pay because of a general reduction in the force resulting from the reorganization of the Light-house Service.

CLASSIFICATION OF PRESIDENTIAL POSITIONS.

There are certain positions in the Department now in the presidential class and subject to confirmation by the Senate which might very properly be brought within the competitive classified service. These positions are supervising inspectors in the several districts of the Steamboat-Inspection Service; and agent, Alaska Salmon Fisheries; two assistant agents, Alaska Salmon Fisheries; warden, Alaska service; and four deputy wardens, Alaska service, of the Bureau of Fisheries.

There are apparently no reasons to be urged against the classification of supervising inspectors of the Steamboat-Inspection Service. While it is not unlikely that they were originally political offices and filled as a result of political favor, those conditions no longer exist, as is shown by the fact that the incumbents have retained their offices through changes of administration and that there has been a tendency of late to fill vacancies by promotion. If these positions were classified, all vacancies would undoubtedly be filled by promotion from within the service, and the Government would be benefited by having this particular line of its business under the management of well-trained officers.

One position of assistant agent and those of warden and deputy warden, in the Bureau of Fisheries, were created by the sundry civil act of March 4, 1911, effective July 1. When the annual estimates were submitted to Congress, it was the intention of the Department that these positions should be treated as classified, although possibly in some instances excepted from examination, but on June 1, 1911, the Attorney General expressed the opinion that, as there was no provision of law to the contrary, appointment to the positions was vested in the President, by and with the advice and consent of the Senate.

To classify the positions referred to would require an act of Congress bestowing upon the Secretary the power of appointment, and this may be conveniently accomplished by the incorporation of suitable language in the next appropriation act.

ALLEGED POLITICAL ACTIVITY.

Under Rule I, section 1, of the Civil-Service Rules, employees are prohibited from using their official authority or influence for the purpose of interfering with elections or affecting the results thereof, and from taking an active part in the management of political campaigns. They may, however, vote as they please and express privately their opinion on political subjects. Although a great deal of literature on the subject has been distributed among employees by the Department and the Civil Service Commission, it is but natural that in a great Department having thousands of employees in all sections of the country there should be some few who are unaware of the existence of this rule or perhaps unfamiliar or careless with its interpretation. During the last fiscal year only 10 cases of alleged political activity on the part of its employees were brought to the Department's attention. In 2 cases the charges were not proved; in 2 the employees were warned; while in the remaining 6 cases the employees concerned resigned from the Federal positions they were holding or from the political associations of which they were members.

DESIGNATIONS OF OFFICIALS TO ACT AS CHIEFS OF BUREAUS.

It was found during the past year that section 178 of the Revised Statutes, which designates the officer who shall act in the absence of the chief of a bureau or service whose appointment is vested in the President, could not be applied to certain bureaus in the Department. Under the terms of this statute, during the absence of the chief "the assistant or deputy of such chief or of such officer, or if there be none, then the chief clerk of such bureau," is authorized to perform his duties. Thus, no provision is made to cover bureaus where there are neither deputies nor chief clerks, such as, for instance, the Bureau of Standards and the offices of the different districts of the Steamboat-Inspection Service, and bureaus from which, although there may be a chief clerk,

the chief and his assistant are absent at the same time, as has occasionally happened.

To remedy this condition Congress, at the Department's request, incorporated a clause in the last legislative, executive, and judicial appropriation act authorizing the Secretary to designate some employee to act as chief of bureau in any case where this action was thought to be necessary.

DIVISION OF PUBLICATIONS.

VOLUME AND COST OF PRINTING.

There was allotted to the Department (exclusive of the Bureau of the Census) for printing and binding for the fiscal year ended June 30, 1911, the sum of \$375,000, and for the publication of the World Trade Directory, prepared by the Bureau of Manufactures, a further allotment of \$6,500 was made, making the total amount available \$381,500. Of the regular allotment, \$370,030.22 was expended, leaving a balance of \$4,969.78 to be covered into the Treasury. The total amount appropriated for printing the World Trade Directory (\$6,500) was consumed in printing the work, the Department paying also out of its general allotment \$840.45 for 100 bound copies and 50 press proofs printed on one side for office use for the Bureau of Manufactures. The increase in expenditures for the regular work of the Department, as compared with the fiscal year 1910, was \$8,499.79, or 2.35 per cent.

The following table shows the quantity and cost of each class of work ordered from the Public Printer during the fiscal years 1909, 1910, and 1911:

Class.	1909		1910		1911	
	Quantity.	Cost.	Quantity.	Cost.	Quantity.	Cost.
Blank forms.....	9,178,840	\$40,686.60	9,639,575	\$43,038.25	12,378,007	\$51,232.41
Reports, pamphlets, etc.....	4,261,069	288,079.38	3,118,330	263,873.66	5,276,080	290,387.99
Letterheads.....	2,165,250	6,847.30	2,056,500	5,432.36	2,254,000	4,209.92
Envelopes.....	78,824	232.95	85,577	220.80	98,250	175.10
Circulars and decisions.....	409,450	3,865.83	350,775	4,013.93	370,525	2,966.76
Index cards.....	600,350	715.05	994,000	1,025.97	1,644,500	1,397.56
Guide cards and folders.....	247,150	1,388.28	426,400	2,043.32	623,310	2,352.07
Memorandum sheets.....	2,389,800	2,313.93	3,802,900	3,135.66	3,506,700	2,665.06
Blank books.....	22,502	26,462.43	52,977	32,147.14	28,069	30,103.46
Miscellaneous books (binding).....	2,570	4,268.21	3,057	5,804.18	2,858	5,448.64
Miscellaneous.....		79.95		795.16		71.25
Total.....		374,939.91		381,534.43		370,030.22

An examination of the above figures will show that there was an increase in the quantity ordered of each of the classes of work with the exception of memorandum sheets printed, blank books made, and miscellaneous books bound for library purposes. Of blank forms there was an increase in the number printed of nearly 2,750,000, or 28.40 per cent; of reports and pamphlets, an increase of about 2,160,000, or 69.16 per cent; of letterheads, 197,500, or 9.60 per cent; of envelopes, 12,700, or 14.81 per cent; of circulars and decisions, 19,750, or 5.63 per cent; of index cards, 650,500, or 65.44 per cent; and of guide cards and vertical folders, 197,000, or 46.18 per cent. The increase in the number of reports and pamphlets printed in 1911 over 1910 is due principally to the act of June 25, 1910, which authorized the edition of the Daily Consular and Trade Reports to be increased from 10,000 to not exceeding 20,000 copies. More than 4,000,000 copies of this publication alone were printed and distributed during the past year. The increase in the number of blank forms printed is due largely to the substitution of loose forms and cards for blank record books in the Steamboat-Inspection Service and to the use of card forms for reporting immigration statistics.

The statement presented below gives the expenditures for printing and binding for each bureau, office, and service (except the Bureau of the Census) for the fiscal years 1909, 1910, and 1911, and the increase or decrease in 1911 as compared with 1910:

Offices, bureaus, and services.	1909	1910	1911	Increase (+) or decrease (-) in 1911.	
				Cost.	Per cent.
Office of the Secretary	\$17,038.22	\$21,026.94	\$17,619.14	-\$3,407.80	-16.20
Bureau of Corporations	9,511.09	8,177.84	10,798.12	+ 2,621.28	+28.06
Bureau of Manufactures	57,466.97	50,226.55	54,528.57	+ 4,302.02	+ 8.57
Bureau of Statistics	84,226.61	90,258.97	83,622.47	- 6,586.50	- 7.28
Bureau of Labor	42,624.73	33,904.76	39,870.96	+ 5,966.20	+17.59
Coast and Geodetic Survey	39,291.42	31,138.93	22,510.15	- 8,628.78	-27.71
Bureau of Fisheries	9,378.22	14,916.45	14,942.87	+ 26.42	+ .18
Bureau of Navigation	10,616.20	9,034.08	9,399.64	+ 365.56	+ 4.05
Shipping Service	2,012.05	2,494.04	2,410.15	- 83.89	- 3.36
Office, Supervising Inspector General, Steamboat-Inspection Service	5,619.66	5,870.12	3,931.87	- 1,938.25	-33.02
Steamboat-Inspection Service	12,095.21	9,607.69	11,140.62	+ 1,533.03	+15.96
Bureau of Lighthouses	25,174.58	17,930.11	20,229.48	+ 2,299.37	+12.82
Lighthouse Service	11,279.69	8,019.76	10,636.51	+ 2,616.75	+32.68
Bureau of Immigration and Naturaliza- tion	4,843.66	5,999.70	6,476.40	+ 476.70	+ 7.95
Immigration Service	13,483.35	19,240.06	17,542.38	- 1,697.70	- 8.82
Division of Naturalization	(*)	755.24	1,046.83	+ 291.59	+38.60
Naturalization Service	9,769.78	11,116.01	18,520.57	+ 7,404.56	+66.61
Division of Information	3,610.41	744.78	429.21	- 315.57	-42.37
Bureau of Standards	8,360.64	9,982.98	15,764.51	+ 5,781.53	+57.91
Customs Service	8,537.42	11,085.50	8,538.77	- 2,546.73	-22.97
Total	374,939.91	361,530.43	370,030.22	+ 8,499.79	+ 2.35

* Of this amount, \$1,337.43 was for supplies furnished to the Bureau of the Census, which reimbursed the Department's allotment to that extent.

* Cost of work for Division of Naturalization carried under the Naturalization Service account.

DISTRIBUTION OF PRINTED SUPPLIES.

During the past year there were received and filled 11,918 requisitions from the various outside services of the Department calling for 8,821,689 blank forms, as compared with 5,860,337 in 1910 (an increase of 2,961,352, or 50.53 per cent), and 343,867 books and pamphlets, as compared with 269,418 in 1910 (an increase of 74,449, or 27.67 per cent). There were also received and filled during the year 709 requisitions for printed stationery, 380 of which were from offices and bureaus of the Department in Washington and 329 from the outside services. These requisitions called for 7,166,650 envelopes, 2,254,000 letterheads, 3,299,800 memorandum sheets, 8,100 stenographers' notebooks, 5,307 blank books, 970,800 index cards, 175,550 guide cards, 158,250 vertical folders, 131,503 blank forms, and 27,500 embossed envelopes.

PUBLICATION WORK.

During 1911 the Department, exclusive of the Bureau of the Census, issued 795 publications, against 798 in the fiscal year 1910. Twenty-seven of these, against 28 in 1910, were printed in two or more editions, while a still larger number were reprints of issues of earlier years. These publications contain a total of 47,534 printed pages, as compared with 42,125 in 1910, and there were issued of them a grand total of 5,241,612 copies, against 3,363,323 in the preceding year.

The following table affords a comparative summary of the publication work of each bureau for the past two years:

Bureau.	Publications.		Pages.		Copies printed.	
	1910	1911	1910	1911	1910	1911
Office of the Secretary.....	31	34	1,150	1,302	237,650	255,500
Coast and Geodetic Survey.....	27	21	2,907	2,778	39,150	16,300
Corporations Bureau.....	11	14	1,746	4,796	22,040	17,200
Fisheries Bureau.....	109	48	2,382	3,420	115,000	38,000
Immigration and Naturalization Bureau.....	43	38	1,315	1,061	99,100	96,900
Labor Bureau.....	23	26	3,912	8,534	136,600	93,200
Lighthouse Bureau.....	80	84	3,008	3,419	163,728	180,630
Manufactures Bureau.....	268	340	10,804	8,541	2,075,430	4,060,732
Navigation Bureau.....	10	8	2,018	1,343	13,200	17,000
Standards Bureau.....	65	86	1,970	3,155	45,350	62,350
Statistics Bureau.....	121	84	9,428	7,808	166,425	96,400
Steamboat-Inspection Service.....	10	12	1,485	1,387	254,650	298,400
Total.....	798	795	42,125	47,534	3,363,323	5,241,612

DISTRIBUTION OF PUBLICATIONS.

The attention of the Division of Publications has, for the past two years, been directed largely toward the centralization within it of the work incident to the distribution of the publications issued by the

several bureaus and offices of the Department, as required by section 92 of the act of January 12, 1895. This has been done gradually, only one bureau at a time being considered, until there remain only the Bureau of the Census and the Bureau of Standards which distribute their own publications; and arrangements are now being made for commencing at an early date the distribution by this Division of the publications of the latter. During the past year the mailing lists and reserve publications of the Coast and Geodetic Survey and the Bureau of Fisheries have been taken over in their entirety.

Greater haste has not been made in this work of centralization because of the desire to perfect the working organization as far as possible while it is being built up, and because it is important that the distribution of the publications of any bureau be not suspended or interfered with, even for a short time. There are many details in connection with each transfer the correct conduct of which requires the exercise of care in order that the main purposes of centralization—economy and efficiency—may best be subserved. This work falls altogether on the regular force engaged in the distribution work and must be done at times when work already in hand may not suffer.

The large increase in the number of publications issued by the Department increases of course the labor in connection with the mailing and distribution of them. For instance, a year ago only about 12,000 publications were being mailed each day from the Division, whereas at the present time the number is about 19,000. Thus the work in connection with the distribution has within a year increased nearly 60 per cent.

There has been installed in the Division of Publications a consolidated mailing list of all publications sent out by the Division. By consulting this list, or index, as it may properly be called, it can be ascertained in a moment just how many and what publications any individual receives. In compiling this index numerous duplications of names on mailing lists were detected, and a large number of inaccuracies in both names and addresses were discovered and corrected. It was also found that some of the publications were being sent in large quantities to individuals for distribution. This was believed to be a source of waste, and was brought to the attention of the heads of the bureaus involved, with the result that the practice was stopped.

This index serves a number of useful purposes, not the least of which is its use as a guide when a request for a change in address is made. The great majority of these merely request the Department to change a certain address on its mailing lists. There are 78 such lists, and it was formerly necessary to examine each of these to see if the name of the individual appeared thereon. By consulting the

consolidated index it can be seen at once on which lists the name appears, thus reducing to a minimum the time and expense required in making the change.

The Division has installed also a record of issues of publications, by consulting which it can be seen at a glance how many copies of any publication have been printed, how many have been issued and when, and how many are on hand. Not only is this information available for each publication, but also for stated periods for all publications issued by a bureau and for all publications issued by the Department. This kind of information it was not formerly possible to procure, although frequently called for, without considerable delay and much clerical labor on the part of the several bureaus.

As anticipated by the Department, the centralization within one division of the work incident to the distribution of all the publications of the Department has resulted in many economies and advantages to the service. Many thousands of dollars have been saved in the cost of stencils, containers or wrappers, labor, hauling, etc., while equally large savings have come from reductions in the mailing lists as a consequence of thorough revisions of them. And, more important still, there has been brought about a higher degree of efficiency in an important line of departmental work—that of disseminating information.

SALE OF PUBLIC DOCUMENTS.

I have each year in my annual report had a word to say in favor of placing a nominal price on certain classes of public documents, because I am thoroughly convinced that it would restrict excessive demands from sources which frequently can not possibly be benefited by the publications, and thus leave the distribution of necessarily limited editions to those for whom they have the greatest interest or value. Already Tide Tables, Coast Pilots, and Coast Charts, issued by the Coast and Geodetic Survey; Heads of Families, First Census of the United States, 1790, issued by the Bureau of the Census; and World Trade Directory, issued by the Bureau of Manufactures, are being sold by the Department or by the Superintendent of Documents. Steps will probably soon be taken by the Department to limit the distribution of copies of the Bulletin of the Bureau of Standards to those who are willing to pay for them a sum which will cover the actual cost of their production, though reprints of papers from the Bulletin will continue to be supplied free of charge. This rule could with advantage be extended to many others of the technical and scientific publications issued by the Coast and Geodetic Survey, the Bureau of Fisheries, and the Bureau of Standards, as well as to many of the costly statistical publications issued by the Bureaus of the Census, Statistics, and Manufactures. Practically all European countries have adopted the practice of placing a very low limit to

the free distribution of public documents, and no doubt our Government will come to realize that in this way only can an effective check be placed on the extravagance and waste in public printing which has for so long been a source of complaint both in and out of the Congress.

OFFICE OF THE SOLICITOR.

The following is a condensed summary of work done by the Office of the Solicitor during the fiscal year ended June 30, 1911:

Legal opinions rendered, formal and informal (memorandum).....	506
Claims, injured employees compensation act (involving examination as to law and facts).....	3,065
Contracts examined (approved, disapproved, drafted, redrafted, modified; involving expenditures amounting to \$1,453,503.89).....	408
Contracts examined (indeterminate amounts; fuel, supplies, etc.).....	84
Leases examined (approved, disapproved, etc.; involving expenditures amounting to \$250,532.91).....	159
Bonds, contract, examined (approved, disapproved, etc.; amounting to \$647,345.50).....	204
Bonds, official, examined (approved, disapproved; amounting to \$285,000)..	73
Bonds, alien immigrants, examined (approved, disapproved; amounting to \$974,000).....	1,580
Insurance policies, construction, examined (approved, disapproved; amounting to \$463,925).....	6
Miscellaneous matters, embracing everything submitted for the advice or suggestion of the Solicitor, or for the formulation of departmental action, not included in the foregoing items.....	968
Total number of matters disposed of.....	7,042

BUREAU OF THE CENSUS.

Much the greater part of the work of the Bureau during the fiscal year has been on the tabulation of the results of the Thirteenth Decennial Census. The usual annual investigations regarding statistics of cities, production and consumption of cotton, vital statistics, and forest products have been carried on, but none of the special investigations authorized by the permanent census act and intended to be pursued primarily during the intercensus period has occupied the attention of the Bureau.

FIELD WORK.

For these reasons the Bureau has had very little field work during the year. The field work on the population and agricultural statistics had been completed during the preceding fiscal year and also the greater part of the field work on the manufactures statistics. A considerable number of special agents were, however, employed during part of the year in the collection of statistics of irrigation called for by an amendment to the Thirteenth Census act, and a large expense was incurred in securing returns from institutions for the defective and delinquent classes. The usual annual field work on the collection of cotton statistics and the collection of statistics of cities has also been pursued. The greater part of the permanent force of the Bureau, however, has been employed in the office at Washington in connection with the tabulation of the results of the decennial census, upon which work also a large number of temporary clerks have been employed.

GENERAL SCHEME OF CENSUS PUBLICATIONS.

During the year a general plan for the arrangement, publication, and distribution of the information derived from the census has been devised and is in process of carrying out. This scheme differs in important respects from that employed in connection with previous decennial censuses. The principal aim has been to disseminate the important results of the census in a form more convenient and intelligible to the ordinary reader than that heretofore used. The plan also contemplates a reduction in the expenditure for the distribution of the more detailed results of the census, which are of use only to libraries and a comparatively small number of individuals and institutions.

It is conceived that most citizens interested at all in statistical matters desire to know the details with regard to the population, agriculture, manufactures, and mining industries of their own State and

of their own county and community, and to know the principal facts with regard to other States and the country as a whole. Ordinarily they are not interested in a mass of details with regard to other States or other local communities.

