

MANUFACTURES : 1909

STATISTICS OF MANUFACTURES FOR METROPOLITAN DISTRICTS

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INTRODUCTION.

This bulletin gives the statistics of manufactures for thirteen of the most important urban centers in the United States for the calendar year 1909, as shown by the Thirteenth Census. It has been printed as a part of Volume X of the final reports of the Thirteenth Census.

The statistics of manufactures presented in this and other census reports have certain limitations which are fully discussed in the general report on manufactures for the United States as a whole (Volume VIII of Thirteenth Census Reports).

Table 1 distributes the statistics for the group of metropolitan districts so as to show separately figures for the group of central cities and for the remaining territory of the districts. In Table 2 the statistics for the districts are combined and compared with the totals for the United States. Table 3 is a summary for the census of 1909 for each of the metropolitan districts included.

Five tables are presented in connection with the discussion of each metropolitan district, with the exception of Detroit. The first table in order summarizes the statistics of manufactures for 1909 and gives a statement of the population in 1910 for the metropolitan district, for the central city or cities, for all other incorporated places within the district having 10,000 or more inhabitants, and for the remainder of the territory. The percentage which the figures for the central city or cities represent of the total for the district is also shown. The second table is a comparative summary of the statistics for the district as a whole for 1909, 1904, and 1899, with percentages of increase from census to census for comparable areas. The third table gives for 1909, 1904, and 1899 the percentage which the figures for the territory outside of the central city or cities represent of the total for the district. In the fourth table statistics for 1909 are presented for the leading industries of the metropolitan district. The fifth table is a comparative summary for 1909, 1904, and 1899, showing the number of establishments, average number of wage earners, and value of products, with percentages of increase, for such of the leading industries of the district as can be shown separately, and had in 1909 products amounting to a stated minimum value.

Scope of census: Factory industries.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline.

The census of 1909, like that of 1904, was confined to manufacturing establishments conducted under the factory system, as distinguished from the neighborhood, hand, and building industries. Where statistics for 1899 are given, they have been reduced to a comparable basis by eliminating the latter classes of industries. The census did not cover establishments which were idle during the entire year, or had a value of products of less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions, or in governmental establishments.

Period covered.—The returns relate to the calendar year 1909, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—As a rule the term "establishment" represents a single plant or mill, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept.

If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

Classification by industries.—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

Selected industries.—Tables in each section give the principal facts separately for most of the leading industries of the district in question. Sometimes an industry of greater importance than some of those selected is omitted because it comprised so few establishments that these detailed presentations would reveal the operations of individual concerns.

Comparisons with previous censuses.—Owing to the changes in industrial conditions, it is not always possible to classify establishments by industries in such a way as to permit an accurate comparison with preceding censuses.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

Persons engaged in industry.—At the censuses of 1899, 1904, and 1909 the following general classes of persons engaged in manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. The second group included the three classes of salaried officers of corporations, superintendents and managers, and clerks. However, in this report the second, third, and fourth groups have been combined as salaried employees.

At this census the number of persons engaged in each industry, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. In the statistics of this report, however, no distinction is made as to sex and age. For most industries the 15th of December was selected as representing normal conditions of employment, but where conditions were exceptional and the December date could not be accepted as typical an earlier date had to be chosen.

In the case of employees other than wage earners the number thus reported on December 15, or other representative day, has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average is obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on December 15, or other representative day, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained represents the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day. The figures for wage earners in 1909 in the present bulletin are averages obtained in this manner.

In 1899 and 1904 the schedule called for the average number of wage earners of each sex 16 years of age and over, and the average number under 16 years of age without distinction of sex, for each month, and these monthly statements were combined in an annual average. Comparatively few manufacturing concerns, however, keep their books in such way as to show readily the number of men, women, and children employed on the average each month. These monthly returns by sex and age were, in fact, largely estimates. It was believed that a more accurate and reliable sex and age distribution could be secured by taking as a basis of estimate the actual numbers employed on a single day.

Capital.—For reasons stated in prior census reports, the statistics of capital secured by the census canvass are so defective as to be without value, except as indicating very general conditions. The instructions on the schedule for securing capital were as follows:

The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

Materials.—“Cost of materials” refers to the materials used during the year which may be more or less than the materials purchased during the year. The term “materials” includes fuel, rent of power and heat, mill supplies, and containers, as well as materials forming a constituent part of the product.

Expenses.—Under “Expenses” are included all items of expense incident to the year’s business, except interest, whether on bonds or other forms of indebtedness, and allowances for depreciation.

Value of products.—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold. Amounts received for work on materials furnished by others are included.

Value added by manufacture.—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part of it, and often by far the larger part, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is obtained by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports “value added by manufacture.”

Cost of manufacture and profits.—Census data do not show the entire cost of manufacture, and consequently can not be used to show profits. No account has been taken of interest or depreciation. Even if the amount of profit could be determined by deducting the expenses from the value of the products, the rate of return on the investment could not properly be calculated, because of the very defective character of the figures regarding capital.

Primary horsepower.—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented by them from other concerns. It does not cover the electric power developed by the primary power of the establishments themselves, the inclusion of which would evidently result in duplication.

METROPOLITAN DISTRICTS

NEW YORK CITY

CHICAGO

PHILADELPHIA

PITTSBURGH

BOSTON

ST. LOUIS

SAN FRANCISCO-OAKLAND

CLEVELAND

BUFFALO

DETROIT

CINCINNATI

BALTIMORE

MINNEAPOLIS-ST. PAUL

STATISTICS OF MANUFACTURES FOR METROPOLITAN DISTRICTS.

CITIES AND THEIR SUBURBS.

The metropolitan districts for which statistics are presented in this report include not only the area within the corporate limits of the city but also parts of the surrounding territory which may in a general way be regarded as closely associated with the development of the city. Statistics as to the population of important urban centers, which are termed "metropolitan districts," have been published in the Thirteenth Census bulletin entitled "Population of Cities," and the boundaries of the districts as there defined have been adopted for the presentation of statistics relative to manufactures. Although these districts were not defined on an industrial basis, it is believed that they include most of the important factories which are intimately connected with the growth of the central cities.

In many cases manufacturing establishments of considerable size are located just outside the boundaries of cities. Such sites are purposely chosen by manufacturers who wish to secure all the advantages of an urban location, such as a plentiful supply of labor, good shipping facilities, and the like, and at the same time escape as many as possible of the expenses and restrictions which they would incur in building their plants within the city limits. The corporate limits of some cities have been extended so as to take in important manufacturing suburbs, while the boundaries of other towns have remained unchanged, although important manufacturing suburbs have developed. When city limits are established or extended the boundaries are in many instances fixed in such a way as to leave outside certain plants which would be expected to come within the city limits. Obviously, the statistics for a city alone do not always accurately represent its importance from an industrial standpoint. It follows, therefore, that the exact importance of a city as a manufacturing center can be ascertained only by combining with the statistics for establishments actually located in the city, figures for the neighboring manufacturing establishments identified or closely associated with its industrial development.

Method of defining districts.—The metropolitan district as defined for the census of 1910, in a general way consists of the city, together with the civil divisions of urban character lying within 10 miles of the city limits. Divisions which lie partly within and partly without the 10-mile limit are included if either one-half of their total population or one-half of their

total area comes within that limit. State boundaries are disregarded, so that in some cases the metropolitan district lies partly in two states. The area within the 10-mile limit thus defined is, of course, a very different thing from the area of a circle having as its radius a line extending 10 miles from the center of the city; nor is it the area bounded by a line drawn parallel to the city boundary at an exact distance of 10 miles, because in mapping out the district no civil divisions can be subdivided. Hence the outline of the area does not follow geometrical lines, but conforms to the boundaries of the political divisions which are on the outer edge of the included area. Owing to this fact, the boundaries of the adjacent territory thus defined sometimes vary considerably in their actual distance from the city lines. The area considered in this report is the net area, or land surface only.

Districts for which statistics are presented.—The statistics for 13 districts only are shown in the report, as the retabulation necessary to make a similar presentation of the figures for all metropolitan districts in the United States is impracticable. The metropolitan districts were selected for this presentation according to their population.

The central cities of the districts selected are, in the order of the importance of the districts as manufacturing centers, as follows: New York, Chicago, Philadelphia, Pittsburgh, Boston, St. Louis, Cleveland, Buffalo, Detroit, Cincinnati, Baltimore, Minneapolis and St. Paul, and San Francisco and Oakland. The districts are presented in the same order in the report.

Comparison with earlier censuses.—This report is a continuation of a similar report prepared in connection with the census of manufactures of 1904 (Bulletin 101, Industrial Districts, 1905), which contains statistics for 1904 and 1899 for 13 "industrial" districts. The central cities represented in the earlier bulletin are the same as those in the present report, except that Providence was included while Detroit was not.

Owing to the fact that different methods were employed in mapping out "metropolitan" and "industrial" districts, the area of the metropolitan district in 1909 is in most cases very different from that of the industrial district in 1904 and 1899. Since in the case of Boston a strict application of the rule used for determining metropolitan districts at the population census of 1910 would have given an area almost identical with the area of the industrial district of Boston in 1904 and 1899, the latter area was for conveni-

ence of comparison considered as the metropolitan district. The same was true of New York City, except that Nassau County, and a part of the town of Rye, N. Y., which were not included in the industrial district, were added to the metropolitan district, and Maywood borough, N. J., which was in the industrial district, was not included in the metropolitan district. In the case of the other industrial districts shown in the bulletin mentioned, the areas were so different from the metropolitan districts, as determined by the application of the rule described above, that no attempt was made to secure conformity.

On account of the differences in the areas as defined for the two reports, it was deemed advisable, in compiling the tables showing totals for the districts at the various censuses, to segregate the figures for the territory added and that deducted since 1904 and to compute increases only on the basis of the figures for the area which was comprised in the district at both censuses. In the comparison of selected industries, however, it was deemed best, except for the Pittsburgh district, to make no segregation of the figures for the territory added or deducted since 1904, as only a few of these industries were greatly affected; allusions to such will be found in the text.

Summary of the statistics.—Although the main purpose of this report is to bring out the importance of the individual districts as manufacturing centers in separate sections devoted to each, some interest and significance attach to the summarized statistics as presented in Tables 1, 2, and 3. Table 1 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the 13 districts combined, for the central cities, and for the remainder of the territory comprised in these districts. The percentage which the figure for the combined cities represents of the total for all districts is shown in the case of each item.

	THIRTEEN METROPOLITAN DISTRICTS: 1909			
	Total.	Central cities.	Districts exclusive of central cities.	Per cent central cities are of total for districts.
Population ¹	18,326,338	13,848,151	4,478,187	75.6
Number of establishments.....	78,437	66,135	12,302	84.3
Persons engaged in manufactures.....	2,789,034	2,115,967	673,067	75.9
Proprietors and firm members.....	78,196	67,113	11,083	85.8
Salaried employees.....	363,120	294,272	68,848	81.0
Wage earners (average number).....	2,347,718	1,754,552	593,136	74.7
Primary horsepower.....	4,442,233	2,640,197	1,802,036	60.4
Capital.....	\$7,056,832,487	\$4,984,343,416	\$2,072,489,071	70.6
Expenses.....	7,768,863,123	5,609,226,724	2,069,636,399	73.4
Services.....	1,768,942,349	1,347,549,736	421,392,613	75.2
Salaries.....	446,192,628	358,593,706	87,598,922	80.4
Wages.....	1,322,749,721	988,956,030	333,793,691	74.8
Materials.....	5,126,778,739	3,644,994,395	1,481,784,344	71.1
Miscellaneous.....	873,142,035	706,682,593	166,459,442	80.9
Value of products.....	8,658,267,349	6,371,374,946	2,286,892,403	73.6
Value added by manufacture.....	3,531,488,610	2,726,380,551	805,108,059	77.2

¹ April 15, 1910.

By reference to Table 3, page 905, it will be seen that in 1909 the 13 metropolitan districts combined embraced 3,416,019 acres (approximately 5,338 square miles). Of this amount 733,158 acres represented the area of the cities and 2,682,861 acres that of the outside territory.

In 1909 the combined districts had 78,437 manufacturing establishments, which gave employment to an average of 2,789,034 persons during the year and paid out \$1,768,942,349 in salaries and wages. Of the persons employed, 2,347,718 were wage earners. These establishments turned out products to the value of \$8,658,267,349, to produce which materials costing \$5,126,778,739 were utilized. The value added by manufacture was thus \$3,531,488,610, which figure best represents the net wealth created by manufacturing operations during the year.

The percentages which the statistics for the group of central cities represent of the totals for the districts range from 59.4 per cent for primary horsepower to 85.8 per cent for proprietors and firm members. The central cities contained 75.6 per cent of the population of the districts in 1910 and contributed 73.6 per cent of the value of manufactured products in 1909.

Comparison with United States totals.—Table 2 is a summary of the statistics of manufacturing industries in 1909 and of the population in 1910 for the United States and for the group of 13 metropolitan districts, together with the percentages which this group reported of the totals for the United States.

	United States.	THIRTEEN METROPOLITAN DISTRICTS: 1909	
		Number or amount.	Per cent of total for United States.
Population ¹	91,972,266	18,326,338	19.9
Number of establishments.....	268,491	78,437	29.2
Persons engaged in manufactures.....	7,678,578	2,789,034	36.3
Proprietors and firm members.....	273,265	78,196	28.6
Salaried employees.....	790,267	363,120	45.9
Wage earners (average number).....	6,615,046	2,347,718	35.5
Primary horsepower.....	18,675,376	4,442,233	23.8
Capital.....	\$18,428,269,706	\$7,056,832,487	38.3
Expenses.....	18,454,089,599	7,768,863,123	42.1
Services.....	4,365,612,851	1,768,942,349	40.5
Salaries.....	938,574,967	446,192,628	47.5
Wages.....	3,427,037,884	1,322,749,721	38.6
Materials.....	12,142,790,878	5,126,778,739	42.2
Miscellaneous.....	1,945,685,870	873,142,035	44.9
Value of products.....	20,672,051,870	8,658,267,349	41.9
Value added by manufacture.....	8,529,260,992	3,531,488,610	41.4

¹ April 15, 1910.

Of the total number of manufacturing establishments in the United States in 1909 (268,491), 78,437, or 29.2 per cent, were in the 13 metropolitan districts, and these establishments contributed products valued at \$8,658,267,349, or 41.9 per cent of the total value of products for the United States. These districts are collectively more important from the industrial standpoint than from that of population. Their combined population represented 19.9 per cent of the

total for the United States in 1910, while the percentages for the items relating to manufactures for 1909 range from 23.8 for primary horsepower to 47.5 for salaries.

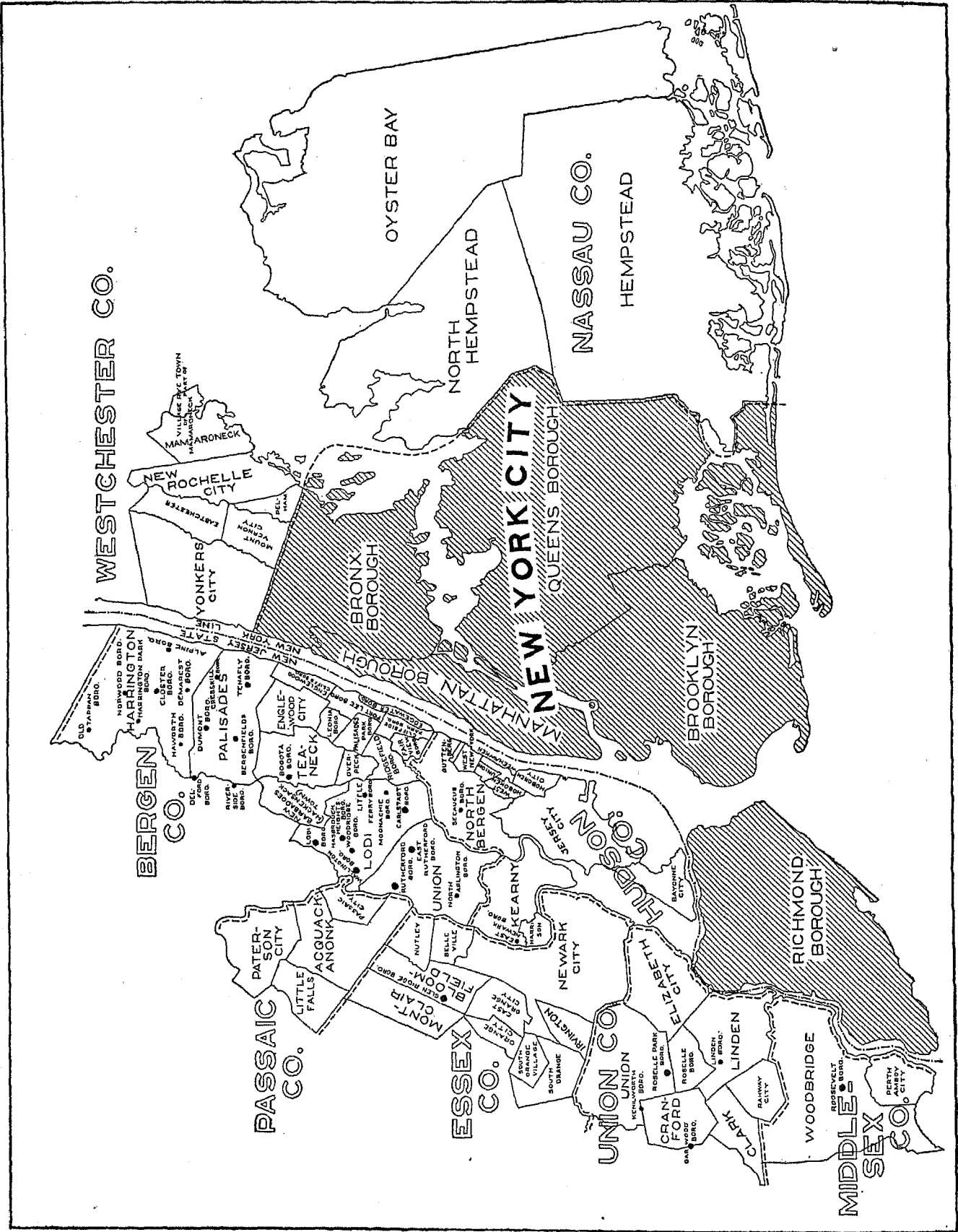
Table 3 is a detailed statement of the statistics of manufactures, population, and area, as reported at the Thirteenth Census for each of the metropolitan districts included in the report.

MANUFACTURES, POPULATION, AND AREA FOR THIRTEEN SELECTED METROPOLITAN DISTRICTS: 1909.

METROPOLITAN DISTRICT.	Popula- tion. ¹	Area in acres.	Number of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse- power.	Capital.	Sal- aries.	Wages.	Materials.	Miscel- laneous ex- penses.	Value of products.	Value added by manu- facture.
				Total.	Pro- pri- tors and firm mem- bers.	Sala- ried em- ployees.	Wage car- ners (average num- ber).								
Expressed in thousands.															
Total.....	18,326,338	3,416,019	78,437	2,789,034	78,196	363,120	2,347,718	4,442,233	\$7,056,832	\$446,193	\$1,322,750	\$5,126,779	\$873,142	\$3,658,267	\$3,531,486
New York.....	6,474,568	616,928	31,782	948,706	34,476	125,055	789,175	820,413	2,117,433	159,275	448,480	1,710,325	342,295	2,970,143	1,259,818
Chicago.....	2,446,921	409,087	10,202	393,859	8,600	59,335	325,924	739,229	1,144,003	71,161	195,466	870,587	135,243	1,408,780	538,193
Philadelphia.....	1,972,342	437,733	9,568	358,218	10,263	39,008	308,947	497,453	863,969	46,619	154,314	529,992	79,849	911,014	381,022
Pittsburgh.....	1,044,743	405,880	2,369	163,258	2,102	20,692	140,464	791,047	642,527	24,934	90,116	366,892	37,878	578,815	211,923
Boston.....	1,520,470	335,905	5,389	214,641	4,989	23,700	185,952	223,886	444,558	29,074	103,321	315,771	55,036	564,055	245,284
St. Louis.....	828,733	197,993	2,951	126,453	2,045	17,873	106,535	228,925	356,356	22,613	59,545	266,552	45,429	430,170	163,618
Cleveland.....	613,270	103,174	2,230	103,709	1,771	12,850	89,088	216,106	236,911	16,150	50,655	159,897	27,865	281,992	122,095
Buffalo.....	488,661	132,413	1,904	75,086	1,638	9,876	63,572	322,280	280,053	11,190	36,173	180,458	22,109	279,852	99,394
Detroit.....	500,982	96,554	2,104	101,482	1,865	13,596	86,021	136,460	210,402	16,028	46,010	137,848	28,322	268,900	131,052
Cincinnati.....	563,804	111,772	2,327	95,571	2,568	12,046	80,332	140,254	212,556	15,602	41,736	139,107	37,094	260,400	121,293
Baltimore.....	658,715	134,600	2,668	94,954	2,790	10,339	81,825	125,080	199,735	11,888	36,697	165,086	23,899	260,213	95,127
Minneapolis-St. Paul.....	526,256	94,539	1,844	59,920	1,674	9,978	48,268	119,219	160,628	10,872	27,725	166,823	20,069	244,340	77,517
San Francisco-Oakland.....	686,873	289,381	2,539	53,177	3,390	8,172	41,615	81,821	187,701	10,787	32,512	117,441	18,054	199,593	82,152

¹ April 15, 1910.

NEW YORK CITY METROPOLITAN DISTRICT: 1909.



NEW YORK CITY METROPOLITAN DISTRICT.

Territory included.—The metropolitan district of New York City embraces 616,928 acres of territory, of which 183,555 acres constitute the area of New York, and 433,373 acres the area of the outside territory. The population of the city of New York in 1910 was 4,766,883, and that of the outside territory 1,707,685, the total for the district being 6,474,568.

As defined at the census of 1910, the metropolitan district includes in addition to the central city 15 cities, 41 boroughs, 2 villages, 17 towns, and 17 townships. The following is a list by states and counties of the various primary divisions included in the metropolitan district for 1909. Nassau County, N. Y., and that part of Mamaroneck village, in the town of Rye, have been added to the area since 1904; and the borough of Maywood, N. J., has been deducted from it.

NEW YORK.

New York City, comprising Kings, New York, Queens, and Richmond Counties.

NASSAU COUNTY.

Hempstead town.	Oyster Bay town.
North Hempstead town.	

WESTCHESTER COUNTY.

Eastchester town.	New Rochelle city.
Mamaroneck town.	Pelham town.
Mamaroneck village.	Yonkers city.
Mount Vernon city.	

NEW JERSEY.

BERGEN COUNTY.

Alpine borough.	Hasbrouck Heights borough.
Bergenfields borough.	Haworth borough.
Bogota borough.	Leonia borough.
Carlstadt borough.	Little Ferry borough.
Cliffside Park borough.	Lodi borough.
Closter borough.	Lodi township.
Cresskill borough.	Moonachie borough.
Delford borough.	North Arlington borough.
Demarest borough.	Norwood borough.
Dumont borough.	Old Tappan borough.
East Rutherford borough.	Overpeck township.
Edgewater borough.	Palisades township.
Englewood city.	Palisades Park borough.
Englewood Cliffs borough.	Ridgefield borough.
Fairview borough.	Riverside borough.
Fort Lee borough.	Rutherford borough.
Hackensack town (coextensive with New Barbadoes township).	Teaneck township.
Harrington township.	Tenafly borough.
Harrington Park borough.	Union township.
	Wallington borough.
	Woodridge borough.

NEW JERSEY—Continued.

ESSEX COUNTY.

Belleville township.	Newark city.
Bloomfield town.	Nutley town.
East Orange city.	Orange city.
Glen Ridge borough.	South Orange township.
Irvington town.	South Orange village.
Montclair town.	

HUDSON COUNTY.

Bayonne city.	North Bergen township.
East Newark borough.	Secaucus borough.
Guttenberg town.	Union town.
Harrison town.	Weehawken township.
Hoboken city.	West Hoboken town.
Jersey City.	West New York town.
Kearny town.	

MIDDLESEX COUNTY.

Perth Amboy city (coextensive with Perth Amboy township).	Roosevelt borough.
	Woodbridge township.

PASSAIC COUNTY.

Acquackanonk township.	Passaic city.
Little Falls township.	Paterson city.

UNION COUNTY.

Clark township.	Linden township.
Cranford township.	Rahway city.
Elizabeth city.	Roselle borough.
Garwood borough.	Roselle Park borough.
Kenilworth borough.	Union township.
Linden borough.	

On page 906 is an outline map of the metropolitan district as constituted in 1909, showing the various primary divisions included.

Summary for the district.—Table 4 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the New York City metropolitan district, for 22 incorporated places and for the remainder of the district. The percentage which the figure for New York City represents of the total for the district is shown in the case of each item.

In 1909 the New York City metropolitan district had 31,782 manufacturing establishments, which gave employment to an average of 948,706 persons during the year, and paid out \$607,755,267 in salaries and wages. Of the persons employed, 789,175 were wage earners. These establishments turned out products

to the value of \$2,970,143,382, to produce which materials costing \$1,710,324,660 were utilized. The value added by manufacture was thus \$1,259,818,722. The New York City district ranked first in 1909 among all the metropolitan districts of the United States in the value of its manufactured products.

In the New York City district the greater part of the value of the manufactured products of the district was reported by factories within the central city,

which is the leading commercial city and the industrial metropolis of the United States. New York City contained nearly three-fourths (73.6 per cent) of the population of the district in 1910, and contributed more than two-thirds (68.3 per cent) of the value of products in 1909. Its manufacturing establishments constituted over four-fifths (81.6 per cent) of all in the district and gave employment to more than seven-tenths of the wage earners (70.2 per cent).

Table 4

	Population. ¹	Number of establishments.	PERSONS ENGAGED IN MANUFACTURES.				Primary horsepower.	Capital.
			Total.	Proprietors and firm members.	Salaried employes.	Wage earners (average number).		
The district.....	6,474,568	31,782	948,708	34,476	125,055	789,175	820,413	\$2,117,433,047
New York City.....	4,706,883	25,938	680,510	29,055	97,453	554,002	429,003	1,364,352,083
District exclusive of New York City—total.....	1,707,685	5,844	268,196	5,421	27,602	235,173	391,410	753,080,964
Mount Vernon.....	30,919	90	1,492	76	209	1,207	1,590	3,201,654
New Rochelle.....	28,807	42	882	39	108	735	620	1,377,185
Yonkers.....	79,803	158	13,746	150	885	12,711	16,978	58,768,555
Bayonne.....	55,545	97	8,790	84	1,187	7,519	28,094	62,280,685
Bloomfield.....	15,070	45	3,435	35	443	2,957	6,031	7,768,644
East Orange.....	34,371	42	1,861	45	430	1,386	1,087	3,849,230
Elizabeth.....	73,409	163	13,670	132	801	12,737	20,124	26,773,807
Hackensack.....	14,050	46	873	44	91	738	1,021	1,845,897
Harrison.....	14,498	54	7,339	33	806	6,500	8,021	20,002,053
Hoboken.....	70,324	244	9,339	206	1,033	8,100	11,108	19,898,085
Irvington.....	11,877	51	656	40	76	540	907	1,405,795
Jersey City.....	267,779	745	30,239	614	4,171	25,454	35,917	79,793,932
Kearny.....	18,659	18	3,111	14	277	2,820	5,879	6,551,151
Montclair.....	21,550	23	321	17	52	252	1,245	1,104,570
Newark.....	347,469	1,858	69,986	1,704	8,327	59,955	78,263	154,232,086
Orange.....	29,630	85	5,054	65	606	4,383	5,962	11,147,977
Passaic.....	54,773	169	16,886	145	1,155	15,080	23,245	42,840,818
Paterson.....	125,600	702	35,116	871	2,241	32,004	35,889	66,401,725
Perth Amboy.....	32,121	80	6,595	55	674	5,806	22,314	25,100,426
Union.....	21,023	83	3,155	83	178	2,894	3,034	10,910,251
West Hoboken.....	35,403	137	3,179	154	243	2,782	1,477	4,861,242
West New York.....	13,560	68	1,779	70	201	1,508	1,443	4,162,662
Remainder.....	311,385	846	31,192	745	3,408	27,039	81,101	138,201,324
Per cent New York City is of total for district.....	73.6	81.6	71.7	84.3	77.9	70.2	52.3	64.4

	EXPENSES.						Value of products.	Value added by manufacture.
	Aggregate.	Services.			Materials.	Miscellaneous.		
		Total.	Salaries.	Wages.				
The district.....	\$2,660,374,879	\$607,755,267	\$159,275,011	\$448,480,256	\$1,710,324,660	\$342,294,952	\$2,970,143,382	\$1,259,818,722
New York City.....	1,803,961,431	445,771,857	122,073,725	323,698,132	1,092,155,333	266,034,241	2,029,692,576	937,537,243
District exclusive of New York City—total.....	856,413,448	161,983,410	37,201,286	124,782,124	618,169,327	76,260,711	940,450,806	322,281,479
Mount Vernon.....	2,618,139	1,010,618	209,007	801,511	1,285,557	322,064	3,376,415	2,090,858
New Rochelle.....	1,530,439	594,331	113,118	481,713	814,140	121,468	1,068,724	854,584
Yonkers.....	54,491,098	8,024,498	1,298,380	6,726,118	43,201,919	3,264,681	59,333,865	16,131,946
Bayonne.....	69,354,728	6,537,438	1,762,181	4,775,257	58,932,541	3,884,749	73,640,900	14,708,359
Bloomfield.....	5,485,678	1,891,323	590,790	1,300,533	2,300,773	1,293,582	5,894,710	3,593,937
East Orange.....	3,296,385	1,122,402	264,423	857,979	1,767,600	406,383	3,724,870	1,957,279
Elizabeth.....	26,500,257	8,565,061	1,052,344	7,512,717	16,428,569	1,566,627	29,147,334	12,718,765
Hackensack.....	1,737,311	478,674	118,504	360,170	899,340	409,297	1,977,906	1,078,626
Harrison.....	11,241,701	4,597,295	925,134	3,672,161	5,413,473	1,230,933	13,142,377	7,728,904
Hoboken.....	17,735,572	5,917,896	1,364,984	4,552,912	9,469,108	2,348,568	20,413,015	10,943,907
Irvington.....	2,806,290	380,529	102,656	277,873	2,343,001	82,760	3,017,824	674,823
Jersey City.....	120,141,941	18,204,200	5,048,633	13,215,567	89,317,227	12,500,514	128,774,973	39,457,751
Kearny.....	7,415,452	1,830,477	269,132	1,540,345	5,263,062	342,913	8,306,270	3,043,214
Montclair.....	982,042	182,472	43,711	138,761	668,579	130,991	1,025,585	357,006
Newark.....	181,530,641	44,852,938	11,777,343	33,075,595	114,679,408	21,995,295	202,511,520	87,832,112
Orange.....	3,235,100	805,190	772,282	2,462,908	3,688,432	1,438,995	9,175,910	5,487,473
Passaic.....	35,018,900	8,052,870	1,783,955	6,268,915	24,334,845	2,631,194	41,729,257	17,394,412
Paterson.....	62,876,266	13,185,459	2,980,915	15,204,544	34,727,598	9,963,200	69,584,351	34,856,753
Perth Amboy.....	69,109,510	3,665,330	986,001	2,679,329	63,932,054	1,512,126	73,092,703	9,160,649
Union.....	6,827,482	1,640,485	229,669	1,410,816	3,538,585	1,648,412	7,941,047	4,402,462
West Hoboken.....	35,018,900	8,052,870	1,783,955	6,268,915	24,334,845	2,631,194	41,729,257	17,394,412
West New York.....	8,953,573	965,826	267,930	1,424,927	2,488,025	679,429	5,577,439	3,089,414
Remainder.....	153,427,106	20,315,841	5,003,606	15,312,235	7,408,709	579,033	9,273,717	1,865,008
Per cent New York City is of total for district.....	67.8	73.3	76.6	72.2	63.9	77.7	68.3	74.4

¹ April 15, 1910.

Of the places outside of New York City for which statistics are given separately, Newark had the largest value of products in 1909, representing 6.8 per cent of the total for the metropolitan district. The population of Newark in 1910 formed 5.4 per cent of the total for the district.

The part of the district that was outside the cities and towns for which separate figures are given, with an aggregate population equal to 4.8 per cent of the total for the district, contributed 5.7 per cent of the value of the products.

The value of the manufactured products of New York City in 1909 was nearly 60 per cent greater than was reported by Chicago, the city next in rank in this respect, and it was also greater than the value of products reported by any state other than New York, with the exception of Pennsylvania. New York City ranked first in value of products among the cities of the United States in 5 of the 15 leading manufacturing industries of the United States, namely, the making of women's clothing, with over two-thirds (69.3 per cent) of the total for the United States; the making of men's clothing, including shirts, with 38.4 per cent of the total; printing and publishing, with 24.9 per cent; the bakery industry, with 15.6 per cent; and the manufacture of tobacco products, with 15 per cent.

The 22 cities and towns in the district exclusive of New York City for which separate statistics are shown in the table together reported 26 per cent of the value of products for the district in 1909 and a somewhat lower proportion of the population in 1910—22 per cent. In these cities and towns, which are mentioned here according to rank in value of products, the leading industry or industries were as follows: Newark, the smelting and refining of copper, the tanning, currying, and finishing of leather, foundries and machine shops, the manufacture of jewelry, and the brewery industry; Jersey City, slaughtering and meat packing, the manufacture of tobacco products, the gas and soap industries, the refining of sugar, and the refining of petroleum; Bay-

onne, the refining of petroleum and smelting and refining from clippings, sweepings, and scrap; Perth Amboy, the smelting and refining of copper and the manufacture of wire; Paterson, the silk-goods industry and the dyeing and finishing of textiles; Yonkers, the refining of sugar and the manufacture of carpets and rugs; Passaic, the manufacture of woolen and worsted goods and of cotton goods; Elizabeth, the sewing-machine industry and the manufacture of wire; Hoboken and Harrison, foundries and machine shops; West New York, the refining of lard and the manufacture of cottonseed oil and cake; Orange, the manufacture of phonographs and graphophones and of fur-felt hats; Kearny, slaughtering and meat packing and the manufacture of oilcloth and linoleum; Union, the silk-goods industry; Bloomfield, the manufacture of electrical machinery, apparatus, and supplies; West Hoboken, the silk-goods industry; East Orange, the manufacture of electrical machinery, apparatus, and supplies; Mount Vernon, the manufacture of brass and bronze products; Irvington, the reducing and refining of gold and silver from clippings, sweepings, and scrap; Hackensack, the silk-goods industry; New Rochelle, printing and publishing; and Montclair, the paper-goods industry.

Considerable industrial activity was manifested in 1909 by some of the places for which statistics are not shown separately. Among these were the following, with leading industries as stated: Weehawken, the manufacture of electrical machinery, apparatus, and supplies and of wall paper; Garwood, electrical machinery, apparatus, and supplies; Lodi, the dyeing and finishing of textiles; Belleville, the manufacture of fur-felt hats and of brass and bronze products; Rahway, printing and publishing and the manufacture of steel castings; Edgewater, the chemical industry; and Nutley, the manufacture of cutlery and of artificial leather.

Comparison with earlier censuses.—Table 5 is a comparative summary of the statistics for 1909, 1904, and 1899, together with the percentages of increase.

	1909			1904			1899			PER CENT OF INCREASE.		
	Total.	Territory added since 1904.	Remainder of district. ¹	Total.	Territory deducted since 1904.	Remainder of district. ¹	Total.	Territory deducted since 1904.	Remainder of district. ¹	1899-1909	1904-1909	1899-1904
Population.....	2 6,474,568	86,215	2 6,388,353	2 5,294,682	3 687	2 5,293,995	4 4,539,390	4 539	4 4,538,854	40.7	20.7	16.6
Number of establishments.....	31,782	186	31,596	25,257	4	25,253	23,262	3	23,259	35.8	25.1	8.6
Persons engaged in manufactures.....	948,706	1,398	947,308	764,330	138	764,192	(²)	85	(²)	.....	24.0	.....
Proprietors and firm members.....	34,476	212	34,264	28,870	.....	28,870	(²)	.....	(²)	.....	18.7	.....
Salaries employees.....	125,055	86	124,969	80,472	16	80,456	54,804	7	54,857	127.8	55.3	46.7
Wage earners (average number).....	789,175	1,100	788,075	654,988	122	654,866	539,690	78	539,612	46.0	20.3	21.4
Primary horsepower.....	320,413	2,524	317,889	578,371	605	577,766	(²)	(²)	(²)	.....	41.6	.....
Capital.....	\$2,117,433,047	\$3,839,007	\$2,113,594,040	\$1,572,628,947	\$585,677	\$1,572,043,270	\$1,224,823,447	\$189,884	\$1,224,633,563	72.6	34.4	28.4
Expenses.....	2,660,374,879	2,134,631	2,658,240,248	1,905,102,662	568,804	1,904,533,861	1,404,978,582	162,630	1,404,815,956	89.2	39.6	35.6
Services.....	607,755,207	691,479	607,063,728	436,238,272	101,154	436,137,118	332,657,663	40,306	332,617,357	82.5	39.2	31.1
Salaries.....	159,275,011	30,801	159,194,150	94,547,039	37,534	94,509,505	66,057,921	14,800	66,043,121	141.0	68.4	43.1
Wages.....	448,480,256	610,618	447,869,638	341,691,133	63,620	341,627,513	266,599,742	31,506	266,568,236	68.0	31.1	28.2
Materials.....	1,710,324,000	1,255,232	1,709,068,768	1,258,010,634	398,892	1,258,409,526	910,359,938	99,203	910,260,735	87.7	41.4	32.8
Miscellaneous.....	342,294,952	187,860	342,107,092	256,853,759	68,758	256,785,001	161,930,981	17,127	161,913,854	111.3	31.7	60.4
Value of products.....	2,970,143,382	2,598,790	2,967,544,592	2,144,488,633	692,229	2,143,796,404	1,614,037,347	229,948	1,614,267,295	83.9	38.4	32.8
Value added by manufacture.....	1,259,818,722	1,313,498	1,258,505,224	935,477,459	293,337	935,184,122	703,877,409	130,745	703,746,664	78.8	34.6	32.9

¹ Figures in this column used in computing percentages of increase.
² April 15, 1910.

³ State censuses of June 1, 1905.
⁴ June 1, 1900.

⁵ Figures not available.

For purpose of accurate comparison the statistics for 1909 have been adjusted by segregating the figures of the territory added since 1904; and those for 1904 and 1899 by segregating the figures for the territory deducted since 1904.

The percentages of increase in all items, except average number of wage earners and miscellaneous expenses, were greater during the later five-year period 1904-1909 than during the period 1899-1904. The percentages of increase during the decade were especially large for salaries, salaried employees, and miscellaneous expenses. The average number of wage earners increased 46 per cent, wages 68 per cent, and the value of products 83.9 per cent.

The rate of increase from 1904 to 1909 in the amount of primary horsepower used was 41.6 per cent. Statistics as to the primary power used in 1899 are not available.

The proportions of the population and manufactures in the outside territory of the metropolitan district are in general increasing, as is indicated by the percentages in Table 6.

Table 6

	PER CENT TERRITORY OUTSIDE OF NEW YORK CITY IS OF TOTAL FOR DISTRICT.		
	1909 ¹	1904 ²	1899 ²
Population.....	25.4	24.2	24.3
Number of establishments.....	17.9	17.5	17.3
Persons engaged in manufactures.....	28.2	27.6	(³)
Proprietors and firm members.....	15.2	14.6	(³)
Salaried employees.....	22.0	21.0	20.2
Wage earners (average number).....	29.7	29.0	28.0
Primary horsepower.....	47.5	44.1	(³)
Capital.....	35.4	33.7	30.3
Expenses.....	32.1	29.3	27.8
Services.....	26.0	26.4	25.3
Salaries.....	23.3	22.7	21.8
Wages.....	27.7	27.4	25.2
Materials.....	36.1	32.3	30.3
Miscellaneous.....	22.2	20.4	18.0
Value of products.....	31.6	28.8	27.3
Value added by manufacture.....	25.5	24.2	23.5

¹ Based on figures for district as constituted in 1909, exclusive of territory added since 1904.

² Based on figures for district as constituted in 1904, exclusive of territory deducted since 1904.

³ Figures not available.

The proportion of the population of the district reported from the territory outside of New York City increased from 24.3 per cent in 1900 to 25.4 per cent in 1910; while the proportion of the value of products increased from 27.3 per cent in 1899 to 28.8 per cent in 1904 and 31.6 per cent in 1909.

Leading industries.—Table 7 (p. 911) gives statistics for 1909 for the industries of the district having products valued at \$500,000 or more, so far as separate figures can be presented.

Among the industries shown separately in the table there are 20 for which totals for the district can not be published, because to do so would disclose individual operations; and 3 which were not carried on in the part of the district which is outside the corporate

limits of New York City. In the case of all but 3 of the 20 industries of the former class the statistics shown are figures for New York City exclusively.

The leading industry of the New York metropolitan district in 1909 was the manufacture of women's clothing. The 3,058 establishments engaged in the industry there in that year reported products valued at \$270,646,086, or 9.1 per cent of the value of products of all industries in the district. The manufacture of men's clothing, including shirts, ranked next, with 2,630 establishments and products valued at \$224,943,048, or 7.6 per cent of the total. Other important industries, with the value of their products, were: Printing and publishing, \$194,486,953; slaughtering and meat packing, \$131,081,148; foundries and machine shops, \$107,297,665; the manufacture of tobacco products, \$78,783,942; the bakery industry, \$77,472,491; the manufacture of silk goods, including the operations of throwsters, \$74,570,282; the brewery industry, \$72,850,405; the making of millinery and lace goods, \$56,072,956.

Among the more important industries that can not be shown separately without disclosing the operations of individual establishments are the smelting and refining of copper, the refining of sugar, the refining of petroleum, the roasting and grinding of coffee, the smelting and refining of lead, the manufacture of carpets and rugs other than rag, of wire, of flour-mill and gristmill products, and of sewing machines and attachments, lapidary work, the manufacture of lead pencils, of oilcloth and linoleum, and the distillation of liquors. Four of these had products in 1909 valued at very much more than \$10,000,000.

