

1920

REPORT  
OF THE  
DIRECTOR OF THE CENSUS.

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DEPARTMENT OF COMMERCE,  
BUREAU OF THE CENSUS,  
*Washington, September 20, 1920.*

SIR: There is submitted herewith the following report upon the operations of the Bureau of the Census during the fiscal year ended June 30, 1920, and the work now in progress:

INTRODUCTION.

The fiscal year ended June 30, 1920, was the first of the three years constituting the decennial census period, as defined by the Fourteenth Census act. Within this period of three years the census must, according to the provisions of the law, be taken and its results must be compiled and published. During the three-year census period, therefore, the Bureau of the Census operates on an entirely different basis from that on which it operates during the seven-year intercensal period. Within this period the office force of the Bureau is expanded from about 700 to a maximum of approximately 6,000, and then gradually reduced, until at the close of the period the intercensal status is resumed.

For the purpose of assisting the Director of the Census in the collection, tabulation, and publication of the immense amount of statistical data involved in the decennial census work, Congress authorized for the census period an Assistant Director of the Census, who, under the terms of the census act, shall be appointed by the President, by and with the advice and consent of the Senate, and who "shall be an experienced practical statistician" and "shall perform such duties as may be prescribed by the Director of the Census." The Bureau has been fortunate in securing the appointment to this office of a former chief statistician whose 25 years' experience in the statistical work of the Census Office and whose training under an appointment to another statistical branch of the Government service have rendered him exceptionally well fitted for performing the duties of this important position. The nomination was sent to the Senate on July 28, 1919, and was confirmed on August 1, 1919. The Assistant Director took the oath of office and entered on duty on August 5, 1919.

The Fourteenth Census act provides for the appointment of a disbursing clerk and an appointment clerk during the three-year decennial census period. The position of disbursing clerk was filled by the promotion of an employee of the Bureau who had charge of its accounting section and that of appointment clerk by the

transfer of the assistant appointment clerk of the Department. The former entered on duty on July 8, 1919, and the latter on August 1, 1919.

Although during the intercensal years the Bureau is busily engaged on a number of statistical inquiries, the work on these inquiries is so arranged that none except those made annually or continuously will conflict with the decennial census work, and the work on the annual and continuous inquiries is reduced to the minimum during the census period.

The Fourteenth Decennial Census comprises three principal groups of subjects, namely: Population; agriculture, including irrigation and drainage; and manufactures, mines and quarries (including oil and gas wells), and forestry and forest products. No important changes in the scope of the census work have been made since the Thirteenth Decennial Census. The Fourteenth Census covers the same subjects as the Thirteenth and in addition the inquiries regarding drainage and forestry and forest products; and the irrigation inquiry has been amplified. In some respects, however, the inquiries, particularly those in regard to agriculture, have been simplified.

The censuses of population and agriculture, although entirely separate and distinct in regard to the compilation and publication of their results, were taken by the same field force, and accordingly these two censuses must be treated in combination in the discussion of the field work.

The censuses of manufactures, mines and quarries, and forestry and forest products are separate and distinct in every respect from the population and agricultural censuses, except that some of the population enumerators collected data for small and unimportant manufacturing establishments. The returns for all important establishments covered by the manufactures canvass were collected by field agents working entirely independently of the population enumerators and under separate supervision.

During the fiscal year 1920 the field force of the Bureau was organized, the canvasses of population and agriculture were brought substantially to completion, and the returns were shipped to the Bureau at Washington; the canvasses of manufactures, mines and quarries, forestry and forest products, and irrigation and drainage were begun and brought well toward completion; the work of compiling the returns was begun; the total populations (without detail as to age, sex, color, etc.) were announced for 15 States, the District of Columbia, 4 outlying possessions, 2,193 counties, and 9,074 incorporated places (including 1,843 cities), covering about 91,548,000 of the population; and the compilation of the detailed statistics of population and agriculture was begun.

During the fiscal year the Bureau also conducted its annual inquiries relating to births, deaths, and municipal and State finances; published quarterly statistics on stocks of leaf tobacco, edible fats and oils, and on hides, skins, and leather; made monthly and semi-monthly collections of statistics of cotton, cottonseed, and cottonseed products; and carried on the publication of weekly mortality reports for certain large cities.

The following sections describe in detail the work done by the Bureau during the fiscal year:

## CENSUSES OF POPULATION AND AGRICULTURE.

## PREPARATION OF SCHEDULES, INSTRUCTIONS, ETC.

The general scope of the census is fixed by the law, but necessarily the "form and subdivision" of the interrogatories is left to the discretion of the Director of the Census. Much time and thought were devoted at this census, as at previous ones, to the very careful consideration of the form and phraseology of the schedules of population and agriculture and of the instructions to enumerators.

The population schedule is similar in form to that used at the census of 1910, but a number of changes have been made. This schedule is a large sheet, containing spaces for 100 names and for the various data to be secured regarding each person. Aside from the columns showing the location (streets and house numbers in cities) and the order of visitation for dwellings and families, the schedule provides 24 columns of interrogatories.

The present census includes an inquiry for ascertaining the amount of encumbrances on homes occupied by their owners. A similar inquiry was made at the census of 1890, but no effort was made at the censuses of 1900 and 1910 to secure statistical information of this nature.

A tentative general population schedule was prepared and printed in March, 1919, for office use and for limited distribution. The revised edition, with slight changes, was received from the printer July 9, 1919, and was ordered to print August 18, 1919.

Requisitions were made in March, 1919, for the envelopes, stationery, and other supplies to be used by the supervisors immediately following their appointment. The general instructions to supervisors and other initial blanks were ready for distribution at the beginning of the fiscal year, and much work had also been done in the consideration and preparation of the detailed instructions to supervisors and enumerators regarding their work and of other blanks needed before and during the course of the enumeration. The preparation of the enumeration blanks was carried on vigorously in July and the months immediately following, in order that the various forms needed in the successive steps of the work of the supervisors would be in their hands in ample season for use at the appointed time. The principal enumeration blanks used in continental United States may be grouped as application forms; test outfits, including test schedules properly filled; commissions, oaths, etc.; schedules, instructions, etc., and special blanks for use in cities. The individual forms numbered 41, and the editions of these forms ranged from 30,000 to 15,000,000. The number of population schedules printed was 2,500,000, and the number of farm schedules ordered was 15,000,000.

## THE CENSUS DATE.

The date January 1, 1920, was fixed by the Fourteenth Census act as that to which the census should relate. This census is the first which has been taken in the winter, all previous enumerations having been made in the spring or summer. January 1 was recommended by the Bureau for incorporation in the law as the census date in deference to the wishes of the Department of Agriculture and of the

various interests making use of agricultural statistics. In some respects this date has decided advantages over any other for the purposes of an agricultural census. The past year's work on all farms has been finished by January 1, and the coming year's work has not as a rule been begun. Practically all farmers are occupying the farms which they operated during the preceding year, whereas a few months later many of the renters will have removed to other farms. Again, young farm animals are born in large numbers during the spring and early summer but not in December or January, and therefore a live-stock census referring to January 1 is of far more value than one taken several months later.

But against these manifest advantages must be offset the pronounced disadvantage due to the inclement weather which is apt to prevail in many sections of the country in January. It happened that the weather in January, 1920, was worse than usual. In some of the enumeration districts the cold was so extreme and the snow had drifted to so great an extent as seriously to delay the work in the rural districts, and farther south the rains were so heavy as to make the country roads well-nigh impassable.

As a result of the delays due to the severity of the weather which characterized the early months of the present year, the field work of the Fourteenth Census was protracted through a longer period than had been anticipated, although the returns began to reach the Bureau early enough and rapidly enough to make it possible to organize and train the force of clerks and machine operatives and to get the work of compilation well under way at an earlier date than had been possible at any preceding census. In this way also the change in the census date is advantageous to the Bureau, since it permits a materially earlier commencement of the work of compiling and tabulating the returns preparatory to their publication, which, under the law, must be made not later than June 30 of the second year following that in which the enumeration is made.

#### FIELD WORK.

*Appointment of supervisors.*—The Fourteenth Census law provided for the appointment of supervisors by the Secretary of Commerce upon the recommendation of the Director of the Census. Before the close of the fiscal year 1919 the machinery for the appointment of the supervisors, as described in my report for that year, was set in motion, and the supervisors were appointed as early as possible after the beginning of the present fiscal year. The first appointments of supervisors, 142 in number, were made on August 9, and by the end of the month 350 had been appointed; 15 more were appointed in September, 6 in October, and 1 on November 6. A number of changes had to be made thereafter because of resignations and deaths, and it was not until some time in December that the last of the appointments were made; but at the close of December there were no vacant districts and every supervisor's office was open and organized for the enumeration work in January.

Of the 372 supervisors originally appointed for continental United States, three were women, and later two women were appointed to fill vacancies. Two of these supervisors were appointed in Texas,

one in New York, one in Nevada, and one in Illinois. This was the first census in which women served as census supervisors, and they discharged their duties in a creditable manner.

*Supervisors' headquarters and office quarters.*—Letters of inquiry with respect to headquarters and office quarters were sent to the supervisors as soon as their commissions were issued, and at the end of September headquarters had been established for 350 supervisors and office quarters selected for 264 of them; and at the close of October headquarters had been established for all supervisors and office quarters selected for all but one. As the office quarters were finally established, 197 supervisors were located in their own offices or in Federal or other public buildings and 175 in rented offices. At the close of October all but three supervisors had been supplied with one or more assistants.

*Appointment of enumerators.*—In order to aid in the selection of competent enumerators, tests of a practical character were held throughout the country by the supervisors. These tests had been formulated in detail by the Census Bureau and consisted essentially in filling out sample schedules for population and agriculture from hypothetical data set forth in narrative form. The purpose of the examination was really twofold: First, to test the applicant's ability to perform the duties of an enumerator, and, second, to familiarize him with those duties. These tests were given, so far as practicable, by the supervisors, the supervisors' assistants, or, in some instances, by the postmasters. In many cases, however, it was not feasible to assemble the applicants for the examination, and therefore the test was given the applicant by mail, or individually, when interviewed by the supervisor or his representative. Thus, tests were not always competitive, but the problem in many cases was not to eliminate the less qualified from a number of applicants but rather to secure any applicants at all.

The date originally set for holding the tests for applicants was the week beginning October 27, but because of the great difficulty in procuring applicants it was possible to hold this test during that week in only about 60 per cent of the districts. In the remaining districts the examination was given during the week of November 3 or that of November 10, and in some cases even later.

The lists of designations for enumerators, together with the test papers and applications of the persons designated, had been received at the end of November for 236 supervisors' districts, covering a total of 28,440 enumeration districts, and at the end of December for 370 supervisors' districts, covering a total of 72,071 enumeration districts, out of a grand total of 87,234 districts. Lists were later received for the remaining two supervisors' districts and also supplemental lists covering enumeration districts vacant at the time of sending the first lists and those in which changes prior to the date of enumeration had to be made. The test papers as fast as received in the Census Bureau were examined and the supervisors notified by wire or mail as to the number approved, practically the only exceptions being made in cases where the persons designated were ineligible because they were either tax assessors or collectors or postal employees, the ineligibility in the latter case being due to a ruling of the Post Office Department.

On account of the great difficulty in obtaining competent enumerators in many parts of the country, because of the low rates of pay and temporary character of the work, some supervisors designated persons who did not come up to the rating required in the test. In these cases the supervisors were requested to have the applicants fill out second test schedules at home and were cautioned to instruct them very carefully in their duties as census enumerators.

The test schedules as soon as examined and approved were inclosed in envelopes, addressed to the persons designated, together with copies of a special circular calling attention to the most common errors made by applicants or which are likely to be made by enumerators. These envelopes were sent to the supervisors in bulk, to be distributed by them to the persons designated, either in person or by mail, but after the middle of December this was discontinued on account of the congestion in the mails.

The increase on December 4 in the rates of compensation to the maximum allowed by law aided the supervisors greatly in securing enumerators, but there were some districts in which, even with the increased compensation, it was difficult to obtain competent enumerators, and the supervisors were given blanket authority on December 18 to appoint competent enumerators and to send their names and test schedules afterwards.

*Appointment of inspectors.*—In the large cities the work, because of the great number of foreign-born persons, many of whom were inclined to be suspicious of the census, was much more difficult than in most rural regions. In those cities the supervisors were empowered to appoint assistants, designated as inspectors, whose duties were to exercise immediate supervision over the enumerators and to give them such aid and instruction as might be necessary. These inspectors were needed particularly in those sections of the cities populated largely by the foreign element, especially where tenements, apartment houses, and lodging houses were numerous. Those sections of cities which were made up chiefly of ordinary dwelling houses presented no particular difficulties. When the enumerator merely had to go from house to house and get the census information from some member of each family capable of answering the various questions on the population schedule, the work was comparatively simple and easy; but where the enumerator had to interview the proprietor or manager of a cheap lodging house, or a boarding-house keeper, or the janitor of an apartment house in order to obtain information regarding persons whom he was unable to interview directly, the difficulties were greatly increased. The inaccuracies in the census due to these difficulties do not pertain so much to the mere counting of the population as to the securing of correct and reliable data concerning the persons counted. A reasonably conscientious and intelligent enumerator has little difficulty in ascertaining the number of persons in his district who are entitled to enumeration as bona fide residents of that district on the census date. He can ascertain this number without much trouble by visiting the various dwellings and inquiring how many persons were making their usual places of abode in those dwellings on the census date. But to interview the persons themselves and to obtain the various census data as to age, citizenship, mother tongue, occupa-

tion, etc., is exceedingly difficult in some cases, although the enumerators were instructed to make every effort to obtain this information correctly.

*Shipment of schedules and supplies.*—The first shipment of letter-heads, envelopes, and miscellaneous supplies to supervisors was made on August 20, and by the end of that month 266 supervisors had been furnished with these supplies. These shipments were completed as fast as the supervisors were ready to receive them, and were followed by the supply of application blanks and other forms needed for the appointment of enumerators.

The first shipment of agricultural schedules in boxes was made September 15, and the last was sent early in November. In all, 360 supervisors, representing a total of 46,452 enumeration districts, were supplied with agricultural schedules. The estimated number of schedules needed for each enumeration district were made into a separate package, and these packages were mailed in large wooden boxes to each supervisor for distribution to the enumerators in his district. Boxes of the proper dimensions were manufactured for this purpose, 2,763 such boxes being required for the shipment of the agricultural schedules.

The portfolios containing the population schedules, instructions, and other blanks and supplies to be used by the enumerators were shipped during November, the first consignment being sent on November 3. Separate portfolios were made up for each of the 87,234 enumeration districts and were forwarded to the respective supervisors for distribution, in person or by mail, to the enumerators. A total of 4,032 boxes, specially manufactured, were required for this purpose. In addition to the 6,795 boxes used for the shipment of the agricultural and population schedules, there were sent to supervisors through the mails more than 50,000 packages of miscellaneous blanks and supplies. For the receipt, preparation, and shipment of schedules and supplies to supervisors an average force of 130 persons was employed from August to December, and a smaller force thereafter for the shipment of additional schedules and supplies needed by the supervisors during the continuation of the enumeration.

*Conferences with supervisors.*—A conference was held in my office on November 29 with the supervisors for a number of near-by States. This conference was of a general character and was attended by the director, the assistant director, the chief statisticians for population and agriculture, the geographer, and the disbursing clerk. Of the 30 supervisors invited, all but 3 were present. On December 2, 1919, a conference was held by the director and assistant director in New York City, which was attended by 13 supervisors or their representatives. The chief statistician for population then made a tour of the eastern and central sections of the country for the purpose of holding conferences with supervisors. These conferences were held in Boston, Syracuse, Cincinnati, Chicago, Minneapolis, Kansas City, Dallas, New Orleans, and Atlanta, the final one taking place on December 22.

The 11 conferences covered a total of 336 supervisors (of whom all but 34 were present), or more than nine-tenths of all those in continental United States.

*Enumeration.*—The enumeration began, as required by the Fourteenth Census act, on January 2, but in many of the supervisors' districts it was impossible to commence work with a full corps of enumerators, because of the difficulty, especially in rural localities, of inducing persons to accept employment as enumerators at the rates of compensation which the Bureau was able to offer. In many cases it became necessary to assign two or more enumeration districts to one enumerator, a procedure which necessarily delayed the completion of the enumeration.

It was the duty of the enumerators, under the law, to commence their work on January 2 unless deferred by reason of climatic or other conditions which would materially interfere with the proper conduct of the work, and to complete their canvass in rural districts within 30 days and in urban districts within 2 weeks from the date of commencement. Although in the majority of the enumeration districts throughout the country the work was commenced on January 2, it was impossible to bring it to completion, except in a relatively small number of districts, within the time specified by the law, by reason of the prevalence of extremely severe weather conditions and of pandemics of influenza.

On January 19 a circular telegram was sent to supervisors asking them to mail to the Bureau, if possible, one box (50 schedules or more) of completed enumerators' portfolios by the close of the week (Jan. 24); and on January 28 another circular telegram was sent to those supervisors who had neither replied to the first telegram nor sent in any portfolios, directing them to telegraph immediately when the first consignment would be sent.

Although in a considerable number of urban districts the enumerators had completed their canvass before the close of January, it took some time for the supervisors to examine and correct the schedules before forwarding them to Washington, for which reason not many returns reached the Bureau until February.

The work of enumeration was still in progress during February and March in many enumeration districts, and at the end of March the work remained unfinished in about 1,800 districts, out of a total of 87,234; and for a considerable number of districts the returns were still in the office of the supervisor undergoing examination or were in transit to the Bureau. The number of unfinished districts had been reduced at the end of April to 980, at the end of May to 738, and at the end of June to 245. It is regrettable that, six months after the census date and five months after the date on which the canvass was required by law to be completed, there should still remain any district in which the work was still in progress. This unfortunate condition could not, however, be avoided. The Bureau used every means at its command to bring this work to a close. It authorized supervisors to offer, where necessary, the highest rate of pay fixed by law, but even with this rate of compensation the supervisors experienced great difficulty in obtaining persons competent and willing to complete the work in certain particularly difficult districts.

*Completion of work by supervisors.*—At the close of February, three supervisors had brought the work to completion throughout their entire districts, had forwarded their returns to Washington, and had closed their offices. These three districts were the District of Colum-

bia; the first district of Ohio, comprising Hamilton County, including the city of Cincinnati; and the fifth district of Kentucky, comprising Jefferson County, including the city of Louisville. At the close of March the supervisors' work had been completed in 61 districts, at the close of April in 149 districts, at the close of May in 187 districts, and at the close of June in 281 districts.

*Census of Alaska.*—In pursuance of arrangements made with the Commissioner of Education, a field agent of the Bureau of Education, in charge of the Alaskan division, with headquarters at Seattle, Wash., was designated to take charge of the field work in Alaska. The plan of cooperation between the Bureau of the Census and the Bureau of Education, which was approved by the Secretary of Commerce on June 3, 1919, and by the Secretary of the Interior on June 14, 1919, provided for the employment of six district superintendents of schools in Alaska as special agents in charge of the enumeration work in their school districts, and of the local teachers as enumerators wherever practicable. The schedules, blanks, and other supplies for the Alaskan census were shipped to Seattle July 17, 1919, ready for transportation to Juneau, Alaska, where the headquarters of the special agent in charge of the Alaskan census were established. The first consignment of returns was received on September 3, 1920, and the remaining returns are expected to reach the Bureau any day.

*Census of Hawaii.*—The census of Hawaii was taken by an expert special agent on the permanent force of the Bureau who was detailed for this purpose. The territory was divided into 186 enumeration districts. The schedules, instructions, and other blanks and supplies were shipped on October 9, 1919. The special agent left Washington on the following day, and returned on May 28, 1920. The completed schedules for population and agriculture were received April 26, and those for manufactures, mines, and quarries reached the Bureau May 29, 1920.

The entire cost of the field work connected with the census of Hawaii for 1920 was \$34,711.27, or \$38.52 less than was expended for this part of the work in 1910, although the population increased 33.4 per cent and the number of farms increased 22.5 per cent during the decade.

The first announcement of population was made at Honolulu on March 16, 1920, and included the inhabitants of the entire group of islands, except those who were dwelling on military reservations and at naval stations. The printed bulletin was ready for distribution on July 12, 1920.

The Federal and territorial officials in Hawaii cooperated with the supervisor and rendered much valuable assistance in connection with the enumeration, and the attitude of both press and people was very helpful.

*Census of Porto Rico.*—The census of Porto Rico was taken by a member of the Bureau's permanent staff—the chief statistician for the division of statistics of cities—who was detailed for the purpose. The territory was divided into 1,173 enumeration districts. The schedules, instructions, and other blanks and supplies were shipped on October 16, 1919, and the official in charge left on November 5, 1919, and returned on April 12, 1920.

The entire cost of the field work connected with the census of Porto Rico was \$127,044.35, an increase over such cost for 1910 of

\$13,315.50, or only 11.7 per cent, although the population increased 16.3 per cent during the decade. The figures for 1920, moreover, include the cost of the disbursing force, which was maintained in Porto Rico in that year, while in 1910 disbursements were made directly from Washington.

The first announcement of population was made for Guayama, one of the seven senatorial districts, on February 19, 1920: the population of the entire island, by minor civil divisions, was announced on February 26, 1920, and the printed bulletin was ready for distribution on May 26, 1920.

As in the case of Hawaii, the Federal and insular officials in Porto Rico cooperated with the supervisor, and the attitude of the press and the public was cordial and helpful.

*Censuses of Guam, Samoa, and the Panama Canal Zone.*—Under the Fourteenth Census act the scope of the decennial census of the United States was extended to include for the first time the Panama Canal Zone and the islands of Samoa and Guam, the act providing that the censuses of these possessions should be taken by the respective governors thereof in accordance with plans prescribed or approved by the Director of the Census. Schedules, instructions, and other blanks were accordingly prepared by the Bureau of the Census to harmonize with the main census of the United States and were duly forwarded to the several governors, who appointed the enumerators and organized the work of taking the census. There are no manufacturing plants, mines, or quarries in operation in any of these possessions and practically no agriculture in the Canal Zone. But in Guam and Samoa the census included live stock and agricultural products, as well as population.

The completed returns for Samoa were received in Washington on April 13, 1920, those for the Canal Zone on May 8, and those for Guam on June 9. In each instance the returns indicated that the census had been well organized and carefully taken; and I take this opportunity to express my appreciation of the assistance and cooperation which the Bureau has received from the governor of each of these possessions in connection with this work.

*Military and naval population.*—Steps were taken in July, 1919, toward providing, through the War and Navy Departments, for the proper enumeration of all persons in the military and naval services who, because of the war or for other reasons, were likely to be absent from their usual place of residence at the time the census was taken in January, 1920. This also applied to civilians engaged in or identified with war work who were likely to be absent from this country during the enumeration period and for whose enumeration special provision would have to be made. Lists to be used in preparing for the enumeration of the military and naval population were secured in October, 1919, from the War and Navy Departments, these lists showing the location and strength of the various units of the Army and Navy stationed both at home and abroad. Further conferences with representatives of the War and Navy Departments were held in November and December, and a formal order regarding the taking of the census was issued by the Secretary of War on December 23, 1919, and by the Secretary of the Navy on January 5, 1920. The schedules and other supplies were sent in December to the various

commanding officers of the military forces and naval vessels and stations abroad.

*Other persons stationed abroad.*—Arrangements were completed in December with the Consular Bureau of the State Department to forward "absent family" schedules to the diplomatic and consular forces abroad, in order that they and their families, and also such of their employees as were citizens of the United States, might be included in the enumeration. Similar arrangements were made with the Department of Foreign Personnel of the American Red Cross to have its representatives stationed in foreign countries enumerated.

*Cost of field work.*—The cost of the field work in connection with the enumeration of population and agriculture (exclusive of the expenditure for printing schedules, instructions, etc.) will reach approximately \$9,345,000, consisting of about \$7,650,000 for enumerators and approximately \$1,695,000 for salaries and traveling expenses of the supervisors and of the clerks and special agents employed to assist the supervisors and for the rental and maintenance of supervisors' offices.

The Bureau's original intention had been to pay the large majority of the enumerators at rates below the maximum fixed by the census act. This maximum was 4 cents for each name where payment was made entirely on the per capita basis, \$6 a day where payment was made entirely on the per diem basis, or a mixed rate of not more than \$2 a day in addition to not more than 3 cents per capita. To these were added, in the case of the agricultural districts, various rates of compensation for the return of farm schedules, live-stock schedules, etc. It became apparent, however, in December, 1919, that it would be utterly impossible to obtain enumerators in many districts throughout the country unless the maximum rates were paid, and such rates were therefore established. All the enumerators (except those in institutions, who received 3 cents a name) who were compensated on the per capita basis were accordingly paid 4 cents a name and all those paid on the per diem basis were given \$5 to \$6 a day. In addition, in the rural districts it was necessary in some cases to make an allowance of from \$1 to \$4 per diem in lieu of subsistence.

Thus the cost of the enumeration was very materially increased as compared with the corresponding cost in 1910. Nevertheless, the increase is not as great as the average increase in wages in various industries or in the cost of the necessaries of life between 1910 and 1920. That is to say, the total cost of the enumeration in 1920 would purchase a smaller amount of the necessaries of life than could have been purchased by a sum equal to the total cost of the enumeration in 1910. Moreover, the population of the country has increased since 1910, and therefore the per capita cost of the enumeration represents a still greater reduction when measured in commodity units.

*Cost of supervision.*—In particular, the cost of supervision of the field work has shown a notable decrease when measured in commodity units. The basic compensation of each supervisor, \$1,500, was the same as in 1910; the number of supervisors bore about the same ratio to the total population; and the additional compensation of \$1 for each thousand or major fraction of a thousand of population enumerated represents the same per capita rate as in 1910.

*Enumerators' rates of compensation.*—The following tables show, for 1920 and 1910, the various classes of piece-price and mixed rates which were paid and the number of enumeration districts in continental United States in which each rate was paid:

RATES OF PAY OF ENUMERATORS IN CONTINENTAL UNITED STATES: 1920.

Designation.	Description.							Number of enumeration districts.	Per cent of total number of districts.
	Per diem.	Per inhabitant.	Per farm.	Per establishment of productive industry.	Per irrigation enterprise.	Per drainage enterprise.	Per barn or inclosure containing live stock not on farm.		
Piece-price rates:		<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>		
A.....		2	20	30	20	20	10		
B.....		2½	22½	30	27½	27½	10		
C.....		3	25	30	35	35	10	975	1.1
D.....		3½	27½	30	42½	42½	10		
E.....		4	30	30	50	50	10	71,487	82.0
Total.....								72,462	83.1
Mixed rates:									
F.....	\$1.00	2	15	20					
G.....	1.25	2	15	20					
H.....	1.50	2½	17½	20					
I.....	1.75	2½	17½	20					
J.....	2.00	3	20	20				2,207	2.5
Total.....								2,207	2.5
Per diem rates:									
\$3.....	3.00								
\$3.50.....	3.50								
\$4.....	4.00							32	(1)
\$4.50.....	4.50							3	(1)
\$5.....	5.00							659	.8
\$5.50.....	5.50							697	.8
\$6.....	6.00							11,174	12.8
Total.....								12,565	14.4
Grand total.....								87,234	100.0

<sup>1</sup> Less than one-twentieth of 1 per cent.

## RATES OF PAY OF ENUMERATORS IN CONTINENTAL UNITED STATES: 1910.

Designation.	Description.					Number of enumeration districts.	Per cent of total number of districts.
	Per diem.	Per inhabitant.	Per farm.	Per establishment of productive industry.	Per farm or inclosure containing live stock not on farm.		
Piece-price rates:		<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>		
A.....		2	20	30	10	9,864	14.3
B.....		2½	22½	30	10	20,123	37.8
C.....		3	25	30	10	16,868	24.4
D.....		3½	27½	30	10	6,227	9.0
E.....		4	30	30	10	1,321	1.9
Total.....						60,403	87.5
Mixed rates:							
F.....	\$1.00	2	15	20		169	.2
G.....	1.25	2½	17½	20		71	.1
H.....	1.50	2½	17½	20		225	.3
I.....	1.75	2½	20	20		184	.3
J.....	2.00	3	20	20		332	.5
Total.....						981	1.4
Per diem rates:							
\$3.....	3.00					36	.1
\$3.50.....	3.50					36	.1
\$4.....	4.00					346	.8
\$4.50.....	4.50					885	1.3
\$5.....	5.00					3,454	5.0
\$5.50.....	5.50					949	1.4
\$6.....	6.00					1,735	2.5
Total.....						7,641	11.1
Grand total.....						69,025	100.0

The following table presents, by States, for 1920 the items shown in the preceding table for the United States as a whole:

NUMBER OF ENUMERATION DISTRICTS, CLASSIFIED BY RATES OF COMPENSATION ESTABLISHED, BY STATES: 1920.

[NOTE.—For description of the rates designated by the several letters, see table on page 17.]

States and District of Columbia.	Grand total.	Piece-price rates.			Mixed rate (J).	Per diem rates.					
		Total.	C	E		Total.	\$4	\$4.50	\$5	\$5.50	\$6
Alabama.....	1,750	1,729	9	1,720	8	13	2		5		6
Arizona.....	285	31	5	26	51	203	8				195
Arkansas.....	1,349	1,259	1	1,258	7	83			2		81
California.....	2,787	1,934	80	1,854	17	836					836
Colorado.....	1,043	502	7	495	18	523					523
Connecticut.....	872	842	9	833	23	7			2		5
Delaware.....	205	205	3	202							
District of Columbia.....	367	367	22	345							
Florida.....	724	582	7	575	30	112	1	2	10	1	98
Georgia.....	2,077	2,027	12	2,015	5	45	1				44
Idaho.....	492	96	8	88	2	394					394
Illinois.....	5,658	5,562	55	5,507	54	42	1		11	1	29
Indiana.....	2,818	2,794	25	2,769	8	16			13		3
Iowa.....	2,278	2,168	12	2,156	93	17			10		7
Kansas.....	1,703	1,215	17	1,198	51	437			1		426
Kentucky.....	2,067	2,054	9	2,045	2	11					11
Louisiana.....	1,128	936	14	922	9	183			7		176
Maine.....	636	538	5	533	34	64	1		7	1	55
Maryland.....	1,056	927	34	893	94	35	4		5		26
Massachusetts.....	2,821	2,643	43	2,600	65	113	12		68	2	31
Michigan.....	3,081	2,625	20	2,605	3	453			22	181	250
Minnesota.....	2,134	1,120	15	1,105	276	738			21	338	379
Mississippi.....	1,120	1,112	3	1,109	7	1			1		
Missouri.....	3,085	2,992	41	2,951	22	71			1		70
Montana.....	688	180	7	173		508					508
Nebraska.....	1,311	811	8	803	43	457			13	67	377
Nevada.....	100	18		18		82					82
New Hampshire.....	379	321	7	314	28	30		1	4		25
New Jersey.....	1,929	1,799	26	1,773	67	63					63
New Mexico.....	455	58	4	54		397					397
New York.....	8,338	7,801	161	7,640	392	145	1		60	1	81
North Carolina.....	1,720	1,622	9	1,613	14	84			6		78
North Dakota.....	741	96	3	87		651					651
Ohio.....	5,026	4,772	32	4,740	220	34			31		3
Oklahoma.....	1,933	499	6	493		1,434			6		1,428
Oregon.....	941	351	8	343		590					590
Pennsylvania.....	7,034	6,587	100	6,487	318	129	1		84		44
Rhode Island.....	365	345	7	338	18	2					2
South Carolina.....	1,651	1,003	10	993	34	14			6		8
South Dakota.....	890	138	4	134	7	655					655
Tennessee.....	1,997	1,984	9	1,975	8	5			4	1	
Texas.....	3,409	2,446	35	2,411	3	960			1	1	958
Utah.....	416	195	5	190	24	197				11	186
Vermont.....	368	219	3	216	51	38			18		20
Virginia.....	1,626	1,529	16	1,513	55	42			8		34
Washington.....	1,573	843	18	825	5	725					725
West Virginia.....	1,049	774	3	771	15	260			4		256
Wisconsin.....	2,266	1,800	35	1,765	26	440			228	92	120
Wyoming.....	243	17	3	14		226					226
Continental United States, total.....	87,234	72,462	975	71,487	2,207	12,565	32	3	659	697	11,174

OFFICE WORK—POPULATION CENSUS.