With this conception in mind the Bureau of the Census proposes to issue a series of bulletins giving details for each State and a series of general bulletins giving the principal facts for the country as a whole, by States and by leading cities. The detail bulletins for any given State will in general be distributed only to the citizens of that State, while the bulletins containing the more general information will be distributed throughout the country. Later there will be prepared a series of bound compendiums, one for each State. The compendium for a given State will contain all the material in the separate bulletins for that State and all the material in the general United States bulletins, together with some additional information and text discussion which will perhaps not have been issued at all in bulletin form. The compendium of any given State will thus be a convenient volume, containing perhaps three or four hundred pages, which will be of great practical value to the people of that State. It will be much easier for them to find the information desired in a small volume of this character than to pick it out of a long series of bulky volumes. Moreover, owing to the comparatively small cost of such State compendiums, they can be distributed in a larger edition than the Government could afford to publish of the complete census.

While the proposed State compendiums will cover all three of the main branches of the census, namely, population, agriculture, and manufactures, mines and quarries, the nature of their contents can best be understood by describing the part which will relate to population only. For any given State the section of the compendium relating to population will contain (1) the number of inhabitants, for three censuses, by minor civil divisions (counties, cities, townships, precincts, wards, etc.); (2) facts with regard to the sex, color, general nativity, country of birth, citizenship, illiteracy, and school attendance of the population of each county, so arranged as to bring all the facts with regard to any one county into immediate juxtaposition; (3) similar detailed facts for each municipality of 2,500 or more inhabitants; (4) facts classified in somewhat greater detail with reference to the subjects above specified, and also with reference to other subjects, for the population of the State as a whole, it being desirable to publish a more complete statistical analysis for the State as a whole than for its smaller subdivisions; (5) statistics on similar subjects, with reference to cities of 25,000 or more inhabitants, in somewhat greater detail than for counties and smaller cities, but in less detail than for the State as a whole.

The various tables above mentioned as appearing in the State compendiums will contain approximately all the information which appears in the final reports with reference to that particular State and its subdivisions. There will, however, be another section (6) of the compendium for each State, which will present for all of the States comparative figures on the various subjects covered by the population census, only the more important items on each subject being included. In other words, this section will constitute an abstract of the population census by States. There will further be a similar abstract (7) for all cities in the United States of 25,000 or more inhabitants; likewise (8) a table showing the population of each county of the country and (9) a table showing the population of each incorporated place of 2,500 or more inhabitants.

The material with reference to population contained in the State compendiums will, as above stated, be largely issued in advance in the form of bulletins. One series of State bulletins on population is already in process of publication, the bulletins for numerous States having been issued and the remainder about to appear. This first series of State population bulletins deals exclusively with the number of inhabitants without presenting their characteristics; it gives the population of counties and minor civil divisions, together with comparative statistics of the distribution and growth of urban and rural population. An introductory text is written in connection with each of these State bulletins, so as to make the figures more intelligible. A second series of bulletins, giving the principal characteristics of the population, by counties and for the State as a whole, will be begun shortly.

The complete sets of final reports of the census, which, as before stated, are intended only for limited distribution, will comprise all of the material in detail for all of the States. These final reports will consist of two classes of volumes. In the volumes of the first class will be bound up together the contents of the several State compendiums. They will thus constitute a geographical presentation of the census material on all subjects with regard to each State and its subdivisions appearing in one place. The second set of volumes in the final reports will consist of subject presentations, in which the facts on any given subject will be published together, the data for each State or for each city being placed in comparison with those for other States and cities.

There will thus be to some extent a duplication of the material in the final reports, the same data appearing once under the geographical arrangement and again under the subject arrangement. This duplication will not, however, be very great; for, in the first place, the details with regard to the population of individual counties or of the smaller cities will appear only in the volumes based on geographical

grouping, and, in the second place, some of the analytical presentations for States and large cities in the tables on special subjects will not be reproduced in full in the geographical presentation.

It is intended also to issue a series of monographs or special reports covering individual subjects of the census. These will be merely reprints from the final reports, intended to save the expense of furnishing a complete volume or series of volumes to persons desiring information on a single subject only. To some extent monographs of this character were issued at previous censuses, but it is expected that the plan will be further developed.

The Bureau of the Census has taken special measures to secure the wide dissemination of the principal results of the census through the press. Statements consisting of simple text and tables, arranged for convenient publication, have been distributed to the press, with the result that a much wider publicity has been given to the census data than could ever be secured through the direct distribution of the bulletins and reports.

GENERAL PROGRESS OF CENSUS WORK.

The census act requires that the results of the census shall be published within the census period ending June 30, 1912. The Bureau expects to be able to comply with this requirement, provided adequate appropriations are made by Congress. The results can, with sufficient funds, be published by that date quite as completely as the law requires or as was the case with the Twelfth Census. The Director of the Census, however, finds it impossible to publish before June 30, 1912, in the form of final bound volumes, absolutely all of the information which ought to be derived from the census. The scope of the census is so enormous and the material so complex that it is impossible to perform all the tasks required—examination of original schedules, tabulation under a complex scheme of classification, checking of results, preparation of careful explanatory and summarizing texts, proof reading, printing, and binding—and to go into the most complete possible analysis of every subject within such a short period of time. As at the census of 1900, it may be possible that some even of the basic results can be published only in unbound bulletins, in some cases perhaps lacking full text discussion.

Moreover, there are at least three important subjects covered by the population census, concerning which only part of the tables which should be compiled can be compiled before the end of the fiscal year 1912. These are the subjects of occupations, characteristics of the foreign-born population by country of birth, and family statistics. The principal facts relating to each of these subjects, embracing all which may be considered as necessary in compliance with the law

authorizing the collecting of the statistics, can be published by June 30, 1912. For example, there can, if appropriations are adequate, be published prior to that time statistics showing the number of persons employed, by sex and broad age classifications, in each occupation. More detailed analyses, showing the race, nationality, conjugal condition, and age in some detail of the persons in different occupations, would be of great value, but, no matter how large a force be put upon them, they can not be completed until after the end of the census period. Precisely the same thing was done at the Twelfth Census, the greater part of the details regarding persons in the several occupations having been compiled and published after the three-year census period.

At the Twelfth Census practically no information was published concerning the characteristics of the foreign-born population, as classified by country of birth. The great interest in the subject of immigration during recent years makes it of the highest importance that such detailed statistics should be compiled, and this also must necessarily be deferred to the fiscal year 1913. The number born in each country, and the characteristics of the foreign-born as a general class, will be tabulated during the census period.

At the Twelfth Census comparatively little information regarding family conditions was published. Preparations were made for the compiling of statistics regarding the number of children born to each married woman and the number of such children living, together with other facts regarding family conditions, but the tabulations were never completed nor the results published. It is proposed in connection with the Thirteenth Census to issue, prior to June 30, 1912, facts similar to those which were issued at the Twelfth Census, but it would be desirable during the fiscal year 1913 to tabulate in considerable detail statistics regarding fecundity; that is to say, statistics showing the number of children born and the number living for married women, in comparison with the duration of marriage, and on the basis of classification according to race and nativity. The profound interest which attaches to the question of the relative fecundity of the different races and of the native and foreign-born populations would render such statistics of great value.

OFFICE FORCE.

The office work in connection with the decennial census required a very large addition to the force of the Bureau. At the beginning of the fiscal year 1910 the Bureau employed in Washington about 650 persons. By the end of the fiscal year the force had increased to about 3,000. The maximum was reached in September, when more than 3,800 were employed. Since that time the force has been gradually reduced as different branches of the work have been

brought to completion. On June 30, 1911, the force employed in Washington amounted all told to 2,868 persons, consisting of 24 administrative officers, 93 special agents, 2,540 clerks, 169 subclerical employees, together with 42 employees in the machine shop, the latter being appointed, in part, without civil-service examination. Since the close of the fiscal year the force has been still further reduced, the aggregate on September 30, 1911, being 2,458. It is expected that a rapid reduction in the force will take place after January 1, 1912, and that by the end of the present fiscal year it will be reduced to nearly the same level as at the beginning of the census period.

On July 1, 1910, there were on the rolls of the Bureau of the Census a limited number of clerks holding emergency appointments by authority of a provision of the census act permitting, in the case of emergency, appointments to be made, for not to exceed 60 days, of persons who had had previous census experience or of persons selected from the eligible register without regard to apportionment. This emergency force, which was appointed primarily for the purpose of the temporary rush work of punching population cards, was entirely dropped in December, 1910, when the work of punching was completed, and no further emergency appointments were made during the fiscal year ended June 30, 1911, but in October, 1911, 35 clerks with previous experience were taken on for a short period. The entire temporary force of the Bureau of the Census, therefore, has, during most of the past fiscal year, consisted of persons appointed as a result of competitive civil-service examination, apportioned among the States, and selected in all cases from the top of the register.

Owing to the fact that in many States, particularly in the West and South, the number of persons who successfully passed the examination for the Thirteenth Census force was not sufficient to equal the quota of such appointments to which the State was entitled, it became necessary—although two examinations were held—to appoint a disproportionate number from some of the other States, notably from Maryland and the District of Columbia. In the reductions of the temporary force which have been made up to the present time it was deemed desirable that dismissals should be made first from among persons appointed from those States which thus had an excess of original appointments, in order, as far as possible, to restore the proportion of equality among the States. This policy had necessarily to be modified in a certain measure by considerations of efficiency and economy. It would obviously be undesirable to drop a clerk appointed from, say, the District of Columbia in the midst of a piece of work upon which that clerk had become expert and transfer to that work a clerk from some other State who had had no experience in the particular task. So far as practicable, clerks from States having excess of appointments were assigned to work which would terminate

at a relatively early date, and clerks from States having a deficiency of appointments were assigned to work which would continue longer. In this way the force has been gradually, although not completely, readjusted so as to secure a distribution more nearly in accordance with the law of apportionment.

TABULATING MACHINES.

The tabulating machinery of the Bureau of the Census has been employed to its maximum capacity during the fiscal year and has proved eminently satisfactory. In the population division, as stated in my last annual report, the work of tabulation is almost wholly performed by means of punched cards, each individual inhabitant having a card punched with the facts concerning his characteristics. The punching of the population cards was completed in December, 1910. About two-thirds of the cards were punched on the new electric keyboard machines and about one-third on the old-style pantograph machines. Toward the close of the work, when the operators became expert, an average of about 2,000 cards per day per operator was reached on the electric machines and about 1,200 on the other machines. The system of piece-price payment upon these machines worked most satisfactorily.

The cards, after being punched, are sorted by electric sorting machines and tabulated by electric machines, part of which are fed by hand and designated as semi-automatic, and others fed automatically. The semi-automatic machines, of which the Bureau possesses 100, have been used for the greater part of the work, although increasing use has been made of the automatic machines. The semi-automatic machines proved even more rapid in operation than was anticipated. The speed which can be made depends upon the frequency with which readings of the results have to be made, and it is therefore greater for those runs of the cards in which the units of area or the groups into which the cards are divided are large. In the first run of the cards for regular tabulation purposes—a prior run having been made for purposes of verification only—the operators working on a piece-price basis averaged, for all classes of cards combined, 17,646 cards per full working day of seven hours. On the same run the piece-price operators handling the cards of native white persons of native parentage—the class in which the groups are usually largest—averaged 22,274 cards per day. The speed of these machines was therefore much more than double the speed obtained in 1900. This was partly due to the improvement of the machines, including the use of an automatic printing mechanism, and in part to the introduction of the piece-price method of payment. The piece-price rates differ for different classes of cards. For the native white cards of native parents on the first run

the rate of pay was 15 cents per thousand cards. On this basis operators were able to earn in the neighborhood of \$1,000 per year on the average. The system of piece-price payment has proved highly satisfactory.

On the third run of the cards, which, like the first, includes the entire population of the United States, a rate of speed has been maintained substantially the same as on the first run. On the second and fourth runs, which deal with the foreign-born population exclusively, and in which readings have to be taken for relatively smaller numbers of cards, the speed has been naturally somewhat less.

The Bureau of the Census now possesses seven automatic tabulating machines. These machines were designed and built in the Bureau. Mechanical difficulties encountered at the outset have now been largely remedied. Some difficulty still occurs from the fact that the automatic machines require cards of almost absolutely perfect dimensions and with holes punched in almost mathematically exact positions. Some defects in the manufacture of part of the cards and in the adjustments of part of the punching machines have interfered with the greatest success in the use of the automatic tabulating machines. If these difficulties can be remedied in the future, there is reason to believe that the automatic machines can advantageously be used exclusively, or almost exclusively. The possibilities of these machines are evidenced by the fact that a single machine has in actual operation turned out as many as 150,000 cards in a day, and on certain days the average for all of the machines in operation has run as high as 80,000 cards. These machines require about three operators for each two machines.

The sorting machines used by the Bureau of the Census for the sorting of population cards have also been highly satisfactory. The suit of the Tabulating Machine Co. against the Director of the Census, on the ground that the alteration of these machines was practically equivalent to the construction of new machines and an infringement of its patents, is still pending.

In the agricultural division of the Bureau of the Census the results have demonstrated the wisdom of the decision to use adding and listing machines instead of punched cards and electric tabulating machines. The adding and listing machines have proven in every way satisfactory, and the work of tabulating the agricultural census is proceeding with much less cost than at the census of 1900. On account of the wide variety of the tasks performed, the piece-price method of payment is impracticable in the agricultural work, but by comparisons between different clerks doing the same work adequate pressure has been brought to bear to maintain a proper standard of output. The same circumstance makes it impossible to present any condensed statement with regard to the average output per operator.

CENSUS FRAUDS.

At the time of my last annual report investigations were still going on with respect to frauds in the population census, and it was therefore deemed inexpedient to make any detailed reference to them. These investigations, so far as they directly affect the census statistics, have now been completed, although the Department of Justice is still pursuing inquiries for the purpose of prosecution.

The number of instances of fraud in the census of 1910 disclosed by the investigations made by the Bureau of the Census is greater than that disclosed at any previous census, but there is reason to believe that the actual amount of fraud was not greater, as the investigations were more thorough at this census than before. It was found that the population had been overcounted in 23 cities and towns, the number of enumeration districts affected being about 200. In some cases these overcounts were due less to deliberate fraud than to errors of judgment, but in many cases the fraud was of a serious character. The cities in which overcounts were found were as follows: Fort Smith, Ark.; San Francisco, Cal.; Boise, Idaho; Duluth and Minneapolis, Minn.; Billings, Great Falls, Missoula, and Havre, Mont.; Portland, Oreg.; Ogden, Utah; Aberdeen, Bellingham, Centralia, Everett, Hoquiam, Montesano, Seattle, Spokane, Tacoma, and Walla Walla, Wash.; Superior, Wis.; and Rawlins, Wyo.

The methods of fraud were numerous. The names improperly enumerated included names of purely fictitious persons; names of persons who were residents of the city, but who did not reside in the district in which fictitiously reported, and had already been enumerated at their true residence; names of former but not present residents of the city; names of persons who had no permanent residence in the city, but who were temporarily present and not entitled to enumeration; and names of persons who had never had a permanent residence and were not present at the time of enumeration, but who had been temporarily present at some previous time. In many cases the names of persons thus fraudulently enumerated were assigned as additional residents, usually under the guise of boarders and lodgers, of houses which had already been properly enumerated. In other cases they were assigned as residents of vacant lots or fictitious houses.

In a considerable proportion of the cities in which overcounting took place it was due largely to the unauthorized activity of private individuals in collecting names and turning them over to the enumerators. In a number of cities so-called census committees were constituted. The nominal purpose in all cases was merely to make sure that the enumeration was complete, and in some instances the activities of these committees were entirely legitimate and helpful to the census.

Even where the purposes of the committees were legitimate, however, the result was sometimes an overcount of the population through the failure of the enumerators to verify the information turned over to them by these private organizations. There is reason to believe that in some cities, at any rate, there was a deliberate design on the part of certain citizens or organizations, in conjunction with enumerators, and possibly in conjunction with supervisors and special agents, to pad the returns.

This Department has turned over to the Department of Justice the facts with regard to census frauds, and that Department, with the assistance of special agents of the Bureau of the Census, has been conducting careful investigations to develop the responsibility for the frauds and to secure prosecution of those guilty. A large number of enumerators have already been indicted. In a majority of these cases which have come up for trial the enumerators have pleaded guilty and been punished with fines and imprisonment; in several other cases convictions have been secured on trial. Only two enumerators indicted have been acquitted. Still other cases remain to be tried. One census supervisor and several special agents who acted as assistants to supervisors have also been indicted. Two private individuals were also indicted for conspiring with Government employees to secure fraudulent returns and, having pleaded *nolo contendere*, were heavily fined.

I consider it of importance that all cases of census frauds should be prosecuted. The abuse is of a serious character, and it can not be wholly stopped except through a wholesome fear of the consequences. It is believed, however, that the publicity which has been given by the Bureau of the Census to the facts with regard to the padding of the population returns will itself have a powerfully deterrent effect upon attempts to commit similar frauds in the future.

APPROPRIATIONS.

In my annual report for 1910 I estimated that the total expense of the Bureau of the Census during the Thirteenth Census period, including the census work proper and the annual work of the Bureau, would amount to \$14,500,000, and requested an appropriation of \$2,500,000 in addition to the \$12,000,000 theretofore appropriated. This appropriation was duly granted by Congress. It is now found, however, that the estimate of expense was too low. On account of the extraordinary changes made with respect to the questions in the schedules, the character of the machines employed, the methods of checking the accuracy of the returns, and the character and form of the tables prepared, it was quite impossible, from the experience of the census of 1900, to make any accurate estimate of the cost of the office work of the census of 1910. The estimate contained in my last

annual report was necessarily only approximate. It now appears that the total cost of the work during the Thirteenth Census period will be approximately \$15,500,000, and I have therefore submitted to Congress an estimate for a further appropriation of \$1,000,000 to complete the work up to June 30, 1912.

Should this appropriation be granted and the amount expended, the total cost of the Thirteenth Census work proper during the census period will be in the neighborhood of \$13,800,000, the remaining \$1,700,000 representing the cost of the current annual work of the Bureau. This estimated expense of \$13,800,000 is all that can be compared with the expense of about \$11,770,000 incurred by the Census Office during the Twelfth Census period, ended June 30, 1902. The increase in the total cost of the Thirteenth Census as compared with the Twelfth will therefore be about 17 per cent, whereas the population of the country has increased 21 per cent. So far as office work alone is concerned, the actual cost of the Thirteenth Census will probably be less than that of the Twelfth Census, notwithstanding the increase in population. The increase in the aggregate cost is wholly in the field work.