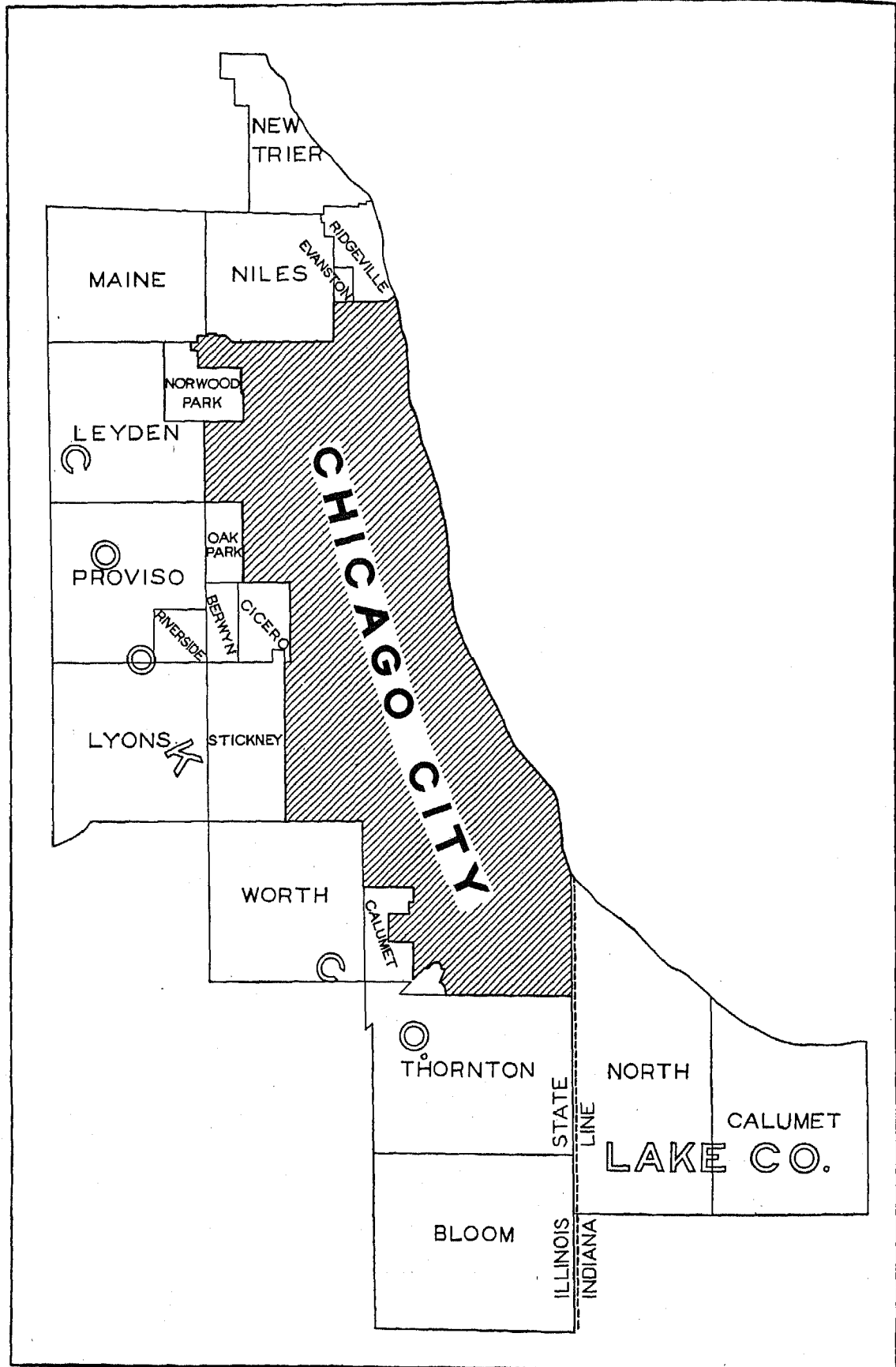
Comparative summary, by industries.—The number of establishments, average number of wage earners, and value of products for such of the industries as can be shown separately and had a value of products amounting to \$10,000,000 or more in 1909 are given in Table 8 (p. 913) for the district as constituted in 1909, 1904, and 1899, respectively.

The greatest absolute increase in value of products shown for any single industry during the decade, amounting to \$165,984,908, or 158.6 per cent, was that for the women's clothing industry. The greatest relative increase for any of the industries included in the table, 673.4 per cent, was reported for smelting and refining from clippings, sweepings, and scrap.

An important industry not given in the comparative table is the manufacture of men's furnishing goods. At the censuses of 1904 and 1899 some of the establishments reporting as chief products suspenders, garters, and elastic woven goods were excluded from this industry. As it is not practicable to segregate these establishments, no proper comparison is possible.

MANUFACTURES.

CHICAGO METROPOLITAN DISTRICT: 1909.



CHICAGO METROPOLITAN DISTRICT.

Territory included.—The metropolitan district of Chicago embraces 409,087 acres of territory, of which 118,433 acres constitute the area of Chicago and 290,654 acres the area of the outside territory. The population of the city of Chicago proper in 1910 was 2,185,283, and that of the outside territory 261,638, the total for the district being 2,446,921.

As defined at the census of 1910, the metropolitan district includes the central city, together with Berwyn, Bloom, Calumet, Cicero, Evanston, Leyden, Lyons, Maine, New Trier, Niles, Norwood Park, Oak Park, Proviso, Ridgeville, Riverside, Stickney, Thornton, and Worth townships, all in Cook County, Ill., and Calumet and North townships in Lake County, Ind. Within these townships, or coextensive with them, there are seven incorporated places of 10,000 or more inhabitants. Of these four are in Illinois, namely, Chicago Heights city, in Bloom township; Cicero town, coextensive with Cicero township; Evanston city, coextensive with Ridgeville township; and Oak Park village, coextensive with Oak Park township. The remaining three, which are in Indiana, are East Chicago city and Hammond city, both in North township; and Gary city in Calumet township.

The territory comprised within the Chicago industrial district as constituted for the bulletin on industrial districts for 1904 did not include Bloom township, which contains Chicago Heights city, or Maine township, or the townships and incorporated places in Indiana; but it comprised, in addition to the territory represented by the other places mentioned above, Downers Grove and York townships in Dupage County, Ill., and Palos township in Cook County, Ill.

The relative location of the constituent divisions is indicated on the outline map of the district (p. 914).

Summary for the district.—Table 9 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the Chicago metropolitan district, for the city of Chicago; for six of the seven other incorporated places within the district which had over 10,000 inhabitants in 1910—four cities, one town, and one village—and for the remainder of the district. The percentage which the figure for Chicago represents of the total for the district is shown in the case of each item. The statistics for Gary, Ind., are included in the "remainder" of the district to avoid disclosing the operations of individual establishments.

	NUMBER OR AMOUNT.										Per cent Chicago is of total for district.
	The district.	Chicago.	District exclusive of Chicago.								
			Total.	Chicago Heights.	Cicero.	East Chicago.	Evans-ton.	Ham-mond.	Oak Park.	Remain-der. ¹	
Population ²	2,446,921	2,185,283	261,638	14,525	14,557	19,098	24,978	20,925	19,444	148,111	89.3
Number of establishments.....	10,202	9,656	546	79	7	16	60	49	23	312	94.6
Persons engaged in manufactures.....	393,859	356,954	36,905	4,444	735	2,568	1,040	4,379	302	23,377	90.6
Proprietors and firm members.....	8,600	8,156	444	60	2	6	63	33	21	259	94.8
Salaried employees.....	59,335	54,821	4,514	431	75	192	140	505	59	3,112	92.4
Wage earners (average number).....	325,924	293,977	31,947	3,953	658	2,370	837	3,841	282	20,006	90.2
Primary horsepower.....	739,229	525,236	213,993	10,176	1,580	7,017	1,056	7,348	758	186,068	71.1
Capital.....	\$1,144,002,902	\$971,840,545	\$172,162,357	\$10,420,527	\$2,496,100	\$4,614,380	\$4,241,198	\$16,270,855	\$6,060,795	\$128,058,502	85.0
Expenses.....	1,272,456,182	1,156,530,537	115,925,645	9,475,197	1,403,638	4,873,173	3,329,854	14,894,019	734,654	81,215,110	90.9
Services.....	266,626,915	240,036,910	26,590,005	3,076,709	503,248	1,532,865	707,307	2,474,818	253,611	17,981,947	90.0
Salaries.....	71,160,747	65,924,841	5,235,906	605,622	97,094	247,277	177,750	614,185	57,009	3,436,969	92.6
Wages.....	195,466,168	174,112,069	21,354,099	2,471,087	406,154	1,285,088	589,557	1,800,633	196,602	14,544,978	89.1
Materials.....	870,586,561	793,469,723	77,116,838	5,611,419	732,879	3,059,915	2,350,080	6,651,355	390,887	58,320,303	91.1
Miscellaneous.....	135,242,706	123,023,904	12,218,802	787,069	167,511	280,893	212,467	5,767,840	90,150	4,912,860	91.0
Value of products.....	1,408,779,818	1,281,171,181	127,608,637	10,839,208	1,461,164	5,483,500	3,778,298	15,580,250	1,117,697	89,348,460	90.9
Value added by manufacture.....	538,193,257	487,701,458	50,491,799	5,227,849	728,285	2,423,585	1,428,218	8,928,895	726,810	31,028,157	90.6

¹ Includes Gary, Ind., the statistics for which can not be shown without disclosing individual operations.

² April 15, 1910.

In 1909 the Chicago metropolitan district had 10,202 manufacturing establishments, which gave employment to an average of 393,859 persons during the year and paid out \$266,626,915 in salaries and wages. Of the persons employed 325,924 were wage earners. These establishments turned out products to the value of \$1,408,779,818, to produce which materials costing \$870,586,561 were utilized. The value added by manufacture was thus \$538,193,257. The Chicago

district ranked second in 1909 among all the metropolitan districts of the United States in the value of its manufactured products. It far exceeded any of them in the value of products of the slaughtering and meat-packing industry.

In the Chicago district, as in all but two of the districts, the greater part of the value of the manufactured products of the district was reported by factories within the central city. Chicago contained nearly

nine-tenths (89.3 per cent) of the population of the district, of which it is the manufacturing, commercial, and financial center, and contributed over nine-tenths (90.9 per cent) of the value of products. Its manufacturing establishments constituted 94.6 per cent of all in the district, and gave employment to 90.2 per cent of the average number of wage earners for that area.

Of the places outside Chicago for which statistics are given separately, Hammond reported the largest value of products, but this value represented only 1.1 per cent of the total for the metropolitan district. The population of this city formed only nine-tenths of 1 per cent of the total in the district.

The area comprised within the 17 townships, or parts of townships, outside of incorporated places having more than 10,000 inhabitants, included in the district, together with Gary city, for which statistics can not be shown separately without disclosing the operations of individual establishments, had a combined population equal to 6.1 per cent of the total for the district and contributed 6.3 per cent of the value of its products. The average value of products per establishment for this group was much greater than that for any of the places shown separately, except East Chicago and Hammond.

The leading industries in Chicago Heights in 1909 were foundries and machine shops, steel works and rolling mills, and steam-railroad car construction shops. The principal industry of Evanston was the

manufacture of wrought iron and steel pipe. In Cicero foundries and machine shops and the manufacture of wrought iron and steel pipe constituted the most important industries. The production of illuminating gas occupied first place in Oak Park. In Gary, Ind., three establishments—a steel plant, a blast furnace, and a cement factory, named in the order of their importance—together contributed nearly the total value of the manufactured products of the city. The principal industries of Hammond were distilleries, steam-railroad repair shops, and foundries and machine shops. The manufacture of iron and steel was the leading industry in East Chicago. An important industrial place for which the statistics are not shown separately is Indiana Harbor, Ind., with large steel works and rolling mills.

Comparison with earlier censuses.—Table 10 gives statistics for the district for 1909, 1904, and 1899. For purposes of comparison the statistics in this table are grouped in such a way as to show separately for 1909 figures for (1) the territory added to the district since 1904 (Bloom and Main townships in Illinois and Calumet and North townships in Indiana) and (2) the remainder of the district; and for 1904 and 1899 figures for (1) the territory deducted since 1904 (Downers Grove, York, and Palos townships in Illinois) and (2) the remainder of the district. Percentages of increase are shown only for the territory which was included in the district in both 1909 and 1904.

Table 10

	NUMBER OR AMOUNT.									PER CENT OF INCREASE.		
	1909			1904			1899			1899-1909	1904-1909	1899-1904
	Total.	Territory added since 1904.	Remainder of district. ¹	Total.	Territory deducted since 1904.	Remainder of district. ¹	Total.	Territory deducted since 1904.	Remainder of district. ¹			
Population.....	2,446,921	91,875	2,355,046	(³)	(²)	(³)	1,815,107	11,829	1,803,278	30.6	.....	.....
Number of establishments.....	10,202	242	9,960	8,382	27	8,355	7,851	25	7,826	27.3	19.2	6.8
Persons engaged in manufactures.....	393,859	23,913	369,946	296,350	161	296,189	(⁵)	(⁵)	(⁵)	.....	24.9	.....
Proprietors and firm members.....	8,600	183	8,417	7,481	27	7,454	(⁵)	(⁵)	(⁵)	.....	12.9	.....
Salaried employees.....	59,335	2,550	56,785	40,880	19	40,861	32,806	18	32,788	73.2	39.0	24.6
Wage earners (average number).....	325,924	21,180	304,744	247,989	115	247,874	224,991	99	224,892	35.5	22.0	10.2
Primary horsepower.....	739,229	188,321	550,908	379,566	262	379,304	(⁵)	(⁵)	(⁵)	.....	45.2	.....
Capital.....	\$1,144,002,902	\$117,915,318	\$1,026,087,584	\$604,215,775	\$120,088	\$604,095,687	\$519,469,858	\$146,329	\$519,323,529	97.6	54.5	27.9
Expenses.....	1,272,456,182	89,686,671	1,182,769,511	882,409,100	229,456	882,239,644	720,597,395	226,440	720,370,955	64.2	34.1	22.5
Services.....	266,626,915	17,004,035	249,622,880	186,165,672	64,009	186,101,663	143,083,714	70,732	143,012,982	74.5	34.1	30.1
Salaries.....	71,160,747	3,172,816	67,987,931	46,336,318	12,582	46,323,736	32,501,114	17,250	32,483,864	109.3	46.8	42.6
Wages.....	195,466,168	13,831,219	181,634,949	139,829,354	51,427	139,777,927	110,582,600	53,482	110,529,118	64.3	29.9	26.5
Materials.....	870,588,561	62,738,865	807,847,696	598,556,727	130,346	598,426,381	506,673,549	137,655	506,535,894	59.5	35.0	18.1
Miscellaneous.....	135,242,706	9,943,771	125,298,935	97,746,701	35,101	97,711,600	70,840,132	18,053	70,822,079	76.9	28.2	38.0
Value of products.....	1,408,779,818	99,028,732	1,309,751,086	970,974,280	272,730	970,701,550	806,464,641	288,520	806,176,121	62.5	34.9	20.4
Value added by manufacture.....	538,193,257	36,289,867	501,903,390	372,417,553	142,384	372,275,169	299,791,092	150,365	299,640,227	67.5	34.8	24.2

¹ Figures in this column used in computing percentages of increase. ² April 15, 1910. ³ No population census in 1905. ⁴ June 1, 1900. ⁵ Figures not available.

In the area for which comparisons are made the percentages of increase in all the items shown, except one, for the three census years were larger during the more recent five-year period 1904-1909 than during the period 1899-1904. During the decade as a whole the rate of increase was much greater in salaries and capital than in any other items. The average number of

wage earners increased 35.5 per cent during this period and the amount paid for wages 64.3 per cent, a rate of gain approximately equal to that in value of products (62.5 per cent). The rate of increase in primary horsepower of all kinds from 1904 to 1909 was 45.2 per cent. Statistics as to the primary power used in 1899 are not available.

The proportions of the population and manufactures in the outside territory of the metropolitan district are constantly increasing, as is indicated by Table 11.

Table 11

	PER CENT TERRITORY OUTSIDE OF CHICAGO IS OF TOTAL FOR DISTRICT.		
	1909 ¹	1904 ²	1899 ²
Population.....	7.2	(³)	5.8
Number of establishments.....	3.1	2.3	2.0
Persons engaged in manufactures.....	3.5	2.2	(⁴)
Proprietors and firm members.....	3.1	2.5	(⁴)
Salaried employees.....	3.5	1.4	1.2
Wage earners (average number).....	3.5	2.4	1.6
Primary horsepower.....	4.7	2.6	(⁴)
Capital.....	5.3	4.0	1.5
Expenses.....	2.2	1.6	1.0
Services.....	3.8	2.2	1.6
Salaries.....	3.0	1.6	1.3
Wages.....	4.1	2.4	1.6
Materials.....	1.8	1.4	0.9
Miscellaneous.....	1.8	1.4	0.5
Value of products.....	2.2	1.6	1.0
Value added by manufacture.....	2.8	1.9	1.3

¹ Based on figures for district as constituted in 1909, exclusive of territory added since 1904.
² Based on figures for district as constituted in 1904, exclusive of territory deducted since 1904.
³ No population census in 1905.
⁴ Figures not available.

The proportion which the population outside Chicago, but within the area comprised in the district, in each census year formed of the total in that area increased from 5.8 per cent in 1900 to 7.2 per cent in 1910, and the proportion of the value of products of that area that was contributed by the outlying territory increased from 1 per cent in 1899 to 1.6 per cent in 1904, and to 2.2 per cent in 1909.

Leading industries.—Table 12 gives statistics for 1909 for the industries of the district having products valued at \$500,000 or more, so far as separate figures can be presented.

Among the industries shown separately in the table there are 23 for which totals for the district can not be published, because to do so would disclose individual operations; and 26 which were not carried on in the part of the district which is outside the corporate limits of Chicago. In all these cases the statistics shown are figures for Chicago exclusively.

The predominant industry of the Chicago metropolitan district is slaughtering and meat packing. The figures shown for this industry are for Chicago exclusively, one small establishment in 1909 engaged in the manufacture of sausage in the territory outside Chicago being excluded to avoid disclosing the operations of individual concerns. The 67 establishments in Chicago in 1909 reported products valued at \$325,061,657, or 23.1 per cent of the value of products of all industries in the district. Other important industries were foundries and machine shops, with a value of products amounting to \$104,319,563; the making of men's clothing, including shirts, with products valued at \$85,296,407; printing and publishing, with products valued at \$76,070,564; and steel works and rolling mills, with products valued at \$71,531,974.

The value of products shown for establishments engaged in the manufacture of electrical machinery, apparatus, and supplies, and of copper, tin, and sheet-iron products is much less than the actual figures for these industries in the district, statistics for the establishments outside of Chicago having been omitted in order to avoid disclosing the operations of individual concerns.

SUMMARY FOR THE CHICAGO METROPOLITAN DISTRICT, BY INDUSTRIES: 1909.

Table 12

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Miscellaneous expenses.	Value of products.	Value added by manufacture.
		Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).								
All industries.....	10,202	393,859	8,600	59,335	325,924	739,229	\$1,144,002,902	\$71,160,747	\$195,466,168	\$870,586,561	\$135,242,706	\$1,408,778,818	\$538,193,257
Automobiles, including bodies and parts.....	141	1,725	17	248	1,460	734	2,094,348	304,511	1,131,443	1,706,765	522,345	3,939,735	2,232,970
Awings, tonis, and sails.....	33	350	34	34	282	158	275,380	26,144	139,065	599,207	62,783	915,483	246,256
Bags, other than paper.....	6	213	4	20	189	157	576,574	24,180	175,042	685,033	11,383	665,442	280,409
Baking powders and yeast.....	16	940	8	410	522	1,142	5,873,320	447,128	303,834	2,888,242	1,782,747	7,603,662	4,120,420
Belting and hose, leather.....	11	403	9	161	233	430	1,279,476	183,085	164,536	1,384,568	319,423	2,187,555	802,987
Boots and shoes, including out stock and findings.....	31	3,326	29	270	3,027	1,103	3,880,595	324,805	1,919,704	6,044,689	494,674	9,855,802	3,810,613
Boxes, cigar.....	9	348	9	35	304	214	292,197	45,657	124,864	258,094	48,436	540,774	282,680
Boxes, fancy and paper.....	48	3,984	22	353	3,600	1,575	3,118,225	399,684	1,311,235	2,231,889	481,060	5,043,621	2,811,732
Brass and bronze products.....	156	1,430	38	225	1,167	1,099	2,491,807	303,717	810,203	3,265,574	306,699	5,131,301	1,865,817
Bread and other bakery products.....	1,278	9,257	1,351	1,183	6,723	3,899	20,988,156	1,160,173	4,373,201	16,983,122	2,057,451	28,146,786	11,163,664
Brick and tile.....	19	2,115	9	117	1,989	12,202	7,860,399	167,403	1,890,091	936,874	206,513	3,788,295	2,851,421
Brooms.....	128	282	34	26	222	169	249,943	25,136	118,294	402,356	30,790	680,003	277,647
Brushes.....	28	334	26	33	275	94	440,034	40,598	163,064	515,774	75,283	879,548	363,774
Canning and preserving.....	52	1,416	50	189	1,177	1,470	2,646,101	239,014	525,217	3,413,459	332,815	5,005,292	1,591,833
Carrriages and wagons and materials.....	144	2,473	157	176	2,140	3,441	7,971,855	216,506	1,365,663	2,880,153	350,652	5,685,809	2,805,656
Cars and general shop construction and repairs by steam-railroad companies.....	28	12,598	.....	596	12,002	9,995	10,703,708	639,835	7,962,234	7,639,305	210,540	16,451,913	8,812,608
Cars and general shop construction and repairs by street-railroad companies.....	17	1,721	.....	57	1,664	1,584	3,061,331	64,086	1,068,627	1,519,690	94,675	2,758,383	1,238,698
Cars, steam-railroad, not including operations of railroad companies.....	24	11,857	2	907	10,948	18,556	39,641,537	1,025,728	7,577,576	14,752,493	1,388,183	25,462,246	10,709,753
Chemicals.....	14	863	2	164	607	2,245	2,496,331	231,119	467,658	1,316,406	326,070	3,250,423	1,934,017
Clothing, men's, including shirts.....	1,078	38,370	830	3,925	33,615	2,918	36,521,124	4,291,780	15,776,654	42,768,038	13,782,710	85,296,407	42,528,369

¹ Excluding statistics for establishments located outside of the corporate limits of Chicago, to avoid disclosure of individual operations. The figures for these establishments are included under the head of "All other industries."

PHILADELPHIA METROPOLITAN DISTRICT.

Territory included.—The metropolitan district of Philadelphia embraces 437,733 acres of territory, of which 83,340 acres represent the area of Philadelphia, and 354,393 acres the area of the outside territory. The population of the city of Philadelphia proper in 1910 was 1,549,008, and that of the outside territory 423,334, the total for the district being 1,972,342.

As defined at the Thirteenth Census, the metropolitan district comprised, in addition to the city of Philadelphia, 6 cities, 42 boroughs, and 49 townships—a total of 97 civil divisions. Five of the cities, 11 of the boroughs, and 17 of the townships are situated in New Jersey. The district covered by the statistics published in the bulletin on industrial districts for 1904 contained, besides Philadelphia, 68 civil divisions, all but 8 of which are among the number included for 1909. These 8 divisions comprise Southampton township in Bucks County, Pa.; Thornbury and Willistown townships in Chester County, Pa.; and Bethel, Birmingham, Concord, Edgemont, and Thornbury townships in Delaware County, Pa.

The various cities, boroughs, and townships included in the metropolitan district in 1909 are shown below, by counties. Places included in the district in 1904 are indicated by (*):

PENNSYLVANIA.

PHILADELPHIA COUNTY.

*Philadelphia city.

BUCKS COUNTY.

*Bensalem township. Bristol borough.	Bristol township.
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CHESTER COUNTY.

*Easttown township.	Tredyffrin township.
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DELAWARE COUNTY.

*Aldan borough. *Aston township. *Chester city. *Chester township. *Clifton Heights borough. *Collingdale borough. *Colwyn borough. *Darby borough. *Darby township. *Eddystone borough. *Glenolden borough. *Haverford township. *Lansdowne borough. *Lower Chichester township. *Marcus Hook borough. *Marple township. *Media borough. *Middletown township. *Millbourne borough.	*Morton borough. *Nether Providence township. *Newtown township. *Norwood borough. *Prospect Park borough. *Radnor township. *Ridley township. *Ridley Park borough. *Rutledge borough. *Sharon Hill borough. *Springfield township. *Swarthmore borough. *Tinicum township. *Upland borough. *Upper Chichester township. *Upper Darby township. *Upper Providence township. *Yeadon borough.
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PENNSYLVANIA—Continued.

MONTGOMERY COUNTY.

*Arlington township. Ambler borough. Bridgeport borough. *Cheltenham township. *Conshohocken borough. *Hatboro borough. *Jenkintown borough. Lower Gwynedd township. *Lower Merion township. *Moreland township. *Narberth borough.	Norristown borough. North Wales borough. *Plymouth township. *Rockledge borough. *Springfield township. Upper Dublin township. Upper Gwynedd township. Upper Merion township. *West Conshohocken borough. *Whittemarsh township. Whitpain township.
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NEW JERSEY.

BURLINGTON COUNTY.

Beverly city. Beverly township. Burlington city. Burlington township. Chester township. Cinnaminson township. Delran township.	Florence township. Northampton township. Palmyra township. Riverside township. Riverton borough. Westhampton township. Willingboro township.
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CAMDEN COUNTY.

*Audubon borough. *Camden city. *Center township. *Collingswood borough. *Gloucester city. *Haddon township.	*Haddon Heights borough. *Haddonfield borough. *Merchantville borough. *Oaklyn borough. *Pensauken township. *Woodlynne borough.
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GLOUCESTER COUNTY.

Deptford township. Greenwich township. National Park borough. Paulsboro borough.	Wenonah borough. West Deptford township. Woodbury city.
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On page 920 is an outline map of the metropolitan district as constituted in 1909, showing the various cities, boroughs, and townships included.

Summary for the district.—Table 14 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the Philadelphia district; for the cities of Philadelphia, Pa., Camden, N. J., and Chester, Pa., and the borough of Norristown, Pa.; and for the remainder of the district. The percentage which the figure for Philadelphia represents of the total for the district is shown in the case of each item.

In 1909 the Philadelphia metropolitan district had 9,568 manufacturing establishments, which gave employment to an average of 358,218 persons during the year, and paid out \$200,933,659 in salaries and wages. Of the persons employed, 308,947 were wage earners. These establishments turned out products to the value

of \$911,014,010, to produce which materials costing \$529,992,413 were utilized. The value added by manufacture was thus \$381,021,597. The Philadel-

phia district ranked third in 1909 among all the metropolitan districts of the United States in the value of its manufactured products.

	NUMBER OR AMOUNT.							Per cent Philadelphia is of total for district.
	The district.	Philadelphia.	District exclusive of Philadelphia.					
			Total.	Camden.	Chester.	Norristown.	Remainder.	
Population ¹	1,972,342	1,549,008	423,334	94,538	38,537	27,875	262,384	78.5
Number of establishments.....	9,568	8,379	1,189	365	128	111	585	87.6
Persons engaged in manufactures.....	358,218	294,498	63,720	18,709	7,867	4,223	32,921	82.2
Proprietors and firm members.....	10,263	9,162	1,101	315	102	104	580	89.3
Salaried employees.....	39,008	33,452	5,556	1,867	779	301	2,609	85.8
Wage earners (average number).....	308,947	251,884	57,063	16,827	6,986	3,818	29,732	81.5
Primary horsepower.....	497,453	365,950	131,503	29,056	17,131	5,713	79,603	73.0
Capital.....	\$863,968,450	\$691,396,873	\$172,571,577	\$49,158,308	\$23,928,262	\$6,983,733	\$92,501,274	80.0
Expenses.....	810,775,271	663,405,035	147,370,236	42,679,240	17,053,434	6,009,126	81,628,436	81.8
Services.....	200,933,659	165,827,013	35,108,646	11,013,136	4,350,504	1,931,134	17,805,872	82.5
Salaries.....	46,610,252	39,446,184	7,173,068	2,406,488	964,501	378,130	3,423,949	84.0
Wages.....	154,314,407	126,380,829	27,933,578	8,606,648	3,302,003	1,553,004	14,381,923	81.9
Materials.....	529,992,413	429,692,277	100,900,136	27,383,800	11,576,388	3,274,199	58,065,749	81.0
Miscellaneous.....	79,849,199	68,488,745	11,363,454	4,282,304	1,120,542	805,793	5,156,815	85.3
Value of products.....	911,014,010	746,073,659	164,838,351	49,137,874	19,373,314	7,413,211	89,018,952	81.9
Value added by manufacture.....	381,021,597	316,983,382	64,038,215	21,764,074	7,790,926	4,130,012	30,348,203	83.2

¹ April 15, 1910.

The greater part of the value of the manufactured products of the district was reported by factories within the central city. Philadelphia contained over three-fourths (78.5 per cent) of the population of the district in 1910, and contributed over four-fifths (81.9 per cent) of the value of manufactured products for 1909. Its manufacturing establishments constituted 87.6 per cent of the total number of such establishments in the district and gave employment to 81.5 per cent of the average number of wage earners for that area.

Of the places outside of Philadelphia for which statistics are given separately, Camden, N. J., had the largest value of manufactured products in 1909, representing 5.4 per cent of the total for the metropolitan district. The population of Camden was 4.8 per cent of the total for the district in 1910.

The group of cities, boroughs, and townships not shown separately, with a combined population equal to 13.3 per cent of the total for the district, contributed 9.7 per cent of the value of products.

The principal industries of Philadelphia in 1909, as measured by value of products, were the woolen and worsted goods industry, printing and publishing, the refining of sugar, foundries and machine shops, the making of women's clothing and of men's clothing, including shirts, and petroleum refining; of Camden, the tanning, currying, and finishing of leather, and shipbuilding; of Chester, the metal-working and textile industries; and of Norristown, the hosiery and knit-goods industry. A large number of other places in the district, statistics for which are not given separately, reported manufactured products ranging from approximately \$1,200,000 to \$10,000,000 in value in 1909. These places included, in Pennsylvania, Eddystone borough, with foundries and machine shops and tex-

tile dyeing and finishing works; Lower Merion township, with steel works and structural iron plants; Bristol borough, with leather and woolen factories; Marcus Hook borough, with petroleum refineries; Conshohocken borough, with steel works; Clifton Heights and Bridgeport boroughs, with woolen factories; Ambler borough, with plants manufacturing steam packing; and Upper Darby township, with flour mills and gristmills. In New Jersey, the places that reported a large value of products included Gloucester city, with factories manufacturing gas and lamp fixtures; Riverside township, with the manufacture of watch cases; and Burlington city and Florence township, with plants manufacturing cast-iron and steel pipe.

Comparison with earlier censuses.—Table 15 gives statistics for the district for 1909, 1904, and 1899, together with the percentages of increase from census to census. For purposes of accurate comparison the statistics for 1909 have been adjusted by segregating the figures for the territory added since 1904; and those for 1904 and 1899 by segregating the figures for the territory deducted since 1904.

The percentage of increase in all items shown except miscellaneous expenses was greater during the later five-year period 1904-1909 than during the period 1899-1904. For the decade 1899-1909 the relative increase was greater in the amount paid for salaries and in the number of salaried employees than for any other items. The average number of wage earners increased 23.2 per cent during this period, but the wages increased 40.3 per cent, a rate of gain somewhat less than that in value of products, 51.3 per cent. The rate of increase in primary horsepower of all kinds from 1904 to 1909 was 27.6 per cent. Statistics as to the primary power used in 1899 are not available.

Table 15

	NUMBER OR AMOUNT.									PER CENT OF INCREASE. ¹		
	1909			1904			1899			1899-1900	1904-1909	1899-1904
	Total.	Territory added since 1904.	Remainder of district. ²	Total.	Territory deducted since 1904.	Remainder of district. ²	Total.	Territory deducted since 1904.	Remainder of district. ²			
Population.....	1,972,342	117,127	1,855,215	(⁴)	(⁴)	(⁴)	1,537,904	8,256	1,529,738	21.3	.....	.....
Number of establishments.....	9,568	227	9,341	7,780	9	7,771	8,196	6	8,190	14.1	.....	-5.1
Persons engaged in manufactures.....	358,218	11,439	346,779	295,724	137	295,587	(⁶)	(⁶)	(⁶)	.....	.....	17.3
Proprietors and firm members.....	10,263	194	10,069	8,780	12	8,768	(⁶)	(⁶)	(⁶)	.....	.....	14.8
Salaried employees.....	39,008	906	38,102	25,488	10	25,478	19,163	12	19,151	98.9	.....	33.0
Wage earners (average number).....	308,947	10,339	298,608	261,456	115	261,341	242,551	135	242,416	23.2	.....	7.8
Primary horsepower.....	497,453	23,804	473,649	372,040	776	371,264	(⁶)	(⁶)	(⁶)	.....	.....	27.6
Capital.....	\$863,908,450	\$31,623,055	\$832,285,395	\$622,081,779	\$425,276	\$621,656,503	\$505,347,424	\$265,979	\$505,581,445	64.6	.....	23.0
Expenses.....	\$10,775,271	\$26,626,193	\$784,149,078	\$601,889,762	\$467,060	\$601,422,702	\$502,835,584	\$201,076	\$502,634,508	50.0	.....	19.7
Services.....	200,933,659	5,359,235	195,574,424	151,923,857	74,034	151,849,823	128,069,629	52,022	128,017,607	52.8	.....	18.6
Salaries.....	46,619,252	1,024,957	45,594,295	28,830,421	18,180	28,812,241	21,105,446	8,778	21,096,668	116.1	.....	36.6
Wages.....	154,314,407	4,334,278	149,980,129	123,093,436	55,854	123,037,582	106,964,183	43,244	106,920,939	40.3	.....	15.1
Materials.....	529,992,413	19,351,001	510,641,412	387,566,027	364,733	387,201,304	330,895,698	142,671	330,753,027	54.4	.....	17.1
Miscellaneous.....	79,849,190	1,915,957	77,933,232	62,399,878	28,303	62,371,575	43,870,257	6,383	43,863,874	77.7	.....	42.2
Value of products.....	911,014,010	29,286,032	881,727,978	677,781,117	484,604	677,296,513	582,998,753	219,395	582,779,358	51.3	.....	16.2
Value added by manufacture.....	381,021,597	9,935,031	371,086,566	290,215,090	119,881	290,095,209	252,103,055	76,724	252,026,331	47.2	.....	15.1

¹ A minus sign (-) denotes decrease. ² Figures in this column used in computing percentages of increase. ³ April 15, 1910. ⁴ No population census of Pennsylvania in 1905. ⁵ June 1, 1900. ⁶ Figures not available.

The proportion of manufactures in the outside territory of the metropolitan district is constantly increasing, as is indicated by Table 16. The percentages for 1909 are based upon the figures for the district exclusive of the territory added since 1904, and those for 1904 and 1899 upon the figures for the district exclusive of the territory subsequently deducted.

	PER CENT TERRITORY OUTSIDE OF PHILADELPHIA IS OF TOTAL FOR DISTRICT.		
	1909 ¹	1904 ²	1899 ²
Population.....	16.5	(³)	15.6
Number of establishments.....	10.3	8.8	8.4
Persons engaged in manufactures.....	15.1	12.1	(⁴)
Proprietors and firm members.....	9.0	7.2	(⁴)
Salaried employees.....	12.2	10.4	8.6
Wage earners (average number).....	15.6	12.4	11.4
Primary horsepower.....	22.7	21.8	(⁴)
Capital.....	16.9	16.3	11.8
Expenses.....	15.4	13.2	10.7
Services.....	15.2	12.4	11.2
Salaries.....	13.5	11.9	10.3
Wages.....	15.7	12.5	11.4
Materials.....	10.0	13.9	10.8
Miscellaneous.....	12.1	11.1	9.1
Value of products.....	15.4	12.7	10.8
Value added by manufacture.....	14.6	11.1	10.8

¹ Based on figures for district as constituted in 1909, exclusive of territory added since 1904. ² Based on figures for district as constituted in 1904, exclusive of territory deducted since 1904. ³ No population census of Pennsylvania in 1905. ⁴ Figures not available.

The proportion of the population of the district as originally constituted reported for the territory outside of Philadelphia increased from 15.6 per cent in 1900 to 16.5 per cent in 1910, and the proportion of the value of products contributed by the outlying terri-

tory increased steadily, from 10.8 per cent in 1899 to 12.7 per cent in 1904 and 15.4 per cent in 1909.

Leading industries.—Table 17 gives statistics for 1909 for the industries of the district having products valued at \$500,000 or more, so far as separate figures can be presented.

Among the 101 industries shown separately in the table, there are 17 for which the totals for the district can not be given without disclosing individual operations and 18 which were not carried on in 1909 in the part of the district that is outside the city limits. In the case of all these industries, with the exception of one in the former group, the statistics shown are figures for Philadelphia only.

Of the industries shown separately, the woolen and worsted goods industry ranked highest in value of products in 1909, with 8.4 per cent of the total reported for all industries in the district, followed by foundries and machine shops, with 6.5 per cent of this total, and printing and publishing, with 5.1 per cent. Two industries—the men's clothing and cotton-goods industries—each contributed 3.2 per cent of the total value of products for the district, the making of women's clothing exceeding them slightly, with 3.3 per cent. These small percentages tend to show the great total value of the manufactures, as well as their large variety. The industries in which this, the third greatest metropolitan district, led all other districts in 1909 were the manufacture of carpets and rugs, of fur-felt hats, and of hosiery and knit goods.

PHILADELPHIA METROPOLITAN DISTRICT.

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SUMMARY FOR THE PHILADELPHIA METROPOLITAN DISTRICT, BY INDUSTRIES: 1909—Continued.

Table 17—Continued.

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Miscellaneous expenses.	Value of products.	Value added by manufacture.
		Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).								
Hats, straw.....	9	531	7	64	460	85	\$498,430	\$116,568	\$213,979	\$403,000	\$48,652	\$872,135	\$469,135
House-furnishing goods, not elsewhere specified.....	19	610	18	60	532	511	1,262,790	73,034	149,240	995,086	157,346	1,488,736	492,750
Hosiery and knit goods.....	190	19,345	206	898	18,241	9,201	21,139,886	1,024,814	6,409,886	14,447,804	1,881,693	26,830,879	12,883,075
Ice, manufactured.....	54	916	24	139	753	16,617	6,770,869	128,237	510,708	684,893	370,088	2,174,057	1,489,164
Ink, printing.....	8	246	6	75	105	483	742,447	94,362	104,581	622,582	171,841	1,050,113	427,531
Instruments, professional and scientific.....	32	725	28	107	500	701	1,359,768	114,865	350,822	226,525	116,438	924,367	697,842
Iron and steel, steel works and rolling mills.....	21	10,078	6	879	9,103	48,598	32,725,245	1,306,320	5,330,367	12,800,813	1,777,100	23,990,217	11,180,404
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.....	9	900	7	84	809	1,573	2,185,994	99,582	355,571	732,500	172,987	1,405,088	673,128
Iron and steel forgings.....	14	488	8	72	400	1,769	1,682,423	106,781	287,806	600,533	87,948	1,185,075	585,142
Jewelry.....	152	411	69	47	205	110	664,336	37,611	186,454	426,784	69,873	884,433	457,649
Labels and tags.....	12	344	11	58	275	314	453,056	55,150	126,316	259,549	56,084	568,859	369,310
Leather goods.....	88	2,115	112	279	1,724	465	2,743,425	378,519	789,857	2,163,672	208,045	4,039,367	1,876,695
Leather, tanned, curried, and finished.....	57	8,301	46	503	7,752	10,803	23,208,137	843,194	3,950,336	24,280,672	1,871,332	33,626,340	9,338,677
Liquors, distilled.....	6	140	50	30	60	549	1,260,000	42,189	70,090	383,126	535,165	585,840	552,840
Liquors, malt.....	52	2,410	32	423	1,955	14,031	20,919,166	1,095,199	1,511,845	4,109,247	5,323,271	15,179,357	11,010,110
Looking-glass and picture frames.....	39	431	51	44	330	145	417,367	36,496	174,989	395,988	66,679	830,181	434,103
Lumber and timber products.....	126	4,385	128	342	3,015	9,612	7,329,979	395,456	2,220,513	5,451,508	433,341	9,443,170	3,991,662
Marble and stone work.....	134	2,203	176	134	1,893	3,335	3,510,136	150,192	1,272,640	1,606,161	229,488	3,075,294	2,300,133
Mattresses and spring beds.....	138	408	37	62	309	471	602,928	49,928	138,118	656,779	93,409	1,068,682	411,903
Milinery and lace goods.....	96	3,041	131	275	3,535	569	2,814,120	227,634	1,181,563	3,230,505	511,138	5,921,256	2,600,751
Mineral and soda waters.....	109	611	113	112	386	438	1,403,207	134,547	230,009	748,855	485,637	2,182,368	1,433,513
Mucilage and paste.....	12	105	8	31	66	103	360,964	55,512	30,225	611,045	51,744	808,054	197,009
Musical instruments, pianos and organs and materials.....	14	501	13	30	458	361	562,611	41,596	155,286	400,101	96,043	775,237	375,136
Oil, not elsewhere specified.....	13	285	10	112	163	713	1,408,900	132,504	97,522	1,571,024	155,894	2,069,023	407,009
Optical goods.....	14	419	12	116	291	110	455,324	89,571	123,330	272,762	61,174	620,693	347,941
Paint and varnish.....	61	2,020	54	415	1,551	5,451	11,677,576	655,624	864,060	6,571,287	898,837	10,107,711	3,536,424
Paper and wood pulp.....	14	1,905	7	133	1,765	14,410	6,991,025	237,336	876,069	3,411,994	799,842	5,869,693	2,457,699
Paper goods, not elsewhere specified.....	38	1,777	35	319	1,423	1,500	3,416,254	328,215	562,590	2,342,113	422,089	3,907,711	1,565,598
Patent medicines and compounds and druggists' preparations.....	104	3,422	164	962	2,296	2,103	10,459,787	1,138,369	962,132	4,328,750	2,315,182	10,098,183	5,769,427
Photographic apparatus and materials.....	7	192	6	39	147	114	456,259	46,591	104,137	416,123	57,292	672,908	256,785
Photo-engraving.....	116	546	15	134	397	105	523,182	140,755	381,086	185,230	123,867	917,108	731,878
Pottery, terra-cotta, and fire-clay products.....	21	967	14	101	862	1,556	2,744,334	140,772	505,707	792,994	260,842	2,020,161	1,227,167
Printing and publishing.....	1,037	21,650	991	6,471	14,138	12,750	43,747,327	5,994,440	8,514,446	15,613,927	8,983,282	46,875,524	31,061,597
Shoddy.....	20	518	32	30	460	2,170	1,627,096	47,039	185,740	1,463,218	74,061	2,051,118	587,900
Silk and silk goods, including throwsters.....	38	3,543	32	270	3,241	2,425	6,355,129	323,449	1,306,130	3,648,775	544,529	6,808,089	3,159,314
Slaughtering and meat packing.....	98	1,033	127	240	1,266	3,712	5,333,504	311,658	890,096	21,922,302	593,046	24,726,467	2,804,165
Soap.....	41	1,336	44	285	997	1,840	4,637,198	346,746	473,442	5,837,845	1,185,448	8,643,437	2,805,592
Soda-water apparatus.....	4	246	6	52	188	180	713,086	44,660	122,242	194,941	141,624	584,189	300,248
Springs, steel, car and carriage.....	5	256	1	28	227	505	644,571	42,249	125,268	254,934	36,116	534,985	280,001
Steam packing.....	26	2,059	15	511	1,533	5,270	6,406,853	424,744	753,577	2,450,519	676,013	4,275,695	1,825,176
Stereotyping and electrotyping.....	16	315	13	39	263	284	283,911	49,321	196,217	113,131	43,495	520,969	407,838
Stoves and furnaces, including gas and oil stoves.....	20	984	18	130	846	891	2,392,606	174,461	550,130	785,536	289,999	2,669,346	1,284,260
Tobacco manufactures.....	558	9,117	601	636	7,880	1,328	9,274,919	768,388	3,089,955	6,049,325	3,265,287	15,577,862	9,528,537
Type foundry and printing materials.....	8	405	6	104	295	275	1,086,090	91,660	160,000	196,477	108,236	580,172	353,665
Umbrellas and canes.....	131	1,297	31	100	1,166	1,342	3,413,424	101,891	504,830	1,060,134	114,393	2,074,521	1,014,387
Upholstering materials.....	13	445	10	48	387	810	1,641,174	44,948	177,928	1,094,003	160,737	1,728,837	634,254
Wall paper.....	7	606	1	63	542	770	1,655,254	129,016	258,745	1,228,758	171,211	2,085,354	776,596
Wall plaster.....	5	333	1	64	268	1,416	899,049	90,054	137,475	358,279	90,983	709,053	341,774
Wirework, including wire rope and cable.....	30	634	34	53	547	441	916,039	86,392	200,817	413,798	104,710	1,019,414	665,616
Wood, turned and carved.....	31	466	33	25	408	488	428,326	21,539	158,062	167,495	16,292	537,246	369,751
Woolen, worsted, and felt goods, and wool hats.....	164	27,577	180	917	26,480	47,893	73,339,391	1,666,839	10,538,596	54,478,419	3,051,564	76,261,845	21,783,426
All other industries.....	852	48,107	865	4,542	42,700	112,334	172,592,600	6,114,757	23,544,677	125,461,846	10,379,815	177,832,939	52,371,093

¹ Excluding statistics for establishments located outside of the corporate limits of Philadelphia, to avoid disclosure of individual operations. The figures for these establishments are included under the head of "All other industries."