The office work on the population census consists, in brief, of the following steps: (1) The count direct from the schedules returned by the enumerators, as the result of which the population of the

various cities, counties, county subdivisions, States, and ultimately of the United States as a whole, are announced; (2) such editing of the schedules as is necessary to prepare them for the punching-machine operators, particularly with reference to mother tongue and occupations; (3) the punching of a card for each person enumerated, indicating all the facts ascertained by the enumerator, this punching being done by means of a mechanical device; (4) the comparing of the punched cards with the original schedules, so far as may be found necessary for the purpose of verification; (5) the further verification of the punching work by running the cards through two sets of electrical machines which reject all incompletely or imperfectly punched cards, all cards on which apparently inconsistent items of information are indicated, and also certain other classes of cards for purposes of verification and completion; (6) the sorting of the cards by means of electric machines into main groups—for example, by color or race, nativity, parentage, age, occupation—several different sortings being required at the various stages of the work; (7) the tabulation of the facts indicated on the cards in regard to the characteristics of the population by means of electric machines, it being necessary to run the cards through the machines several times in order to record all the facts indicated on them; (8) the assembling and publication of the results of the tabulations.

*Training of new clerks.*—In January, 1920, and thereafter, all new clerks, and also all clerks who had previously been engaged in the shipment of schedules and supplies to supervisors, were given copies of the test schedules to fill out, together with the book of instructions to enumerators and the illustrative example of the test schedule properly filled. After filling out the test schedule the clerks were given copies of the 1910 schedule and instructed to prepare 1920 schedules from them in accordance with the Fourteenth Census book of instructions to enumerators. This work was given to these clerks in order to familiarize them with the 1920 schedule and instructions in preparation for the examination of the Fourteenth Census schedules as returned by the census enumerators. Most of the clerks were also given a few days' practice in the examination of schedules before assignment to actual work.

*Receipt of schedules.*—The first completed schedules were received January 15, 1920, from the first district of New York. At the end of February more than half of the schedules had been received, at the end of March more than six-sevenths, and at the end of April more than nine-tenths, as shown by the following summary:

Month, 1920.	Received during month.	Received to date.
January.....	8,573	8,573
February.....	37,230	45,803
March.....	29,403	75,206
April.....	8,943	84,149
May.....	2,009	86,158
June.....	831	86,989
July.....	134	87,123
August.....	93	87,216

At the close of September 15 there were only five enumeration districts for which the schedules had not been received, one each in Iowa, Minnesota, Nebraska, Texas, and Wyoming. The work in these districts has been delayed for various causes, but telegraphic advices have been received promising early completion.

*Examination of schedules.*—Upon the receipt of the schedules in the office an examination is made sufficient to determine whether the work of the enumerator was properly done, and particularly whether the entry of the civil divisions in the headings of the schedules was in accordance with the description given in the plan of division as finally approved or as amended while the enumeration work was in progress. This work was begun on January 17 and at the close of August had been completed for all but 26 districts, as shown by the following summary:

Month, 1920.	Examined during month.	Examined to date.
January.....	7,464	7,464
February.....	35,738	43,202
March.....	23,978	73,180
April.....	10,995	83,875
May.....	2,131	86,006
June.....	928	86,934
July.....	181	87,115
August.....	93	87,208

A force of from 7 to 10 clerks has been engaged since March 12 in a special examination of the schedules for evidence of padding or irregularities in the enumeration, particular attention being paid to booster, tourist, and winter-resort cities. At the end of August this special examination had been completed for 73 cities, but no serious discrepancies had been discovered.

*Hand count of schedules.*—This count is made direct from the schedules and consists of a count according to the number of blanks and entries on each sheet (which contains spaces for the entry of 100 names), comparison with a similar count made in the office of the supervisor and forwarded with the completed schedules, and elimination of all differences between the two counts by a reexamination of the schedules in question where necessary.

The hand count of population was begun January 19, and at the close of August had been completed for all but 28 districts, as shown by the following summary:

Month, 1920.	Counted during month.	Counted to date.
January.....	4,503	4,503
February.....	33,982	38,485
March.....	32,885	71,470
April.....	11,884	83,354
May.....	2,343	85,897
June.....	1,017	86,914
July.....	197	87,111
August.....	95	87,206

The checking of the hand count for possible differences was begun January 23, and at the close of August had been completed for all but 28 districts.

*Final-result work.*—Outlines of the tables to be included in the first and second series of State bulletins were considered in conference with the joint advisory committee, and the tables were brought into final form before the close of August.

*Editing work.*—Clerks showing ability in examining schedules, and who were therefore considered likely to possess the qualifications needed in "editing" (that is, preparing) the population schedules for the card-punching work, were gradually transferred to the editing work, until in May, 1920, a total force of 381 clerks were engaged on this work. Detailed indexes to the country-of-birth and mother-tongue classifications were prepared and issued in either printed or photostat form for the use of the editing clerks. At the close of the fiscal year 367 clerks were assigned to this work, the editing had been completed for 73,152 enumeration districts, and the returns for 67,843 districts had been released for punching. The editing work was completed at the close of August, except for a few scattering districts.

*Punching machines.*—The electric punching-machine equipment used for punching the population cards of the Thirteenth Census proved to be unsatisfactory, as a result of which it was necessary to punch about one-third of the cards with pantograph machines. In an effort to overcome the difficulty with the card feed on the electric machines and to salvage as much of this equipment as possible, one of these machines was rebuilt in the Bureau's mechanical laboratory in 1916. The effort was not successful, however, owing to inherent defects in the original design, and the rebuilt machine proved to be little, if any, better than the ones used during the Thirteenth Census.

At a conference of the officials and mechanical experts of the Bureau it was recommended that the electric machines be discarded and, if a better punch could not be obtained, the old pantograph machine be used. To avoid discarding this equipment, I consulted the Director of the Bureau of Standards, who suggested that a machine be turned over to his bureau for improvement and adjustment, which was done. One of the pantograph machines used during the Thirteenth Census was rebuilt in the Bureau's mechanical laboratory and fitted with a punch control or mechanical device to prevent omissions and double punching. Commercial concerns engaged in the manufacture of labor-saving devices were invited to submit models of punching machines to be given a practical test in the Bureau. On account of the enormous demand for machinery and equipment of all kinds, such concerns did not care to take up experimental work. One concern, however, submitted two machines of the same type, and these machines, together with an electric machine improved by the Bureau of Standards, a pantograph machine with the punch control, and a plain pantograph machine, were given a 10 weeks' competitive test from April 10 to June 24, 1919. At the expiration of the period I appointed a committee of officials and mechanical experts of the Bureau to make a careful study and analysis of the test and furnish me a report of their findings, together with an appropriate recommendation. The committee unanimously recommended that the pantograph machine with the punch control be adopted for the punching of the population cards of the Fourteenth Census.

The Bureau drew up the plans and specifications for the rebuilding of 311 old pantograph machines, which were on hand, and the construction of 304 new punches, all of which were to be provided with the mechanical device to prevent omissions and double punching. After bids were invited a contract was made with a commercial concern for the building of the machines. The machines were delivered in lots as completed. The first shipment reached the Bureau on January 5, 1920, and the last on May 1, 1920.

Subsequently, in order to expedite the work of punching as much as possible, an order was given the manufacturer for 205 additional machines. The first lot of these machines was received on May 11, 1920, and the last on May 19, 1920.

*Tabulating machines.*—At the Thirteenth Census the Bureau used 96 semiautomatic tabulating machines (fed by hand), with an average output of 15,000 cards a day each. The Bureau has had constructed in its own mechanical laboratory 31 automatic tabulating machines (self-feeding) for use in tabulating the population statistics of the Fourteenth Census. Each of these machines is capable of handling 500 cards a minute, records from 1 to 60 different statistical items, and automatically prints the result on a sheet of paper. One of these machines, in use in the division of vital statistics of the Census Bureau, recently tabulated 207,221 cards in a seven-hour day, at the rate of 29,603 cards an hour, or 493 a minute.

*Sorting machines.*—At the Thirteenth Census the Bureau used 17 sorting machines, which averaged 75,000 cards each per day. Twenty-three sorting machines have been rebuilt or constructed in the mechanical laboratory of the Bureau for use in the population division during the Fourteenth Census. These machines have an average daily output of 100,000 cards each, which exceeds by 33 $\frac{1}{3}$  per cent the output of the machines used at the Thirteenth Census.

*Punching of general population cards.*—The first punch cards were received from the Printing Office on January 16, 1920, and at the close of the fiscal year 101,762,000 cards had been received out of a total of 125,000,000 ordered.

The organization of the punching force was begun on February 2, 1920, and at the end of February 89 clerks had been assigned to the punching section, of whom 32 were being trained for supervisory positions. The employees selected for supervisory work were first given instructions and training in editing schedules and later in card punching, in order that they might become thoroughly familiar with both editing and punching before attempting supervisory work. The punching-machine operatives themselves were given a day or two in which to study the instructions and two or three days of practice work before being placed on actual punching work. The cards first punched by them in actual work were all verified and errors were returned to the punchers for correction, and if necessary further instructions were given regarding points not made clear at first, and thereafter a certain number of cards from the work of each operator were daily selected at random and verified.

The actual punching work was begun on March 1. On May 12 a night force, working from 6 to 10 p. m., was organized, and on June 9 a second night force, working from 4 to 11.30 p. m., was organized. The force working from 6 to 10 p. m., however, was practically disbanded early in July, as it was found that the "turnover" was too

great to permit satisfactory results. (See section headed "General organization of office force.")

The total number of cards punched up to August 31, inclusive, was 91,369,503, distributed by months as follows:

Month, 1920.	Total cards punched.	Daily average per month.
March.....	1,563,123	57,893
April.....	7,646,184	292,545
May.....	10,705,694	436,967
June.....	19,234,889	769,395
July.....	24,423,059	1,023,721
August.....	27,836,554	1,146,211
Total.....	91,369,503	603,953

At the close of September 15 there had been punched a total of 101,685,428 cards. The punching of the general population cards for continental United States, about 106,000,000 in number, will be completed by September 30.

*Machine verification.*—After the cards are punched they are run through two sets of machines for verification. By the use of these machines there are rejected all incompletely or imperfectly punched cards, all cards on which apparently inconsistent facts are recorded, and also certain other classes of cards for purposes of verification. This work was begun in a preliminary way on April 1, when two operators were assigned to the work of testing the machines and punching the test cards. The actual work of verification was begun April 17, and by the close of the fiscal year 26,609,304 had been handled by the first set of machines and 25,880,344 by the second set of machines; and at the close of September 15 a total of 76,707,228 and 75,414,208 cards, respectively, had been handled by the two sets of verification machines.

*Card verification.*—The work of verifying and correcting the cards rejected by the verification machines was begun on April 30, and by the close of the fiscal year 926,537 cards had been verified, an average force of 143 having been employed in May and June on this part of the work; and at the close of September 15 a total of 5,875,075 cards had been verified.

*Occupations.*—Because of the great number of occupations to be covered by the report on this subject it was necessary to prepare, for the use of the compilers, an index to occupations. This index comprehends about 20,000 occupation designations and is printed in two sections, one showing the occupations in alphabetical order and the other presenting them by groups in classified form. The alphabetical section covers 473 printed pages, and the classified index, which is printed in smaller type, comprises 173 pages. In addition, a list of 530 of the numerically more important occupations and of 225 of the more important industries has been prepared and printed. The actual work of classifying occupations was not begun until after the close of the fiscal year, but it was well under way at the end of July, 1920.

*Complaints of defective enumeration.*—At the census of 1910 the Bureau experienced some little difficulty because of attempts in a considerable number of localities to inflate the population returns through the listing of names of transients and other nonresidents.

The most flagrant of these cases of attempted fraud were discovered by the Bureau, and all or the greater part of the "padding" was eliminated. Prosecutions of the guilty persons were later instituted, which resulted in the conviction of a number of enumerators and a few of the others implicated; and the effect seems to have been a wholesome one, as no serious efforts to pad the census of 1920 have been discovered.

At this census a different difficulty has arisen. Because of the fact that the rate of increase in the population of the United States has been materially smaller for the past decade than for any preceding one in the history of the country (this decline being due primarily to the almost complete cessation of immigration in 1914, and to a less extent to the ravages of the influenza pandemics and the effects of the war), many cities and towns have been disappointed with the census figures and have filed protests questioning their accuracy. In a very few cases these protests were justified, the enumeration having been defective; and in all these cases proper measures have been taken to remedy the defects in the original enumeration through re-censuses, for checking purposes, of the areas in which the work of the enumerators was found to be faulty to any serious extent.

Most of the complaints, however, were due merely to the disappointment of ambitious cities and towns at the showing made by them in the census returns. As a matter of fact, local estimates of population are invariably too high, and therefore the census returns are never satisfactory to the "booster" element. It is significant that, although complaints were received from the officials of a few large or medium-sized cities, the majority of the protests from such cities were made by chambers of commerce or other commercial organizations. From some of the very small places, in which there are no commercial organizations, complaints have been received from the village or town officials.

In no large or medium-sized city has the enumeration been found, upon investigation, to be defective to such an extent as to have any considerable effect on the population total or on the rate of increase shown during the past decade, although a few cases of defective enumeration in certain localities in large cities have been discovered and corrected. In a few of the smaller cities and towns, however, the complaints have had some foundation; but the number of places in which the enumeration has been found defective to any material extent is very small in proportion to the total number of cities, towns, villages, and other civil divisions for which the population has been announced.

The work of correcting the defects in the original enumeration is still under way in a few places, but is being brought to a close as rapidly as possible. Since in the great majority of cases complaints are not received until after the announcements of population have been issued, naturally the work will continue until some time after the last of the announcements has been published.

When it is considered that the total number of cities, counties, and subdivisions of counties for which the population has been announced is about 40,000, the receipt of complaints from less than 300 places and the finding of errors sufficiently serious to justify corrective measures in a score or more of small places are by no means surprising.

In fact, when the unusual difficulties under which the enumeration was made are taken into consideration it is a source of gratification that the number of complaints received has been relatively so small.

The method employed in handling complaints of defective enumeration has been to place the burden of proof and the initial work upon the complainant in each case, where they properly belong. If the Bureau had followed the plan of making the initial investigation in each case at its own expense and through its own employees, the amount of work to be done and the expense entailed would have been very greatly increased and the compilation and tabulation of the results of the census would have been materially delayed. Moreover, this extra work would have proved to be wholly unnecessary in the majority of cases.

The plan adopted in handling complaints from cities of any considerable size was to require a test canvass of a selected area—preferably a few streets or blocks—to be made for the purpose of securing the names and addresses of all persons who, on January 1, 1920, were bona fide residents within that area and who believed themselves to have been missed by the enumerators or were in doubt as to whether they had been enumerated. A list of these names and addresses was then to be submitted to the Bureau for comparison with the enumerators' returns. Upon such comparison a part of the names—sometimes the greater part—would be found already upon the returns, and therefore would be stricken from the list submitted. If the number remaining on the list was large enough to justify further action, the supervisor of census for the district in which the complaining city or town was located would be directed to make a canvass, through a sworn census employee or employees, of the persons whose names remained on the list, for the purpose of officially enumerating such of them as might be found to have been bona fide residents on January 1, 1920, at the addresses given.

If in this manner a city could demonstrate that any significant proportion of the inhabitants of the area selected for the test had been missed, the Bureau would then take whatever measures might appear necessary to correct the enumeration in the area selected for the test, and also in any other sections of the city in which there appeared to be reason to believe the original enumeration had been defective. In no case was it necessary to make a check or investigation of the enumeration throughout an entire city of more than a few thousand inhabitants.

In dealing with complaints received from small cities and towns, and particularly those having not more than 2,500 inhabitants, the Bureau adopted the plan of suggesting to the complainants that they make a complete canvass of their city or town as of January 1, 1920, and send the results to the Bureau in the form of a list of names and addresses (if any) of the persons canvassed. If, upon comparison of this list with the official returns, it appeared that the unofficial canvassers had listed all, or practically all, the persons officially enumerated, and in addition any considerable number of other persons, the Bureau would make a canvass of these additional persons for the purpose of officially enumerating such of them as might be found to have been bona fide residents of the city or town in question

on January 1, 1920. On the other hand, if the complainants either made no effort to conduct their canvass as of January 1, or, making the effort, were unsuccessful, and sent the Bureau a list which failed to include a considerable proportion of the names returned by the official enumerator, the Bureau would decline to take any further action, even though the total shown by the unofficial canvass might be somewhat greater than that returned by the official enumerators. For example, the official total for a certain town might be 2,000. The unofficial canvasser might list 2,200 persons, but it might be found, upon comparing his list with the official returns, that he had enumerated only 1,500 of the 2,000 persons officially enumerated, and in addition 700 other persons. In such a case the Bureau would take the position that, since a thorough investigation of the matter would involve at least a canvass of the 700 persons not officially enumerated, and preferably a canvass also of as many as possible of the 500 persons who were officially enumerated but not unofficially canvassed, the amount of work to be done would be so great as to justify the Bureau in declining to pursue the matter further. A further consideration was the probability that, since the population "turnover" during the period between the official and the unofficial canvasses was so great (assuming that neither the official nor the unofficial canvasser listed any persons who were not actually residents of the town at the time each made his respective canvass), the results of the unofficial canvass were of little value for comparison with those of the official canvass and had little bearing on the completeness or incompleteness of the original enumeration.

It is significant that in nearly all cases where complete lists of the inhabitants of small cities and towns were sent to the Bureau by complainants, these lists were found not to include more than 80 or 85 per cent—and in some cases considerably smaller proportions—of the names listed by the original enumerators, although the total shown would be somewhat larger than the official total.

#### THE BLIND AND THE DEAF.

The Fourteenth Census act provides for an enumeration of the blind and deaf in connection with the population census. To carry out this provision of the law the population enumerators secured on a supplemental schedule the name and address of each blind person or deaf-mute. This represented a change from the procedure in 1910, when the enumerators carried no separate schedules for these classes of the population, but merely noted cases of blindness and deaf-mutism in columns provided for that purpose on the main population schedule.

This supplemental schedule was used as a mailing list for sending out the special schedules to the blind or deaf in order to secure the data regarding the cause of the defect, degree of education, economic status, etc. These special schedules follow in general the forms used at the census of 1910.

By August 31 about 100,000 names had been received on the supplemental schedules and about 93,000 special schedules had been mailed. Of the latter about 26,000 schedules for the blind and about 23,000 schedules for deaf-mutes had been filled out and returned, 11,513 others having been returned unclaimed.

## OFFICE WORK—CENSUS OF AGRICULTURE.

Preparations for the taking of the decennial census of agriculture were begun on July 1, 1917, when the division of agriculture, which had been discontinued by its consolidation with the division of statistics of cities on July 1, 1914, was reorganized and placed under the charge of a chief statistician. From that date until the returns began to reach the Bureau from supervisors a vast amount of preliminary Fourteenth Census work was accomplished. Comparative information sheets were made up and changes made later, where necessary, because of revision of the schedule; 1910 figures were entered wherever possible, instructions for the use of enumerators, special agents, and the office force were compiled and printed, and the various forms necessary for the prompt dispatch of the work were decided upon and multigraphed. As a result of the early attention given to the organization of this division, it was as well prepared to begin its Fourteenth Census work as were other divisions of the Bureau engaged on that work, the organizations of which were kept intact during the intercensal period.

At the present census a card-punching system of tabulation has been substituted for the adding-machine system employed at the census of 1910 for the agricultural work. The machines as well as the cards used are entirely different from those used by the population division in its tabulation work. The punching machines used were purchased and the tabulating and sorting machines were leased. By August 31, 1920, 488 punching machines, 47 punch verifiers, 53 tabulating machines, 3 card-counting tabulators, 68 sorting machines, and 16 gang punches were in operation in the division of agriculture.

The first consignment of agricultural schedules reached the office from the field on January 19, 1920, and the preliminary examination and editing were commenced immediately. All of the editing has been completed. The total number of farm schedules received at the close of August 31 was 6,481,785, and in addition 84,516 schedules, covering 1,799,758 inclosures for live stock not on farms or ranges, were received. At the close of August 31, 78,469,687 cards had been punched, and the successive runs of the cards through the sorting and tabulating machines represent one sorting of 130,524,634 cards and one tabulation to date of 95,792,729 cards. The average number of cards punched for each farm was 24.

The agricultural work reached its peak July 9, at which time there were 1,545 employees in the office and 62 special agents in the field. Since that time a number of employees have resigned and a number have been transferred to other branches of the census work.

*Publication of agricultural statistics.*—The first publication of agricultural statistics resulting from this census has been by means of press announcements, giving certain basic statistics for various counties of the United States. These press statements have been released at the rate of two or more daily since June 1, 1920. Complete reports for individual States will be prepared for publication in bulletin form as rapidly as possible. Two of these publications—those for New Hampshire and Delaware—are at present in the hands of the printer.

**CENSUSES OF MANUFACTURES, MINES AND QUARRIES (INCLUDING OIL AND GAS WELLS), AND FORESTRY AND FOREST PRODUCTS.**

The census of manufactures, which has been taken quinquennially heretofore in conformity with the acts of March 6, 1902, and July 2, 1909, and acts amendatory thereof and supplemental thereto, will be taken biennially hereafter beginning with the year 1921. The act of March 3, 1919, provides for the biennial census of the products of the manufacturing industries for the years 1921, 1923, 1925, 1927, and every tenth year thereafter. Hence the next census of manufactures to follow the biennial censuses will relate to the year 1929, and under the provisions of law will conform in scope and character to the regular decennial census of manufactures which covers capital, persons employed, salaries and wages, materials, products, etc. In its organization, however, the manufactures census is quite distinct from the censuses of population and agriculture, being taken in the main by different agencies and following a different procedure.

The current census of manufactures is the tenth comprehensive census of this kind taken in the United States, the first one being in 1850, and one being taken thereafter every tenth year until the establishment of the permanent Census Office in 1902, when the law placed this branch of census work on a quinquennial basis.

The scope of the census of manufactures as defined by the act providing for the Fourteenth Census is substantially the same as in previous censuses. It is confined to "manufacturing establishments conducted under what is known as the factory system, exclusive of the so-called neighborhood, household, and hand industries," and includes as subjects of inquiry the name and location of each establishment; character of organization, whether individual, corporate, or other form; character of business or kind of goods manufactured; amount of capital actually invested; number of proprietors, firm members, copartners, and officers and the amount of their salaries; number of employees and the amount of their wages; quantity and cost of materials used in manufactures; principal miscellaneous expenses; quantity and value of products; time in operation during the year; character and quantity of power used, and character and number of machines employed.

The census of mines and quarries, included in the main decennial census but not taken in any other year, is similar in scope and character to the census of manufactures and is conducted under the same general organization. In fact, the line of division between mining and manufacturing is not easy to draw.

The census of forestry and forest products is included in the decennial census for the first time.

**PREPARATORY WORK.**

*Schedules.*—The schedules which have been prepared in order to obtain the information called for by the census act include a general schedule applicable to all manufacturing industries, a similar general schedule for mines and quarries, and a series of 129 special or supplemental schedules covering certain selected manufacturing or mining industries. There is also an administrative and general office schedule for securing reports in cases where two or more distinct

establishments are operated under a central ownership. The general schedule covers the data as to capital, employees, expenses, value of products, power used, and fuel consumed, etc., while the main object of the special or supplemental schedule is to obtain a more detailed statement of material consumed and of production in units of quantity. This necessitates having a separate supplemental schedule for each selected industry in order to enumerate the various classes of materials and products, the list which is appropriate for one industry being obviously inapplicable to another.

The general manufactures schedule, in tentative form, was submitted to the National Association of Manufacturers and other organizations for suggestions regarding its preparation, and likewise the various supplemental schedules in process of formation were submitted to the leading industrial organizations and individual manufacturers for criticism and suggestions. In this way valuable information was obtained as to the nature of the data that would be most beneficial to manufacturing industries.

*Card index.*—Preliminary to taking the census of manufactures a card index was prepared giving the name and address and the character of products of every known establishment which seemed to come within the scope of that census. The names were obtained from the schedules of the previous census and from trade lists, membership lists of commercial or industrial associations, and similar sources. When the provisional index, including the names of about 844,000 establishments, had been completed, circulars were mailed to all these establishments for the purpose of ascertaining whether they were still in operation and properly came within the scope of the census and to establish the correct name, location, and principal products of each. As a result of this circularization the number of establishments on the index was reduced by 259,000, leaving about 585,000 establishments to be covered in the census.

In order to secure as many reports as possible by correspondence, thus reducing the cost of the field work, schedules were mailed to the establishments listed in the index, accompanied by the request that they be filled out and returned directly to this office. Experience shows, however, that in the great majority of cases satisfactory schedules can not be secured without a field canvass.

*Cooperation with commercial and industrial organizations.*—Through the efforts of the census officials, the Bureau has enlisted at this census to a greater degree than ever before the cooperation not only of other bureaus and agents of the Government, but also of chambers of commerce, boards of trade, industrial associations, manufacturers, and statistical experts throughout the country. The spirit of cooperation thus cultivated in these organizations was helpful in the preparation of the manufactures schedules and has greatly facilitated the collection of the reports from the individual manufacturers.

#### FIELD WORK.

In preparation for the canvass the territory of continental United States was divided into 607 districts, and routes of travel for the field force were outlined in each. Most of these districts were covered either by local men appointed as special agents for that purpose or by employees of the office detailed from Washington. In those

counties, however, where there is relatively little manufacturing it was arranged to have the schedules collected by the census enumerators who were engaged in taking the censuses of population and agriculture.

In 24 of the large metropolitan districts the special agents carried on their work of filling out and collecting schedules under the direction of a chief special agent, who was usually an experienced employee detailed from the Washington office. In such districts, offices or headquarters are necessary, and the Bureau endeavored to secure, so far as possible, accommodations in the Federal buildings, so as to save rent. This had been done very generally at previous censuses: but this time it was found that the Federal buildings were so crowded that no space could be secured, so that it was necessary to rent rooms or offices in private buildings, thus involving a considerable increase in the item of rent as compared with previous censuses.

*Appointment of special agents.*—Under date of November 15, 1919, the Bureau issued a circular of information regarding the appointments of local special agents for the field work on manufactures and mines and quarries, and as the result of this announcement approximately 3,000 persons applied for employment. A number of the Bureau's trained employees were sent into the field early in the year to interview these applicants and recommend for appointment those deemed to be best fitted for the work. A practical test was given, consisting of the filling out of a sample schedule. The field work requires men of good address and considerable intelligence, and preferably those who have had some experience along accounting or statistical lines; but it proved very difficult to secure a sufficient number of properly qualified agents, as the period of service was short, averaging only about three months, and the Bureau's appropriation did not permit it to offer a rate of compensation comparable with that which competent persons could obtain in outside employment.

Up to June 30, 1920, appointments for the field canvass had been offered to 1,629 persons, of whom 473 had declined to accept. The highest number of local special agents on the rolls at any one time was 1,002, the number shown by the report for June 30, 1920.

The great majority of the agents were paid on a piece-price basis at the rate of \$1 for each acceptably correct schedule for an establishment listed on the Bureau's card index, or \$1.50 for each establishment not so listed, with the proviso that the compensation should average at least \$3.50 a day based upon the total number of days actually employed. Under this arrangement the most competent agents were able to earn from \$4 to \$6 a day. When traveling through their districts and away from headquarters, agents were allowed, in addition to actual traveling expenses, a per diem of \$4 to cover subsistence.

*Progress of the work.*—The change in the date of the decennial census of population and agriculture from April 15 to January 1 had the effect of delaying somewhat the organization of the field work for the manufactures census. Formerly that work began soon after the 1st of January—the statistics relating to the preceding calendar year—and was practically completed before the time arrived for taking the censuses of population and agriculture. This time, however, on account of the change of date, the censuses of population

and agriculture had to be taken in January, and demands of that work were so great and the importance of completing it promptly so urgent that the Bureau felt justified in drafting the services of the trained employees in the manufactures division to aid in the organization and conduct of the enumeration. For this reason it was not practicable to get the field work of the manufactures census well under way until after the 1st of February. Another cause of delay was the refusal of many of the applicants for employment as special agents to accept the appointments tendered them—in many cases on the ground of too little compensation or too much work, and not infrequently after considerable time had been spent by the office employees in instructing them in their prospective duties. Still further delay was occasioned during the progress of the canvass by the resignation of 260 of the local agents before they had completed their work, necessitating the appointment or transfer of others to take their places. In 65 of these cases the resignations of the agents were requested by the office on account of the unsatisfactory character of their work.

Notwithstanding these hindrances, the canvass has progressed satisfactorily and is now nearing completion. Up to August 31, 433,580 schedules had been secured in continental United States, representing 399,947 manufacturing establishments and 33,633 mines and quarries. Of this number, 134,560 were received by mail directly from the establishments, 273,761 were secured by special agents and detailed clerks, and 25,259 were turned in by the population enumerators. The schedules are now being checked with the office lists and daily reports of the field agents.

#### OFFICE WORK.

While the field work is in progress it is necessary to employ a large force of clerks in the Washington office for outlining routes of travel; keeping records of the applications, resignations, and appointments of the field force; preparing, checking, and binding lists of establishments for use in the office and field; preparing maps showing the progress of the work; examining vouchers; assembling and mailing supplies; and opening and distributing the correspondence incident to the securing and correcting of the reports.

The schedules on being received in the office are given a preliminary examination, and if "incomplete" are returned to the special agents in the field for correction. Where, however, only slight changes or additions are required the schedules are "accepted," subject to correction by direct correspondence with the establishment.

Up to August 31, 430,929 of the 433,580 schedules then received had undergone a preliminary examination in the office. Of this number, 321,601 were accepted as complete or capable of being perfected by correspondence with the establishments represented, 67,034 were found to be so defective as to necessitate their return to the field agents for correction, and 42,294 (the greater number of which had been secured by mail) were thrown out as not coming within the scope of this census.

Work incident to the preparation of the statistics was also well under way at that time; 131,648 schedules had been classified, by being assigned to generic groups of industries according to the values

of their chief products, and 80,367 had been edited and prepared for tabulation.

*Use of electrical machinery.*—At this census for the first time electrical tabulating machines, leased from a tabulating machine company, are being used in tabulating the data relating to manufactures and mining. A careful test demonstrated the superiority of these machines in the saving of time and labor as compared with the long-carriage tabulating typewriters used at former censuses.

#### INDUSTRIAL ZONES.

A feature of the census of manufactures for 1920 will be the presentation of statistics for the larger manufacturing districts by industrial zones. This method of presentation was employed at former censuses for 15 metropolitan districts having population of 500,000 or over; but because of the increasing demand for statistics along this line the Bureau at the present census has extended the zone method to about 70 districts having 100,000 population and over or manufactured products valued at \$100,000,000 or more per annum. An industrial zone for the purposes of this supplemental survey comprises the area within the corporate limits of an important manufacturing city or group of contiguous municipalities, together with the suburban area industrially tributary thereto. In some cases the county is taken as the zone unit.

#### BIENNIAL CENSUS OF THE PRODUCTS OF MANUFACTURING INDUSTRIES.

The recent census act provides that in addition to the decennial census of manufactures there shall be hereafter a biennial census of the products of manufacturing industries, an inquiry which is obviously much more limited in its scope than the general census of manufactures, but being taken at more frequent intervals will furnish more nearly up-to-date figures and supply a better index of current production and of the trend of development in manufacturing industries of the country.

*Record cards.*—The first of these biennial censuses will cover the year 1921. In connection with this work the Bureau is preparing a set of manufactures record cards to form a convenient and readily accessible record of production covering all establishments reporting products to the value of \$20,000 or more. These cards, which provide for six census years (two quinquennial and four biennial), from 1914 to 1927, inclusive, record the names and locations of plants and central offices with statistics relating to capital, wage earners, materials, products, and horsepower.