The approximate cost of the field work of the Twelfth Census was \$4,925,000, and that of the Thirteenth Census \$7,059,000, an increase of a little over 40 per cent. This increase was due to three principal causes—(1) the great increase in population and number of farms, and in magnitude of manufacturing establishments to be canvassed; (2) the necessity of paying higher rates to enumerators and supervisors by reason of the general increase of wages throughout the country, a necessity which was recognized in the census act itself, which fixed higher salaries for supervisors and a higher minimum rate of compensation for enumerators for collecting farm schedules; (3) the increase in the number of inquiries upon the schedules, in part due to positive enactments of law, the increase in territory required to be covered, and the addition by law of certain special investigations not covered by the census of 1900. The present census covered Hawaii and Porto Rico, which were not covered in 1900; it also included special investigations of irrigation; of institutions for the dependent, defective, and delinquent classes; and of slaughtering establishments, the latter for the purpose of ascertaining the number of animals slaughtered for food or for hides.

The actual cost of the office work of the Twelfth Census, including salaries, tabulating machinery, printing, and miscellaneous expenses, was about \$6,845,000, while the estimated cost of the same items for the Thirteenth Census is slightly less, about \$6,730,000. As a large part of the office expenditures of the present census have already been incurred, this estimate is a fairly close one, and it indicates that, despite the great increase in population and in the magnitude of the

work generally, and despite the additional inquiries covered by the Thirteenth Census and the additional elaboration of certain classes of the statistics, there will actually be a net saving in office expenditures. The Director of the Census has very little discretionary control over the cost of the field work of the census, and it is practically only in the office work that reductions in expenditures can be brought about; it is evident that in this branch the present administration has been very successful in securing economy.

PROPOSED WORK FOR THE FISCAL YEAR 1913.

From what has been said above, it is seen that a large amount of work in further elaboration of the Thirteenth Decennial Census ought to be performed during the fiscal year 1913. It is, in fact, recommended that the work of the Bureau of the Census during that fiscal year be confined substantially to this supplemental work and to the annual investigations required by law. Very little work needs to be done upon the special intercensal inquiries, quinquennial or decennial, authorized by the permanent census act. On the other hand, the activity of the Bureau during the fiscal years 1914 and 1915 should properly be devoted to such intercensal inquiries.

This policy is substantially in accord with that in the fiscal year following the Twelfth Census period. Much the greater part of the work of the Bureau of the Census in the fiscal year 1903 was in the supplemental analysis of the results of the Twelfth Census. A beginning was made upon the special investigation of wealth, debt, and taxation; but this investigation was not completed for several years. It is considered preferable at the present time to defer the work on wealth, debt, and taxation to the fiscal year 1914. The statistics of this subject being based primarily upon the records of State and local governments, the data can not be collected until after the close of the fiscal year to which they relate. The proposed investigation, therefore, would best cover statistics for States and localities having fiscal years ending June 30, 1913, or at any subsequent date up to but not including June 30, 1914; in most cases, however, relating to fiscal years ending June 30, 1913, or December 31 of that year.

It is not necessary or desirable, however, to defer the statistics of electrical industries to any appreciable degree, and some field work on these industries should therefore be begun toward the close of the fiscal year 1913, the greater part being performed during the fiscal year 1914. This investigation would relate to the business year of the various firms ending December 31, 1912, or at the nearest date thereto, being thus at an interval of five years after the last similar investigation.

By thus excluding, for the most part, during the fiscal year 1913 work on intercensal inquiries other than those of an annual character,

it will be possible to maintain a substantially uniform force in the employ of the Bureau. Otherwise it would be necessary, provided the desirable work in supplementing the Thirteenth Census is performed, to have a much larger force for the fiscal year 1913 than for the years immediately following. No real loss in the regular periodicity of intercensal reports or in their value will result from this policy; for, as already stated, very little work on such reports was done during the fiscal year 1903, and the permanent force of the Bureau will be adequate to perform all the required investigations promptly during the years following 1913.

In order to completely finish all the supplemental tabulations and analyses of the results of the Thirteenth Decennial Census which are desirable, and at the same time to carry on the annual work of the Bureau of the Census, it will be necessary to employ a somewhat larger force during the fiscal year 1913 than during the fiscal year 1909, the last preceding the census period. The average number of employees, including special agents, in the census force in Washington in 1909 was about 625, while it is expected that an average of 770 will be necessary for 1913, the number at the beginning of the year being perhaps somewhat larger and at the end less than this figure. As it is not believed that the number of employees for the fiscal year 1914 should appreciably exceed the number for 1909, it seems desirable that this temporary excess of clerical force should be provided for through the retention of a limited number of the temporary Thirteenth Census clerks. The long experience of these clerks in census work would render them more valuable than clerks who could be obtained from the ordinary civil-service register, particularly in view of the temporary character of the employment. I have, therefore, recommended to Congress, in connection with the estimates of appropriations for the Bureau of the Census for the fiscal year 1913, a proviso that in addition to the regular force the Bureau may employ from among the temporary Thirteenth Census clerks on its rolls on May 1, 1912, not to exceed 175 clerks for a period not to extend beyond June 30, 1913, and have included an estimate of \$120,000 for the payment of such clerks at salaries not to exceed \$1,000 each or at piece-price rates of payment.

Owing to separations from the service which have occurred in the Bureau of the Census since June 30, 1909, it will be necessary to make a considerable number of appointments to the permanent census force during the fiscal year 1913. It is highly desirable that, in making these appointments, the Bureau should be able to profit by the training which it has given to temporary clerks during the Thirteenth Census period. Nevertheless, it is also desirable that these permanent appointments should be made under the ordinary civil-service procedure. Many, however, of the temporary Thirteenth

Census clerks have already successfully passed competitive civil-service examinations for departmental positions, and others will doubtless pass such examinations in the near future. I have, therefore, recommended to Congress, in connection with the estimates for the appropriations for 1913, that a proviso be inserted to the effect that the Civil Service Commission, in certifying eligibles from the examination registers for appointment to positions in the permanent census force during the year 1913 at salaries of \$1,200 or less, shall give preference to those who have had at least one year's experience in census work. Such preference, however, is proposed to be subject to the rule of apportionment, which rule would take precedence in case there should not be, from a State entitled to appointment under the apportionment, any candidate who had had the prescribed experience. It requires no argument to show that clerks who have had a year or more of census work and who have also successfully passed a competitive examination for departmental clerkships would be more useful additions to the census force than could possibly be found among those who have had no such experience.

BUREAU OF IMMIGRATION AND NATURALIZATION.

IMMIGRATION IN GENERAL.

The report of the Commissioner General of Immigration shows that the number of aliens who entered the country during the past fiscal year was considerably smaller than the number that entered in the fiscal year 1910, viz, 878,587, as compared with 1,041,570, the difference being 162,983. At the close of the fiscal year 1910 the influx of foreigners was large and continuous. This condition is shown to have obtained throughout the next four months—July, August, September, and October—but beginning with November and extending throughout the remainder of the year there was a constant falling off in the number of arrivals.

The figures given above relate to immigrant aliens, viz, those coming to the country with the avowed purpose of remaining. In addition to the 878,587 such persons, 151,713 of the nonimmigrant class entered, making a total of 1,030,300, compared with 1,198,037 for the previous fiscal year. During the year there departed from the country 518,215, of whom 295,666 were of the emigrant and 222,549 of the nonemigrant class. In the previous fiscal year 380,418 aliens left the country, of whom 202,436 were of the emigrant and 177,982 of the nonemigrant class. A comparison of these figures shows that the actual increase in the alien population for the fiscal year 1911 was 512,085, as compared with 817,619 for the fiscal year 1910 and 543,843 for 1909.

AGES, LITERACY, AND FINANCIAL CONDITION OF IMMIGRANTS.

The following facts regarding the 878,587 immigrant aliens admitted during the year are significant. The ages of 714,709 of them ranged between 14 and 44 years, while 117,837 were under 14 and 46,041 were 45 or over. Concerning those over 14 years of age, 182,273 could neither read nor write, and 2,930 could read but not write, a total of 185,203. It is interesting to compare this with the number of illiterates admitted in the fiscal year 1910—258,140—especially as the decrease of 72,937 is not explained by the general decrease in immigration, but is an actual lowering of the ratio, thus: Of those admitted in 1910 over 14 years of age 28 per cent were illiterate, while of those admitted in 1911 over 14 years of age only 24.5 per cent were illiterate. The total amount of money shown to inspection officers by arriving aliens was \$29,411,488, or an average of about

\$33 per person. There is no way to determine how much of this was sent the applicants by relatives or friends living in the United States. Of the aliens entering 586,904 claimed to have paid their own passage, while 281,718 admitted that their passage had been paid by relatives and 9,965 admitted that it had been paid by some person other than a relative. On this point it is difficult to obtain reliable information, as dependence must be placed upon the statements made by the aliens, who frequently feel that it is to their advantage to not disclose the facts. The fact that over 33½ per cent of the total number admitted were assisted, whereas in 1910 only 25 per cent were, indicates a remarkable increase.

AGES AND PERIODS OF RESIDENCE OF DEPARTING ALIENS.

During the year 295,666 aliens emigrated from the United States. Concerning 49,080 of these, a record of the period they had lived here could not be procured, as they left across the Canadian border. The statistics show, however, that 15,889 of these emigrants were less than 14, 248,021 were from 14 to 44, and 31,756 were 45 years of age or over; 201,294 had resided in the United States less than 5 years, 35,323 from 5 to 10 years, 4,990 from 10 to 15 years, 2,438 from 15 to 20 years, and 2,541 over 20 years.

OCCUPATIONS OF IMMIGRANTS AND EMIGRANTS.

It is interesting to note the general classes into which the occupations of the aliens entering and leaving the country, respectively, are segregated. Of common unskilled laborers, 155,996 immigrated and 173,952 emigrated, compared with 148,892 skilled immigrating and 33,473 emigrating. Thus, there was an actual decrease during the year in unskilled laborers of approximately 18,000, while there was an increase of skilled of over 100,000.

SOURCES OF IMMIGRATION.

The growing disparity between the number of aliens entering the United States from countries of northern and western Europe and those entering from countries of southern and eastern Europe is again illustrated by the statistics for the past year. Formerly a large proportion of our immigration came from Teutonic and Celtic countries. During the past year only 202,391 immigrants, or about 23 per cent of the total, came thence, constituted as follows: Belgium, 5,711; Denmark, 7,555; France, 8,022; German Empire, 32,061; Netherlands, 8,358; Norway, 13,950; Sweden, 20,780; Switzerland, 3,458; England, 52,426; Ireland, 29,112; Scotland, 18,796; Wales, 2,162. On the other hand, 572,218 immigrants, or about 65 per cent

of the total, came from the Iberic and Slavonic countries, segregated as follows: Italy, 182,882; Russia, principally southern, but including Finland, 158,721; Austria, 82,129; Hungary, 76,928; Greece, 26,226; Turkey in Europe and adjoining principalities, 21,655; Turkey in Asia, 10,229; Portugal, 8,374; Spain, 5,074.

REJECTIONS OF ARRIVING ALIENS.

During the year 22,349 aliens were rejected as belonging to the excluded classes. This important subject is clearly stated by a table given in the report of the Commissioner General of Immigration, showing the principal causes of rejection for the years 1906 to 1911, inclusive, which table is reproduced here. Particular attention should be directed to the fact that the two classes "Likely to become a public charge," and "Physically or mentally defective" often merge; some of the 12,048 of the former and many of the 3,055 of the latter shown by this table having been rejected on both grounds, it not being easy to determine in preparing statistics which was the principal reason for exclusion.

Causes of rejection.	1906	1907	1908	1909	1910	1911
Idiots.....	92	29	20	18	16	12
Imbeciles.....			45	42	40	26
Feeble-minded persons.....			121	121	125	126
Insanity (including epileptics).....	139	189	184	167	198	144
Likely to become a public charge, including paupers and beggars.....	7,069	6,866	3,741	4,458	15,927	12,048
Afflicted with contagious disease.....	2,273	3,822	2,847	2,308	3,083	2,735
Afflicted with tuberculosis.....			59	82	95	111
Physically or mentally defective.....			570	370	312	3,056
Criminals.....	206	341	136	273	580	644
Prostitutes and other immoral women.....	80	18	124	323	316	263
Procurers of prostitutes.....	2	1	43	181	179	141
Contract laborers.....	2,314	1,434	1,932	1,172	1,786	1,336

ALIEN CONTRACT LABORERS.

The satisfactory conditions with respect to the enforcement of this feature of the law set forth in the Commissioner General's reports for 1909 and 1910 are shown by his report for the past year to have been continued. In fact, the examples contained in his report seem to show that the year has witnessed noteworthy success, especially by way of prosecutions against flagrant violations of the law. Taking the more important cases, it is shown that as much as \$79,506 were assessed in fines and that several suits involving amounts of considerable size are still pending.

ARRESTS AND DEPORTATIONS.

During the year 2,788 warrants of deportation were executed after granting hearings to the arrested aliens, compared with 2,695 for the previous year. These were divided as follows: Members of the excluded classes at the time of entry, 1,151; those who became public charges from causes existing prior to entry, 857; those who were found to be prostitutes subsequent to entry, 129; those who entered without inspection, 555; together with 71 members of the new class created by the amendatory act of March 26, 1910, viz, the sexually immoral who had been in the country more than three years.

To the 2,788 deportations on warrant above mentioned should be added the 22,349 rejected at the ports as members of the excluded classes, making a total of 25,119 deported. Attention is directed to the fact that of the total number 8,767 were deported or rejected because physically, mentally, or morally below the standard set by the law, compared with 6,612 in the previous year.

JAPANESE AND KOREAN LABORERS.

With respect to the enforcement of the President's proclamation of March 14, 1907, satisfactory results are shown. During the year 4,328 Japanese applied for admission to continental United States, 4,282 of whom were admitted and 46 debarred. Of those applying, 4,179 were and 149 were not in possession of proper passports. Of those holding such passports, 4,090 belonged to classes entitled under the proclamation and understanding with Japan to receive such credentials, and only 89 were not entitled thereto. The said 4,090 consisted of 1,146 former residents, 2,185 parents, wives, or children of residents, and 759 new arrivals, who were nonlaborers. The 89 not entitled to passports were laborers who were neither former residents nor the parents, wives, or children of such residents. During the same period 2,193 Japanese applied for admission to Hawaii, 2,159 of whom were admitted and 34 debarred. Of those applying, 2,153 had and 6 had not proper passports. Of those holding such passports, 2,069 were entitled and 118 were not entitled to them. Of the 2,069, 413 were former residents and 1,656 the parents, wives, or children of such residents.

CHINESE IMMIGRATION.

The Commissioner General's report shows that the difficulties of enforcing the Chinese-exclusion laws have not decreased. While every possible effort is exerted to insure the prompt admission of Chinese entitled to enter and the rejection at the ports or apprehension along the border of those who attempt to enter in violation of law, the conditions which confront the administrative officers in enforcing these laws are so great that a reasonable degree of success

is accepted as cause of congratulation. The policy of making it convenient for Chinese lawfully residing in the United States to leave and return has been continued, as has also the practice of according full value to certificates approved by consular officers and presented by Chinese arriving for the first time, but with respect to a considerable number of this last-mentioned class of cases palpable frauds have been detected.

During the year the applications for admission of 5,935 Chinese were considered, of whom 5,107 were admitted, 692 deported, with 126 cases pending at the close of the year. The corresponding figures for the previous year were: Total applications, 7,064; admissions, 5,950; deportations, 969; escapes, 6; and pending at close of year, 139.

IMMIGRATION STATIONS.

It is necessary again to report slow progress in the erection of the several immigration stations, some time since authorized by Congress, and comment with respect to which has been made in several previous reports. A site has finally been acquired for the Boston station, the complications which arose with respect to same having been adjusted. The site and old buildings acquired for the Philadelphia station at Gloucester City, N. J., have already been occupied by the immigration commissioner and his force of employees, and the erection of additional buildings and the construction of a wharf are being pushed as rapidly as possible, though an additional appropriation to cover an expenditure already authorized is necessary and has not yet been made. A site has been acquired at Locust Point, Baltimore, for the building of a station and plans are now being prepared. The construction of a wharf and building at Charleston, S. C., is now well under way. Additional appropriations for land and buildings aggregating \$65,000 having been made by Congress in March last, it becomes necessary to acquire another lot of ground and to change the plans which had been prepared for the station at New Orleans. The immigrant station at Galveston, Tex., is completed and has been accepted, and will be occupied as soon as an appropriation is made by Congress for furnishing it.

DIVISION OF INFORMATION.

The Chief of the Division of Information reports that 30,657 persons received information from this service during the year, no one being registered more than once. This is an increase of 12,418 over the previous year.

The number of those giving their occupation as farm laborer was 7,134, an increase of 1,932 over the last fiscal year; 8,028 day laborers applied, an increase of 3,171; 978 carpenters were registered, but, as

in the case of skilled laborers generally, many of these made inquiry concerning opportunities on the land, either as "share croppers" or as prospective purchasers.

Of the number applying, 5,176 went direct to places where they were employed, an increase of 893 over the previous year. The applicants made their own selections and terms, the Division merely directing them in order that they might reach destination without delay or inconvenience. Only 5 failed to report to their prospective employers.

The carpenters, machinists, painters, pipe fitters, tailors, weavers, and other skilled workmen distributed went principally to villages and towns where they could follow other lines of activity and derive benefits accruing from the use of garden plats and low house rent. Particular care is exercised to direct no one where he might replace labor already employed.

One thousand one hundred and twenty-seven Germans and 1,044 Poles made use of the information given them, as compared with 939 Germans and 700 Poles in 1910. Of the 19 Germans going to Texas, 2 are now engaged in securing land for a German colony to be recruited from eastern cities.

New York State was selected by 2,545, New Jersey by 1,236, Connecticut by 252, Tennessee by 233, Alabama by 136, and Texas by 211. The balance were divided among other States, as shown in detailed tables in the report of the Commissioner General of Immigration.

The Assistant Chief visited the capitals of the States of Ohio, Illinois, Indiana, Iowa, Nebraska, Wisconsin, and Michigan to confer with the governors and other State officials, with a view to securing their cooperation in the work of promoting a beneficial distribution of admitted aliens and others. The State of Ohio has established a bureau of farm labor and with other States is actively cooperating with the Division.

The Southern Commercial Congress, representing 16 Southern States, at its meeting at Atlanta, Ga., on March 12, 1911, adopted resolutions setting forth the need for immigrants in the South and urging the various States to establish bureaus or boards of publicity and information, with a view to cooperating with the Division.

The National Board of Trade, meeting in Washington on January 17-19, 1911, adopted resolutions commending the work of the Division and recommended "the providing by Congress of a larger appropriation, to make possible the opening of branch offices at the various seaports of our country."

On May 16, 1911, a note was addressed to the governor of each State and Territory in the United States, requesting data with regard to opportunities offered settlers. The replies evidence a keen interest

in the subject, and the interest created resulted in a conference of immigration, land, and labor officials at Washington, D. C., in November, 1911.

The applications on file show that thousands could be directed to places as farm workers where, in addition to the monthly wage, house rent, garden plat, fuel, and, in most cases, milk are offered free. The wages for this class of work have risen with the increased demand for farm products. The Division again reports a growing tendency on the part of laboring men to seek farm work as a means of obtaining a livelihood, and, as heretofore, it has devoted its principal efforts to fostering the sentiment in favor of farm life and farm work, which must continue to expand and grow in importance.