² Excluding statistics for one establishment, to avoid disclosure of individual operations. The figures for this establishment are included under the head of "All other industries."

The greatest absolute increase in value of products during the decade in the area under consideration—\$33,423,596, or 78 per cent—is shown for the manufacture of woolen, worsted, and felt goods and wool hats. In this industry the city of Philadelphia ranks second among cities of the United States. The omission of the statistics for one establishment in 1899 has only the slightest effect upon the comparison.

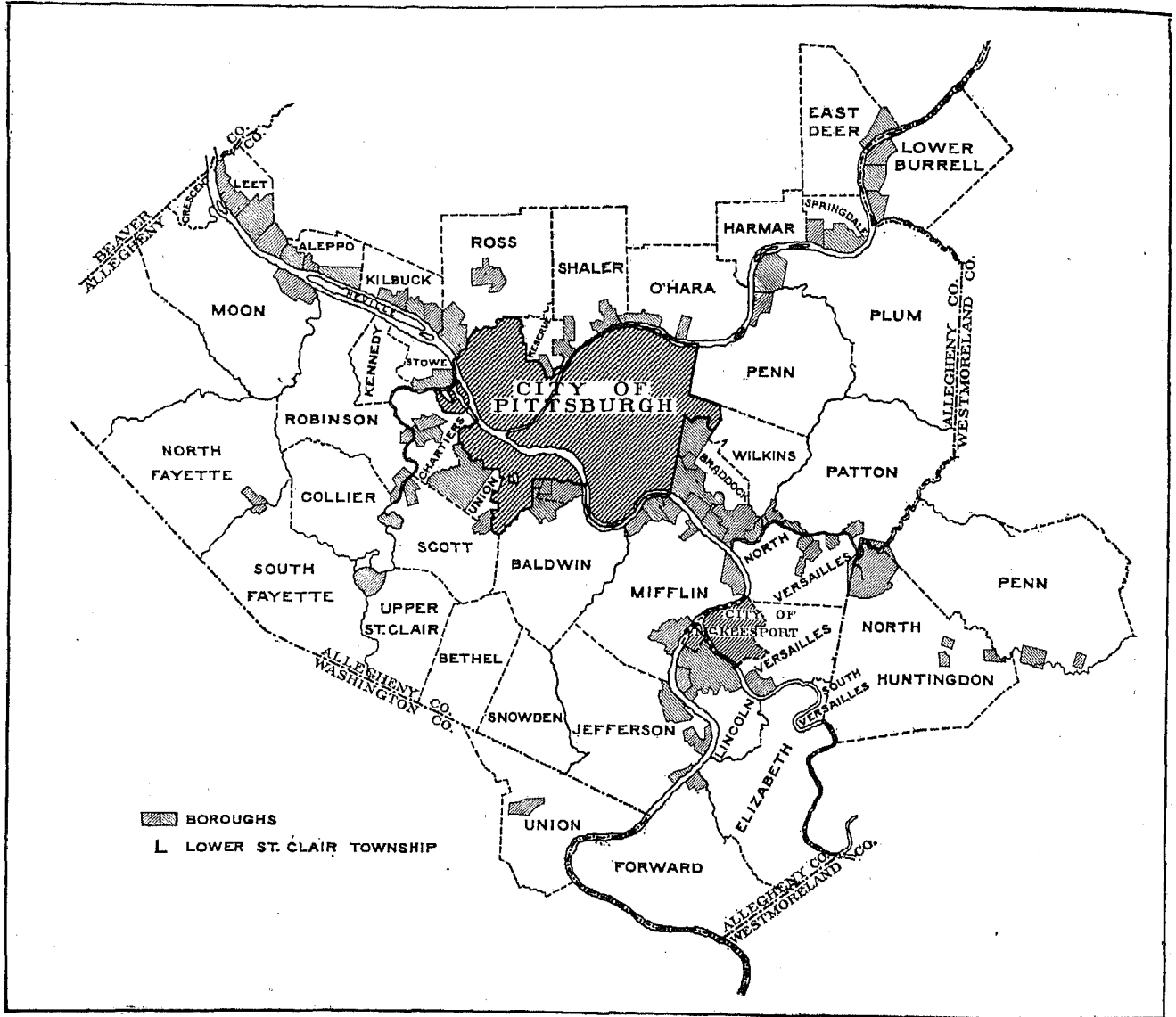
The apparent decrease for the dyeing and finishing of textiles is due to the necessary omission of statistics for two establishments, to present which would disclose the operations of individual establishments. In reality there has been a very considerable increase.

Among the important industries that can not be shown separately, since to do so would disclose the operations of individual establishments, are the refining of sugar and of petroleum, the shipbuilding indus-

try, and the manufacture of locomotives and of oilcloth and linoleum.

The relative gain shown in the table for the manufacture of steam packing is much increased by the inclusion of statistics for this industry from territory added to the district since 1904. The absolute gain in the manufacture of woolen, worsted, and felt goods and wool hats is likewise considerably raised by figures for that part of the industry reported from territory new to the district in 1909. Other prominent industries affected in substantially like measure as the latter are the tanning, currying, and finishing of leather and the manufacture of steel. Omitting from consideration these industries, the greatest relative gain in value of products during the decade was for food preparations, 416.3 per cent; and in absolute gain, for the manufacture of clothing—\$27,640,483.

PITTSBURGH METROPOLITAN DISTRICT: 1909.



PITTSBURGH METROPOLITAN DISTRICT.

Territory included.—The metropolitan district of Pittsburgh embraces 405,880 acres of territory, of which 26,511 acres constitute the area of Pittsburgh and 379,369 acres the area of the outside territory. The population of the city of Pittsburgh proper in 1910 was 533,905 and that of the outside territory 510,838, the total for the district being 1,044,743. As defined at the census of 1910, the metropolitan district comprised 119 cities, boroughs, and townships situated in Allegheny, Washington, and Westmoreland Counties; the district covered by the statistics published for 1904 contained only 58 civil divisions, all of which were in Allegheny County.

The following is a list, by counties, of the various cities, boroughs, and townships included in the metropolitan district in 1909:

[Places included in the district in 1904 are indicated by *. Allegheny, Elliott, Esplen, Montooth, Sheraden, Sterrett, and West Liberty, included in 1904 as separate subdivisions, are now part of the city of Pittsburgh.]

ALLEGHENY COUNTY.

Aleppo township.
Aspinwall borough.
*Avalon borough.
*Baldwin township.
*Bellevue borough.
*Ben Avon borough.
Bethel township.
*Braddock borough.
*Braddock township.
Bridgeville borough.
*Carnegie borough.
*Carrick borough.
*Chartiers township.
Cheswick borough.
Clairton borough.
Collier township.
Corapolis borough.
*Crafton borough.
Crescent township.
*Dormont borough.
*Dravosburg borough.
*Duquesne borough.
East Deer township.
East McKeesport borough.
*East Pittsburgh borough.
*Edgewood borough.
Edgeworth borough.
Elizabeth borough.
Elizabeth township.
*Emsworth borough.
*Etna borough.
Forward township.
Glassport borough.
*Glenfield borough.
*Greentree borough.
Harmar township.
*Hays borough.
Haysville borough.
Heidelberg borough.

ALLEGHENY COUNTY—contd.

*Homestead borough.
*Ingram borough.
Jefferson township.
*Kennedy township.
*Kilbuck township.
*Knoxville borough.
Leet township.
Leetsdale borough.
Lincoln township.
*Lower St. Clair township.
McKeesport city.
*McKees Rocks borough.
*Mifflin township.
*Millvale borough.
Moon township.
*Mount Oliver borough.
*Munhall borough.
*Neville township.
*North Braddock borough.
North Fayette township.
North Versailles township.
Oakdale borough.
Oakmont borough.
O'Hara township.
Osburn borough.
Patton township.
Penn township.
Pitcairn borough.
*Pittsburgh city.
Plum township.
Port Vue borough.
*Rankin borough.
*Reserve township.
*Robinson township.
*Ross township.
*St. Clair borough.
*Scott township.
Sewickley borough.
*Shaler township.

ALLEGHENY COUNTY—contd.

Sharpsburg borough.
Snowden township.
South Fayette township.
South Versailles township.
*Spring Garden borough.
Springdale borough.
Springdale township.
*Stowe township.
*Swissvale borough.
Tarentum borough.
*Thornburg borough.
Trafford borough (part of).
Turtle Creek borough.
*Union township.
Upper St. Clair township.
Verona borough.
Versailles borough.
Versailles township.
Wall borough.
West Elizabeth borough.
*West Homestead borough.
*Westview borough.
*Whitaker borough.

ALLEGHENY COUNTY—contd.

*Wilkins township.
*Wilkinsburg borough.
Wilmerding borough.
Wilson borough.

WASHINGTON COUNTY.

Finleyville borough.
Union township.

WESTMORELAND COUNTY.

Arnold borough.
Irwin borough.
Jeannette borough.
Lower Burrell township.
Manor borough.
New Kensington borough.
North Huntingdon township.
North Irwin borough.
Parnassus borough.
Penn borough.
Penn township.
Trafford borough (part of).

The relative location of the constituent divisions is indicated on the outline map of this district on page 928.

Summary for the district.—Table 19 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population, for the Pittsburgh metropolitan district; for the cities of Pittsburgh and McKeesport, and five of the leading boroughs; and for the remainder of the district. The percentage which the figure for Pittsburgh represents of the total for the district is shown in the case of each item. The statistics for Duquesne and North Braddock boroughs are included with the "remainder" of the district to avoid disclosing individual operations.

In 1909 the Pittsburgh metropolitan district had 2,369 manufacturing establishments, which gave employment to an average of 163,258 persons during the year and paid out \$115,049,924 in salaries and wages. Of the persons employed 140,464 were wage earners. These establishments turned out products to the value of \$578,815,493, to produce which materials costing \$366,892,433 were utilized. The value added by manufacture was thus \$211,923,060. The Pittsburgh district ranked fourth in 1909 among all the metropolitan districts of the United States in the value of its manufactured products. It far exceeded any of the others in the value of its iron and steel output.

In the Pittsburgh district, as in the Boston district, the greater part of the value of the manufactured products of the district was reported by factories outside the central city. Pittsburgh contained over one-half (51.1 per cent) of the population of the district of which it is the manufacturing, commercial, and finan-

cial center, and contributed slightly over two-fifths of the value of products for the district (42.1 per cent). Its manufacturing establishments constituted seven-tenths (70 per cent) of all in the district and gave employment to nearly one-half (48.8 per cent) of the average number of wage earners for that area.

Of the places outside Pittsburgh for which statistics are given separately, McKeesport had the largest value of products, representing 7.3 per cent of the total for the metropolitan district. This city contained 4.1 per cent of the total population of the district.

Table 19

	NUMBER OR AMOUNT.										Percent Pittsburgh is of total for district.
	The district.	Pittsburgh.	District exclusive of Pittsburgh.								
			Total.	McKeesport.	Braddock.	Wilksburg.	Homestead.	McKees Rocks.	Carnegie.	Remainder.	
Population ²	1,044,743	533,005	510,838	42,694	19,357	18,924	18,713	14,702	10,009	386,439	51.1
Number of establishments.....	2,369	1,659	710	68	41	24	26	31	19	501	70.0
Persons engaged in manufactures.....	163,258	79,625	83,633	9,093	1,218	231	248	3,903	509	68,431	48.8
Proprietors and firm members.....	2,102	1,553	549	58	36	21	17	21	17	379	73.9
Salaried employees.....	20,692	10,598	10,094	789	142	25	60	291	70	8,717	51.2
Wage earners (average number).....	140,464	67,474	72,990	8,246	1,040	185	171	3,591	422	50,335	48.0
Primary horsepower.....	791,047	307,666	483,381	49,935	7,332	1,016	890	8,872	1,245	414,001	38.9
Capital.....	\$642,527,046	\$283,138,717	\$359,388,329	\$43,432,669	\$5,368,886	\$534,648	\$1,272,845	\$10,328,079	\$2,371,255	\$296,079,947	44.1
Expenses.....	519,820,653	220,734,009	299,086,044	35,473,003	4,029,078	473,042	558,990	8,467,279	2,908,978	246,575,674	42.5
Services.....	115,049,924	52,655,536	62,394,388	6,921,568	945,215	150,136	160,118	2,644,226	368,935	51,204,100	45.3
Salaries.....	24,934,082	12,682,604	12,251,478	890,709	160,350	20,840	49,353	334,734	93,014	10,701,818	50.9
Wages.....	90,115,842	39,972,932	50,142,010	6,030,799	784,865	129,296	110,765	2,300,492	275,321	40,502,372	44.4
Materials.....	366,892,433	148,526,783	218,365,650	27,295,735	3,347,362	262,265	321,940	5,406,840	2,441,093	179,290,409	40.5
Miscellaneous.....	37,878,296	19,552,290	18,320,006	1,255,700	336,501	60,641	76,932	416,207	98,950	16,081,075	51.6
Value of products.....	578,815,493	243,453,693	335,361,800	42,494,567	5,094,382	538,217	659,196	9,786,828	3,099,445	273,689,165	42.1
Value added by manufacture.....	211,923,060	94,926,910	116,996,150	15,198,832	1,747,020	275,952	337,256	4,379,982	658,352	94,398,756	44.8

¹ Includes Duquesne and North Braddock, the statistics for which can not be shown without disclosing individual operations.

² April 15, 1910.

The group of 112 boroughs and townships, which are not shown separately, with a combined population equal to 37 per cent of the total for the district, contributed 47.3 per cent of the value of its products. The average value of products per establishment for this group of places was much greater than that reported by any of the places shown separately, except McKeesport. A number of the places in this group had a larger output of iron and steel than some of the places for which separate figures are given. Munhall, which adjoins the borough of Homestead, is conspicuous in this regard, followed in importance accord-

ing to the value of iron and steel products by Bessemer, Duquesne, Rankin, Clairton, and Etna.

Comparison with earlier censuses.—Table 20 is a comparative summary of the statistics for the district as a whole for 1909, 1904, and 1899, together with the percentages of increase from census to census. For purposes of comparison with the statistics for the district as given for 1904¹ and 1899,¹ the totals for 1909 are segregated into figures for the territory added since 1904, and into those for the remainder of the district.

¹ Bureau of Census: Industrial Districts, 1905, p. 38.

Table 20

	NUMBER OR AMOUNT.					PER CENT OF INCREASE. ¹		
	1909			1904	1899	1899-1909	1904-1909	1899-1904
	Total.	Territory added since 1904.	Remainder of district. ²					
Population.....	³ 1,044,743	³ 237,786	³ 806,957	(⁴)	⁶ 623,342	29.5		
Number of establishments.....	2,369	350	2,019	1,859	1,477	36.7	8.6	25.9
Persons engaged in manufactures.....	163,258	32,814	130,444	121,594	(⁵)		7.3	
Proprietors and firm members.....	2,102	280	1,822	1,755	(⁵)		3.8	
Salaried employees.....	20,692	3,094	17,598	13,775	7,580	132.2	27.8	81.7
Wage earners (average number).....	140,464	29,440	111,024	106,064	94,464	17.5	4.7	12.3
Primary horsepower.....	791,047	140,269	650,788	596,463	(⁵)		9.1	
Capital.....	\$642,527,046	\$121,040,694	\$521,486,352	\$443,889,824	\$328,493,063	53.8	17.5	35.1
Expenses.....	519,820,653	97,423,945	422,396,708	351,357,841	290,093,782	45.6	20.2	21.1
Services.....	115,049,924	23,065,373	91,984,551	77,339,055	59,761,743	53.9	18.0	29.4
Salaries.....	24,934,082	3,747,360	21,186,722	16,418,501	7,953,339	166.4	29.0	106.4
Wages.....	90,115,842	19,318,013	70,797,829	60,920,554	51,808,404	36.7	16.2	17.6
Materials.....	366,892,433	67,871,499	299,020,934	242,040,207	209,040,608	43.0	23.5	15.8
Miscellaneous.....	37,878,296	0,487,073	31,391,223	31,978,579	21,291,431	47.4	-1.8	50.2
Value of products.....	578,815,493	112,709,294	466,106,199	383,490,468	339,861,658	37.1	21.5	12.8
Value added by manufacture.....	211,923,060	44,837,795	167,085,265	141,450,261	130,821,050	27.7	18.1	8.1

¹ A minus sign (-) denotes decrease.

² Figures in this column used in computing percentages of increase.

³ April 15, 1910.

⁴ No population census in 1905.

⁵ June 1, 1900.

⁶ Figures not available.

The percentages of increase in value of products and value added by manufacture were greater during the more recent five-year period, 1904-1909, than during the period 1899-1904, but the number of wage earners and salaried employees and the expenditures for services increased at a more rapid rate during the

earlier than during the later period. The percentages of increase during the decade 1899-1909, were much larger in the number of salaried employees and in salaries than for any other items. The average number of wage earners increased only 17.5 per cent during this period, but the wages paid increased 36.7 per cent,

The predominant industry of the Pittsburgh metropolitan district is the manufacture of iron and steel. The products of steel works and rolling mills in this district in 1909 were valued at \$237,186,077, of which Pittsburgh¹ alone reported \$82,306,627; the output of blast furnaces was valued at \$85,584,235, Pittsburgh contributing \$20,668,023. The products of the foundries and machine shops had a value of \$52,411,013, of which \$21,690,645 was reported by Pittsburgh. In each instance, therefore, the territory outside the city contributed by far the greater part of the total for the district.

The combined product of steel works and rolling mills and of blast furnaces in the entire district had an aggregate value of \$322,770,312, or 55.8 per cent of the value of products for all industries in the district and 23.4 per cent of the value of products of these two branches of the iron and steel industry in the United

States. By adding the value of products of the foundries and machine shops, \$52,411,013, the total becomes \$375,181,325, or 64.8 per cent of the total value of products for all industries in the district. Of this combined total, Pittsburgh alone contributed \$124,665,295, or 21.5 per cent.

Other prominent industries were the manufacture of electrical machinery, apparatus, and supplies, with products valued at \$20,260,163; steam-railroad repair shops, with products valued at \$16,804,878; and slaughtering and meat packing, with products valued at \$14,492,440.

The manufacture of coke is omitted from the table as to include it would disclose the operations of individual establishments.

Comparative summary, by industries.—The number of establishments, average number of wage earners, and value of products for such of the industries as can be shown separately and had a value of products amounting to \$2,000,000 or over in 1909, are given in Table 23 for the district as constituted in 1904 and 1899.

¹Thirteenth Census of the United States: 1910. Volume IX, Manufactures, pp. 1106-9.

COMPARATIVE SUMMARY FOR THE PITTSBURGH METROPOLITAN DISTRICT, BY SELECTED INDUSTRIES: 1909, 1904, AND 1899.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.			WAGE EARNERS (AVERAGE NUMBER).			VALUE OF PRODUCTS.			PER CENT OF INCREASE. ¹								
										Number of establishments.			Wage earners (average number).			Value of products.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904
Iron and steel industries.....	69	78	79	48,178	46,920	41,943	\$270,939,386	\$226,543,315	\$205,233,498	-12.7	-11.5	-1.3	14.9	2.7	11.9	32.0	19.6	10.4
Iron and steel ²	50	50	58	45,616	45,512	39,431	260,725,906	222,182,110	195,981,129	-13.8	.....	-13.8	15.7	0.2	15.4	33.0	17.3	13.4
All other iron and steel industries ³	19	28	21	2,562	1,408	2,512	10,213,480	4,361,205	9,252,369	-9.5	-32.1	33.3	2.0	82.0	-43.9	10.4	134.2	-52.9
Foundry and machine-shop products. Slaughtering and meat packing. Cars and general shop construction and repairs by steam-railroad companies.....	190	170	(*)	13,979	13,207	(*)	39,081,192	31,837,305	(*)	.....	11.8	.....	.....	5.8	.....	.....	22.8	.....
Cars and general shop construction and repairs by steam-railroad companies.....	6	24	13	841	897	688	13,106,735	10,085,477	6,051,328	7.7	-41.7	84.6	43.0	-6.2	52.0	116.6	30.0	66.7
Foundry and machine-shop products.....	12	8	13	6,172	4,585	2,637	11,478,749	6,107,325	2,643,464	-7.7	50.0	-38.5	134.1	34.6	73.0	334.2	87.9	131.0
Printing and publishing.....	289	240	162	2,931	2,901	2,423	9,369,020	7,990,843	5,081,179	78.4	20.4	48.1	21.0	1.0	19.7	86.2	17.2	58.8
Newspapers and periodicals.....	103	96	56	1,157	1,289	1,295	5,874,748	5,119,240	3,330,540	83.9	7.3	71.4	-10.7	-10.2	-0.5	76.4	14.8	53.7
Book and job.....	161	132	85	1,343	1,406	975	2,821,906	2,594,861	1,530,381	89.4	22.0	55.3	37.7	-4.5	44.2	84.4	8.7	69.6
All other printing and publishing industries ⁷	25	12	21	431	206	153	672,366	276,742	170,258	19.0	108.3	-42.0	181.7	109.2	34.0	294.9	143.0	62.5
Bread and other bakery products.....	328	261	153	2,208	2,045	1,395	8,966,993	6,893,103	3,470,742	114.4	25.7	70.6	58.3	8.0	46.6	158.4	30.1	93.6
Liquors, malt.....	21	19	15	1,107	969	614	6,627,755	5,372,943	5,266,755	40.0	10.5	26.7	80.3	14.2	57.8	25.8	23.4	2.0
Canning and preserving.....	6	11	6	1,710	1,406	1,444	6,201,830	6,216,778	4,429,382	120.0	83.3	20.0	18.4	21.6	-2.6	40.0	-0.2	40.4
Tobacco manufactures.....	232	265	218	3,103	3,171	2,125	3,674,907	4,034,717	2,492,001	6.4	-12.5	21.6	46.0	-2.1	40.2	47.5	-8.9	61.9
Glass.....	14	14	21	2,508	2,407	2,465	3,637,065	2,875,828	2,824,292	-33.3	.....	-33.3	1.7	4.2	-2.4	28.8	26.5	1.8
Brass and bronze products.....	8	15	9	629	527	231	3,188,424	2,462,427	1,701,183	33.3	-20.0	66.7	172.3	19.4	128.1	87.4	29.5	44.7
Paint and varnish.....	21	6	15	287	201	243	3,085,665	2,127,065	2,029,135	75.0	40.0	25.0	18.1	-1.4	19.8	51.1	45.1	4.8
Petroleum refining.....	4	5	5	219	198	161	2,818,219	2,175,774	1,513,440	-20.0	-20.0	.....	36.0	10.6	23.0	86.2	29.5	43.8
Lumber and timber products.....	61	64	45	991	1,088	834	2,636,138	3,141,804	2,406,617	35.6	-4.7	42.2	18.8	-8.9	30.5	9.5	-16.1	30.5

¹ A minus sign (-) denotes decrease.
² Includes blast furnaces and steel works and rolling mills.
³ Includes at all censuses, "iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills;" "iron and steel forgings;" "iron and steel pipe, wrought;" and "tin plate and terneplate." For 1909 and 1904, "iron and steel, doors and shutters." For 1904, "ordnance and accessories." For 1904 and 1899, "iron and steel, nails and spikes, cut and wrought, including wire nails, not made in steel works or rolling mills." And for 1899, "wire."
⁴ Comparable figures not available.
⁵ Excluding statistics for three establishments, to avoid disclosure of individual operations.
⁶ Excluding statistics for one establishment, to avoid disclosure of individual operations.
⁷ Includes "printing and publishing, music;" "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithography."
⁸ Excluding statistics for two establishments, to avoid disclosure of individual operations.

The greatest absolute increase in value of products during the decade in the area under consideration is shown for the manufacture of iron and steel, by steel works and rolling mills and blast furnaces—\$65,705,888, or 32 per cent. The greatest relative increase, 334.2 per cent, was reported for cars and general shop construction and repairs by steam-railroad companies. The manufacture of electrical machinery, apparatus, and supplies is an important industry in this district, but the statistics can not be given in this

table, as to do so would disclose individual operations. Other important industries not shown separately, for the same reason, in this table are, in the order of their importance, the manufacture of iron and steel bolts, nuts, washers, and rivets, not made in steel works or rolling mills; confectionery; springs, steel, car and carriage; and liquors, distilled. Smelting and refining, not from the ore, is also omitted, because comparable figures for 1904 can not be given without disclosing individual operations.

BOSTON METROPOLITAN DISTRICT.

Territory included.—The metropolitan district of Boston embraces 335,905 acres of territory, of which 26,289 acres constitute the area of Boston and 309,616 acres the area of the outside territory. The population of the city of Boston proper in 1910 was 670,585, and that of the outside territory 849,885, the total for the district being 1,520,470.

As defined for the three censuses, the metropolitan district comprised 14 cities and 33 towns, as follows:

SUFFOLK COUNTY.

Boston city.	Revere town.
Chelsea city.	Winthrop town.

ESSEX COUNTY.

Lynn city.	Salem city.
Marblehead town.	Saugus town.
Nahant town.	Swampscott town.
Peabody town.	

MIDDLESEX COUNTY.

Arlington town.	Newton city.
Belmont town.	Sherborn town.
Cambridge city.	Somerville city.
Everett city.	Stoneham town.
Framingham town.	Wakefield town.
Lexington town.	Waltham city.
Lincoln town.	Watertown town.
Malden city.	Wayland town.
Medford city.	Weston town.
Melrose city.	Winchester town.
Natick town.	Woburn city.

NORFOLK COUNTY.

Braintree town.	Needham town.
Brookline town.	Norwood town.
Canton town.	Quincy city.
Dedham town.	Randolph town.
Dover town.	Wellesley town.
Hyde Park town.	Westwood town.
Milton town.	Weymouth town.

On page 935 is an outline map of the metropolitan district as constituted in 1909, showing the various cities and towns included.

Summary for the district.—Table 24 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the Boston metropolitan district; for the cities of Boston, Cambridge, Chelsea, Everett, Lynn, Malden, Medford, Melrose, Newton, Quincy, Salem, Somerville, Waltham, and Woburn, and the towns of Arlington, Brookline, Framingham, Hyde Park, Peabody, Revere, Wakefield, Watertown, Weymouth, and Winthrop; and for the remainder of the district. The percentage

which the figure for Boston represents of the total for the district is given in the case of each item.

In 1909 the Boston metropolitan district had 5,389 manufacturing establishments, which gave employment to an average of 214,641 persons during the year, and paid out \$132,394,865 in salaries and wages. Of the persons employed, 185,952 were wage earners. These establishments turned out products to the value of \$564,054,506, to produce which materials costing \$315,770,540 were utilized. The value added by manufacture was thus \$248,283,966. The Boston district ranked fifth in 1909 among all the metropolitan districts of the United States in the value of its manufactured products.

In the Boston district, as in the Pittsburgh district, the greater part of the value of the manufactured products of the district was reported by factories outside the central city. Boston contained less than one-half (44.1 per cent) of the population of the district of which it is the manufacturing, commercial, and financial center, and contributed a little more than two-fifths (42.1 per cent) of the value of products. Its manufacturing establishments constituted nearly three-fifths (58.5 per cent) of all in the district, and gave employment to a little more than one-third of the wage earners (37.4 per cent).

Of the places outside of Boston for which statistics are given separately, Lynn had the largest value of products, representing 12.7 per cent of the total for the metropolitan district; but it contained only 5.9 per cent of the total population.

The group of 23 towns that are not shown separately, each having less than 10,000 inhabitants, had a combined population of 8 per cent of the total for the district and contributed 6 per cent of the value of the products.

The principal industries of Boston in 1909, as measured by value of products, were printing and publishing and the manufacture of boots and shoes, of clothing, of foundry and machine shop products, and of confectionery. The leading industry of Lynn was the manufacture of boots and shoes, in which it led all other places in the United States. The leading industries of Cambridge were foundry and machine shop products, printing and publishing following; of Somerville, slaughtering and meat packing; of Chelsea, rubber goods; of Peabody, the tanning, currying, and finishing of leather; of Salem, boots and shoes; of Watertown, rubber boots and shoes; and of Quincy, shipbuilding.

Table 24

	Population. ¹	Number of establishments.	PERSONS ENGAGED IN MANUFACTURES.				Primary horsepower.	Capital.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).		
The district	1,520,470	5,389	214,641	4,989	23,700	185,952	223,888	\$444,558,420
Boston.....	670,585	3,155	85,158	2,873	12,648	69,637	68,419	175,181,571
District exclusive of Boston—total.....	849,885	2,234	129,483	2,116	11,052	116,315	155,467	269,376,849
Arlington.....	11,187	19	335	18	34	283	851	777,613
Brookline.....	27,792	16	404	19	45	340	339	616,841
Cambridge.....	104,839	275	17,475	223	1,992	15,200	21,372	37,928,906
Chelsea.....	32,452	110	6,694	98	642	5,954	8,339	11,020,840
Everett.....	33,484	62	3,096	56	360	2,680	7,816	22,004,539
Frammingham.....	12,948	27	3,307	19	219	3,069	4,486	7,770,084
Hyde Park.....	15,507	40	4,649	37	292	4,320	8,856	8,158,338
Lynn.....	89,336	431	30,685	469	2,848	27,368	17,089	42,784,070
Malden.....	44,404	86	3,259	71	288	2,900	3,433	9,910,489
Medford.....	23,150	40	673	33	80	560	1,123	1,595,568
Melrose.....	15,715	25	1,141	21	82	1,038	1,535	2,014,905
Newton.....	39,806	46	2,373	39	160	2,174	4,153	5,669,439
Peabody.....	15,721	74	5,281	55	326	4,850	9,981	15,804,274
Quincy.....	32,642	183	6,247	241	514	5,492	9,147	11,974,782
Revere.....	18,219	14	125	12	12	101	548	661,166
Salem.....	43,697	155	6,852	149	365	6,338	11,436	9,345,244
Somerville.....	77,230	114	5,951	97	574	5,280	7,680	17,282,271
Wakefield.....	11,404	23	2,359	14	115	2,230	1,729	3,864,486
Waltham.....	27,834	80	6,354	67	250	6,037	7,583	12,870,737
Watertown.....	12,875	25	4,805	13	457	4,335	4,862	7,220,006
Weymouth.....	12,895	41	2,238	45	202	1,991	1,902	5,503,936
Winthrop.....	10,132	7	19	6	6	7	41	25,479
Woburn.....	15,368	59	1,867	65	149	1,683	3,560	8,405,106
Remainder.....	121,302	282	13,344	249	1,040	12,055	17,606	25,267,720
Per cent Boston is of total for district.....	44.1	58.5	39.7	57.6	53.4	37.4	30.6	39.4

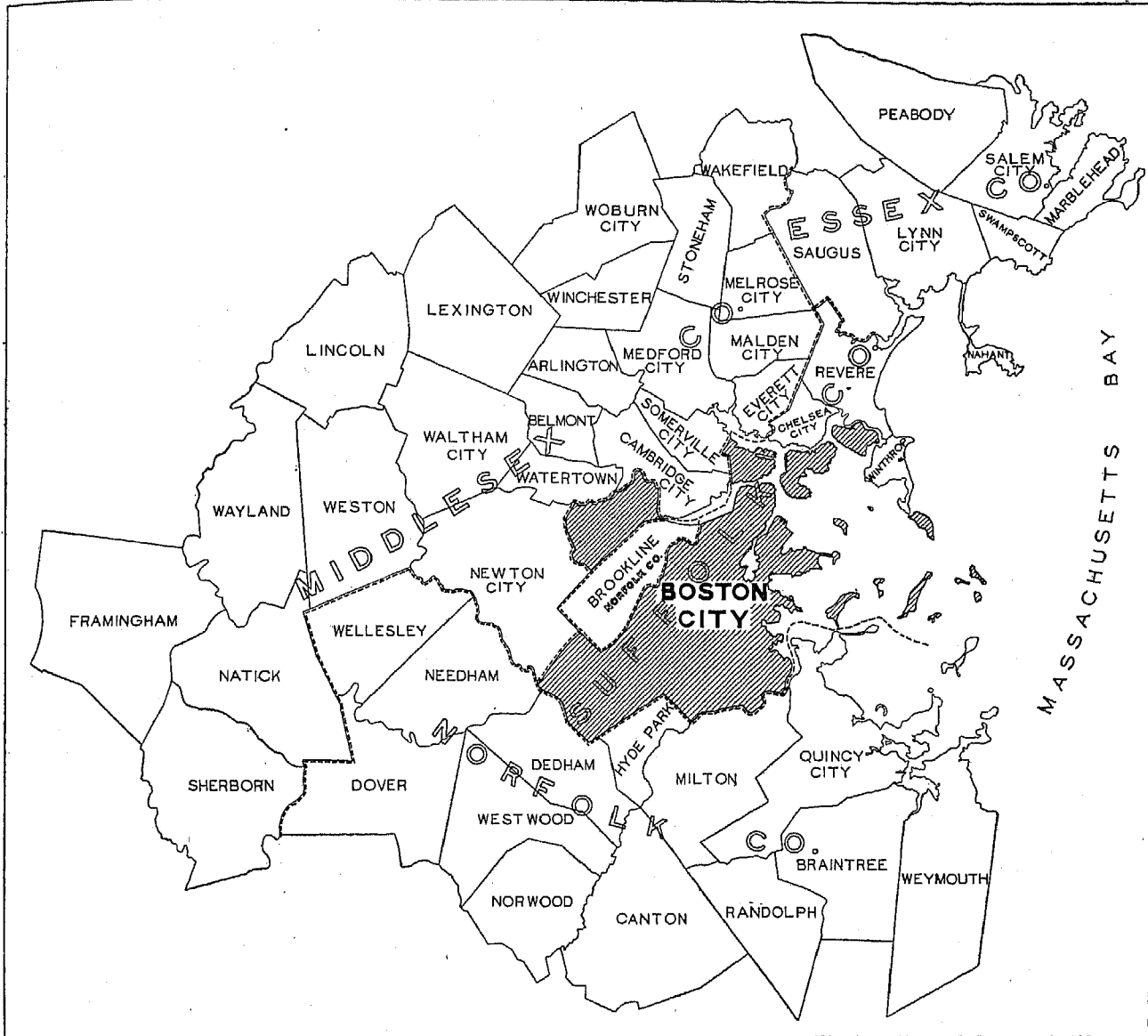
	EXPENSES.						Value of products.	Value added by manufacture.
	Aggregate.	Services.			Materials.	Miscellaneous.		
		Total.	Salaries.	Wages.				
The district	\$503,201,166	\$132,394,865	\$29,073,546	\$103,321,319	\$315,770,540	\$55,035,761	\$564,054,506	\$248,283,968
Boston.....	211,132,069	55,550,637	15,640,830	39,909,807	124,577,155	31,004,277	237,457,472	112,880,317
District exclusive of Boston—total.....	292,069,097	76,844,228	13,432,716	63,411,512	191,193,385	24,031,484	326,597,034	135,403,649
Arlington.....	587,799	222,825	45,621	177,204	310,930	54,044	695,856	384,426
Brookline.....	469,711	231,648	37,065	194,483	190,048	42,115	532,803	330,255
Cambridge.....	38,452,610	10,769,652	2,404,198	8,365,454	23,565,657	4,117,301	44,227,895	20,661,738
Chelsea.....	15,898,771	4,195,657	869,302	3,326,255	10,568,748	1,134,468	17,002,492	6,433,746
Everett.....	7,514,065	1,979,698	471,250	1,507,848	4,506,266	1,028,701	8,746,923	4,240,657
Frammingham.....	5,573,259	1,772,073	325,652	1,446,421	3,411,306	389,880	6,916,864	3,505,558
Hyde Park.....	6,914,496	2,852,513	376,638	2,475,875	3,351,227	710,756	7,386,084	3,984,837
Lynn.....	65,098,218	18,673,532	3,007,714	15,665,818	41,361,087	5,063,699	71,503,140	30,142,033
Malden.....	6,814,078	1,970,775	330,323	1,346,452	4,387,552	749,751	8,205,852	3,818,900
Medford.....	1,828,641	445,374	114,773	331,101	1,240,874	132,893	2,045,289	795,415
Melrose.....	2,364,261	578,648	85,766	492,882	1,588,707	106,006	2,824,660	1,235,662
Newton.....	5,243,565	1,427,171	301,883	1,125,288	3,383,489	492,005	6,278,714	2,895,225
Peabody.....	14,568,353	3,055,531	417,389	2,638,132	10,192,087	1,320,735	15,548,732	5,356,645
Quincy.....	9,739,261	4,239,743	806,103	3,433,640	3,843,867	1,655,651	10,505,403	6,681,536
Revere.....	381,207	65,177	11,085	54,092	292,263	23,857	407,366	116,103
Salem.....	12,680,200	3,289,140	396,354	2,892,786	8,639,856	751,204	14,576,276	5,936,420
Somerville.....	36,581,008	3,561,375	691,567	2,869,808	31,022,862	1,006,771	38,689,527	6,763,665
Wakefield.....	4,302,044	1,202,751	156,791	1,045,960	2,834,960	264,333	5,527,102	2,692,142
Waltham.....	7,133,686	3,694,661	406,369	3,288,292	2,444,341	994,684	7,814,178	5,369,837
Watertown.....	9,708,625	2,674,923	439,918	2,235,005	6,462,761	570,941	11,545,555	5,082,794
Weymouth.....	5,902,901	1,350,229	240,294	1,109,935	4,204,440	348,232	6,627,168	2,422,728
Winthrop.....	36,902	7,311	2,560	4,751	24,994	4,597	42,168	17,174
Woburn.....	4,663,614	1,126,786	194,512	932,274	3,114,507	422,321	5,408,081	2,293,574
Remainder.....	29,611,732	7,751,335	1,299,609	6,451,726	19,335,558	2,524,839	33,593,397	14,257,839
Per cent Boston is of total for district.....	42.0	42.0	53.8	38.6	39.5	56.3	42.1	45.5

¹ April 15, 1910.

BOSTON METROPOLITAN DISTRICT.

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BOSTON METROPOLITAN DISTRICT: 1909.



Comparison with earlier censuses.—Table 25 is a comparative summary of the statistics for the district as a whole for 1909, 1904,¹ and 1899,¹ together with the percentages of increase from census to census.

The percentages of increase in average number of wage earners and in wages and miscellaneous expenses—and for total expenses—value of products, and value added by manufacture, were greater during the earlier five-year period, 1899–1904, than during the period 1904–1909. For the decade as a whole the relative increase was greatest in the amounts paid for salaries and for miscellaneous expenses, and in the number of salaried employees. The average number of wage earners increased 41.3 per cent and the amount paid for wages 57 per cent, a gain approximately equal to that in value of products—59.4 per cent. The relative increase in primary horsepower of all kinds from 1904 to 1909 was 38.2 per cent. Statistics as to the primary power used in 1899 are not available.