#### CENSUS OF IRRIGATION AND DRAINAGE.

The Fourteenth Census act included specific provisions for censuses of irrigation and drainage, the latter being an entirely new investigation. At the census of 1910 the farmers were asked to furnish information to the enumerators concerning crops grown by irrigation, and the more detailed reports concerning irrigation enterprises were collected by special agents on special schedules. At the present

census the irrigated crops are reported on the farm schedules, but otherwise only one schedule was used for the collection of information concerning irrigation and one for the drainage data. These inquiries, although forming a part of the census of agriculture, were treated as separate and distinct from the remaining agricultural inquiries. About 40,000 irrigation schedules and 100 drainage schedules were, however, collected by enumerators; and 20,000 additional irrigation schedules and nearly 32,000 drainage schedules were secured by special agents appointed for this purpose.

The drainage investigation is a new one from the census viewpoint, and no precedents existed which could be followed in the canvass of these enterprises. On August 31, 95 per cent of the irrigation enterprises of the country had been canvassed and about 85 per cent of the drainage enterprises. All schedules received for both irrigation and drainage have been given a preliminary examination and about 45,000 schedules for irrigation have been edited.

#### JOINT ADVISORY COMMITTEE OF THE AMERICAN STATISTICAL AND ECONOMIC ASSOCIATIONS.

The joint advisory committee, representing the American Statistical Association and the American Economic Association, which, as explained in my report for last year, was organized at the invitation of the Secretary to advise with him and the Director of the Census regarding the work of the Fourteenth Census, has continued its activities, holding four meetings at Washington in the course of the last fiscal year. One temporary change was made in the membership of the committee, owing to the circumstance that an exchange of professorships for the university year was arranged between Prof. E. R. A. Seligman and Prof. Carl C. Plehn, of the University of California. The latter gave Prof. Seligman's courses at Columbia University, and likewise took his place on the joint advisory committee. I wish to express again my appreciation of the valuable services and helpful cooperation of this committee.

#### PUBLICITY WORK.

Recognizing the importance of preparing the public for the approaching census, enlisting their interest and cooperation and disarming suspicion, especially on the part of the foreign born, the Bureau prepared numerous leaflets and press stories setting forth the importance of the census, explaining its purpose and featuring the work of enumeration as a public service which should appeal to the patriotism of the people. A large amount of material of this character was distributed to newspapers, schools, and religious and other organizations. The press in particular rendered valuable assistance in bringing to public attention the importance of the census.

The first preliminary announcement of Fourteenth Census figures was made on February 21. During May the announcement of the county population was begun. Up to September 15 the press information section had released population figures for 9,074 incorporated places (including 1,843 cities), for 2,193 counties, and for 15 States—Connecticut, Colorado, Delaware, Georgia, Indiana, Maine, Maryland, Massachusetts, New Hampshire, Oregon, Rhode

Island, Tennessee, Utah, Vermont, and Washington—and the District of Columbia, Hawaii, Porto Rico, Canal Zone, and Samoa; also agricultural announcements for 107 counties and 1 State (New Hampshire), irrigation figures for 86 counties, and drainage figures for 51 counties and 2 States (Florida and South Carolina).

#### ANNUAL AND OTHER INQUIRIES HAVING NO RELATION TO THE DECENNIAL CENSUS.

##### VITAL STATISTICS.

*Birth statistics.*—Beginning with 1915, the Bureau of the Census has made annual collections of birth statistics from a registration area made up of the District of Columbia and those States having adequate registration systems. Since 1915 this area has grown very rapidly, as in that year it comprised only 10 States and the District of Columbia, which included about 31 per cent of the total population of the United States. Thirteen States have been admitted to the birth registration area since 1915, as follows: 1916, Maryland; 1917, Indiana, Kansas, Kentucky, North Carolina, Ohio, Utah, Virginia, Washington, and Wisconsin; 1919, California, Oregon, and South Carolina, making in all 23 States and the District of Columbia and including 58.4 per cent of the total population of the United States. It is hoped, and the prospects seem bright, that several more States will be admitted during the years 1920 and 1921.

The birth statistics show for the registration area and its subdivisions the number of births by sex, color, and month of occurrence; births of white children by country of birth of father and mother; total deaths (exclusive of stillbirths); births per 100 deaths; birth and infant mortality rates; deaths (exclusive of stillbirths) from important causes for 12 subdivisions of the first year of life; legitimacy; plural births; ages of father and mother; and total number of children born to each mother and the number surviving.

A special press summary on infant mortality in the 12 largest cities in the birth registration area was issued in June. The usual summary of the annual report for 1918 was issued in May, 1920, and showed a total of 1,363,649 live births, with a rate of 24.4 per 1,000 population. Of this total number of infants born alive, 1,288,711 were white and 74,938 were colored. The total number of deaths in the same area was 1,014,620, or 18.2 per 1,000 population, the births thus exceeding the deaths by 34.4 per cent. The final report was sent to the printer on April 5.

It is expected that the report for the calendar year 1919 will be placed in the hands of the printer some time during November of this year.

*Mortality statistics.*—The series of annual mortality reports published by the Bureau of the Census was begun in 1900. For that year a death registration area was created, comprising the six New England States, Indiana, Michigan, New Jersey, New York, and the District of Columbia, and containing approximately 40.5 per cent of the total population of the United States. Since 1900 the following States have been admitted to the death registration area: 1906, California, Colorado, Maryland, and Pennsylvania; 1908, Washington and Wisconsin; 1909, Ohio; 1910, Minnesota, Montana, and

Utah; 1911, Kentucky and Missouri; 1913, Virginia; 1914, Kansas; 1916, North Carolina and South Carolina; 1917, Tennessee; 1918, Illinois, Louisiana, and Oregon; 1919, Delaware, Florida, and Mississippi. There are also 18 registration cities in nonregistration States, making a total of 33 States, the District of Columbia, and the 18 cities before mentioned, or about 80.4 per cent of the total estimated population of the United States. A test of death registration has just been completed in Nebraska, which demonstrated that the State was eligible for admission to the death registration area in 1920. Only five States remain with unsatisfactory registration laws—West Virginia, which is surrounded by registration States; Iowa, which is bordered on three sides by registration States and on the fourth side by Nebraska, which will soon be admitted to the area; and South Dakota, Nevada, and Arizona. This leaves 10 States with satisfactory laws which will be ready for admission as soon as they can show 90 per cent complete registration.

A press summary showing the total number of deaths during the calendar year 1918, as well as deaths and death rates for certain principal causes, was issued February 2, 1920, and gave the total number of deaths in the registration area (exclusive of Hawaii) as 1,471,367, which represented a rate of 18 per 1,000 population. This is the highest death rate on record for the registration area, and it was caused by the influenza pandemic. In 1918 influenza and pneumonia (all forms) took a toll of 477,467 deaths, or 32 per cent of the total number of deaths in the registration area.

The annual mortality report for 1918 was completed and sent to the printer in January, 1920. It is expected to complete the report for the calendar year 1919 and have it in the hands of the printer before the last of November of this year.

*Weekly Health Index.*—The publication of the Weekly Health Index, which was inaugurated in October, 1917, with 46 of the cities of 100,000 population or over reporting, has been enlarged by the addition of 12 cities which now have over 100,000 population. These cities report weekly the total number of deaths (stillbirths excluded) and the number of deaths of children under 1 year of age, which are published with death rates and percentages. There is also published weekly in the index a statement from 10 of the largest industrial insurance companies, showing the total number of policies in force, number of death claims, and number of death claims per 1,000 policies in force (annual rates) for comparison with weekly death rates. After the issue of May 29 the publication of the number of deaths from influenza and pneumonia was discontinued, as the deaths from these causes had dropped to normal.

*Special tables of mortality from influenza.*—A special bulletin on deaths from influenza during the great pandemic of 1918 was issued for the States of Indiana and Kansas and the city of Philadelphia through funds furnished by the United States Public Health Service.

*Standard nomenclature of diseases and pathological conditions, injuries, and poisonings for the United States.*—The preparation of a uniform nomenclature for the use of physicians was undertaken by the Bureau of the Census at the request of the Council of National Defense, and the necessary funds were provided by the President of the United States. This publication was issued in the early spring

of 1920, and it has proved of value, as indicated by letters of commendation and the demand for copies.

*Need of Federal legislation providing for registration of births and deaths.*—In the United States the birth and death registration has been left to the control of the individual State governments, many of which have failed to establish and maintain adequate systems of recording births and deaths. The practice of the Census Bureau is to admit to the "birth registration area" those States and to the "death registration area" those States and those cities in nonregistration States in which the Bureau's tests indicate the registration to represent at least 90 per cent of all births or of all deaths, as the case may be, and in which the registration systems are such as to justify the expectation of a still more nearly complete registration in the future.

Thus far the only legislative action taken by the Federal Government toward the improvement of our vital statistics is found in a joint resolution of Congress approved February 11, 1903, requesting the State authorities to cooperate with the Census Bureau in securing a uniform system of birth and death registration. The Bureau itself has achieved some success in arousing the interest of the States in the matter. Under present conditions, however, it is likely to be many years before the last one of the 48 States enacts and properly administers adequate registration laws. It will thus be necessary, if the birth and mortality records of every municipality and county are to be made reliable, permanent, and readily available for reference at any time in the near future, to provide for a comprehensive system of Federal control and supervision. I recommend, therefore, the enactment of such legislation as may be necessary to secure these ends.

#### FINANCIAL STATISTICS OF CITIES AND STATES.

*Cities of 30,000 population and over.*—The annual report presenting financial statistics of cities having more than 30,000 inhabitants has been compiled for the fiscal year 1919. As the per capita revenues, costs, and indebtedness are regarded as important measures of financial transactions and conditions, the publication of the report has been delayed until the population of each city as disclosed by the Fourteenth Decennial Census could be determined. This course seemed especially desirable because of the unusual increase in the population of many of the cities due to conditions incident to the war. The preparation of data, excepting those based upon population, was practically completed in June, 1920. Computations have been made from time to time as population figures became available, and the report will be ready for the press soon after the announcement of the population of the last city of the group.

Reports on this subject have been published annually since the organization of the Bureau on a permanent basis in 1902. The report presents statistics in regard to (1) total and per capita receipts from the various sources of revenue; (2) total and per capita payments for expenses, interest, and outlays; (3) total value of city properties; (4) total and per capita indebtedness, purpose of issue, and rate of interest; and (5) assessed valuation of property, basis of assessment, tax levies, rates, and methods of assessment. Definitions of ac-

counting terms employed in the report are given in the introduction to the volume. The report for 1919 is for the fiscal year of each city ending prior to July 1, 1919.

The statistics presented in the report are derived from the records of the finance offices of the several cities, and are so arranged as to admit of comparisons of the various classes of revenues and expenditures; property valuation, tax rates, and levies, and method of assessment; and of the various classes of indebtedness and possessions.

*States.*—The fifth annual report on financial statistics of States for the fiscal period ending prior to July 1, 1919, was transmitted to the printer on May 26, 1920, and the volume appeared on August 10, 1920. This report is similar in scope to the report on financial statistics of cities having a population of over 30,000, the general classification being the same, and the only changes being those made for the purpose of showing data in regard to functions exercised by State governments that are not generally exercised by municipal governments. The reports have been well received by the State officials and contain the only statistics which permit the several States to compare their revenues, expenditures, and other financial transactions of their governments. The value of these reports and of those presenting the financial data of cities is evidenced by the early exhaustion of original editions, public officials regarding them as very helpful in the solution of the grave financial problems confronting them.

#### COTTON AND COTTONSEED.

During the fiscal year ending June 30, 1920, the Bureau conducted its regular inquiries in regard to cotton and cottonseed. The reports issued comprise 10 relating to cotton ginned to specified dates during the ginning season: 12 published monthly during the year relating to cotton consumed, imported, exported, and on hand, and of active consuming cotton spindles: 12 published monthly during the year relating to cottonseed received, crushed, and on hand, and of cottonseed products manufactured, shipped out, and on hand: an annual bulletin on Cotton Production and Distribution for the Season of 1918-19, and an annual pamphlet giving the statistics of cotton ginned from the crop of 1919.

The periodical reports of cotton ginned, the monthly reports relating to cotton consumed, etc., and the monthly reports pertaining to cottonseed and cottonseed products are issued in the form of post cards, which are mailed to a number of growers, ginners, dealers, manufacturers, and others interested in the cotton and cottonseed industries. The annual bulletin presents, in detailed form, the statistical material contained in the post-card reports for the year preceding, together with data relative to cotton production and consumption in foreign countries and other information concerning the cotton industry. It also includes statistics concerning the cottonseed-products industry. The final figures on cotton ginned from the crop of 1919 were issued in pamphlet form and distributed in time to be of use in making comparisons of cotton ginned from the crop of 1920.

## STOCKS OF LEAF TOBACCO.

During the past year there were published four reports of leaf tobacco held by certain classes of manufacturers and dealers coming within the scope of the act of Congress approved April 30, 1912. These reports present data concerning leaf tobacco held on the 1st day of July and October, 1919, and January and April, 1920.

Bulletin 143, Stocks of Leaf Tobacco, etc., was prepared during the fiscal year and was sent to the printer June 26. It follows the same lines as Bulletin 139, the data being brought up to date. It contains comparative data concerning stocks of leaf tobacco collected at each enumeration since the inauguration of these reports in October, 1912. In addition to the statistics of leaf tobacco held the bulletin contains data regarding the production, consumption, imports, and exports of tobacco; the prices obtained for the staple by the growers; the quantities of the several products manufactured therefrom, and the revenue on tobacco collected by the Government of the United States. Data are also shown relative to the world's production of tobacco and of the international trade in unmanufactured tobacco. The bulletin is designed to assemble statistics for the different phases of the tobacco industry published by the several governmental bureaus and to present them in a convenient form for ready reference.

## STATISTICS OF FATS AND OILS.

The conservation of our foodstuffs and the efficient distribution of the same among our people and those in the associated countries during the war with Germany and Austria resulted in the Food Administration collecting monthly reports concerning the production, consumption, and stocks of the several foodstuffs, among others being fats and oils. The collection of the data by that office ceased with December, 1918. To meet the demand for reliable information concerning these commodities during the period following the war, the Secretary of Commerce authorized the collection of quarterly reports during the calendar years 1919 and 1920. The data concerning the production, consumption, and stock of fats and oils for the four quarters of 1919 and the first quarter of 1920 have been collected and published.

The statistics of fats and oils, as just stated, are now being collected under an order of the Secretary of Commerce, and without further authorization will cease with the quarter ending December 31, 1920. There is a considerable demand for the data collected by the Census Bureau in this connection. It is deemed advisable to continue this series of reports, and I would urge the enactment of such legislation as may be necessary to authorize the Bureau to continue the compilation of these statistics. The vegetable-oil industry in the United States has attained some importance during the last few years, and should it not be deemed expedient to continue the collection of complete information concerning fats and oils, it appears desirable to continue the collection of the data similar to those now being collected concerning vegetable oils.

## CENSUS OF ACTIVE AND IDLE WOOL MACHINERY.

Monthly reports of active and idle wool machinery, which during the war period were issued by the Bureau of Markets of the Department of Agriculture, were compiled and published during the fiscal year 1920 by the Bureau of the Census, under the authorization of the Secretary of Commerce. This action was taken at the request of the Bureau of Markets, there being no funds available in that bureau for the continuation of the work, and upon the representations of the American Association of Woolen and Worsted Manufacturers and the National Association of Wool Manufacturers that these reports were of much value, in that they constituted a reliable index to the conditions within the industry. The reports show the total number of active and idle looms, cards, combs, and spinning spindles, the percentage that the idle machinery is of the total reported, and the number of machines in operation by single and double shift. The number of establishments from which returns are received is something over 900, varying somewhat, of course, from month to month.

I would urge the enactment of such legislation as may be necessary to authorize the Bureau to continue the collection of monthly reports of active and idle wool machinery.

## LEATHER STATISTICS.

*Statistics of leather stocks and manufactured leather.*—Statistics of leather stocks and of boots, shoes, and other manufactured leather goods, which formed a part of the comprehensive census of war commodities undertaken by this Bureau, were compiled monthly during the second half of the calendar year 1918, and, in view of the value of the information for conservation purposes, were continued thereafter on a quarterly basis until the close of the fiscal year 1919. The last compilation of these statistics covering stocks on hand or in transit on June 30, 1919, and including summaries of the statistics previously published, was issued early in September, thus completing this statistical inquiry and marking the termination of the war work carried on by the Bureau.

*Monthly census of hides, skins, and leather.*—The act of Congress approved June 5, 1920, authorizes and directs the Director of the Census to compile and publish monthly statistics of hides, skins, and leather.

In compliance with the provisions of this act, the Bureau will take over and continue a statement of monthly statistics of hides and skins, formerly compiled by the Bureau of Markets of the Department of Agriculture, and to this will be added statistics relating to the leather industry and trade. The purpose of this census is to aid in stabilizing the hide and leather industries by furnishing official monthly statistics of materials, production, and consumption. The information to be collected will include stocks on hand of hides, skins, and leather at the close of each month, quantities and classes of hides and skins disposed of, hides and leather in process of tanning and manufacture, and quantities and classes of leather produced and consumed during each month.

This work is being organized in the division of manufactures, where a card index has been prepared, listing about 7,400 establishments covering tanners, packers, abattoirs, hide importers and dealers, and manufacturers of leather and leather goods. These include the larger class of dependable and representative establishments which made monthly reports to this Bureau at the special census of war commodities, or to the Bureau of Markets during the years 1918 and 1919, and may be relied upon to furnish accurate and regular returns.

It is expected that the first report will relate to stocks on hand and in transit October 1, 1920, and the quantities consumed during the preceding month.

#### OFFICIAL REGISTER.

During the year the Official Register for 1919 was compiled by the Bureau. It contains 325,000 names, requiring 1,704 pages, compared with 166,000 names in the 1917 volume of 896 pages. The printing cost of the Register charged to the Bureau was \$28,665. The total printing cost, which includes the editions ordered by the various departments and services of the Government, was \$35,715.33. As explained in the preface, there were omitted the names of all officials and employees of the Postal Service, of all temporary employees, and of all persons who had not the status of regular employees. In addition, all commissioned officers of the Army, Navy, and Marine Corps were omitted, to prevent the expense of duplicating these names, which are printed in the registers of the various services.

I do not believe that the usefulness of this publication in its present form justifies the great amount of time and expense involved in its compilation and publication, and I again renew my recommendations for changes in the scope of the Official Register which appear on page 39 of my annual report for 1917, were repeated in my annual reports for 1918 and 1919, and are printed in the preface to the 1919 Register, with the modification that the proposed list of employees include all administrative and supervisory officials regardless of the salary received, and all statistics of general interest concerning Government departments and personnel, thus providing for a complete picture of the organization of the Federal service.

To obviate the necessity for again compiling information concerning the Federal employees to be published in the present unsatisfactory and expensive form, legislation along the lines suggested should be enacted by the present Congress, as it will be necessary to begin preparation for the 1921 Register early in the coming year.

#### STATISTICAL DIRECTORY OF STATE INSTITUTIONS.

During the fiscal year the Statistical Directory of State Institutions for the Defective, Dependent, and Delinquent Classes was issued, a publication which had been delayed by conditions in the Bureau arising out of the war. This volume of 257 pages shows for each State the name of each State institution devoted to the continuous care of any of these classes, with information as to the location, number of inmates and employees, value of plants, appropriations and expenditures for maintenance and operation, and other items,

together with a map showing the location of the several institutions listed, tables giving general statistics for the State, a classified list of institutions, and a statistical summary.

#### ORGANIZATION OF OFFICE FORCE.

Provision for the organization of the office force of the Fourteenth Decennial Census is made in section 7 of the census act, which specifies that the appointments of the temporary employees during the Fourteenth Census period shall be made through examinations held by the United States Civil Service Commission, or from the reemployment registers established by Executive order of November 29, 1918, or by transfer from other branches of the departmental classified service of persons who have had previous experience in census work. Provision is also made for the employment, without examination, for not exceeding six months, of persons who have had previous experience in operating mechanical appliances in census work and whose efficiency records were satisfactory.

In accordance with this provision of the census act, the Civil Service Commission, at the request of the Bureau, held first-grade clerical examinations throughout the country on October 18 and November 15, 1919, and on May 22, 1920, and second-grade clerical examinations for the purpose of establishing eligible registers for the position of card-punching-machine operative on October 22, November 19, and December 10, 1919. As these examinations did not yield a sufficient number of eligibles, it was necessary for the commission to hold additional first-grade, second-grade, and third-grade examinations for the purpose of establishing supplemental registers for clerks and operatives. The examinations were similar in scope to the clerk and minor clerk examinations usually held for the departmental service at large; but because the number of inexperienced clerks and operatives obtained from the first examinations was so large, the Bureau, with the approval of the Civil Service Commission, amended the later examinations so as to require three months' clerical experience before applicants would be admitted to the tests. Age limits were found to be necessary in the interest of good administration and were fixed at 18 to 49 years, inclusive, in the case of clerks and subclerical employees, and 18 to 44 years, inclusive (later reduced to 35 years), in the case of operatives.

I wish to express the Bureau's full appreciation of the Civil Service Commission's cooperation in making every possible effort to furnish promptly the unusually large number of eligibles required to meet the Bureau's needs.

A few appointments were made by the transfer of former census employees from other departments and by temporary appointments, not to exceed six months in duration, of former employees who had operated mechanical appliances at previous censuses.

A large number of appointments were made from the reemployment registers, which consist of the names of employees released from the several departments on account of reduction of force.

The Bureau's statutory force at the beginning of the decennial census period, July 1, 1919, numbered 609. At the close of the fiscal year ended June 30, 1920, the total force in Washington, D. C. (exclusive of 329 special agents who are paid on a per diem basis, and

324 persons employed on the four-hour night force), had reached 5,502.

Because of the change in the date of taking the census, from April 15 to January 1, it was necessary to appoint the temporary office force earlier than in the Thirteenth Census; and owing to the abnormal conditions existing as a result of the war, great difficulty was experienced in organizing this force and keeping the maximum number of employees required on duty.

The following table shows, by months, the number of persons who called at the Bureau seeking information or employment during the last fiscal year, the large majority of whom had not passed any civil-service examination or were not otherwise eligible for appointment:

July.....	50	February.....	2,128
August.....	1,032	March.....	2,064
September.....	1,386	April.....	2,112
October.....	1,453	May.....	8,528
November.....	1,003	June.....	7,345
December.....	978		
January.....	2,089	Total.....	31,068

While the Bureau's entrance salary of \$900 per annum was 50 per cent higher than in 1910, its appropriation did not permit it to pay salaries, even with the bonus of \$240 added, equal to the compensation applicants had apparently been receiving in the business world or in the war bureaus. Persons outside of Washington, therefore, declined, in view of the high cost of living and conditions generally, to accept employment, while many of those already in Washington preferred to return to their homes rather than to accept positions in the Census Bureau at lower salaries.

In order to keep the census work under way as rapidly as has been deemed desirable, a night force has been employed. This force is made up of persons appointed in the usual manner, through examination, who work from 4 to 11.30 p. m. daily. In addition, a four-hour force, working from 6 to 10 p. m., composed of persons employed during the day in other Government departments, was organized. This four-hour force, however, has been practically disbanded, as it was found that the "turnover" was so great as to prevent satisfactory results. Of the 828 persons who were appointed on it during May and June, 501 resigned or had been dropped from the rolls by June 30.

The following table shows the appointments in detail from July 1, 1919, to June 30, 1920, inclusive:

Classes of appointments.	Clerks.	Operatives.	Subclerical.	Total.
Probational (having permanent status).....	759	13	83	855
Reinstatements.....	49		4	53
Transfers from other bureaus or departments.....	36		14	50
For census period only.....	1,455	13		1,468
Limited (1, 3, or 6 months).....	645	2,428	58	3,653
7-hour night force.....	51	657	2	715
4-hour night force.....		828		828
Total.....	3,600	3,939	161	7,622

In addition to the 7,022 original appointments, there were 628 reappointments of clerks, 30 reappointments of operatives, and 39 of subclerical employees. In connection with the appointments, positions were also tendered to 4,299 eligibles, 598 of whom declined, and the balance, 3,701, failed to respond or to report for duty.

The following table shows the separations in detail from July 1, 1919, to June 30, 1920, inclusive:

Month, 1919-20.	Permanent.		Temporary.			Total.
	Clerks.	Subclerical employees.	Clerks.	Operatives.	Subclerical employees.	
July.....	5	1	3			9
August.....	8	2	14			24
September.....	14	2	29		4	49
October.....	15	2	55			72
November.....	10	1	36			47
December.....	15	2	14		3	34
January.....	12		40	5	2	57
February.....	20	2	26	7	1	56
March.....	53	10	50	38	1	152
April.....	47	2	31	76	1	157
May.....	67	5	18	673	1	764
June.....	80	3	3	284	2	372
Total.....	355	32	322	1,081	15	1,805

The foregoing table shows 1,805 separations from the service during the year, or 25.7 per cent of the total number appointed. This turnover has retarded the progress of the work and has been exceedingly expensive.

#### PROMOTIONS AND DEMOTIONS.

In order to stabilize the force it has been necessary to give relatively frequent promotions to employees who entered the service at \$900 and \$960 per annum and whose services have been satisfactory. These promotions range from \$60 to \$180 per annum, the majority being at the rate of \$60 per annum, and are based on the relative efficiency of the employees and the nature of the work upon which they are engaged. An effort has been made to adjust the rates of pay for clerks so that employees engaged on similar work in the various divisions shall receive like compensation. The pay of the operatives, which ranges from \$900 to \$1,380 per annum, has been readjusted semimonthly in accordance with scales of wages based upon the number of cards punched. This class of employees also receives the \$240 bonus.

#### SPECIAL AGENT FORCE.

The following statement shows, in detail, the number of special agents appointed for all inquiries from July 1, 1919, to June 30, 1920:

Special agents, of "known and tried experience in statistical work".....	18
Special agents, including experts, agents for general field work, etc.....	396
Special agents, census of irrigation and drainage.....	85
Special agents, censuses of Alaska, Samoa, Guam, Porto Rico, Hawaii.....	51
Special agents, census of manufactures (local).....	1,156
Special agents, to assist supervisors.....	15
Special agents, cotton statistics.....	173
Total.....	1,894

## OFFICE AND FIELD EMPLOYEES JUNE 30, 1920.

The following statement shows the nature and distribution of the office and field force on June 30, 1920:

## OFFICIALS.

Director.....	SAM. L. ROGERS.
Assistant director.....	WILLIAM M. STEUART.
Chief clerk.....	THOMAS J. FITZGERALD.
Chief statisticians:	
Population.....	WILLIAM C. HUNT.
Agriculture, cotton and tobacco.....	WILLIAM L. AUSTIN.
Manufactures.....	EUGENE F. HARTLEY.
Statistics of cities.....	STARKE M. GROGAN.
Vital statistics.....	WILLIAM H. DAVIS.
Revision and results.....	JOSEPH A. HILL.
Disbursing clerk.....	FRED A. GOSNELL.
Appointment clerk.....	WALTER S. GILCHRIST.
Geographer.....	CHARLES S. SLOANE.
Expert chiefs of divisions:	
Administrative.....	TIMOTHY F. MURPHY.
Appointment.....	EMILY I. FARNUM.
Agriculture.....	BOWEN CRANDALL.
Cotton and tobacco.....	THOMAS A. DEVOR.
Geographer.....	WESLEY E. CILLEY.
Manufactures.....	EVELYN L. YEOMANS.
Population.....	JOHN H. DALY.
Revision and results.....	EDWARD B. WHITE.
Statistics of cities.....	WILLIAM A. RUFF.
Vital statistics.....	WILLIAM W. SAWYER.
Chief, mechanical laboratory.....	EDWARD W. KOCH.
	WILLIAM B. CRAGG.
	OLIVE M. RIDDLEBERGER.
	GEORGE B. WETZEL.
	HARRY H. PIERCE.
	LEMUEL A. CARRUTHERS.
	JOHN B. MITCHELL.
	E. M. LABOITEAUX.

## CLERICAL FORCE.

Statistical experts. \$2,000.....	8	Clerks—Continued.	
Stereographers:		\$960.....	953
\$1,800.....	2	\$900.....	27
\$1,500.....	1		
Clerks:		Total.....	2,777
\$1,800.....	31	Operatives:	
\$1,680.....	52	\$1,380.....	102
\$1,600.....	28	\$1,320.....	50
\$1,560.....	52	\$1,260.....	74
\$1,440.....	33	\$1,200.....	90
\$1,400.....	25	\$1,140.....	222
\$1,380.....	107	\$1,080.....	79
\$1,320.....	103	\$1,020.....	208
\$1,260.....	58	\$960.....	749
\$1,200.....	315	\$900.....	385
\$1,140.....	215	Piece-price.....	613
\$1,080.....	329		
\$1,020.....	429	Total.....	2,872
\$1,000.....	9		

## SUBCLERICAL FORCE.

Photostat operators, \$1,200.....	2	Unskilled laborers, \$720.....	28
Skilled laborers:		Messengers, \$840.....	9
\$1,000.....	6	Assistant messengers, \$720.....	25
\$960.....	1	Messenger boys, \$480.....	27
\$900.....	2		
\$840.....	6	Total.....	111
\$720.....	5		

## MECHANICAL LABORATORY.

Experts:		Mechanical draftsman, \$1,800.....	1
\$2,500.....	1	Pressman and machinist, \$1,500....	1
\$2,250.....	2	General mechanic, \$1,200.....	1
\$1,800.....	1	Wireman, \$1,200.....	1
Mechanician, \$1,800.....	1	Machinists, \$1,200.....	2
Tabulating mechanicians:		Machinist's helper, \$1,200.....	1
\$1,800.....	2	Carpenter, \$1,200.....	1
\$1,600.....	2	Shop apprentices:	
\$1,500.....	1	\$1,000.....	1
\$1,400.....	2	\$840.....	1
\$1,200.....	1	\$720.....	3
Electricians:		Total.....	36
\$1,800.....	1		
\$1,400.....	9		

## SPECIAL AGENT FORCE.

Special agents, of "known and tried experience in statistical work".....	18
Experts, and for general field work.....	311
Employees of other Government bureaus who are serving without compensation.....	93
Special agents, vital statistics, checking incomplete returns of births and deaths.....	29
Local special agents, census of manufactures.....	1,092
Total.....	1,453

## SUMMARY.

Officials.....	30	Mechanical laboratory force.....	36
Clerical force.....	2,777	Special agents.....	1,453
Operatives.....	2,872	Total.....	7,279
Subclerical force.....	111		

In addition, there are employed throughout the cotton belt 650 local special agents to collect statistics of cotton and cottonseed. These agents perform their work only at intervals and are paid on a piece-price basis.

## QUARTERS.

Steps to secure additional space for the housing of the Fourteenth Census force were taken in the early part of November, 1918. As a result of the early attention given this matter, Building D (one of the temporary war buildings at Four-and-a-half Street and Missouri Avenue NW.) was assigned to this Bureau. This is a three-story frame structure with eight wings and a head house on each floor, and, exclusive of corridors, aisles, toilets, etc., contains 237,000 square feet of floor space. To make the building suitable for the Bureau's use it was necessary to construct four loading platforms, reinforce the floors of four wings on the first floor, construct six bridges connecting adjoining wings on the first floor, and to install three freight elevators.

A fireproof vault, 60 feet 2 inches by 44 feet 2 inches, in which to store the 1920 population schedules, was also constructed at the north end of the fourth wing. All of this work was completed opportunely without interfering in any way with the work of this Bureau or of the Air Service, which occupied part of the building until the close of the year 1919.

On July 1, 1919, one-half of the building was turned over to this Bureau, and on July 1 and 2 the divisions of population and agriculture, on August 12 the geographer's division, and on November 4 the division of cotton and tobacco were removed to Building D. In January, 1920, the entire building, except approximately 1,800 square feet occupied by the Congressional Joint Commission on Reclassification of Salaries, was turned over to this Bureau. On February 17 the administrative division, on March 17 the division of revision and results, and on May 5 the division of statistics of cities were also removed to Building D. The division of vital statistics, a section of the geographer's division, and the division of manufactures, the office force of which latter division has been greatly expanded during the census period, are still housed in the Commerce Building, at Nineteenth Street and Pennsylvania Avenue NW.

Although the force of the Bureau is probably better housed than it ever has been during a decennial census, it is highly desirable that by the time the next census is taken the Bureau be provided with a fireproof building in which to house the office force. A large part of the important records of the 1920 census are constantly exposed to destruction by fire in the present building. Two fires, which, fortunately, were quickly discovered and extinguished, occurred during the year. One of them occurred in a toilet room a half hour after the force had been dismissed for the day, and it was only through good luck that it was discovered before it gained headway. In view of the enormous cost of collecting census schedules, their preservation should be insured by having them housed and handled in a fireproof building.