DIVISION OF NATURALIZATION.

During the past fiscal year the work of the Division of Naturalization has shown a large increase in the number of naturalization papers received from the various courts, both State and Federal, exercising naturalization jurisdiction. There were 314,484 declarations, petitions, and certificates for naturalization received, as compared with 261,470 for 1910 and 222,727 for 1909. These figures represent an increase of 41 per cent, or 91,757 naturalization papers, in the annual volume of the work of this office since 1909. This has been chiefly true of declarations of intention, 186,157 declarations having been received, as against 143,212 in 1909 and 167,226 in 1910. Petitions reached 72,998, an increase over 1909 of 30,820. The number of certificates of naturalization was 55,329, being an increase of 16,123 over the 39,206 shown in the last annual report and 17,992 over the total of 37,337 in 1909. This increase in the filing of naturalization papers has been general throughout the United States, although it has been especially true in a few courts, due to the employment of assistants to clerks of courts for the purpose of relieving congestion in naturalization matters in those courts.

There are now 2,499 courts exercising naturalization jurisdiction, and during the period covered by this report 64,346 petitions for naturalization were heard and disposed of. The result of the judicial action upon these petitions was the admission of 55,329 aliens to citizenship and the denial of 9,017 applicants, for various causes, among the more important being immoral character, ignorance, both of a general nature and of the institutions of our Government, incompetency of witnesses, invalid declarations of intention, want of prosecution, and various failures to comply with the naturalization law.

In endeavoring to represent the Government at as many of the hearings upon these petitions for citizenship as possible, the natur-

alization examining force has spared neither time nor labor. The services of the 55 men who constitute the full force are inadequate to investigate effectively and to report upon this large number of cases to so many different courts. The force of examiners is not large enough to cope with the entire naturalization business of the country. It is impossible for them to make the preliminary examination of more than a fraction of the cases and to be prepared to satisfy the courts as to the admissibility of candidates.

To cope with the large volume of work thus thrown upon the Division and its field force a further increase in the appropriations should be made to admit of the employment of additional clerks and examiners.

The total expenditures on account of the Naturalization Service during the past year were \$224,568.92. Of this there was expended for the administrative force in Washington \$43,947.10, and for the field service \$149,878.30, which includes \$18,448.29 for the assistants to clerks of courts for naturalization purposes. In addition to this the service was supplied with stationery and office equipment worth \$5,246.90, envelopes and special paper worth \$5,929.22, and printing and binding valued at \$19,567.40. The amount received on account of naturalization business during the year for deposit in the miscellaneous receipts of the Treasury was \$290,551.52, so that the cost of the administration of the naturalization law was borne entirely by the alien applicants for citizenship, and was \$65,982.60 less than the fees received.

It is again urged that provision be made for a review by appeal or writ of error of the decisions of the courts of original jurisdiction in naturalization matters so as to attain the end contemplated by the framers of the Constitution, viz, "a uniform rule of naturalization."

It is also urged that legislation be had to permit the amendment of naturalization papers which have been improperly executed by clerks of courts, so as to prevent the dismissal of petitions which fail in this particular.

BUREAU OF CORPORATIONS.

REPORTS PUBLISHED.

During the last fiscal year the Bureau of Corporations has continued its investigation of industrial corporations and related subjects.

In September, 1910, it published Part III of its Report on Transportation by Water in the United States. Parts I and II, previously issued, had dealt with the physical characteristics of waterways and their floating equipment, and with the domestic water-borne traffic. Part III treated of water terminals, and has perhaps been the part most widely cited and used.

In February, 1911, the Bureau published the Summary of Part I of a Report on the Lumber Industry. This part treats of the standing timber of the country, its amount, its geographical distribution, and especially the remarkable and growing concentration in its ownership. This report on standing timber is one of the first to deal with a great natural resource. It raised questions of national importance, not only with respect to problems directly connected with our timber supply but, by close and plain analogy, in regard to similar problems involved in our other natural resources, such as coal, iron ore, etc. The task of ascertaining the amount, location, and ownership of our standing timber, distributed as it is over the entire United States, was necessarily a difficult one, but the results and the broad conclusions reached are of great value, especially as applied to our past and present public-land policy.

PENDING INVESTIGATIONS.

The Bureau had on hand, also, as current work at the end of the fiscal year, investigations into the International Harvester Co. and the ownership of water powers, and is also preparing further reports on the lumber, steel, and tobacco industries, on transportation by water, and on State taxation of corporations.

The Bureau's reports, while embodied in full in somewhat large volumes, have also been digested in each case into very brief summaries, adapted for wide circulation. This method, presenting the important facts and tendencies of great industries directly to all citizens, is a vital point in the Bureau's publicity policy. The Bureau recognizes that to make its work of real value it must bring home the results of its investigations to the general public. To do this it must not only have broad and accurate information, but also must publish briefly and clearly the fundamental facts in the given industry. It

is believed that improvements in the conditions of corporate businesses have been and are steadily being brought about by the Bureau's work.

CORPORATE REGULATION.

The decisions of the Supreme Court of the United States in the Standard Oil and American Tobacco Co. cases have brought forcibly to public attention a fact that has been repeatedly presented in the reports of the Department. That fact is the imperative need for the positive administrative regulation of great industrial corporations.

The Sherman antitrust act has been demonstrated to be a thoroughly effective measure. But the mere breaking up of large combinations into a number of separate parts by no means meets the whole question. A certain degree of combination of capital is admittedly essential for the carrying on of our great business enterprises. To control properly such necessary combinations, we must have some administrative Federal office or commission which shall make this work its business. We must have a permanent authority which shall by steady and continuous supervision and publicity safeguard the public interests, and at the same time allow full scope for necessary and proper business efficiency and development.

The recent decisions and the reorganizations which followed have made it clear that another imperative step remains to be taken, and that this step is the establishment by appropriate legislation of a broad system of supervision and publicity for all those industrial and commercial organizations that are engaged in interstate and international business.

Whether this shall be done by means of Federal incorporation, or by a Federal office or commission exercising powers of supervision and regulation, may be a secondary question. The first consideration appears to be the establishment of permanent administrative publicity, supervision, and regulation. The time is peculiarly ripe for such action. Public opinion and the views of many corporate managers are at one.

The experience and information acquired by the Bureau of Corporations through eight years of work investigating such problems will necessarily be of great importance in the development of any system which would, in a sense, be the logical expansion of the Bureau's operations and policy. The Bureau's past work, relying solely on publicity, has demonstrated beyond question what such a system of permanent supervision can do, and presents one of the strongest arguments for the broadening of that system into some such form as is here suggested.

BUREAU OF LABOR.

REPORTS PUBLISHED.

During the fiscal year ended June 30, 1911, the Bureau published its Twenty-fourth Annual Report, relating to Workmen's Insurance and Compensation Systems in Europe, in two volumes, and its Fourth Report on Hawaii, a report on industrial and commercial conditions in the Territory which is made regularly at intervals of five years. In addition, eight volumes of the Report on Condition of Woman and Child Wage-Earners in the United States (S. Doc. No. 645, 61st Cong., 2d sess.) were issued. These volumes embody a portion of the results of an investigation of this subject made in compliance with an act of Congress and their titles are as follows:

- Volume I. Cotton Textile Industry.
- Volume II. Men's Ready-Made Clothing.
- Volume III. Glass Industry.
- Volume IV. Silk Industry.
- Volume V. Wage-Earning Women in Stores and Factories.
- Volume VI. The Beginnings of Child-Labor Legislation in Certain States: A Comparative Study.
- Volume VII. Conditions under which Children Leave School to go to Work.
- Volume VIII. Juvenile Delinquency and its Relation to Employment.

Since the close of the fiscal year additional volumes have been issued as follows:

- Volume X. History of Women in Trade Unions.
- Volume XI. Employment of Women in the Metal Trades.
- Volume XII. Employment of Women in Laundries.

The Twenty-fifth Annual Report of the Commissioner of Labor, which relates to industrial education in the United States, and which was transmitted early in June, 1911, has also been printed and distributed. This report is limited to trade, vocational, and other industrial education of a strictly practical character.

BIMONTHLY BULLETINS.

The bulletins of the Bureau issued during the year have contained, in addition to one or more special articles in each number, digests of recent reports of State bureaus of labor, digests of recent foreign official labor publications, decisions of courts affecting labor, and laws of various States and of the United States relating to labor.

The special articles included in the bulletins for the past fiscal year are as follows:

Bulletin 89. Child-labor legislation in Europe.

Bulletin 90. Fatal accidents in coal mines; Recent action concerning accident compensation; Foreign workmen's compensation acts; Cost of industrial accident insurance.

Bulletin 91. Working hours of wage-earning women in Chicago; Labor laws declared unconstitutional; Review of labor legislation of 1910; Laws of various States relating to labor enacted since January 1, 1910.

Bulletin 92. Industrial accidents and loss of earning power: German experience; Workmen's compensation insurance: Laws and bills, 1911.

Bulletin 93. Wholesale prices, 1890 to 1910; Report of British Board of Trade on cost of living in the principal industrial towns in the United States; Reports of British Board of Trade on cost of living in England and Wales, Germany, France, Belgium, and the United States; Hours of labor of men, women, and children in factories in Austria.

Bulletin 94. Fourth report of the Commissioner of Labor on Hawaii.

REPORTS TRANSMITTED AND IN COURSE OF PREPARATION.

In addition to the eleven volumes of the Report on Condition of Woman and Child Wage-Earners in the United States which have been issued, the following four volumes are in the hands of the printer, and will appear at short intervals:

Volume IX. History of Women in Industry in the United States.

Volume XIV. Employment of Women and Infant Mortality.

Volume XV. Relation of Occupation and Criminality of Women.

Volume XVI. Family Budgets of Typical Cotton-Mill Workers.

Four other volumes of this report, relating to various special aspects of the employment of women and children, will soon be ready for the printer.

A large part of the force of the Bureau has been engaged throughout almost the entire year upon an investigation of the iron and steel industry, in compliance with a resolution of the Senate. The first volume of the report of the investigation, which is devoted to wages, hours of labor, and days worked, was transmitted to the Senate during July, 1911, and is now in press. The volume covers conditions in practically every important plant in the industry in the United States. Other volumes which are in preparation will relate to conditions of work and to accidents and accident prevention.

An investigation is in progress in regard to retail prices of food and wages in the principal industries in the United States, the results to be presented as the Twenty-sixth Annual Report of the Bureau. The information will cover the period 1890 to the end of 1911, in continuation of the previous studies of the Bureau on wages and prices.

Work is also going on in preparation of a comprehensive study of the labor laws of all the principal industrial countries. Other lines of special investigation now being carried on will be continued through

the coming year, and the results will be published from time to time in the Bulletin. One involves a series of special studies relating to the employment of women and girls, while another is a study of industrial diseases as related to various employments and industries, and still another will cover in a comprehensive way the subject of collective agreements and conciliation and arbitration in this and other countries.

GOVERNMENT WORKINGMEN'S COMPENSATION ACT.

Under the act of May 30, 1908, providing for compensation for injuries to certain employees of the United States, 2,895 claims for compensation were received during the year ended June 30, 1911, besides 16 cases pending July 1, 1910. Of these (2,911), 136 were claims for compensation on account of deaths of employees, of which 106 were found to be established, 28 were not allowed, and 2 were pending at the close of the year. The cases in which death did not result were 2,775 in number, of which 2,611 were found to be entitled to compensation, while in 152 cases the claim for compensation was not supported, and 12 cases were pending at the end of the year.

In connection with the administration of the compensation act, provision is also made for reporting of injuries to all classes of employees of the Government not covered by the compensation act which occur in the course of employment when the injury causes disability for one day or longer or results in immediate death. The total number of accidents thus reported was 5,201.

The above totals do not include cases of injury to employees of the Isthmian Canal Commission where the resultant disability was of less than 15 days' duration; neither do they include injuries or claims arising since March 3, 1911, on account of accidents to employees of the Isthmian Canal Commission, the administration of the law in respect to such employees having been transferred to the Commission on that date.

Various amendments to the law have been proposed in Congress within the past year, of which but one was adopted. This amendment had the effect of transferring the entire administration of the law, in so far as it affects employees of the Isthmian Canal Commission, to that body. Reports of the operations of the law will, however, be made by the Commission, as well as of the number of accidents occurring, regardless of the application of the law thereto. This act also fixed the period for filing claims for compensation on account of death at one year instead of 90 days, as heretofore, and makes the law applicable to all employees under the Isthmian Canal Commission when injured in the course of their employment.

BUREAU OF MANUFACTURES.

The Bureau of Manufactures has carried forward its allotted work for the promotion and development of the manufacturing interests of the United States, and a considerable growth in this service during the fiscal year is to be noted. The fiscal year was marked by the increase of the export trade of the country to a total of over \$2,000,000,000 in value, manufactured exports comprising approximately half of this amount. This expansion of our foreign commerce emphasizes the importance of the work of the Bureau of Manufactures through its investigations and reports respecting its various phases. Manufacturers are relying on the Bureau more and more for information in regard to general trade conditions in foreign countries as reported by consular officers and commercial agents, and increasing interest is shown in the bulletins of the Bureau respecting foreign tariffs, special manufacturing industries, and other subjects. The outgoing correspondence of the Bureau has grown from 23,410 letters in 1910 to 40,140 letters during the year 1911—an increase of 70 per cent—and the distribution of its publications has been correspondingly increased. Letters received in June, 1910, numbered 3,132; in June, 1911, 4,338—an increase of nearly 40 per cent. In 1910, 12,987 letters regarding trade opportunities were sent out, and in 1911, 20,043 were mailed.

With the increase in the edition of the Daily Consular and Trade Reports to a maximum of 20,000 copies, which was authorized by Congress in June, 1910, it has been possible to distribute the valuable trade information in that journal much more generally than heretofore; and the work of consular officers and commercial agents in behalf of export trade has been made more effective. It is now necessary to recommend a further increase in the edition of the Daily, as the present mailing list already contains nearly 18,000 names of manufacturers and exporters.

It is estimated that at least 30,000 firms in the United States are directly interested in export trade, although no definite figures are available to this office for this estimate. The Bureau is now endeavoring to complete its knowledge of such firms, and is developing its list of manufacturers classified by product, with a view to the prompt and efficient distribution of the useful trade facts received or collected by the Bureau.

INCREASED PUBLICITY SECURED.

To secure the widest publicity for such facts is deemed one of the most important of the duties imposed on the Bureau. Much attention has been paid during the year to the establishment of suitable filing methods, mailing lists, and other similar office adjuncts, in order to have available well-correlated and effective working systems. Such methods will make possible the prompt and intelligent dissemination of the bulletins, confidential circulars, reports, and correspondence of the Bureau. With the same purpose in view in sending forth the publications on special topics such as "Packing for Export," "Underpaid Foreign Postage," and "Export Trade Exploitation," letters have been written to many journals and to officers of commercial and manufacturing organizations and transportation lines calling attention to the subjects treated and seeking cooperation in the distribution of such material. That such methods are effective is shown by the fact that of the pamphlets just mentioned more than 10,000 copies have been distributed, several thousand copies having been sold by the Superintendent of Documents as a result of the publicity secured through these special efforts. The success that has been secured, however, has added materially to the volume of work imposed on the Bureau, and recommendation has been made to Congress for additions to the personnel of the Bureau sufficient to meet the increasing demands on the service.

COMMERCIAL AGENTS.

The investigations of the commercial agents of the Bureau have been continued actively, and this service promises to become as important a factor in the effort to promote and foster the manufacturing interests as similar work has become in several foreign manufacturing countries. In accordance with the policy of the Bureau to make the work of commercial agents supplement rather than duplicate the work of consular officers, technical and special experts have been sought, and there have been engaged men with expert knowledge of cotton textiles, machinery and tools, boots and shoes, chemical manufactures, electrical manufactures, and similar interests. Other lines of manufacture and export will be taken up as rapidly as practicable. The interest by manufacturers in the investigations of these commercial agents is growing, and the Bureau is in receipt of many inquiries and suggestions in connection with this work.

No recommendation has been made for any increase over the current appropriation for commercial agents for the coming fiscal year, as it is deemed inadvisable to suggest extending investigations which will impose an additional burden on the editorial division of the Bureau until that branch of the office has been sufficiently

strengthened to permit it to take care of a greater volume of manuscript. Recommendation has been made for suitable salaries in that division to permit the logical growth of the work of the Bureau. The very success of the efforts of the Bureau in interesting manufacturers will tend to hamper and reduce its efficiency unless liberal support is given by providing a well-balanced and competent corps of assistants to carry forward this important work.

EXTENSION OF WORK OF COMMERCIAL AGENTS.

The recent legislation modifying the law in regard to the service of commercial agents, permitting them to extend their investigations to the United States and the insular possessions, is important, and it is certain will materially enhance the usefulness of these agents. This will permit a commercial agent to make effective the results of his researches, not only by written reports, but by direct and personal communication with the commercial associations and manufacturers interested in the subject of his studies, and will also help to provide the Bureau with definite knowledge of domestic conditions related to its work.

PUBLICATIONS.

Twenty-five monographs and pamphlets on miscellaneous trade and tariff subjects were issued during the year; also the usual annual volume of Commercial Relations for 1909, containing 1,035 pages. Four confidential bulletins and 97 confidential circulars were also distributed. The World Trade Directory, for which an appropriation of \$6,500 was made, was issued in February, and to July 1, 1911, 2,600 copies at \$5 each were sold through the Superintendent of Documents. Over four million copies of the Daily Consular and Trade Reports were distributed during the year. It is deemed that the opportunity is presented to the Bureau to make this daily journal, which is reaching a constantly increasing number of the important manufacturing firms of the country, the medium for the distribution of useful information, not only in regard to foreign trade, but also concerning many matters of strictly domestic interest. Much of the valuable work of the Federal Government for the promotion of commerce and manufacture loses some of its effect through the failure of the interests concerned to receive prompt and specific information in regard to such work, and the Daily Consular and Trade Reports might be developed into an admirable vehicle for publicity along these lines. Its readers are a special class of practical men to whom such information would be of undoubted value. A beginning has already been made by publishing notes of forthcoming publications, special departmental work, and similar matters relating to the various bureaus of the Government, and this service will be

extended as opportunity is presented. It is believed that the special attention which has been paid to the methods of distribution of this and other publications has resulted in a material increase in the practical results of this service.

FOREIGN TARIFFS.

As in the other branches of the office, special efforts have been made during the past year to increase the practical usefulness of the foreign tariff work of the Bureau to the business interests of the United States. Manufacturers and exporters have been invited to register their names and to indicate the articles of merchandise and the countries in which they are most concerned, for the twofold purpose of selecting for immediate treatment in publications the subjects that are shown to be of widest interest and also to facilitate the prompt transmission of notices of recent or impending tariff changes.

The current tariff publications of the Bureau have been kept up to date, and printed supplements are issued whenever the changes become sufficiently numerous to justify that action. In the meantime, multigraphed supplemental circulars containing current information to date are distributed with already published tariff bulletins.