	NUMBER OR AMOUNT.			PER CENT OF INCREASE. ²		
	1909	1904	1899	1899-1909	1904-1909	1899-1904
Population.....	2 1,520,470	2 1,354,653	1 1,249,504	21.7	12.2	8.4
Number of establishments.....	5,389	4,870	5,005	7.7	10.7	-2.7
Persons engaged in manufactures.....	214,641	182,270	(³)	.....	17.8	.....
Proprietors and firm members.....	4,989	5,123	(³)	.....	-2.6	.....
Salaried employees.....	23,700	16,666	12,731	86.2	42.2	30.9
Wage earners (average number).....	185,952	100,481	131,623	41.3	15.9	21.9
Primary horsepower.....	223,886	161,954	(³)	.....	38.2	.....
Capital.....	\$444,558,420	\$311,088,956	\$266,437,063	66.9	42.9	16.8
Expenses.....	503,201,166	390,582,631	308,584,166	63.1	26.9	28.5
Services.....	132,394,865	102,501,692	79,465,909	66.6	29.2	29.0
Salaries.....	29,073,546	18,637,473	13,671,864	112.7	56.0	36.3
Wages.....	103,321,319	83,864,219	65,794,045	57.0	23.2	27.5
Materials.....	315,770,540	249,836,542	200,057,065	57.8	26.4	24.9
Miscellaneous.....	55,035,761	44,244,397	29,061,192	89.4	24.4	57.2
Value of products.....	504,054,506	457,254,360	353,955,958	59.4	23.4	29.2
Value added by manufacture.....	248,283,966	207,417,818	153,898,893	61.3	19.7	34.8

¹ A minus sign (-) denotes decrease.

² April 15, 1910.

³ State census, May 1, 1905.

⁴ June 1, 1900.

⁵ Figures not available.

¹ Bureau of Census: Industrial Districts, 1905, pp. 32, 33.

The proportions which the population and the statistics of manufactures for the territory outside of Boston represent of the totals for the metropolitan district are shown in Table 26.

The proportion of the population of the district reported from the territory outside of Boston increased from 55.1 per cent in 1900 to 55.9 per cent in 1910, while the proportion of the value of products increased from 54 per cent in 1899 to 57.9 per cent in 1909.

Leading industries.—Table 27 gives statistics for 1909 for the industries of the district having products valued at \$500,000 or more, so far as separate figures can be presented.

The manufacture of boots and shoes is the leading industry in the Boston district. The value of the products in 1909 amounted to 18.3 per cent of the value of the products for all industries. Two industries—printing and publishing and slaughtering and meat packing—each contributed 6.3 per cent of the value of products for the district; and two others—leather, tanned, curried, and finished, and foundry and machine-shop products—5.8 per cent and 5.3 per cent, respectively.

Table 26

	PER CENT TERRITORY OUTSIDE OF BOSTON IS OF TOTAL FOR DISTRICT.		
	1909	1904	1899
Population.....	55.9	56.0	55.1
Number of establishments.....	41.5	43.6	42.5
Persons engaged in manufactures.....	60.3	60.8	(1)
Proprietors and firm members.....	42.4	44.7	(1)
Salaried employees.....	46.6	43.4	39.6
Wage earners (average number).....	62.6	63.1	59.8
Primary horsepower.....	69.4	69.4	(1)
Capital.....	60.6	57.7	51.2
Expenses.....	58.0	59.2	55.5
Services.....	58.0	58.7	54.2
Salaries.....	46.2	43.9	40.2
Wages.....	61.4	62.0	57.1
Materials.....	60.5	62.1	58.9
Miscellaneous.....	43.7	43.5	35.8
Value of products.....	57.9	59.7	54.0
Value added by manufacture.....	54.5	56.7	47.7

¹ Figures not available.

SUMMARY FOR THE BOSTON METROPOLITAN DISTRICT, BY INDUSTRIES: 1909.

Table 27

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Miscellaneous expenses.	Value of products.	Value added by manufacture.
		Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).								
All industries.....	5,389	214,641	4,989	23,700	185,952	223,886	\$444,558,420	\$29,073,546	\$103,321,319	\$315,770,540	\$55,035,761	\$564,054,506	\$248,283,966
Automobiles, including bodies and parts.....	24	1,001	14	139	848	623	1,556,831	138,606	619,408	1,054,842	169,277	2,280,009	1,225,167
Awings, tents, and sails.....	25	309	29	40	240	46	189,040	31,931	132,216	251,032	37,020	527,045	276,013
Belting and hose, leather.....	15	76	.....	30	46	43	411,771	37,400	35,232	512,504	28,304	698,278	185,774
Blacking and cleansing and polishing preparations.....	52	718	43	207	468	805	1,521,478	301,119	217,058	1,629,244	398,972	3,212,307	1,583,123
Boots and shoes, including out stock and findings.....	379	38,711	411	2,802	35,498	16,035	40,954,462	2,863,520	10,124,660	68,508,765	5,025,947	103,242,053	34,734,188
Boxes, fancy and paper.....	48	2,377	35	158	2,184	1,242	1,402,661	202,662	867,627	1,678,118	258,364	3,315,959	1,637,841
Brass and bronze products.....	46	1,067	40	73	954	1,973	1,885,918	102,327	617,779	1,664,303	213,430	2,925,298	1,260,965
Bread and other bakery products.....	535	5,018	569	811	3,638	7,887	9,095,032	568,053	2,045,634	8,786,364	1,591,750	14,363,718	5,577,364
Brushes.....	17	1,250	14	108	1,128	382	1,880,065	136,476	447,549	1,158,060	224,376	2,202,880	1,044,620
Canning and preserving.....	28	499	21	122	356	589	1,046,197	137,224	154,354	1,452,880	172,684	2,070,803	617,923
Carrriages and wagons and materials.	58	741	72	45	624	849	964,989	41,540	410,246	465,705	90,630	1,213,049	747,944
Cars and general shop construction and repairs by steam-railroad companies.....	12	3,855	.....	170	3,685	3,026	3,258,702	154,420	2,385,208	2,336,201	22,298	4,948,127	2,611,926
Cars and general shop construction and repairs by street-railroad companies.....	14	1,018	.....	18	1,000	1,356	1,313,596	23,588	687,288	490,210	14,047	1,215,732	725,522
Chemicals.....	17	892	8	160	734	2,012	2,835,041	226,972	481,179	1,856,886	450,091	3,600,363	1,743,477
Clothing, men's, including shirts.....	210	5,720	268	461	4,991	1,290	6,605,004	579,803	2,484,540	8,110,856	2,292,140	15,252,827	7,135,971
Clothing, women's.....	139	4,740	165	456	4,119	660	2,789,011	442,666	1,857,998	4,771,194	548,834	8,748,500	3,977,306
Coffee and spice, roasting and grinding.....	12	644	10	279	355	936	2,621,518	444,448	193,184	3,879,975	670,652	5,543,898	1,663,863
Coffins, burial cases, and undertakers' goods.....	5	211	5	29	177	327	490,902	28,480	106,416	272,933	44,705	512,893	239,960
Confectionery.....	78	5,659	53	650	4,056	3,378	6,028,139	1,001,577	1,606,018	7,436,106	1,411,233	12,487,864	5,051,758
Cooperage and wooden goods, not elsewhere specified.....	13	405	8	22	375	776	579,998	35,995	201,623	600,678	43,281	937,048	336,370
Copper, tin, and sheet-iron products.	99	2,350	94	279	1,977	982	5,174,517	306,472	1,120,482	2,231,785	400,384	4,620,056	2,397,871
Cordage and twine and jute and linen goods.....	6	743	1	47	695	1,983	1,940,311	70,491	268,046	1,111,120	100,580	1,608,541	497,421
Cotton goods, including cotton small wares.....	6	2,642	3	47	2,592	7,402	4,691,657	98,211	1,041,391	2,237,334	200,078	4,420,528	2,189,194
Cutlery and tools, not elsewhere specified.....	32	1,597	32	122	1,443	1,404	2,437,535	190,312	620,494	1,021,080	820,292	3,182,744	2,161,664
Dyeing and finishing textiles.....	11	1,288	6	62	1,220	3,699	2,208,627	109,548	571,943	783,910	178,717	2,086,930	1,303,020
Electrical machinery, apparatus, and supplies.....	53	12,373	19	1,508	10,846	11,462	23,392,474	1,759,833	5,884,212	7,917,558	1,086,290	19,787,013	11,869,455
Fancy articles, not elsewhere specified.....	18	327	16	31	280	72	291,429	30,206	114,559	205,962	60,362	506,704	300,742
Flavoring extracts.....	21	123	18	40	65	22	287,345	92,965	30,986	266,022	77,688	611,061	344,739
Food preparations.....	25	456	27	181	248	434	722,543	231,917	143,201	749,275	340,919	1,654,763	805,488
Foundry and machine-shop products.....	363	16,174	201	2,006	13,907	18,007	38,311,242	2,563,245	8,789,883	11,620,707	3,398,855	20,752,537	18,131,889

¹ Excluding statistics for establishments located outside of the corporate limits of Boston, to avoid disclosure of individual operations. The figures for these establishments are included under the head of "All other industries."

BOSTON METROPOLITAN DISTRICT.

SUMMARY FOR THE BOSTON METROPOLITAN DISTRICT, BY INDUSTRIES: 1909—Continued.

Table 27—Continued.

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Miscellaneous expenses.	Value of products.	Value added by manufacture.
		Total.	Proprietors and firm members.	Salaries and employes.	Wage earners (average number).								
Fur goods.....	12	267	16	46	205	28	\$722,717	\$30,289	\$149,316	\$545,551	\$82,639	\$936,052	\$390,501
Furnishing goods, men's.....	27	2,141	21	255	1,865	896	2,958,800	379,339	827,326	3,607,193	607,797	6,107,508	2,500,375
Furniture and refrigerators.....	91	3,381	95	290	2,996	4,471	5,540,316	387,882	1,875,336	2,701,602	706,016	6,657,891	3,959,229
Gas, illuminating and heating.....	19	1,195	.....	171	1,024	4,420	36,524,593	202,742	577,181	2,114,345	790,691	6,274,063	4,169,718
Glue.....	8	449	6	43	400	1,591	2,289,349	56,674	160,995	643,781	138,533	970,657	326,876
Grease and tallow.....	15	303	10	55	238	572	685,839	70,855	148,830	805,023	80,072	1,176,442	371,419
Hosiery and knit goods.....	32	2,535	21	129	2,385	1,266	3,031,502	231,230	908,035	2,580,003	270,339	4,940,772	2,360,769
House-furnishing goods, not elsewhere specified.....	14	315	15	26	274	285	620,637	30,639	112,207	558,487	97,357	844,841	280,354
Jewelry.....	42	1,130	40	121	969	555	1,143,398	130,908	487,675	783,603	133,565	1,804,643	1,021,040
Lasts.....	10	260	9	25	226	847	699,600	36,030	186,848	197,286	95,497	604,513	407,227
Leather goods.....	69	1,081	71	160	850	385	986,52	160,180	410,191	1,155,667	185,662	2,094,291	938,624
Leather, tanned, curried, and finished.....	109	9,038	02	513	8,433	15,542	29,511,938	741,561	4,504,598	22,913,876	1,816,609	32,493,698	9,579,792
Liquors, malt.....	20	1,338	2	210	1,126	4,799	13,435,765	478,169	1,019,213	1,956,874	2,434,017	7,563,069	5,596,795
Looking-glass and picture frames.....	26	260	25	60	175	102	325,217	49,632	114,047	204,403	84,296	558,595	334,192
Lumber and timber products.....	123	2,533	120	244	2,169	7,393	3,912,853	281,119	1,438,170	3,137,661	453,444	6,112,989	2,925,328
Marble and stone work.....	195	3,051	258	187	2,606	7,547	3,455,026	225,457	1,931,735	1,624,653	463,931	4,896,578	3,271,925
Mattresses and spring beds.....	35	648	32	98	518	439	665,559	118,917	250,246	1,077,636	101,851	1,826,305	748,769
Millinery and lace goods.....	67	1,894	71	219	1,604	324	1,478,094	252,854	636,167	2,147,694	290,036	3,749,470	1,600,776
Mineral and soda waters.....	54	386	04	94	228	282	933,080	121,140	154,350	465,061	264,934	1,191,833	726,772
Mucilage and paste.....	13	103	9	39	55	482	585,402	61,332	37,719	975,658	87,188	1,260,266	284,610
Musical instruments, pianos and organs and materials.....	34	3,086	20	303	2,703	2,337	8,660,626	404,000	1,767,582	2,634,723	702,856	6,145,903	3,511,180
Oil, not elsewhere specified.....	6	256	3	31	222	563	575,904	47,834	132,784	1,691,743	141,707	2,068,154	376,411
Paint and varnish.....	28	569	13	188	370	1,622	1,752,160	244,575	213,436	1,706,955	363,146	2,904,313	1,197,358
Patent medicines and compounds and druggists' preparations.....	108	1,356	71	378	907	484	3,187,013	495,629	433,865	2,037,322	1,779,165	5,641,942	3,604,620
Photo-engraving.....	20	545	19	120	406	111	379,302	161,638	325,712	139,352	92,251	701,479	652,127
Printing and publishing.....	784	17,289	629	3,948	12,712	9,816	24,070,792	4,611,452	8,721,281	9,475,017	8,114,400	35,796,494	26,321,477
Shipbuilding, including boat building.....	48	3,743	50	313	3,380	3,247	6,918,762	570,509	2,137,903	2,514,333	1,011,058	6,486,527	3,972,194
Silk and silk goods, including throwsters.....	5	524	6	33	485	788	385,355	42,076	175,488	429,238	45,270	759,540	330,302
Slaughtering and meat packing.....	42	2,980	36	340	2,604	3,814	12,846,390	407,791	1,430,903	31,648,702	625,361	35,714,106	4,065,404
Soap.....	25	541	19	137	385	1,063	2,196,412	189,686	189,197	1,955,689	740,651	3,890,126	1,734,437
Soda-water apparatus.....	5	439	1	94	344	741	2,840,180	117,787	227,890	389,747	209,723	1,323,017	933,270
Stationery goods, not elsewhere specified.....	6	423	1	44	378	107	209,595	36,700	151,317	339,256	130,009	744,359	405,103
Stoves and furnaces, including gas and oil stoves.....	7	819	2	107	710	807	1,804,448	169,841	535,127	470,653	193,237	1,507,932	1,037,279
Tobacco manufactures.....	200	2,807	205	188	2,414	70	2,771,842	251,094	1,830,556	2,121,929	832,661	5,719,211	3,597,282
Window shades and fixtures.....	10	134	7	16	111	9	173,888	17,807	61,799	479,878	58,261	667,275	187,397
Woolen, worsted, and felt goods, and wool hats.....	12	1,732	4	93	1,635	5,144	5,279,399	149,597	725,239	3,946,006	302,357	5,609,089	1,663,083
All other industries.....	719	32,106	684	3,291	28,131	50,435	94,129,241	4,086,934	15,043,512	58,475,473	9,112,567	98,903,705	40,423,232

¹ Excluding statistics for establishments located outside the corporate limits of Boston, to avoid disclosure of individual operations. The figures for these establishments are included under the head of "All other industries."

Comparative summary, by industries.—The number of establishments, average number of wage earners, and value of products for such of the industries as can be shown separately and have a value of products amounting to \$4,000,000 or more in 1909, are given in Table 28 for the district for 1909, 1904, and 1899.

The greatest absolute increase in value of products during the decade—\$51,869,122, or 101 per cent—is

shown for boots and shoes. The greatest relative increase, 220.3 per cent, was reported for the manufacture of hosiery and knit goods. Among the more important industries that can not be shown at all in any tables are, in the order of their importance, sugar refining, the rubber boot and shoe industry, and the manufacture of chocolate and cocoa products, of rubber goods, of rubber and woven belting and hose, of clocks and watches, and of paper and wood pulp.

COMPARATIVE SUMMARY FOR THE BOSTON METROPOLITAN DISTRICT, BY SELECTED INDUSTRIES:
1909, 1904, AND 1899.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.			WAGE EARNERS (AVERAGE NUMBER).			VALUE OF PRODUCTS.			PER CENT OF INCREASE. ¹								
										Number of establishments.			Wage earners (average number).			Value of products.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904
Boots and shoes, including cut stock and findings.....	379	357	448	35,493	28,011	22,707	\$103,242,953	\$67,945,133	\$51,373,831	-15.4	-2.1	-13.6	56.3	26.7	23.4	101.0	52.0	32.3
Printing and publishing.....	784	694	697	12,712	10,724	10,677	35,796,494	29,760,753	27,315,573	12.5	13.0	-0.4	19.1	18.5	0.4	31.0	20.3	9.0
Newspapers and periodicals.....	251	236	207	3,811	3,452	3,430	16,912,492	16,615,499	13,270,745	21.3	6.4	14.0	11.1	10.4	0.6	27.4	1.8	25.2
Book and job.....	430	366	364	5,719	4,843	4,428	13,944,512	9,753,314	10,055,107	18.1	17.5	0.5	29.2	18.1	9.4	33.7	43.0	-3.0
Music.....	11	10	9	102	89	160	468,197	503,990	407,634	22.2	.....	11.1	-36.2	14.6	-44.4	14.9	-7.5	24.1
All other printing and publishing industries ²	92	82	117	3,080	2,340	2,659	4,471,293	2,885,950	3,582,087	-21.4	12.2	-29.9	15.8	31.6	-12.0	24.8	54.9	-19.4
Slaughtering and meat packing.....	42	34	24	2,604	2,464	1,663	35,714,106	31,590,422	10,042,769	75.0	23.5	41.7	56.0	5.7	48.2	87.5	13.1	65.9
Leather, tanned, curried, and finished	100	104	97	8,433	9,933	4,789	32,493,668	25,071,153	18,602,569	12.4	4.8	7.2	76.1	21.6	44.8	74.7	29.0	34.8
Foundry and machine-shop products	363	307	(*)	13,907	14,033	(*)	29,752,537	27,899,675	(*)	.....	18.2	.....	-0.9	.....	.....	.....	8.6	.....
Clothing.....	349	258	278	9,110	7,052	5,571	24,001,327	18,819,344	13,551,864	25.5	35.3	-7.2	63.5	29.2	26.6	77.1	27.5	38.9
Men's, including shirts.....	210	149	173	4,991	3,855	3,413	15,259,827	12,380,560	9,763,057	18.0	40.9	-16.3	46.2	29.5	13.0	56.2	29.2	26.8
Women's.....	139	109	105	4,119	3,197	2,158	8,743,500	6,438,784	3,788,807	39.0	27.5	9.0	90.9	28.8	48.1	130.9	35.9	69.9
Textiles.....	78	82	88	10,229	10,071	8,900	21,458,183	18,401,951	13,805,250	-11.4	-4.9	-6.8	14.8	1.6	13.0	55.4	16.6	33.3
Woolen, worsted, and felt goods, and wool hats.....	12	14	11	1,635	1,878	1,540	5,609,089	4,116,845	2,370,981	9.1	-14.3	27.3	6.2	-12.9	21.9	136.6	36.2	73.6
Hosiery and knit goods.....	32	31	35	2,385	1,365	1,155	4,940,772	2,873,309	1,542,616	-8.6	3.2	-11.4	106.5	74.7	18.2	220.3	72.0	86.3
Cotton goods, including cotton small wares.....	6	5	10	2,592	2,839	2,643	4,426,528	3,213,679	3,324,170	-40.0	20.0	-50.0	-1.9	-8.7	7.4	33.2	37.7	-3.3
Dyeing and finishing textiles.....	11	14	12	1,220	1,101	1,069	2,086,930	1,990,035	1,398,893	-8.3	-21.4	16.7	14.1	10.8	3.0	49.2	31.3	13.7
Cordage and twine and jute and linen goods.....	0	6	8	695	1,195	1,051	1,608,541	3,280,304	2,705,243	-25.0	.....	-25.0	-33.9	-41.8	13.7	-40.5	-51.0	21.3
Silk and silk goods, including throwsters.....	5	7	7	485	510	637	759,540	788,321	1,784,006	-28.6	-28.6	.....	-23.9	-4.0	-19.9	-3.1	-3.7	0.6
All other textiles ⁴	6	5	5	1,217	1,133	814	2,026,783	2,539,458	1,679,341	20.0	20.0	.....	49.5	2.0	45.3	20.7	-20.2	51.2
Electrical machinery, apparatus, and supplies.....	53	42	38	10,846	7,192	4,484	19,787,013	12,786,569	8,851,042	39.5	26.2	10.5	141.9	50.8	60.4	123.6	54.7	44.5
Bread and other bakery products.....	535	531	468	3,638	3,221	3,158	14,363,718	10,883,020	9,282,637	14.3	0.8	13.5	15.2	12.9	2.0	54.7	32.0	17.2
Confectionery.....	78	67	56	4,956	3,633	2,309	12,487,864	8,109,237	5,141,968	39.3	16.4	19.6	114.6	36.4	57.3	142.9	54.0	57.7
Liquors, malt.....	6	23	25	1,126	950	1,261	7,553,689	6,715,215	7,518,668	-20.0	-13.0	-8.0	-10.7	18.5	-24.7	0.5	12.5	-10.7
Furniture and refrigerators.....	91	81	78	2,996	2,833	2,744	6,657,891	5,382,857	5,438,724	16.7	12.3	3.8	9.2	5.8	3.2	22.4	23.7	-1.0
Shipbuilding, including boat building.....	48	51	56	3,330	3,481	1,351	6,486,527	6,162,794	2,605,805	-14.3	-5.9	-8.9	150.2	-2.9	157.7	148.9	5.3	136.5
Gas, illuminating and heating.....	19	20	24	1,024	806	813	6,274,063	4,482,519	3,755,171	-20.8	-5.0	-16.7	26.0	27.0	-0.9	67.1	40.0	19.4
Musical instruments, pianos and organs and materials.....	34	35	36	2,763	3,060	2,414	6,145,903	6,373,907	4,915,589	-5.6	-2.9	-2.8	14.5	-9.7	26.8	25.0	-3.6	29.7
Lumber and timber products.....	123	123	89	2,169	2,530	1,645	0,112,989	7,261,235	4,990,269	38.2	.....	38.2	31.9	-14.3	53.8	22.5	-15.8	45.5
Tobacco manufactures.....	200	163	163	2,414	2,587	1,881	5,719,211	4,841,085	3,748,480	22.7	22.7	.....	28.3	-6.7	37.5	52.6	18.1	29.2
Patent medicines and compounds and druggists' preparations.....	106	88	85	907	780	922	5,641,942	5,767,461	4,175,120	24.7	20.5	3.5	-1.6	16.3	-15.4	35.1	-2.2	38.1
Coffee and spice, roasting and grinding.....	12	15	(*)	355	293	(*)	5,543,838	3,479,213	(*)	.....	-20.0	.....	.....	21.2	.....	.....	59.3	.....
Cars and general shop construction and repairs by steam-railroad companies.....	12	13	10	3,685	2,939	2,027	4,948,127	4,008,695	2,527,804	20.0	-7.7	30.0	81.8	25.4	45.0	95.7	23.4	58.6
Marble and stone work.....	195	151	(*)	2,609	2,737	(*)	4,896,578	4,461,302	(*)	.....	29.1	.....	.....	-4.8	.....	.....	9.7	.....
Copper, tin, and sheet-iron products.....	99	73	76	1,977	1,477	1,450	4,629,656	3,451,651	2,827,926	30.3	35.6	-3.9	36.3	33.9	1.9	63.7	34.1	22.1

¹ A minus sign (-) denotes decrease.
² Includes "bookbinding and blank-book making," "engraving, steel and copper plate, including plate printing;" and "lithographing."
³ Comparable figures not available.
⁴ Includes "carpets and rugs, other than rag," and "shoddy."
⁵ Excluding statistics for one establishment, to avoid disclosure of individual operations.

ST. LOUIS METROPOLITAN DISTRICT.

Territory included.—The St. Louis metropolitan district, which was the sixth in importance in the United States in manufacturing industries in 1909, embraces 197,993 acres of territory, of which 39,276 acres constitute the area of St. Louis and 158,717 acres the area of the outside territory. The population of the district in 1910 was 828,733 and that of the city of St. Louis proper was 687,029. As defined at the census of 1910, the metropolitan district includes, in addition to the city of St. Louis, Carondelet and Central townships, and Kirkwood city (in Bonhomme, Carondelet, and Central townships) in St. Louis County, Mo.; East St. Louis city, and Canteen, Centerville, and Stites townships in St. Clair County, Ill.; and Nameoki and Venice townships in Madison County, Ill. The part of Kirkwood city in Bonhomme township, Mo., and Nameoki and Venice townships (in which Granite City is situated) have been added to the district as it was constituted for the report for the census of 1905 on Industrial

Districts, Bulletin No. 101. A part of Centerville township was annexed to Belleville city in 1906 and is now outside the district. It is impracticable to segregate statistics for manufacturing establishments, if any, within this small area in 1904 and 1899. Canteen township was organized from a part of Centerville township in 1910. Parts of Centerville township were also added to East St. Louis city in 1908 and 1909.

On page 940 is an outline map of the St. Louis district showing the cities of St. Louis, East St. Louis, and Kirkwood, and the various townships included.

Summary for the district.—Table 29 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the St. Louis metropolitan district, for the cities of St. Louis and East St. Louis, and for the remainder of the district, the percentage which the figure for St. Louis represents of the total for the district being shown in the case of each item.

	NUMBER OR AMOUNT.					Per cent St. Louis is of total for district.
	The district.	St. Louis.	District exclusive of St. Louis.			
			Total.	East St. Louis.	Remainder.	
Population ¹	828,733	687,029	141,704	58,547	83,157	82.0
Number of establishments.....	2,951	2,667	284	139	145	90.4
Persons engaged in manufactures.....	126,453	104,687	21,866	6,005	15,861	82.7
Proprietors and firm members.....	2,045	1,809	176	92	84	91.4
Salaried employees.....	17,873	15,347	2,526	661	1,865	85.9
Wage earners (average number).....	106,535	87,371	19,164	5,252	13,912	82.0
Primary horsepower.....	228,925	163,615	65,310	23,273	42,037	71.5
Capital.....	\$356,356,256	\$269,392,377	\$86,963,879	\$31,297,548	\$55,666,331	75.6
Expenses.....	394,139,219	297,246,790	96,892,429	16,701,465	80,190,964	75.4
Services.....	82,157,263	68,205,900	13,951,363	3,940,663	10,010,710	83.0
Salaries.....	22,612,726	19,670,911	2,941,815	690,549	2,251,266	87.0
Wages.....	59,544,537	48,534,989	11,009,548	3,250,104	7,759,444	81.5
Materials.....	266,552,373	188,189,163	78,363,210	11,440,076	66,823,134	70.6
Miscellaneous.....	45,429,583	40,851,727	4,577,856	1,320,786	3,257,120	89.9
Value of products.....	430,170,244	328,495,313	101,674,931	18,227,960	83,449,971	78.4
Value added by manufacture.....	163,617,871	140,306,150	23,311,721	6,737,884	16,523,837	85.8

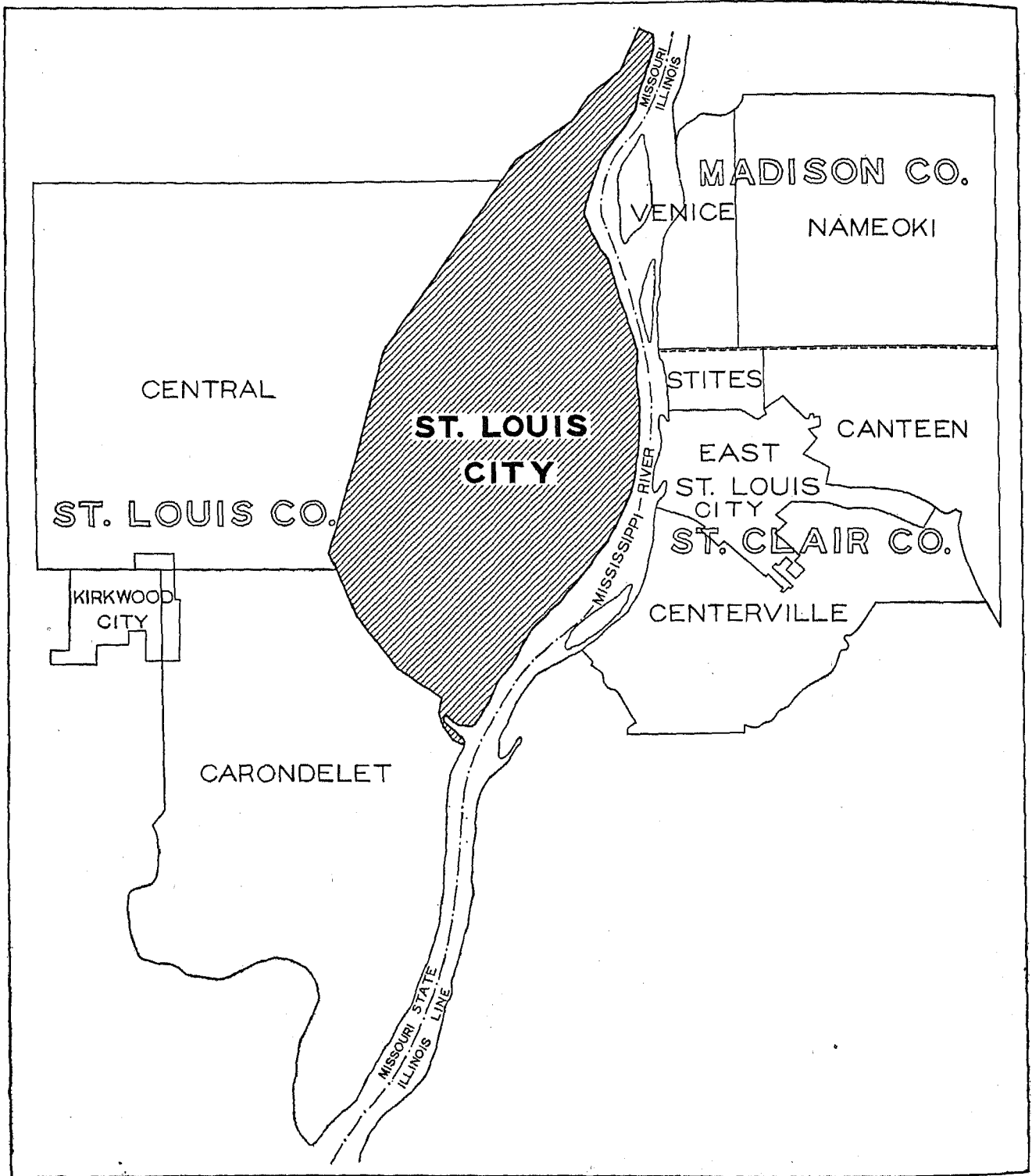
April 15, 1910.

In the St. Louis district, as in Cleveland, Detroit, and all but two of the other districts, the greater part of the value of manufactured products of the district was reported by factories within the central city. St. Louis contained over four-fifths (82.9 per cent) of the population of the district of which it is the manufacturing, commercial, and financial center, and contributed over three-fourths (76.4 per cent) of the value of products for the district. Its manufacturing establishments constituted over nine-tenths (90.4 per cent) of all in the district, and gave employment to more

than four-fifths (82 per cent) of the average number of wage earners for that area. The principal industries of East St. Louis in 1909 were flour mills and grist mills, foundries and machine shops, steel works and rolling mills, and the chemical industry.

Granite City, which is included with the "remainder" of the district, as it was returned as of less than 10,000 population in 1910, has important manufactures, with large values of products. These manufactures include steel, glucose, babbitt metal and solder, tin plate and terneplate, and stamped and enameled ware.

ST. LOUIS METROPOLITAN DISTRICT: 1909.



Comparison with earlier censuses.—Table 30 is a comparative summary for the district as a whole for 1909, 1904, and 1899, together with the percentages of increase from census to census. For purposes of accurate comparison with the statistics for the dis-

trict as given for 1904¹ and 1899,¹ the totals for 1909 are segregated into figures for the territory added since 1904, and into those for the remainder of the district.

¹ Bureau of the Census: Industrial Districts, 1905, p. 45.

	NUMBER OR AMOUNT.					PER CENT OF INCREASE. ¹		
	1909			1904	1899	1899-1909	1904-1909	1899-1904
	Total.	Territory added since 1904.	Remainder of district. ²					
Population.....	³ 828, 733	² 23, 054	³ 804, 779	(⁴)	⁵ 638, 134	26.1	.....	.....
Number of establishments.....	2, 961	49	2, 902	2, 603	2, 731	6.3	11.5	-4.7
Persons engaged in manufactures.....	126, 453	7, 314	119, 139	106, 041	(⁶)	.....	12.4	.....
Proprietors and firm members.....	2, 045	30	2, 015	1, 944	(⁶)	.....	3.7	.....
Salaried employees.....	17, 873	688	17, 185	12, 413	9, 157	87.7	38.4	35.6
Wage earners (average number).....	106, 635	6, 596	99, 939	91, 684	70, 556	41.6	9.0	29.9
Primary horsepower.....	228, 925	20, 344	208, 581	131, 405	(⁶)	.....	58.7	.....
Capital.....	\$356, 356, 256	\$26, 042, 286	\$330, 313, 970	\$289, 133, 606	\$159, 634, 795	108.9	14.2	81.1
Expenses.....	394, 139, 219	19, 065, 226	375, 073, 993	282, 152, 003	201, 154, 271	86.5	32.9	40.3
Services.....	82, 157, 263	4, 518, 038	77, 639, 225	61, 913, 138	42, 087, 942	84.5	25.4	47.1
Salaries.....	22, 612, 726	817, 684	21, 795, 042	14, 546, 325	10, 396, 824	109.6	49.8	39.9
Wages.....	59, 544, 537	3, 700, 354	55, 844, 183	47, 366, 813	31, 691, 118	76.2	17.9	49.5
Materials.....	266, 552, 373	13, 113, 277	253, 439, 096	180, 806, 473	131, 029, 394	93.4	40.2	38.0
Miscellaneous.....	45, 429, 583	1, 433, 911	43, 995, 672	39, 432, 392	28, 036, 935	56.9	11.6	40.9
Value of products.....	430, 170, 244	20, 728, 878	409, 441, 366	319, 709, 859	228, 089, 639	79.5	28.1	40.2
Value added by manufacture.....	163, 617, 871	7, 615, 601	156, 002, 270	138, 903, 336	97, 060, 245	60.7	12.3	43.1

¹ A minus sign (-) denotes decrease.

² Figures in this column used in computing percentages of increase.

³ April 15, 1910.

⁴ No population census in 1905.

⁵ June 1, 1900.

⁶ Figures not available.

The percentage of increase in salaried employees, salaries, and cost of materials was greater during the more recent five-year period, 1904-1909, than during the period 1899-1904. The number of establishments increased during the later five years, while an actual decrease was reported for the earlier period. The percentages of increase during the decade 1899-1909 were much larger in salaries and capital than for any other items. The average number of wage earners increased 41.6 per cent and their wages 76.2 per cent, a rate of gain almost as great as that in value of products—79.5 per cent. The rate of increase in primary horsepower of all kinds from 1904 to 1909 was 58.7 per cent. Statistics as to the primary power used in 1899 are not available.

The proportions of the population and manufactures in the outside territory, as compared with the total for the metropolitan district, are constantly increasing, as is indicated by the percentages in Table 31. The percentages for 1909 are based upon the figures for the district exclusive of the territory added since 1904.

The proportion of the population of the district as originally constituted, reported from the territory outside of St. Louis, increased from 9.9 per cent in 1900

to 14.6 per cent in 1910, and the proportion of the value of products increased steadily from 15.1 per cent in 1899 to 16.4 per cent in 1904 and 19.8 per cent in 1909.

	PER CENT TERRITORY OUTSIDE OF ST. LOUIS IS OF TOTAL FOR DISTRICT.		
	1909 ¹	1904	1899
Population.....	14.6	(²)	9.9
Number of establishments.....	8.1	4.6	3.1
Persons engaged in manufactures.....	12.1	9.5	(³)
Proprietors and firm members.....	7.2	3.1	(³)
Salaried employees.....	10.7	8.3	3.2
Wage earners (average number).....	12.6	9.8	8.1
Primary horsepower.....	21.6	17.4	(³)
Capital.....	18.4	8.0	5.7
Expenses.....	20.7	18.1	16.3
Services.....	12.1	9.3	6.8
Salaries.....	9.7	7.4	3.1
Wages.....	13.1	10.0	8.0
Materials.....	25.7	23.8	22.3
Miscellaneous.....	7.1	5.7	2.3
Value of products.....	19.8	16.4	15.1
Value added by manufacture.....	10.1	6.7	5.2

¹ Based on figures for district as constituted in 1904 and 1899.

² No population census in 1905.

³ Figures not available.

Leading industries.—Table 32 gives statistics for 1909 for the industries of the district, having products valued at \$500,000 or more, so far as separate figures can be presented.

Comparative summary, by industries.—The number of establishments, average number of wage earners, and value of products reported for such of the industries as can be shown separately and had a value of products amounting to \$4,000,000 or more in 1909 are given in Table 33 for 1909, 1904, and 1899.

The greatest absolute increase in value of products during the decade in the area under consideration was reported for the slaughtering and meat-packing industry—\$41,186,839, or 101.2 per cent. The greatest relative increase, 383.1 per cent, is shown for the manufacture of copper, tin, and sheet-iron products, but as figures for one establishment are omitted from the total for the industry for 1899, in order to

avoid disclosing individual operations, the actual percentage of increase in this industry is less than that shown in the table. Moreover, the increase shown is due, in part, to the inclusion of a large establishment in Granite City, which was not a part of the district for 1904 and 1899. The manufacture of boots and shoes, including cut stock and findings, shows exceptional development during the decade, the average number of wage earners in the industry having increased 124.9 per cent and the value of products 300.3 per cent. The total for steel works and rolling mills is considerably increased for 1909 by the addition of statistics for establishments not included in the district as constituted for 1904.

COMPARATIVE SUMMARY FOR THE ST. LOUIS METROPOLITAN DISTRICT, BY SELECTED INDUSTRIES: 1909, 1904, AND 1899.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.			WAGE EARNERS (AVERAGE NUMBER).			VALUE OF PRODUCTS.			PER CENT OF INCREASE. ¹								
	1909	1904	1899	1909	1904	1899	1909	1904	1899	Number of establishments.			Wage earners (average number).			Value of products.		
										1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904
Slaughtering and meat packing.....	28	26	31	5,359	4,938	3,019	\$81,903,483	\$57,960,808	\$40,716,044	-9.7	7.7	-16.1	77.5	8.5	63.6	101.2	41.3	42.4
Boots and shoes, including cut stock and findings.....	33	22	35	12,138	9,331	5,398	33,970,372	19,662,388	8,487,020	-5.7	50.0	-37.1	124.9	30.1	72.9	300.3	72.8	131.7
Liquors, malt.....	14	28	28	5,009	4,947	2,670	24,191,737	20,930,462	11,673,599	-50.0	-50.0	.....	87.6	1.3	85.3	107.2	15.6	79.3
Printing and publishing.....	375	375	330	6,181	5,905	4,297	17,785,074	16,475,759	10,939,864	11.6	.....	11.6	43.8	4.7	37.4	62.6	7.9	50.6
Book and job.....	207	188	175	3,865	3,541	2,336	8,484,969	7,740,475	4,430,502	18.3	10.1	7.4	65.5	9.1	51.6	91.5	9.6	74.7
Newspapers and periodicals.....	124	150	130	1,698	1,682	1,281	8,328,800	7,545,139	5,494,316	-4.6	-17.3	16.4	32.6	1.0	31.3	51.6	10.4	37.3
All other printing and publishing industries ⁴	44	37	31	618	682	680	971,305	1,190,145	1,015,047	41.9	18.9	19.4	-9.1	-9.4	0.3	-4.3	-18.4	17.2
Foundry and machine-shop products.....	176	148	(⁵)	6,610	6,438	(⁵)	17,338,198	12,990,668	(⁵)	.....	18.9	.....	.....	2.7	.....	.....	33.5	.....
Clothing.....	108	99	178	7,190	5,646	5,461	14,573,473	9,925,417	9,303,208	-39.3	9.1	-44.4	31.7	27.3	3.4	56.6	46.8	6.7
Men's, including shirts.....	50	53	130	4,751	3,942	3,504	9,687,421	6,850,351	6,315,762	-63.2	-5.7	-61.0	35.6	20.5	12.5	63.4	41.4	8.5
Women's.....	58	46	42	2,439	1,704	1,957	4,886,052	3,075,066	2,987,446	38.1	26.1	9.5	24.6	43.1	-12.9	63.6	58.9	2.9
Iron and steel, steel works and rolling mills.....	9	6	(⁵)	5,714	2,587	(⁵)	12,037,791	4,797,866	(⁵)	.....	50.0	.....	.....	120.9	.....	.....	150.9	.....
Coffee and spice, roasting and grinding.....	23	19	20	570	484	419	9,513,595	6,725,109	4,765,564	15.0	21.1	-5.0	36.0	17.8	15.5	99.6	41.5	41.1
Bread and other bakery products.....	484	322	396	2,353	1,933	1,483	9,047,142	6,319,019	4,912,543	22.2	50.3	-18.7	58.7	21.7	30.3	84.2	43.2	28.6
Lumber and timber products.....	86	70	55	3,118	3,030	2,251	8,197,133	5,644,664	4,288,351	56.4	22.9	27.3	38.5	-2.0	35.0	91.1	45.2	31.6
Copper, tin, and sheet-iron products.....	120	67	44	3,164	1,750	741	8,018,870	4,483,335	1,660,018	186.4	88.1	52.3	327.0	80.8	136.2	383.1	78.9	170.1 ⁶
Patent medicines and compounds and druggists' preparations.....	99	95	86	862	861	861	6,846,391	5,182,444	4,664,118	15.1	4.2	10.5	0.1	0.1	.....	46.8	32.1	11.1
Flour-mill and gristmill products.....	16	9	18	246	196	281	6,578,904	3,974,437	4,557,507	-11.1	77.8	-50.0	-12.5	25.5	-30.2	44.4	65.5	12.8
Carriages and wagons and materials.....	85	102	108	2,239	2,239	2,028	6,401,405	5,800,708	4,657,170	-21.3	-16.7	-5.6	12.9	2.2	10.4	37.5	10.2	24.7
Furniture and refrigerators.....	65	51	40	2,882	2,364	2,283	6,110,965	4,057,216	3,268,765	62.5	27.4	27.5	28.2	21.9	3.5	87.0	50.6	24.1
Stoves and furnaces, including gas and oil stoves.....	13	14	(⁵)	1,673	1,875	(⁵)	5,923,388	5,523,277	(⁵)	.....	-7.1	.....	.....	-10.8	.....	.....	7.2	.....
Paint and varnish.....	723	225	18	598	552	448	5,564,021	5,900,089	3,868,740	27.8	-8.0	38.9	33.5	8.3	23.2	43.8	-5.8	52.7
Food preparations.....	21	24	23	382	490	381	4,454,774	2,409,270	1,694,555	-8.7	-12.5	4.3	0.3	22.0	28.6	162.9	84.9	42.2

¹ A minus sign (-) denotes decrease.