#### TRANSPORTATION.

Until the Bureau secured adequate motor transport of its own every effort was made to obtain the use of transportation facilities of other Government bureaus and departments wherever possible instead of hiring trucks from commercial firms. As a result the total expense to the Bureau for hauling and truck hire for the year has been only \$150.33. This small expense indicates a substantial saving to the Government in view of the immense amount of hauling done during the year. Approximately 50,000 sacks of mail and supplies and 6,795 boxes of schedules and portfolios were shipped to supervisors for use in connection with the field work on population and agriculture, and an equal number of boxes of schedules and portfolios were returned to the Bureau by the supervisors. In addition to other miscellaneous hauling, six divisions were moved from the Commerce Building to Building D. This moving was performed by the Zone Transportation Office of the War Department, under the supervision of Capt. C. N. Wickens, deputy zone transportation officer. The work was performed very efficiently and with comparatively little disturbance to the work of the divisions. I wish to acknowledge

here the splendid cooperation and assistance received from Capt. Wickens in the moving of the several divisions of the Bureau.

The Bureau now owns a 1½-ton Garford truck. It also has the use, through the courtesy of the Post Office Department, of a small Ford truck. Outside of the maintenance and repair of this equipment, it is not anticipated that the Bureau will be under further expense for hauling.

#### PURCHASE OF SUPPLIES AND EQUIPMENT.

At the beginning of the Fourteenth Census period a purchasing section was organized under the supervision of the chief clerk, and during the past fiscal year the Bureau has done its own purchasing. Eight hundred and eighty-six supply requisitions were received, 1,977 purchase orders were written, and 111 proposals issued.

Much difficulty was experienced in procuring necessary supplies on account of the unsettled economic condition of the country, and especially because of the lack of raw materials and fuel, and delay in transportation. In order that this should not impede the progress of the census work, the Bureau rendered every possible assistance to contractors and manufacturers in the production and delivery of orders. On some occasions the Bureau procured coal for the manufacture of articles on order, obtained freight cars for their shipment, and had the shipments expedited.

As a result of the termination of the war the Bureau was enabled to obtain a large part of its equipment from the General Supply Committee. This committee cooperated with the Bureau to the fullest possible extent and contributed largely to its success in securing such equipment as was necessary for the steady and uninterrupted prosecution of the census work.

#### PUBLICATIONS ISSUED.

Following is a list of the publications issued during the fiscal year and since its close:

Class and title.	Date issued.	Pages.	Edition.
JULY 1, 1919, TO JUNE 30, 1920.			
Reports (cloth bound and of quarto size, except as otherwise indicated):			
Birth statistics for the registration area of the United States: 1917 (paper).....	Dec. 3, 1919	299	5,000
Census of manufactures, 1914—Vol. II, reports for selected industries and detailed statistics for industries by States.....	July 2, 1919	1,047	1,500
Electric railways: 1917 (cloth and paper).....	May 8, 1920	177	4,000
Financial statistics of cities having a population of over 30,000: 1918.....	Oct. 9, 1919	357	5,200
Financial statistics of States: 1918 (cloth and paper).....	Sept. 18, 1919	123	4,500
Influenza and pneumonia, from special tables of mortality, in Indiana, Kansas, and Philadelphia, Pa., Sept. 1 to Dec. 31, 1918 (paper—octavo).....	Mar. 20, 1920	181	4,600
Mortality statistics: 1917.....	Nov. 20, 1919	597	5,000
Mortality statistics: 1918.....	June 16, 1920	603	3,200
Municipal markets in cities of over 30,000: 1918 (paper).....	July 23, 1919	56	6,000
Official register: 1919.....	Mar. 24, 1920	1,504	25
Religious bodies—Part I, 1916—Summary and general tables.....	Jan. 2, 1920	534	5,000
Religious bodies—Part II, 1916—Separate denominations.....	Nov. 11, 1919	727	5,000
Standard nomenclature of diseases and pathological conditions, injuries, and poisonings: 1919.....	Apr. 17, 1920	347	2,500
Statistical directory of State institutions: 1916.....	Feb. 2, 1920	257	3,000
Telegraphs and municipal electric fire-alarm and police-patrol signaling systems: 1917 (paper).....	July 10, 1919	61	3,000
Telephones: 1917 (paper).....	Mar. 11, 1920	52	4,000
Transportation by water: 1919.....	Mar. 10, 1920	230	4,000
Total.....		7,412	65,525

<sup>1</sup> The various reports bound together in this volume have previously been published separately.

Class and title.	Date issued.	Pages.	Edition.
JULY 1, 1919, TO JUNE 30, 1920—Continued.			
Bulletins—Permanent Census (quarto):			
No. 139—Stocks of leaf tobacco: 1918 (octavo).....	Sept. 11, 1919	46	20,000
No. 140—Cotton production and distribution, season of 1918-19.....	Feb. 6, 1920	135	34,500
No. 141—Mortality statistics: 1918.....	Feb. 27, 1920	92	2,600
Total.....		273	57,100
Bulletins—Fourteenth Census (quarto):			
Porto Rico, population, number of inhabitants by municipalities and minor civil divisions, English.....	May 26, 1920	12	500
Porto Rico, population, number of inhabitants by municipalities and minor civil divisions, Spanish.....	June 21, 1920	12	1,500
Total.....		24	2,000
Miscellaneous publications:			
Annual report of the Director of the Census to the Secretary of Commerce, fiscal year 1919 (octavo).....	Nov. 4, 1919	40	2,500
Physicians' pocket reference to the international list of causes of death, 1919—fifth edition (size 3 by 6).....	May 22, 1920	28	25,000
Religious bodies, by States—Statistics of denominations: 1916 (reprint of Table 62 from Part I of report on religious bodies, 1916, pages 150 to 237).....	June 6, 1920	89	1,500
Religious bodies, by counties—Number of members in selected denominations, 1916 (reprint of Table 63 from Part I, religious bodies, 1916, pages 238 to 329).....	May 29, 1920	93	1,500
Thirty-four reports, in card form, relating to cotton and cottonseed.....	June 14, 1919 to June 19, 1920	34	1,360,000
Four reports, in card form, relating to stocks of leaf tobacco.....	July 29, 1919 to Apr. 29, 1920	4	82,500
Three reports, in sheet form, relating to fats and oils.....	Sept. 30, 1919 to Dec. 1, 1919	3	24,000
Total.....		291	1,497,000
Total reports, bulletins, and miscellaneous publications for July 1, 1919-June 30, 1920.....		8,000	1,621,625
Census of war commodities (quarto), boots, shoes, and manufactured leather.....	Aug. 25, 1919	19	2,000
Grand total, July 1, 1919, to June 30, 1920.....		8,019	1,623,625
JULY 1 TO AUG. 31, 1920.			
Reports (cloth bound and of quarto size, except as otherwise indicated):			
Birth statistics for the registration area of the United States: 1917 (paper).....	July 9, 1920	312	4,500
Central electric light and power stations with summary of the electrical industries: 1917 (cloth and paper).....	Aug. 26, 1920	184	3,250
Financial statistics of States: 1919 (cloth and paper).....	Aug. 6, 1920	110	4,200
Total.....		615	11,950
Bulletins—Permanent Census:			
No. 142, Religious bodies: 1916 (quarto).....	Aug. 6, 1920	192	2,000
Bulletins—Fourteenth Census (quarto):			
Number of inhabitants by minor civil divisions—			
Delaware.....	Aug. 6, 1920	6	600
District of Columbia.....	July 21, 1920	4	500
Hawaii.....	July 12, 1920	3	500
Samoa, population and agriculture.....	July 29, 1920	7	1,000
Total.....		20	2,600
Miscellaneous publications:			
Advance tables of cotton production in the United States, crop of 1919 (octavo).....	Aug. 11, 1920	39	33,250
Grand total, July 1 to Aug. 31, 1920.....		866	49,500

## ESTIMATES AND APPROPRIATIONS.

The estimate originally made for taking the Fourteenth Decennial Census and carrying on the annual and other investigations of the Bureau for the three-year census period ending June 30, 1922, was \$20,500,000. After the original estimates were prepared provision for an additional inquiry relating to encumbrances on homes was inserted in the census bill by the Senate. It is estimated that this inquiry will add approximately \$1,000,000 to the cost of taking the Fourteenth Census. An increase of \$50,000 in the estimates was made to provide for the construction of a fireproof vault, the strengthening of floors, etc., in Building D, at Four-and-a-half Street and Missouri Avenue NW. An economy was effected through the elimination of the items of \$300,000 for rent of buildings in the District of Columbia and \$35,000 for fuel, as a result of the assignment of Building D to this Bureau. These changes are equivalent to a net increase of \$715,000, making the revised estimate \$21,215,000. This estimate was based on the assumption that prices and rates of compensation would have made some progress toward a return to normal conditions by the time the census was to be taken. However, the reverse has been the case.

Acting under the authority contained in the Fourteenth Census act, I established the rates of pay of enumerators, basing the rates upon the amount paid for similar work at the census of 1910 and giving due regard to the general increase in the rates of wages that had occurred during the past 10 years. The supervisors were advised of the rates of pay thus established, and there was a general protest throughout the country against their insufficiency. In deference to this protest an increase was granted, but the supervisors were still unable to secure a full quota of enumerators. In order that there would be no delay in starting the census promptly, it then became necessary to allow the maximum rates of compensation to enumerators throughout the United States. As a result it was necessary to send to Congress a deficiency estimate of \$2,550,000 for the fiscal year 1920, making the revised estimates for the Fourteenth Decennial Census period \$23,765,000, of which \$21,394,000 was to cover the cost of the decennial census inquiries and \$2,371,000 the cost of the annual and other nondecennial work to be done during the three-year census period (July 1, 1919, to June 30, 1922).

To meet the cost of the Fourteenth Census and other work to be performed during the three-year census period, Congress has thus far made the following appropriations: \$15,000,000 in the legislative, executive, and judicial appropriation act, approved March 1, 1919; \$2,550,000 in the urgent deficiency act, approved March 16, 1920; and \$5,000,000 in the legislative, executive, and judicial appropriation act, approved May 29, 1920—a total of \$22,550,000. These appropriations, which continue available until June 30, 1922, are \$1,215,000 less than the Bureau's estimates.

The financial statement of the Bureau is given on the following page.

## FINANCIAL STATEMENT, FISCAL YEAR 1920.

Division.	Expenditures and estimated liabilities.		
	Amount expended fiscal year 1920.	Estimated liabilities July 1, 1920.	Total.
Director's, Assistant Director's, and Chief Clerk's offices.	\$83,668.71	None.	\$83,668.71
Appointments.....	35,486.29	None.	35,486.29
Disbursing.....	54,111.23	None.	54,111.23
Geographer.....	126,583.99	None.	126,583.99
Revision and results.....	45,034.88	None.	45,034.88
Total.....	344,885.10	None.	344,885.10
Enumeration:			
Supervisors and clerks to supervisors—Salaries, traveling and miscellaneous expenses.....	1,434,216.36	\$261,000.00	1,695,216.36
Enumerators—Salaries and traveling expenses.....	7,547,544.46	103,000.00	7,650,544.46
Total.....	8,981,760.82	354,000.00	9,345,760.82
Population, including mechanical laboratory:			
Office.....	842,849.77	42,000.00	885,849.77
Agriculture:			
Office.....	467,383.84	None.	467,383.84
Irrigation and drainage:			
Office.....	36,035.45	None.	36,035.45
Field.....	29,894.52	20,000.00	49,894.52
Total.....	65,929.97	20,000.00	85,929.97
Manufactures:			
Office.....	393,054.82	None.	393,054.82
Field.....	398,908.55	200,000.00	598,908.55
Total.....	791,963.37	200,000.00	991,963.37
Vital statistics:			
Office.....	145,385.88	None.	145,385.88
Field.....	69,049.08	25,000.00	94,049.08
Total.....	214,434.96	25,000.00	239,434.96
Statistics of cities and States:			
Office.....	35,408.45	None.	35,408.45
Field.....	35,926.44	5,000.00	40,926.44
Total.....	71,334.89	5,000.00	76,334.89
Cotton and tobacco:			
Office.....	45,724.94	None.	45,724.94
Field.....	230,994.88	1,000.00	231,994.88
Total.....	276,719.82	1,000.00	277,719.82
General expenses:			
Equipment, stationery, etc.....	345,939.19	65,000.00	410,939.19
Rent and purchase of tabulating machines and purchase of cards.....	172,629.75	20,000.00	192,629.75
Total.....	518,568.94	85,000.00	603,568.94
Printing.....	360,948.38	186,000.00	546,948.38
Integrating counter:			
Office.....	2,272.04	None.	2,272.04
Miscellaneous divisions:			
Traveling expenses.....	1,099.72	None.	1,099.72
Grand total.....	12,941,151.62	928,000.00	13,869,151.62

APPROPRIATIONS.

Expenses of the Fourteenth Census.....	\$22, 550, 000. 00
Recoveries.....	2, 823. 00
	<hr/>
Total.....	22, 552, 823. 00
Expenditures and liabilities incurred to June 30, 1920.....	13, 869, 151. 62
	<hr/>
Available for fiscal years 1921 and 1922.....	8, 683, 671. 38

Respectfully,

SAM. L. ROGERS,  
*Director of the Census.*

To Hon. JOSHUA W. ALEXANDER,  
*Secretary of Commerce.*



ANNUAL REPORT

843

OF THE

# DIRECTOR OF THE CENSUS

TO THE

SECRETARY OF COMMERCE

FOR THE

FISCAL YEAR ENDED JUNE 30, 1921



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1921

1921

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**REPORT**  
OF THE  
**DIRECTOR OF THE CENSUS**

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DEPARTMENT OF COMMERCE,  
BUREAU OF THE CENSUS,  
*Washington, September 15, 1921.*

SIR: I have the honor to submit the following report upon the operations of the Bureau of the Census during the fiscal year ended June 30, 1921, and upon the work now in progress or shortly to be undertaken:

During the greater part of the fiscal year the work of the Bureau was under the charge of Hon. Sam. L. Rogers, who had been Director of the Census since 1915. He resigned this office on April 13, 1921, and thereupon I took charge of the Bureau, serving as Acting Director until May 10, when I took the oath of office as Director.

The office of Assistant Director, which was made vacant by my appointment as Director, was filled by the appointment, on June 14, 1921, of Dr. Joseph A. Hill, formerly chief statistician for revision and results.

**THE FOURTEENTH CENSUS.**

The fiscal year ended June 30, 1921, is the second of the three years which constitute the decennial census period, as defined by the Fourteenth Census Act. Within this three-year period the comprehensive statistical inquiries covered by the census must, if the provisions of the law are carried out, be completed and the results published. This limitation of time, obviously designed to prevent delay or undue prolongation of census work and insure reasonably prompt publication of the results, was first introduced at the Twelfth Census, taken in the year 1900; and at that census the requirement of the law was practically, if not literally, carried out. But at the next census, that of 1910, the work was far from being completed within the census period; in fact, it was continued for more than a year afterwards.

It has been my determination, and was that of my predecessor in office, Mr. Rogers, to complete the census within the three-year period, in accordance with the requirement of the law, if it can possibly be done; and the stage of progress now reached gives me confidence that this purpose will be realized—at least to the extent of having the manuscript for the last of the reports in the hands of the printer by the close of the period. It is, however, by no means a

simple matter, easy of accomplishment. Probably few persons other than those connected with the census realize the magnitude of the undertaking and the difficulties of carrying it to completion within the period prescribed by law. It involves the printing and distribution of 25,000,000 schedules of questions; the organization and supervision of a force of over 90,000 enumerators and special agents employed to make a house-to-house canvass of the entire United States—including all the outlying possessions except the Philippines and the Virgin Islands—and to fill out schedules for 107,500,000 people, 6,500,000 farms, 450,000 manufacturing establishments, and 22,000 mining and quarrying enterprises; the examination, checking, and editing of the schedules when received; the punching of 300,000,000 tabulation cards; the running of the equivalent of over 2,500,000,000 cards through electrical sorting and tabulating machines; the computation of about half a million percentages, averages, and other rates; the preparation of elaborate manuscript tables; and, finally, the printing and publication of 12 quarto volumes averaging about a thousand pages each.

Looking to the future, it is indeed a question whether, with the growth of the population and the expansion of industry, it may not become necessary either to extend the period for the completion of the census or to curtail the scope of the inquiries. But that question, of course, is not pressing itself urgently upon our attention at the present moment.

No other branch of the Government in times of peace has so difficult a problem of organization, rapid work, and disbandment as the Census Bureau. Since the fall of 1919 more than 100,000 persons have been appointed, instructed, supervised so as to rush the work, notwithstanding the short term of employment, and then discharged. When I was placed in charge the Bureau had passed through most of these stages of its work and had arrived at what, in some respects, is the most difficult period, as it involves the completion of its reports and the dispensing with the services of the best, most skillful, and most highly trained of its temporary employees.

The field work of the census—that is, the work of making the canvass of the United States and filling out and returning the schedules of questions—has now been completed; in fact, was nearly completed before the close of the first year of the census period, as explained in the Director's report for that year; the tabulation work is far advanced toward completion, and the publication of the results is well under way.

The scope of the Fourteenth Decennial Census, as defined by law, covers population, agriculture (including irrigation and drainage), manufactures, forestry and forest products, and mines and quarries; and the organization of the Bureau includes three main divisions which are engaged primarily in the work of taking the census and compiling its results, namely, the Divisions of Population, of Agriculture, and of Manufactures. The census of population is taken by the Division of Population; the censuses of agriculture, irrigation, and drainage by the Division of Agriculture; and the censuses of manufactures, forestry and forest products, and mines and quarries (including oil and gas wells) by the Division of Manufactures.

## TABULATION OF THE DATA.

## CENSUS OF POPULATION.

Before the close of the previous fiscal year, 1919-20, the Bureau had practically completed the examination of the schedules, the preliminary or "hand" count of the population, and the editing of the schedules preparatory to punching the cards, processes which were fully described in the Director's annual report for that year.

*Examination of schedules.*—The examination of the schedules was begun on January 17, 1920, as soon as the first schedules had been received, and was completed in October, 1920. The great bulk of the work, however, was completed by the end of May, at which time the returns for 86,158 enumeration districts out of a total of 87,234 for continental United States had been inspected; and on July 1, at the beginning of the fiscal year covered by this report, the examination had been completed for all but 300 districts.

*Hand count.*—The hand count, which is made direct from the schedules—a count of the number of names on each sheet, following closely upon the inspection of the schedules—was begun in January, 1920, and was completed for 86,914 districts by the end of June, and for the remainder by October. The preliminary announcements of population were based on this hand count.

*Editing the schedules.*—The task of editing the schedules at this census was made peculiarly difficult because of the recent changes in the political geography of Europe. One of the items on the population schedule was "place of birth." To prevent ambiguity or uncertainty the term had to be defined. Should it be the country in which the person's birthplace was located at the time of his birth, or the country to which that place belonged on January 1, 1920, the date of the census? It was decided that the answer should relate to the present geography of Europe—that is, should state the country which included the person's birthplace at the time of taking the census—and the enumerators were so instructed. But it was evident that the persons enumerated could not be trusted in all cases to give correct answers in accordance with this principle. Either from habit or from preference they might name the countries to which their birthplaces belonged at the time of their birth. It was deemed necessary at this census, therefore, to ask not merely for the country of birth as heretofore, but for the province or city also; and a large part of the editorial work at this census has consisted in checking or verifying and correcting the answers to the birthplace question in order to determine for a certainty whether they related to the countries of Europe as defined at the present time.

The editing of the schedules was begun in January, 1920, and completed, except for a few scattered districts, by the end of August of the same year. From February to June, inclusive, an average force of 316 clerks was employed on this work, but early in July this force was considerably reduced.

*Card punching.*—The punching of the tabulation cards follows the examination and editing of the schedules. Next to the field work or enumeration, this is the greatest single task of the population

census. A card is punched for each person enumerated which records all the facts reported on the population schedule for that person except those relating to occupation, the occupation data, as explained elsewhere, being punched on a separate card. The printing of the punch cards is, in itself, a large undertaking. The first cards were delivered by the Government Printing Office on January 16, 1920. At the close of the fiscal year 1919-20 there had been received a total of 101,762,000 cards, and by September 21, 124,510,000, or substantially the full number ordered.

The work of punching was begun in March, 1920, and was practically completed before the end of October. The day force employed reached a maximum of over 700 operatives and averaged not far from 500. In addition, two night forces, one working from 4 to 11.30 p. m. and the other from 6 to 10 p. m., were employed for a part of the time. In August the total of the day and night forces exceeded 1,200. During that month 24,423,013 cards were punched, and during August 27,734,323, making a total of 52,157,336, or an average of 1,086,611 daily, covering in these two months a period of 48 working days.

The progress of the punching work by months is shown by the following statement:

Month, 1920.	Average number of operatives.	Month, 1920.	Cards punched.
March.....	113.2	March.....	1,563,123
April.....	450.3	April.....	7,606,184
May.....	530.2	May.....	10,705,694
June.....	1,014.8	June.....	19,234,889
July.....	1,191.0	July.....	24,423,013
August.....	1,252.5	August.....	27,734,323
September.....	708.5	September.....	15,297,616
October.....	34.6	October.....	735,784
November.....	1.0	November.....	24,787
December.....	0.8	December.....	18,872
Average for 10 months.....	534.7	Total.....	107,344,235

*Machine verification.*—The next important step in the process of tabulation is the machine verification of the cards, in which the electrical machines are wired so as to reject automatically any card which lacks the required number of punched holes; any card which is "off gauge," i. e., not punched with the mechanical exactness required for the tabulating machines; and any card on which the recorded data, as indicated by the punched holes, involve some apparent inconsistency, as, for instance, a card punched as "married" or "widowed" and "under 15 years of age." The cards thus rejected for inconsistencies or improbabilities are compared with the entries on the schedules as filled out by the enumerators, and any errors discovered are corrected. The machine verification was begun in April, 1920, and was practically completed in November. Two sets of machines were used, the cards being run twice.

The progress of the machine verification month by month is shown by the following statement:

Month, 1920.	First set of machines.		Second set of machines.	
	Average number of machines.	Number of cards counted.	Average number of machines.	Number of cards counted.
April.....	2.0	1,094,486	2.0	1,018,678
May.....	7.0	7,733,070	6.8	6,862,672
June.....	11.0	17,781,748	14.9	17,999,594
July.....	10.6	18,425,459	12.4	17,752,003
August.....	12.6	22,519,980	16.5	22,102,262
September.....	13.0	23,086,381	17.0	21,195,100
October.....	10.4	16,266,544	16.1	18,384,041
November.....	1.0	306,500	1.0	306,500
December.....	1.0	130,067	1.0	90,370
Total.....		1107,344,235		105,710,620

<sup>1</sup> Includes cards for Alaska, Hawaii, Porto Rico, and the Panama Canal Zone, which were run only through the first set of machines.

The cards rejected in the process of machine verification have to be examined and verified or corrected, and in some cases must be replaced by cards properly punched. This work, which was begun in April, was substantially completed in November. The force of clerks employed upon it averaged 250 in August, 445 in September and October, and 331 in November. The whole number of cards handled by this verification force was 16,882,355, of which number about 8,000,000 cards had to be repunched or discarded and replaced by others correctly punched.

*Sorting and tabulating.*—Following the verification the first step in the process of machine tabulation is the first sort of the cards, which groups them according to color or race, and for the white population according to nativity (native or foreign born) and parentage (parents native or foreign born). This was begun in August, 1920, and completed January 31, 1921. During the greater part of the time from 10 to 15 machines were operated on this sort.

Following the first sort, after a rearrangement of the cards by hand, is the first machine count, or tabulation, which gives figures for sex, color or race, nativity, and parentage, for school attendance and illiteracy by age groups, for dwellings and families, and for tenure of homes; these items being shown for every county, every city or other incorporated place of over 2,500 inhabitants, and every ward in any city of over 50,000 inhabitants. This count was begun in September, 1920, and completed by the end of February, 1921, from 17 to 21 machines being in use most of the time.

The second machine count is restricted to the foreign-born white population and gives their distribution by sex and country of birth. This count was begun December 6, 1920, and completed in February, 1921. It may be noted that these first two runs or counts give all the population detail that will be shown or will be available for counties and for small cities and villages, since in the later runs the arrangement of the cards by counties is lost and readings are taken only for the state, the larger cities individually, the smaller cities as a group, and the rest of the state or rural area.

The following tabular statement shows, by months, the number of cards handled and machines used on the first sort and the first and second counts:

Month, 1920-21.	First sort.		First count.		Second count.	
	Average number of machines.	Number of cards sorted.	Average number of machines.	Number of cards counted.	Average number of machines.	Number of cards counted.
June.....	2	4,235,342	.....	.....	.....	.....
July.....	2	5,500,924	.....	.....	.....	.....
August.....	4	7,380,153	.....	.....	.....	.....
September.....	5	10,824,096	1.0	465,017	.....	.....
October.....	10	27,815,154	3.0	4,101,830	.....	.....
November.....	15	55,844,886	17.1	24,758,897	.....	.....
December.....	13	51,142,303	20.8	41,597,053	2.7	1,337,375
January.....	13	51,525,166	19.0	31,804,500	7.3	9,905,658
February.....	.....	.....	4.3	4,594,080	2.6	3,291,850
Total.....	.....	214,258,029	.....	107,321,377	.....	14,534,883

The second machine sort is a sort by age, the cards being sorted by quinquennial age groups and to some extent by single years of age. This sort was begun in January, 1921, and completed in May.

The third machine count gives, for each class of the population, the distribution by single years of age, school attendance by single years from 5 to 20, and marital condition, illiteracy, and ability to speak English by quinquennial age groups, the totals being shown for States and for cities of over 25,000 population. This count was begun February 1, 1921, and completed June 14.

The fourth machine count covers the native population only and gives State or Territory of birth by color or race, and by parentage for the whites. This count was begun February 21, and at the close of the fiscal year 60,547,271 cards had been counted out of a total of 91,789,928.

The next step in the process of tabulation is the third machine sort, which is restricted to the foreign-born white population and groups it according to citizenship, distinguishing aliens, naturalized citizens, those who have taken out "first papers," and those for whom citizenship was not reported. This sort was begun April 22, 1921, and at the end of June 7,344,130 cards had been sorted out of a total of 13,712,754.

Following this is the fifth machine count, which gives, for the foreign-born population, citizenship, country of birth, and year of immigration to the United States. This count was begun in the latter part of March, 1921, and was still in progress at the close of the fiscal year.

The fourth machine sort and the sixth machine count, covering the foreign-born white and the native white of foreign or mixed parentage, give mother tongue and country of birth in correlation, the cards being sorted by mother tongue and counted by country of birth. The sort was begun in April and the count in June, and neither process, therefore, was very far advanced at the close of the fiscal year. When the sixth machine count is finished, which will probably be in October, the machine tabulation of the Fourteenth

Decennial Census of Population will be completed with the exception of the subject of occupations.

*The occupation data.*—The population schedule contains three columns of inquiries under the head "Occupation": (1) Trade, profession, or particular kind of work done; (2) industry, business, or establishment in which at work; (3) whether employer, salary or wage worker, or working on own account. The returns from the third inquiry, however, have not been tabulated, their chief value being found in the aid afforded by them in the classification of the replies to the first and second inquiries.

Of the various tabulations required in order to make the results of the population census available to the public, none is more elaborate than that of the occupation returns, the variety of occupations reported on the schedule being so great that their classification requires the use of a printed index comprehending about 20,000 occupational designations which, for purposes of tabulation, have to be arranged in 572 groups. The classification of the occupation returns required the employment of an average force of about 115 experienced clerks for 10 months, from July, 1920, until April, 1921.

At this census, for the first time, the occupation returns were punched on a special card distinct from the regular population card, on which they had been punched at previous censuses. The main purpose of this innovation was to expedite the work of completing the census by making it possible with separate cards to carry on the tabulation of occupations simultaneously with that of the other population data; and a very considerable advance in the date of publication will be effected in this way without any material increase of expense.

The punch card carries, in addition to the occupation data, all the facts as to sex, age, race, color, etc., reported on the population schedule except mother tongue and birthplace of parents. The work of punching the cards was begun in September, 1920, and practically completed in May, 1921. During the greater part of the time over 150 operatives were employed. The number of cards punched was 42,169,769, one for each person 10 years of age or over reported as having a gainful occupation.

The tabulation of the occupation cards comprises a machine verification—similar to that previously described for the regular population cards—one sort, and two counts, one of which is restricted to cities of from 25,000 to 100,000, while the other covers each State and each city of over 100,000. The sort is by occupation groups and involves the passage of the cards three times through the machines. At the close of the fiscal year the machine verification, commenced early in March, was about three-fifths completed; the sort, which was begun a little later, was about two-fifths completed; while the first count, that for cities of 25,000 to 100,000, was not much more than begun.

At the present time (Sept. 15) the sort has been completed, the count is well advanced, and there is every prospect that by the close of the present fiscal year the report on occupations will be in the hands of the printer, if it is not actually published. This result will be especially gratifying, because both in 1910 and in 1900 the occupation report was not issued until more than a year after the termination of the census period.

## CENSUS OF AGRICULTURE.

*Scope.*—The law provides that the schedules relating to agriculture shall carry inquiries as to the name, color, sex, and country of birth of operator of each farm; tenure; acreage of farm; acreage of woodland; value of farm and improvements and the encumbrances thereon; value of farm implements and machinery; number of live stock on farms, ranges, and elsewhere; and acreage and quantities of crops and quantities of other farm products. In order to obtain this information a very elaborate schedule is necessary; and the schedule adopted for this census, though less elaborate than the one used 10 years ago, provides spaces for more than 400 items. As a rule, however, only a small proportion of these spaces need to be filled in for any one farm.

A large part of the space on the schedule is required for the enumeration of farm products. The census distinguishes 13 different hay and forage crops; 19 grain and feed crops; 8 other field crops, including such important crops as potatoes, cotton, and tobacco; 11 varieties of vegetables; 16 fruit crops; and the sugar, nut, and miscellaneous crops not specifically mentioned on the schedule. In addition, there are the various dairy and meat products of the farm to be accounted for—the poultry and eggs; the milk, butter, and cheese; the pigs, lambs, and calves slaughtered, etc.

In most cases the information secured concerning each crop includes the acreage harvested, the quantity harvested, and the quantity sold and to be sold. At former censuses the value of the crop was also called for, but at this census that item of information has been omitted, the value of the crops having been estimated on the basis of average prices obtained from the Department of Agriculture.

A new subject of inquiry introduced at this census is that relating to farm facilities, questions being included as to the numbers of tractors, automobiles, and motor trucks on each farm, and whether the farm has a telephone, water piped into the house, or gas or electric light.

The number of farm schedules filled out at this census was 6,485,160, practically all of which had been received and edited by the close of August, 1920.

*Method of tabulating.*—For the first time in the history of the census the agricultural data have been completely tabulated by the use of punch cards and electrical tabulating machines. It is obvious that no single punch card can provide for all the items on the comprehensive farm schedule; and it was found necessary, in fact, to use 17 sets of cards, each covering a different portion of the schedule. In the aggregate, 142,649,804 cards were punched for the agricultural schedules, not including 1,317,836 cards which were punched for pure-bred live stock as a separate piece of work. The card punching for the general agricultural data, which was begun in March, 1920, had been completed by the following December.

The electrical tabulating machines used for the agricultural census differ essentially from those used in the population census, being designed to meet a different requirement. In one case it is necessary to count units, in the other to add numbers; therefore the machines used for the population census are essentially unit-counting machines, while most of those for the agricultural census are integrating (automatic adding) machines. Still, a certain amount of unit counting

(number of farms) is necessary in the agricultural census. Sorting machines are necessary in both branches of the census. While the tabulating and sorting machines used on the population census were manufactured by the Census Bureau, those used on the census of agriculture were leased. When the tabulating work was at its peak the Agricultural Division had in use 58 integrating tabulators, 5 unit-counting tabulators, and 69 sorting machines.