Requests for statements of the duties imposed by foreign countries have been received from manufacturers in much larger numbers than heretofore, and whenever possible the statements requested have been furnished.

Experience has demonstrated that the compilation of reports giving the rates of duty on a group of commodities in various countries is of even greater usefulness than the publication of the complete tariffs of individual countries. The preparation of a report showing the duties on textile manufactures in Latin-American countries is now in progress and a report on metal manufactures in all countries will follow.

An added service was installed during the year by the publication at intervals in pamphlet form of all notices of changes in tariff rates and customs regulations that appear in the Daily Consular and Trade Reports. The necessity for this new bulletin, which has been given the title of "Foreign Tariff Notes," arose through the discontinuance of the publication of the Monthly Consular and Trade Reports, in which formerly items appearing in the Daily and Weekly Consular and Trade Reports were assembled. Three numbers, containing in all 96 pages, giving a brief description of all proposed revisions of foreign tariffs, as well as actual changes in the rates and regulations, were published.

By the act of June 17, 1910, the Bureau was intrusted with the duty of furnishing "information to Congress and the Executive

relative to the customs laws and regulations of foreign countries," and this branch of the work has already assumed considerable proportions.

The library connected with the foreign tariff work, in which can be found official publications of the various governments, reference books, and general works treating of foreign tariffs, has been enlarged until it now contains approximately 2,000 volumes and pamphlets. Access to the library is granted freely to students and business men engaged in researches in the field of foreign customs legislation, and whenever practicable documents and manuscript reports on file are loaned for a limited time to responsible persons.

It is believed that the importance of the work of this Bureau to manufacturers and exporters justifies special interest in its growth and liberal support of its activities by Congress. The Bureau has been thus far, as stated in my report last year, scarcely more than well established. The field to be developed is very large and has great possibilities of useful and profitable service. When these possibilities are fully understood by commercial, industrial, and manufacturing interests, there will no doubt be an insistent demand for an adequate personnel of commercial experts and ample equipment to carry forward the legitimate work of the Bureau for the "fostering, promoting, and developing of the manufacturing industries of the United States."

BUREAU OF STATISTICS.

The Bureau of Statistics, which records the foreign commerce of the United States, together with such information regarding the internal commerce as can be gathered with its limited facilities therefor, has materially increased the detail of its work during the year.

VALUES OF IMPORTS AND EXPORTS.

According to the records of the Bureau, the foreign commerce of the country in the fiscal year 1911 showed a larger total in value of exports than in any earlier year and a larger value of imports than in any year except 1910. The total value of the exports was \$2,049,320,199, an increase of \$304,335,479 over 1910 and of \$168,469,121 over the former high-record year, 1907. The imports were valued at \$1,527,226,105, a reduction of \$29,721,325 below the figures of 1910.

The fall in the value of imports occurs in the group "Manufacturers' raw material," and is chiefly due to a reduction in the importation of india rubber, hides and skins, and wool, of which the imports of 1910 were exceptionally heavy, the other classes of raw materials showing larger totals in 1911 in most cases.

The growth in exports is about equally divided between manufactures and manufacturers' materials, the increase in the value of manufactures exported (including manufactures ready for use and those for further use in manufacturing) being \$140,538,596 and the increase in manufacturers' raw materials \$147,083,249. The growth in exports of raw materials occurs chiefly in cotton, of which the export price was exceptionally high. The increase in manufactures exported occurs in many of the important articles, but especially in manufactures of iron and steel, which amounted to \$230,725,352 in value, against \$179,133,186 in the preceding year. Manufactures of wood also show a growth of \$13,442,148, those of cotton \$7,454,821, agricultural implements \$7,849,365, and copper \$15,080,502.

CHARACTERISTICS OF FOREIGN-TRADE MOVEMENTS.

The foreign commerce of the United States has greatly increased during recent years, and with this increase has also come a marked change in the character of trade movements. Manufactures, which in 1880 formed less than 15 per cent of the exports and in 1890 but about 21 per cent, formed in 1911 over 45 per cent of the greatly increased total, and at certain seasons of the year were more than 60

per cent of the total, while manufacturers' raw material, which in 1880 formed less than 20 per cent of the imports, formed in 1911 33½ per cent of the greatly enlarged total. The actual value of manufactures exported in 1911 (including in this term both manufactures ready for use and those for further use in manufacturing) amounted to \$907,519,841, against \$465,777,992 in 1901, having thus practically doubled in a single decade, while the value of manufacturers' raw material imported increased from \$248,006,751 in 1901 to \$511,362,140 in 1911. Meantime the value of foodstuffs exported has fallen from \$582,999,518 in 1901 to \$385,418,436 in 1911, despite the advance in prices during the decade. The share which foodstuffs formed of the exports of domestic merchandise has fallen from 56 per cent in 1880 and 42 per cent in 1890 to less than 20 per cent in 1911.

NEEDED EXTENSION IN RANGE OF STATISTICS.

These changes in the character of the imports and exports have materially affected trade currents, the share of our exports which is sent to Europe having fallen from approximately 80 per cent a quarter of a century ago to less than 64 per cent in 1911, and that to other parts of the world proportionately increased. These changes in the character of the commerce and its movements, as well as the increase in the volume of both imports and exports, have stimulated the desire on the part of the public for commercial information in much greater detail and to be presented with much greater promptness. Such increases in the detail of the statistics and the process of presentation could only be obtained by a material enlargement of the force now assigned to their preparation in this Department and presumably also in the customs service of the Treasury Department, by which the figures of imports and exports are now supplied. In order to fully and intelligently consider this subject of a material enlargement of the statistical statements of our commerce, committees have been appointed by this Department and the Treasury Department to jointly consider the entire subject, including a comparison of our own methods with those of other countries, and these committees have already entered upon a consideration of the subject.

QUARTERLY STATEMENT OF IMPORTS FOR CONSUMPTION.

The statement entitled "Imports for consumption," which shows about 3,000 articles imported, stating value in each case, quantity wherever possible, rate of duty, and duty collected on each, formerly issued as an annual statement only, is now issued in quarterly as well as annual form and distributed to importers, customhouses, trade bodies, the daily and commercial press, and others interested in the details of the import trade of the country.

The preparation and publication of this statement in quarterly form has materially increased the labor of the Bureau and also added considerably to the expense of its publications. The monthly statement of foreign commerce was, at the close of the fiscal year, so enlarged as to increase by about 20 per cent the number of articles enumerated in both the import and export statements, an increase which will add considerably to the work and in some degree to the expense of the Bureau. Both these enlargements of the work were made as a result of numerous requests from trade bodies and individuals engaged in commerce, requests which were so numerous and urgent as apparently to justify the increased expense of preparation and publication.

The increase in the labor of the Bureau consequent upon the enlargement of its statistical statements, coupled with the unusually large demands upon it for special information for the legislative and executive branches of the Government, renders necessary a small addition to its working force, the details of which are shown in the annual estimates for the expenses of the Department of Commerce and Labor, forwarded to Congress by the Secretary of the Treasury.

BUREAU OF STANDARDS.

CUSTODY OF THE STANDARDS.

The standards of the Bureau include those used in the measurement of length, mass, volume, temperature, quantity of heat, light, electrical quantities, and the properties of materials. Many of these are based upon standards adopted by international agreement. The custody of these standards comprises not merely their care and preservation, but also comparisons and researches necessary to maintain their constancy. The standards are of great variety. Some standards, such as the platinum-iridium standards of length and mass, are very permanent in character and are preserved in the standards vault of the Bureau. The duplicates of these reference standards are used for ordinary work. Others, such as electrical and photometric standards and standard thermometers and pyrometers, require constant study and comparison to maintain their constancy. For example, the standards of electrical pressure are kept in an underground vault in an oil bath and maintained at constant temperature, not varying more than one hundredth of a degree. The conditions necessary to insure the perfect constancy of such standards are studied with the greatest care, and the Bureau is provided with unique facilities required for the most exacting systems of control. The construction and maintenance of such standards becomes an important part of the Bureau's work. For example, the standards of light intensity now consist of specially prepared electric lamps whose values are accurately known. Their values change very slightly with use, and frequent comparisons are made to detect and reject any lamp showing appreciable change. Every effort is made to prevent possible drift in the value of the standard candlepower. Similar care is required in maintaining the constancy of the other standards. It has been found by the Bureau that electrical resistance standards should be protected from the effects of atmospheric moisture, that standards of electrical capacity may be affected by changes of atmospheric pressure, and that the heating and reheating of thermometers affects their zero points. Precautions must be taken against such changes or exact allowance made therefor.

In addition to the instrument standards, the Bureau has also the custody of certain standard materials used in industrial work. These comprise 37 different standards, such as steels, irons, ores, brasses, limestone, sugar, and others. During the year nearly 1,500 of these standards of materials of known composition were furnished to the

various industrial plants and laboratories, affording reliable means of checking the accuracy of industrial analyses. The Bureau also prepares and maintains the standards of combustion, used in standardizing calorimeters, consisting of highly purified materials of constant heating values, such as naphthalene and benzoic acid. The distribution of nearly 100 standard combustion samples during the year has already done much to place the testing of fuels upon a uniform and comparable basis.

COMPARISON OF THE STANDARDS.

The comparison of standards has been carried on for the general public, including those engaged in engineering, manufacturing, and commerce, as well as those engaged in scientific and technical work. Many comparisons of length standards were made during the year for municipal and State governments. The capacity standards tested included those for Porto Rico, a set for the Panama Railroad, and sets for the States of Wisconsin and Alabama.

The purpose of comparing standards is to enable the manufacturers to make instruments of the highest grade, according to the most approved specifications. By testing the manufacturers' standards the public is assured of accuracy, since by this means precision is established at the outset, namely, in the factory. It is also possible for the manufacturers and the public to have such instruments retested from time to time to check their accuracy. The Bureau is constantly engaged in intercomparing its standards with those of standardizing institutions of other nations, since international trade demands that the units of measure shall be to the highest degree uniform throughout the world. Only recently have such comparisons given promise of a substantial uniformity.

During the year, by act of Congress, the old troy pound of the Mint was superseded by the standard of the Bureau. This places all measures of mass in the United States upon the basis of the standard kilogram.

CONSTRUCTION OF STANDARDS.

The Bureau now has excellent facilities for the construction of standards. A corps of expert mechanicians, with a well-equipped shop, are available for such work, which may be done under the direct supervision of the experts who design the standards and instruments. New standards are based upon careful study of the best practice, and in some cases the construction is prescribed by international congresses. Multiples and subdivisions of the standards are constructed to provide for all ranges of measurement. Their values must be established by comparison with the primary standards. During the year four separate standards of electrical resistance, con-

structed at the Bureau, agreed within 5 parts in 1,000,000—a highly gratifying degree of precision.

On January 1 the Bureau adopted, by international agreement, the new value for the international volt. This creates uniformity between England, France, Germany, and other countries.

During the year a number of new photometric standards were prepared and studied as to their reproducibility and constancy. Carbon-lamp standards have been prepared as standards of light and intensity and distributed to the various departments of the Government.

TESTING AND CALIBRATION OF STANDARDS AND INSTRUMENTS.

The testing and calibration of standard measuring apparatus during the year included a wide variety—length measures, from microscopic scales to geodetic tapes; balances; sealers' measures; chemical measuring apparatus; standard instruments for temperature measurements, adapted to ranges from liquid hydrogen to the highest attainable temperatures, flash-point apparatus, etc.; standards of composition for materials; standards of light intensity, such as electric lamps, gas-flame standards, and many others.

The testing of such standards and measuring apparatus is in many cases for the purpose of insuring compliance with contract specifications. In other cases the tests are made because the required precision is not attainable elsewhere, and in still more important cases the manufacturers themselves are establishing, by means of the Bureau, standards of measurement for their industries. By cooperation with the manufacturers, for example, the thermometer industry and the lighting industry have been placed upon an industrial uniformity heretofore impossible.

There is being published the results of an extended investigation of electric switchboard instruments. This was undertaken at the request of the Navy Department, and the results will be made public with the approval of the manufacturers concerned.

During the year a comparative test has been made of various systems of master clocks and their secondaries. The test covered the leading makes and continued for six months. The results were placed at the disposal of the Treasury Department for use in selecting the most efficient system for Government buildings.

As to the extent of this work, 853 electrical standards and measuring instruments have been tested; nearly 19,000 thermometers were tested during the year, besides tests of 90 high-temperature measuring instruments and materials; 240 standards of length and length-measuring instruments were compared; 2,400 hydrometers, used to determine the density of liquids, were tested, largely for the Internal-Revenue Service; 9,000 volumetric measures were tested

during the year, including cubic-foot bottles for gas-meter testing, sealers' standards, and chemical measuring apparatus; and the Bureau's traveling inspectors visited the factories and inspected 944,000 electric lamps for the Government; of these, 3,483 were tested by the Bureau for life and candlepower. In addition, about 300 photometric standards of various kinds were prepared.

PROBLEMS IN CONNECTION WITH STANDARDS.

In connection with standards of every kind, many scientific problems arise which must be solved in order to improve the standards or the methods of using them. Thus, progress in standardization depends upon the results of such researches. Several examples of such problems completed or in progress during the last year may be mentioned.

Important progress has been made in the designing of apparatus to regulate temperatures in length measurements, resulting in an excellent temperature control—a condition vital to precision work. For heat measurements new comparators, furnaces, and testing equipment have been designed. Two investigations in progress during the year have had for their object the more rigorous determination of the unit of electric current. The results of the investigations have been prepared for publication.

The Bureau is cooperating with the national and international technical societies wherever such cooperation gives promise of furthering the standardization of methods and specifications. Among the cases may be cited the cooperation with the American Chemical Society as to standards of composition and purity of materials; with the American Society for Testing Materials as to methods of testing, standards, specifications, and other subjects; with the American Institute of Electrical Engineers in the establishment of standardized definitions and practice. As a result of careful determination of conductivity of commercial copper, the Bureau prepared tables of copper-wire constants. These copper-wire tables have been approved by the latter society and will soon be published as a suggested basis for international agreement.

In establishing standards of gaslight intensity much work has been done on the Harcourt Pentane standard to secure reliable results. The conditions affecting constancy are being ascertained and a great improvement in gaslight measurements may be expected. Other problems include the study of the sources of error in aneroid barometers for the purpose of adopting standard methods of testing; a research to test the value of purified benzoic acid as a standard of acidity in acidimetry; the refinement of sodium sulphate which at a definite temperature exhibits a marked change in conditions well

adapted for use as a reliable fixed point in thermometry; a research aiming to free naphthalene from obscured impurities.

The problem of producing pure oxygen in large quantities has now been solved by newly devised apparatus. The oxygen is used for combustion purposes in precision testing of heat values. A number of highly purified gases for heat determination have also been prepared as a basis for gas engineering tables. Such tables will permit the calculation of the heat value of illuminating gas direct from the chemical analysis.

During the year there were published the results of 44 investigations concerning standards, measuring instruments, and methods of measurement.

DETERMINATION OF PHYSICAL CONSTANTS.

Physical constants are the measured data relating to materials and energy which underlie scientific and technical work. Hence they are of fundamental importance in the work of standardization. Among these would be the melting and boiling points of materials, flash points, breaking and crushing strength, hardness, density, expansivity, and conductivity. A few researches of this character may be cited, e. g., the thermal expansion of 25 different specimens was determined for ranges from below freezing to above the boiling point of water; the density and thermal expansion of linseed oil and turpentine was determined, a constant much used in specifications for purity.

In connection with standards for commercial use, the density of ethyl alcohol is of great importance. This physical constant has been under investigation at the Bureau for several years. The alcohol was purified by the most refined methods which could be devised and the density was determined with high accuracy, probably correct to within 1 part in 100,000. The values of the densities of alcohol-and-water mixtures were determined with an accuracy within 2 parts in 100,000.

A physical constant of importance in atomic-weight work is the atomic weight of bromine, which is now being determined by the Bureau as a logical conclusion to similar work on chlorine. The materials have been purified and the work is well advanced.

A number of boiling-point and freezing-point determinations have been made for use in temperature work. For example, the boiling point of sulphur has been accurately determined for use as a fixed point in thermometry corresponding to the temperature 444°7 C. The concordance of this work gives promise of international agreement on the scale of temperature above the boiling point of water, ranges in which uncertainty has always existed.

In practically every line of work similar researches are in progress, with the aim of providing reliable data upon which to base units and standards. The pressing need for such work and its utility can hardly be overestimated.

DETERMINATION OF THE PROPERTIES OF MATERIALS.

The determination of the quality of materials is a most important problem in the industries, since to the consumer quality is the real object of purchase and sale. The modern view that value rests upon measurable properties which combine to fix the quality is the basis for the determination of quality by measurement.

The materials tested by the Bureau during the year include such materials as the cements, metals, and other materials used in the construction of the Panama Canal; the supplies for the executive departments at Washington; and bookmaking materials—paper, type, ink, cloth, and glue—used by the Public Printer for Government documents. Here, as elsewhere, the investigations have resulted in great saving and efficiency in buying by basing such purchases upon tested quality and price alone.

Of the determinations of the properties of materials involving chemical work there were during the year 8,868 separate tests for practically every department of the Government and many times this number of separate determinations. Important investigations are in progress in connection with the properties of paper, paper pulps, and the composition and manufacture of paper. The properties of the new monel metal are being investigated to determine its suitability for laboratory utensils and appliances. The properties of materials—such as steels, irons, refractory materials, and other materials of construction—have been under investigation to determine their suitability for the particular uses for which they are intended. The purity of platinum sold for chemical purposes has been studied with the greatest care to ascertain the nature of the impurities present—a research of vital importance to chemical analysts. In this work the Bureau has cooperated with other laboratories concerned. The Bureau is cooperating, also, in an international comparison of the magnetic properties of materials.

TRADE WEIGHTS AND MEASURES INVESTIGATION.

The investigation of trade weights and measures conditions throughout the country, for which Congress has made special provision, has practically been completed and will form the subject of a special report. Every State in the Union, with the exception of Arkansas and Oklahoma, has been visited, and inspections in the two mentioned will be made in the near future.

Of the incorrect apparatus found, a large proportion discriminated against the consumer, and consequently furnished the strongest argument for the establishment of inspection services by the States. The investigation has attracted the widest attention and has resulted in either the enactment by the States of laws to render efficient the old weights and measures laws or the enactment of entirely new ones.

Altogether, the legislatures of 26 States in different parts of the Union have acted upon the information obtained by the Bureau, and others are preparing to take up the matter at the next meeting of their legislatures.

BUREAU OF FISHERIES.

FISH CULTURE.

The fish-cultural efforts of the Bureau were directed chiefly toward the development of present resources and the increase of the output by extension of operations over a wider territory in fields contiguous to existing stations. One new permanent station was added to the existing 36 of this class, the establishment at Homer, Minn., being completed and opened at the beginning of the year. The cultivation of the buffalo fish, one of the most important food fishes of the Mississippi Valley, and not hitherto propagated artificially, was successfully undertaken, and investigations were instituted at the Homer Station with a view to propagating the shovel-nose sturgeon, the spoonbill, the catfishes, and other heretofore uncultivated species of that region.