² Excluding statistics for two establishments, to avoid disclosure of individual operations.

³ Excluding statistics for one establishment, to avoid disclosure of individual operations.

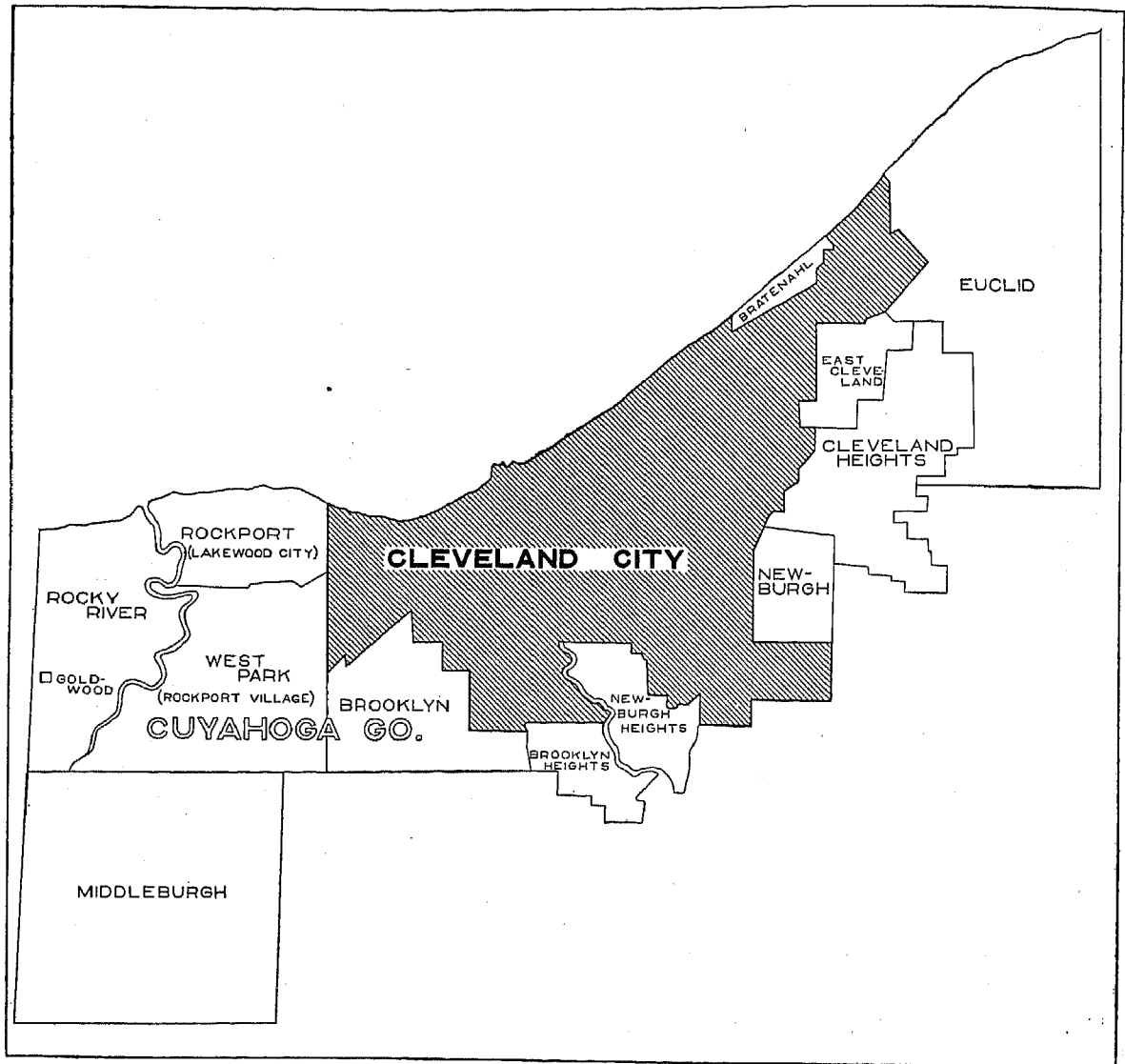
⁴ Includes "printing and publishing, music;" "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithography."

⁵ Comparable figures not available.

⁶ Excluding statistics for three establishments, to avoid disclosure of individual operations.

⁷ Excluding statistics for four establishments, to avoid disclosure of individual operations.

CLEVELAND METROPOLITAN DISTRICT: 1909.



CLEVELAND METROPOLITAN DISTRICT.

Territory included.—The metropolitan district of Cleveland embraces 103,174 acres of territory, of which 29,209 acres constitute the area of Cleveland and 73,965 acres the area of the outside territory. The population of the city of Cleveland proper in 1910 was 560,663, and that of the outside territory 52,607, the total for the district being 613,270. As defined at the census of 1910, the metropolitan district includes the central city, together with Bratenahl, Brooklyn, Brooklyn Heights, Cleveland Heights, East Cleveland, Euclid, Goldwood, Middleburgh, Newburgh, Newburgh Heights, Rockport, Rocky River, and West Park townships in Cuyahoga County. The industrial district covered by the report on industrial districts for the census of 1904 (Bulletin No. 101) did not include Middleburgh township, but it comprised, in addition to the territory represented by the other places named above, the area which now constitutes Bedford, Independence, South Newburgh, and Warrensville townships. Glenville township (the part which remained after the organization of Bratenahl township in 1904), part of Brooklyn township, and part of Newburgh Heights township were added to Cleveland in 1905; Corlett township, which formed part of Newburgh township in 1904, was annexed in 1909; and part of what was Collinwood township in 1904 was annexed in 1910. Goldwood township was organized from part of Rocky River township in 1910.

The location of each of the constituent divisions of the district is indicated on the outline map (p. 944).

Summary for the district.—Table 34 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the Cleveland metropolitan district, for the city of Cleveland, and for the remainder of the district, the percentage which the figure for Cleveland represents of the total for the district being shown in the case of each item.

In 1909 the Cleveland metropolitan district had 2,230 manufacturing establishments, which gave employment to an average of 103,709 persons during the year, and paid out \$66,805,430 in salaries and wages. Of the persons employed, 89,088 were wage earners. These establishments turned out products to the value of \$281,992,131, to produce which materials costing \$159,896,454 were utilized. The value added by manufacture was thus \$122,095,677. The Cleveland district ranked seventh in 1909 among the metropolitan districts of the United States in the value of its manufactured products.

The percentages which the figures relating to manufacturing industries in the central city in 1909 form of the total for the district are higher than in any other of the districts except two—Detroit, which exceeds in percentage of establishments and salaried employees, and Minneapolis-St. Paul, where the concentration is greater in 7 of the 15 items shown. They are remarkable for their small degree of variation, ranging from 92.5 per cent for primary horsepower to 97 per cent in the case of proprietors and firm members.

Table 34

	NUMBER OR AMOUNT.			Per cent Cleveland is of total for district.
	The district.	Cleveland.	District exclusive of Cleveland. ¹	
Population ²	613,270	560,663	52,607	91.4
Number of establishments.....	2,230	2,148	82	96.3
Persons engaged in manufactures.....	103,709	95,686	5,023	95.2
Proprietors and firm members.....	1,771	1,718	53	97.0
Salaried employees.....	12,850	12,240	610	95.3
Wage earners (average number).....	89,088	84,728	4,360	95.1
Primary horsepower.....	216,166	199,898	16,268	92.5
Capital.....	\$236,911,140	\$227,397,484	\$9,513,656	96.0
Expenses.....	254,566,810	245,390,440	9,176,370	96.4
Services.....	66,805,430	63,558,820	3,246,610	95.1
Salaries.....	16,160,153	15,505,849	644,304	96.0
Wages.....	50,655,277	48,052,971	2,602,306	94.9
Materials.....	159,896,454	154,915,023	4,981,431	96.9
Miscellaneous.....	27,864,926	26,916,597	948,329	96.6
Value of products.....	281,992,131	271,960,833	10,031,298	96.4
Value added by manufacture.....	122,095,677	117,045,810	5,049,867	95.9

¹ Includes Lakewood city, coextensive with Rockport township, the statistics for which can not be shown without disclosing individual operations.

² April 15, 1910.

Comparison with earlier censuses.—Table 35 is a comparative summary of the statistics for the district as a whole for 1909, 1904, and 1899, together with the percentages of increase from census to census. For purposes of accurate comparison the totals for 1909 have been adjusted by segregating the figures for the territory added since 1904; and those for 1904 and 1899 by segregating the figures for the territory deducted since 1904.

The percentage of increase in all items shown except capital was greater during the more recent five-year period, 1904–1909, than during the period 1899–1904. The percentage of increase during the decade 1899–1909 was considerably larger in salaries, miscellaneous expenses, and number of salaried employees than for any other items. The average number of wage earners increased only 56.4 per cent, but the wages increased 86.1 per cent, a rate of increase considerably less than that in value of products, 98.6 per cent. The relative increase in primary horsepower of all kinds from 1904 to 1909 was 36.9 per cent. Statistics as to the primary power used in 1899 are not available.

	NUMBER OR AMOUNT.									PER CENT OF INCREASE.		
	1909			1904			1899			1899-1909	1904-1909	1899-1904
	Total.	Territory added since 1904.	Remainder of district. ¹	Total.	Territory deducted since 1904.	Remainder of district. ¹	Total.	Territory deducted since 1904.	Remainder of district. ¹			
Population.....	2 613,270	2 7,080	2 606,190	(³)	(³)	(³)	4 420,508	4 5,523	4 414,985	46.1	.....	.....
Number of establishments.....	2,230	9	2,221	1,720	21	1,699	1,423	17	1,406	58.0	30.7	20.8
Persons engaged in manufactures.....	103,709	128	103,581	76,671	612	76,059	(³)	(³)	(³)	.....	36.2	.....
Proprietors and firm members.....	1,771	2	1,769	1,529	11	1,518	(³)	(³)	(³)	.....	16.5	.....
Salaried employees.....	12,850	17	12,833	7,341	54	7,287	5,189	26	5,163	148.6	76.1	41.1
Wage earners (average number).....	80,088	109	88,979	67,801	547	67,254	57,222	325	56,897	56.4	32.3	18.2
Primary horsepower.....	216,166	213	215,953	159,297	1,516	157,781	(³)	(³)	(³)	.....	36.9	.....
Capital.....	\$236,911,140	\$175,137	\$236,736,003	\$164,691,287	\$1,773,318	\$162,917,469	\$105,381,527	\$698,423	\$104,683,104	126.1	45.3	55.6
Expenses.....	254,566,810	166,977	254,399,833	160,593,829	1,117,785	159,476,044	121,538,825	427,823	121,111,002	110.1	59.5	31.7
Services.....	66,805,430	61,847	66,743,583	44,216,685	390,559	43,826,126	32,962,656	193,111	32,769,545	103.7	52.3	33.7
Salaries.....	16,150,153	17,33	16,132,816	8,859,767	88,484	8,771,283	5,614,108	39,600	5,574,508	189.4	83.9	57.3
Wages.....	50,655,277	44,510	50,610,767	35,356,918	302,075	35,054,843	27,348,548	153,511	27,195,037	86.1	44.4	28.9
Materials.....	159,896,454	95,125	159,801,329	100,783,886	696,355	100,187,531	77,956,319	220,410	77,735,909	105.6	59.5	28.9
Miscellaneous.....	27,864,926	10,005	27,854,921	15,593,258	330,871	15,462,387	10,619,850	14,302	10,605,548	162.6	80.1	45.8
Value of products.....	281,992,131	205,791	281,786,340	179,184,277	1,300,824	177,883,453	142,464,823	604,754	141,860,069	98.6	58.4	25.4
Value added by manufacture.....	122,095,677	110,666	121,985,011	78,400,391	704,469	77,695,922	64,508,504	384,344	64,124,160	90.2	57.0	21.2

¹ Figures in this column used in computing percentages of increase.
² April 15, 1910.

³ No population census in 1905.
⁴ June 1, 1900.

⁵ Figures not available.

The proportions which the population and manufactures outside of the city of Cleveland represent of the totals for the metropolitan district are shown for 1909, 1904, and 1899 in Table 36. The percentages for 1909 are based upon the figures for the district exclusive of the territory added since 1904; and those for 1904 and 1899 upon the figures for the district exclusive of the territory deducted.

Except for population and number of establishments, for which the proportion in the outside territory decreased, there was an increase in the percentages for every item shown from census to census. However, from 1904 to 1909 some items show an increase, while others show a decrease. The proportion of the value of products contributed by the territory outside of the city of Cleveland increased steadily from 1.8 per cent in 1899 to 3.4 per cent in 1904 and 3.5 per cent in 1909.

A considerable area has been annexed to the city of Cleveland since 1904, but it is not practicable to ascertain the figures for the manufacturing establishments reported therefrom. The fact that losses or only slight gains in the relative importance of the outside territory are shown in 1909 as compared with

1904 for most of the items in the table is due in part to these annexations.

	PER CENT TERRITORY OUTSIDE OF CLEVELAND IS OF TOTAL FOR DISTRICT.		
	1909 ¹	1904 ²	1899 ³
Population.....	7.5	(³)	8.0
Number of establishments.....	3.3	4.0	4.0
Persons engaged in manufactures.....	4.7	4.9	(⁴)
Proprietors and firm members.....	2.9	4.8	(⁴)
Salaried employees.....	4.6	5.6	1.9
Wage earners (average number).....	4.8	4.8	2.7
Primary horsepower.....	7.4	4.3	(⁴)
Capital.....	3.9	4.0	3.3
Expenses.....	3.5	3.2	1.3
Services.....	4.8	4.7	2.4
Salaries.....	3.9	5.4	2.2
Wages.....	5.1	4.6	2.5
Materials.....	3.1	2.6	1.6
Miscellaneous.....	3.4	2.7	1.4
Value of products.....	3.5	3.4	1.3
Value added by manufacture.....	4.0	4.3	1.9

¹ Based on figures for district as constituted in 1909, exclusive of territory added since 1904.

² Based on figures for district as constituted in 1904, exclusive of territory deducted since 1904.

³ No population census in 1905.

⁴ Figures not available.

Leading industries.—Table 37 gives the statistics for 1909 for the industries of the district having products valued at \$500,000 or more, so far as separate figures can be presented.

MANUFACTURES.

COMPARATIVE SUMMARY FOR THE CLEVELAND METROPOLITAN DISTRICT, BY SELECTED INDUSTRIES:
1909, 1904, AND 1899.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.			WAGE EARNERS (AVERAGE NUMBER).			VALUE OF PRODUCTS.			PER CENT OF INCREASE. ¹								
										Number of establishments.			Wage earners (average number).			Value of products.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904
Iron and steel, steel works and rolling mills.....	2 14	9	(³)	7,538	8,577	(³)	\$38,463,316	\$32,279,437	(³)	-----	55.6	-----	-----	-12.1	-----	-----	-----	19.2
Foundry and machine-shop products.	239	170	(³)	18,140	13,632	(³)	37,929,051	24,916,327	(³)	-----	40.6	-----	-----	33.1	-----	-----	-----	52.2
Automobiles, including bodies and parts.....	32	10	(³)	6,408	1,800	(³)	21,403,926	4,624,080	(³)	-----	220.0	-----	-----	250.0	-----	-----	-----	362.9
Clothing.....	189	148	195	8,163	4,876	3,820	18,742,096	10,406,100	\$7,623,547	-3.1	27.7	-24.1	113.2	67.4	27.3	145.8	80.1	36.5
Women's.....	96	2 78	77	5,418	3,394	2,362	12,788,775	7,427,553	4,213,248	24.7	23.1	1.3	129.4	59.6	43.7	203.5	72.2	70.3
Men's, including shirts.....	93	2 70	2 118	2,745	1,482	1,467	5,953,321	2,978,547	3,410,299	-21.2	32.9	-40.7	87.1	85.2	1.0	74.6	95.0	-12.7
Slaughtering and meat packing.....	2 35	19	2 10	1,076	978	577	17,192,048	10,616,214	7,514,470	250.0	84.2	90.0	86.5	10.0	69.5	128.8	61.9	41.3
Printing and publishing.....	250	192	129	3,114	2,303	1,972	9,648,012	6,158,562	4,356,625	93.8	30.2	48.8	57.0	35.2	16.8	121.5	56.7	41.4
Newspapers and periodicals.....	86	79	4 38	851	758	710	4,655,256	3,365,938	2,073,324	126.3	8.0	107.9	19.9	12.3	6.8	124.5	38.3	62.3
Book and job.....	132	2 80	69	1,836	1,273	981	4,093,203	2,366,858	1,787,106	91.3	48.3	20.0	87.2	44.2	29.8	129.1	73.0	32.4
All other printing and publishing industries.....	32	24	22	427	272	281	899,553	425,766	496,195	45.5	33.3	9.1	52.0	57.0	-3.2	81.3	111.3	-14.2
Paint and varnish.....	4 24	20	16	760	575	391	6,138,466	3,700,467	2,902,471	50.0	20.0	25.0	94.4	32.2	47.1	111.5	65.9	27.5
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.....	2 10	8	7	2,486	1,962	1,305	5,428,356	3,620,854	2,405,856	42.9	25.0	14.3	90.5	26.7	50.3	125.6	49.9	50.5
Liquors, malt.....	11	9	10	744	601	477	5,124,478	3,986,059	4,033,915	10.0	22.2	-10.0	56.0	23.8	26.0	27.0	28.6	-1.2
Stoves and furnaces, including gas and oil stoves.....	20	17	(³)	1,843	1,527	(³)	4,977,096	3,004,963	(³)	-----	17.6	-----	-----	20.7	-----	-----	-----	65.6
Cars and general shop construction and repairs by steam-railroad companies.....	9	4 6	10	2,988	1,313	1,443	4,952,326	1,681,287	1,584,977	-10.0	50.0	-40.0	107.1	127.6	-0.0	212.5	194.6	6.1
Bread and other bakery products.....	210	150	4 104	1,252	1,249	552	4,812,449	3,649,516	1,525,367	101.9	40.0	44.2	126.8	0.2	126.8	215.5	57.8	99.9
Lumber and timber products.....	56	43	45	1,347	1,091	1,268	4,299,586	3,877,171	2,798,766	24.4	30.2	-4.4	6.2	23.5	-14.0	53.6	10.9	38.5
Electrical machinery, apparatus, and supplies.....	4 40	2 30	25	1,578	1,235	1,467	4,035,808	2,652,987	2,551,743	60.0	33.3	20.0	7.6	27.8	-15.8	58.2	52.1	4.0

¹ A minus sign (-) denotes decrease.
² Excluding statistics for one establishment, to avoid disclosure of individual operations.
³ Comparable figures not available.
⁴ Excluding statistics for two establishments, to avoid disclosure of individual operations.
⁵ Includes "printing and publishing, music;" "bookbinding and blank-book making;" "engraving steel and copper plate, including plate printing;" and "lithographing."

Comparable figures are not available for 1899 for the three most important industries in the district. The greatest absolute and relative increases during the five-year period, 1904-1909, in average number of wage earners and value of products are shown for the manufacture of automobiles, including bodies and parts.

BUFFALO METROPOLITAN DISTRICT.

Territory included.—The metropolitan district of Buffalo embraces 132,413 acres of territory, of which 24,791 acres constitute the area of Buffalo and 107,622 acres the area of the outside territory. The population of the city of Buffalo proper in 1910 was 423,715, and that of the outside territory 64,946, the total for the district being 488,661. As defined at the census of 1910 the metropolitan district comprised the cities of Buffalo, Lackawanna, and Tonawanda, and the towns of Cheektowaga, Hamburg, Lancaster, Tonawanda, and West Seneca, all of which are in Erie County, and the city of North Tonawanda in Niagara County.

The industrial district covered by the figures published for 1904 and 1899 did not include Lancaster or North Tonawanda, but comprised, in addition to the territory represented by the other places just mentioned, the towns of Amherst and East Hamburg.

Since the census of 1904 Lackawanna has been incorporated as a city, but the figures for it can not be shown separately, as to do so would disclose the operations of an individual establishment of great importance, which is engaged in the iron and steel and certain related industries. On page 950 is an outline map of the metropolitan district as constituted in 1909, showing the various cities and towns included.

Summary for the district.—Table 39 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the Buffalo metropolitan district, for the cities of Buffalo and North Tonawanda, and for the remainder of the district, the percentage which the figure for Buffalo represents of the total for the district being shown in the case of each item. The statistics for Lackawanna are included in the "remainder" of the district to avoid disclosing individual operations.

	NUMBER OR AMOUNT.					Per cent Buffalo is of total for district.
	The district.	Buffalo.	District exclusive of Buffalo.			
			Total.	North Tonawanda.	Remainder. ¹	
Population ²	488,661	423,715	64,946	11,955	52,991	86.7
Number of establishments.....	1,964	1,753	211	81	130	89.3
Persons engaged in manufactures.....	75,086	61,240	13,840	3,140	10,604	81.6
Proprietors and firm members.....	1,638	1,489	149	60	89	90.9
Salaried employees.....	9,876	8,345	1,531	266	1,265	84.5
Wage earners (average number).....	63,572	51,412	12,160	2,824	9,336	80.9
Primary horsepower.....	322,280	121,791	200,489	15,888	184,601	37.3
Capital.....	\$280,052,887	\$193,041,267	\$87,011,620	\$8,273,779	\$78,737,841	68.9
Expenses.....	249,030,200	195,019,666	54,010,564	8,860,817	46,049,747	78.0
Services.....	47,963,003	38,074,567	9,268,436	1,882,630	7,405,906	80.4
Salaries.....	11,190,444	9,347,339	1,843,105	300,282	1,542,843	83.5
Wages.....	36,172,550	28,727,228	7,445,331	1,582,288	5,863,063	79.4
Materials.....	180,458,300	136,538,241	43,920,059	6,389,208	37,530,851	75.7
Miscellaneous.....	22,108,957	20,406,888	1,702,069	589,079	1,112,090	92.3
Value of products.....	279,852,346	218,803,094	61,048,352	9,599,776	51,448,576	78.2
Value added by manufacture.....	99,394,046	82,265,753	17,128,293	3,210,568	13,917,725	82.8

¹ Includes Lackawanna, the statistics for which can not be shown without disclosing individual operations.

² April 15, 1910.

In 1909 the Buffalo metropolitan district had 1,964 manufacturing establishments, which gave employment to an average of 75,086 persons during the year and paid out \$47,363,003 in salaries and wages. Of the persons employed, 63,572 were wage earners. These establishments turned out products to the value of \$279,852,346, to produce which materials costing \$180,458,300 were utilized. The value added by manufacture was thus \$99,394,046. The Buffalo district ranked eighth in 1909 among all the metropolitan districts of the United States in the value of its manufactured products.

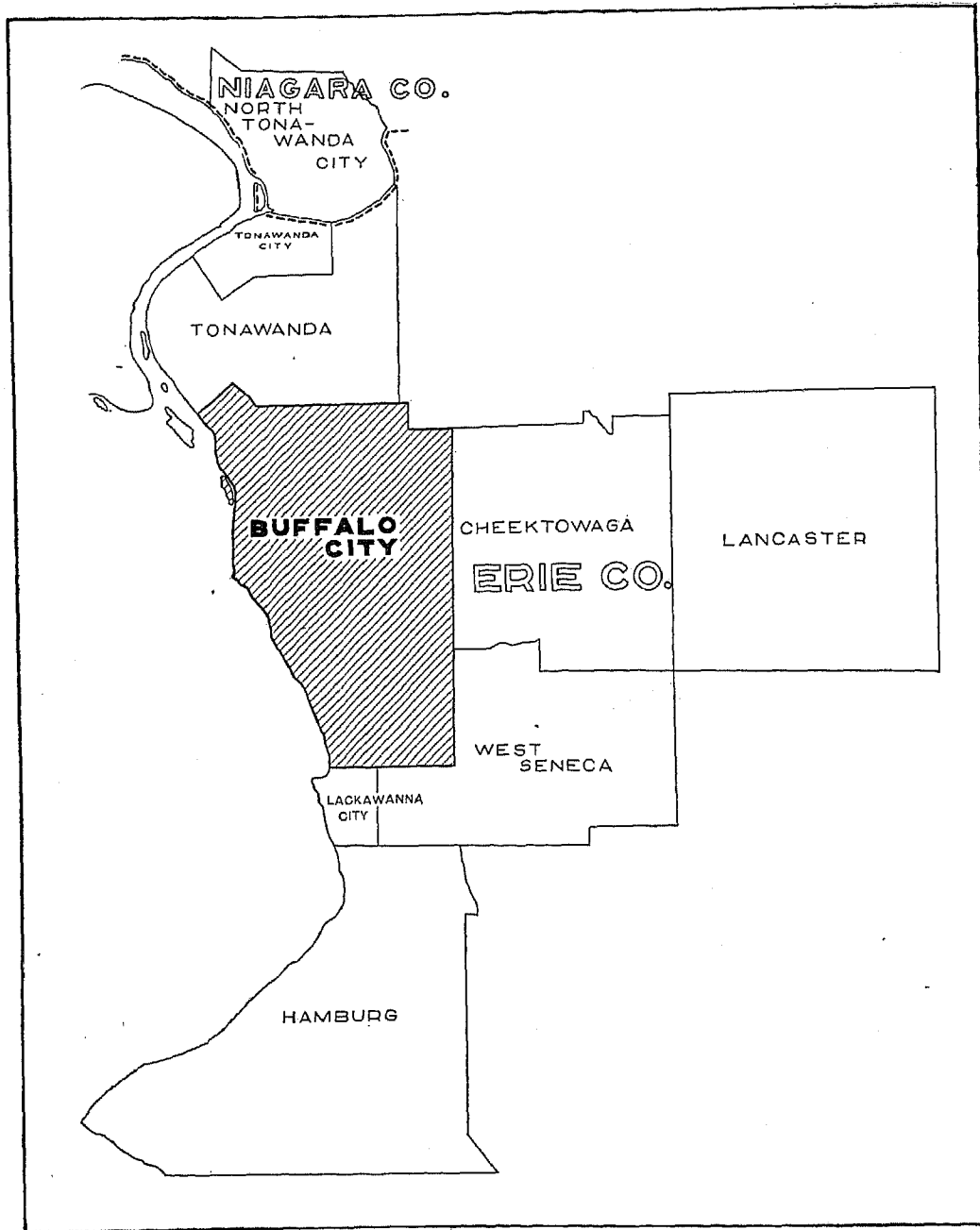
The greater part of the value of the manufactured products of the district was reported by factories within the central city. Buffalo contained nearly

nine-tenths (86.7 per cent) of the population of the district of which it is the manufacturing, commercial, and financial center, and contributed nearly eight-tenths (78.2 per cent) of the value of products for the district. Its manufacturing establishments constituted 89.3 per cent of all in the district, and gave employment to 80.9 per cent of the average number of wage earners for that area.

The group of five towns and one city having less than 10,000 population, and Lackawanna city, statistics for which can not be shown separately without disclosing the operations of individual establishments, had a combined population equal to 10.8 per cent of the total for the district and contributed 18.4 per cent of the value of its products.

MANUFACTURES.

BUFFALO METROPOLITAN DISTRICT: 1909.



Comparison with earlier censuses.—Table 40 is a comparative summary of the statistics for the district as a whole for 1909, 1904, and 1899, together with the percentages of increase from census to census. For purposes of accurate comparison the statistics for 1909 have been adjusted by segregating the figures for the territory added since 1904; and those for 1904 and 1899 by segregating the figures for the territory deducted since 1904.

The percentage of increase in the items shown, except average number of wage earners and wages, and for capital, services, miscellaneous expenses, and

value added by manufacture, was greater during the more recent five-year period, 1904-1909, than during the period 1899-1904. The percentages of increase during the decade 1899-1909 were especially large in salaries, capital, materials, salaried employees, and miscellaneous expenses. The average number of wage earners increased 60.6 per cent and their wages 98.9 per cent, which was a much less gain than in the value of products—137.9 per cent. The relative increase in primary horsepower of all kinds from 1904 to 1909 was 77.4 per cent. Statistics as to the primary power used in 1899 are not available.

Table 40

	NUMBER OR AMOUNT.									PER CENT OF INCREASE. ¹		
	1909			1904			1899			1899-1909	1904-1909	1899-1904
	Total.	Territory added since 1904.	Remainder of district. ²	Total.	Territory deducted since 1904.	Remainder of district. ²	Total.	Territory deducted since 1904.	Remainder of district. ²			
Population.....	3 488,661	3 21,618	3 467,043	4 423,390	4 7,068	4 416,322	5 385,498	5 6,573	5 378,925	23.3	12.2	9.9
Number of establishments.....	1,964	106	1,858	1,631	16	1,615	1,563	12	1,551	19.8	15.0	4.1
Persons engaged in manufactures.....	75,086	3,661	71,425	56,287	103	56,184	(e)	(e)	(e)	.....	27.1	.....
Proprietors and firm members.....	1,638	82	1,556	1,639	16	1,623	(e)	(e)	(e)	.....	- 4.1	.....
Salaried employees.....	9,876	299	9,577	5,854	5	5,849	3,951	4	3,947	142.6	63.7	48.2
Wage earners (average number).....	63,572	3,280	60,292	48,794	82	48,712	37,568	35	37,533	60.0	23.8	29.8
Primary horsepower.....	322,280	16,651	305,629	172,688	431	172,257	(e)	(e)	(e)	.....	77.4	.....
Capital.....	\$280,052,887	\$9,084,435	\$270,968,452	\$188,384,845	\$180,830	\$188,198,015	\$105,094,082	\$102,322	\$104,991,760	158.1	44.0	79.2
Expenses.....	249,930,260	9,472,029	240,458,231	149,660,495	176,181	149,484,314	100,927,024	117,811	100,809,213	138.5	60.9	48.3
Services.....	47,363,003	2,178,889	45,184,114	31,072,320	43,646	31,028,674	20,912,547	18,140	20,894,401	116.2	45.6	48.5
Salaries.....	11,190,444	335,570	10,854,874	6,276,393	5,945	6,270,448	3,634,828	3,440	3,631,388	198.9	73.1	72.7
Wages.....	36,172,559	1,843,319	34,329,240	24,795,927	37,701	24,758,226	17,277,719	14,706	17,263,013	98.9	38.7	43.4
Materials.....	180,458,800	6,654,914	173,803,886	102,623,748	113,153	102,510,595	71,090,632	90,163	71,000,469	144.8	69.5	44.4
Miscellaneous.....	22,108,957	638,226	21,470,731	15,970,427	19,382	15,951,045	8,923,345	9,502	8,914,343	140.9	34.6	78.9
Value of products.....	270,852,346	10,293,548	260,558,798	168,111,658	212,630	167,899,028	113,430,772	135,284	113,295,488	137.9	60.6	48.2
Value added by manufacture.....	99,394,046	3,638,634	95,755,412	65,487,910	99,477	65,388,433	42,340,140	45,121	42,295,019	126.4	46.4	54.6

¹ A minus sign (-) denotes decrease.

² Figures in this column used in computing percentages of increase.

³ April 15, 1910.

⁴ State census, June 1, 1905.

⁵ June 1, 1900.

⁶ Figures not available.

The proportions of the population and manufactures in the outside territory as compared with the total metropolitan district are in general increasing, as is indicated by the percentages in Table 41. The percentages for 1909 are based upon the figures for the district exclusive of the territory added since 1904, and those for 1904 and 1899 upon the figures for the district exclusive of the territory deducted.

Table 41

	PER CENT TERRITORY OUTSIDE OF BUFFALO IS OF TOTAL FOR DISTRICT.		
	1909 ¹	1904 ²	1899 ²
Population.....	9.3	9.5	7.0
Number of establishments.....	5.7	4.8	4.7
Persons engaged in manufactures.....	14.3	10.3	(³)
Proprietors and firm members.....	4.3	3.9	(³)
Salaried employees.....	12.9	10.0	4.6
Wage earners (average number).....	14.7	10.0	8.7
Primary horsepower.....	60.2	57.7	(³)
Capital.....	28.8	27.2	8.8
Expenses.....	18.9	12.0	7.1
Services.....	15.7	12.5	8.6
Salaries.....	13.9	11.0	5.0
Wages.....	16.3	12.7	9.2
Materials.....	21.4	13.8	7.1
Miscellaneous.....	5.0	5.4	3.5
Value of products.....	18.8	12.2	6.8
Value added by manufacture.....	14.1	9.8	6.2

¹ Based on figures for district as constituted in 1909, exclusive of territory added since 1904.

² Based on figures for district as constituted in 1904, exclusive of territory deducted since 1904.

³ Figures not available.

The proportion of the population of the district that was reported from the territory outside of Buffalo increased from 7 per cent in 1900 to 9.3 per cent in

1910, and the proportion of the value of products of that district that was contributed by the outlying territory increased steadily from 6.8 per cent in 1899 to 18.8 per cent in 1909.

Leading industries.—Table 42 gives statistics for 1909 for the industries of the district having products valued at \$500,000 or more, so far as separate figures can be presented.

Among the 29 industries shown separately in the table there are 12 for which totals for the district can not be published, because to do so would disclose individual operations; and 7 which were not carried on in the part of the district which is outside the corporate limits of Buffalo. In all these cases the statistics shown are figures for Buffalo exclusively.

The most important industry as measured by value of products was the manufacture of iron and steel, which is included under "all other industries," to avoid disclosure of individual operations. Of the industries shown separately, slaughtering and meat packing ranked highest in value of products, with 9.1 per cent of the total reported for all industries in the district, closely followed by foundries and machine shops, with 8.4 per cent of this total, and flour mills and gristmills, with 7.3 per cent. Other important industries, arranged according to value of products, were the manufacture of automobiles, including bodies and parts, the lumber and soap industries, printing and publishing, and the malt and malt-liquor industries.

SUMMARY FOR THE BUFFALO METROPOLITAN DISTRICT, BY INDUSTRIES: 1909.

Table 42

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Miscellaneous expenses.	Value of products.	Value added by manufacture.
		Total.	Proprietors and firm members.	Salaries employed.	Wage earners (average number).								
All industries.....	1,964	75,086	1,638	9,876	63,572	322,280	\$280,052,887	\$11,190,444	\$36,172,559	\$180,458,300	\$22,108,957	\$279,852,346	\$99,394,048
Automobiles, including bodies and parts.....	23	3,640	13	583	3,044	4,561	9,300,037	283,056	2,199,567	4,595,655	1,102,677	9,597,763	5,002,108
Blacking and cleansing and polishing preparations.....	111	287	4	147	136	209	942,202	123,055	66,554	411,139	230,481	963,586	552,447
Boots and shoes, including cut stock and findings.....	114	722	14	55	653	370	909,755	55,264	267,136	834,868	63,903	1,355,821	520,953
Brass and bronze products.....	118	414	12	55	347	2,417	1,046,601	71,657	210,042	1,141,076	95,633	1,790,549	649,474
Bread and other bakery products.....	203	1,848	195	261	1,392	1,224	4,478,564	251,023	749,587	3,441,908	447,465	5,720,259	2,278,356
Carriages and wagons and materials.....	55	535	56	29	450	574	1,010,649	44,500	258,832	571,805	60,641	1,237,668	665,803
Cars and general shop construction and repairs by steam-railroad companies.....	17	3,474	.....	284	3,190	2,768	2,390,773	218,579	1,938,340	2,276,958	94,771	4,524,448	2,247,490
Clothing, men's, including shirts.....	160	1,681	70	181	1,430	365	2,308,628	181,935	600,778	1,796,766	463,658	3,698,628	1,901,857
Clothing, women's.....	114	655	12	87	556	61	448,391	62,666	181,809	565,054	93,111	1,014,059	449,005
Confectionery.....	26	633	22	106	505	604	614,336	92,522	160,073	738,814	117,585	1,179,919	441,105
Cooperage and wooden goods, not elsewhere specified.....	113	194	12	10	172	206	305,536	11,582	94,126	428,078	22,413	608,941	180,863
Copper, tin, and sheet-iron products.....	73	1,912	78	265	1,569	1,955	4,146,847	288,640	864,560	2,200,255	255,967	4,166,751	1,876,496
Electrical machinery, apparatus, and supplies.....	18	347	4	61	282	654	1,174,857	84,975	141,327	335,849	66,020	601,287	325,488
Flour-mill and gristmill products.....	19	842	10	325	507	11,473	5,510,380	333,786	342,145	17,825,995	934,453	20,358,557	2,532,562
Foundry and machine-shop products.....	168	11,118	100	1,178	9,840	13,161	22,812,333	1,494,641	5,766,209	10,247,358	3,290,403	23,549,910	13,302,552
Furniture and refrigerators.....	133	2,347	25	270	2,052	2,846	4,083,497	311,618	1,036,648	2,155,903	304,191	4,184,064	2,029,061
Jewelry.....	14	401	22	81	298	116	1,307,483	99,059	173,650	385,255	77,813	970,250	539,995
Leather goods.....	122	609	27	73	509	460	937,585	96,134	262,166	520,546	85,463	1,129,321	608,775
Leather, tanned, curried, and finished.....	4	579	7	59	513	1,297	3,058,110	85,065	246,027	2,193,954	133,530	2,808,993	615,939
Liquors, malt.....	116	828	.....	155	673	4,888	12,783,514	412,529	536,338	1,480,712	2,935,828	6,496,549	5,015,837
Lumber and timber products.....	53	3,047	49	287	2,711	11,029	6,383,495	295,421	1,452,301	6,402,770	503,273	9,321,233	2,918,457
Malt.....	16	362	8	66	288	3,862	15,471,572	144,429	221,795	5,656,794	357,141	7,094,746	1,437,952
Marble and stone work.....	21	427	20	33	374	460	782,556	38,581	252,154	450,317	111,812	984,873	534,556
Mattresses and spring beds.....	8	230	4	36	190	137	256,132	25,722	91,147	276,144	44,142	554,814	278,670
Patent medicines and compounds and druggists' preparations.....	67	618	50	316	262	374	1,161,646	216,608	102,118	438,922	1,419,153	2,963,515	2,514,593
Printing and publishing.....	176	4,103	142	791	3,170	3,636	6,842,971	807,256	1,973,911	2,399,934	1,217,709	7,842,910	5,442,976
Slaughtering and meat packing.....	139	1,929	35	232	1,662	3,743	7,270,613	329,310	963,210	21,788,626	307,906	25,416,054	3,627,428
Soap.....	8	1,592	2	230	1,360	2,489	7,250,606	214,556	544,592	5,760,070	548,499	8,652,900	2,892,830
Tobacco manufactures.....	204	798	227	88	533	21	630,258	33,523	291,233	563,155	178,187	1,273,222	710,067
All other industries.....	566	28,914	418	3,582	24,914	246,320	154,427,060	4,482,742	14,183,194	82,483,620	6,545,123	119,730,861	37,247,241

¹ Excluding statistics for establishments located outside of the corporate limits of Buffalo, to avoid disclosure of individual operations. The figures for these establishments are included under the head of "All other industries."

Comparative summary, by industries.—The number of establishments, average number of wage earners, and value of products for such of the leading industries as can be shown separately and had products of \$2,000,000 or more in 1909 are given in Table 43 for 1909, 1904, and 1899, respectively.

COMPARATIVE SUMMARY FOR THE BUFFALO METROPOLITAN DISTRICT, BY SELECTED INDUSTRIES: 1909, 1904, AND 1899.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.			WAGE EARNERS (AVERAGE NUMBER).			VALUE OF PRODUCTS.			PER CENT OF INCREASE. ¹								
										Number of establishments.			Wage earners (average number).			Value of products.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1899-1909	1904-1909	1904-1899	1899-1909	1904-1909	1904-1899	1899-1909	1904-1909	1904-1899
Slaughtering and meat packing.....	239	333	332	1,662	1,182	974	\$25,416,054	\$16,219,823	\$11,771,727	21.9	18.2	3.1	70.0	40.6	21.4	115.9	56.7	37.8
Foundry and machine-shop products	168	128	(²)	9,840	7,762	(⁴)	23,549,910	15,880,210	(⁴)	.....	31.2	.....	26.8	.....	.....	48.3	.....	.....
Flour-mill and gristmill products....	19	14	13	507	431	201	20,358,557	9,889,016	3,350,836	46.2	35.7	7.7	152.2	17.6	114.4	507.6	105.9	195.1
Automobiles, including bodies and parts.....	23	85	3	3,044	625	23	9,597,763	1,385,509	77,689	666.7	360.0	66.7	.....	387.0	.....	592.7	.....	.....
Lumber and timber products.....	58	37	36	2,711	2,069	2,161	9,321,233	5,573,289	5,014,241	61.1	56.8	2.8	25.5	81.0	-4.3	85.9	67.2	11.1
Soap.....	8	10	9	1,360	1,140	743	8,652,900	4,792,915	3,818,571	-11.1	-20.0	11.1	83.0	19.3	53.4	126.6	80.5	25.5
Printing and publishing.....	176	170	138	3,170	2,887	2,404	7,842,910	6,479,549	4,045,460	27.5	3.5	23.2	31.9	9.8	20.1	93.9	21.0	60.2
Newspapers and periodicals.....	45	45	35	1,182	935	757	4,165,243	2,950,295	1,749,037	23.6	.....	28.6	56.1	26.4	23.5	138.1	41.2	68.7
Book and job.....	104	103	87	913	757	1,071	1,739,634	1,307,512	1,455,933	19.5	1.0	18.4	-14.8	20.6	-29.3	19.5	33.0	-10.2
All other printing and publishing industries.....	27	22	16	1,075	1,195	576	1,938,033	2,221,742	840,490	68.8	22.7	37.5	86.6	-10.0	107.5	130.6	-12.8	164.3
Malt.....	16	17	16	288	225	205	7,094,746	3,035,801	1,959,967	.....	-5.9	6.2	40.5	28.0	9.8	262.0	133.7	54.9
Liquors, malt.....	216	219	218	673	591	560	6,406,549	5,187,216	4,269,973	-11.1	-15.8	5.6	20.2	13.9	5.5	52.1	25.2	21.5
Bread and other bakery products.....	203	150	160	1,302	1,330	1,007	5,720,259	4,492,465	2,564,864	26.9	35.3	6.3	38.2	4.7	32.1	123.0	27.3	75.2
Clothing.....	74	102	134	1,986	2,143	1,885	4,712,682	4,877,942	3,216,366	-44.8	-27.5	-23.9	5.4	-7.3	13.7	46.5	-3.4	51.7
Men's, including shirts.....	860	91	124	1,430	1,777	1,627	3,698,623	4,369,341	2,943,117	-51.6	-34.1	-26.6	-12.1	-19.5	9.2	25.7	-15.4	48.5
Women's.....	214	11	10	556	366	258	1,014,059	508,601	273,249	40.0	27.3	10.0	115.5	51.9	41.9	271.1	99.4	86.1
Cars and general shop construction and repairs by steam-railroad companies.....	8	7	10	3,190	4,094	3,245	4,524,448	5,120,717	4,191,455	-22.2	-30.0	11.1	-1.7	-22.1	26.2	7.9	-11.6	22.2
Furniture and refrigerators.....	233	26	21	2,052	1,659	1,220	4,184,964	2,543,682	1,828,706	57.1	26.9	23.8	68.2	23.7	36.0	128.8	64.6	39.1
Copper, tin, and sheet-iron products..	73	40	27	1,569	1,479	354	4,166,751	2,555,076	828,720	170.4	82.5	48.1	343.2	6.1	317.8	402.8	63.1	208.3
Patent medicines and compounds and druggists' preparations.....	67	47	47	252	264	489	2,953,515	2,025,361	1,933,044	42.6	42.6	.....	-48.5	-4.5	-46.0	52.8	45.8	4.8
Leather, tanned, curried, and finished	4	4	3	513	686	561	2,808,993	2,428,392	1,663,350	33.3	.....	33.3	-8.6	-25.2	22.3	68.9	15.7	46.0

¹ A minus sign (-) denotes decrease. Percentage not shown where base is less than 100 for wage earners, or less than \$100,000 for value of products.
² Excluding statistics for one establishment, to avoid disclosure of individual operations.
³ Excluding statistics for two establishments, to avoid disclosure of individual operations.
⁴ Comparable figures not available.
⁵ Includes "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithographing;" and for 1909 and 1904 "printing and publishing, music."