Of the 17 sets of cards which, as already explained, are required for recording completely the data on the agricultural schedule, some were run through sorting and tabulating machines several times. For example, set No. 1, giving farm acreage and farm value, underwent six sorts and eight tabulation runs; and, since most of the data on the schedules were tabulated by tenure and by size of farm, practically all the cards were sorted once by tenure and again by size. In all, taking as the unit the passage of one card once through one machine, the number of cards sorted was equivalent to 1,020,663,633 and the number run through the tabulating machines was equivalent to 259,974,674. The work of sorting and tabulating was in progress somewhat more than one year, having been begun in March, 1920, and completed in June, 1921. The force engaged on machine tabulation reached its maximum, 1,211, on September 14, 1920; and the average for the period from March 1 to December 31, 1920, was 770.

#### CENSUSES OF IRRIGATION AND DRAINAGE.

The scope of the census of agriculture, as defined by law, includes inquiries on irrigation and drainage. As regards the organization and conduct of the work these inquiries are, however, largely distinct from the main census of agriculture. The subject of irrigation was included in the decennial censuses of 1890, 1900, and 1910, but drainage is a new inquiry. The tabulation of the data for these two inquiries has been completed, and the results are being published in a series of bulletins covering those States in which irrigation or drainage enterprises were reported.

#### CENSUSES OF MANUFACTURES, MINES AND QUARRIES, AND FORESTRY AND FOREST PRODUCTS.

The censuses of manufactures, mines and quarries, and forestry and forest products involved the collection and tabulation of data for 331,459 establishments. The organization and the method of conducting the field work of the manufactures census are described in the report of the Director of the Census covering the last preceding fiscal year. This work was practically completed by the 1st of November, 1920, although a few agents were retained in the field until some time in December. The peak of the canvass was reached in June, when 1,207 persons were engaged on this work, including 1,002 local special agents, 191 clerks and special agents detailed from the Washington office, and 13 whose names were carried on the rolls of the United States Geological Survey but by a cooperative arrangement with that office were temporarily employed on census work. In all, 1,212 local special agents were appointed and entered on duty and 211 clerks and agents were detailed from Washington; but the entire number were not employed at any one time, and the services of about 200 of the local agents were limited to very

short periods. More than 200 persons who took the examination and were duly instructed and given appointments as local agents resigned without entering on duty, and many others resigned after a few days' employment. This, of course, caused the office considerable inconvenience and was a source of delay and expense. Nevertheless the time consumed in the canvass was not longer than it was at the census of 1910.

Originally about 472,000 schedules were received, the difference between this number and the number finally tabulated being due to duplications and the rejection of establishments which were found not to come within the scope of the census. Of the original number of schedules, 309,740 were filled out and returned by local special agents temporarily employed for this purpose or by permanent employees detailed to field work from this office, 137,000 were received by mail directly from the establishments, and 25,260 were filled out by the regular population enumerators, these last relating to more or less isolated establishments located at considerable distances from the industrial centers.

Each schedule as received has to be assigned to some one of the 667 classifications or subclassifications of industries distinguished in the census and must then be edited and reviewed for inaccuracies and inconsistencies. This work, which was begun February 24, 1920, required the employment of about 150 highly trained clerks for approximately 12 months.

*Method of tabulating.*—In the census of manufactures the tabulation of the data was for the first time made by the use of the punch card and electrical tabulating machines. To cover completely the data on the manufactures schedule for the purpose of tabulation, 12 sets of punch cards were necessary. The total number of cards punched was 4,214,929, of which 3,793,562 were for manufactures, 264,671 for mines and quarries, and 156,696 for forestry and forest products. The punching work was begun October 1, 1920, and completed June 16, 1921. The number of operatives employed on this work averaged about 44 and reached a maximum of 80. In the processes of sorting, tabulation, and verification the machine work will be equivalent to the passage of approximately 49,117,000 cards once through one machine. For manufactures, this will be accomplished in two sorts of all cards, five sorts of certain groups of cards, and four tabulation runs, comprising "States by industries," "States by counties," "cities within the States," and industrial zones, with a total equivalent to 47,545,000 cards. For mines and quarries there will be several runs with a total equivalent to 1,101,000 cards, and for lumber and timber products, one sort and one tabulation run of 471,000 cards. At the close of June 30 the equivalent of 16,008,316 cards had been tabulated and verified, comprising 15,087,052 for manufactures, 607,872 for mines and quarries, and 313,392 for lumber and timber products. During a part of the time a night force was employed, consisting of 15 operatives with two clerks to supervise the work.

The tabulation work is now (Sept. 15) about three-fourths completed.

#### CENSUS OF THE BLIND AND DEAF.

As explained in the Director's last annual report, the names and addresses of blind or deaf persons are reported by the enumerators in the population census, and schedules to be filled out are then mailed

from the Census Bureau to the persons so reported. It was to be expected—and was, in fact, inevitable—that in a considerable number of cases no responses would be received, owing to negligence or ignorance on the part of the persons addressed, or to changes of residence, or to deaths, or to errors in the addresses reported. But second and third requests were sent out in all cases where the previous request had elicited no response; and the canvass, which has now been terminated, is believed to have been as nearly complete as it was practicable to make it. The number of schedules received was approximately 49,000 for the blind and 47,000 for the deaf. The examination and editing of the schedules have been completed in the case of the blind and nearly completed in the case of the deaf. The cards have been punched for the blind and the tabulation begun.

#### THE MORTGAGE INQUIRY.

The items of information to be secured by the Fourteenth Census as defined by law include "tenure of home and the amount of encumbrance thereon." The subject of tenure has been covered in previous censuses to the extent of ascertaining whether the home was owned or rented, and if owned, whether encumbered; and in the case of owned farm homes which were mortgaged, the amount of the mortgage was called for by a question on the agricultural schedule. But as regards homes other than farm homes no inquiry since 1880 has been made regarding the encumbrance or amount of mortgage.

In order to secure this information as to encumbrance, the Bureau has sent out letters of inquiry to the owners of all homes, except farm homes, reported in the population census as mortgaged, asking for the value of the home, the amount of the mortgage or encumbrance thereon on the census date, the rate of interest, and the original amount of the mortgage. For farm homes the corresponding information is obtained from the agricultural schedules.

In all, 4,569,298 letters of inquiry were sent out. Replies have been received to 1,972,295, or about 43 per cent of the total number. Second and third requests were sent in all cases of failure to reply to the previous request; and the result is probably as nearly complete as can be obtained through a canvass by mail. We shall, therefore, have to rest content with data covering about 43 per cent of the total number of mortgaged homes exclusive of farm homes. The aggregate amount of mortgage indebtedness on all homes can, of course, be estimated on the basis of the average for those homes for which returns were secured.

The inclusion of the mortgage question on the population schedule would probably have secured no better results and would certainly have greatly delayed the progress of the census and endangered its success. Information of this kind can not be obtained in a hurried house-to-house canvass, conducted by untrained enumerators who address the questions to the wife of the head of the family, or a child, or a servant, or a landlady, or a lodger, or whoever happens to be at home. A successful canvass could doubtless be made by specially trained agents visiting all homes and taking all the time necessary to secure complete data. This, however, would be very expensive—prohibitively so, if it covered the entire United States. But a detailed and complete investigation of this sort, confined to a few typical localities, might be practicable and worth while.

## PUBLICATION OF RESULTS.

## PRELIMINARY FIGURES.

It has been the aim of the Bureau to publish the results of the census as promptly as possible, giving out preliminary figures, subject to revision, in advance of the final figures.

The first publication is through press summaries or announcements, usually mimeographed but sometimes printed, which are given out or mailed to editors, newspaper correspondents, Members of Congress, and others who may request them. A more general and effective use of this method of publishing results has been made at this census than ever before. The preliminary population figures, giving the total for each city, village, township, or other minor civil division, were announced by counties while the hand count of population was in progress and as rapidly as it was completed. The total for each city was published separately without waiting for the completion of the count for the county, and was later included in the county announcement. Thus during the period of about seven and one-half months from February 21 to October 5, 1920, the Bureau announced the population of 2,102 cities, towns, and villages and of 3,033 counties, showing also in most instances the population of every township or similar subdivision and every city or incorporated village or borough within the county.

The first announcement, made on February 21, 1920, was for the cities of Washington and Cincinnati. The preliminary figures given in this announcement, it may be noted, differ from the final figures by only 157 in the case of Washington and only 89 in the case of Cincinnati. In general, the difference between the preliminary and the final figures was not greater than in these instances.

Other announcements of population rapidly followed, and on October 7, 1920, the preliminary total for continental United States was announced as 105,683,108. An announcement made December 17, then considered as final, gave a total of 105,708,771. Two or three slight changes, however, were made later to correct omissions not previously discovered, with the result that the actual final figure was 105,710,620. Adding to this the population of Alaska, Hawaii, Porto Rico, Guam, American Samoa, and the Panama Canal Zone, and the number of Americans stationed abroad in the military, naval, Red Cross, and consular services, gives, as the total population enumerated at the Fourteenth Census, 107,482,804; and adding also the population of the Philippine Islands as enumerated in 1918 (10,350,640) and of the Virgin Islands as enumerated in 1917 (26,051) gives a grand total, for the United States and its possessions, of 117,859,495.

The preliminary announcements for cities and counties were mailed to the local officials, thus affording them an opportunity to make complaint if they believed the census to have been incomplete. As explained in the Director's annual report for 1919-20 there were, in fact, a large number of cases in which cities and towns were dissatisfied with the census figures and filed protests alleging inaccuracies. It was proved on investigation, however, that only a very few of

these protests were justified. In most cases these complaints represented simply the disappointment of ambitious cities and towns because the census did not credit them with as large a population as they had been claiming. Census returns are never satisfactory to the "booster" element.

As the announcement of the population had to wait for the completion of the hand count, several weeks or even months elapsed in some cases between the date of the enumeration and the date of the announcement, with the result that numerous changes took place in the interval, many persons having become residents of a particular city after the date of the census, while many others had died or moved away. Such changes greatly increased the difficulties of checking up the census returns. It is believed that at another census a decided improvement can be effected by having the local supervisors announce the population as soon as the enumeration is practically complete. The figures would, of course, be subject to change, but as a rule they would be a very close approximation to the final correct total; and if there were any local dissatisfaction with the results, the matter could be investigated at once by the supervisor and his assistants. As it is, under the present arrangement, the supervisor may have completed his work and disbanded his office force before the population is announced, in which case if an investigation is necessary a special agent or representative has to be sent from the Washington office. Another advantage of this change would be that the results of the census, so far as population is concerned, would become known much earlier than is the case at present. Furthermore, it is believed that the practice of having the supervisor announce the population would act as an incentive for him to do his work thoroughly and to complete it promptly.

Besides the announcements of total population, other series of press announcements covering race, sex, nativity, country of birth for the foreign-born white, illiteracy, age, occupational classes, number of farms, farm acreage, farm values, crops, domestic animals, number of manufacturing establishments, number of wage earners employed, cost of principal materials, value of products, and other subjects, were issued from time to time as rapidly as the tabulation of the data permitted.

#### FINAL FIGURES.

*Bulletins.*—In the final and permanent census publications, most of the statistics are first issued in bulletins, which are later bound together to form volumes of the final reports. The scheme of publication at this census provides for six series of State bulletins, comprising two for population, one for agriculture, one for manufactures, one for drainage, and one for irrigation.

The first series of population State bulletins gives the number of inhabitants by States, counties, cities, townships, or other municipalities or minor civil divisions, without classification according to sex, race, age, etc. The first bulletin in this series, that for Porto Rico, was issued in May, 1920, and the series was completed in April, 1921, about six months earlier than the date of completion for the corresponding series at the census of 1910.

The second series of population State bulletins, entitled "Composition and Characteristics of the Population," classifies the population by sex, broad age groups, race, and nativity, and gives statistics as to country of birth for the foreign-born white, illiteracy, school attendance, number of dwellings, and number of families, the figures being shown for all counties and all cities of over 25,000 population, and in less detail for all cities of from 2,500 to 25,000. The first bulletin in this series, that for Delaware, was issued on April 27, 1921, and the number published up to the present time (Sept. 15, 1921) is 26.

The State bulletins for agriculture present statistics for counties covering number of farms; acreage; value of farm property; farm animals; value, acreage, and production of crops; mortgage debt; and expenditures for labor, fertilizer, and feed. Altogether approximately 300 items are shown for every county in the United States, some variation in the number naturally resulting from the fact that not all varieties of crops are represented in every county. On the subjects which these tables cover the Bureau does not contemplate publishing any further details for either States or counties, and, therefore, so far as the subjects in question are concerned—and they constitute the main part of the agricultural census—the statistics will all be published as soon as this series of bulletins is completed. The first bulletin, that for New Hampshire, appeared on September 22, 1920, and up to this date (Sept. 15) 41 bulletins in this series have been published.

The State bulletins for manufactures give totals for the States and for the principal cities by industries, and in the case of cities of 10,000 to 50,000 population, for all industries combined, covering substantially all the topics coming within the scope of the census of manufactures, including capital, wage earners and other employees, principal expenses, value—and in some cases quantity—of products, power used, and fuel consumed. The first bulletin in this series appeared in April, 1921, and up to date (Sept. 15) 16 have been published.

A series of industry bulletins is also issued in connection with the census of manufactures, each giving all the figures for a particular industry, covering the entire United States by States and cities.

Of the series of State bulletins on irrigation, which will cover 19 States, 14 have been issued thus far; and of the series on drainage, covering 29 States, the number issued to date is 13.

*Bound volumes.*—The final reports of the Fourteenth Census, according to the present plan, will comprise 12 quarto volumes—4 volumes for population, 3 for agriculture, 1 for irrigation and drainage, 3 for manufactures, and 1 for mines and quarries. An octavo abstract will also be prepared.

The plan of these reports is similar to that adopted for the Thirteenth Census publications, although differing therefrom in some important particulars. Broadly speaking, it embraces two methods of assembling and presenting the statistics—one by States and the other by subjects.

The first volume, giving the population by States, counties, cities, townships, etc., and the total urban and rural population of each State and county, has already been published. This volume presents all the statistics contained in the first series of population bulletins, together with explanatory text, summary tables, and maps and

diagrams. Of the other volumes, four will consist essentially of State bulletins bound together, and each of these will therefore be ready for publication very soon after the corresponding series of bulletins is complete. The presentation by subjects will comprise one volume on population, one on occupations, one on agriculture, one on irrigation and drainage, two on manufactures, and one on mines and quarries.

#### SPECIAL STUDIES.

The reports of the Fourteenth Census, as planned, will contain only a very small amount of text, hardly more than will be necessary to explain the terms used and to prevent misunderstanding of the figures. This reduction in the amount of the text, which was decided upon after due consideration of the question in consultation with the Advisory Committee, will expedite the completion of the reports, and will not, it is believed, appreciably lessen their usefulness, because the usual census text, being hastily prepared in the rush of getting out the reports, is almost unavoidably perfunctory, having little value as an interpretation of the statistics or as throwing light upon their significance—hardly doing more, in fact, than repeat figures from the tables. Nevertheless, census statistics need to be interpreted, or, at any rate, studied and analyzed to make their meaning and significance clear. What do the census figures show? What do they mean? They should be studied in relation to economic and social questions, on which, properly interpreted, they may throw much light. Few people have the leisure and at the same time the ability to study the census tables carefully and to reach correct conclusions regarding their significance. In the press and on the platform census statistics are quite commonly misapplied or misinterpreted, sometimes willfully, but more often through carelessness or ignorance.

Believing that there thus exist a great opportunity and a great need for the adequate analysis and interpretation of census figures and their application to the live questions of the day, the Bureau, acting upon the earnest recommendation of the advisory committee, plans to prepare and publish, after the close of the decennial census period (June 30, 1922), a series of interpretative special studies or monographs on various subjects within the scope of the census; and I believe that this project, if it can be successfully carried out so as to realize or approach the standard of excellence which we hope to attain, will greatly increase the value and utility of the census to the public.

ANNUAL AND OTHER INQUIRIES NOT CONNECTED WITH THE  
DECENNIAL CENSUS.

## VITAL STATISTICS.

For more than 20 years the Bureau has been fostering the adoption by State governments of an approved law for the registration of births and deaths. As rapidly as the States enact this law and give satisfactory evidence of adequate enforcement of its provisions, they are included in the Federal registration area. Largely through the efforts of the Bureau, this area has been extended from year to year until for deaths it now contains 82.2 per cent of the population of the entire country, and for births 65.1 per cent. Since the last annual report of this Bureau was issued the State of Nebraska has been added to the registration area for deaths, making a total of 34 States, and Mississippi, Nebraska, and New Jersey have been added to the birth-registration area, making a total of 26 States. Each area includes also the District of Columbia, and the death-registration area includes Hawaii and 17 cities in nonregistration States.

The collection of vital statistics is one of the most important of the Bureau's regular annual investigations, and notwithstanding the great mass of work involved in the decennial census it has been carried on without interruption during the census period. It is hoped that through the instrumentality of the Bureau all the States will eventually adopt the model law for the registration of births and deaths and will provide proper machinery for its enforcement.

The Bureau has published 20 annual reports giving detailed statistics of deaths, 5 annual reports containing detailed statistics of births, and a volume of Life Tables showing expectation of life and other data for the population of certain States. In addition, it has completed the copy for a second volume of Life Tables, which will comprise the original tables, together with tables for foreign countries and a detailed explanation of the methods employed in computing the American tables. The Bureau also publishes the Weekly Health Index, which shows the total number of deaths, number of deaths of infants, and the infant-mortality rate for 66 large cities in the death-registration area.

On the basis of the occupation data obtained by the population census, a bulletin is being prepared which will show death rates by occupations, including for comparison certain rates for 1900 and 1910.

## FINANCIAL STATISTICS OF STATES AND CITIES.

Because of the heavy demands upon the resources of the Bureau in connection with the work of the decennial census, the regular annual compilation of statistics for the financial transactions of States and cities was omitted in 1920 and no report published for that year, but the work has now been resumed and data are being collected for the fiscal year 1921.

The compilation of "official" statistics of cities by the Commissioner of Labor was authorized by act of Congress in 1898; and in 1903 this work was transferred to the Bureau of the Census. It has been the practice to have special agents visit each State and city

and compile these statistics from the books of the auditors, tax collectors, and other financial officers, although when the act authorizing this inquiry was passed it seems to have been the expectation that the data could be compiled or abstracted from the published reports of city departments. But this was found impracticable because of the lack of uniformity in the reports and in many cases the lack of any reports whatever.

In the act of 1898 there is no special mention of financial statistics as distinguished from other official statistics, but the regular annual report for many years has been restricted to financial statistics, other official statistics having been collected only occasionally.

This work has now been carried on by the Bureau for about 18 years, and 23 detailed annual reports have been published. They cover the annual financial transactions of all States and of all cities with a population of 30,000 or over. The cities find that the reports are of great value to them, being of special assistance in the detection of antiquated methods and extravagant practices, and the statistics have been used extensively in the discussion of systems of taxation and have been of value in promoting the adoption of improved methods of accounting.

The financial statistics being of such value to the cities, it would seem fair that the cities should bear at least a part of the expense of the preparation of the reports; and acting on your instructions, a radical change has been made in the organization of this work by arranging to have the cities furnish the data, thus effecting a considerable saving in the annual expenditures of the Bureau. The matter has been taken up with the city officials and they have been asked to fill out the schedules, which, in order to lessen the difficulties of the task, have been made much less elaborate than they have been heretofore. The compilation and publication of the data so collected will be carried on by the Census Bureau, and while the statistics will be less detailed than formerly, it is believed that their value will not be greatly impaired. Many of the city officials have expressed their willingness to furnish the returns; and those cities that do not attach sufficient importance to the statistics to justify them in supplying the data will be omitted from the report. While such omissions will be unfortunate, I feel that the cities alone will be responsible, as the reports are primarily for their benefit.

The annual expenditures for the field work on this inquiry now amount to about \$50,000. The cities have had ample time to adopt a standard classification of revenues and expenditures as recommended by the Bureau; and I am informed that there is no difference of opinion about the desirability of the adoption of such a classification. Its adoption and the prompt response of the cities to the request of the Bureau for annual reports will insure the continuance of these valuable publications.

#### LEATHER STATISTICS.

An act of Congress approved June 5, 1920, authorizes and directs the Director of the Census to compile and publish monthly statistics of hides, skins, and leather.

The Bureau had previously been collecting, as a part of the comprehensive census of war commodities, quarterly statistics on stocks

of leather and leather goods, but this inquiry was discontinued after June 30, 1919. The first collection of statistics under the above-mentioned act of June 5, 1920, covered the month of September, 1920, and statistics have been compiled and reports issued monthly since then.

There has been a great demand for these statistics, not only by persons immediately connected with the industry but by individuals and industrial organizations outside the trade. The report of June 1, 1921, issued under date of July 8, related to the production and consumption of leather during May and the stocks of hides, skins, and leather on hand and in transit on May 31. These figures were compiled from returns made by 4,617 establishments, distributed as follows: Three hundred and fifty-four packers, 541 tanners, 1,288 dealers and importers, 888 shoe manufacturers, 211 glove manufacturers, and 1,335 manufacturers of other goods.

In view of this great amount of detail required to comply with the provisions of the act of June 5, I question the desirability of collecting these statistics at so frequent intervals. It is imposing a considerable burden on the industry to ask nearly 5,000 concerns to make monthly reports on the schedule for hides, skins, and leather; and it is no small task for this Bureau to handle that number of schedules and compile the data for publication. I believe that all practical purposes would be served if the reports were compiled quarterly, and that the scope of the census might be restricted without detracting from its value. Of course, a change in the period of compilation would require an amendment of the law. In the meantime, however, a revised schedule carrying much less detail than the form now used would result in obtaining more prompt returns and would also expedite the tabulating of the data; and a conference is to be held at an early date with representatives of the various industries involved, at which the subject of a simplified schedule will be discussed.

#### OTHER ANNUAL INQUIRIES.

The usual compilations of statistics of cotton and cottonseed, stocks of leaf tobacco, fats and oils, and active and idle wool machinery have been carried on during the past year without any material changes. The scope and nature of these inquiries have been fully described in the previous annual reports of the Director of the Census.

#### OFFICIAL REGISTER.

Work on the Official Register, which under the law must be published by December 1 of this year, was started early in June, and about 300,000 schedules, in card form, for collecting the required data as to position, compensation, birthplace, etc., of the Government employees, were distributed among the several bureaus and offices of the Federal Government. Most of these cards have now been returned, and a force of about 12 clerks is engaged in editing them and preparing copy for the printer.

The discontinuance of this biennial publication has been recommended in each annual report of the Director of the Census beginning with that for 1915, for reasons which seem to me valid. I have accordingly renewed this recommendation in the present report. (See "Recommendations for Changes in Census Laws and Methods.")

The Fourteenth Census act makes provision for a biennial collection of statistics of the products of manufacturing industries, to cover the years 1921, 1923, etc. The first census of this kind, therefore, must relate to the current calendar year, and the work of collecting the data must be begun soon after January 1, 1922. Plans for this new undertaking are being carefully considered and discussed. With a view to enlisting the interest and cooperation of manufacturers, meeting as far as possible their needs, and securing the benefit of their opinion and advice, the Bureau has corresponded with the officers of manufacturers' associations, and on August 18 a conference of representatives of various manufacturing interests was held here in Washington to consider the subject of the census.

It is a question mainly of the scope of this inquiry, first, as regards the topics to be included, and second, as regards the class of concerns to be canvassed. The law specifies "the products of manufacturing industries" as the subject matter. There seems to be, however, a very general desire among the representatives of the manufacturing interests to include other subjects, such as capital, number of wage earners, cost of principal materials, and motive power; and a tentative schedule of inquiries which has been prepared and is being circulated for criticism and suggestions covers these subjects. If thus broadened, the proposed census will approach in scope and magnitude the regular census of manufactures, which heretofore has been taken every fifth year and is an undertaking requiring nearly two years for completion and costing about \$2,000,000. It is a question in my mind whether a census of such scope and character should be taken oftener than every fifth year, and whether it would not be better to limit the biennial inquiry to the one subject of products mentioned in the law, thereby insuring a more prompt publication of the results and a material reduction in cost as compared with a comprehensive census of manufactures. Looking to the future, if this biennial inquiry can be made comparatively simple, easy of execution, and reasonably expeditious as regards the compilation and publication of the results, it might be feasible ultimately to make it an annual inquiry. We should then have a census of production taken annually and supplemented by a complete census of manufactures every fifth year. This, I believe, would be an approach to the ideal.

So far as possible the results of a census of production should be expressed in units of quantity. Value is obviously unsatisfactory as a measure of growth, or basis of comparison between different years or periods. The increase of nearly 150 per cent in the total value of products between 1914 and 1919, as shown by the manufactures census of 1920, does not, of course, represent any corresponding increase in the volume of production. So far as these value figures are concerned, the actual increase of production is anybody's guess, the question being one which the census has not answered. But an increase of 28 per cent in the number of tons of pig iron produced, for example, is tangible and definite. Unfortunately, for statistical purposes, measurement by units of quantity can not be applied in all lines of industry, but is applicable only where a product is standardized and the variety of products is not too great. It is, moreover, impossible to express aggregate production, or the

total for all industries, or even for more than one industry, in terms of quantity, for the obvious reason that units of one product can not be added to units of another—the number of pairs of shoes can not be added to the number of automobiles. For purposes of summation, therefore, resort must be had to the value of products, expressed in dollar units.

#### MONTHLY SURVEY OF CURRENT BUSINESS.

An average force of about 10 clerks in this Bureau is now employed on the compilation of statistics and preparation of copy for the monthly Survey of Current Business. This publication, which was inaugurated upon your initiative as Secretary of Commerce and has been carried out along the lines which you planned, has attracted much attention and has been received with general approval by the business world.

It is a publication in which statistics that were already being gathered independently by various Government bureaus and trade organizations or publications have been brought together, systematized, and reduced to a common denominator by the use of index numbers, so as to indicate on a comparable basis the movement of different lines of business or commercial activity from month to month. Part of the data incorporated in this publication are, however, obtained by the Census Bureau directly from the manufacturing industries, and this collection of original or first-hand data may be extended as time goes on to include more of the basic or key industries of the country.

This monthly report covers much the same field as the biennial census of production which, as explained elsewhere (see p. 23), will be inaugurated next year. Looking to the future, it would seem that these two undertakings might advantageously be combined or so related as to furnish a continuous current index of production supplemented by more comprehensive annual censuses.

In the meantime the monthly Survey is an effective and economical utilization of available data. Every effort will be made to advance the date of its publication, and in the future the sale of copies at a small price, as proposed, will probably fully reimburse the Government for the cost of production.

#### PRESERVATION OF RECORDS.

A fire in the Department of Commerce Building destroyed a portion of the census records, and a large part of these records are still stored in nonfireproof buildings. Their destruction, especially if it included the schedules of a census not yet completed, would result in a loss of many millions to the Government—one that it would be impossible to replace. The loss of the schedules of previous censuses can not, of course, be measured in terms of money, but in view of their value as historical records it would be a great and irreparable misfortune. A hall of records in which these documents can be stored and conveniently examined is most urgently needed. At present a large portion of the census schedules are stored where they are inaccessible and in addition are exposed to the danger of fire.

The census schedules contain a vast amount of unpublished information that is of great value in studying the agricultural, industrial, and social conditions in various States and cities. The State

governments of New York, Pennsylvania, and Arkansas, as well as the governments of some of our important cities, have at different times maintained corps of clerks in the Bureau to copy special material from these records. The Secretary of Agriculture has requested me to make a number of special tabulations and to furnish other material that will be of great assistance in the conduct of the various investigations of agricultural conditions now in progress in his department. The Bureau of Internal Revenue, the Bureau of Pensions, and other Federal offices are constantly calling on the Census Bureau for information from its schedules; and individuals and societies interested in genealogical and other research work are frequently requesting information contained in the returns of the earlier censuses. To satisfy these demands a corps of clerks is continually employed in searching the records.

At the same time the accumulation of papers which have very little or no probable value should be avoided; and the Bureau, endeavoring to carry out this policy with due discrimination, obtained from Congress authority for the destruction of the agricultural schedules of the census of 1910. Accordingly, in the last fiscal year, these schedules, weighing approximately 100 tons, were sent to the Government Printing Office, where they were mutilated and sold as waste paper.

#### APPORTIONMENT OF REPRESENTATIVES.

The enumeration of the population for the purpose of establishing the number of Representatives each State shall have in Congress is the main purpose of the census referred to in the Constitution. The State totals for use as a basis for the apportionment were furnished to Congress in ample time to meet all its requirements. The Census Bureau also assisted the committees of the Senate and House of Representatives in formulating various methods of apportionment that could be used and in preparing apportionment tables. Two apportionment bills have been introduced by the Census Committee of the House. The first, which was introduced in the Sixty-sixth Congress but failed of enactment, fixed the number of Representatives at 483. The second, recently introduced at the special session of the Sixty-seventh Congress, provides for 460.

#### CENSUS ADVISORY COMMITTEE.

I take this occasion to express my appreciation of the valuable assistance I have received from the Census Advisory Committee,<sup>1</sup> which was established about three years ago as representing the American Economic and American Statistical Associations. The committee held several meetings in Washington during the last fiscal year, and has always promptly responded to every request for conference and counsel. Its activities have not been confined to census matters, but by your invitation have been extended to cover questions of broader scope relative to the work of the department.

At the request of Senator Sutherland, chairman of the Senate Committee on the Census in the last (Sixty-sixth) Congress, the Advisory Committee investigated the question of the proper method of apportioning representatives among the States and submitted a report thereon.

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<sup>1</sup> This committee consists of Mr. W. S. Rossiter (chairman), Mr. Edwin F. Gay, Dr. Wesley C. Mitchell, and Profs. Walter F. Willcox, Edwin R. A. Seligman, Carroll W. Doten, and Allyn A. Young.

## OFFICE FORCE.

## NUMBER OF EMPLOYEES.

The Bureau's statutory office force at the beginning of the decennial census period, July 1, 1919, numbered 609. By August 31, 1920, through the appointment of temporary employees, as authorized under the Fourteenth Census act, the total office force in Washington had been expanded to a maximum of 6,301. Since that date it has been gradually reduced, following the completion of certain branches of the work, the number of employees on the rolls on December 31, 1920, being 3,076, and on June 30, 1921, the close of the fiscal year, 2,388.

The following statement gives the number of employees in Washington on the rolls on July 1, 1919, at the beginning of the census period, and the number on the last day of each month from that date until the close of the last fiscal year:

Month, 1919-20.		Number.	Month, 1920-21.		Number.
July 1, 1919.....		609	End of—		
End of—			July.....		6,131
July.....		851	August (maximum).....		6,301
August.....		968	September.....		5,204
September.....		1,186	October.....		4,722
October.....		1,281	November.....		3,876
November.....		1,292	December.....		3,076
December.....		1,324	January.....		3,005
January.....		1,751	February.....		2,969
February.....		2,570	March.....		2,830
March.....		3,499	April.....		2,636
April.....		3,844	May.....		2,512
May.....		5,222	June.....		2,388
June.....		6,152			

At the present time (Sept. 15) the total force is about 2,100. Within the next 9½ months, or by the 1st of July, 1922, it will have to be reduced to about 925.

The total number of appointments, including reappointments in cases where the terms of the original appointments had expired, from the beginning of the census period to July 1, 1921, was 13,852, of which number 5,038 were appointments of clerks, 8,491 of machine operatives, and 323 of subclerical employees.

The following table shows the appointments in detail from July 1, 1919, to June 30, 1921, inclusive:

Class of appointment.	Total.	Clerks.	Operatives.	Sub-clerical.
Probational (having permanent status).....	988	850	13	125
Reinstatements.....	75	67		8
Transfers from other bureaus or departments.....	72	51		22
Census period only.....	1,404	1,479	13	2
Limited (1, 2, 3, or 6 months, including reappointments).....	8,881	2,518	6,201	162
7-hour night force.....	1,513	73	1,436	4
4-hour night force.....	828		828	
Total.....	13,852	5,038	8,491	323

In accordance with the provision of law giving preference in appointment to persons honorably discharged from the military or naval service, the Bureau appointed on its office force during the first two years of the census period 683 persons entitled to such preference and offered appointment to 467 other eligibles, of whom 150 declined and the remainder, 317, failed to respond.