The possibilities of fish-cultural work are practically unlimited, being gauged only by the funds and experienced men available for opening up new fields. This is particularly true with reference to the Pacific coast salmons, the trouts of the Rocky Mountains, the commercial fishes of the Great Lakes, and most of the anadromous and marine species of the Atlantic coast.

The year's output of fish and fish eggs totaled more than three and one-half billion. Of these, 558,000,000 were eggs, over 3,000,000,000 were fry, and nearly 15,000,000 were fish of fingerling, yearling, or adult size. The output was nearly 13 per cent greater than in 1910, this showing being largely accounted for by the adoption of new methods and the utilization of improved appliances, resulting in increased efficiency and diminished expense. The species whose larger numbers constitute the total increase for this year are the chinook salmon, Atlantic salmon, steelhead trout, brook trout, rainbow trout, grayling, pike perch, yellow perch, white perch, small-mouth black bass, buffalo fish, pollock, haddock, and lobster. The output of Atlantic salmon was double that of any previous year.

The stocking of depleted public waters and private ponds, lakes, and streams is a feature of the Bureau's work which grows yearly in interest to the public, the number of applications for fish for such purposes numbering 10,393 this year. Over half of these applications were for black basses, crappies, sunfishes, and catfishes for stocking artificial ponds on farms, there being widespread realization that private fish ponds can be made a valuable adjunct to farming—as a food supply for home consumption and as a source of income.

BIOLOGICAL INVESTIGATIONS.

The oyster was again the subject of major activities. The survey of the natural oyster beds of Delaware, in progress at the beginning of the fiscal year, was concluded and its results reported, to show the dangers threatening an important industry and to serve as a basis for reforms which it is hoped will be instituted by the State. Immediately upon the conclusion of this work in Delaware similar surveys were undertaken in Alabama and Mississippi, at the request of those States, and reports thereon are in course of preparation.

During the latter part of the year special study was given to several destructive enemies of the oyster, in the effort to develop measures which will guard planted oyster beds against such inroads.

The systematic investigation of streams in the Mississippi Valley with reference to their pearl-mussel resources was continued, and the trained personnel of the station at Fairport, Iowa, is engaged in the collection of data to aid in the formulation of fishing laws which will adequately protect the mussels. This station has also been engaged in propagating and distributing mussels in the waters in its vicinity.

Investigations of a tumorous disease in cultivated fishes which extensively affects Salmonidæ, especially trout raised under domestication, have been conducted almost continuously throughout the year. Though results are inconclusive as yet, it seems probable that this work will result in a very considerable saving to the Bureau by making possible a reduction of the present mortality among artificially hatched trouts and salmons. In respect to the possible relationship of the disease to analagous affections of human beings, the investigations have progressed satisfactorily, but permit of no conclusive statement at this time.

The effects of industrial wastes upon fishes, a subject important from the viewpoint of many industries other than the fisheries, has received considerable attention in the investigation of several fish epidemics and numerous experiments with various kinds of pollutions.

Investigations of lakes and rivers in several States have been continued with profitable results, notably in the work done in cooperation with the Wisconsin Geological and Natural History Survey. These investigations include lakes in Wisconsin, Minnesota, New York, Maine, New Hampshire, and Idaho, and a somewhat similar procedure has been undertaken in examination of the Illinois River with respect to its pollution and biological changes which have resulted from the diversion of the flow of Chicago River.

The biological laboratories at Woods Hole, Mass., and Beaufort, N. C., have been open as usual, and profitable researches have been conducted both by the special investigators in the service of the Bureau and the independent workers from various institutions of learning.

Interesting data have been gathered concerning the salmon of the Pacific coast which will be utilized in the study of development and age of these fish as recorded in scale structure. The results thus far obtained demonstrate conclusively that this study will be the means of determining the long unsolved question of the salmon's age at maturity.

A comprehensive survey of the Canal Zone, undertaken by the Smithsonian Institution in cooperation with other scientific bureaus, was participated in by the Bureau of Fisheries, and resulted in extensive collections of fresh-water fishes, reptiles, and batrachians. The work may be extended to salt water during the ensuing year.

COMMERCIAL FISHERIES.

The work of collecting statistics of the oyster fisheries of the Atlantic coast and of the shad fisheries of the South Atlantic States and some other sections, which was begun in the spring of 1910, was continued during the fiscal year 1911 and is still in progress.

Statistics of the vessel fisheries of Boston and Gloucester were collected by the local agents, as usual, and the returns have been published as monthly and annual bulletins and distributed to the trade in various parts of the country. There were landed in 1910 a total of 6,559 trips, comprising 181,734,272 pounds of fish, with a value to the fishermen of \$4,833,341. Compared with the previous year, there was an increase of 253 trips and of 8,632,048 pounds in the quantity and \$216,897 in the value of the fish landed.

Of the fishery products landed at Boston and Gloucester by American fishing vessels during the year 64.53 per cent of the quantity and 59.84 per cent of the value were from fishing grounds lying off the coast of the United States. About 22 per cent of the quantity and 26 per cent of the value were from fishing banks off the coast of the Canadian Provinces, and 13.33 per cent of the quantity and 13.81 per cent of the value were from grounds off the coast of Newfoundland. The Newfoundland herring fishery furnished 10.61 per cent of the quantity and 8.44 per cent of the value of the products of the vessel fisheries of these ports.

An investigation of the fishing grounds of Alaska was begun in May, 1911, and will occupy several months. The steamer *Albatross* was detailed for the work and provided with fishermen and such equipment as would be necessary in successfully conducting experiments for the purpose of determining the resources of the grounds located and surveyed by the ship. The inquiry has for its main object the discovery of new halibut fishing grounds. The Pacific halibut fishery was reported to have been more extensive and successful in 1910 than in any previous year of its history, the catch of the

entire coast being over 53 million pounds, of which about 30½ million pounds were handled at ports on Puget Sound. There is urgent demand for new sources of supply.

ALASKA SALMON SERVICE.

The annual inspection of the salmon fisheries of Alaska in 1910 showed a very general observance of the law, the result of vigilant enforcement by the agents for several years past. A growing sentiment was noted also against waste and needless destruction, especially with reference to the manufacture of fertilizer from fish which would otherwise be used as food.

The statistical canvass showed a total quantity of fishery products for the calendar year 1910 of 214,536,433 pounds, valued at \$13,259,859, an increase of 12,553,195 pounds and \$2,078,471 over 1909. The total investment, exclusive of cash capital (\$8,604,437), was \$12,106,985, or \$2,225,303 more than in 1909, and nearly all forms of apparatus likewise show increases over the previous year. The number of persons engaged was 15,620, or 3,082 more than in 1909, and it is gratifying to note that this increase when analyzed proves to be chiefly of whites and Indians, most of them permanent residents of Alaska.

The run of salmon was good in all sections except western Alaska. The total catch was 33,679,254 salmon of all species, amounting to 172,716,014 pounds. Of this quantity 19,202,776 fish, or 96,013,880 pounds, were the sockeye or red salmon. The total salmon catch for 1910 compared with 1909 shows, however, a decrease of 1,013,354 fish, or 2,312,520 pounds. The number of salmon canneries operated was 52. The business of mild-curing salmon underwent a marked development during the year, as did also the shipping of fresh salmon to Puget Sound ports.

The minor fisheries, of which the halibut is most important, all showed slight development. The number of people engaged in the halibut fishery was 829, and the catch amounted to 21,579,289 pounds, valued at \$808,910, as compared with 5,189,924 pounds, valued at \$195,529, in 1909. The herring fishery yielded \$115,765, and the cod fishery \$63,443.

FUR-SEAL SERVICE.

The beginning of the fiscal year 1911 found the sealing season on the Pribilof Islands in progress under immediate direction of the fur-seal agents of the Bureau of Fisheries. The lease of the North American Commercial Co. having expired May 1, 1910, and the leasing system having been discontinued, the Government had purchased from the former lessee the native dwellings, the storehouses,

and all other equipment needed for operation at a price of \$60,568.17, this sum having been agreed upon in conference of the company and the chief fur-seal agent. The instructions to the agents limited the killing of seals, as usual, to males of 2 and 3 years and to skins with weights not less than 5 pounds nor more than 8½ pounds, after marking and setting aside a breeding reserve of 1,000 3-year-old bachelors. No number was specified for the catch, the purpose being to take all killable males except those included in the reserve.

Under these regulations the catch amounted to 13,586 skins, of which 12,920 were shipped and sold by the Government. The North American Commercial Co. having failed to secure its quota of 15,000 the previous season, 664 skins were allotted from the 1910 catch to make up the deficiency. Two skins were accidentally omitted in shipment and are retained in the salt house on the islands.

The Government's 12,920 skins were shipped to London, as usual, and sold by Messrs. C. M. Lampson & Co. The net proceeds of the sale, transportation expenses, marine insurance, and sales commission deducted, were £83,227 2s. 3d., or \$403,946.94. The steamer used for transportation of agents and supplies to and from the islands was leased for \$14,250. Various miscellaneous expenses connected with the handling of the skins amounted to \$1,507.50. With these further deductions, a total of \$15,757.50 from the net proceeds of the sale, the Government is credited with the sum of \$388,189.44. Under the leasing system the Government's receipts from the season's operations would have been only \$132,107. The new management is therefore able to record an advantage of \$256,082.44 over the old system.

Under a resolution adopted May 12, 1911, the House of Representatives ordered an investigation of the administration of the fur-seal islands of Alaska. The terms of the resolution were as follows:

Resolved, That the Secretary of Commerce and Labor be, and he is hereby, directed to furnish for the use and the information of the House of Representatives copies of all letters received, reports, and documents from his agents in charge of the seal islands of Alaska, together with copies of all instructions given to those officials aforesaid since January first, nineteen hundred and four, up to date, which relate to the condition and management of the fur-seal herd, the conduct of the officers of the Government in charge of it, and the conduct of the work of the lessees on the seal islands aforesaid, since January first, nineteen hundred and four, up to date.

The conduct of this inquiry was assigned to the House Committee on Expenditures in the Department of Commerce and Labor. The Department promptly furnished the documents called for; the first hearing was held May 31, and the investigation was in progress at the close of the fiscal year.

MINOR FUR-BEARING ANIMALS OF ALASKA.

The act approved April 21, 1910, gave the Department of Commerce and Labor, and thus the Bureau of Fisheries, jurisdiction over all other fur-bearing animals of Alaska in addition to the fur seal. Up to that time this jurisdiction had resided in the Treasury Department.

In order to develop a rational policy in the performance of its new functions, the Bureau's first step was a careful study of the protective laws and regulations in the Canadian Provinces and in the various States. Subsequently (June 2, 1910) Department Circular No. 206 was issued providing open seasons for land otter, mink, muskrat, marten, fisher, ermine, black bear, fox, wildcat, and lynx. This circular was reissued March 8, 1911, with certain modifications. The purpose of the regulations, to permit the largest annual take of pelts consistent with adequate protection and conservation of the species, will be greatly aided by the appropriation for the fiscal year 1912 providing for the appointment of one warden and four deputy wardens for Alaska, whose duties, in addition to enforcement of the law, will include study of the habits, abundance, and distribution of the various fur-bearing animals.

The importance of Alaska as a producer of furs has usually been recognized only with respect to the fur seal. As a matter of fact, the pelts from other animals possess a much greater value in the aggregate than those of the fur seal.

The available statistics for 1910 show that the furs shipped from Alaska during that year, exclusive of the fur seal, had a value of \$445,376. As this does not include the furs shipped by mail or those taken out as baggage, it is believed that the total output greatly exceeded half a million dollars; and it is confidently believed that with proper conservation and regulation the total annual take can be increased to more than a million dollars without in any way endangering the species.

Effort will be made to secure complete statistics henceforth, there having been previously no records of shipments by mail but only of shipments by freight or express and passing through the custom-houses. Through the courtesy of the Post Office Department, blank forms are now supplied to the various postmasters and shippers, who are requested to fill them out, certify, and forward them to the Bureau. The number of such returns already at hand indicates a very large shipment of furs from Alaska by mail. Similar blank forms have been provided for shipments other than by mail.

The sundry civil bill approved March 4, 1911, provided for the establishment of the Alaska Fisheries Service, to include the fur-seal service, the salmon and other fisheries service of Alaska, and the minor fur industries of Alaska, all of which had been previously administered by the division of inquiry respecting food fishes.

INTERNATIONAL FISHERY MATTERS.

It is a cause for congratulation that the long-standing dispute over the fisheries on the so-called treaty coasts of Canada and Newfoundland was submitted to settlement by arbitration, and that a decision has been rendered which will prevent future difficulty. By the terms of an agreement signed at Washington on January 27, 1909, by representatives of the British and American Governments, it was agreed to submit to the permanent court of arbitration at The Hague the principal questions that have arisen in connection with the interpretation of the treaty of 1818. The award, which was practically unanimous, was announced on September 7, 1910. A conference was subsequently held in Washington under the auspices of the Department of State for the purpose of giving effect to certain features of the award.

At the request of the Department of State, this Department again detailed a representative of the Bureau of Fisheries to visit Newfoundland for the purpose of observing the operations of American vessels engaged in the herring fishery on the west coast of the colony.

In May, 1911, there met in Washington an international conference for the purpose of concluding a treaty for the prevention of pelagic sealing in the North Pacific Ocean. The conference was held under the auspices of the Department of State and was participated in by all of the nations having sealing interests—that is, the United States, Great Britain, Russia, and Japan. The Secretary of Commerce and Labor was one of the two delegates of the United States. The treaty was signed July 7, 1911, and ratified by the Senate July 24. By the terms of the treaty, which became effective on December 15, 1911, all pelagic sealing by citizens or subjects of the signatory powers will be prohibited for a period of 15 years, and a special article accords similar protection to the sea otter in the extraterritorial waters of the North Pacific Ocean, leaving to the respective nations the right to regulate land killing of fur seals and the hunting of sea otters in territorial limits.

The Fifth International Fishery Congress convened at Rome, Italy, in May, 1911, on the occasion of the fiftieth anniversary of the unification of Italy. The Department was officially represented at the congress by an assistant of the Bureau of Fisheries.

In previous reports reference has been made to the treaty between the United States and Great Britain, signed April 11, 1908, which provided for the appointment of two international fisheries commissioners, with power to draw up a set of uniform and common regulations for the protection and preservation of the food fishes in the boundary waters between the United States and Canada.

After very comprehensive and thorough field investigations by the commissioners, assisted by the Bureau of Fisheries, and covering

every fishery and practically every fishing ground from Passamaquoddy Bay to Vancouver Island, the commissioners made their report, which, on February 2, 1910, was transmitted to Congress by the President in order that legislative action necessary for the enforcement of the regulations might be taken, but the matter has not been finally disposed of.

The Department has been officially invited to become a member of the International Council for the Exploration of the Sea, as the representative of the United States Government. This council, organized in 1902, is composed of representatives of most of the nations of western Europe, and has for its special object the prosecution of scientific investigations in the direct interests of the fishing industry. The important fishery problems that are demanding attention in Europe are similar to or indetical with those which have already arisen or are destined to arise on the western shores of the Atlantic; and it will be of great advantage to the United States to be able to participate in and profit directly by the studies conducted by the leading fishery authorities and experts of western Europe. A small, fixed annual appropriation is required to meet the administrative and other expenses of the council, which has its permanent headquarters in Copenhagen, and an estimate covering this amount has been submitted to Congress by the Department of State.

RECOMMENDATIONS.

The Commissioner of Fisheries strongly urges the establishment by Congress of a biological and fishery station on the Pacific coast of the United States, and a station for the study of fish diseases and for general experimental work in fish breeding at some suitable point not remote from Washington. Closely associated with the latter item is a recommendation for the creation of the position of fish pathologist. The necessity for this position is urgent and is becoming more so each year. Efficient administration and proper regard for the interests of both cultivated and wild fishes demand that there be available a qualified assistant who can devote his entire time to the study of fish diseases, hatchery epidemics, and water pollutions.

Among other recommendations of the Commissioner are appropriations for repairing and more adequately equipping the important fisheries laboratory and hatching station at Woods Hole, Mass.; for the construction of two new steel fish-distribution cars to comply with modern traffic requirements; and for a seagoing vessel for use in connection with the marine hatchery in Maine.

It is recommended also that all subordinate positions in the Bureau be removed from the class of presidential appointments and hereafter be filled by the Secretary.

BUREAU OF LIGHTHOUSES.

REORGANIZATION OF LIGHTHOUSE SERVICE.

During the fiscal year 1911 much progress was made in the reorganization of the Lighthouse Service under the provisions of the act of Congress approved June 17, 1910, providing for a more direct administration of that Service by the establishment of a simple bureau form of organization.

The four officers provided for in the act have been appointed by the President. The Commissioner and Deputy Commissioner took office on July 1, 1910, and the Chief Constructing Engineer and Superintendent of Naval Construction were appointed later in the year.

The civilian lighthouse inspectors authorized by the reorganization act were not appointed during the fiscal year, for the reason that no appropriation was made for their salaries. Five civilian inspectors have, however, since been appointed, four of these being assigned to duty in the First, Second, Seventh, and Seventeenth districts, respectively, and the fifth to general inspection duty.

Officers of the Navy have been continued on duty as lighthouse inspectors in the remaining coast and lake districts, and officers of the Engineer Corps of the Army have been made inspectors of the three river districts.

Changes in the inspectorships have been made very gradually, as was contemplated in the reorganization act. In general, appointments of civilian inspectors have been made by promotion within the Lighthouse Service.

Officers of the Engineer Corps continue their relation with the Lighthouse Service in the other coast districts, available for consultation as provided by law.

The consolidation of the work in each district under a single lighthouse inspector, instead of under two officers, as heretofore, has resulted in having but a single office and office force in each district and a single system for the use of the lighthouse tenders and all the equipments and supplies of the districts. There has in consequence been a saving in personnel, rents of offices and docks, and particularly in the use of lighthouse tenders. Five of these vessels have been sold or otherwise disposed of during the fiscal year. A large machine shop heretofore maintained in the Second district has been discontinued and this work transferred to the general lighthouse depot. In connection with the consolidation of the district organizations there

have been adopted schedules of the personnel and rates of pay, both in the district offices and in the field construction force. There has also been a revision of the complements of the lighthouse tenders.

The force in the office of the Bureau at Washington has been rearranged to accord with the schedule authorized in the legislative appropriation act for 1912, the principal changes being the placing in statutory positions of members of the engineering force heretofore paid from general appropriations and the discontinuance of five minor positions which were all practically vacant at the end of the fiscal year.

Aids and cadet officers have been appointed, with a view to bringing technically educated young men into the Service and training them for the special work in lighthouse engineering and the duties on lighthouse tenders.

In connection with all the foregoing changes in personnel an effort has been made to avoid hardship to persons who have long been connected with the Lighthouse Service. Where it has been necessary to discontinue positions persons have, so far as their services could be utilized, been offered opportunities for employment elsewhere in the Lighthouse Service, or in other branches of the Government. Where reductions in compensation have become necessary, promotion where merited has been made as opportunity offered.