The greatest absolute increase in value of products during the decade in the area under consideration, \$17,007,721, or 507.6 per cent, is shown for flour mills and gristmills, and the next greatest relative increase is in copper, tin, and sheet-iron products.

Of the industries shown in the comparative table, only two—lumber and timber products and foundry and machine-shop products—are greatly affected by the inclusion of statistics for manufactures in territory added to the district since 1904.

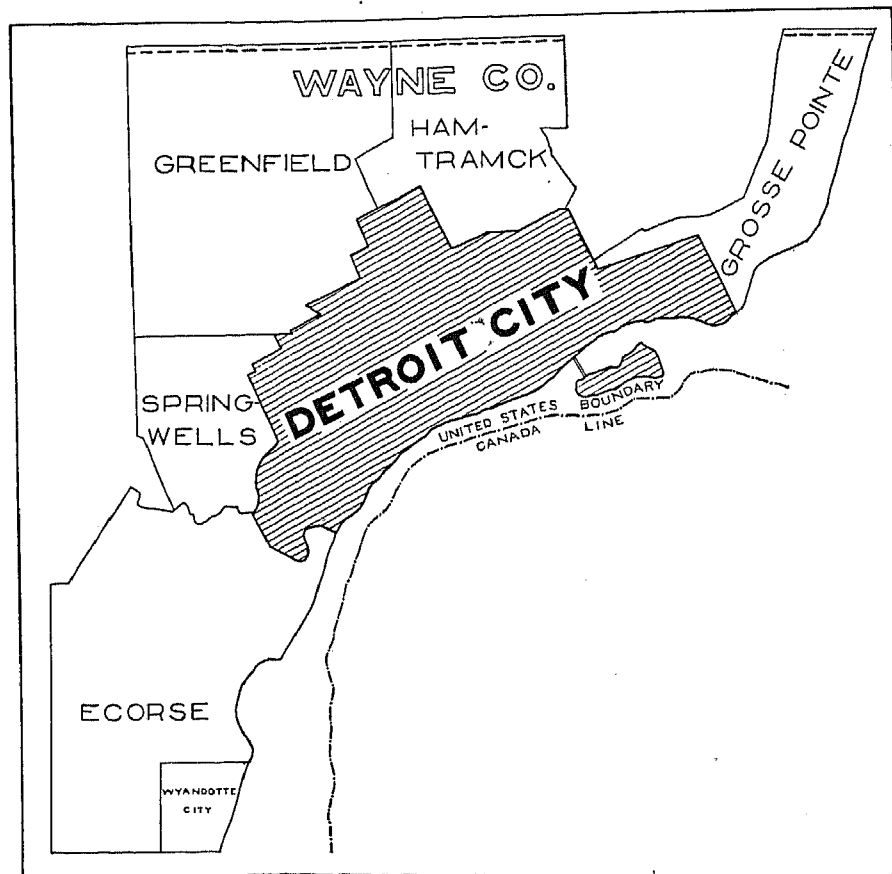
DETROIT METROPOLITAN DISTRICT.

Territory included.—The metropolitan district of Detroit embraces 96,554 acres, of which 26,103 acres comprise the area of Detroit and 70,451 acres the area of the outside territory. The population of the city of Detroit proper in 1910 was 465,766 and that of the outlying territory 35,216, the total for the district being 500,982. In addition to the city of Detroit the district includes Wyandotte city and the townships of Ecorse, Greenfield, Grosse Pointe, Hamtramck, and Springwells, all of which are in Wayne County. Owing to the fact that adjacent territory in Canada, including the thriving municipalities of Windsor and Walkerville, is industrially to a large extent tributary to

Detroit, the statistics for the district do not adequately represent the area closely associated with the development of Detroit. A tendency on the part of the city to enlarge its area in conformity with the metropolitan development seems to be indicated by its recent acquisitions of territory, namely, part of Greenfield township (288 acres) added in 1905; part of Springwells township (4,416 acres), including Delray village, added in 1906; and parts of Grosse Pointe, Greenfield, and Hamtramck townships (3,255 acres) added in 1907.

The following is an outline map of the district showing the various cities and townships included:

DETROIT METROPOLITAN DISTRICT: 1909.



Detroit was first settled in 1701 by the French, in whose possession it remained until surrendered to the British in 1760. In 1796 it became territory of the United States. It was incorporated as a town in 1802 and as a city in 1815. Detroit was the seat of government of Michigan territory until 1837, when the territory

became a state, and was capital of the state until 1847. The progress of the city commercially, industrially, and in other respects, particularly during the decade 1899-1909, has been very marked. While Detroit has many industrial advantages, perhaps the most important is its geographical position with reference

Among the 31 industries shown separately in the table are 9 for which the totals for the district can not be published, because to do so would disclose individual operations; and 17 which were not carried on in the part of the district which is outside the corporate limits of Detroit. In all these cases the statistics shown are figures for Detroit exclusively.

By far the most important industry in Detroit is the manufacture of automobiles, including bodies and parts. The figures given for this industry in the table do not include statistics for one establishment located outside the city limits. The 68 establishments engaged in this industry in Detroit reported 22.1 per cent of the value of products for all industries in the metropolitan district. Aside from the omission of the establishment located outside the limits of

Detroit, the statistics given for the industry do not adequately represent the importance of the industry in the district, owing to the fact that many establishments engaged in the manufacture of brass and bronze products and foundry and machine-shop products, which are also leading industries in the district, turn out automobile accessories and manufacture and repair automobile engines and parts.

Other important industries, arranged according to the value of products, were slaughtering and meat packing, the manufacture of tobacco products and of patent medicines and compounds, printing and publishing, and the lumber industry. The manufacture of chemicals, an industry for which separate statistics can not be published without disclosing individual operations, is also of considerable importance.

CINCINNATI METROPOLITAN DISTRICT.

Territory included.—The metropolitan district of Cincinnati embraces 111,772 acres of territory, of which 31,893 acres constitute the area of Cincinnati and 79,878 acres the area of the outside territory. The population of the city of Cincinnati proper in 1910 was 363,591, and that of the outside territory, 200,213, the total for the district being 563,804.

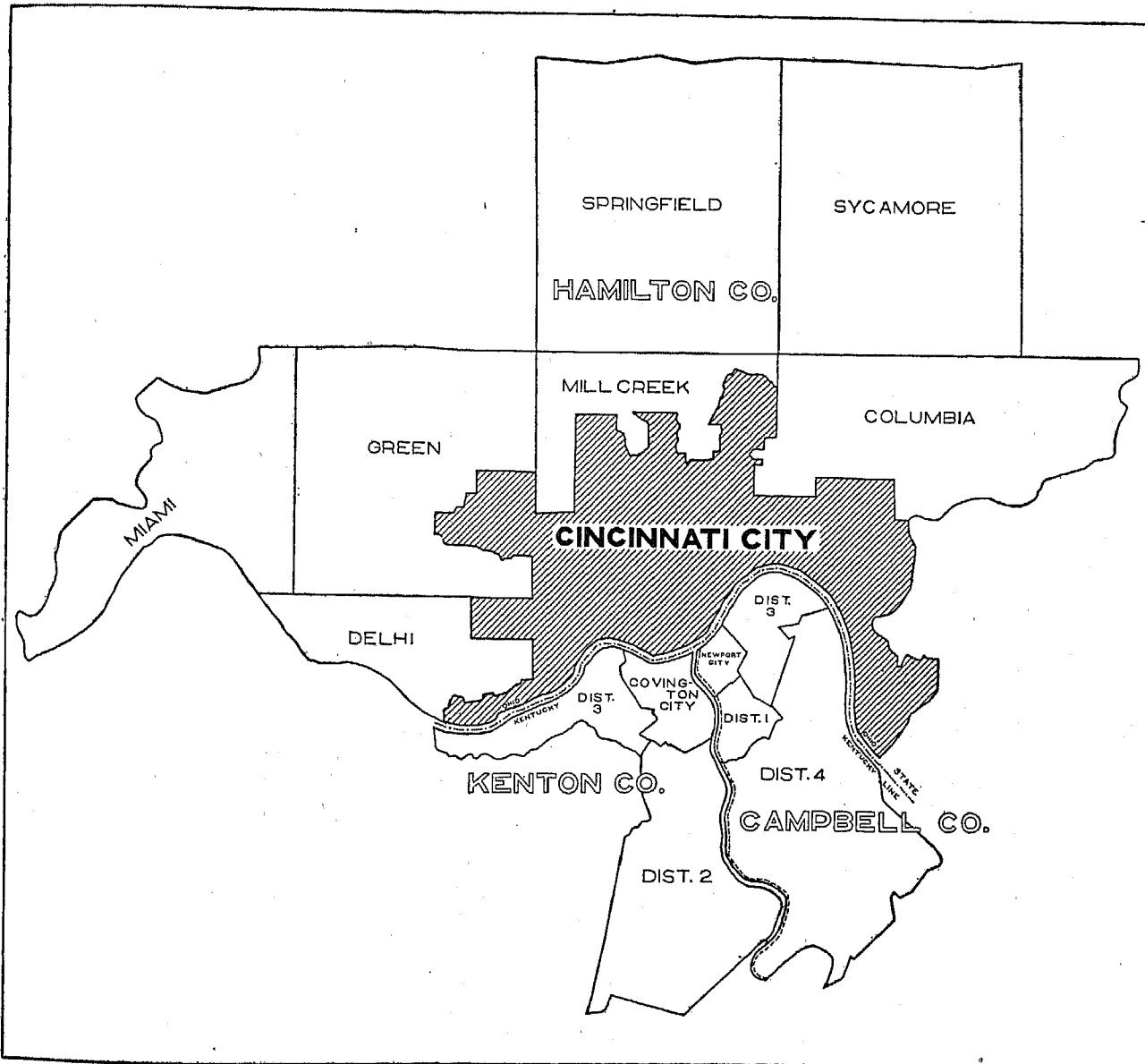
As defined at the census of 1910, the metropolitan district comprised, in addition to the central city, seven townships in Hamilton County, Ohio—Columbia, Delhi, Green, Miami, Millcreek, Springfield, and Sycamore—and seven magisterial districts in Kentucky—the first, second, third, and fourth in Campbell County, and the first, second, and third in Kenton County.

The incorporated places of over 10,000 inhabitants within the district, besides Cincinnati, are Norwood city, Ohio, which is included in Columbia and Millcreek townships; Newport city, Ky., which comprises district 2 and part of district 1 in Campbell County; and Covington city, Ky., which comprises district 1 and part of districts 2 and 3 of Kenton County.

The report for 1904 included all the cities named and all the townships except Miami, Springfield, and Sycamore. In 1907 a part of Millcreek township was annexed to Cincinnati, and in 1909 Spencer and parts of Anderson and Delhi townships were added to the city.

The following is an outline map of the metropolitan district as constituted in 1909, showing the various cities, townships, and magisterial districts included:

CINCINNATI METROPOLITAN DISTRICT: 1909.



Summary for the district.—Table 46 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the Cincinnati metropolitan district; for Cincinnati and Norwood cities in Ohio, and Covington and Newport

cities in Kentucky, and for the territory outside these cities which is included in the metropolitan district. The percentage which the figure for Cincinnati represents of the total for the district is shown in the case of each item.

Table 46	NUMBER OR AMOUNT.							Per cent Cincinnati of total for district.
	The district.	Cincinnati.	District exclusive of Cincinnati.					
			Total.	Covington.	Newport.	Norwood.	Remainder.	
Population ¹	563,804	363,591	200,213	53,270	30,309	16,185	100,449	64.5
Number of establishments.....	2,827	2,184	943	196	144	49	254	77.3
Persons engaged in manufactures.....	95,571	72,488	23,083	4,528	2,995	4,445	11,115	75.8
Proprietors and firm members.....	2,593	2,015	578	189	146	31	212	77.7
Salaries employees.....	12,646	10,281	2,365	397	217	507	1,244	81.3
Wage earners (average number).....	80,332	60,192	20,140	3,042	2,632	3,907	9,659	74.9
Primary horsepower.....	140,254	88,597	51,657	8,956	3,750	6,381	33,270	63.2
Capital.....	\$212,555,469	\$150,254,292	\$62,301,177	\$6,633,612	\$4,568,332	\$13,367,715	\$37,731,518	70.7
Expenses.....	233,538,340	174,788,070	58,749,661	8,011,897	5,858,015	8,534,513	30,345,236	74.8
Services.....	57,337,552	43,860,281	13,477,271	2,265,391	1,618,096	2,712,079	6,881,705	76.5
Salaries.....	15,601,642	12,759,309	2,842,233	427,176	277,465	631,512	1,506,080	81.8
Wages.....	41,736,010	31,100,972	10,635,038	1,838,215	1,340,631	2,080,507	5,375,625	74.5
Materials.....	139,107,061	101,931,950	37,175,111	4,470,939	3,366,278	4,020,773	25,317,121	73.3
Miscellaneous.....	37,093,727	28,996,448	8,097,270	1,275,567	873,641	1,801,061	4,140,410	78.2
Value of products.....	260,399,619	194,515,692	65,883,927	8,711,929	6,490,596	9,684,332	40,997,070	74.7
Value added by manufacture.....	121,292,558	92,583,742	28,708,816	4,240,990	3,124,318	5,663,559	15,679,949	70.3

¹ April 15, 1910.

In 1909 the Cincinnati metropolitan district had 2,827 manufacturing establishments, which gave employment to an average of 95,571 persons during the year, and paid out \$57,337,552 in salaries and wages. Of the persons employed, 80,332 were wage earners. These establishments turned out products to the value of \$260,399,619, to produce which materials costing \$139,107,061 were utilized. The value added by manufacture was thus \$121,292,558. The Cincinnati district ranked tenth in 1909 among the metropolitan districts of the United States in the value of its manufactured products.

In the Cincinnati district, as in all the districts except Pittsburgh and Boston, the greater part of the value of the manufactured products of the district was reported by factories within the central city. Cincinnati contained nearly two-thirds (64.5 per cent) of the population of the district of which it is the manufacturing, commercial, and financial center, and contributed about three-fourths (74.7 per cent) of the value of products. Its manufacturing establishments constituted nearly eight-tenths (77.3 per cent) of all in the district and gave employment to approximately three-fourths of the wage earners (74.9 per cent).

Of the places outside Cincinnati for which statistics are given separately Norwood had the largest value of products, representing 3.7 per cent of the total for the metropolitan district; and it contained 5.4 per cent of the total population. The average value of manufactured products per establishment for this city was larger than for any other city shown, not excepting Cincinnati.

The group of seven townships or parts of townships, and of five magisterial districts or parts of districts, outside of incorporated places having a population of more than 10,000 had a combined population equal to 17.8 per cent of the total for the district, and contributed 15.7 per cent of the value of its products.

The principal industries of Cincinnati in 1909, as measured by value of products, were slaughtering and meat packing, foundries and machine shops, and the manufacture of men's clothing. Those of Norwood were printing and publishing, and the manufacture of paper goods (playing cards and games), furniture, and foundry and machine-shop products. During the decade this city increased in population from 6,480 to 16,185. The leading industries in Covington were foundries and machine shops and the manufacture of chewing and smoking tobacco; and in Newport, steel works and rolling mills and breweries. The most important places from a manufacturing standpoint outside of these cities were Ivorydale, with its large soap works; Lockland village, with the manufacture of roofing materials and mattresses and spring beds; and St. Bernard, with the manufacture of soap.

Comparison with earlier censuses.—Table 47 is a comparative summary of the statistics for the district as a whole for 1909, 1904, and 1899, together with the percentages of increase from census to census. For the purposes of comparison with the statistics for the district as given for 1904¹ and 1899,¹ the totals for 1909 are segregated into figures for the territory added since 1904, and into those for the remainder of the district.

¹ Bureau of Census: Industrial Districts, 1905, p. 54.

Table 47

	NUMBER OR AMOUNT.					PER CENT OF INCREASE. ¹		
	1909			1904	1899	1899-1909	1904-1909	1899-1904
	Total.	Territory added since 1904.	Remainder of district. ²					
Population.....	503,804	29,229	534,575	(⁴)	473,282	13.0		
Number of establishments.....	2,827	85	2,742	2,600	2,973	-7.8	5.5	-12.5
Persons engaged in manufactures.....	95,571	3,184	92,387	85,147	(⁵)		8.5	
Proprietors and firm members.....	2,593	73	2,520	2,587	(⁵)		-2.6	
Salaried employees.....	12,646	278	12,368	9,825	6,510	51.4	25.9	44.1
Wage earners (average number).....	80,332	2,833	77,499	72,735	64,409	20.3	6.5	12.9
Primary horsepower.....	140,254	9,399	130,855	91,798	(⁵)		42.5	
Capital.....	\$212,555,469	\$6,058,352	\$208,497,117	\$170,760,226	\$121,972,067	69.3	20.9	40.0
Expenses.....	233,538,340	8,606,054	224,932,286	180,967,427	141,767,041	58.7	24.3	27.7
Services.....	57,337,552	1,898,787	55,438,765	44,862,069	34,151,990	62.3	23.6	31.4
Salaries.....	15,001,542	400,277	15,201,265	10,929,512	7,170,868	112.0	39.1	52.4
Wages.....	41,736,010	1,498,480	40,237,530	33,932,557	26,981,122	49.1	18.6	25.8
Materials.....	139,107,061	6,040,873	133,066,188	102,721,628	82,263,028	61.8	29.5	24.9
Miscellaneous.....	37,093,727	668,424	36,425,303	33,383,730	25,352,023	43.7	9.1	31.7
Value of products.....	260,399,619	9,324,048	251,075,571	203,095,605	164,217,216	52.9	23.6	23.7
Value added by manufacture.....	121,292,558	3,283,175	118,009,383	100,373,977	81,954,188	44.0	17.6	22.5

¹ A minus sign (-) denotes decrease.

² Figures in this column used in computing percentages of increase.

³ April 15, 1910.

⁴ No population census in 1905.

⁵ June 1, 1900.

⁶ Figures not available.

In all items shown, except number of establishments and cost of materials, the percentage of increase was greater during the earlier five-year period, 1899-1904, than during the period 1904-1909. During the decade as a whole the rate of increase was much greater in number of salaried employees and salaries than for any other items. The average number of wage earners increased only 20.3 per cent during this period, but the wages increased 49.1 per cent, a rate of gain approximately equal to that in value of products (52.9 per cent). The increase in primary horsepower of all kinds from 1904 to 1909 was 42.5 per cent. Statistics as to the primary power used in 1899 are not available.

The proportion of population and manufactures in the outside territory of the district as compared with the total for the city of Cincinnati is, in general, increasing, as indicated by the percentages in Table 48. The percentages for 1909 are based upon the figures for the district exclusive of the territory added since 1904.

Table 48

	PER CENT TERRITORY OUTSIDE OF CINCINNATI IS OF TOTAL FOR DISTRICT.		
	1909 ¹	1904	1899
Population.....	32.0	(²)	31.1
Number of establishments.....	20.4	16.5	17.5
Persons engaged in manufactures.....	21.5	19.0	(³)
Proprietors and firm members.....	20.0	15.7	(³)
Salaried employees.....	16.9	16.6	9.6
Wage earners (average number).....	22.3	19.5	14.7
Primary horsepower.....	32.3	27.0	(³)
Capital.....	27.2	23.7	15.2
Expenses.....	22.3	18.9	13.9
Services.....	20.9	18.7	13.5
Salaries.....	16.1	16.9	10.2
Wages.....	22.7	19.3	14.4
Materials.....	23.4	18.9	13.2
Miscellaneous.....	20.4	18.9	16.5
Value of products.....	22.5	18.2	13.7
Value added by manufacture.....	21.5	17.5	14.2

¹ Based on figures for district as constituted in 1904 and 1899.

² No population census in 1905.

³ Figures not available.

The proportion of the population of the district, as originally constituted, that was reported from the

territory outside of Cincinnati, increased from 31.1 per cent in 1900 to 32 per cent in 1910, and the proportion of the value of products of that district that was contributed by the outlying territory increased steadily from 13.7 per cent in 1899 to 18.2 per cent in 1904 and 22.5 per cent in 1909.

Leading industries.—Table 49 gives the statistics for 1909 for the industries of the district having products valued at \$500,000 or more, so far as separate figures can be presented.

Among the 45 industries shown separately in the table there are 14 for which totals for the district can not be published, because to do so would disclose the operations of individual establishments, and 8 which were not carried on in the part of the district which is outside the corporate limits of Cincinnati. In all these cases the statistics shown are figures for Cincinnati exclusively.

The manufacture of soap is a very prominent industry in the district, but it is not shown separately because only the comparatively small part of it reported from the city of Cincinnati can be given without disclosure of the operations of individual establishments.

The manufacture of foundry and machine-shop products was the leading industry in the Cincinnati district, the value of the products amounting to 10.1 per cent of the value of the products for all industries. There were two other industries having also a considerable proportion of the total—slaughtering and meat packing, with 7.7 per cent, and men's clothing, including shirts, with 6.8 per cent. Printing and publishing and the manufacture of malt liquors, carriages and wagons and materials, and lumber and timber products were also prominent.

Important industries for which complete figures can not be given without disclosing the operations of individual concerns are, in the order of their importance, liquors, distilled, and electrical machinery, apparatus, and supplies.

Comparative summary, by industries.—The number of establishments, average number of wage earners, and value of products for such of the industries as can be shown separately and had a value of products amounting to \$2,000,000 or more in 1909 are given in Table 50 for 1909, 1904, and 1899.

COMPARATIVE SUMMARY FOR THE CINCINNATI METROPOLITAN DISTRICT, BY SELECTED INDUSTRIES: 1909, 1904, AND 1899.

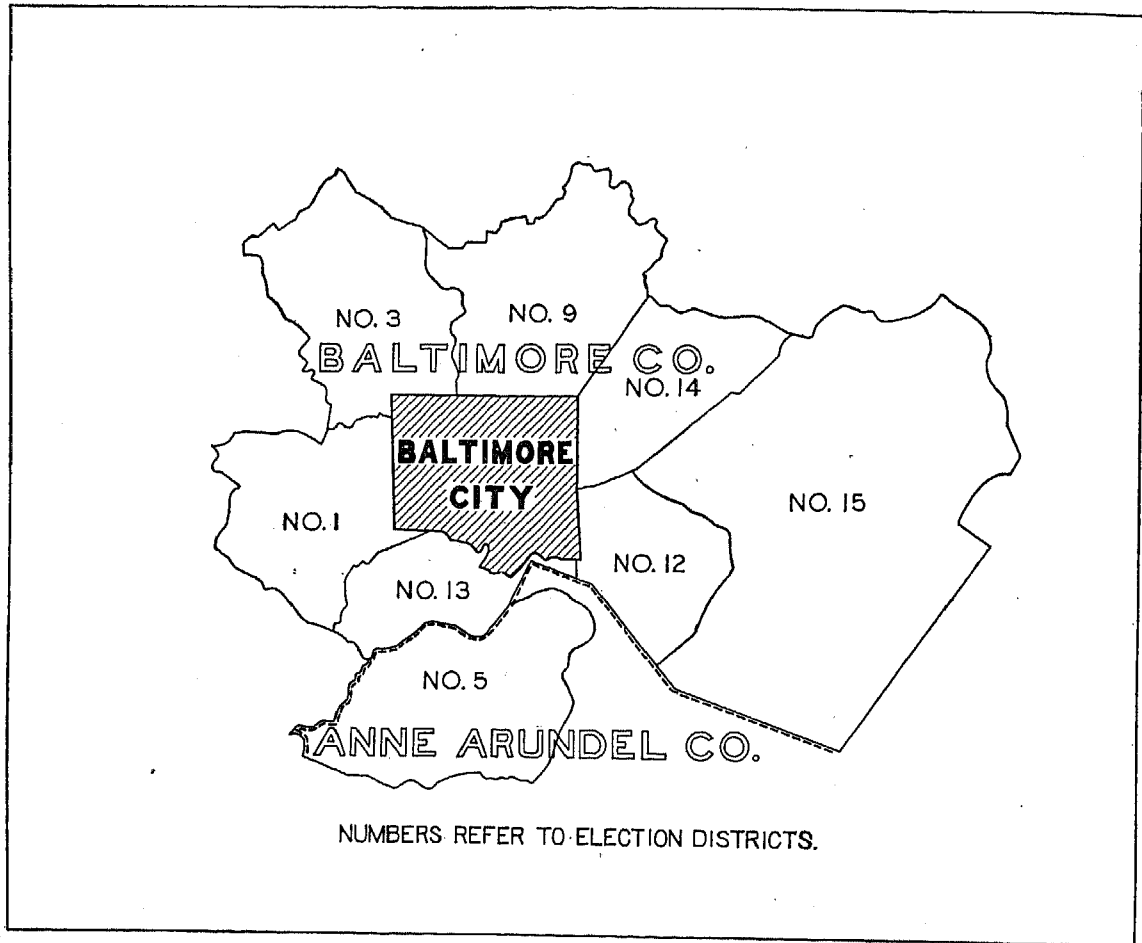
INDUSTRY.	NUMBER OF ESTABLISHMENTS.			WAGE EARNERS (AVERAGE NUMBER).			VALUE OF PRODUCTS.			PER CENT OF INCREASE. ¹								
	1909	1904	1899	1909	1904	1899	1909	1904	1899	Number of establishments.			Wage earners (average number).			Value of products.		
										1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904
Foundry and machine-shop products.	238	200	(²)	11,706	9,588	(³)	\$26,186,468	\$18,703,155	(³)	.....	15.5	.....	.....	22.1	.....	.....	39.3	.....
Liquors, malt, distilled, and vinous..	37	38	39	2,302	2,086	1,757	22,162,542	21,771,153	\$19,210,452	-5.1	-2.6	-2.6	31.0	10.4	18.7	15.3	1.8	13.3
Clothing.....	327	356	580	8,445	6,500	6,829	20,550,186	17,866,150	14,091,077	-43.6	-8.1	-38.6	23.7	28.1	-3.5	37.1	15.1	10.2
Men's, including shirts.....	301	327	539	7,120	5,419	5,439	17,646,324	15,154,335	12,005,093	-44.2	-8.0	-39.3	30.9	31.4	-0.4	36.7	16.4	17.4
Women's.....	26	29	41	1,325	1,171	1,390	2,912,862	2,711,815	2,085,984	-36.6	-10.3	-29.3	-4.7	13.2	-15.8	39.6	7.4	30.0
Slaughtering and meat packing.....	61	^a 48	^a 33	1,130	878	882	10,022,613	13,500,702	10,783,241	84.8	27.1	45.5	29.1	29.7	-0.5	84.8	47.5	25.3
Boots and shoes, including cut stock and findings.....	^a 32	^a 35	49	7,989	6,644	6,786	14,998,672	11,152,013	8,668,117	-34.7	-8.6	-28.6	17.7	20.2	-2.1	73.0	84.5	28.7
Printing and publishing.....	318	283	260	5,000	4,420	4,047	13,998,611	11,163,285	8,455,346	22.3	12.4	8.8	23.5	13.1	0.2	65.6	25.4	32.0
Newspapers and periodicals.....	105	102	85	947	838	1,076	5,402,314	4,418,781	3,594,243	23.5	2.0	20.0	-12.0	13.0	-22.1	52.0	23.6	22.9
Book and job.....	167	148	123	2,252	2,072	1,641	4,841,576	3,856,413	2,545,828	35.8	12.8	20.3	37.2	8.7	26.3	90.2	25.5	51.5
Music.....	8	6	7	52	57	51	324,612	193,528	266,985	14.3	33.3	-14.3	.....	.....	.....	21.6	67.7	-27.5
All other printing and publishing industries.....	38	27	45	1,740	1,453	1,279	3,370,109	2,694,563	2,048,290	15.6	40.7	-40.0	36.7	20.3	13.6	64.5	25.1	31.6
Carriages and wagons and materials.	99	92	91	2,851	3,244	3,310	8,157,065	8,799,029	8,050,291	8.8	7.6	1.1	-13.9	-12.1	-2.0	1.3	-7.3	9.3
Lumber and timber products.....	80	65	54	2,413	2,154	1,705	7,401,558	6,507,172	4,683,369	48.1	23.1	20.4	41.5	12.0	26.3	58.7	13.7	39.5
Bread and other bakery products.....	264	237	314	1,497	1,440	1,199	5,691,232	4,231,455	3,309,397	-15.9	11.4	-24.5	24.9	4.0	20.1	72.0	34.5	27.9
Furniture and refrigerators.....	63	60	^a 54	2,754	3,645	2,355	5,646,080	6,377,756	3,594,196	16.7	-8.7	27.8	16.0	-24.4	54.8	57.1	-11.5	77.4
Tobacco manufactures.....	300	325	373	2,898	3,834	4,188	5,496,839	6,721,170	7,657,562	-19.6	-7.7	-12.9	-30.8	-24.4	-8.5	-28.2	-13.2	-12.2
Cigars and cigarettes.....	286	313	357	2,541	3,402	3,737	3,879,701	4,607,195	4,973,865	-19.9	-8.6	-12.3	-32.0	-25.3	-9.0	-22.0	-15.8	-7.4
Chewing and smoking tobacco and snuff.....	14	12	10	357	432	451	1,617,138	2,113,975	2,683,697	-12.5	16.7	-25.0	-20.8	-17.4	-4.2	-39.7	-23.5	-21.2
Leather, tanned, curried, and finished.....	^a 13	10	^a 16	997	976	958	5,058,920	3,404,866	3,503,225	-18.8	30.0	-37.5	4.1	2.2	1.9	44.4	48.6	-2.8
Copper, tin, and sheet-iron products..	65	51	41	1,126	1,122	851	4,470,093	2,714,012	1,803,271	58.5	27.4	24.4	32.3	0.4	31.8	147.9	64.7	50.5
Paint and varnish.....	^a 24	26	25	408	277	278	3,879,810	2,672,698	2,298,236	-4.0	-7.7	4.0	46.8	47.3	-0.4	68.8	45.2	16.3
Stoves and furnaces, including gas and oil stoves.....	^a 15	14	(²)	872	659	(²)	2,324,950	1,058,851	(²)	.....	7.1	.....	.....	32.3	.....	119.6	.....	.....
Coffee and spice, roasting and grinding.....	4	8	10	221	170	109	2,110,024	1,835,366	1,416,395	-20.0	-20.0	.....	102.8	30.0	56.0	49.0	15.0	29.6
Confectionery.....	^a 22	15	18	771	653	441	2,029,075	1,568,021	1,333,604	22.2	46.7	-16.7	74.8	18.1	48.1	52.1	29.4	17.6

¹ A minus sign (-) denotes decrease. Percentages not shown where base is less than 100 for wage earners.
² Comparable figures not available.
³ Excluding statistics for two establishments, to avoid disclosure of individual operations.
⁴ Excluding statistics for one establishment, to avoid disclosure of individual operations.
⁵ Includes "bookbinding and blank-book making;" "engraving, steel and copper plate including plate printing;" and "lithographing."
⁶ Excluding statistics for three establishments, to avoid disclosure of individual operations.

The greatest absolute increase in value of products during the decade shown for any industry in the table is for slaughtering and meat packing—\$9,139,372, or 84.8 per cent. The greatest relative increase, 147.9 per cent, was reported for the manufacture of copper, tin, and sheet-iron products.

Among important industries that can not be shown at all in any tables without disclosing the operations of individual establishments are, in the order of their importance, the manufacture of roofing materials, mattresses and spring beds, paper goods, and cottonseed oil and cake.

BALTIMORE METROPOLITAN DISTRICT: 1909.



BALTIMORE METROPOLITAN DISTRICT.

Territory included.—The metropolitan district of Baltimore embraces 184,660 acres of territory, of which 19,290 acres constitute the area of Baltimore, and 165,370 acres the area of the outside territory. The population of the city of Baltimore proper in 1910 was 558,485, and that of the outside territory 100,230, the total for the district being 658,715.

As defined at the census of 1910, the metropolitan district comprised, in addition to the city of Baltimore, eight election districts, namely, Districts 1, 3, 9, 12, 13, 14, and 15, in Baltimore County, and District 5 in Anne Arundel County. The report for 1904 included all this territory but District 5.

On page 962 is an outline map of the metropolitan district as constituted in 1909, showing Baltimore and the election districts included.

Summary for the district.—Table 51 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910 for the Baltimore metropolitan district, for the city of Baltimore, and for the remainder of the district; the percentage which the figure for Baltimore represents of the total for the district being shown for each item.

Table 51	NUMBER OR AMOUNT.			Per cent Baltimore is of total for district.
	The district.	Baltimore.	District exclusive of Baltimore.	
Population ¹	658,715	558,485	100,230	84.8
Number of establishments.....	2,668	2,502	166	93.8
Persons engaged in manufactures....	94,954	83,473	11,481	87.9
Proprietors and firm members.....	2,790	2,660	130	95.3
Salaried employees.....	10,339	9,369	970	90.6
Wage earners (average number).....	81,825	71,444	10,381	87.3
Primary horsepower.....	125,080	76,764	48,316	61.4
Capital.....	\$199,735,181	\$104,436,758	\$95,298,423	82.3
Expenses.....	237,569,895	168,914,780	68,655,070	71.1
Services.....	48,585,334	41,741,875	6,843,459	85.9
Salaries.....	11,888,229	10,571,088	1,317,141	88.9
Wages.....	36,697,105	31,170,787	5,526,318	84.9
Materials.....	165,085,541	107,023,883	58,061,658	64.8
Miscellaneous.....	23,898,990	20,149,028	3,749,962	84.3
Value of products.....	260,213,324	186,977,710	73,235,614	71.9
Value added by manufacture.....	95,127,783	79,953,827	15,173,956	84.0

¹ April 15, 1910.

In 1909 the Baltimore metropolitan district had 2,668 manufacturing establishments, which gave employment to an average of 94,954 persons during the year, and paid out \$48,585,334 in salaries and wages. Of the persons employed 81,825 were wage earners. These establishments turned out products to the value of \$260,213,324, to produce which materials costing \$165,085,541 were utilized. The value added by manufacture was thus \$95,127,783. The Baltimore

district ranked eleventh in 1909 among all the metropolitan districts of the United States in the value of its manufactured products.

In the Baltimore district, as in most of the other districts, the greater part of the value of the manufactured products of the district was reported by factories within the central city. Baltimore contained more than four-fifths (84.8 per cent) of the population of the district of which it is the manufacturing, commercial, and financial center, and contributed a little more than seven-tenths (71.9 per cent) of the value of products for the district. Its manufacturing establishments constituted over nine-tenths (93.8 per cent) of all in the district, and gave employment to nearly nine-tenths (87.3 per cent) of the wage earners.

As there are no incorporated places in any of the election districts, separate figures are not given for any places except Baltimore, although Sparrow Point and Canton are of much industrial importance. For the steel works, blast furnaces, steel shipbuilding plant, and coke ovens at Sparrow Point a combined value of products was reported for 1909 reaching into the millions. A large value of products was also reported for a copper smelter and refinery and for a petroleum refinery at Canton. None of these industries can be reported separately, as to do so would disclose the operations of individual establishments.

Comparison with earlier censuses.—Table 52 is a comparative summary of the statistics for the district as a whole for 1909, 1904,¹ and 1899,¹ together with the percentages of increase from census to census. For purposes of accurate comparison the statistics have been adjusted by segregating the figures of the territory added since 1904.

The percentages of increase in all items, except capital and miscellaneous expenses, were greater for the later five-year period, 1904–1909, than during the period 1899–1904. The percentages of increase during the decade 1899–1909 were especially large in salaries, salaried employees, and miscellaneous expenses. The average number of wage earners increased 12.4 per cent and their wages 38.9 per cent, a rate of gain not equal to that in value of products—45.4 per cent. The rate of increase in primary horsepower from 1904 to 1909 was 16.1 per cent. Statistics as to the primary power used in 1899 are not available.

¹ Bureau of the Census: Industrial Districts, 1905, p. 50.

Table 52

	NUMBER OR AMOUNT.					PER CENT OF INCREASE. ¹		
	1909			1904	1899	1899-1909	1904-1909	1899-1904
	Total.	Territory added since 1904.	Remainder of district. ²					
Population.....	3 658,715	3 7,767	3 650,948	(4)	5 577,670	12.7		
Number of establishments.....	2,668	13	2,655	2,243	2,352	12.9	18.4	-4.6
Persons engaged in manufactures.....	94,954	1,351	93,603	81,235	(5)		15.2	
Proprietors and firm members.....	2,790	6	2,784	2,506	(5)		11.1	
Salaried employees.....	10,339	93	10,246	7,297	5,744	78.4	40.4	27.0
Wage earners (average number).....	81,825	1,252	80,573	71,432	71,088	12.4	12.8	-0.4
Primary horsepower.....	125,080	3,066	122,014	195,063	(5)		16.1	
Capital.....	\$199,735,181	\$3,047,558	\$196,687,623	\$166,770,882	\$122,009,527	61.2	17.0	36.7
Expenses.....	237,569,865	2,810,937	234,758,928	180,810,209	154,392,949	52.1	29.8	17.1
Services.....	48,585,334	557,770	48,027,564	36,048,368	32,298,174	48.7	31.0	13.5
Salaries.....	11,888,229	126,332	11,761,897	7,724,061	6,187,327	90.1	52.3	24.8
Wages.....	36,697,105	431,438	36,265,667	28,924,307	26,110,847	38.9	25.4	10.8
Materials.....	165,085,541	2,031,174	163,054,367	124,600,047	108,775,530	49.9	30.9	14.5
Miscellaneous.....	23,898,990	221,993	23,676,997	19,551,794	18,319,245	77.8	21.0	46.9
Value of products.....	260,213,324	2,951,340	257,261,984	202,659,272	176,909,124	45.4	26.9	14.6
Value added by manufacture.....	95,127,783	920,166	94,207,617	78,059,225	68,133,594	38.3	20.7	14.6

¹ A minus sign (-) denotes decrease.

² Figures in this column used in computing percentages of increase.

³ April 15, 1910.

⁴ No population census in 1905.

⁵ June 1, 1900.

⁶ Figures not available.

The proportions of the population and manufactures in the outside territory of the district are in general increasing, as is indicated by Table 53. The percentages for 1909 are based upon the figures for the district exclusive of the territory added since 1904.

Table 53

	PER CENT TERRITORY OUTSIDE OF BALTIMORE IS OF TOTAL FOR DISTRICT.		
	1909 ¹	1904	1899
Population.....	14.2	(2)	10.5
Number of establishments.....	5.8	3.0	3.3
Persons engaged in manufactures.....	10.8	3.6	(3)
Proprietors and firm members.....	4.5	3.0	(5)
Salaried employees.....	8.6	6.7	4.2
Wage earners (average number).....	11.3	8.7	7.1
Primary horsepower.....	37.1	38.3	(5)
Capital.....	16.4	10.8	12.1
Expenses.....	28.0	27.0	24.4
Services.....	13.1	10.7	9.1
Salaries.....	10.1	8.3	5.1
Wages.....	14.0	11.4	10.0
Materials.....	34.4	35.0	30.8
Miscellaneous.....	14.9	6.8	9.1
Value of products.....	27.3	25.2	23.6
Value added by manufacture.....	15.1	9.6	12.1

¹ Based on figures for district as constituted in 1904 and 1899.

² No population census in 1905.

³ Figures not available.

The proportion of the population of the district reported from the territory outside of Baltimore increased from 10.5 per cent in 1900 to 14.2 per cent in 1910, while the proportion of the value of products increased from 23.6 per cent in 1899 to 25.2 per cent in 1904 and to 27.3 per cent in 1909.

Leading industries.—Table 54 gives statistics for 1909 for the industries of the district having products valued at \$500,000 or more, so far as separate figures can be presented.

Among the 30 industries shown separately in the table there are 6 for which totals for the district can not be published, because to do so would disclose individual operations; and 9 which were not carried on in the part of the district which is outside the corporate limits of Baltimore. In all these cases the statistics shown are figures for the city of Baltimore exclusively.

As shown in the table, the manufacture of men's clothing is the leading industry in the Baltimore district and is wholly within the city of Baltimore, the value of the products amounting in 1909 to 13.9 per cent of the value of products for all industries. Another leading industry is the smelting and refining of copper, but it can not be presented without disclosure of individual operations.

Two industries—copper, tin, and sheet-iron products and slaughtering and meat packing—have substantially the same proportion of the district's value of products—5.5 and 5.2 per cent, respectively. Other industries of nearly as great importance are the manufacture of foundry and machine-shop products and of tobacco products.

BALTIMORE METROPOLITAN DISTRICT.

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SUMMARY FOR THE BALTIMORE METROPOLITAN DISTRICT, BY INDUSTRIES: 1909.