## SEPARATIONS.

The total number of persons separated from the force during the last fiscal year was 5,712. Of this number, 2,848 resigned, 1,503 were dropped because of the necessity of reducing the force and 857 for other reasons, 28 were transferred to other bureaus, and 476 held limited appointments which expired. Of the total number of employees affected, 4,016 were machine operatives.

During the preceding fiscal year there had been 1,805 separations, making the total for the two years from July 1, 1919, to June 30, 1921, 7,517.

## PROMOTIONS AND DEMOTIONS.

In order to stabilize the force and maintain its morale, it was deemed advisable to give relatively frequent promotions to employees who entered on duty at \$900 or \$960 per annum and whose services proved satisfactory. These promotions ranged from \$60 to \$180 per annum and were based upon the relative efficiency of the employees in the various salary classes and the nature of the work upon which they were engaged. During the fiscal year 1921 the Bureau authorized 7,752 promotions and 1,227 demotions, and during the two-year period begun July 1, 1919, a total of 12,628 promotions and 1,389 demotions were made. Most of the demotions were due merely to the semimonthly readjustments of the pay of machine operatives.

In order to enable the Bureau to utilize the services of the more efficient machine operatives on other work after the completion of the machine work, the Civil Service Commission, upon recommendation of the Bureau, held a first-grade promotion examination to which all operatives desiring to compete were admitted. Of the 300 eligibles certified from this examination, 274 were selected and promoted to clerical positions.

## SPECIAL AGENTS.

In addition to the office force described above, 2,477 special agents were appointed between July 1, 1919, and June 30, 1921, most of them for field work. Of this number, 1,212 were appointed as local agents for the collection of statistics of manufactures and 338 were appointed for the collection of cotton statistics. Most of the manufactures agents and all the cotton agents were residents of the localities in which employed.

A detailed statement showing the distribution, by grades and classes, of the Bureau's force on June 30, 1921, is given in Appendix I.

## QUARTERS.

In April, 1921, the Division of Vital Statistics was moved from the Commerce Building to Building D. At the close of the fiscal year all branches of the Bureau of the Census were housed in Building D except the Division of Manufactures, the mechanical laboratory, and a small section of the Geographer's Division. Since then a part of the Division of Manufactures has been moved to that building and arrangements have been made for moving the mechanical laboratory.

In accordance with instructions from the Public Building Commission, 14,689 square feet of floor space in Building D was turned over to the General Supply Committee and approximately 1,800 square feet to the Congressional Joint Commission on Reclassification of Salaries.

Because of the fire which occurred in the Commerce Building in January of this year, it was necessary to move the 1890 population schedules from the basement of that building to Building D. This work was especially difficult because a large number of the schedules were burned or water-soaked, and the covers of many were broken.

#### MECHANICAL LABORATORY.

During the year the force of the mechanical laboratory has been engaged on the maintenance of the 35 automatic tabulators, 26 sorting machines, and 3 card counters in use in the Divisions of Population and Vital Statistics.

Work on the development of an integrating counter, which was suspended early in 1919 in order to release the force for the work of constructing and maintaining the pantograph punches used in the population census, has now been resumed. The integrating counter, it may be explained, is one that will add numbers instead of units only, thus providing a type of machine greatly needed for the work of this Bureau. Machines of this type have heretofore been leased.

#### PUBLICATIONS ISSUED.

A list of the publications issued during the fiscal year and since its close is given in Appendix II. In addition, a considerable number of multigraphed or mimeographed reports and thousands of press summaries have been published.

#### ESTIMATES AND APPROPRIATIONS.

The estimate for taking the Fourteenth Decennial Census and for carrying on the annual and other investigations of the Bureau for the three-year census period ending June 30, 1922, was \$23,765,000. Congress appropriated \$15,000,000 in the legislative, executive, and judicial act approved March 1, 1919, \$2,550,000 in the urgent deficiency act approved March 16, 1920, \$5,000,000 in the legislative, executive, and judicial appropriation act approved May 29, 1920, and \$1,000,000 in the legislative, executive, and judicial act approved March 3, 1921, making a total of \$23,550,000.

The deficiency act approved June 16, 1921, transferred \$250,000 of the appropriation made on March 3, 1921, to the Bureau of Standards, and the Census Bureau has authorized the Director of the Budget to transfer \$400,000 to the general reserve fund. These items make a total of \$650,000 of the appropriations that the Bureau will not use, leaving a balance of \$22,900,000 to carry on its work during the Fourteenth Decennial Census period, July 1, 1919, to June 30, 1922.

The estimates for the fiscal year ending June 30, 1923, amount to \$2,263,490, exclusive of contingent expenses and printing, which will be paid from the appropriations for the Department of Commerce. This amount is in excess of the appropriations for previous years

during the intercensal periods. The increase is necessitated principally by the provision in the Fourteenth Census act, approved March 3, 1919, for a biennial census of manufactures; by the act of June 5, 1920, which directs the monthly collection of statistics of hides, skins, and leather; and by the growth of the annual investigations.

Following is the Bureau's financial statement for the fiscal years 1920 and 1921; and in Appendix III are presented two tables giving the cost of the enumeration, in one case by states and in the other by supervisors' districts.

## FINANCIAL STATEMENT, FISCAL YEARS 1920 AND 1921.

Division.	Expenditures.		
	Fiscal year ended June 30, 1920.	Fiscal year ended June 30, 1921.	Total.
Director's, Assistant Director's, and Chief Clerk's offices.....	883,668.71	889,943.33	1,773,612.04
Appointments.....	34,186.29	32,786.01	66,972.30
Printing.....	54,111.23	56,425.06	110,536.29
Geographer's.....	129,583.99	248,663.13	378,247.12
Revision and results.....	45,031.88	59,086.13	104,118.01
Total.....	311,885.10	486,903.66	808,788.76
Enumeration:			
Continental United States—			
Supervisors and field and assistants to supervisors salaries and traveling and miscellaneous expenses.....	1,389,904.49	251,650.38	1,641,554.87
Enumerators' salaries and traveling expenses.....	7,403,772.95	214,012.06	7,617,815.01
Total continental United States.....	8,793,677.44	465,662.44	9,259,339.88
Outlying possessions—			
Alaska.....	25,899.37	23,531.38	49,430.75
Hawaii.....	31,759.66	238.16	31,997.82
Porto Rico.....	126,971.35	219.50	127,190.85
Guam.....		1,230.00	1,230.00
Samoa.....	150.00		150.00
Caribbean.....		838.00	838.00
Total outlying possessions.....	188,083.38	25,069.04	213,152.42
Grand total.....	8,981,760.82	491,732.48	9,473,493.30
Population, including mechanical laboratory:			
Office.....	813,849.77	2,069,131.59	2,882,981.36
Agriculture:			
Office.....	467,383.84	1,023,537.71	1,490,921.55
Irrigation and drainage:			
Office.....	38,035.45	51,953.16	89,988.61
Field.....	29,894.52	77,507.89	107,402.41
Total.....	67,929.97	129,461.05	197,391.02
Manufactures:			
Office.....	393,054.82	521,559.10	914,613.92
Field.....	398,908.55	602,011.16	1,000,919.71
Total.....	791,963.37	1,123,570.26	1,915,533.63
Vital statistics:			
Office.....	115,385.88	132,746.18	248,132.06
Field.....	69,049.08	86,267.68	155,316.76
Total.....	184,434.96	219,013.86	403,448.82
Statistics of States and Cities:			
Office.....	35,408.45	22,023.72	57,432.17
Field.....	35,926.44	9,115.35	45,041.79
Total.....	71,334.89	31,139.07	102,473.96

## FINANCIAL STATEMENT, FISCAL YEARS 1920 AND 1921—Continued.

Division.	Expenditures.		
	Fiscal year ended June 30, 1920.	Fiscal year ended June 30, 1921.	Total.
Cotton and tobacco:			
Office.....	\$45,724.94	\$44,812.72	\$90,537.66
Field.....	230,994.88	237,392.68	468,387.56
Total.....	276,719.82	282,175.40	558,895.22
Miscellaneous divisions:			
Office.....		1,733.45	1,733.45
Field.....	1,000.72	2,373.48	3,374.20
Total.....	1,000.72	4,142.93	5,242.95
General expenses:			
Equipment, stationery, etc.....	345,930.19	191,205.20	537,144.39
Rent and purchase of tabulating machines and purchase of cards.....	172,629.75	114,649.27	287,279.02
Total.....	518,569.94	305,854.47	824,424.41
Printing.....	360,948.38	253,919.25	614,867.63
Integrating counter.....	2,272.04	667.04	2,939.08
Compiling records for Committee on Ways and Means.....		76,728.58	76,728.58
Monthly reports on production, prices, and stocks.....		1,841.73	1,841.73
Details to Department of Commerce.....		3,147.02	3,147.02
Amount transferred to civil-service retirement and disability fund.....		62,500.00	62,500.00
Grand total.....	\$12,941,151.62	\$6,688,516.10	19,629,667.72

<sup>1</sup> Includes pay rolls for June 16-30, 1920, amounting to \$223,863.54, not entered on books of disbursing office on June 30, 1920.

<sup>2</sup> Includes pay rolls for June 16-30, 1921, amounting to \$124,538.75, not entered on books of disbursing office on June 30, 1921.

*Appropriations.*

Total appropriations for the Fourteenth Decennial Census period—		
July 1, 1919, to June 30, 1922.....		\$23,550,000.00
Repayments to the appropriations, recoveries, etc.....		10,566.59
Total.....		23,560,566.59
Expenditures, July 1, 1919, to June 30, 1921.....	\$19,629,667.72	
Amount transferred to general reserve.....	400,000.00	
Amount transferred to Bureau of Standards by defi- ciency act approved June 16, 1921.....	250,000.00	
Total.....		20,279,667.72
Balance available for fiscal year ending June 30, 1922.....		3,280,898.87

## RECOMMENDATIONS FOR CHANGES IN CENSUS LAWS AND METHODS.

## DATE OF THE CENSUS.

I am of the opinion that, so far as the statistics of population are concerned, it was a mistake to advance the date of the enumeration from April 15 (the Thirteenth Census date) to January 1. This change in the law was made at the request of the Department of Agriculture and of the various interests making use of agricultural statistics, the idea being that more nearly accurate statistics could be obtained concerning farm activities if the canvasses were made shortly after the end of the year to which it related. The weather during January, however, is likely to be a serious handicap to the enumerators. It was especially severe in 1920, and in many instances it delayed the work and necessitated unusual precautions to insure a complete canvass.

## ANNOUNCEMENT OF POPULATION.

In the section "Publication of results" I have given my reasons for believing that it will be advisable at future censuses to have the supervisors announce the population for their districts as soon as their work is completed, instead of waiting, as is the present practice, until the schedules have been examined and checked and the names counted here in Washington.

## MID-DECENNIAL ENUMERATION.

There was such a shifting of the population just prior to and following the census date that there has been considerable dissatisfaction with the result of the count. It has frequently been contended that the distribution of the population as shown by the reports of the Fourteenth Census is abnormal; that prior to the enumeration there was a great movement from rural to urban districts which since the enumeration has been neutralized in large measure by a reverse movement; and that this shifting of the population affected the totals for certain States, thus influencing the apportionment of representatives in Congress. The Census Committee of the House is now considering the introduction of a bill providing for another enumeration of the population in 1925 or some other year prior to the next decennial census. This proposed legislation has my approval.

## OFFICIAL REGISTER.

Since 1907 the Bureau of the Census, as required by law, has compiled and published biennially a volume giving the names of and information concerning all the civilian employees of the Federal Government except those in the Postal Service. The preparation and publication of this Official Register now entails an expenditure of approximately \$50,000. It seems to me that it answers no important purpose; certainly its value does not justify such an expenditure. I accordingly recommend that a law be passed to discontinue the preparation of the Official Register after the publication of the edition for July 1, 1921, and to authorize the compilation and publication biennially by the Bureau of the Census of statistics of the civilian personnel of the Federal Government.

## COTTON USED IN MANUFACTURE OF EXPLOSIVES.

The act of August 7, 1916, provides that "the Director of the Census shall collect and publish statistics of raw and prepared cotton and linters, cotton waste, and hull fiber consumed in the manufacture of guncotton and explosives of all kinds, and of absorbent and medicated cotton, during the year 1915 and quarterly thereafter, and the quantity held in such establishments at the end of each quarter." At the time this law was passed the consumption of cotton in the manufacture of explosives was so great that it had an effect on the price, and it was, therefore, important to know the quantities thus consumed. Such information, however, is no longer of value, and I recommend that this provision of the law be repealed.

W. M. STEUART,

*Director of the Census.*

To Hon. HERBERT HOOVER,  
*Secretary of Commerce.*

APPENDIX I.

OFFICIALS AND EMPLOYEES, BY GRADES AND CLASSES: JUNE 30

OFFICIALS.

Director.....	William
Assistant Director.....	Joseph
Chief clerk.....	Thoma
Chief statisticians:	
Population.....	William
Agriculture, cotton and tobacco.....	William
Manufactures.....	Eugen
Statistics of cities.....	Starke
Vital statistics.....	William
Geographer.....	Charles
Disbursing clerk.....	Fred A
Appointment clerk.....	Walter
Expert chiefs of divisions:	
Administrative.....	Timoti
Appointment.....	Emily
Agriculture.....	Bowen
	Thoma
Cotton and tobacco.....	Wesley
Geographer.....	Evelyn
Manufactures.....	John F
	Edwar
	William
	William
Population.....	Edwar
	William
	Olive
	George
Revision and results.....	Harry
Statistics of cities.....	Lemue
Vital statistics.....	John I
Chief, mechanical laboratory.....	E. M.

CLERICAL FORCE.

Secretary to Director, \$2,250.....	1	Clerks—Continued.
Statistical experts, \$2,000.....	10	\$1,020.....
Stenographers:		\$1,000.....
\$1,800.....	4	\$960.....
\$1,500.....	1	
Clerks:		Total.....
\$1,800.....	74	Operatives:
\$1,680.....	55	\$1,380.....
\$1,600.....	29	\$1,320.....
\$1,500.....	32	\$1,260.....
\$1,440.....	8	\$1,200.....
\$1,400.....	62	\$1,140.....
\$1,380.....	166	\$1,080.....
\$1,320.....	103	\$1,020.....
\$1,260.....	119	\$960.....
\$1,200.....	386	
\$1,140.....	401	Total.....
\$1,080.....	407	

## APPENDIX I—Continued.

OFFICIALS AND EMPLOYEES, BY GRADES AND CLASSES: JUNE 30, 1921—Continued.

## SUBCLERICAL FORCE.

Photostat operators, \$1,200.....	2	Unskilled laborers, \$720.....	17
Skilled laborers:		Messengers, \$840.....	17
\$1,000.....	7	Assistant messengers, \$720.....	6
\$900.....	7	Messenger boys, \$480.....	8
\$840.....	1		
\$720.....	4	Total.....	69

## MECHANICAL LABORATORY FORCE.

Experts:		Pressman and machinist, \$1,600...	1
\$2,500.....	1	Carpenter, \$1,200.....	1
\$2,250.....	2	General mechanic, \$1,200.....	1
\$1,800.....	1	Machinists, \$1,200.....	2
Electricians:		Shop apprentices:	
\$1,800.....	1	\$1,200.....	1
\$1,600.....	1	\$1,080.....	1
\$1,400.....	7	\$840.....	3
Mechanician, \$1,800.....	1	Electrician's helper, \$840.....	1
Tabulating mechanicians:		Total.....	31
\$1,800.....	2		
\$1,600.....	2		
\$1,400.....	2		

## SPECIAL AGENT FORCE.

Special agents of "known and tried experience in statistical work".....	23
Experts, and for general field work.....	69
Employees of other Government bureaus who are serving without compensation (office, 120; field, 11).....	131
Special agents, at \$1 per annum.....	8
Special agents, vital statistics, checking incomplete returns of births and deaths.....	29
Total.....	260

## SUMMARY.

Officials.....	29	Mechanical-laboratory force.....	31
Clerical force.....	1,948	Special agents.....	260
Operatives.....	229		
Subclerical force.....	69	Total.....	2,566

In addition there are employed throughout the cotton belt approximately 750 local special agents to collect statistics of cotton and cottonseed. These agents perform their work only at intervals and are paid on a piece-price basis.

## APPENDIX II.

## PUBLICATIONS ISSUED.

Class and title.	Date issued.	Pages.	Edition.
JULY 1, 1920, TO JUNE 30, 1921.			
<i>Permanent Census.</i>			
Reports (quarto size):			
Birth statistics for the registration area of the United States: 1918 (paper).....	July 9, 1920	312	4, 500
Birth statistics for the registration area of the United States: 1919 (paper).....	Apr. 8, 1921	315	4, 500
Financial statistics of cities having a population of over 30,000: 1919 (cloth and paper).....	Mar. 25, 1921	355	6, 500
Financial statistics of states: 1919 (cloth and paper).....	Aug. 6, 1920	119	4, 600
Mortality statistics: 1919 (cloth and paper).....	June 1, 1921	616	3, 300
Central electric light and power stations, with summary of the electric industries: 1917 (cloth and paper).....	Aug. 25, 1920	184	3, 169
Total.....		1,901	26, 569
Bulletins (paper):			
No. 142—Religious bodies: 1916 (quarto).....	Aug. 6, 1920	192	7, 000
No. 143—Stocks of leaf tobacco: 1919 (octavo).....	Sept. 29, 1920	54	18, 000
No. 144—Mortality statistics: 1919 (quarto).....	Dec. 15, 1920	94	2, 800
No. 145—Cotton production and distribution: season of 1919-20 (octavo).....	Feb. 4, 1921	135	33, 500
Total.....		475	61, 300
Miscellaneous publications:			
Annual report of the Director of the Census to the Secretary of Commerce, fiscal year 1920 (octavo).....	Nov. 6, 1920	51	2, 500
Physicians' pocket reference to the international list of causes of death, 1919—fifth edition (size 3 by 6) reprint.....	Mar. 23, 1921	28	25, 000
Census publications available for distribution Feb. 1, 1921 (octavo).....	Mar. 1, 1921	16	500
Animal and vegetable fats and oils, production, consumption, imports, exports, and stock, by quarters, calendar years 1919 and 1920 (octavo).....	Feb. 26, 1921	16	10, 000
Advance tables of cotton production in the United States, crop of 1919 (octavo).....	Aug. 3, 1920	39	33, 250
Thirty-four reports, in card form, relating to cotton and cottonseed (size 4 by 6).....	June 14, 1920 to June 17, 1921	34	1, 360, 000
Ten reports to postmasters, in sheet form, relating to cotton ginning (size 8 by 10).....	Sept. 8, 1920 to Mar. 21, 1921	10	125, 000
Four reports, in card form, relating to stocks of leaf tobacco.....	July 29, 1920 to Apr. 29, 1921	4	76, 000
Four reports to postmasters, in sheet form, relating to stocks of leaf tobacco.....	July 29, 1920 to Apr. 29, 1920	4	18, 000
Total.....		202	1, 650, 250
<i>Fourteenth Census.</i>			
[Quarto, except as otherwise indicated.]			
Population bulletins:			
First series—Number and distribution of inhabitants:—			
Alabama.....	Mar. 1, 1921	17	2, 200
Arizona.....	Mar. 2, 1921	8	1, 600
Arkansas.....	Mar. 1, 1921	20	2, 200
California.....	Feb. 23, 1921	14	2, 600
Colorado.....	Mar. 15, 1921	17	2, 100
Connecticut.....	Dec. 6, 1920	7	2, 000
Delaware.....	Aug. 6, 1920	6	1, 350
District of Columbia.....	July 21, 1920	4	1, 000
Florida.....	Mar. 23, 1921	15	2, 100
Georgia.....	Mar. 1, 1921	25	2, 600
Idaho.....	Mar. 23, 1921	11	2, 000
Illinois.....	Mar. 21, 1921	29	4, 500
Indiana.....	Feb. 1, 1921	19	2, 600
Iowa.....	Feb. 23, 1921	25	3, 000
Kansas.....	Apr. 1, 1921	23	2, 800
Kentucky.....	Mar. 5, 1921	17	2, 300
Louisiana.....	Mar. 10, 1921	12	2, 000
Maine.....	Jan. 7, 1921	11	2, 100
Maryland.....	Oct. 25, 1920	9	1, 600
Massachusetts.....	Dec. 4, 1920	9	2, 700
Michigan.....	Mar. 10, 1921	21	2, 900

<sup>1</sup> Entire series published during fiscal year except bulletin for Porto Rico, issued May 26, 1920.

## APPENDIX II—Continued.

## PUBLICATIONS ISSUED—Continued.

Class and title.	Date issued.	Pages.	Edition.
JULY 1, 1920, TO JUNE 30, 1921—Continued.			
<i>Fourteenth Census—Continued.</i>			
[Quarto, except as otherwise indicated.]			
on bulletins—Continued.			
series—Number and distribution of inhabitants—Continued.			
Minnesota.....	Apr. 7, 1921	28	3,000
Mississippi.....	Mar. 15, 1921	13	2,300
Missouri.....	Mar. 11, 1921	22	3,300
Montana.....	Apr. 7, 1921	17	2,900
Nebraska.....	Apr. 8, 1921	21	2,800
Nebraska.....	Jan. 25, 1921	7	1,400
New Hampshire.....	Oct. 25, 1920	6	1,800
New Jersey.....	Mar. 3, 1921	12	2,500
New Mexico.....	Apr. 8, 1921	11	1,900
New York.....	Apr. 15, 1921	20	4,800
North Carolina.....	Mar. 11, 1921	20	2,400
North Dakota.....	Apr. 21, 1921	22	2,100
Ohio.....	Mar. 16, 1921	26	3,500
Oklahoma.....	Apr. 1, 1921	20	2,500
Oregon.....	Apr. 7, 1921	13	2,200
Pennsylvania.....	Mar. 25, 1921	32	4,500
Rhode Island.....	Nov. 30, 1920	4	1,800
South Carolina.....	Apr. 1, 1921	13	2,100
South Dakota.....	Apr. 27, 1921	22	2,200
Tennessee.....	Jan. 4, 1921	17	2,200
Texas.....	Apr. 12, 1921	29	3,300
Utah.....	Dec. 8, 1920	19	2,300
Vermont.....	Dec. 6, 1920	8	1,800
Virginia.....	Apr. 9, 1921	15	2,300
Washington.....	Mar. 31, 1921	17	2,200
West Virginia.....	Jan. 11, 1921	11	1,800
Wisconsin.....	Apr. 7, 1921	22	2,800
Wyoming.....	Jan. 25, 1921	8	1,400
Alaska.....	Feb. 24, 1921	4	1,500
Hawaii.....	July 12, 1920	3	700
Postal Zone.....	Mar. 23, 1921	13	2,000
Panama.....	Nov. 2, 1920	9	2,000
Panama.....	July 29, 1920	7	1,000
Total.....		821	125,250
on bulletins:			
d series—Composition and characteristics of the population—			
Alabama.....	Apr. 29, 1921	19	2,300
Arizona.....	June 17, 1921	11	1,700
Arkansas.....	May 23, 1921	19	2,200
Delaware.....	Apr. 27, 1921	9	1,700
District of Columbia.....	May 23, 1921	6	1,500
Total.....		64	9,400
re bulletins:			
Alabama.....	Feb. 23, 1921	34	2,500
Alaska.....	Apr. 29, 1921	32	2,600
Connecticut.....	Apr. 29, 1921	15	2,600
District of Columbia.....	Nov. 21, 1920	15	2,100
District of Columbia.....	Apr. 12, 1921	8	1,500
District of Columbia.....	June 17, 1921	20	2,600
District of Columbia.....	Mar. 16, 1921	25	2,500
District of Columbia.....	Apr. 29, 1921	42	3,300
District of Columbia.....	May 24, 1921	44	3,800
District of Columbia.....	May 28, 1921	32	3,000
District of Columbia.....	Mar. 1, 1921	18	2,500
District of Columbia.....	Feb. 19, 1921	21	2,300
Massachusetts.....	Mar. 31, 1921	18	6,300
Maryland.....	May 11, 1921	48	3,700
Minnesota.....	June 3, 1921	28	2,500
Mississippi.....	June 11, 1921	18	2,500
New Hampshire.....	Sept. 22, 1920	21	2,300
New Jersey.....	May 5, 1921	18	3,100
New Jersey.....	Mar. 2, 1921	42	3,800
New Jersey.....	Apr. 8, 1921	26	2,700
Rhode Island.....	Jan. 14, 1921	15	1,600
Tennessee.....	Feb. 23, 1921	42	2,600
Tennessee.....	Feb. 8, 1921	22	1,700
Vermont.....	Jan. 4, 1921	18	2,300
Virginia.....	Mar. 31, 1921	25	2,700
Virginia.....	Mar. 26, 1921	32	2,700

## APPENDIX II—Continued.

## PUBLICATIONS ISSUED—Continued.

Class and title.	Date issued.	Pages.	Edition.
JULY 1, 1920, TO JUNE 30, 1921—Continued.			
<i>Fourteenth Census—Continued.</i>			
[Quarto, except as otherwise indicated.]			
Agriculture bulletins—Continued.			
Alaska.....	Apr. 4, 1921	5	2,000
Hawaii.....	Apr. 7, 1921	10	2,000
Porto Rico.....	May 9, 1921	36	1,500
Total.....		760	77,100
Manufactures bulletins:			
Arizona.....	June 2, 1921	15	1,600
Delaware.....	May 31, 1921	19	1,800
District of Columbia.....	Apr. 8, 1921	13	1,000
Nevada.....	May 18, 1921	11	1,700
New Mexico.....	June 8, 1921	11	1,500
North Dakota.....	June 17, 1921	15	2,100
South Dakota.....	May 31, 1921	15	2,200
Wyoming.....	May 4, 1921	13	1,700
Hawaii.....	May 9, 1921	16	1,500
Porto Rico.....	May 12, 1921	14	1,500
Total.....		142	16,900
Irrigation bulletins:			
Colorado.....	June 22, 1921	18	2,800
Idaho.....	Apr. 13, 1921	15	2,600
Kansas.....	May 23, 1921	10	3,200
Montana.....	June 20, 1921	16	2,500
Nevada.....	June 18, 1921	13	2,300
New Mexico.....	June 30, 1921	15	2,500
North Dakota.....	June 11, 1921	8	3,000
Oregon.....	June 22, 1921	14	2,800
Utah.....	June 4, 1921	14	2,500
Washington.....	Mar. 1, 1921	13	2,500
Total.....		136	23,700
Drainage bulletins:			
Colorado.....	May 4, 1921	8	2,600
Idaho.....	Apr. 16, 1921	8	2,300
Kansas.....	June 7, 1921	9	3,500
Montana.....	June 10, 1921	8	2,500
North Dakota.....	June 23, 1921	9	2,800
Tennessee.....	Mar. 26, 1921	9	2,700
Utah.....	Apr. 18, 1921	8	2,000
Washington.....	Apr. 21, 1921	9	3,100
Total.....		68	21,500
Miscellaneous publications:			
Number of farms by States and counties, 1920, 1910, and 1900 (octavo).....	Oct. 7, 1920	29	20,000
Population of cities having 25,000 inhabitants or more, 1920, 1910, and 1900 (8 by 10½).....	Oct. 13, 1920	8	10,000
Population of cities, towns, villages, and boroughs having from 10,000 to 25,000 inhabitants, 1920, 1910, and 1900 (8 by 10½).....	Nov. 1, 1920	10	8,500
Population of cities, towns, villages, and boroughs having from 5,000 to 10,000 inhabitants, 1920, 1910, and 1900 (8 by 10½).....	Dec. 3, 1920	16	5,000
Population of places having 2,500 to 5,000 inhabitants, 1920 (8 by 10½).....	Feb. 26, 1921	8	5,000
Total.....		71	48,500
Total permanent census reports, bulletins, and miscellaneous publications.....		2,578	1,738,119
Total Fourteenth Census bulletins and miscellaneous publications.....		2,032	325,350
Grand total July 1, 1920, to June 30, 1921.....		4,640	2,063,469
JULY 1 TO SEPT. 9, 1921.			
<i>Permanent Census.</i>			
Miscellaneous publication—Survey of current business, July 1, 1921 (quarto).....	Aug. 6, 1921	55	1,500

APPENDIX II—Continued.

PUBLICATIONS ISSUED—Continued.

Class and title.	Date issued.	Pages.	Edition.
JULY 1 TO SEPT. 9, 1921—Continued.			
<i>Fourteenth Census.</i>			
[Quarto, except as otherwise indicated.]			
Report—Population, Vol. I.—Number and distribution of inhabitants (cloth and paper).....	Aug. 30, 1921	695	4, 500
Total.....		695	4, 500
Population bulletins:			
Second series—Composition and characteristics of the population—			
California.....	Sept. 6, 1921	29	3, 000
Colorado.....	July 23, 1921	16	2, 100
Connecticut.....	Aug. 31, 1921	16	2, 200
Florida.....	July 8, 1921	18	2, 000
Georgia.....	July 1, 1921	28	4, 600
Idaho.....	July 12, 1921	14	1, 800
Indiana.....	July 27, 1921	31	2, 900
Iowa.....	Aug. 16, 1921	23	3, 000
Kansas.....	Aug. 10, 1921	25	2, 600
Kentucky.....	Aug. 18, 1921	24	2, 400
Louisiana.....	Aug. 31, 1921	18	2, 200
Maine.....	Sept. 9, 1921	13	2, 000
Maryland.....	Sept. 2, 1921	13	2, 000
Mississippi.....	Aug. 9, 1921	18	2, 200
Montana.....	Sept. 9, 1921	15	2, 000
Nevada.....	Aug. 19, 1921	11	1, 700
North Carolina.....	Sept. 6, 1921	22	2, 500
South Carolina.....	Sept. 2, 1921	15	2, 000
Tennessee.....	Aug. 31, 1921	27	2, 500
Porto Rico (English).....	Aug. 19, 1921	26	1, 500
Total.....		402	47, 200
Agriculture bulletins:			
Arizona.....	July 20, 1921	19	2, 500
Arkansas.....	Sept. 1, 1921	36	3, 000
California.....	July 9, 1921	32	3, 800
Louisiana.....	Aug. 18, 1921	32	3, 000
Minnesota.....	Aug. 3, 1921	38	3, 900
Mississippi.....	Sept. 2, 1921	38	3, 300
New Mexico.....	July 30, 1921	22	2, 500
New York.....	July 29, 1921	32	4, 500
North Carolina.....	Aug. 10, 1921	44	3, 000
North Dakota.....	July 26, 1921	28	3, 000
Porto Rico (Spanish).....	July 20, 1921	36	2, 000
Wisconsin.....	July 26, 1921	35	3, 500
Total.....		392	38, 000
Manufactures bulletins:			
Alaska.....	Aug. 12, 1921	5	1, 500
Idaho.....	Aug. 5, 1921	15	1, 800
Montana.....	Aug. 6, 1921	17	2, 000
Utah.....	Aug. 4, 1921	19	2, 000
Vermont.....	July 20, 1921	19	2, 400
Total.....		75	9, 700
Irrigation bulletins:			
Arizona.....	July 6, 1921	12	2, 400
Arkansas.....	July 30, 1921	8	3, 000
Louisiana.....	Aug. 8, 1921	10	3, 000
Oklahoma.....	Sept. 8, 1921	7	3, 200
Total.....		37	11, 600
Drainage bulletins:			
Florida.....	July 18, 1921	11	2, 600
Georgia.....	Sept. 1, 1921	11	3, 500
Kentucky.....	July 12, 1921	10	3, 200
North Carolina.....	July 11, 1921	12	3, 000
Wisconsin.....	Aug. 31, 1921	13	3, 500
Total.....		57	15, 800
Grand total July 1 to Sept 9, 1921.....		1, 713	128, 300

## APPENDIX III.

TABLE 1.—COST OF FIELD WORK FOR THE CENSUSES OF POPULATION  
CENSUS OF THE UNITED

The figures in this table cover the cost of the field work of the enumeration of population, farms, and live merators for securing data on manufactures, irrigation, and drainage in remote and sparsely settled local- do not cover the main field work of the census of manufactures, which was carried on during the census or do they cover the main field work for irrigation and drainage, costing \$107,402.41.]