The number of lighthouse districts has been increased from 16 to 19, the new districts being Alaska, Porto Rico, and the Hawaiian Islands. As to the latter two, this was merely a change in organization, as these had heretofore constituted subdistricts under assistant inspectors. In the case of Alaska, however, the constitution of a separate district makes an important change in the management of aids to navigation in that Territory, and it is believed will greatly increase the efficiency of the work there. A temporary headquarters has been established in the Territory, and two lighthouse tenders are employed there during the season available for active work.

COOPERATION WITH THE CANADIAN GOVERNMENT AND THE ENGINEER CORPS.

Arrangement has been made with the Canadian Government as to the division of responsibility for the maintenance of aids to navigation in the lower Detroit River, and that Government has assumed charge of maintaining the aids in those portions of the channel which lie entirely in Canadian waters. These aids have heretofore been maintained by the United States under a contract system. This was not satisfactory, and, besides the economy to this Government, it is believed that the new arrangement will give an improved service on this important river.

Arrangements have been made for cooperation between the Engineer Corps engaged in river and harbor improvements and the Lighthouse Service along several lines, particularly in the matter of furnishing assistance and information, which will be mutually useful, and in the matter of maintaining aids to navigation along the rivers where Engineer officers have been made lighthouse inspectors. In one of these districts the lighthouse tender has been laid up.

BUSINESS METHODS.

A plan has been arranged for a systematic inspection by an inspector from the central office of the Lighthouse Service of the technical work of the lighthouse districts, and for an inspection by an examiner of the business methods, property accounts, and clerical organization in the various districts. The inauguration of these systems of general inspection will, it is believed, materially increase the efficiency and uniformity of the conduct of the work of the Service.

Nearly all of the business methods of the Service have been examined and rearranged during the fiscal year. All printed forms of reports and records have been gone over, and those not considered essential have been eliminated, and additional reports have been called for where required to give necessary information.

A cost-keeping system has been inaugurated throughout the Lighthouse Service, with a view to furnishing classified information as to the purpose for which all funds expended are applied. This system should in the future give correct information as to the cost of maintaining every unit of the Service, with the general subdivisions of those costs—as, for instance, the cost of maintaining each vessel and what part of this cost goes to salaries, supplies, and improvements; and similar information as to important light stations and lighthouse depots. The importance of this in checking and comparing the expenditures in various districts may be realized when it is stated that the Lighthouse Service maintains about 12,000 aids to navigation, has in operation about 110 vessels, maintains about 775 light stations having resident keepers, and employs about 5,500 persons.

A simpler form has been adopted for the employment of members of the field construction and depot forces, so as to permit district officers to employ such persons directly according to the needs of the Service, but under proper civil-service restrictions.

A complete revision has been made of the regulations affecting the Lighthouse Service, and these regulations have been put into operation since the close of the fiscal year. They comprise a compilation, in addition to the regulations proper, of all important laws, decisions, and orders particularly affecting the Lighthouse Service, and they will be a great convenience in the operation of the Service.

A new form of estimates for general-maintenance items of appropriations was submitted to Congress and was embodied in the appropriation act. This combines all estimates of appropriation involving the purchase of supplies for the Lighthouse Service into a single item. This combination results in simplifying the office and depot work, while permitting a more correct and straightforward system of accounting than has been possible heretofore.

The publication of light lists and buoy lists intended for the benefit of mariners has been simplified in form and material, and there has been a consequent reduction in the cost of printing and the time required in preparation. An effort has been made to bring these publications up to date, and hereafter to have them reprinted promptly each year.

IMPROVEMENT OF APPARATUS.

Continuous effort has been made to improve the various kinds of apparatus used. The incandescent oil-vapor lamp has been further perfected, increasing the intensity of the light. The use of this light has been greatly extended. The use of acetylene gas for lighted beacons has also been extended, particularly in Alaska, resulting in considerable economy, as these lights do not require the continuous services of a keeper. Acetylene-gas lights and arc lights inclosed in lenses have been introduced on light vessels. Steps have been taken for the improvement of fog signals, particularly with a view to having them sounded promptly on the approach of fog. Progress has been made in this line by a more extended use of the oil engines and compressed air, in place of steam plants, by the introduction of electric ignition for engines, and by the storage of compressed air. Mantles have been introduced for use in connection with Pintsch gas buoys, giving a greater intensity in the lights.

INCREASE IN AIDS TO NAVIGATION.

During the fiscal year ended June 30, 1911, there was approximately the following net increase in the number of aids to navigation maintained by the Lighthouse Service: Lights above the order of post-lantern lights, 49; fog signals, 8; daymarks, 175; buoys, 110; post-lantern lights, 106.

The illuminant of 29 lights has been changed to incandescent oil vapor, and the illuminant of 16 lights has been changed to acetylene.

There have also been constructed 16 oil houses and 3 light keepers' dwellings.

During the fiscal year light vessels *No. 64* and *No. 65*, occupying stations at Limekiln Crossing South, Mich., and Limekiln Crossing North, Mich., respectively, and Bush Bluff light vessel, Va., were discontinued. The stations formerly occupied by light vessels

No. 64 and *No. 65* are now under the jurisdiction of the Canadian lighthouse service. The Bush Bluff light vessel was discontinued, owing to the establishment of more efficient aids in the vicinity.

Light vessels *No. 28*, *No. 63* (relief), *No. 64*, and *No. 65* were sold, they being of no further use in connection with the work of the United States Lighthouse Service.

Light vessel *No. 56*, formerly assigned to the White Shoal station, Mich., was removed elsewhere during the year, owing to the establishment of the White Shoal light station, Mich.

The following are some of the more important aids which have been established:

Cape Hinchinbrook light and fog-signal station, Alaska.
 White Shoal light and fog-signal station, Lake Michigan.
 Rock of Ages light and fog-signal station, Lake Superior.
 Split Rock light and fog-signal station, Lake Superior.
 Woods Hole, Mass., Nobska Point fog signal.
 Boston Harbor, Mass., 7 gas buoys in Broad Sound Channel.
 Stratford Point, Conn., compressed-air siren fog signal (in place of bell).
 Potomac River, Md., buoys rearranged and range lights established.
 Beaufort Harbor Entrance, N. C., 2 sets of range lights.
 Fernandina Entrance, Fla., 2 sets of range lights.
 Florida, east coast, inside passage, 100 daymarks.
 Detroit River, Bar Point Channels, 10 gas buoys and 10 spar buoys.
 Punta Gorda, Cal., fog signal.
 Pauwela Point, Hawaii, light.

On account of constant demands for additional aids to navigation in Alaska and the great extent of dangerous waters in that Territory, the Bureau has given special attention to increasing the efficiency of its service there. Thirty-seven lights (including 14 acetylene lights, 1 third-order light, and 22 minor lights) and 22 buoys have been established in Alaska during the fiscal year. Two of the acetylene lights were initially established as oil lights.

LIGHTHOUSE VESSELS.

Plans are in preparation for the new lighthouses and vessels for which appropriations have been made, the most important of these being the establishment of aids to navigation along the new Livingstone Channel, in the Detroit River.

Active steps have been taken to have overhauled the floating equipment of the Lighthouse Service, and to arrange the stations of tenders and light vessels so that they may be used to the best advantage. Changes in the limits of districts have permitted of some transfers in the stations of tenders. The act of Congress which repealed the restriction on the Lighthouse Service as to the stations of light ships has permitted the Service to place the more seaworthy vessels in the more exposed positions, and this has been done in several cases.

One new light vessel and one new tender heretofore appropriated for have been constructed and have been placed in service since the close of the fiscal year.

ECONOMY IN APPROPRIATIONS.

As a result, in part, of the reorganization, the estimates for the maintenance of the Lighthouse Service for the fiscal year 1912 were \$428,000 less than the appropriations for the preceding year, and the appropriations were made nearly according to the estimates. In addition, for important new lighthouse works about the average annual appropriations were made.

Appropriations heretofore made of \$200,000 for a tender for the First district, \$30,000 for a tender for the Sixth district, and \$60,000 for a tender for the Thirteenth (formerly the Fifteenth) district have not so far been used, as under the reorganization the vessels were not considered immediately necessary. On account of the size of the fleet of the Service, however, it will soon be essential to construct new vessels to take the places of those worn out in service, and additional tenders should be built in the early future under these appropriations, with some modifications as to their use, recommendations for which will be submitted to Congress.

COAST AND GEODETIC SURVEY.

The satisfactory progress made in near and remote regions by the Coast and Geodetic Survey are given in detail in the Superintendent's report.

It is the aim of the Bureau to select localities where, according to the information at hand, the commercial needs or other demands are most pressing. Thus, at the request of the Chamber of Commerce of Seattle, one of the six vessels engaged in the survey of Alaskan waters was ordered to make a reconnoissance of the mouth of the Kuskokwim with a view to its buoyage. An interesting development of the general survey of Cooks Inlet was the delineation of the approaches of and anchorages in Knik Arm, which forms the nearest access for shipping to the Matanuska coal field, one of the two principal coal fields in Alaska. The results of this survey were prepared and photographic copies were furnished to the shipping concerned in advance of the issuance of the regular chart.

In response to a special demand, a surveying ship was dispatched to the Hawaiian Islands for the development of the hydrography close to the shores of Oahu.

In view of the early opening of the Panama Canal, I have directed the dispatch of a surveying ship and wire-drag party to Panama, for the purpose of making such a survey of the approaches as the exigencies of modern and prospective commerce demand.

In the Philippines the rapid progress achieved has been made possible by the cooperation of the Philippine government, whose interest, aside from that attaching to the safety of the United States and Philippine government ships, is made clearly apparent by the fact that, according to the report of 1910, not less than 162 steamers and 440 sailing vessels were engaged in the coastwise trade, while there were 872 clearances and a corresponding number of entries of foreign ships in the islands.

My approval has been given to various acts of cooperation with different bureaus of this and other departments for the purpose of obtaining data of value to the Survey, facilitating the work and rendering services in return.

At the request of the governor of Delaware, two experts, one from the Survey and one from the Bureau of Fisheries, aided that State in its oyster surveys, and the value of their services was acknowledged by a vote of thanks of the legislature, an unusual but gratifying recognition, to which it gives me pleasure to refer.

The delimitation of the Alaska frontier and the re-marking of the boundary between Canada and the United States is progressing under the direction of the Superintendent, acting for the Department of State. The triangulation along the one hundred and forty-first meridian has suggested the desirability of connecting it with the coastwise work at the mouth of the Yukon, by extending a network of triangulation down that river, which is one of the great rivers of the world. Such a triangulation would establish the necessary correlation between the topographic and other surveys already authorized by Congress in Alaska, and I therefore renew my recommendation of last year for an appropriation to initiate this work.

The overwhelming demands made on the Survey for its charts have necessitated a simplification of its chart work in all its branches, already referred to in my report of last year, and to this difficult task the office is devoting its energies. At the outset and for a considerable time, the changes which are being made will add much to the work of the office, but the changes are making themselves felt in increased output and resulting economy.

BUREAU OF NAVIGATION.

On June 30, 1911, the total documented merchant shipping of the United States comprised 25,991 vessels of 7,638,790 gross tons, an increase of 130,708 gross tons during the year. Improvement in conditions caused by the depression of 1909 has continued along the seaboard, but not on the Great Lakes. The slow growth of our shipping during the past three years is to be attributed to the same causes which checked the rapid increase of shipbuilding during the first years of the century. As nearly 40 per cent of our tonnage is still wooden construction, our rate of growth under normal conditions would be slower than that of the principal merchant navies of Europe.

The output of our shipyards during the past fiscal year was 1,422 vessels of only 291,162 gross tons, and on the Lakes shipbuilding, as anticipated, fell much below the annual average construction. At the beginning of last July work under way and shipbuilding contracts indicated for our shipyards another fiscal year of limited production.

PANAMA CANAL TOLLS.

I assume that there is no disposition to delay beyond the present session the necessary settlement of the more important questions concerning the actual operation of the Panama Canal, including the question of canal tolls. In last year's report I stated:

The question of Panama Canal tolls is now under consideration, and in view of the fact that the entire cost of the canal is assumed by the people of the United States every consideration consistent with our treaty obligations should be shown to American ships.

Congress definitely fixed the general policy of the United States in respect of tolls for the use of its improved rivers, harbors, and canals by section 4 of the river and harbor act of July 5, 1884. That section provides:

No tolls or operating charges whatever shall be levied upon or collected from any vessel, dredge, or other water craft for passing through any lock, canal, canalized river, or other work for the use and benefit of navigation, now belonging to the United States or that may be hereafter acquired or constructed.

At no time has the wisdom of the liberal navigation policy thus declared been seriously challenged in Congress or by the country. No one criticised it as a subsidy or a bounty to the vessels which have made use of our improved waterways. The policy was adopted and

has been pursued without dissent, because the country realizes that free navigation promotes commerce and that our commerce is as essential to the country's welfare as the great productive industries of agriculture, manufacture, and mining. Pursuant to that policy, since 1884 Congress has appropriated \$527,065,707.94 for river and harbor improvements, compared with an estimated cost of the Panama Canal to the day of opening of \$375,000,000.

Great and expensive as the undertaking has been, the Panama Canal would not call for any change in our policy of untaxed navigation under the act of 1884 if it did not in two respects differ from all our other improvements in navigation. Other improvements have been for the benefit of American commerce originating at American terminals. Even where millions have been expended at ports where foreign navigation serves our commerce—as, for illustration, at Galveston—the benefit to foreign ships from the improvements has been shared by American producers who furnish their cargoes. Again, in all other improvements we have consulted solely our own interest, because our outlay has been made within our exclusive jurisdiction.

It is expected that the Panama Canal will solve some of our great problems of domestic transportation. It will, of course, bring our States on the Atlantic and Pacific much closer together and will offer new opportunities to the States of the Gulf, but it will also give the grain and lumber of British Columbia and the Canadian Northwest an all-water route shorter to European markets by 5,000 miles than they now possess. To the west coast of South America it will mean closer business relations with the Old World. In many of the foreign commercial results to be wrought by the canal the United States will have no immediate share. Indeed, it is possible that some of them may be in a measure to our commercial disadvantage, in that other nations will reap profits from our great investment at the Isthmus. Nevertheless, we may look with satisfaction upon our contribution to such development, because in some form advantage must come to us.

The Panama Canal will, of course, greatly increase the efficiency of our Navy and no doubt will prove to be the greatest single improvement in American commerce and navigation ever provided by Congress. If these were the only considerations, it should remain under the act of 1884, but that act was properly amended on March 3, 1909, so as to exclude the Panama Canal, because we can not be expected to maintain an untaxed waterway for the navies and merchantmen of other countries.

Before entering upon the undertaking we assumed certain obligations to other nations, recited in the first section of Article III of

the Hay-Pauncefote Treaty of 1901 and reiterated in Article XVIII of our convention of 1903 with Panama, as follows:

1. The canal shall be free and open to the vessels of commerce and of war of all nations observing these Rules, on terms of entire equality, so that there shall be no discrimination against any such nation, or its citizens or subjects, in respect of the conditions or charges of traffic, or otherwise. Such conditions and charges of traffic shall be just and equitable.

The treaties provide that every nation shall contribute with "no discrimination" to the support of the canal in proportion to the use it makes of the canal. That principle will of course be observed. At the same time the purpose of section 4 of the river and harbor act of July 5, 1884, may be preserved in the most important engineering work that we have ever undertaken. This may be accomplished by the enactment of a law which shall provide that all tolls and transit charges which may be imposed on public vessels of the United States and on merchant vessels of the United States for passing through the Panama Canal shall be paid from any money in the Treasury not otherwise appropriated, and that there shall be appropriated annually, out of any money in the Treasury not otherwise appropriated, such sums as may be necessary for the purpose, and that such appropriations shall be deemed permanent annual appropriations.

About 25 per cent of the Suez Canal tolls on foreign merchant vessels are now paid in some form from the treasuries of the nations whose flags those vessels fly, and we may assume that like provision, in at least some instances, will be made for the payment of the tolls that we shall assess on foreign merchant vessels. Foreign precedents, however, are merely illustrative. Every State in the Union with navigable waters crossing its boundaries furnishes precedents of congressional appropriations for the establishment and maintenance of improvements at the continuing expense of the Federal Treasury and without a dollar's help from the vessels which enjoy the advantages of such improvements. Where the future of American shipping is at stake, and the domestic commerce of both seaboards and the Gulf is involved, there is no apparent reason to depart from a principle which has been so constantly invoked.

The subject of Panama Canal tolls has been considered at some length because it is vital to the future of American merchant shipping. Our opportunity immediately after the war with Spain to adopt reasonable measures to secure creditable maritime rank was neglected. The Panama Canal is being built in the belief that it will benefit all sections of the country and nearly every form of American industry. Our merchant ships and shipyards are as essential to the Nation as our battleships. They have at least a claim to equal consideration in canal legislation and appropriations with other American industries. Every argument to tax the American merchant ship

which uses the canal would apply with equal force to a tax directly on American cotton, lumber, fruit, coal, grain, and other cargo carried by the ship through the canal. It is feasible to use the canal for the promotion of American navigation in a manner consistent with treaty obligations, with precedent at home and abroad, and with our fixed policy of untaxed navigation on improved waterways.

FREE SHIPS.

The importance of a merchant marine owned by citizens of the United States and sailing in foreign trade under our flag can not, in my judgment, be overstated. It appears to me to be an essential factor in the development of foreign trade. It would be accepted by all countries as the final proof of the determination to enlarge and to maintain our trade abroad, and it would place our country in a position to be consulted in the fixing of competitive rates by maritime carriers.

While it would, of course, be desirable to have the benefit of such a merchant marine and at the same time to have the ships for foreign trade built in our yards, experience seems to teach that, for the present at least, the accomplishment of both objects is out of the question. Ocean steamships for the foreign trade are not built in our yards, and have not been built for some years, except under the provisions of the ocean mail act of 1891 or in anticipation of the probable passage of legislation to extend the principle of that act after the war with Spain.

That legislation failed. While I have recommended the readjustment of the ocean mail act of 1891 to the present requirements of our commerce, and desire here to renew that recommendation, I see no reason to hope that at the present time it will be adopted. The registry law alone gives no protection to the industry of ship-building for the foreign trade, and from the nature of modern navigation it can not do so. The policy of discriminating duties, which was always a declaration of commercial warfare, has been abandoned for generations by all maritime countries as worse than impotent. In the meantime we are postponing the creation of the merchant marine which we need. I have no hesitation, therefore, in recommending the passage of a bill for the admission of foreign-built ocean steamships to American registry to engage solely in the foreign trade.

The enactment of such a measure would deprive us of nothing, and it may help to provide us with a great commercial aid. It would surely increase the shipping under our flag in trade with Central America, the West Indies, and some parts of South America, for the American owners of a number of foreign steamships have already asked Congress to grant them American registers for those

trades. Even if the law suggested should fall short of the moderate expectations I entertain of its results, it would, in any event, serve to point out what else it is necessary to do in order that we may secure under our own control an adequate merchant marine.