Table 54

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.			Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Miscellaneous expenses.	Value of products.	Value added by manufacture.	
		Total.	Proprietors and firm members.	Salaries employed.									Wage earners (average number).
All Industries.....	2,668	94,954	2,780	10,339	81,825	125,080	\$199,735,181	\$11,888,229	\$36,697,105	\$165,085,541	\$23,898,990	\$260,213,394	\$95,127,783
Belting and hose, woven and rubber. Boots and shoes, including cutstock and findings.....	4	315	1	35	270	305	825,720	48,785	87,058	995,018	119,463	1,317,501	322,483
Bread and other bakery products.....	14	670	11	65	594	252	677,706	64,484	239,242	912,172	146,576	1,431,017	518,845
Canning and preserving.....	410	2,429	432	296	1,701	1,010	2,733,849	197,643	780,407	3,795,757	461,778	5,970,981	2,175,224
Carriages and wagons and materials.....	57	3,893	58	264	3,571	2,368	4,325,220	266,053	936,271	4,821,265	384,402	6,526,225	1,704,960
Cars and general shop construction and repairs by steam-railroad companies.....	43	511	49	37	425	429	658,577	37,193	241,716	285,768	46,113	750,703	464,935
Clothing, men's, including shirts.....	18	4,481	.....	318	4,163	6,318	3,471,038	229,111	2,705,389	4,383,393	46,986	7,364,890	2,981,487
Clothing, women's.....	324	20,070	453	1,621	18,596	3,785	19,283,106	1,767,616	7,326,304	20,672,395	3,862,384	36,269,212	15,596,817
Coffee and spice, roasting and grinding.....	69	2,953	99	282	2,572	348	1,685,733	270,207	878,110	2,279,483	491,341	4,333,171	2,053,688
Confectionery.....	15	332	14	149	169	531	954,593	178,410	77,213	2,430,610	73,052	2,877,712	447,102
Copper, tin, and sheet-iron products.....	50	1,867	45	258	1,564	1,416	2,700,836	277,460	458,707	3,116,303	427,610	5,011,253	1,894,950
Foundry and machine-shop products.....	65	5,265	58	528	4,679	4,642	21,646,215	685,039	1,868,361	9,350,634	1,126,767	14,350,235	4,999,601
Furniture and refrigerators.....	16	1,460	5	227	1,228	3,685	7,989,458	374,553	542,602	6,175,708	529,740	8,469,656	2,293,948
Furnishing goods, men's.....	111	5,040	99	508	4,433	5,708	9,323,414	665,348	2,582,872	5,427,002	1,237,951	10,961,564	5,534,562
Glass.....	23	543	30	79	434	50	395,207	67,200	137,453	491,754	56,787	890,783	399,029
Hats, straw.....	34	1,358	48	153	1,157	1,786	1,824,983	145,388	547,704	1,013,534	210,269	2,197,239	1,183,705
Ice, manufactured.....	4	842	6	38	798	310	706,073	57,147	404,379	179,535	64,376	850,545	671,010
Leather goods.....	7	1,808	4	110	1,694	930	2,607,298	295,635	687,648	1,783,214	294,920	3,347,330	1,564,116
Liquors, distilled.....	12	242	1	46	195	5,102	1,964,302	65,482	151,028	222,110	172,731	693,828	471,718
Liquors, malt.....	135	410	40	64	306	181	610,078	54,872	142,634	560,318	83,622	963,019	402,701
Lumber and timber products.....	13	306	2	76	228	1,917	3,550,272	147,330	110,375	811,438	2,507,907	3,681,619	2,870,181
Marble and stone work.....	15	936	6	148	782	5,088	7,808,729	316,998	636,045	1,385,223	1,934,429	5,017,678	3,632,455
Paint and varnish.....	58	2,501	62	204	2,235	6,147	3,082,107	217,208	971,147	3,284,547	283,372	5,230,404	1,945,857
Patent medicines and compounds and druggists' preparations.....	52	895	49	82	764	1,428	1,234,894	158,302	499,130	783,025	148,701	1,769,724	976,699
Printing and publishing.....	12	190	20	43	127	450	502,670	35,198	54,982	690,514	127,358	1,000,938	301,424
Shipbuilding, including boat building.....	171	1,813	53	580	1,180	667	4,056,157	744,013	425,844	2,136,457	925,660	5,470,590	3,334,133
Slaughtering and meat packing.....	243	4,189	229	1,074	2,886	3,203	5,640,382	1,201,885	1,758,475	2,234,055	1,374,766	7,579,430	5,345,375
Tobacco manufactures.....	13	616	11	50	555	3,563	2,077,571	66,744	340,323	260,087	127,408	871,470	611,383
Umbrellas and canes.....	52	1,316	60	227	1,029	2,976	3,776,659	264,194	601,631	11,479,830	481,626	13,653,693	2,173,863
All other industries.....	220	3,806	244	319	3,303	559	6,450,005	369,280	1,170,929	5,537,513	2,535,263	10,288,867	4,751,354
All other industries.....	9	640	15	111	514	95	827,463	144,271	167,745	1,075,854	135,879	1,649,810	573,956
All other industries.....	609	22,597	586	2,347	19,664	59,231	76,364,846	2,475,180	9,165,312	66,502,025	3,479,758	89,432,247	22,630,222

¹ Excluding statistics of establishments located outside the corporate limits of Baltimore, to avoid disclosure of individual operations. The figures for these establishments are included under the head of "All other industries."

Comparative summary, by industries.—The number of establishments, average number of wage earners, and value of products for such of the industries as can be shown separately and had a value of products amounting to \$2,000,000 or more in 1909 are given in Table 55 for 1909, 1904, and 1899.

COMPARATIVE SUMMARY FOR THE BALTIMORE METROPOLITAN DISTRICT, BY SELECTED INDUSTRIES: 1909, 1904, AND 1899.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.			WAGE EARNERS (AVERAGE NUMBER).			VALUE OF PRODUCTS.			PER CENT OF INCREASE. ¹								
										Number of establishments.			Wage earners (average number).			Value of products.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904
Clothing.....	393	181	213	21,168	14,565	13,923	\$40,602,383	\$23,341,141	\$23,340,392	84.5	117.1	-15.0	52.0	45.3	4.6	73.9	43.3	21.4
Men's, including shirts.....	324	130	155	18,596	12,823	12,044	36,269,212	25,276,257	20,842,738	109.0	149.2	-16.1	54.4	45.0	6.5	74.0	43.5	21.3
Women's.....	69	51	58	2,572	1,742	1,879	4,333,171	3,064,884	2,500,654	19.0	35.3	-12.1	36.9	47.0	-7.3	72.9	41.4	22.3
Copper, tin, and sheet-iron products.....	65	2 50	2 59	4,679	2,512	2,745	14,350,235	8,608,602	5,933,169	10.2	30.0	-15.3	70.5	86.3	-8.5	141.9	60.7	45.1
Slaughtering and meat packing.....	52	44	50	1,029	562	466	13,653,693	6,847,973	6,476,918	4.0	18.2	-12.0	120.8	83.1	20.0	110.8	99.4	5.7
Foundry and machine-shop products.....	111	87	(*)	4,333	4,622	(*)	10,981,564	9,561,706	(*)	27.6							14.0	
Tobacco manufactures.....	220	288	324	3,303	3,650	4,027	10,288,867	10,645,035	9,581,893	-32.1	-23.6	-11.1	-18.0	-9.5	-9.4	7.4	-2.4	10.1
Liquors.....	28	30	22	1,010	878	659	8,699,297	6,206,447	4,175,569	27.3	-6.7	36.4	53.3	15.3	32.9	108.3	40.2	48.6
Malt.....	15	16	12	732	656	538	5,017,678	4,185,170	2,934,028	25.0	-6.3	33.3	45.4	19.4	21.7	71.0	19.9	42.6
Distilled.....	13	14	10	228	221	121	3,681,619	2,021,277	1,241,541	30.0	-7.1	40.0	88.4	3.2	82.6	106.5	82.1	62.8
Fertilizers.....	16	15	19	1,228	930	762	8,469,656	5,562,156	3,895,437	-15.8	6.7	-21.1	61.2	32.0	22.0	117.4	52.3	42.8
Printing and publishing.....	243	208	222	2,886	2,445	2,873	7,579,430	5,048,462	4,942,851	9.5	16.8	-6.3	0.5	18.0	-14.9	53.3	34.2	14.3
Book and job.....	151	124	142	1,675	1,276	1,178	3,491,225	2,184,562	2,037,037	6.3	21.8	-12.7	42.2	31.3	8.3	71.4	61.3	6.3
Newspapers and periodicals.....	53	56	44	600	667	1,179	3,049,576	2,662,307	2,186,437	20.5	-5.4	27.3	-49.1	-10.0	-43.4	39.5	14.5	21.8
All other printing and publishing industries ⁴	39	28	36	611	502	516	1,038,629	821,593	719,377	8.3	39.3	-22.2	18.4	21.7	-2.7	44.4	26.4	14.2
Cars and general shop construction and repairs by steam railroad companies.....	2 8	7	6	4,163	3,712	2,438	7,364,880	4,777,818	3,529,959	33.3	14.3	-16.7	70.8	12.1	52.3	108.6	54.1	35.4
Canning and preserving.....	57	50	48	3,571	4,197	5,680	6,526,225	6,410,929	10,791,369	18.8	14.0	4.2	-37.1	-14.9	-26.1	39.5	1.8	-40.6
Bread and other bakery products.....	410	352	350	1,701	1,475	1,437	5,970,981	4,539,180	3,096,376	17.1	16.5	0.6	18.4	15.8	2.6	61.5	31.5	22.8
Patent medicines and compounds and druggists' preparations.....	2 71	2 67	57	1,180	954	956	5,470,590	4,750,493	3,195,665	24.6	6.0	17.5	23.4	23.7	-0.2	71.2	15.2	48.7
Lumber and timber products.....	58	39	41	2,235	1,624	1,681	5,230,404	3,425,350	3,426,781	41.5	48.7	-4.0	33.0	37.6	-3.4	52.6	52.7	-0.1
Confectionery.....	50	43	42	1,504	1,049	858	5,011,253	2,597,943	1,923,939	19.0	16.3	2.4	82.3	49.1	22.3	100.5	92.9	35.0
Hats, straw.....	7	6	(*)	1,694	1,139	(*)	2,347,330	2,035,519	(*)		16.7						15.3	
Furniture and refrigerators.....	2 34	2 38	2 36	1,157	1,776	1,627	2,197,239	2,854,496	2,690,610	-5.6	-10.5	5.6	-28.9	-34.9	9.2	-18.3	-23.0	6.1

¹ A minus sign (-) denotes decrease.
² Excluding statistics for one establishment, to avoid disclosure of individual operations.
³ Comparable figures not available.
⁴ Includes "printing and publishing, music;" "bookbinding and blank-book making;" "engraving, steel and copper plate, and plate printing;" and "lithographing."
⁵ Excluding statistics for two establishments, to avoid disclosure of individual operations.

The greatest absolute increase in value of products during the decade, \$15,426,474, or 74 per cent, is shown for the manufacture of men's clothing. The greatest relative increase, 196.5 per cent, was reported for the manufacture of distilled liquors.

The inclusion of the 1909 statistics for establishments within the territory added to the district since 1904 affects considerably the totals for the fertilizer and canning and preserving industries, and to a much smaller degree those for lumber and timber products.

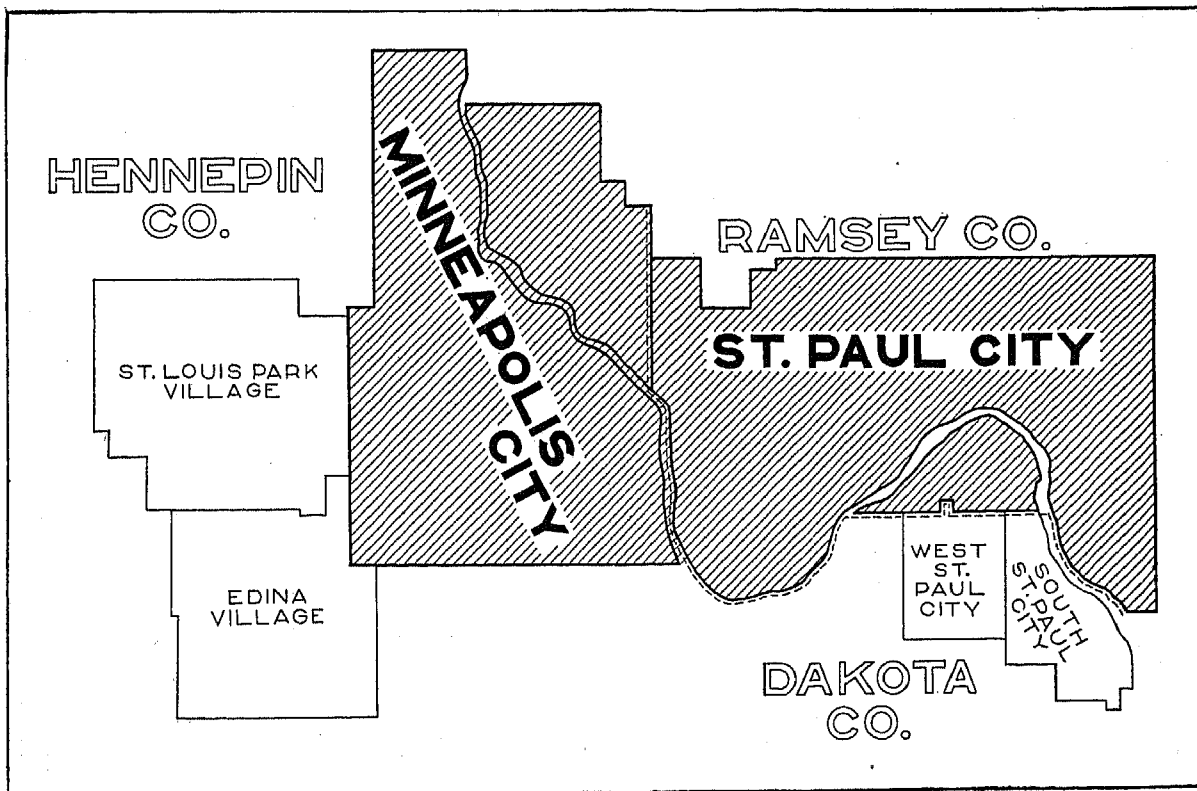
MINNEAPOLIS-ST. PAUL METROPOLITAN DISTRICT.

Territory included.—The Minneapolis-St. Paul metropolitan district embraces 94,539 acres, of which 32,069 acres represent the area of Minneapolis, 33,390 acres the area of St. Paul, and 29,080 acres the area of the outside territory. The population of Minneapolis in 1910 was 301,408, that of St. Paul 214,744, and that of the outside territory 10,104, the total for the district being 526,256. As defined at the census of 1910 the Minneapolis-St. Paul metropolitan district comprises, in addition to the cities of Minneapolis and St. Paul, the villages of Edina and St. Louis Park in Hennepin County and the cities of South St. Paul and West St. Paul in Dakota County. The territory

comprised within the Minneapolis-St. Paul industrial district as constituted for the bulletin on industrial districts for 1904 did not include South St. Paul and West St. Paul cities, but it contained in addition to the other places named above, Brooklyn, Crystal Lake, Richfield (now Richfield village), and St. Anthony townships and Robbinsdale and West Minneapolis villages in Hennepin County and New Canada and Rose townships and North St. Paul village in Ramsey County.

The location of each of the places included in 1909 is indicated on the following outline map of the district:

MINNEAPOLIS-ST. PAUL METROPOLITAN DISTRICT: 1909.



Summary for the district.—Table 56 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the Metropolitan-St. Paul district, for the cities of Minneapolis and St. Paul, and for the remainder of the district; the percentages which the figures for Minneapolis and St. Paul separately represent of the total for the district being shown in the case of each item.

In 1909 the Minneapolis-St. Paul metropolitan district had 1,844 manufacturing establishments, which

gave employment to an average of 59,920 persons during the year and paid out \$38,596,508 in salaries and wages. Of the persons employed, 48,268 were wage earners. These establishments turned out products to the value of \$244,339,598, to produce which materials were used costing \$166,823,348. The value added by manufacture was thus \$77,516,250. The Minneapolis-St. Paul district ranked twelfth in 1909 among the metropolitan districts of the United States in the value of its manufactured products.

Table 56

	NUMBER OR AMOUNT.				PER CENT OF TOTAL FOR DISTRICT.	
	The district.	Minneapolis.	St. Paul.	District exclusive of Minneapolis and St. Paul.	Minneapolis.	St. Paul.
Population ¹	526,256	301,408	214,744	10,104	57.3	46.8
Number of establishments.....	1,844	1,102	719	23	59.3	39.0
Persons engaged in manufactures.....	59,920	33,923	23,530	2,467	56.6	39.3
Proprietors and firm members.....	1,674	1,012	649	13	60.5	38.8
Salaried employees.....	9,978	5,949	3,542	487	59.6	35.5
Wage earners (average number).....	48,268	26,962	19,339	1,967	55.9	40.1
Primary horsepower.....	119,219	89,247	26,204	3,768	74.9	22.0
Capital.....	\$160,628,295	\$90,382,225	\$60,466,777	\$9,779,293	56.3	37.6
Expenses.....	225,438,583	153,760,750	52,772,885	18,954,948	68.2	24.4
Services.....	38,596,508	21,915,335	14,999,780	1,681,393	56.8	38.9
Salaries.....	10,871,801	6,277,221	4,048,175	546,405	57.7	37.2
Wages.....	27,724,707	15,638,114	10,951,605	1,134,988	56.4	39.6
Materials.....	166,823,348	119,993,135	30,299,634	16,530,579	71.9	18.2
Miscellaneous.....	20,068,727	11,852,280	7,473,471	742,976	59.1	37.2
Value of products.....	244,339,598	165,494,680	58,990,025	19,944,893	67.7	24.1
Value added by manufacture.....	77,516,250	45,411,545	28,690,391	3,414,314	58.6	37.0

¹ April 15, 1910.

The percentages which the combined statistics for the central cities represent of the total for the metropolitan district are larger in the majority of instances than those for any of the other metropolitan districts, although those for Cleveland and Detroit are larger in a number of items. The percentage is not less than 90 for any item, the range being from 90.1 per cent for cost of materials to 99.3 per cent for proprietors and firm members. The two cities contained 98.1 per cent of the population of the district and contributed over nine-tenths (91.8 per cent) of the value of the manufactured products of the district.

Comparison with earlier censuses.—Table 57 gives statistics for the district for 1909, 1904, and 1899.

For purposes of comparison the statistics in this table are grouped in such a way as to show separately for 1909 figures for (1) the territory added to the district since 1904 (South St. Paul and West St. Paul) and (2) the remainder of the district; and for 1904 and 1899 figures for (1) the territory deducted since 1904 (Brooklyn, Crystal Lake, Richfield, and St. Anthony townships, together with Robbinsdale and West Minneapolis villages, in Hennepin County and New Canada and Rose townships and North St. Paul village in Ramsey County) and (2) the remainder of the district. Percentages of increase are shown for the territory included in the metropolitan district in both 1909 and 1904.

Table 57

	NUMBER OR AMOUNT.									PER CENT OF INCREASE.		
	1909			1904			1899			1899-1909	1904-1909	1899-1904
	Total.	Territory added since 1904.	Remainder of district. ¹	Total.	Territory deducted since 1904.	Remainder of district. ¹	Total.	Territory deducted since 1904.	Remainder of district. ¹			
Population.....	526,256	27,170	519,086	473,702	12,354	461,408	377,467	9,610	367,857	41.1	12.5	25.4
Number of establishments.....	1,844	10	1,834	1,506	11	1,495	1,340	8	1,332	37.7	22.7	12.2
Persons engaged in manufactures.....	59,920	1,785	58,135	44,297	947	43,350	(5)	(5)	(5)	.....	34.1	.....
Proprietors and firm members.....	1,674	3	1,671	1,423	7	1,416	(5)	(5)	(5)	.....	18.0	.....
Salaried employees.....	9,978	352	9,626	5,830	156	5,674	4,390	110	4,280	124.9	69.7	32.6
Wage earners (average number).....	48,268	1,430	46,838	37,044	784	36,260	33,755	865	32,890	42.4	29.2	10.2
Primary horsepower.....	119,219	2,799	116,420	80,111	1,010	79,101	(5)	(5)	(5)	.....	30.7	.....
Capital.....	\$160,628,295	\$5,822,520	\$154,805,775	\$108,209,964	\$4,233,052	\$103,976,912	\$79,283,521	\$2,213,377	\$77,070,144	100.9	48.9	34.9
Expenses.....	225,438,583	17,441,729	208,046,854	148,422,314	1,473,728	146,948,586	112,570,667	1,411,631	111,159,036	87.2	41.6	32.2
Services.....	38,596,508	1,212,495	37,384,013	25,142,703	906,469	24,236,234	19,406,751	500,418	18,906,333	97.7	52.4	29.8
Salaries.....	10,871,801	358,349	10,513,452	5,994,418	197,803	5,796,615	4,158,905	109,253	4,049,652	159.6	81.4	43.1
Wages.....	27,724,707	854,146	26,870,561	19,148,285	408,666	18,739,619	15,247,846	391,165	14,856,681	80.9	43.4	26.1
Materials.....	166,823,348	15,975,889	150,847,459	109,364,757	670,400	108,694,357	85,836,688	730,113	85,166,555	77.2	38.8	27.7
Miscellaneous.....	20,068,727	253,345	19,815,382	13,914,854	190,859	13,723,995	7,327,248	181,100	7,146,148	177.3	44.4	92.0
Value of products.....	244,339,598	18,420,484	225,919,114	161,803,453	1,613,133	160,190,320	126,613,742	1,512,417	125,101,325	80.6	41.0	28.0
Value added by manufacture.....	77,516,250	2,444,595	75,071,655	52,438,696	936,733	51,501,963	40,777,074	782,304	39,994,770	87.7	45.8	28.3

¹ Figures in this column used in computing percentages of increase.
² April 15, 1910.

³ State census, June 1, 1905.
⁴ June 1, 1900.

⁵ Figures not available.

The relative increase in all the items for which comparative figures are given in the table, except miscellaneous expenses, was larger during the more recent five-year period, 1904-1909, than during the period 1899-1904. For the decade as a whole the relative increase was much greater in miscellaneous expenses, number of salaried employees, and salaries than for any other items. The average number of

wage earners increased 42.4 per cent during this period, but the amount paid for wages increased 80.9 per cent, a rate of gain approximately equal to that in value of products, 80.6 per cent. The relative increase from 1904 to 1909 in the amount of primary power of all kinds used was 30.7 per cent. Statistics as to the amount of primary power used in 1899 are not available.

The principal industry of the Minneapolis-St. Paul metropolitan district is the manufacture of flour-mill products; the industry, however, with the exception of two establishments in St. Paul, was confined to Minneapolis in 1909.

The value of products reported by the flour mills of Minneapolis alone was \$78,669,808, as shown in the table, and constituted 56.5 per cent of the total for the industry in the state, and 32.2 per cent of the value of all products for the district.

Other important industries, arranged according to the value of products in 1909, were slaughtering and meat packing, the lumber industry, foundries and machine shops, printing and publishing, steam-railroad repair shops, and breweries. The manufacture of linseed oil and that of bags, other than paper bags, industries for which separate statistics can not be published without disclosing individual operations, were also of considerable importance.

Comparative summary, by industries.—The number of establishments, average number of wage earners, and

value of products for such of the industries as can be shown separately and had a value of products amounting to \$2,000,000 or more in 1909, are given in Table 60 for 1909, 1904, and 1899.

The greatest absolute increase in value of products during the decade is shown for the flour-mills and gristmills, amounting to \$29,000,190, or 58.4 per cent; comparisons for this industry, however, are affected to some extent by the omission of establishments from the figures for the different censuses in order to avoid disclosing the operations of individual concerns. The statistics for slaughtering and meat packing are incomparable because of the fact that in the territory added to the district subsequent to 1904 the operations in this industry were of large magnitude and the figures for this added area in 1904 and 1899 are not included in the table. Omitting this industry from consideration, the greatest relative gain in value of products during the decade was for food preparations, 491.1 per cent, followed by butter, cheese, and condensed milk, with 283 per cent.

COMPARATIVE SUMMARY FOR THE MINNEAPOLIS-ST. PAUL METROPOLITAN DISTRICT, BY SELECTED INDUSTRIES: 1909, 1904, AND 1899.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.			WAGE EARNERS (AVERAGE NUMBER).			VALUE OF PRODUCTS.			PER CENT OF INCREASE. ¹								
										Number of establishments.			Wage earners (average number).			Value of products.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904
Flour-mill and gristmill products.....	2 13	2 12	2 11	2,279	2,227	2,066	\$78,669,808	\$62,754,440	\$49,669,618	18.2	8.3	9.1	10.3	2.3	7.8	58.4	25.4	26.3
Slaughtering and meat packing.....	16	16	7	1,434	1,099	89	19,819,223	1,186,256	1,288,484	128.6	.....	128.6	.....	1,215.6	.....	1,493.2	1,570.7	-7.9
Lumber and timber products.....	2 51	2 49	2 39	5,649	5,324	5,715	13,183,892	11,969,297	15,576,737	30.8	4.1	25.6	-1.2	6.1	-6.8	-15.3	10.2	-23.2
Foundry and machine-shop products.	144	103	(*)	4,784	3,198	(*)	12,394,257	7,792,439	(*)	.....	.....	.....	.....	49.6	.....	.....	.....	.....
Printing and publishing.....	2 329	303	266	3,840	3,059	2,767	12,298,881	8,654,736	6,271,356	23.7	8.6	13.9	38.8	25.5	10.6	99.1	42.1	38.0
Newspapers and periodicals.....	2 120	139	124	1,710	1,226	1,489	7,598,366	5,159,432	4,053,462	-3.2	-13.7	12.1	14.8	39.5	-17.7	87.5	47.3	27.3
Book and job.....	178	143	120	1,791	1,579	943	4,653,347	3,663,893	1,694,748	48.3	24.5	19.2	89.9	13.4	67.4	139.2	32.3	80.8
All other printing and publishing industries ²	31	21	22	339	254	335	647,168	431,411	523,146	40.9	47.6	-4.5	1.2	33.5	-24.2	23.7	50.0	-17.5
Cars and general shop construction and repairs by steam-railroad companies.....	10	7	2 11	4,982	3,459	2,669	7,949,016	4,372,590	3,637,325	-9.1	42.8	-36.4	86.7	44.0	29.6	118.5	81.8	20.2
Liquors, malt.....	7	10	11	1,070	632	470	7,081,277	3,869,531	2,843,013	-36.4	-30.0	-9.1	127.7	69.3	34.5	149.1	83.0	36.1
Boots and shoes, including cut stock and findings.....	9	2 10	2 9	2,018	1,470	1,506	5,144,543	2,839,425	2,654,006	.....	-10.0	11.1	26.4	37.3	-7.9	93.8	81.2	7.0
Bread and other bakery products....	2 109	111	102	1,264	1,026	744	4,973,477	3,531,280	2,163,157	65.7	52.3	8.8	69.9	23.2	37.9	129.9	40.8	63.2
Food preparations.....	25	14	17	380	261	183	3,723,829	1,471,051	630,004	47.1	78.6	-17.6	107.6	45.6	42.6	491.1	153.1	133.5
Fur goods.....	31	26	18	995	1,177	730	3,620,482	3,253,165	1,940,188	72.2	19.2	44.4	36.3	-15.5	61.2	89.6	11.3	67.7
Clothing, men's, including shirts....	30	22	31	1,690	1,315	1,820	3,528,281	2,328,870	2,303,224	-3.2	36.4	-29.0	-7.1	28.5	-27.7	53.2	51.5	1.1
Furniture and refrigerators.....	42	2 36	2 23	1,264	1,064	792	2,940,460	1,965,257	1,382,825	82.6	16.7	56.5	59.6	18.8	34.3	112.6	49.6	42.1
Butter, cheese, and condensed milk..	13	2 10	20	77	71	72	2,794,601	711,566	729,633	-35.0	-18.8	-20.0	.....	.....	.....	283.0	292.7	-2.5
Copper, tin, and sheet-iron products.	78	58	40	914	791	740	2,220,929	1,647,725	1,583,966	95.0	34.5	45.0	23.5	15.5	6.9	40.2	34.8	4.0
Patent medicines and compounds and druggists' preparations.....	77	2 52	33	294	223	119	2,119,126	2,232,368	663,612	133.3	48.1	57.6	147.1	31.8	87.4	219.3	-5.1	236.4
Tobacco manufactures.....	2 109	115	108	904	1,012	902	2,002,089	1,813,885	1,415,247	2.8	-5.2	8.5	0.2	-10.7	12.2	41.5	10.4	28.2

¹ A minus sign (-) denotes decrease. Percentages not shown where base is less than 100 for wage earners.
² Excluding statistics for two establishments, to avoid disclosure of individual operations.
³ Excluding statistics for one establishment, to avoid disclosure of individual operations.
⁴ Comparable figures not available.
⁵ Includes "printing and publishing, music;" "bookbinding and blank making;" "engraving, steel and copper plates, including plate printing;" and "lithographing."

SAN FRANCISCO-OAKLAND METROPOLITAN DISTRICT.

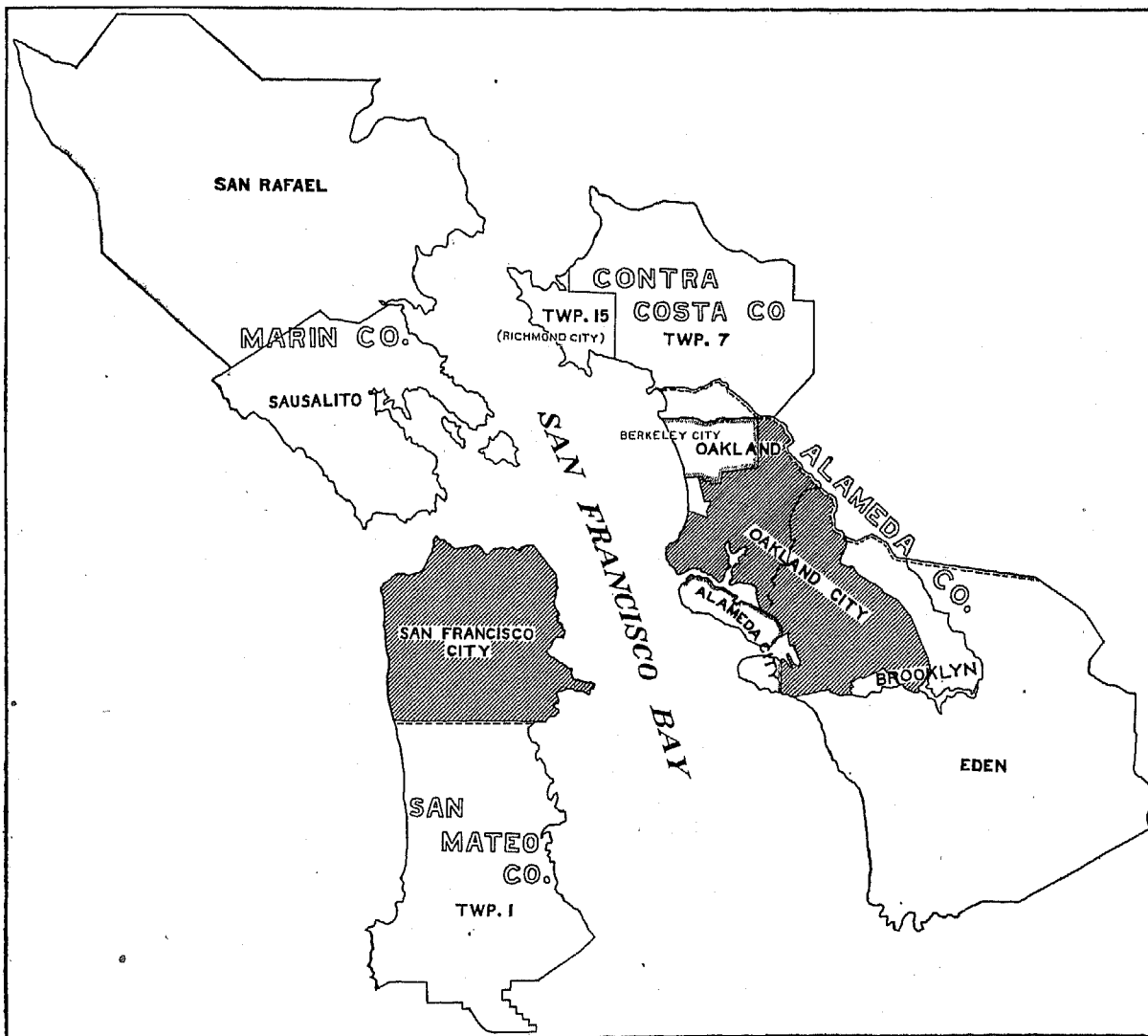
Territory included.—The San Francisco-Oakland metropolitan district embraces 289,381 acres of territory, of which 29,760 acres constitute the area of San Francisco, 29,248 acres the area of Oakland, and 230,373 acres the area of the outside territory. The population of the city of San Francisco in 1910 was 416,912, that of the city of Oakland 150,174, and that of the outside territory 119,787, the total for the district being 686,873.

As defined at the census of 1910, the metropolitan district comprised, in addition to the cities of San Francisco and Oakland, Alameda and Berkeley, with that part of Brooklyn township not included in Oak-

land city, and that part of Oakland township not included in Oakland and Berkeley; Eden township in Alameda County; townships 7 and 15 in Contra Costa County; San Rafael and Sausalito townships in Marin County; and township 1 in San Mateo County. The industrial district as constituted for the bulletin on industrial districts for 1904 and 1899 did not embrace Eden township in Alameda County or the townships in Contra Costa County and Marin County, but, in addition to the places mentioned, included part of township 2 of San Mateo County, including San Mateo city.

The following is an outline map of the metropolitan district as constituted in 1909:

SAN FRANCISCO-OAKLAND METROPOLITAN DISTRICT: 1909.



Summary for the district.—Table 61 is a summary for 1909 of the statistics of manufacturing industries, with a statement of the population in 1910, for the San

Francisco-Oakland district; for the cities of San Francisco, Oakland, Alameda, and Berkeley; and for the remainder of the district. The percentages which

the figures for San Francisco and Oakland separately represent of the total for the district are shown in the case of each item.

In 1909 the San Francisco-Oakland metropolitan district had 2,539 manufacturing establishments, which gave employment to an average of 53,177 persons during the year and paid out \$43,298,791 in salaries and wages. Of the persons employed, 41,615

were wage earners. These establishments turned out products to the value of \$199,593,117, to produce which materials costing \$117,440,976 were utilized. The value added by manufacture was thus \$82,152,141. The San Francisco-Oakland district ranked thirteenth in 1909 among the metropolitan districts discussed in this report in the value of its manufactured products.

	NUMBER OR AMOUNT.							PER CENT OF TOTAL FOR DISTRICT.	
	The district.	San Francisco.	Oakland.	District exclusive of San Francisco-Oakland.				San Francisco.	Oakland.
				Total.	Alameda.	Berkeley.	Remainder.		
Population ¹	686,873	416,912	150,174	119,787	23,383	40,434	55,970	60.7	21.9
Number of establishments.....	2,539	1,796	441	302	51	84	167	70.7	17.4
Persons engaged in manufactures.....	53,177	30,910	8,638	7,729	1,076	1,420	5,233	69.4	16.1
Proprietors and firm members.....	3,390	2,544	654	292	50	115	127	75.0	16.3
Salaried employees.....	8,172	28,122	1,079	971	111	221	639	74.9	13.2
Wage earners (average number).....	41,615	28,244	6,005	6,466	915	1,084	4,467	67.9	16.6
Primary horsepower.....	81,321	49,334	19,683	18,204	1,526	2,433	14,245	61.0	16.7
Capital.....	\$187,701,402	\$133,823,873	\$19,113,246	\$34,764,483	\$3,002,220	\$3,464,693	\$28,207,570	71.3	10.2
Expenses.....	178,793,079	119,782,208	20,559,203	38,452,573	2,307,413	4,134,822	32,010,338	67.0	11.5
Services.....	43,298,791	30,467,015	6,617,638	6,214,238	997,839	1,004,255	4,152,144	70.4	15.3
Salaries.....	10,786,718	8,085,568	1,300,297	1,400,858	170,892	254,292	975,674	75.0	16.1
Wages.....	32,512,073	22,381,452	5,317,241	4,813,380	796,947	839,963	3,176,470	68.8	16.4
Materials.....	117,440,976	76,217,321	11,847,233	29,376,422	929,353	2,686,878	25,760,191	64.9	10.1
Miscellaneous.....	18,054,212	13,097,887	2,094,432	2,861,913	410,221	353,689	2,098,003	72.5	11.6
Value of products.....	199,593,117	133,041,069	22,342,626	44,209,122	2,554,417	4,435,374	37,219,331	66.7	11.2
Value added by manufacture.....	82,152,141	56,823,748	10,495,693	14,832,700	1,625,064	1,748,496	11,459,140	69.2	12.8

¹ April 15, 1910.

The greater part of the value of the manufactured products of the district was reported by factories within the central cities. San Francisco and Oakland combined contained over four-fifths (82.6 per cent) of the population of the district of which they are the manufacturing, commercial, and financial center, and contributed nearly eight-tenths (77.9 per cent) of the value of products. Their manufacturing establishments constituted 88.1 per cent of all in the district and gave employment to 84.5 per cent of the average number of wage earners for that area.

Of the two cities outside of San Francisco and Oakland for which statistics are given separately, Berkeley had the larger value of products, representing 2.2 per cent of the total for the metropolitan district. The population of Berkeley formed 5.9 per cent of the total for the district.

The average value of products per establishment was larger for San Francisco than for any other city of the district.

The group of eight townships or parts of townships not shown separately, with a combined population equal to 8.1 per cent of the total for the district, contributed 18.6 per cent of the value of the products.

The principal industries of San Francisco in 1909, as measured by value of products, were the refining of sugar, printing and publishing, slaughtering and meat packing, and foundries and machine shops; of Oakland, the lumber industry, and foundries and machine shops;

of Alameda, shipbuilding; and of Berkeley, foundries and machine shops.

Comparison with earlier censuses.—Table 62 is a comparative summary for the statistics for the San Francisco-Oakland district as a whole for 1909, 1904, and 1899, together with the percentages of increase from census to census.

For purposes of accurate comparison the statistics for 1909 have been adjusted by segregating the figures for the territory added since 1904; and those for 1904 by segregating the figures for the territory deducted since 1904. The figures for 1899, however, as published in the report for 1904, are not affected except as to population, no manufactures being reported for 1899 from the deducted territory.

The percentage of increase in all items shown, except capital and cost of materials, was greater during the earlier five-year period, 1899-1904, than during the period 1904-1909. The percentages of increase during the decade, 1899-1909, were much larger in salaries, miscellaneous expenses, capital, and number of salaried employees than in any other items. The average number of wage earners increased only 9.8 per cent during this period, but the amount paid for wages increased 62.9 per cent, a rate of gain approximately equal to that in value of products—65.9 per cent. The rate of increase in primary horsepower of all kinds from 1904 to 1909 was 50.5 per cent. Statistics as to the power used in 1899 are not available.

Table 62

	1909			1904			1899	PER CENT OF INCREASE. ¹		
	Total.	Territory added since 1904.	Remainder of district. ²	Total.	Territory deducted since 1904.	Remainder of district. ²	Total.	1899-1909	1904-1909	1899-1904
Population.....	³ 686,873	³ 41,066	³ 645,807	(⁴)	(⁴)	(⁴)	⁵ 450,549	43.3	.....	.....
Number of establishments.....	2,539	29	2,510	2,621	5	2,616	2,016	24.5	-4.1	29.8
Persons engaged in manufactures.....	53,177	664	52,513	54,256	44	54,212	(⁶)	.....	-3.3	.....
Proprietors and firm members.....	3,390	17	3,373	3,373	8	3,365	(⁶)	.....	0.2	.....
Salaried employees.....	8,172	68	8,104	6,008	3	6,005	3,801	113.2	35.0	58.0
Wage earners (average number).....	41,615	579	41,036	44,875	33	44,842	37,390	9.8	-8.5	19.9
Primary horsepower.....	81,821	893	80,928	53,772	.....	53,772	(⁶)	.....	50.5	.....
Capital.....	\$187,701,402	\$2,155,186	\$185,546,216	\$119,442,395	\$46,300	\$119,396,095	\$79,054,236	134.7	55.4	51.0
Expenses.....	178,793,979	1,604,362	177,189,617	139,048,227	62,960	138,985,267	104,231,107	70.0	27.5	33.1
Services.....	43,298,791	443,947	42,854,844	30,432,676	32,529	36,400,147	24,098,021	77.7	17.7	51.3
Salaries.....	10,786,718	107,598	10,679,120	7,525,931	2,250	7,523,681	4,349,075	145.5	41.9	73.0
Wages.....	32,512,073	336,340	32,175,724	28,906,745	30,279	28,876,466	19,748,940	62.9	11.4	46.2
Materials.....	117,440,976	927,782	116,513,194	88,654,355	24,318	88,530,037	72,746,695	60.2	31.6	21.7
Miscellaneous.....	18,054,212	232,633	17,821,579	14,061,196	6,113	14,055,083	7,386,391	141.3	26.8	90.3
Value of products.....	199,593,117	1,781,468	197,811,659	159,035,080	75,857	158,957,223	119,240,348	65.9	24.4	33.3
Value added by manufacture.....	82,152,141	853,676	81,298,465	70,478,725	51,539	70,427,186	46,493,653	74.9	15.4	51.5

¹ A minus sign (-) denotes decrease.

² Figures in this column used in computing percentages of increase.

³ April 15, 1910.

⁴ No population census in 1905.

⁵ June 1, 1900. Excluding Township 2 of San Mateo County, not a part of the district in 1909; no manufactures were reported from this township.

⁶ Figures not available.

The proportions which the population and the statistics of manufacturing industries in the territory outside the central cities, but within the area comprised in the district, represent of the total for that area are shown in Table 63. The percentages for 1909 are based upon the figures for the district exclusive of the territory added since 1904, and those for 1904 and 1899 upon the figures for the district exclusive of the territory subsequently deducted.