STATE.	Total.	FIELD SUPERVISION.				
		Total.	Compensation.		Office expenses.	
			Super- visors.	Clerks, inspectors, and inter- preters. <sup>1</sup>	Rent.	Miscella- neous.
1 United States...	\$9,198,501.20	\$1,583,780.08	\$661,984.03	\$758,637.09	\$38,723.64	\$47,280.62
2 Alabama.....	214,528.30	34,494.60	17,349.00	13,549.26	397.54	788.77
3 Arizona.....	50,272.80	8,867.65	3,331.00	4,204.14	419.05	522.63
4 Arkansas.....	172,266.59	24,201.45	12,253.00	8,885.11	184.56	462.36
5 California.....	351,333.12	79,778.91	16,926.00	54,422.68	1,850.92	3,974.49
6 Colorado.....	143,646.37	20,052.48	6,940.00	10,688.20	571.43	1,144.94
7 Connecticut.....	77,542.13	12,930.46	4,380.00	6,971.44	742.68	394.12
8 Delaware.....	16,675.69	4,499.96	1,723.00	1,837.38	99.19	91.00
9 District of Columbia.....	22,271.38	4,519.26	1,938.00	2,767.17	.....	24.90
10 Florida.....	78,133.80	14,185.93	6,967.00	4,979.70	128.00	649.41
11 Georgia.....	259,134.12	41,351.71	20,894.00	15,468.23	1,241.33	1,374.98
12 Idaho.....	82,360.37	10,250.83	3,432.00	4,838.00	55.00	786.04
13 Illinois.....	424,650.05	79,823.77	31,586.00	40,739.20	3,481.33	1,560.24
14 Indiana.....	232,637.00	45,994.66	22,430.00	19,475.27	802.64	1,594.19
15 Iowa.....	207,181.36	33,925.57	15,592.00	12,280.85	400.00	1,144.82
16 Kansas.....	197,779.42	28,973.50	13,769.00	12,762.69	254.17	1,181.85
17 Kentucky.....	222,831.38	37,279.33	18,916.00	14,551.48	420.61	1,112.76
18 Louisiana.....	167,338.25	25,782.53	12,906.13	10,878.74	230.68	630.46
19 Maine.....	65,178.88	12,418.45	6,788.00	4,388.42	276.15	504.43
20 Maryland.....	100,201.86	20,631.09	8,950.00	9,564.41	1,275.83	459.44
21 Massachusetts.....	233,790.12	61,539.59	15,851.00	38,786.66	2,097.06	1,830.61
22 Michigan.....	286,788.87	45,412.15	20,168.00	21,784.92	526.00	728.35
23 Minnesota.....	263,369.65	38,389.45	17,386.00	16,535.23	761.82	998.02
24 Mississippi.....	189,831.34	26,655.44	13,789.00	10,207.61	266.64	768.78
25 Missouri.....	281,566.30	55,623.55	24,405.00	25,118.15	2,149.68	1,672.68
26 Montana.....	139,915.89	11,773.80	5,045.00	4,444.97	1,019.24	870.12
27 Nebraska.....	168,741.42	19,564.36	10,295.00	7,950.94	218.00	412.60
18 Nevada.....	24,279.74	5,706.00	3,077.00	1,641.00	286.44	154.35
29 New Hampshire.....	32,896.12	5,989.83	2,528.90	2,264.07	88.84	523.04
30 New Jersey.....	186,146.55	43,660.96	16,665.00	24,340.10	776.34	800.95
31 New Mexico.....	73,940.22	11,344.01	3,361.00	6,056.51	353.00	417.22
32 New York.....	640,382.34	143,419.84	43,383.00	89,461.30	3,859.02	3,213.48
33 North Carolina.....	233,939.31	36,697.66	19,057.00	12,937.12	230.62	882.61
34 North Dakota.....	137,173.15	11,536.43	5,146.00	4,139.16	383.33	649.70
35 Ohio.....	401,236.13	81,955.20	34,260.00	41,230.50	1,546.58	2,198.98
36 Oklahoma.....	287,642.94	33,762.42	14,027.00	13,798.82	605.96	2,017.95
37 Oregon.....	114,355.09	15,272.99	5,284.00	7,488.84	542.51	662.22
38 Pennsylvania.....	544,659.92	107,823.62	44,717.00	54,473.44	3,749.92	2,467.93
39 Rhode Island.....	32,632.14	6,069.15	2,104.00	3,652.33	.....	285.69
40 South Carolina.....	154,658.96	24,478.18	12,184.00	9,191.06	425.00	595.88
41 South Dakota.....	126,552.04	11,695.95	5,139.00	3,820.51	840.97	530.09
42 Tennessee.....	210,718.74	33,679.70	17,439.00	13,915.21	149.22	634.22
43 Texas.....	465,024.85	74,055.48	31,662.00	32,932.02	1,557.91	2,367.54
44 Utah.....	49,654.25	7,300.02	3,449.00	3,689.72	270.00	219.65
45 Vermont.....	33,291.86	5,765.95	3,353.00	1,995.50	.....	87.51
46 Virginia.....	198,028.38	37,538.27	17,308.00	16,699.87	958.15	733.18
47 Washington.....	172,562.24	25,487.56	8,856.00	13,192.74	1,063.67	1,438.00
48 West Virginia.....	121,246.28	19,675.85	10,463.00	7,320.75	210.93	500.93
49 Wisconsin.....	237,734.04	34,757.82	17,639.00	14,540.18	638.01	519.77
50 Wyoming.....	49,328.81	6,889.11	3,165.00	3,025.49	197.58	340.36

<sup>1</sup> Exclusive of compensation (\$24,600.20) of officials and employees of the Census Bureau with headquarters at Washington, D. C., detailed to instruct and assist supervisors prior to and during period of enumeration.

<sup>2</sup> Does not include traveling expenses (\$30,979.13) of officials and employees of the Census Bureau with headquarters at Washington, D. C., detailed to instruct and assist supervisors prior to and during period of enumeration.

## APPENDIX III.

### AND AGRICULTURE, AND NUMBER OF PERSONS EMPLOYED, FOURTEENTH STATES, BY STATES.

stock not on farms, and include in addition certain small amounts, aggregating \$7,729.36, paid to enu-merates which were not covered by the agents appointed especially for collecting that class of data. They year by special agents who were not under the direction of the census supervisors, and cost \$1,090,919. 71;

FIELD SUPERVISION—CON.	ENUMERATION—COMPENSATION AND TRAVELING EXPENSES OF ENUMERATORS.			Population.	PER CAPITA COST.			Number of persons em-ployed.	
	Traveling expenses. <sup>2</sup>	Total. <sup>3</sup>	Population.		Agriculture.	Total.	Field super- vision.		Enu- meration.
\$77,154.70	\$7,614,721.12	\$4,861,558.22	\$2,745,433.54	105,710,620				92,819	1
2,410.03	180,033.70	95,676.80	84,167.00	2,348,174	9.1	1.5	7.7	1,836	2
387.83	41,505.15	30,606.91	10,893.24	334,162	15.1	2.7	12.4	1,335	3
2,383.42	148,065.14	71,726.97	75,921.37	1,752,204	9.8	1.4	8.4	1,418	4
2,604.91	271,554.21	165,676.39	85,026.75	3,426,861	10.2	2.3	7.9	3,274	5
709.91	123,593.89	70,973.16	52,541.83	939,629	15.3	2.1	13.2	1,135	6
472.22	64,612.67	56,032.12	8,580.55	1,380,631	5.6	0.9	4.7	965	7
729.39	12,175.73	8,925.99	3,249.74	223,003	7.5	2.0	5.5	225	8
89.19	17,452.12	17,255.72	196.40	437,571	5.1	1.1	4.0	412	9
1,461.82	63,947.87	43,349.50	20,455.37	968,470	8.1	1.5	6.6	779	10
2,373.17	217,782.41	117,431.16	99,987.65	2,895,832	8.9	1.4	7.5	2,144	11
1,149.79	72,099.54	37,397.52	34,633.12	431,866	19.1	2.4	16.7	544	12
2,060.00	344,823.28	261,472.02	83,007.21	6,485,280	6.5	1.2	5.3	5,927	13
1,692.86	186,642.04	117,982.23	68,546.31	2,930,390	7.9	1.6	6.4	2,945	14
1,197.90	173,255.79	100,335.36	72,311.23	2,404,021	8.6	1.4	7.2	2,404	15
1,568.79	168,805.92	89,572.26	78,995.11	1,769,629	11.2	1.6	9.5	1,814	16
2,278.48	185,552.05	97,637.95	87,717.10	2,416,630	9.2	1.5	7.7	2,191	17
1,086.52	131,575.72	80,005.84	51,170.78	1,798,509	8.7	1.4	7.3	1,197	18
531.45	52,760.43	33,727.87	19,032.56	768,014	8.5	1.6	6.9	695	19
381.41	79,670.71	60,692.20	18,951.81	1,449,661	6.9	1.4	5.5	1,103	20
2,974.56	172,250.23	157,257.75	14,992.48	3,852,356	6.1	1.6	4.5	3,059	21
2,204.88	241,376.72	162,627.41	78,687.81	3,668,412	7.8	1.2	6.6	3,284	22
2,708.38	224,980.20	131,408.27	93,280.83	2,387,125	11.0	1.6	9.4	2,261	23
1,692.02	163,175.90	71,967.43	90,874.27	1,790,618	10.6	1.5	9.1	1,223	24
2,878.04	225,882.75	138,175.84	87,303.01	3,404,055	8.3	1.6	6.6	3,216	25
394.47	128,142.09	63,070.89	65,002.30	548,889	25.5	2.1	23.3	728	26
687.52	149,177.06	80,712.66	68,221.20	1,296,372	13.0	1.5	11.5	1,370	27
547.21	18,573.74	12,393.27	6,180.47	77,407	31.4	7.4	24.0	117	28
378.98	26,906.29	18,788.72	8,117.57	443,083	7.4	1.4	6.1	391	29
1,078.57	142,485.59	129,217.58	13,268.01	3,155,900	5.9	1.4	4.5	2,054	30
1,126.28	62,536.21	34,762.35	27,766.86	360,350	20.5	3.1	17.4	501	31
3,503.04	496,962.50	426,507.07	70,454.68	10,385,227	6.2	1.4	4.8	8,717	32
3,530.31	197,241.65	105,363.50	91,574.85	2,559,123	9.1	1.4	7.7	1,816	33
1,227.24	125,636.72	60,533.45	65,048.43	646,572	21.2	1.8	19.4	769	34
2,719.14	319,280.93	231,742.01	87,538.92	5,759,394	7.0	1.4	5.5	5,315	35
3,312.66	253,880.52	132,627.11	121,119.91	2,028,283	14.2	1.7	12.5	2,037	36
995.41	99,082.10	55,496.41	42,545.39	783,389	14.6	1.9	12.6	998	37
2,410.23	437,133.30	357,648.29	79,385.01	8,720,017	6.2	1.2	5.0	7,459	38
57.13	26,532.99	24,818.41	1,714.58	604,397	5.4	1.0	4.4	367	39
2,172.24	130,180.48	68,318.60	61,729.48	1,683,724	9.2	1.5	7.7	1,127	40
1,368.35	114,856.09	59,526.32	58,468.07	636,547	19.9	1.8	18.0	833	41
1,635.35	177,048.04	93,745.22	83,108.42	2,337,885	9.0	1.4	7.6	2,084	42
5,186.01	420,989.37	234,146.32	186,263.35	4,663,228	10.6	1.6	9.0	3,732	43
283.62	42,354.23	27,380.40	14,935.93	449,396	11.0	1.6	9.4	439	44
329.94	27,435.91	15,492.98	11,884.23	352,428	9.4	1.6	7.8	332	45
2,439.07	160,490.11	95,210.63	64,925.58	2,399,187	8.6	1.6	7.0	1,762	46
907.15	147,074.68	85,838.79	61,127.29	1,856,621	12.6	1.9	10.8	1,686	47
1,171.24	101,670.43	64,688.75	37,081.68	1,463,701	8.3	1.3	6.9	1,118	48
1,423.86	202,976.22	122,637.97	80,006.13	2,632,067	9.0	1.3	7.7	2,360	49
130.68	42,439.70	24,973.85	17,441.63	194,402	25.4	3.5	21.8	271	50

<sup>3</sup> Includes, in addition to the items shown separately in the columns headed "Population" and "Agriculture," certain small payments (aggregating \$7,729.36) made to the enumerators for securing data on manufactures, irrigation, and drainage in remote and sparsely settled localities which were not covered by the agents specially appointed for collecting that class of data.

## APPENDIX III—Continued.

TABLE 2.—COST OF FIELD WORK, FOURTEENTH CENSUS OF THE UNITED STATES, BY SUPERVISORS' DISTRICTS.

[The figures in this table cover the cost of the field work of the enumeration of population, farms, and live stock not on farms, and include in addition certain small amounts, aggregating \$7,729.39, paid to enumerators for securing data on manufactures, irrigation, and drainage in remote and sparsely settled localities which were not covered by the agents appointed especially for collecting that class of data. They do not cover the main field work of the census of manufactures, which was carried on during the census year by special agents who were not under the direction of the census supervisors, and cost \$1,090,919.71; nor do they cover the main field work for irrigation and drainage, costing \$107,402.41.]

STATE AND SUPERVISOR'S DISTRICT.	Total.	FIELD SUPERVISION. <sup>1</sup>				Enumeration—Compensation and traveling expenses of enumerators.	Population.	Per capita cost—cents.
		Supervisors' salaries.	Salaries of clerks, inspectors, and interpreters.	Office expenses.	Traveling expenses.			
United States..	\$9,198,501.20	\$661,984.03	\$758,637.09	\$86,004.26	\$77,154.70	\$7,614,721.12	105,710,620	8.7
Alabama.....	214,528.30	17,349.00	13,549.26	1,186.31	2,410.03	180,033.70	2,348,174	9.1
First.....	21,065.11	1,727.00	2,054.17	79.79	398.41	16,805.74	226,507	9.3
Second.....	23,156.94	1,802.00	1,873.79	330.83	412.84	23,737.43	302,002	9.3
Third.....	24,736.94	1,759.00	1,078.66	165.61	202.09	21,531.53	258,646	9.6
Fourth.....	19,252.72	1,707.00	1,179.00	242.36	223.72	15,900.64	206,751	9.3
Fifth.....	22,859.12	1,731.00	1,275.00	.....	20.00	19,833.12	231,453	9.9
Sixth.....	17,087.00	1,670.00	1,239.66	21.90	300.40	13,855.04	170,188	10.0
Seventh.....	21,609.12	1,717.00	1,060.49	70.15	182.05	18,579.40	217,187	9.9
Eighth.....	24,452.63	1,755.00	1,069.67	190.64	463.64	20,968.68	254,529	9.6
Ninth.....	18,552.65	1,810.00	1,580.00	32.00	30.24	15,100.41	310,054	6.0
Tenth.....	16,756.07	1,671.00	1,138.82	53.00	171.64	13,721.61	170,857	9.8
Arizona.....	50,372.80	3,334.00	4,204.14	941.68	387.83	41,505.15	334,162	15.1
First.....	30,391.55	1,673.00	3,380.36	480.57	59.00	24,998.62	173,010	17.7
Second.....	19,781.25	1,661.00	823.78	461.11	328.33	16,506.53	161,152	12.3
Arkansas.....	172,266.59	12,253.00	8,883.11	676.92	2,386.42	148,065.14	1,752,204	9.8
First.....	34,509.01	1,830.00	2,542.99	277.66	599.63	29,288.72	330,292	10.4
Second.....	22,135.78	1,721.00	867.50	78.95	152.85	19,315.45	220,544	10.0
Third.....	19,417.30	1,680.00	794.50	10.00	335.26	16,597.54	180,348	10.8
Fourth.....	22,003.33	1,739.00	1,014.33	42.78	179.94	19,027.48	238,685	9.2
Fifth.....	23,633.86	1,763.00	1,544.46	253.10	557.41	19,515.89	262,862	9.0
Sixth.....	26,178.52	1,774.00	884.84	14.40	296.97	23,208.31	273,850	9.6
Seventh.....	24,388.59	1,746.00	1,286.49	.....	264.36	21,141.74	245,623	10.0
California.....	351,333.12	16,926.00	54,422.68	5,825.32	2,604.91	271,554.21	3,426,861	10.2
First.....	33,851.36	1,721.00	1,919.83	188.43	674.77	29,347.33	220,785	15.3
Second.....	34,843.32	1,629.00	1,495.84	529.31	213.25	30,975.92	129,357	26.9
Third.....	29,991.83	1,803.00	2,553.95	951.00	243.48	24,440.40	303,208	9.9
Fourth.....	43,861.43	2,007.00	19,731.02	1,921.50	328.95	19,872.96	506,676	8.6
Fifth.....	22,377.95	1,844.00	3,552.78	567.94	24.21	16,389.02	344,177	6.5
Sixth.....	44,807.23	1,845.00	2,272.49	311.20	809.35	39,569.19	345,023	13.0
Seventh.....	36,408.61	1,792.00	1,562.09	291.19	145.49	32,617.84	292,415	12.5
Eighth.....	63,049.69	2,436.00	16,319.37	871.55	.....	43,422.77	936,455	6.7
Ninth.....	42,141.70	1,849.00	5,015.31	193.20	165.41	34,918.78	438,765	12.1
Colorado.....	143,646.37	6,940.00	10,686.20	1,716.37	709.91	123,593.89	939,629	15.3
First.....	17,540.45	1,756.00	4,809.32	498.70	.....	10,476.43	256,491	6.8
Second.....	45,426.27	1,787.00	1,354.12	295.41	64.39	41,925.35	286,808	15.8
Third.....	48,431.63	1,758.00	2,014.49	460.32	148.16	44,050.66	257,775	18.8
Fourth.....	32,248.02	1,639.00	2,508.27	461.94	497.36	27,141.45	138,555	23.3
Connecticut.....	77,543.13	4,380.00	6,971.44	1,106.80	472.22	64,612.67	1,380,631	5.6
First.....	32,952.46	2,068.00	2,709.78	32.39	252.27	27,860.02	568,219	5.8
Second.....	44,590.67	2,312.00	4,261.66	1,074.41	189.95	36,752.65	812,412	5.5
Delaware.....	16,675.69	1,723.00	1,857.38	190.19	729.39	12,175.73	223,003	7.5
District of Columbia.....	22,271.38	1,938.00	2,767.17	24.60	89.19	17,452.12	437,571	5.1
Florida.....	78,133.80	6,967.00	4,979.70	777.41	1,461.82	63,947.87	968,470	8.0
First.....	19,629.43	1,748.00	1,247.52	32.65	199.81	16,401.45	248,034	7.9
Second.....	17,336.39	1,686.00	1,418.50	115.58	252.59	13,832.72	187,474	9.2
Third.....	19,110.80	1,718.00	802.67	139.01	593.78	15,857.34	217,670	8.8
Fourth.....	22,057.18	1,815.00	1,511.01	490.17	385.64	17,855.36	315,292	7.0

<sup>1</sup> Exclusive of compensation (\$24,609.20) and traveling expenses (\$30,979.13) of officials and employees of the Census Bureau with headquarters at Washington, D. C., detailed to instruct and assist supervisors prior to and during period of enumeration.

## APPENDIX III—Continued.

TABLE 2.—COST OF FIELD WORK, FOURTEENTH CENSUS OF THE UNITED STATES, BY SUPERVISORS' DISTRICTS—Continued.

STATE AND SUPERVISOR'S DISTRICT.	Total.	FIELD SUPERVISION.				Enumeration—Compensation and traveling expenses of enumerators.	Popula-tion.	cost—Per capita—cents.
		Super-visors' salaries.	Salaries of clerks, inspectors, and interpre-ters.	Office expenses.	Travel-ing ex-penses.			
Georgia.....	\$250,134.12	\$20,894.00	\$15,468.23	\$2,616.31	\$2,373.17	\$217,782.41	2,895,832	8.9
First.....	22,141.49	1,759.00	1,642.33	709.35	106.00	17,924.81	259,359	8.5
Second.....	22,851.79	1,746.00	1,103.54	3.00	152.85	19,846.40	245,545	9.3
Third.....	19,541.42	1,706.00	1,261.80	57.82	227.70	16,288.10	206,155	9.5
Fourth.....	20,148.81	1,721.00	1,235.33	178.09	393.45	16,620.94	221,188	9.2
Fifth.....	19,761.55	1,808.00	1,327.50	593.32	15.07	15,517.66	308,364	6.4
Sixth.....	20,711.45	1,743.00	952.50	173.50	42.09	17,800.36	243,174	8.5
Seventh.....	22,457.03	1,736.00	1,234.00	273.64	116.74	19,096.65	236,027	9.5
Eighth.....	26,475.83	1,762.00	1,594.51	352.39	307.34	22,459.59	262,446	10.1
Ninth.....	22,803.55	1,726.00	986.33	.....	270.38	19,820.54	226,377	10.1
Tenth.....	19,969.06	1,722.00	1,244.00	139.75	271.03	16,592.28	221,792	9.0
Eleventh.....	20,334.17	1,738.00	1,168.21	111.00	245.52	17,071.44	238,015	8.5
Twelfth.....	21,937.97	1,727.00	1,218.18	24.45	225.00	18,743.34	227,390	9.6
Idaho.....	82,360.37	3,432.00	4,838.00	841.04	1,149.79	72,099.54	431,866	19.0
First.....	36,588.28	1,678.00	2,391.96	344.33	738.61	31,433.38	178,324	20.5
Second.....	45,772.09	1,754.00	2,446.04	496.71	411.18	40,664.16	253,542	18.1
Illinois.....	424,650.05	31,986.00	40,739.20	5,041.57	2,060.00	344,823.28	6,485,280	6.5
First.....	138,313.72	4,202.00	22,389.16	2,082.34	53.52	109,586.70	2,701,705	5.1
Second.....	25,086.40	1,926.00	1,855.33	403.55	62.94	20,838.58	425,597	5.9
Third.....	18,123.98	1,768.00	1,551.49	760.41	26.42	14,017.66	267,694	6.8
Fourth.....	18,897.16	1,759.00	2,188.72	72.82	273.10	14,573.52	259,169	7.3
Fifth.....	14,581.50	1,670.00	961.33	104.76	182.75	11,662.66	170,013	8.6
Sixth.....	15,270.67	1,698.00	945.96	64.74	86.56	12,475.41	197,952	7.7
Seventh.....	16,638.39	1,716.00	751.33	150.14	44.19	13,976.73	215,525	7.7
Eighth.....	15,580.93	1,725.00	988.40	84.87	55.00	12,727.66	224,930	6.9
Ninth.....	14,733.86	1,675.00	1,067.83	176.21	52.34	11,762.48	174,545	8.4
Tenth.....	17,860.49	1,726.00	947.66	122.00	144.45	14,920.38	225,735	7.9
Eleventh.....	19,849.24	1,756.00	1,036.34	344.65	128.74	16,583.51	256,252	7.7
Twelfth.....	15,455.93	1,669.00	1,097.82	280.26	91.48	12,317.37	169,292	9.1
Thirteenth.....	17,761.67	1,737.00	1,610.01	77.67	183.71	14,152.28	237,397	7.5
Fourteenth.....	18,477.50	1,790.00	944.00	69.95	88.20	15,885.35	230,334	6.4
Fifteenth.....	21,534.31	1,723.00	1,418.99	199.20	512.20	17,680.92	222,960	9.7
Sixteenth.....	17,183.93	1,680.00	1,033.67	48.00	46.73	14,375.53	179,836	9.6
Seventeenth.....	19,330.37	1,766.00	251.16	.....	27.67	17,285.54	266,344	7.3
Indiana.....	232,637.00	22,430.00	19,475.27	2,396.83	1,692.86	186,642.04	2,930,390	7.9
First.....	16,026.22	1,693.00	1,610.76	82.73	44.43	12,590.30	197,774	8.1
Second.....	18,775.54	1,711.00	1,546.00	307.07	125.48	15,085.99	210,605	8.9
Third.....	18,299.55	1,696.00	1,828.82	101.13	116.52	14,557.08	195,777	9.3
Fourth.....	17,006.05	1,680.00	402.33	387.37	200.87	14,335.48	179,737	9.5
Fifth.....	16,882.99	1,716.00	1,453.75	82.98	74.38	13,555.88	216,330	7.8
Sixth.....	15,406.21	1,683.00	652.83	224.99	186.97	12,658.42	183,220	8.4
Seventh.....	18,952.77	1,848.00	1,845.61	58.14	6.75	15,194.27	348,061	5.4
Eighth.....	16,958.39	1,716.00	890.73	140.62	42.78	14,168.26	216,342	7.8
Ninth.....	18,155.15	1,699.00	2,064.33	150.58	57.84	14,183.40	199,279	9.1
Tenth.....	21,389.28	1,786.00	2,357.44	252.17	366.13	16,627.54	286,387	7.5
Eleventh.....	17,098.87	1,704.00	1,790.87	150.96	146.83	13,306.21	203,725	8.4
Twelfth.....	16,517.66	1,705.00	1,591.83	208.85	19.22	12,992.76	205,402	8.0
Thirteenth.....	21,168.32	1,788.00	1,439.97	249.24	304.66	17,386.45	287,751	7.4
Iowa.....	207,181.36	18,902.00	12,280.85	1,544.82	1,197.90	173,255.79	2,404,021	8.6
First.....	13,773.55	1,657.00	949.67	276.84	21.33	10,868.71	156,594	8.8
Second.....	16,758.71	1,711.00	918.83	239.65	117.60	13,771.63	211,358	7.9
Third.....	18,917.41	1,747.00	639.51	129.30	91.19	16,310.41	246,970	7.7
Fourth.....	18,219.51	1,702.00	753.82	125.70	162.50	15,475.49	201,881	9.0
Fifth.....	17,272.46	1,703.00	1,410.99	118.15	85.11	13,955.21	203,162	8.5
Sixth.....	16,240.89	1,669.00	1,266.66	31.60	111.45	13,162.18	168,996	9.6
Seventh.....	22,494.70	1,763.00	2,255.34	219.75	20.72	18,235.89	263,358	8.6
Eighth.....	16,992.87	1,684.00	413.49	4.45	19.28	14,871.65	184,477	9.2
Ninth.....	17,381.79	1,693.00	1,067.67	26.80	149.95	14,439.37	198,369	8.8
Tenth.....	25,193.59	1,773.00	1,099.49	82.44	176.46	22,062.20	273,407	9.2
Eleventh.....	23,935.88	1,795.00	1,505.38	290.14	242.31	20,103.05	295,449	8.1

## APPENDIX III—Continued.

TABLE 2.—COST OF FIELD WORK, FOURTEENTH CENSUS OF THE UNITED STATES, BY SUPERVISORS' DISTRICTS—Continued.

STATE AND SUPERVISOR'S DISTRICT.	Total.	FIELD SUPERVISION.				Enumeration—Com- pensation and traveling expenses of enu- merators.	Popula- tion.	Per capita cost— cents.
		Super- visors' salaries.	Salaries of clerks, inspec- tors, and interpre- ters.	Office expenses.	Travel- ing ex- penses.			
Kansas.....	\$197,779.42	\$13,769.00	\$12,762.69	\$873.02	\$1,568.79	\$163,805.92	1,769,237	11.2
First.....	18,911.43	1,714.00	1,583.50	59.89	70.25	15,483.79	214,091	8.3
Second.....	23,394.86	1,780.00	2,403.55	42.22	220.35	18,048.74	273,793	8.4
Third.....	25,206.43	1,780.00	1,672.54	.....	17.88	20,736.01	280,045	8.6
Fourth.....	15,544.96	1,652.00	1,431.04	177.20	91.16	12,433.56	152,378	10.2
Fifth.....	13,119.81	1,684.00	1,000.33	46.70	55.42	15,333.36	184,344	9.8
Sixth.....	38,165.45	1,693.00	1,602.33	393.63	419.99	34,051.50	197,694	19.3
Seventh.....	42,472.00	1,753.00	1,850.30	76.73	435.33	38,356.64	253,124	16.8
Eighth.....	16,964.48	1,708.00	1,519.10	76.65	253.41	13,402.32	207,878	8.2
Kentucky.....	222,331.38	13,916.00	14,551.48	1,533.37	2,273.48	185,552.05	2,416,630	9.2
First.....	21,939.37	1,710.00	1,183.34	88.83	252.09	18,705.11	211,298	10.4
Second.....	17,651.13	1,697.00	501.00	32.00	73.36	15,347.77	196,697	9.0
Third.....	19,903.93	1,693.00	596.33	60.05	406.24	17,148.31	192,971	10.3
Fourth.....	22,026.22	1,708.00	1,159.00	160.50	222.32	17,746.40	207,721	10.6
Fifth.....	16,968.70	1,786.00	2,552.17	74.09	6.01	12,550.43	286,360	5.9
Sixth.....	14,809.98	1,686.00	1,665.26	104.76	76.06	11,277.90	186,068	8.0
Seventh.....	19,491.56	1,705.00	1,546.50	259.57	228.13	15,752.36	205,328	9.5
Eighth.....	17,520.40	1,668.00	1,065.34	177.52	162.15	14,447.39	168,097	10.4
Ninth.....	26,999.49	1,773.00	1,364.09	153.38	617.70	23,091.32	272,725	9.9
Tenth.....	18,720.53	1,700.00	1,776.12	393.47	51.10	14,799.84	194,710	9.4
Eleventh.....	26,800.07	1,790.00	1,142.33	29.20	183.32	23,655.22	289,766	9.2
Louisiana.....	157,338.25	12,906.13	10,878.74	891.14	1,086.52	131,575.72	1,798,589	8.7
First.....	21,154.91	1,887.00	3,126.99	56.60	.....	16,084.32	357,210	5.5
Second.....	6,705.59	1,578.00	555.99	40.09	.....	4,581.60	78,435	8.5
Third.....	17,964.22	1,712.00	1,375.49	257.48	501.56	14,117.69	212,152	8.5
Fourth.....	19,894.42	1,724.00	771.29	34.50	93.93	17,270.70	223,777	8.9
Fifth.....	25,132.52	1,721.00	1,321.00	85.00	169.95	21,835.57	221,715	11.3
Sixth.....	20,315.62	1,864.13	952.00	290.52	175.17	18,033.80	255,372	8.0
Seventh.....	23,703.74	1,705.00	1,523.98	49.18	33.58	20,392.00	204,900	11.6
Eighth.....	22,467.23	1,715.00	1,252.00	77.86	112.33	19,310.04	214,930	10.5
Maine.....	65,178.88	6,768.00	4,338.42	780.58	531.45	52,760.43	768,014	8.5
First.....	14,634.10	1,695.00	1,119.44	333.25	77.70	10,838.62	195,072	7.2
Second.....	17,055.24	1,689.00	1,321.96	139.65	43.08	13,861.52	188,563	9.0
Third.....	17,244.73	1,694.00	997.33	68.37	156.37	14,328.66	194,413	8.9
Fourth.....	16,814.81	1,693.00	899.66	239.31	254.21	13,731.63	183,968	8.9
Maryland.....	100,391.80	8,950.00	9,564.41	1,735.27	381.41	79,670.71	1,449,661	6.9
First.....	15,821.30	1,695.00	690.00	103.55	4.20	13,358.55	194,568	8.1
Second.....	12,162.11	1,638.00	1,250.32	243.65	51.30	8,978.84	138,858	8.8
Third.....	38,342.85	2,234.00	5,322.43	1,045.62	5.12	29,735.68	739,826	5.2
Fourth.....	14,351.83	1,646.00	1,088.33	288.86	128.13	11,290.51	143,142	9.8
Fifth.....	19,623.71	1,737.00	1,243.33	53.59	192.66	16,397.13	236,772	8.3
Massachusetts...	233,790.12	15,851.00	33,786.66	3,927.67	2,974.56	172,250.23	3,852,356	6.1
First.....	15,764.15	1,732.00	1,079.66	299.24	.....	12,692.25	231,093	6.8
Second.....	18,541.60	1,800.00	2,682.01	437.32	188.14	13,434.13	260,365	6.2
Third.....	26,104.27	1,955.00	2,994.93	83.09	120.97	20,945.28	455,135	5.7
Fourth.....	44,641.37	2,278.00	7,527.31	653.79	844.56	33,337.71	778,852	5.7
Fifth.....	39,853.10	1,981.00	5,826.07	1,216.10	843.81	29,956.12	482,156	6.4
Sixth.....	46,847.56	2,336.00	9,619.00	239.58	11.60	34,660.38	835,522	5.6
Seventh.....	24,490.99	1,866.00	4,393.62	165.24	198.58	17,897.55	366,174	6.7
Eighth.....	26,547.08	1,903.00	4,664.06	876.31	766.96	18,336.81	402,719	6.6
Michigan.....	286,788.87	20,168.00	21,784.92	1,254.35	2,204.88	241,376.72	3,668,412	7.5
First.....	59,695.49	2,678.00	8,073.76	136.42	.....	48,897.31	1,177,645	5.1
Second.....	16,527.45	1,707.00	1,076.17	13.00	233.14	13,498.14	296,941	8.0
Third.....	17,891.24	1,726.00	1,228.00	23.85	97.36	14,816.03	295,678	7.9
Fourth.....	18,981.75	1,700.00	1,199.97	162.35	256.41	15,672.02	199,504	9.5
Fifth.....	15,977.65	1,731.00	1,723.00	48.85	.....	12,474.80	239,701	6.9
Sixth.....	29,987.62	1,815.00	1,674.24	293.11	81.52	17,183.75	314,794	6.7
Seventh.....	29,827.36	1,719.00	1,592.16	214.65	264.52	17,097.63	219,237	9.5
Eighth.....	29,353.60	1,757.00	698.66	40.50	13.56	17,843.88	256,762	7.9
Ninth.....	25,695.94	1,763.00	756.42	76.15	147.91	24,012.46	263,245	12.1
Tenth.....	36,193.47	1,891.00	2,339.66	297.72	634.87	31,122.22	391,949	12.0
Eleventh.....	32,655.39	1,831.00	1,431.88	7.75	475.59	28,909.08	332,556	9.8

APPENDIX III—Continued.