Although the facilities for passenger transportation between Hawaii and the mainland should be improved, it must be borne in mind that under the protection of law fleets of excellent ocean steamers for trade with Hawaii and Porto Rico have already been built in the United States and are entitled to consideration in any legislation that may be had.

SHIPBUILDING MATERIALS.

By the act of June 6, 1872, lumber, timber, hemp, manila, iron and steel rods, spikes, nails, bolts, and copper for shipbuilding were admitted free of duty. In the McKinley tariff of 1890 the list of free articles was extended to include wire rope, plates, angles, and beams. The Wilson tariff of 1894 included "all materials of foreign production which may be necessary for the construction of vessels," and that provision was repeated in the Dingley tariff of 1897. All these tariff acts restricted the privilege of duty-free materials to vessels which engage in the coastwise trade not more than two months in the year. The Payne tariff of 1909 extended the privilege to vessels which engage in the coastwise trade not more than six months in the year. The repeal of the limitation of six months is recommended, to remove the last restriction upon free materials for shipbuilding.

WIRELESS SHIP ACT.

Preparations for the enforcement of the wireless ship act of June 24, 1910, were so far completed that when the act took effect on July 1, 1911, only one ocean passenger steamship subject to its provisions had failed to comply with the law. In these preparations the Department had the benefit of the willing assistance and advice of the Navy Department. The chain of naval wireless shore stations, which now girds our coasts from Maine to the Canal Zone and thence to Unalaska, has been at this Department's disposal to receive test messages from merchant ships; these naval stations in fact made the law possible, for they prevent the creation of monopoly, and apart from their strategic value are a commercial asset of the Government. Officers stationed at the navy yards and naval stations have also conducted examinations to test the skill of wireless ship operators, to 507 of whom thus far certificates of competency have been issued. Through the courtesy of the Navy Department these arrangements will continue during the current fiscal year, and the War Department has also consented to hold examinations of wireless oper-

ators at its Signal Corps station at Fort Omaha. The wireless ship act has met with general approbation, and in its enforcement the Department has had, with rare exceptions, the cordial cooperation of the steamship companies concerned and of the wireless telegraph companies. Austria has passed a similar law, effective January 1, 1912, and doubtless other nations will follow our example if our administration of the act shall prove successful. At present 488 ocean passenger steamships are regularly subject to the provisions of the law, and others on occasional voyages come within its requirements. In addition 142 vessels, including 15 yachts, not subject to the law, have been voluntarily equipped in the United States.

During July, the first month of the operation of the act, there were 1,163 departures of steamships subject to the act, and the number during the year will exceed 10,000. Congress appropriated only \$7,000 for the enforcement of the law, and with this amount it was possible to select only three competent inspectors—one for New York and New England, one for the rest of the Atlantic and Gulf coasts, and one for the Pacific coast. Several months' work has shown that constant inspections are needed to give full effect to this useful law, and I renew the recommendation for an appropriation of \$10,000, which will allow an inspector exclusively for Gulf ports and Porto Rico. Trade of these ports is increasing even in advance of the opening of the Panama Canal. The mutual usefulness of wireless apparatus to two or more steamships or to a shore station affords a special reason for Government inspection. Supervision of the equipment of ocean passenger steamships with wireless apparatus has already taken its place and at relatively small cost among the several services which Congress has created for the safety of life and property at sea.

While the Congress of the United States was the first legislative body to recognize by statute the protection to life and property at sea afforded by radiocommunication, we are backward in the necessary regulation of the use of wireless apparatus. A bill for this purpose, prepared by this Department in conjunction with the Treasury Department, the War Department, and the Navy Department, passed the Senate unanimously on June 16, 1910, and a similar bill was unanimously reported to the House on April 1, 1910, but was not reached. The passage of this measure is again recommended. It avoids difficulties which have thus far delayed ratification of the Berlin Radiotelegraphic Convention of 1906, adopted by practically all other maritime nations. The international radiotelegraphic conference will meet again in June, 1912, and it is hoped that Congress will provide for the participation of the United States in its deliberations.

MOTOR-BOAT ACT.

The motor-boat act went into effect on July 9, 1910, and the improvement during the year in navigation conditions on rivers, harbors, and lakes under Federal jurisdiction is everywhere recognized by the masters of large vessels as well as by those who operate motor boats. Its first purpose was to substitute reasonable requirements as to lights and sounds for the impossible requirements of the acts of 1895 and 1897, passed when motor boats were almost unknown. Its second purpose was to provide simple and effective means of extinguishing fire and preventing drowning. Compared with former years, the summer season of 1910 showed relatively few accidents and the past summer was almost wholly free from those fatalities which the law was designed to prevent. Of course these results are in a great measure due to the better construction and equipment provided by builders and to the increasing skill of operators, but the law has been a stimulus to both and has exerted a wholesome check on the reckless. Motor-boat clubs and the daily newspapers and sporting press throughout the country have been prompt to recognize the usefulness of the law, and their cooperation has helped much in its administration.

The law, however, could have been only feebly enforced had not Congress provided an appropriation of \$15,000 to enable collectors of customs to enforce this and other navigation laws upon the water, where in fact violations occur. The same sum was placed at the Department's disposal for the current year and is recommended for the coming year. The Department has endeavored to be both just and considerate in the imposition of penalties, as the law was new, but the receipts from fines under this and other laws have been about double the appropriation. The expenditure will thus prove advantageous even from the fiscal point of view.

The Department has been urged to recommend an extension of the law so as to require Government inspection of the hulls and machinery of motor boats and Government examinations of their operators. At a conservative estimate there are 150,000 motor boats always under Federal jurisdiction. To carry out the recommendation a great extension of the Federal service, with a large appropriation, would be necessary. I am satisfied that some additional supervision should be provided for, but I do not believe that it is necessary to extend the rigid rules of general navigation and inspection to this smaller craft.

NAVIGATION REVENUES.

Tonnage duties during the fiscal year amounted to \$1,083,255.34, an increase of \$1,728.64 over the previous year and the largest amount collected from this source since 1884. The full effect of the reduction

in rates from near-by foreign ports under the tariff act of August 5, 1909, is shown in receipts of \$124,772.65 from vessels entered from such ports, compared with \$163,731.81 from the same source during the fiscal year 1909 under the former rate. Tonnage rates are reasonable compared with those imposed by foreign nations generally, and are much less than those of the ports of continental Europe. They will provide an annual revenue of about \$1,000,000 for some years to come, as increase in ocean traffic will be taken up by regular lines rather than by tramp steamers.

Our law fixing the tonnage of vessels, which is the basis of tonnage duties and other public and private charges, was brought into substantial accord with the laws of the principal maritime nations by the act of March 2, 1895. International uniformity on this subject is essential to the expeditious dispatch of modern steamers, and actual remeasurement of foreign vessels is to be avoided when possible. Marine construction, especially in shelter decks, has improved since 1895, and we should recognize, not penalize, these improvements. Amendments to the measurement laws are the more desirable at this time, as a system for the purpose of Panama tolls must soon be established.

MISCELLANEOUS RECOMMENDATIONS.

From the beginning of the Government, collectors of customs have been charged with the duty of enforcing the comprehensive scheme of navigation laws, which was enacted simultaneously with the first laws to collect revenue at seaports. As Congress has extended the scope of the navigation laws with increasing regard for the safety of life at sea, the duties of collectors of customs have been increased correspondingly, until at the present time many collectors of customs collect little or no revenue from the tariff, but are wholly occupied with the enforcement of laws relating to shipping. For this reason the ratio between the cost of operating a customhouse and the amount of revenue from the tariff it collects was never a correct measure of the usefulness of a collector of customs or of the amount of work he performed. It is an even more inaccurate measure now than it was 20 years ago. In any reorganization of customs districts which Congress may contemplate, the dual duties of collectors of customs should be fully considered, lest unintentionally an important part of the administrative machinery of the Department of Commerce and Labor be disarranged.

Congress has provided for the representation of the United States at three sessions of the International Diplomatic Conference on Maritime Law, and the proposed salvage convention, which is generally commended by the maritime world, has been transmitted to the Senate. I recommend that the United States be represented hereafter

at these sessions, for in the preliminary work of unifying the maritime law of nations our country should do its share.

The repeal of the law permitting imprisonment of seamen for desertion from American ships in remote foreign ports is again recommended. Men who want to desert American ships leave unmolested. In such ports not 1 man out of 200 deserts, and there are not half a dozen arrests a year. The situation is the reverse of that in our ports, where seamen desert from foreign ships to enjoy the larger opportunities of American life. Imprisonment for desertion from American ships in domestic ports and in near-by foreign ports was abolished in 1898, and the fragment of the law remaining is worse than valueless.

STEAMBOAT-INSPECTION SERVICE.

STATISTICAL SUMMARY OF WORK.

During the fiscal year ended June 30, 1911, there were transported on vessels which by law are required to report the number of passengers carried, 314,768,885 passengers. The total number of accidents resulting in the loss of life during this period was 48, a decrease from the previous year of 7, and the number of lives lost 392, including passengers and crew, an increase of 13 over the previous year. Of the total number of lives lost, 113 were from accidents incident to the perils of navigation, and 48 were from suicide and other unrelated causes, leaving 231 which can fairly be charged to accidents, collisions, or foundering. The total number of 392 lives lost, when compared with the number of passengers that were carried, makes a ratio of 1 life lost, including passengers and crew, for every 802,981 passengers carried.

The number of vessels inspected and certificated in the fiscal year 1911 was 8,335, with a tonnage of 8,494,986, a decrease of 94 in number, with an increased tonnage of 20,280, as compared with the previous fiscal year. Of the vessels certificated 6,999 were domestic steamers with a tonnage of 4,703,518, a decrease of 115 steamers and of 175,718 tons; and 468 were foreign passenger steamers with a tonnage of 3,330,267, an increase of 4 in number and of 200,395 tons. Sail vessels and barges to the number of 36 were inspected, with a tonnage of 18,561, a decrease of 2 in number and of 2,579 tons, and also 475 seagoing barges of 424,829 tons, a decrease of 5 in number and of 3,103 tons from the previous year. Three hundred and fifty-seven motor vessels with a tonnage of 17,811 were inspected and certificated, an increase of 24 in number and 1,285 tons over the previous year.

Licenses were issued during the year to 14,006 officers of all grades, an increase of 850 over the preceding year. There were 1,317 applicants examined for color blindness, of whom 30 were rejected and 1,287 were passed. As compared with the previous year, these figures show an increase of 299 in the number examined and 287 in the number passed.

At the various mills 3,916 steel plates for the construction of marine boilers were inspected, a decrease from the previous year of 610, and of this number 311 were rejected. In addition to these plates, there were inspected at the mills a large number of steel bars for braces and stay bolts for 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 the testing 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 various manufacturing plants 210,259 life preservers, of which 730 were rejected.

The total number of persons in the Service at the end of the fiscal year ended June 30, 1911, was 261, consisting of 185 officers, 74 clerks, 1 janitor, and 1 messenger. Two vacancies existed in the Service on that date.

SCOPE OF THE SERVICE.

It may be interesting to note the scope of the work of the Steamboat-Inspection Service. The Service exists primarily for the purpose of inspecting the hulls and machinery of vessels of the American merchant marine that are subject to inspection, licensing officers for steam vessels subject to inspection, and conducting investigations and trials of violators of the steamboat-inspection laws and of the rules and regulations passed by the Board of Supervising Inspectors. The work of inspecting the hulls of vessels brings the Service into close contact with the shipbuilding interests of the country, as well as the manufacturers of equipment necessary for vessels; while the inspection of boilers of steamers brings the Service into equally close contact with the mills that roll the material of which marine boilers are constructed, as well as the manufacturers of marine boilers. The work of licensing officers places upon inspectors the responsibility that requires them to assure themselves that men applying for marine licenses have proper physical qualifications, as well as mental capacity.

While the Steamboat-Inspection Service was organized, as its name implies, for the purpose of inspecting steamboats, modern development of the means of propelling vessels has brought to the front the gasoline engine, and with it the motor boat, and while for certain purposes the Service is required to inspect gasoline motor boats of a certain class, the Service comes into contact with the motorboat situation mainly through the licensing of operators of motor boats carrying passengers for hire. Furthermore, the Steamboat-Inspection Service is charged by the Department with the responsibility of passing upon the buoyant cushions used in motor boats operated for pleasure purposes, and this has entailed no little work upon the central office as a result of the tests that have to be conducted of cushions submitted, and of the numerous questions that have to be answered in regard to the life-saving equipment of certain classes of motor boats.

As the manufacture of dangerous articles has developed, the number of questions asked with regard to the application of section 4472, Revised Statutes, relating to the transportation of dangerous articles on vessels carrying passengers, continues to increase, and there are no more important rulings than those relating to the transportation of dangerous articles under this section. As the gasoline engine has brought into prominence the motor boat, so it has also brought to the attention of the Service the transportation of automobiles, a matter also covered by section 4472, and it becomes more apparent every day that the masters and owners of vessels must strictly enforce the law with reference to the transportation of automobiles.

The work being done by the Steamboat-Inspection Service for other departments of the Government, and for other bureaus of the Department of Commerce and Labor, is constantly increasing. This work consists of investigations made by the Service of disasters affecting vessels owned by other bureaus of this Department; the inspection of material for boilers used in the vessels of other departments of the Government, and the inspection of boilers in vessels owned by other bureaus of this Department, as well as boilers in public buildings.

MOTOR VESSELS.

Reference has been made to the licensing by the Steamboat-Inspection Service of persons who desire to become operators of motor vessels carrying passengers for hire under the provisions of the act of Congress approved June 9, 1910, which act also provides that any such license as operator of motor boats shall be revoked or suspended by the local board of inspectors for misconduct, gross negligence, recklessness in navigation, intemperance, or violation of law on the part of the holder. While, therefore, the vast majority of motor boats are not subject to inspection, the Service does have a certain jurisdiction over persons holding licenses as operators of them.

At present no examination is required as a condition to obtaining license, and it must be apparent that many persons have received license to operate motor boats who are in fact not competent to hold such license, and who jeopardize not only their own lives and the lives of persons traveling with them, but also the lives of persons traveling on inspected steamers commanded by duly licensed men. It does seem that as a matter of public policy, for the purpose of protecting life and property, the operators of motor boats should be required to submit to some suitable examination before receiving license, although it does not appear necessary to subject them to the rigid rules of navigation and inspection.

NEW FEATURES OF HULL INSPECTION.

In the annual report of the Supervising Inspector General of the Steamboat-Inspection Service for the fiscal year ended June 30, 1910, the Supervising Inspector General recommended a more rigid and thorough hull inspection, and at the meeting of the Board of Supervising Inspectors of Steam Vessels in January, 1911, a rule was passed requiring vessels of a certain tonnage to submit blue prints showing their construction and other information of value to the inspectors. It is believed that it will become more and more apparent that this rule is a good one, for prior to the passage of the rule the inspectors of the Service were in complete ignorance of many essential things they should know regarding the construction of hulls of vessels inspected by them.

REARRANGEMENT OF SUPERVISING-INSPECTION DISTRICTS.

At the last meeting of the Board of Supervising Inspectors, in January, 1911, the supervising-inspection districts of the Service were rearranged. The Second district, which was by far the largest in the matter of the amount of work done, was divided, and the Fourth district was enlarged. The result of the rearrangement has been that the work of the Service has been more evenly distributed, there is better inspection, and there is greater satisfaction, not only to the Service but to vessel owners and licensed officers.

TRANSPORTATION OF EXPLOSIVES BY WATER.

The explosion of dynamite which occurred February 1, 1911, while the explosive was being unloaded from a freight car and taken on board a steamer lying at a dock at Communipaw, N. J., and which resulted in great loss of life and destruction of property, has drawn attention to apparent deficiencies in the laws regulating the transportation of explosives by water, as distinguished from transportation by land, and has given rise to an earnest demand for further Federal legislation on the subject. The statutes, and the regulations made thereunder, governing the transportation of explosives by land (and by water, also, so far as passenger vessels are concerned) seems to be ample for the purpose in view. (See act to codify the penal laws of the United States, approved Mar. 4, 1909; secs. 4472-4476, Rev. Stats.; and act of Congress approved Aug. 2, 1882, sec. 8.) The only positive prohibitions or requirements, however, concerning the transportation of explosives by freight vessels are, first, that liquid nitroglycerin, dry fulminate in bulk, or other like explosive, shall not be carried on freight vessels operated by a common carrier while transporting other articles of commerce (act of Mar. 4, 1909,

sec. 234); second, that gunpowder, nitroglycerin, and like articles, when offered for shipment, shall be securely packed and put up separately from each other and from other articles (secs. 4475 and 4476, Rev. Stats.); and third, that packages containing explosives shall have the contents properly marked on the outside when presented for shipment and the carrier informed of the character of the article (act of Mar. 4, 1909, sec. 235).

The use of explosives is indispensable to many necessary operations of modern life. Adequate means for the transportation of explosives by land and water must, therefore, always be available. Recognizing this, there are still grave dangers to be avoided. Such dangers are probably most to be feared in connection with the navigation of vessels carrying large quantities of explosives and with the loading, unloading, and anchorage of the same in harbors or inland waters, where the prospect of collision is greater, and where, if an explosion occurs, the disastrous consequences are almost certain to extend to other vessels often crowded with passengers, and even to structures and persons on shore.

With these facts in mind, I have felt that the attention of Congress should be called to the matter, and accordingly offer for consideration certain definite suggestions regarding the character of legislation needed, some of which it may be thought wise to adopt. The dangers to be guarded against would, it is thought, at least be minimized if the law should require, among other things, that vessels carrying more than a certain quantity of explosives shall carry neither passengers nor other freight; that such vessels and vessels used for the storage of explosives shall be inspected by the Steamboat-Inspection Service and certificated as of a structure suitable for the special uses in view; that vessels intended for such uses shall be constructed wholly of iron or steel and so built that explosives shall neither be stored nor handled within 25 feet of the motive power, and shall have the openings into the holds or storage compartments provided with hinged iron or steel hatches having rubber or felt joints, such hatches to be kept securely fastened, except when loading or unloading or when no explosives are on board; that such vessels shall be propelled only by motive power of their own, the generation of which shall be of a character permitting the escape of no sparks; that vessels of this kind shall be painted a distinctive color and shall display a large flag designating their character, and shall not be navigated in harbors or inland waters at night or in fog or thick weather; that such vessels shall be loaded and unloaded altogether by hand, without the use of hooks, slings, or other artificial means, except that skids may be used if constructed wholly of wood, without metal fastenings, properly protected with side guards and covered on the working surfaces with canvas or other material to reduce friction; that in

stowing vessels with explosives the same shall be stored under deck and below the water line; and that cargoes of explosives shall not be transferred from one vessel to another in any harbor, but only in uncongested waters designated by proper authority.

CONCLUSION.

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

Respectfully,

CHARLES NAGEL,
Secretary.

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