TABLE 2.—COST OF FIELD WORK, FOURTEENTH CENSUS OF THE UNITED STATES BY SUPERVISORS' DISTRICTS—Continued.

STATE AND SUPERVISOR'S DISTRICT.	Total.	FIELD SUPERVISION.				Enumeration—Compensation and traveling expenses of enumerators.	Population.	Per capita cost—cents.
		Super- visors' salaries.	Salaries of clerks, inspec- tors, and interpre- ters.	Office expenses.	Travel- ing expenses.			
Minnesota.....	\$203,369.65	\$17,286.00	\$16,535.23	\$1,759.84	\$2,708.38	\$224,980.20	2,387,125	11.0
First.....	21,869.65	1,714.00	1,256.82	96.05	160.60	18,042.18	214,360	10.2
Second.....	29,114.00	1,726.00	984.00	146.82	211.29	26,045.98	225,702	12.9
Third.....	23,507.49	1,712.00	1,873.99	341.54	404.25	19,175.71	212,610	11.1
Fourth.....	14,778.75	1,745.00	2,055.36	373.77	.....	10,604.62	244,554	6.0
Fifth.....	22,289.02	1,915.00	2,260.81	8.71	61.73	18,042.77	415,419	5.4
Sixth.....	32,263.57	1,735.00	1,682.50	90.00	307.62	28,448.45	234,785	13.7
Seventh.....	28,194.15	1,715.00	1,153.34	29.00	124.22	25,172.59	215,496	13.1
Eighth.....	32,927.04	1,773.00	2,872.11	210.06	300.64	27,771.23	273,270	12.0
Ninth.....	42,924.44	1,735.00	1,350.80	250.04	929.80	38,654.84	235,112	18.3
Tenth.....	15,595.45	1,616.00	1,045.50	213.85	268.23	12,421.87	116,417	13.3
Mississippi.....	189,831.34	13,789.00	10,207.61	972.81	1,686.02	163,175.90	1,790,618	10.6
First.....	21,265.17	1,700.00	1,052.49	125.38	286.82	18,100.45	200,155	10.6
Second.....	23,011.05	1,648.00	1,280.83	133.85	139.75	19,758.62	193,455	11.6
Third.....	42,637.78	1,850.00	1,164.67	55.00	124.95	39,442.56	349,662	12.2
Fourth.....	20,342.78	1,692.00	339.49	48.00	187.77	17,872.52	192,927	10.5
Fifth.....	21,531.26	1,710.00	1,969.36	56.56	265.84	17,529.56	219,691	10.3
Sixth.....	21,924.95	1,707.00	1,042.11	249.27	212.68	18,662.89	267,453	8.2
Seventh.....	19,866.32	1,693.00	1,208.60	96.20	284.84	16,522.28	195,087	10.2
Eighth.....	19,252.03	1,677.00	1,890.66	127.61	183.37	15,283.99	177,185	10.9
Missouri.....	281,506.30	24,405.00	25,118.15	3,222.36	2,878.04	225,882.75	3,494,955	8.2
First.....	15,554.23	1,661.00	775.60	134.93	126.54	12,856.82	161,085	9.7
Second.....	16,341.77	1,665.00	956.16	123.69	208.74	13,388.27	165,266	9.9
Third.....	16,200.47	1,652.00	631.16	502.55	186.16	13,228.60	151,584	10.7
Fourth.....	16,760.23	1,677.00	1,819.31	86.79	127.23	13,049.87	176,561	9.5
Fifth.....	23,002.29	1,868.00	3,736.74	387.76	135.20	16,874.59	367,846	11.1
Sixth.....	15,490.21	1,639.00	842.60	269.29	270.57	12,379.35	138,931	6.2
Seventh.....	19,727.94	1,718.00	1,338.17	158.95	97.81	15,942.01	217,713	9.1
Eighth.....	14,059.86	1,639.00	1,033.32	127.00	55.32	11,156.22	138,807	10.1
Ninth.....	17,689.37	1,678.00	650.08	114.15	166.91	15,071.23	177,668	10.0
Tenth.....	43,226.79	2,273.00	8,674.62	1,020.05	8.42	31,250.61	772,897	5.6
Eleventh.....	20,536.36	1,761.00	951.08	155.75	48.39	17,683.14	261,429	7.9
Twelfth.....	30,227.78	1,813.00	1,656.01	95.25	741.87	25,921.95	312,540	9.7
Thirteenth.....	18,026.48	1,706.00	1,256.67	9.10	.....	15,054.71	206,149	8.7
Fourteenth.....	14,710.58	1,655.00	797.83	37.19	192.18	12,028.38	155,249	9.5
Montana.....	139,915.80	5,045.00	4,444.97	1,889.36	394.47	128,142.09	548,889	25.5
First.....	44,348.90	1,714.00	1,416.51	752.19	128.06	40,338.14	215,413	20.6
Second.....	55,864.90	1,694.00	2,103.33	607.15	157.98	51,302.44	196,565	28.4
Third.....	39,702.00	1,637.00	925.13	530.02	108.43	36,591.51	136,911	28.9
Nebraska.....	168,741.42	10,295.00	7,950.94	630.90	687.52	149,177.06	1,296,372	13.0
First.....	15,134.08	1,673.00	1,111.67	.....	261.12	12,148.29	173,458	8.7
Second.....	15,895.21	1,726.00	2,251.67	257.15	25.96	11,694.43	226,074	7.0
Third.....	23,430.25	1,744.00	1,233.33	.....	64.32	26,388.60	244,367	12.0
Fourth.....	19,426.24	1,682.00	1,127.53	130.78	76.59	16,499.34	182,181	10.7
Fifth.....	24,837.43	1,682.00	1,177.48	113.22	97.67	21,817.06	182,212	13.7
Sixth.....	63,988.21	1,788.00	1,049.26	129.75	221.86	60,899.34	288,090	22.2
Nevada.....	24,279.74	3,677.00	1,641.00	449.79	547.21	18,573.74	77,407	31.4
First.....	17,762.26	1,559.00	639.84	126.45	276.75	15,070.22	59,499	29.9
Second.....	6,517.48	1,518.00	1,001.16	224.34	270.46	3,503.52	17,908	36.3
New Hampshire.....	32,896.12	2,523.99	2,264.07	617.88	578.98	26,006.29	443,033	7.4
First.....	16,210.64	850.90	985.66	338.87	262.71	13,822.50	215,102	7.5
Second.....	16,685.48	1,728.00	1,278.41	279.01	316.27	13,083.79	227,931	7.4
New Jersey.....	186,148.55	16,665.00	24,340.10	1,577.29	1,078.57	142,485.59	3,155,900	5.9
First.....	17,309.56	1,775.00	1,993.85	243.28	110.95	13,186.50	275,304	6.3
Second.....	16,634.47	1,746.00	1,494.17	54.97	247.47	13,091.86	246,492	6.7
Third.....	16,457.04	1,789.00	1,016.25	.....	26.37	13,626.02	289,414	5.7
Fourth.....	15,802.70	1,741.00	2,493.66	60.21	11.15	11,586.68	240,757	6.5
Fifth.....	18,804.24	1,783.00	2,527.72	72.00	328.43	14,093.09	282,851	6.6
Sixth.....	17,674.34	1,791.00	1,872.30	24.67	172.55	13,813.82	280,665	6.3
Seventh.....	14,852.90	1,759.00	2,270.63	92.84	.....	10,790.43	259,174	5.7
Eighth.....	35,100.28	2,152.00	4,884.12	964.07	8.76	27,031.33	652,059	5.4
Ninth.....	33,510.42	2,129.00	5,877.40	65.27	172.89	25,265.86	629,154	5.3

## APPENDIX III—Continued.

TABLE 2.—COST OF FIELD WORK, FOURTEENTH CENSUS OF THE UNITED STATES, BY SUPERVISORS' DISTRICTS—Continued.

STATE AND SUPERVISOR'S DISTRICT.	Total.	FIELD SUPERVISION.				Enumeration—Com- pensation and traveling expenses of enu- merators.	Popula- tion.	Per capita costs, cents.
		Super- visors' salaries.	Salaries of clerks, inspec- tors, and interpre- ters.	Office expenses.	Travel- ing ex- penses.			
New Mexico.....	\$73,940.22	\$3,361.00	\$6,056.51	\$800.22	\$1,126.25	\$62,596.21	360,350	20.5
First.....	40,575.64	1,665.00	2,358.26	200.82	722.38	35,629.18	164,643	24.7
Second.....	33,364.58	1,696.00	3,698.25	599.40	403.90	26,967.03	195,707	17.0
New York.....	640,352.30	43,353.00	89,461.30	7,072.50	3,503.04	496,922.50	10,355,227	6.2
First.....	114,596.42	3,734.00	19,899.92	377.14	48.75	90,486.61	2,284,103	5.9
Second.....	40,201.95	2,232.00	7,578.17	1,052.69	5.95	29,333.14	732,016	3.4
Third.....	109,343.61	3,635.00	17,176.59	1,869.53	37.07	86,625.42	2,134,857	3.1
Fourth.....	26,061.46	1,967.00	4,501.73	149.38	18.81	19,429.54	469,042	3.6
Fifth.....	18,158.79	1,736.00	3,406.24	203.96	967.44	11,945.15	299,396	5.7
Sixth.....	21,339.69	1,844.00	3,600.47	249.65	231.87	15,413.70	344,436	6.2
Seventh.....	19,662.83	1,768.00	1,671.40	497.74	59.34	15,696.35	267,041	5.7
Eighth.....	16,928.93	1,694.00	1,073.24	209.56	465.47	13,486.66	194,171	8.7
Ninth.....	14,028.72	1,686.00	2,953.43	527.44	22.85	8,839.00	186,109	7.5
Tenth.....	17,950.85	1,750.00	1,482.59	84.57	30.03	14,633.66	249,719	7.2
Eleventh.....	15,279.06	1,716.00	1,741.33	225.86	36.73	11,559.14	216,188	7.1
Twelfth.....	20,693.86	1,707.00	1,820.69	386.62	186.96	16,592.39	207,431	10.0
Thirteenth.....	17,756.06	1,717.00	1,185.81	188.17	95.78	14,574.30	216,534	8.2
Fourteenth.....	18,092.22	1,748.00	2,174.60	43.00	137.63	13,988.99	247,799	7.3
Fifteenth.....	21,114.87	1,738.00	2,117.68	94.98	504.77	16,659.44	237,533	8.9
Sixteenth.....	18,672.16	1,771.00	2,731.17	84.89	5.40	14,079.70	271,090	6.9
Seventeenth.....	17,664.56	1,708.00	1,852.32	112.45	95.55	15,896.24	208,076	8.5
Eighteenth.....	19,123.22	1,719.00	1,541.00	380.07	66.70	15,416.45	219,094	8.7
Nineteenth.....	20,561.07	1,852.00	2,733.65	57.12	8.27	15,910.03	352,034	5.8
Twentieth.....	18,756.82	1,732.00	1,316.88	.....	197.98	15,489.96	252,444	7.4
Twenty-first.....	35,506.33	2,135.00	4,866.07	87.64	11.69	28,405.93	634,688	5.6
Twenty-second.....	18,858.86	1,724.00	2,036.32	195.04	273.00	14,630.50	223,513	8.4
North Carolina.....	233,939.31	19,057.00	12,937.12	1,173.23	3,530.31	197,241.65	2,559,123	9.1
First.....	11,221.19	1,608.00	684.84	73.50	181.69	8,673.16	108,045	10.4
Second.....	20,670.43	1,709.00	1,132.58	175.40	1,065.96	16,587.49	209,118	9.9
Third.....	21,356.90	1,703.00	1,417.50	178.44	348.10	17,709.86	202,760	10.5
Fourth.....	22,213.11	1,738.00	1,461.15	26.00	547.57	18,440.39	238,424	9.3
Fifth.....	32,890.87	1,908.00	1,721.58	154.94	1,031.05	29,003.30	498,139	8.1
Sixth.....	20,665.45	1,723.00	1,317.00	232.92	85.42	17,307.11	223,482	9.2
Seventh.....	26,437.20	1,795.00	923.16	38.25	55.97	23,644.82	295,317	9.0
Eighth.....	19,717.89	1,717.00	1,074.49	56.00	300.60	16,569.80	217,254	9.1
Ninth.....	24,405.14	1,798.00	1,366.66	194.68	155.51	20,891.20	297,966	8.2
Tenth.....	22,850.37	1,736.00	1,569.16	43.10	652.44	18,849.67	236,483	9.7
Eleventh.....	11,489.76	1,622.00	269.00	.....	34.00	9,564.76	122,085	9.4
North Dakota.....	137,173.15	5,146.00	4,130.16	1,033.03	1,227.24	125,636.72	646,872	21.2
First.....	34,491.69	1,716.00	1,297.50	530.04	339.62	30,558.53	215,969	16.0
Second.....	32,182.85	1,720.00	1,119.09	376.56	435.08	28,592.21	220,700	23.6
Third.....	59,528.61	1,710.00	1,713.66	126.43	402.54	46,575.98	210,269	24.9
Ohio.....	491,236.13	34,260.00	41,230.50	3,745.56	2,719.14	319,280.93	5,759,394	7.0
First.....	28,855.16	1,994.00	4,821.50	342.30	1.40	21,695.87	493,678	5.8
Second.....	20,198.26	1,820.00	2,050.04	76.04	34.53	16,217.65	319,795	6.3
Third.....	21,132.98	1,742.00	2,265.50	273.38	645.42	16,206.68	241,884	8.7
Fourth.....	16,206.55	1,671.00	1,081.67	42.10	87.58	13,324.20	170,680	6.5
Fifth.....	18,082.19	1,798.00	2,281.67	504.16	67.49	13,430.87	297,914	6.1
Sixth.....	16,170.62	1,699.00	1,522.88	60.71	277.51	12,610.52	197,890	8.2
Seventh.....	15,555.40	1,681.00	1,262.50	224.70	120.28	12,236.94	189,670	8.3
Eighth.....	22,625.66	1,778.00	1,599.16	81.25	587.54	18,579.71	277,974	8.1
Ninth.....	16,200.01	1,678.00	743.33	231.20	91.48	13,456.00	177,926	9.1
Tenth.....	15,477.21	1,679.00	1,202.01	137.86	161.94	12,296.46	178,887	8.7
Eleventh.....	14,221.73	1,667.00	1,470.50	97.94	91.80	10,894.49	167,217	8.5
Twelfth.....	18,950.50	1,784.00	4,404.72	147.84	4.00	12,610.24	238,931	6.7
Thirteenth.....	18,805.13	1,721.00	1,849.21	90.53	72.08	15,072.31	221,419	8.5
Fourteenth.....	25,535.81	1,939.00	1,834.32	89.25	104.40	21,838.84	439,073	5.9
Fifteenth.....	20,897.25	1,799.00	2,190.33	124.56	107.99	16,675.37	299,107	7.0
Sixteenth.....	17,465.24	1,699.00	1,076.50	92.57	76.50	14,529.67	199,445	8.8
Seventeenth.....	20,385.35	1,789.00	1,248.66	381.37	43.85	16,922.47	289,471	7.0
Eighteenth.....	25,448.81	1,879.00	2,309.16	487.22	81.37	20,692.06	379,478	6.7
Nineteenth.....	48,721.97	2,443.00	5,936.84	230.49	62.00	39,959.64	948,495	5.2

APPENDIX III—Continued.

TABLE 2.—COST OF FIELD WORK, FOURTEENTH CENSUS OF THE UNITED STATES, BY SUPERVISORS' DISTRICTS—Continued.

STATE AND SUPERVISOR'S DISTRICT.	Total.	FIELD SUPERVISION.				Enumeration—Compensation and traveling expenses of enumerators.	Population.	Per capita costs—cents.
		Super-visors' salaries.	Salaries of clerks, inspectors, and interpreters.	Office expenses.	Traveling expenses.			
Oklahoma.....	\$287,642.94	\$14,027.00	\$13,798.82	\$2,023.94	\$3,312.66	\$253,880.52	2,028,283	14.2
First.....	35,413.14	1,816.00	2,285.66	154.85	431.84	30,724.79	316,156	11.2
Second.....	28,012.80	1,744.00	1,512.64	398.54	611.55	23,746.07	244,315	11.5
Third.....	39,777.50	1,826.00	1,549.00	178.00	495.86	35,728.64	325,680	12.2
Fourth.....	38,449.05	1,786.00	1,448.00	291.74	320.48	34,602.83	286,298	13.4
Fifth.....	31,253.48	1,758.00	2,295.33	711.57	136.21	26,352.37	258,312	12.1
Sixth.....	31,507.05	1,708.00	1,596.17	136.05	469.38	27,596.85	207,648	15.1
Seventh.....	39,546.06	1,689.00	1,208.77	130.00	270.13	36,248.16	189,472	20.9
Eighth.....	43,683.86	1,700.00	1,903.25	622.59	577.21	38,880.81	200,402	21.8
Oregon.....	114,355.00	5,284.00	7,488.84	1,504.74	995.41	99,032.10	783,389	14.5
First.....	49,649.63	1,847.00	1,141.34	121.50	278.48	46,261.31	346,989	14.3
Second.....	44,320.02	1,661.00	1,903.50	545.99	713.75	39,495.78	160,502	27.6
Third.....	20,385.44	1,776.00	4,444.00	837.25	3.18	13,825.01	275,898	7.4
Pennsylvania....	544,959.92	44,717.00	54,473.44	6,216.95	2,419.23	437,133.30	8,720,617	6.2
First.....	93,761.26	3,323.00	14,714.01	2,059.12	111.81	73,665.13	1,823,779	5.1
Second.....	17,183.35	1,788.00	1,208.80	123.95	27.00	13,950.79	288,204	6.0
Third.....	18,127.06	1,782.00	1,523.85	171.43	25.05	14,794.21	281,786	6.4
Fourth.....	13,370.09	1,674.00	875.34	171.43	25.05	10,624.27	173,797	7.7
Fifth.....	21,870.43	1,849.00	2,306.72	462.39	127.18	17,131.14	348,955	6.8
Sixth.....	14,541.62	1,747.00	2,284.81	394.16	151.88	9,922.77	217,754	7.3
Seventh.....	18,087.11	1,747.00	1,805.08	229.65	116.90	14,188.48	247,184	7.3
Eighth.....	21,222.13	1,891.00	1,361.73	28.60	73.53	17,867.27	300,991	5.4
Ninth.....	17,370.10	1,786.00	2,147.66	283.00	.....	13,153.44	286,911	6.1
Tenth.....	15,165.33	1,629.00	1,234.16	202.98	89.62	12,009.57	129,465	11.7
Eleventh.....	15,080.49	1,694.00	1,602.46	315.86	76.99	11,391.18	194,023	7.8
Twelfth.....	16,847.63	1,775.00	1,087.25	12.00	18.33	13,955.05	274,846	6.1
Thirteenth.....	13,337.47	1,679.00	474.67	107.33	23.64	11,032.83	179,104	7.4
Fourteenth.....	16,314.02	1,713.00	603.12	25.48	93.36	13,879.06	213,497	7.6
Fifteenth.....	14,854.68	1,703.00	1,155.50	41.76	75.92	11,878.50	202,771	7.3
Sixteenth.....	16,572.94	1,675.00	1,781.42	348.94	101.48	12,666.10	174,862	9.5
Seventeenth.....	17,076.57	1,735.00	1,178.26	61.75	79.53	14,022.03	235,454	7.3
Eighteenth.....	19,189.05	1,755.00	1,616.33	157.24	307.01	15,353.47	254,752	7.5
Nineteenth.....	21,843.96	1,851.00	1,660.17	117.27	154.01	18,061.51	350,838	6.2
Twentieth.....	21,742.94	1,864.00	1,372.27	.....	25.57	18,481.10	364,450	6.0
Twenty-first.....	20,326.62	1,801.00	1,855.33	73.63	141.02	16,455.64	301,020	6.8
Twenty-second.....	21,979.14	1,886.00	812.89	24.34	20.44	19,235.47	386,158	5.7
Twenty-third.....	15,682.02	1,714.00	1,397.51	12.00	163.52	12,394.99	214,203	7.3
Twenty-fourth.....	63,407.91	2,685.00	8,414.10	937.07	442.44	50,929.30	1,185,808	5.3
Rhode Island....	\$32,632.14	\$2,104.00	\$3,652.33	\$285.69	\$57.13	\$26,532.99	604,397	5.4
South Carolina..	154,658.66	12,184.00	9,191.06	930.88	2,172.24	130,180.48	1,683,724	9.2
First.....	18,578.90	1,715.00	1,941.16	446.72	49.10	14,426.92	213,242	8.6
Second.....	19,656.97	1,703.00	1,075.17	60.00	83.36	16,735.44	203,418	9.7
Third.....	24,668.16	1,750.00	1,821.67	266.80	277.91	20,551.78	249,721	9.9
Fourth.....	21,032.04	1,756.00	890.83	25.43	142.60	18,117.18	255,695	8.2
Fifth.....	21,972.28	1,729.00	1,509.16	47.58	142.90	18,543.64	228,649	9.6
Sixth.....	26,091.76	1,764.00	1,130.32	56.20	1,154.93	21,886.31	264,043	9.9
Seventh.....	22,658.55	1,767.00	822.75	28.15	221.44	19,819.21	266,956	8.5
South Dakota....	126,552.04	5,136.00	3,820.51	1,371.06	1,368.38	114,856.09	636,547	19.9
First.....	39,170.68	1,747.00	410.67	133.40	211.11	36,668.50	247,111	15.9
Second.....	45,728.47	1,751.00	1,086.67	540.34	462.14	41,888.32	251,405	18.2
Third.....	41,652.89	1,638.00	2,323.17	697.32	695.13	36,299.27	138,031	30.2
Tennessee.....	210,718.74	17,436.00	13,915.21	784.14	1,535.35	177,048.04	2,337,885	9.0
First.....	23,790.80	1,760.00	729.50	41.49	101.16	21,158.75	260,166	9.1
Second.....	21,566.88	1,787.00	1,002.00	23.90	23.65	18,729.83	286,947	7.5
Third.....	27,676.02	1,796.00	981.24	105.37	15.38	19,678.03	296,396	7.6
Fourth.....	21,263.13	1,709.00	907.00	100.65	246.39	18,200.06	208,828	10.2
Fifth.....	15,985.84	1,645.00	710.66	102.94	323.54	13,303.70	145,403	11.0
Sixth.....	19,707.32	1,750.00	2,077.85	80.35	139.69	15,659.40	250,044	7.9
Seventh.....	18,625.13	1,787.00	846.83	29.25	211.85	15,720.20	187,189	9.9
Eighth.....	20,503.83	1,689.00	1,588.33	77.90	176.06	16,972.54	189,091	10.8
Ninth.....	20,798.73	1,706.00	889.66	144.73	198.64	17,859.70	206,210	10.1
Tenth.....	25,901.46	1,807.00	4,182.14	77.50	98.99	19,735.83	307,251	8.4

## APPENDIX III—Continued.

TABLE 2.—COST OF FIELD WORK, FOURTEENTH CENSUS OF THE UNITED STATES, BY SUPERVISORS' DISTRICTS—Continued.

STATE AND SUPERVISOR'S DISTRICT.	Total.	FIELD SUPERVISION.				Enumeration—Compensation and traveling expenses of enumerators.	Population.	Per capita cost.
		Super- visors' salaries.	Salaries of clerks, inspec- tors, and interpre- ters.	Office expenses.	Travel- ing ex- penses.			
Texas.....	\$495,024.85	\$31,662.00	\$32,932.02	\$4,255.45	\$5,186.01	\$420,989.37	4,663,228	10.6
First.....	27,813.54	1,771.00	1,219.83	198.66	388.17	24,235.88	271,472	10.2
Second.....	29,882.50	1,849.00	1,542.84	313.76	295.40	25,579.50	349,859	8.5
Third.....	24,054.69	1,746.00	1,070.23	68.38	37.88	21,181.70	245,791	9.8
Fourth.....	20,549.95	1,730.00	1,182.50	142.80	70.85	17,423.80	230,409	8.9
Fifth.....	19,877.78	1,775.00	2,401.07	145.38	40.65	15,315.68	274,842	7.2
Sixth.....	27,025.56	1,769.00	1,165.67	359.15	504.23	23,227.51	268,757	10.1
Seventh.....	26,488.70	1,711.00	3,032.40	254.80	398.66	21,061.84	211,032	12.6
Eighth.....	18,780.76	1,743.00	1,695.50	1,014.45	262.19	14,065.62	242,991	7.7
Ninth.....	25,791.70	1,743.00	1,781.25	182.00	88.74	21,996.70	243,455	10.6
Tenth.....	23,105.92	1,745.00	1,158.25	23.25	362.77	19,516.65	244,645	9.4
Eleventh.....	19,736.14	1,719.00	958.65	59.40	118.57	16,880.52	218,859	9.0
Twelfth.....	21,610.55	1,754.00	2,531.33	41.50	342.70	16,941.02	254,175	8.5
Thirteenth.....	25,963.17	1,751.00	2,278.41	213.38	396.69	24,323.69	250,584	11.6
Fourteenth.....	34,380.46	1,832.00	3,164.23	528.14	376.80	28,479.29	332,213	10.3
Fifteenth.....	30,652.53	1,722.00	1,883.98	123.60	343.79	26,576.16	222,082	13.8
Sixteenth.....	35,016.34	1,731.00	2,861.89	160.60	742.75	29,520.10	230,577	15.2
Seventeenth.....	32,682.42	1,814.00	945.65	243.45	134.61	29,944.71	314,314	10.4
Eighteenth.....	48,812.14	1,757.00	2,056.33	148.75	281.06	44,869.00	257,170	19.0
Utah.....	49,654.25	3,449.00	3,080.72	486.68	283.62	42,354.23	449,396	11.0
First.....	27,879.50	1,704.00	1,132.67	11.25	151.61	24,879.97	204,317	13.6
Second.....	21,774.75	1,745.00	1,948.05	475.43	132.01	17,474.26	245,259	8.9
Vermont.....	33,201.83	3,353.00	1,995.50	87.51	329.94	27,435.91	352,428	9.4
First.....	15,355.91	1,676.00	1,319.67	67.12	276.78	13,016.54	175,832	9.3
Second.....	18,845.95	1,677.00	675.83	20.39	53.16	14,419.57	176,596	9.5
Virginia.....	198,028.38	17,308.00	16,092.87	1,691.33	2,439.07	160,490.11	2,309,187	8.6
First.....	21,699.98	1,750.00	1,583.95	126.70	673.11	17,566.22	250,512	8.7
Second.....	22,451.43	1,812.00	3,557.87	586.27	328.21	16,167.08	312,458	7.2
Third.....	19,255.57	1,762.00	2,567.65	93.69	27.34	14,804.89	262,207	7.3
Fourth.....	18,231.43	1,710.00	1,150.34	16.00	159.27	15,195.82	200,791	8.7
Fifth.....	21,750.41	1,741.00	385.00	61.61	.....	19,561.80	241,416	9.0
Sixth.....	18,092.54	1,697.00	1,333.88	111.00	98.14	14,852.52	197,029	9.1
Seventh.....	15,936.41	1,688.00	1,271.16	148.59	314.07	12,494.59	167,588	9.5
Eighth.....	17,422.39	1,670.00	1,337.99	243.00	395.36	13,775.04	169,716	10.3
Ninth.....	24,176.84	1,796.00	1,246.23	135.60	300.50	20,698.51	296,230	8.2
Tenth.....	19,051.38	1,702.00	1,664.80	168.87	142.07	15,373.64	202,150	9.4
Washington.....	172,562.24	8,836.00	13,192.74	2,531.67	907.15	147,074.68	1,356,621	12.7
First.....	27,551.04	1,889.00	3,185.51	875.05	6.05	21,595.43	389,273	7.1
Second.....	26,169.73	1,712.00	1,147.23	123.19	223.79	22,963.52	211,844	12.4
Third.....	35,605.18	1,818.00	2,381.00	548.59	211.40	30,646.19	318,313	11.2
Fourth.....	42,121.79	1,700.00	1,942.80	236.75	60.68	38,181.56	200,258	21.0
Fifth.....	41,114.50	1,737.00	4,536.20	748.09	405.23	33,687.98	236,933	17.3
West Virginia.....	121,346.28	10,463.00	7,320.75	720.86	1,171.24	101,670.43	1,463,701	8.3
First.....	15,835.17	1,729.00	1,102.59	48.92	428.12	12,526.54	229,457	6.9
Second.....	22,129.57	1,722.00	1,755.80	254.16	159.47	18,228.14	231,655	9.6
Third.....	24,309.81	1,730.00	1,661.21	186.38	77.64	20,654.58	230,255	10.6
Fourth.....	18,163.29	1,715.00	1,205.49	103.97	150.95	14,985.88	214,930	8.5
Fifth.....	22,092.33	1,778.00	818.83	60.00	334.30	19,101.20	278,302	7.9
Sixth.....	18,816.11	1,779.00	775.83	67.43	20.76	16,173.09	279,072	6.7
Wisconsin.....	237,734.04	17,630.00	14,540.18	1,157.78	1,429.86	202,976.22	2,632,067	9.0
First.....	18,503.26	1,768.00	1,129.03	177.40	127.45	15,301.33	268,334	6.9
Second.....	22,736.26	1,717.00	1,228.17	50.69	120.01	19,680.39	217,193	10.5
Third.....	23,724.61	1,728.00	1,659.18	158.58	293.89	19,884.96	228,145	10.4
Fourth.....	27,800.06	2,039.00	2,877.21	40.37	4.00	22,619.48	539,449	5.1
Fifth.....	17,605.29	1,714.00	1,216.50	231.63	47.86	14,395.30	214,206	8.2
Sixth.....	20,995.44	1,716.00	763.50	.....	192.71	18,323.23	216,188	9.7
Seventh.....	25,551.62	1,718.00	1,051.00	167.15	187.49	22,427.97	218,438	11.7
Eighth.....	24,959.87	1,749.00	1,005.12	32.20	125.51	22,405.04	248,554	10.0
Ninth.....	22,534.47	1,729.00	2,087.00	237.25	256.24	18,214.98	228,875	9.8
Tenth.....	33,483.15	1,722.00	1,523.47	62.50	64.70	30,083.93	252,690	13.2
Wyoming.....	49,328.81	3,195.00	3,025.49	537.94	130.65	42,439.70	194,402	25.4
First.....	25,165.66	1,607.00	1,131.66	181.68	51.18	22,194.14	103,672	23.6
Second.....	24,163.15	1,588.00	1,893.83	356.26	79.50	20,245.56	87,730	27.5