Table 63

	PER CENT TERRITORY OUTSIDE OF SAN FRANCISCO AND OAKLAND IS OF TOTAL FOR DISTRICT.		
	1909 ¹	1904 ²	1899 ³
Population.....	12.2	(⁴)	9.1
Number of establishments.....	10.9	4.4	3.6
Persons engaged in manufactures.....	13.5	6.6	(⁴)
Proprietors and firm members.....	8.2	2.4	(⁴)
Salaried employees.....	11.1	7.1	3.3
Wage earners (average number).....	14.3	6.8	6.3
Primary horsepower.....	21.4	7.7	(⁴)
Capital.....	17.6	6.6	5.4
Expenses.....	20.8	8.1	5.9
Services.....	13.5	6.2	6.0
Salaries.....	12.1	6.4	4.0
Wages.....	13.9	6.2	6.5
Materials.....	24.4	9.3	6.2
Miscellaneous.....	14.8	5.1	2.9
Value of products.....	21.4	7.6	5.7
Value added by manufacture.....	17.2	5.5	5.0

¹ Based on figures for district as constituted in 1909, exclusive of territory added since 1904.

² Based on figures for district as constituted in 1904, exclusive of territory deducted since 1904.

³ No population census in 1905.

⁴ Figures not available.

The proportion of the population of the district as originally constituted that was reported for the terri-

tory outside of San Francisco and Oakland increased from 9.1 per cent in 1900 to 12.2 per cent in 1910, and the proportion of the value of products of the district that was contributed by the outlying territory increased steadily from 5.7 per cent in 1899 to 7.6 per cent in 1904, and 21.4 per cent in 1909. The great increase of the manufacturing activities in the outside area shown for the period 1904-1909 was due in part to the earthquake and fire in San Francisco in 1906.

Leading industries.—Table 64 gives statistics for 1909 for the industries of the district having products valued at \$500,000 or more, so far as separate figures can be presented.

Among the 38 industries shown separately in the table there are 6 for which totals for the district can not be published, because to do so would disclose individual operations; the statistics shown are for San Francisco exclusively. Four industries were not carried on in the part of the district outside the corporate limits of San Francisco-Oakland.

Of the industries shown separately, slaughtering and meat packing ranked highest in value of products, with 10.1 per cent of the total reported for all industries in the district, followed by printing and publishing with 7.1 per cent, and foundries and machine shops with 6.4 per cent. Three industries—canning and preserving and the lumber and bakery industries—each contributed 3.8 per cent of the total value of manufactured products for the district.

SUMMARY FOR THE SAN FRANCISCO-OAKLAND METROPOLITAN DISTRICT, BY INDUSTRIES: 1909.

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Miscellaneous expenses.	Value of products.	Value added by manufacture.
		Total.	Proprietors and firm members.	Salaries employed.	Wage earners (average number).								
All Industries.....	2, 539	53, 177	3, 390	8, 172	41, 615	81, 821	\$187, 701, 402	\$10, 786, 718	\$32, 512, 073	\$117, 440, 876	\$18, 054, 212	\$199, 593, 117	\$62, 152, 141
Boots and shoes, including out stock and findings.....	18	425	73	81	321	131	672, 102	35, 632	203, 853	552, 976	65, 039	976, 361	423, 385
Bread and other bakery products...	275	2, 412	396	296	1, 720	1, 072	4, 309, 777	316, 482	1, 437, 204	4, 315, 532	524, 608	7, 562, 415	3, 246, 888
Butter, cheese, and condensed milk...	13	107	13	24	70	87	232, 464	33, 940	48, 866	794, 610	20, 115	951, 108	156, 498
Canning and preserving.....	34	2, 238	19	204	2, 015	1, 283	6, 005, 636	336, 093	874, 433	5, 271, 293	539, 521	7, 055, 728	2, 384, 435
Carriages and wagons and materials...	50	386	58	41	287	457	575, 853	45, 470	240, 763	265, 511	79, 969	739, 594	474, 083
Cars and general shop construction and repairs by steam-railroad companies.....	5	2, 149	.....	60	2, 080	1, 662	1, 058, 406	86, 414	1, 873, 033	2, 367, 923	76, 408	4, 403, 781	2, 035, 858
Chemicals.....	10	210	2	37	171	1, 063	2, 023, 781	52, 946	127, 426	678, 109	141, 533	1, 134, 647	456, 538
Clothing, men's, including shirts....	54	2, 051	252	140	1, 659	890	1, 747, 342	132, 644	755, 629	2, 164, 598	380, 012	3, 812, 513	1, 647, 915
Clothing, women's.....	51	994	296	69	629	95	501, 035	73, 395	277, 756	719, 824	117, 067	1, 347, 079	627, 255
Coffee and spice, roasting and grinding.....	119	492	13	254	225	775	2, 440, 324	427, 071	152, 607	3, 548, 908	521, 158	4, 972, 739	1, 423, 831
Confectionery.....	36	878	44	177	657	358	1, 386, 567	185, 043	308, 192	1, 115, 962	255, 220	2, 066, 469	950, 507
Cooperage and wooden goods, not elsewhere specified.....	111	321	8	31	282	861	1, 496, 560	53, 246	219, 538	1, 194, 378	79, 011	1, 603, 925	409, 547
Copper, tin, and sheet-iron products.	87	1, 493	152	167	1, 174	1, 077	5, 786, 774	237, 321	1, 034, 531	2, 290, 563	325, 267	4, 309, 247	2, 018, 684
Fertilizers.....	3	94	.....	13	81	420	885, 985	20, 726	50, 056	785, 645	34, 146	940, 344	154, 609
Firearms and ammunition.....	3	176	.....	29	147	305	1, 488, 834	47, 300	79, 011	477, 302	46, 361	783, 264	305, 962
Flour-mill and gristmill products....	12	224	6	75	143	1, 453	1, 858, 397	104, 337	127, 845	3, 015, 867	91, 959	3, 472, 314	456, 447
Food preparations.....	41	574	77	126	371	950	2, 045, 085	146, 399	218, 531	1, 830, 812	220, 191	2, 689, 200	858, 358
Foundry and machine-shop products	214	4, 840	173	697	3, 970	8, 692	14, 788, 883	982, 681	3, 759, 059	6, 262, 648	1, 113, 188	12, 833, 346	6, 570, 698
Furnishing goods, men's.....	13	109	4	28	77	3	241, 964	20, 510	42, 050	368, 386	56, 789	564, 368	195, 982
Furniture and refrigerators.....	60	1, 362	58	134	1, 170	1, 418	2, 318, 559	155, 460	1, 115, 600	1, 410, 107	284, 128	3, 310, 394	1, 894, 287
Gas and electric fixtures and lamps and reflectors.....	18	451	13	103	335	279	1, 160, 465	116, 567	267, 809	442, 287	47, 962	955, 799	513, 512
Gas, illuminating and heating.....	8	1, 081	.....	348	733	2, 670	23, 076, 810	428, 277	683, 089	1, 368, 099	868, 880	4, 473, 761	3, 105, 662
Gloves and mittens, leather.....	14	377	16	62	299	29	684, 496	72, 128	159, 214	318, 628	56, 275	675, 328	350, 700
Jewelry.....	124	587	125	32	430	248	221, 460	36, 937	366, 894	501, 922	107, 477	1, 121, 151	619, 229
Leather goods.....	23	370	20	51	299	173	740, 730	55, 628	212, 008	371, 130	91, 676	886, 615	515, 485
Leather, tanned, curried, and finished.....	117	619	15	40	558	1, 260	2, 479, 329	88, 908	415, 217	2, 654, 645	128, 955	3, 622, 171	967, 526
Liquors, malt.....	28	682	8	128	546	2, 457	8, 498, 806	263, 877	629, 550	1, 107, 819	1, 643, 408	4, 345, 615	3, 237, 796
Lumber and timber products.....	124	2, 996	88	316	2, 592	11, 116	5, 438, 890	463, 348	2, 367, 874	3, 917, 645	492, 367	7, 575, 745	3, 658, 100
Marble and stone work.....	32	679	34	105	540	1, 460	1, 317, 191	146, 134	459, 854	844, 245	197, 611	1, 779, 134	934, 889
Mattresses and spring beds.....	19	398	13	72	313	438	894, 635	93, 974	208, 008	665, 489	180, 375	1, 221, 798	556, 309
Oil, not elsewhere specified.....	5	101	10	17	74	279	658, 065	21, 745	54, 009	1, 010, 529	38, 027	1, 173, 865	163, 336
Paint and varnish.....	21	427	8	82	337	1, 013	2, 058, 808	113, 770	227, 626	2, 074, 346	116, 865	2, 947, 617	873, 271
Patent medicines and compounds and druggists' preparations.....	34	362	14	164	184	145	702, 645	173, 827	89, 782	422, 087	241, 484	1, 094, 291	672, 204
Printing and publishing.....	416	6, 154	358	1, 872	3, 924	4, 191	8, 619, 796	2, 208, 569	3, 642, 201	3, 577, 030	2, 787, 410	14, 153, 964	10, 576, 034
Shipbuilding, including boat building.....	23	1, 759	22	97	1, 640	2, 457	7, 846, 946	174, 263	1, 405, 652	1, 031, 730	789, 925	3, 594, 350	2, 562, 620
Slaughtering and meat packing.....	43	1, 063	56	190	817	2, 080	5, 969, 267	283, 306	485, 929	16, 918, 049	539, 741	20, 203, 050	3, 285, 001
Soap.....	11	108	12	24	72	290	480, 166	41, 121	56, 526	554, 581	70, 610	827, 020	272, 439
Tobacco manufactures.....	130	1, 314	376	79	859	71	956, 893	91, 854	479, 498	698, 656	434, 911	2, 043, 154	1, 344, 498
All other industries.....	560	12, 114	558	1, 742	9, 814	28, 613	64, 323, 476	2, 414, 375	7, 341, 550	39, 525, 105	4, 230, 554	60, 769, 853	21, 244, 748

¹ Excluding statistics for establishments located outside of the corporate limits of San Francisco, to avoid disclosure of individual operations. The figures for these establishments are included under the head of "All other industries."

Comparative summary, by industries.—The number of establishments, average number of wage earners, and value of products for such of the industries as can be shown separately and had products valued at \$2,000,000 or more in 1909 are given in Table 65 for 1909, 1904, and 1899.

COMPARATIVE SUMMARY FOR THE SAN FRANCISCO-OAKLAND METROPOLITAN DISTRICT, BY SELECTED INDUSTRIES: 1909, 1904, AND 1899.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.			WAGE EARNERS (AVERAGE NUMBER).			VALUE OF PRODUCTS.			PER CENT OF INCREASE. ¹								
	1909	1904	1899	1909	1904	1899	1909	1904	1899	Number of establishments.			Wage earners (average number).			Value of products.		
										1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904
Slaughtering and meat packing.....	43	50	34	817	707	280	\$20,203,050	\$15,700,061	\$8,769,769	26.5	-14.0	47.1	181.7	15.6	143.8	130.4	28.7	79.0
Printing and publishing.....	416	420	280	3,924	4,016	2,988	14,153,964	11,781,800	6,895,670	48.6	-1.0	50.0	32.2	-2.3	35.3	105.3	20.1	70.9
Newspapers and periodicals.....	107	198	129	1,294	1,363	1,210	7,847,650	6,172,339	3,983,969	29.5	-15.7	53.5	6.9	-5.1	12.6	97.0	27.1	54.9
Book and job.....	219	186	125	1,877	1,770	1,232	4,478,321	4,052,202	2,103,098	75.2	17.7	48.8	52.4	6.0	43.7	112.9	10.5	92.7
All other printing and publishing industries ²	30	36	26	753	883	526	1,827,993	1,557,259	808,603	15.4	-16.7	38.5	43.2	-14.7	67.9	126.1	17.4	92.6
Foundry and machine-shop products.....	214	187	(*)	3,970	4,126	(*)	12,833,346	10,949,163	(*)	.....	14.4	.....	.....	-3.8	.....	.....	17.2	.....
Canning and preserving.....	34	41	37	2,015	1,705	1,667	7,655,728	5,111,865	3,530,713	-8.1	-17.1	10.8	20.9	14.2	5.9	116.8	49.8	44.8
Lumber and timber products.....	124	85	54	2,592	2,157	1,377	7,575,745	5,838,293	3,154,870	129.6	45.9	57.4	88.2	20.2	66.6	140.1	29.8	85.1
Bread and other bakery products.....	275	235	169	1,720	1,615	933	7,562,415	5,809,937	2,963,219	62.7	17.0	39.1	84.4	6.5	73.1	155.2	30.2	96.1
Clothing.....	105	132	149	2,288	3,361	4,016	5,159,592	6,437,287	6,284,007	-29.5	-20.5	-11.4	-43.0	-31.9	-16.3	-17.9	-19.8	2.4
Men's, including shirts.....	54	84	95	1,659	2,438	2,740	3,812,513	4,804,404	4,350,176	-43.2	-35.7	-11.6	-39.5	-32.0	-11.0	-12.4	-20.6	10.4
Women's.....	51	48	54	629	923	1,276	1,347,079	1,632,883	1,933,831	-5.6	6.3	-11.1	-50.7	-31.9	-27.7	-30.3	-17.5	-15.6
Coffee and spice, roasting and grinding.....	6	25	22	225	275	281	4,972,739	3,970,865	2,766,387	-13.6	-24.0	13.6	-2.6	-18.2	19.0	79.8	24.9	43.9
Gas, illuminating and heating.....	8	3	4	733	575	509	4,473,761	3,248,456	2,222,405	100.0	166.7	.....	44.0	27.5	13.0	101.3	37.7	48.2
Liquors, malt.....	28	28	31	546	618	481	4,345,615	4,385,869	3,108,997	-9.7	.....	-9.7	13.5	-11.7	28.5	39.8	-0.9	41.1
Copper, tin, and sheet-iron products.....	87	54	30	1,174	1,526	1,434	4,309,247	4,768,509	4,427,147	190.0	61.1	80.0	-18.1	-23.1	6.4	-2.7	-9.6	7.7
Leather, tanned, curried, and finished.....	17	24	26	558	638	621	3,622,171	2,937,510	3,066,355	-34.6	-29.2	-7.7	-10.1	-12.5	2.7	18.1	23.3	-4.2
Shipbuilding, including boat building.....	23	28	28	1,640	3,720	3,346	3,594,350	6,381,332	6,180,520	-17.9	-17.9	.....	-51.0	-55.9	11.2	-43.9	-43.7	3.1
Furniture and gristmill products.....	12	13	11	143	248	202	3,472,314	3,852,041	2,164,112	9.1	-7.7	-18.2	-29.2	-42.3	22.8	60.4	-9.9	78.0
Furniture and refrigerators.....	60	49	22	1,170	842	496	3,310,394	1,899,576	880,363	172.7	22.4	122.7	135.9	39.0	69.8	276.0	74.3	115.8
Paint and varnish.....	21	13	9	337	271	36	2,947,617	2,196,656	447,619	133.3	61.5	44.4	.....	24.4	.....	558.5	34.2	390.7
Food preparations.....	41	43	28	371	266	219	2,689,200	1,024,038	740,895	46.4	-4.7	53.6	69.4	39.5	21.5	200.0	162.6	37.1
Confectionery.....	36	44	14	657	702	378	2,066,469	1,992,086	844,825	157.1	-18.2	214.3	73.8	-6.4	85.7	144.6	3.7	135.8
Tobacco manufactures.....	130	199	124	859	1,300	997	2,043,154	2,159,650	1,416,599	4.8	34.7	60.5	-13.8	-33.9	30.4	44.2	-5.4	52.4

¹ A minus sign (-) denotes decrease.

² Excluding statistics for two establishments, to avoid disclosure of individual operations.

³ Includes "printing and publishing, music;" "bookbinding and blank-book making;" "engraving, steel and copper plate, including plate printing;" and "lithography."

⁴ Comparable figures not available.

⁵ Excluding statistics for one establishment, to avoid disclosure of individual operations.

The greatest absolute increase in value of products during the decade in the area under consideration, \$11,433,281, or 130.4 per cent, is shown for slaughtering and meat packing. The greatest relative increase shown for any of the industries included in the tables was reported for the manufacture of paint and var-

nish—558.5 per cent. Among the important industries that can not be shown separately, as to do so would disclose the operations of individual establishments, are the refining of sugar and of petroleum and the manufacture of explosives and of paper bags.

MANUFACTURES : 1909

STATISTICS FOR THE MANUFACTURE OF TEXTILES

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

[Reprint of pages 23-194 of Volume X of the Thirteenth Census Reports]

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THE MANUFACTURE OF TEXTILES

INTRODUCTION.

This bulletin contains special reports for the textile industry as a whole and for its several branches for the calendar year 1909. It embraces the following industries: Cotton manufactures; hosiery and knit goods; woolen, worsted, and felt goods, and wool hats; carpets and rugs; shoddy; wool pulling; wool scouring; fur-felt hats; silk manufactures; cordage and twine and jute and linen goods; and the dyeing and finishing of textiles. These special reports have been printed as a part of Volume X of the final reports of the Thirteenth Census.

The general results of the census inquiry are summarized in certain tables presented in connection with the text, while other tables give statistics in detail by states. Special tables are also presented in which the statistics for the establishments engaged in the several industries are classified according to character of ownership, value of products, number of wage earners, and prevailing hours of labor, while still another set of tables gives detailed information in regard to the quantity and cost of materials, the quantity and value of the products, the principal kinds of equipment used, and imports and exports.

Scope of census.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the data for these purposes it is imperative that due attention should be given to the limitations of the figures, particularly in any attempt to derive from them figures purporting to show average wages, cost of production, or profits. These limitations are fully discussed in the general report on manufactures for the United States as a whole (Volume VIII of Thirteenth Census Reports) and need not be repeated here.

The census did not cover establishments which were idle during the entire year or had a value of products of less than \$500, nor the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1909, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—As a rule, the term "establishment" represents a single plant or mill, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept.

If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

Persons engaged in the industry.—At the censuses of 1899, 1904, and 1909 the following general classes of persons engaged in manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. The second group included the three classes of salaried officers of corporations, superintendents and managers, and clerks. In certain tables relating exclusively to the present census a somewhat different grouping is employed—that into (1) proprietors and officials, (2) clerks, and (3) wage earners, the first group including proprietors and firm members, salaried officers of corporations, and superintendents and managers. In comparative tables covering the censuses of 1899 and 1904 it is of course necessary to group the figures for 1909 according to the classification that was employed at the earlier censuses.

At this census the number of persons engaged in each industry, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. For most industries the 15th of December was selected as representing normal conditions of employment, but where conditions were exceptional and the December date could not be accepted as typical an earlier date had to be chosen.

In the case of employees other than wage earners the number thus reported on December 15, or other representative day, has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average is obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on December 15, or other representative day, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained represents the number of wage earners that would be required to perform the work done, if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

In 1899 and 1904 the schedule called for the average number of wage earners of each sex 16 years of age and over, and the average number under 16 years of age without distinction of sex, for each month, and these monthly statements were combined in an annual average. Comparatively few manufacturing concerns, however, keep their books in such way as to show readily the number of men, women, and children employed on the average each month. These monthly returns by sex and age were, in fact, largely estimates.

It was believed that a more accurate and reliable sex and age distribution could be secured by taking as a basis of estimate the actual numbers employed on a single day. In 1889 the time the plant was in operation was used as a basis for computing the average number of employees, whether such time was the entire year or only a fraction of a year. These differences in method have but little effect upon the comparability of the statistics, however, except for certain seasonal industries like canning and preserving.

Prevailing hours of labor.—The census made no attempt to ascertain the number of employees working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a limited number of employees might have hours differing from those of the majority. In the tables all the wage earners of each establishment are counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the employees work the same number of hours, so that these figures give a substantially correct representation of the hours of labor.

Capital.—For reasons stated in the general report on manufactures for the United States as a whole (Volume VIII of Thirteenth Census Reports), the statistics of capital secured by the census canvass are so defective as to be of little value, except as indicating very general conditions. The instructions on the schedule for securing data relating to capital were as follows:

The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

Materials.—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the

materials purchased during the year. The term "materials" includes fuel, rent of power and heat, mill supplies, and containers, as well as materials forming a constituent part of the product.

Expenses.—Under "Expenses" are included all items of expense incident to the year's business, except interest, whether on bonds or other forms of indebtedness, and allowances for depreciation.

Value of products.—The amounts given under this heading represent the selling value or price at the mill of all products manufactured during the year, which may differ from the value of the products sold.

Value added by manufacture.—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part of it, and often by far the larger part, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is obtained by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

Cost of manufacture and profits.—Census data do not show the entire cost of manufacture, and consequently can not be used to show profits. No account has been taken of interest or depreciation. Even if the amount of profit could be determined by deducting the expenses from the value of the products, the rate of return on the investment could not properly be calculated, because of the very defective character of the figures regarding capital.

Primary horsepower.—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented by them from other concerns. It does not cover the electric power developed by the primary power of the establishments themselves, the inclusion of which would evidently result in duplication.

COMBINED TEXTILES

COMBINED TEXTILES.

GENERAL STATISTICS.

The group of textile industries for which statistics are here presented comprises eight distinct industries, designated as follows: (1) "Cotton goods, including cotton small wares"; (2) "woolen, worsted, and felt goods, and wool hats"; (3) "carpets and rugs, other than rag"; (4) "hosiery and knit goods"; (5) "silk and silk goods, including throwsters"; (6) "cordage and twine and jute and linen goods"; (7) "shoddy"; and (8) "dyeing and finishing textiles." The statistics for each of these industries are presented in detail in subsequent chapters of this report. In addition, a separate presentation is made for the wool scouring and

the wool pulling industries, though none of the statistics for them have been included in the tables relating to the general textile group. This group of industries does not include the manufacture of rag carpets, haircloth, or fur-felt hats, which industries are presented in the general statistics of manufactures under classifications as follows: "Carpets, rag," "hats, fur-felt," and "haircloth."

Summary for 1909.—Table 1 presents a summary of the principal statistics relating to the eight industries constituting the combined textile group for the census of 1909.

Table 1	Total.	Cotton goods, including cotton small wares.	Woolen, worsted, and felt goods, and wool hats.	Carpets and rugs, other than rag.	Hosiery and knit goods.	Silk and silk goods, including throwsters.	Cordage and twine and jute and linen goods.	Shoddy.	Dyeing and finishing textiles.
Number of establishments.....	5,352	1,324	985	139	1,374	852	164	88	426
Persons engaged in the industry.....	915,858	387,771	175,176	34,706	186,130	105,238	27,214	2,320	47,303
Proprietors and firm members.....	3,522	377	732	134	1,134	664	80	83	318
Salariated employees.....	31,208	8,514	5,722	1,265	5,721	5,537	1,314	196	2,939
Wage earners (average number).....	881,128	378,880	168,722	38,807	129,275	99,037	25,820	2,041	44,046
Primary horsepower.....	2,099,050	1,296,517	362,209	38,553	103,709	97,947	78,549	13,820	107,746
Capital.....	\$1,841,242,131	\$822,237,520	\$430,578,574	\$75,027,010	\$163,641,171	\$152,158,002	\$76,020,366	\$6,886,825	\$114,092,664
Expenses.....	1,488,817,311	554,221,688	387,998,515	62,311,110	175,729,583	177,175,719	56,076,532	6,656,311	68,647,853
Services.....	384,522,370	147,270,903	82,523,776	17,745,092	52,431,680	46,097,364	10,965,545	1,196,376	26,261,634
Salaries.....	40,123,634	14,411,758	10,097,157	2,209,042	7,691,457	7,527,279	1,862,546	289,685	5,034,710
Wages.....	335,398,736	132,859,145	72,426,619	15,536,050	44,740,223	38,570,085	8,132,999	906,691	21,226,924
Materials.....	992,635,299	371,009,470	282,878,039	39,593,004	110,241,053	107,766,916	40,914,810	5,000,706	35,261,301
Miscellaneous.....	111,659,642	35,941,315	22,596,700	5,003,014	13,056,850	23,311,439	4,166,177	459,229	7,124,618
Value of products.....	1,084,636,400	628,391,813	435,978,558	71,188,152	200,143,527	196,911,667	61,019,986	7,446,304	83,556,432
Value added by manufacture (value of products, less cost of materials).....	692,001,200	257,382,343	153,100,519	31,625,148	89,902,474	89,144,751	20,105,176	2,445,658	48,295,131

In compiling the statistics for the eight industries named, each establishment has been classified according to its product of chief value. There is considerable overlapping among the different industries, but so far as possible the statistics of products common to two or more of the industries are assembled, in the chapter on the industry for which they constitute primary products, so as to show the total production of the given product in all industries combined. There is also considerable duplication in the cost of materials and value of products for some of the individual industries, and still more in the totals for the eight industries combined, by reason of the use of the products of one establishment or one industry as materials for other establishments or other industries. For example, some of the establishments classed under "cotton goods, including cotton small wares," make cotton yarn that is sold not only to other cotton mills but to establishments in other textile industries. The extent of this practice in the combined textile industry is shown by Table 10, which gives the statistics for yarns purchased. The combination of the value of

products of the yarn-producing mills with that of the establishments in which the yarn is used as a material obviously leads to duplication. Again, the products of the shoddy industry are almost wholly used as a material in the wool manufactures.

In considering the relative importance of the several textile industries it should be borne in mind that the differences among the industries with respect to the amount of duplication involved in the value of products render that standard somewhat inaccurate.

It is clear from the table, however, that on the basis of any standard of measurement the cotton goods industry is the most important. The cotton mills, including those making small wares, manufactured products in 1909 whose value represented 37.3 per cent of the total value of products for the eight textile industries combined, and gave employment to 43 per cent of the total number of wage earners reported. Cotton is the most important material used in the manufacture of hosiery and knit goods also, and these two cotton-using industries together contributed 49.2 per cent of the total value of products for the eight

textile industries and employed 57.7 per cent of the total number of wage earners.

The industry designated "woolen, worsted, and felt goods, and wool hats" is the second in importance of this group, contributing 25.9 per cent of the total value of products and giving employment to 19.1 per cent of the total number of wage earners. In the carpet and rug branch of the industry also the chief material

used is wool, and these two industries together gave employment to 22.9 per cent of the wage earners and contributed 30.1 per cent of the value of products for the textile group.

Comparison with earlier censuses.—Table 2 summarizes the statistics of the eight textile industries representing the combined industry for each census from 1889 to 1909, inclusive.

Table 2

	COMBINED TEXTILES.							
	Number or amount.				Per cent of increase. ¹			
	1909	1904	1899	1889	1899-1909	1904-1909	1899-1904	1889-1899
Number of establishments.....	5,352	4,737	4,521	4,420	18.4	13.0	4.8	2.3
Persons engaged in the industry.....	915,858	770,512	(²)	(²)	.....	18.9	.....	.....
Proprietors and firm members.....	3,522	3,011	(²)	(²)	.....	- 2.5	.....	.....
Salaried employees.....	31,208	24,372	47,024	(²)	83.3	28.0	43.2	.....
Wage earners (average number).....	881,128	742,524	664,429	520,196	32.6	18.7	11.8	.....
Primary horsepower.....	2,099,050	1,023,403	1,310,834	831,730	60.1	29.3	23.8	57.6
Capital.....	\$1,841,242,121	\$1,351,451,715	\$1,040,636,201	\$772,673,605	75.4	36.2	28.8	35.8
Expenses.....	1,488,817,811	1,123,356,860	824,336,963	681,533,981	80.6	32.5	34.3	21.0
Services.....	384,522,370	283,376,354	233,022,184	182,165,458	64.6	35.7	21.3	28.2
Salaries.....	49,123,634	32,862,121	23,532,773	(²)	108.7	49.5	31.0	.....
Wages.....	335,398,736	250,514,233	210,089,411	(²)	59.7	33.9	19.3	.....
Materials.....	992,635,299	753,174,981	527,299,771	454,272,480	88.3	31.8	42.3	16.1
Miscellaneous.....	111,659,642	86,805,525	63,525,008	45,101,034	75.8	28.6	36.0	40.8
Value of products.....	1,684,636,499	1,225,686,444	940,032,688	768,357,254	70.2	37.4	30.4	22.3
Value added by manufacture (value of products less cost of materials).....	692,001,200	472,511,463	412,842,917	314,084,765	67.6	46.5	14.5	31.4

¹ A minus sign (-) denotes decrease. Where percentages are omitted, comparable figures are not available.

² Comparable figures not available.

³ Figures not strictly comparable.

In comparing the figures for value of products and cost of materials for the different censuses, it should be noted that the amount of duplication may have been greater relatively at one census than at another, though it is probable that no very great change has taken place. Fluctuations in prices have, however, affected these items materially, and the value added by manufacture as well, though in the latter instance perhaps to a less extent. The advance in prices during the decade 1899-1909 partly accounts for the fact that the percentages of increase in these three items during that decade were much higher than those for the decade 1889-1899. The number of wage earners and the primary horsepower, however, also increased somewhat more rapidly during the later than during the earlier decade.

The average value of products per establishment in 1889 was \$173,836; in 1899, \$207,930; in 1904, \$258,747; and in 1909, \$314,768; and the average value added by manufacture in 1889 was \$71,060; in 1899, \$91,317; in 1904, \$99,749; and in 1909, \$129,298. The average number of wage earners per establishment shows an increase from 118 in 1889 to 147 in 1899, 157 in 1904, and 165 in 1909.

Comparative statistics for each census year beginning with 1879, for each of the textile industries covered by this report and for the eight industries combined, are presented in Table 3. In this table, for comparative purposes, "carpets and rugs" have been combined with "woolen, worsted, and felt goods and wool hats" under the title of "wool manufactures."

During the period of 30 years covered by the table the combined value of the products of the establishments in the eight textile industries increased from \$572,253,099 in 1879 to \$1,684,636,499 in 1909, the latter figure being nearly three times as great as the former. The decade 1899-1909 shows the largest absolute gain, the increase in value of products for that period being \$744,583,811.

A large gain during the last decade is shown for each of the separate industries with the single exception of the shoddy industry. The number of wage earners employed in these textile industries in 1909 was over twice as great as the number in 1879—881,128, as compared with 405,744—this increase comparing very favorably with the increase noted above for value of products.

COMBINED TEXTILES—COMPARATIVE SUMMARY, BY INDUSTRIES: 1879 TO 1909.

Table 3
INDUSTRY AND CENSUS YEAR.

	Number of establishments.	Salaried employees.	Wage earners (average number).	Capital.	Salaries.	Wages.	Cost of materials.	Miscellaneous expenses.	Value of products.	Value added by manufacture.
1909										
Total.....	5,352	31,208	881,128	\$1,841,242,131	\$49,123,634	\$335,398,736	\$922,635,299	\$111,659,642	\$1,684,636,499	\$692,001,200
Cotton goods, including cotton small wares..	1,324	8,514	378,880	822,237,529	14,411,758	132,859,145	371,009,470	35,041,315	628,391,813	257,382,343
Wool manufactures.....	1,124	6,987	202,020	505,205,584	12,306,199	87,962,669	322,441,043	27,599,714	507,166,710	184,725,667
Hosiery and knit goods.....	1,374	5,721	129,275	103,641,171	7,091,457	44,740,223	110,241,053	13,056,850	200,143,527	89,002,474
Silk and silk goods.....	852	5,537	99,037	152,158,092	7,527,279	38,570,085	107,766,916	23,311,439	196,911,667	89,144,751
Cordage and twine and jute and linen goods.	164	1,914	25,820	76,020,366	1,862,546	9,132,999	40,914,810	4,166,177	61,019,956	20,105,176
Shoddy.....	88	108	2,041	6,886,825	289,685	906,691	5,000,706	459,229	7,446,364	2,445,658
Dyeing and finishing textiles.....	426	2,089	44,048	114,082,654	5,034,710	21,226,924	35,261,301	7,124,918	83,556,432	48,295,131
1904										
Total.....	4,737	24,372	742,529	1,351,451,715	32,862,121	250,514,233	753,174,981	86,805,525	1,225,686,444	472,511,463
Cotton goods, including cotton small wares..	1,154	6,081	315,874	613,110,655	10,237,891	90,205,796	286,255,303	30,487,378	450,467,704	164,212,401
Wool manufactures.....	1,213	5,616	179,076	370,861,691	8,177,345	70,797,524	242,561,096	21,588,465	380,934,003	138,372,907
Hosiery and knit goods.....	1,144	4,330	104,092	105,943,072	4,455,151	31,614,607	76,789,348	10,417,569	137,076,454	60,287,106
Silk and silk goods.....	624	4,027	79,601	109,556,621	4,742,270	26,767,943	75,861,188	14,052,777	133,288,072	57,426,884
Cordage and twine and jute and linen goods.	145	1,050	25,332	58,466,936	1,596,680	8,824,336	46,031,062	3,819,532	64,664,241	18,633,179
Shoddy.....	97	172	2,089	5,804,164	245,403	834,822	6,055,731	461,527	8,406,425	2,350,694
Dyeing and finishing textiles.....	360	2,196	35,565	88,708,576	3,407,381	15,469,205	19,621,253	5,978,277	50,849,545	31,228,292
1899										
Total.....	4,521	17,024	664,429	1,049,636,201	23,532,773	210,069,411	527,209,771	63,525,008	940,052,688	412,842,917
Cotton goods, including cotton small wares..	1,055	4,902	302,861	467,240,157	7,350,199	56,689,752	176,551,527	22,112,678	339,200,220	162,648,793
Wool manufactures.....	1,414	4,495	159,108	310,179,749	6,455,495	57,933,817	181,159,127	17,329,932	296,990,484	115,831,357
Hosiery and knit goods.....	1,006	2,831	83,691	82,065,517	3,138,160	24,434,407	51,195,330	6,627,380	95,833,692	44,638,362
Silk and silk goods.....	483	2,657	65,416	81,082,201	3,134,352	20,982,194	62,406,665	10,294,208	107,256,258	44,840,593
Cordage and twine and jute and linen goods.	160	682	21,651	43,152,544	1,020,735	6,553,887	33,063,793	2,759,714	49,077,629	16,013,836
Shoddy.....	105	139	1,926	5,272,929	166,704	748,948	4,875,192	293,149	6,730,974	1,855,782
Dyeing and finishing textiles.....	298	1,318	29,776	60,643,104	2,267,128	12,726,316	17,958,137	4,137,947	44,963,331	27,005,194
1889										
Total.....	4,420	(¹)	520,196	772,673,605	(¹)	169,422,053	454,272,489	45,101,034	768,357,254	314,084,765
Cotton goods, including cotton small wares..	905	.....	218,876	354,020,843	.....	66,024,538	154,912,979	16,716,524	267,081,724	113,068,745
Wool manufactures.....	1,093	.....	154,271	245,886,743	.....	54,339,775	167,233,987	15,622,263	270,527,511	103,293,524
Hosiery and knit goods.....	824	.....	59,774	59,686,206	.....	16,613,970	35,949,865	3,647,597	67,446,788	31,496,923
Silk and silk goods.....	472	.....	49,982	61,007,537	.....	17,762,441	51,004,425	4,259,623	87,298,454	36,294,029
Cordage and twine and jute and linen goods.	184	.....	16,137	28,897,413	.....	5,092,510	26,732,978	1,485,852	38,315,217	11,532,239
Shoddy.....	94	.....	2,155	3,754,083	.....	707,099	6,003,085	293,094	7,887,000	1,883,965
Dyeing and finishing textiles.....	248	.....	19,601	38,450,800	.....	8,911,720	12,385,220	3,131,081	28,900,560	16,515,340
1879										
Total.....	4,587	(¹)	405,744	433,866,689	(¹)	111,301,434	328,964,219	(¹)	572,253,039	243,288,880
Cotton goods, including cotton small wares..	756	.....	172,644	208,280,346	.....	42,040,510	102,206,347	.....	192,090,110	89,883,763
Wool manufactures.....	2,330	.....	132,672	143,512,278	.....	40,687,612	149,160,600	.....	238,085,686	88,925,086
Hosiery and knit goods.....	398	.....	30,699	15,732,291	.....	6,839,195	15,449,991	.....	29,613,581	14,163,590
Silk and silk goods.....	382	.....	31,337	19,125,300	.....	9,146,705	22,467,701	.....	41,033,045	18,565,344
Cordage and twine and jute and linen goods.	188	.....	7,684	8,602,925	.....	2,138,813	11,089,445	.....	15,283,369	4,163,024
Shoddy.....	73	.....	1,282	1,165,100	.....	400,326	3,360,650	.....	4,989,615	1,622,965
Dyeing and finishing textiles.....	191	.....	16,698	26,223,981	.....	6,474,364	13,664,295	.....	32,297,420	18,633,125
Special mills ²	249	.....	12,928	11,224,448	.....	3,573,909	11,559,190	.....	18,860,273	7,301,083

¹ Comparable figures not available.

² Includes mills working raw cotton, waste, or cotton yarn into hosiery, webbing, tapes, fancy fabrics or mixed goods, or other fabrics which were not sold as specific manufactures of either cotton or wool.

Persons engaged in the combined textile industry.—

Table 4 shows, for 1909, the number of persons engaged in the eight textile industries, classified according to occupational status and sex, and, in the case of wage earners, according to age also. It should be borne in mind that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

The average number of persons engaged in the eight textile industries during 1909 was 915,858, of whom 881,128, or 96.2 per cent, were wage earners, 19,209, or 2.1 per cent, were clerks, this class including other subordinate salaried employees, and 15,521, or 1.7 per cent, were proprietors and officials. Of the total number of persons engaged in the industry, 482,444, or 52.7 per cent, were males, and 433,414, or 47.3 per cent, were females. Of the wage earners, 71,426, or 8.1 per cent, were children under 16 years of age.

Table 4

CLASS.	PERSONS ENGAGED IN THE COMBINED TEXTILE INDUSTRY: 1909		
	Total.	Male.	Female.
All classes.....	915,858	482,444	433,414
Proprietors and officials.....	15,521	15,076	446
Proprietors and firm members.....	3,522	3,351	171
Salaried officers of corporations.....	4,389	4,329	60
Superintendents and managers.....	7,610	7,396	215
Clerks.....	19,209	14,508	4,701
Wage earners (average number).....	881,128	452,861	428,267
16 years of age and over.....	809,702	420,183	389,519
Under 16 years of age.....	71,426	32,678	38,748

Table 5 shows the average number of wage earners in the eight leading textile industries combined distributed according to age, and, in the case of those 16 years and over, according to sex, for 1909, 1904, and 1899.

Table 5

AVERAGE NUMBER OF WAGE EARNERS IN THE COMBINED TEXTILE INDUSTRY.

CLASS.	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	881,128	100.0	742,529	100.0	664,429	100.0
16 years of age and over...	809,702	91.9	608,588	90.0	594,090	89.4
Male.....	420,183	47.7	336,908	45.4	300,418	45.2
Female.....	389,519	44.2	331,680	44.7	293,672	44.2
Under 16 years of age.....	71,426	8.1	73,941	10.0	70,339	10.6

The proportion of the total formed by the several classes shows no great variation for the three census years, although there was an increase in the propor-

tion of men during each five-year period and a decrease in the proportion of children, the proportion of females 16 years of age and over remaining practically stationary.

Prevailing hours of labor.—In Table 6 the wage earners in the eight textile industries combined have been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. In making this classification the average number of wage earners employed during the year in each establishment was classified as a total according to the hours prevailing in that establishment, even though a few employees worked a greater or smaller number of hours.

Table 6

AVERAGE NUMBER OF WAGE EARNERS IN THE COMBINED TEXTILE INDUSTRY: 1909

INDUSTRY.	Total.	In establishments with prevailing hours—						
		48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72 and over.
		Total.....	881,128	2,156	11,138	18,735	516,195	259,407	73,252	245
Cotton goods, including cotton small wares.....	378,880	304	2,879	571	190,998	119,226	64,687	215
Woolen, worsted, and felt goods and wool hats.....	168,722	423	1,092	1,102	119,728	45,300	1,075	2
Hosiery and knit goods.....	129,275	908	3,331	4,753	65,422	49,934	4,927	
Silk and silk goods, including throwsters.....	99,037	106	2,320	2,323	81,407	12,881		
Dyeing and finishing textiles.....	44,046	107	1,102	398	28,172	12,639	1,628	
Carpets and rugs, other than rag.....	33,307	155	178	7,078	13,802	12,084		
Cordage and twine and jute and linen goods.....	25,820	138	208	2,505	16,279	6,023	667	
Shoddy.....	2,041	5	28	5	387	1,320	268	28

Of the total number of wage earners, 516,195, or 58.6 per cent, were employed in establishments where the prevailing hours of labor were more than 54 but less than 60 hours per week, while 259,407, or 29.4 per cent, were employed where the prevailing hours were 60 per week. The two groups above named together included 88 per cent of the total number of wage earners, and these same hours of employment were the most common ones in each of the individual industries. The larger proportion of the wage earners employed more than 60 hours per week (68,819 out of a total of 73,497) were in the cotton mills and the hosiery and knitting mills of the South. Of the 68,819 wage earners, the cotton mills reported 64,844, or 94.2 per cent, and the hosiery and knitting mills, 3,975, or 5.8 per cent.

Character of ownership.—Table 7 presents statistics with respect to the character of ownership of the establishments in the eight textile industries combined.

In 1909, of the total number of establishments in the eight industries combined, 60.3 per cent were under corporate ownership, as compared with 54.3 per cent in 1904, while the value of products of these estab-

lishments represented 84.3 per cent of the total in 1909 and 80 per cent in 1904.

Table 7

COMBINED TEXTILES.

CHARACTER OF OWNERSHIP.	Number of establishments.		Value of products.	
	1909	1904	1909	1904
	Total.....	5,352	4,737	\$1,684,636,499	$1,225,686,444
Individual.....	1,185	1,162	93,547,407	91,385,272
Firm.....	937	994	170,400,967	153,383,882
Corporation.....	3,226	2,572	1,420,451,343	980,648,804
Other.....	4	9	230,782	262,488
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	22.1	24.5	5.6	7.5
Firm.....	17.5	21.0	10.1	12.5
Corporation.....	60.3	54.3	84.3	80.0
Other.....	0.1	0.2	(¹)	(¹)

¹ Less than one-tenth of 1 per cent.

Engines and power.—The amount of power used in the textile industries was first reported at the census of 1869. Table 2 shows that the total amount of power increased from 831,730 horsepower in 1889 to 2,099,050 in 1909. Table 8 shows, for the eight textile industries combined, the statistics of power, as reported at the censuses of 1909, 1904, and 1899.

Table 8

POWER.	COMBINED TEXTILES.								
	Number of engines or motors.			Horsepower.			Per cent distribution of horsepower.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899
Primary power, total.....	17,579	11,273	9,370	2,099,050	1,623,403	1,310,834	100.0	100.0	100.0
Owned.....	10,122	9,007	9,370	1,922,585	1,568,178	1,284,470	91.6	96.6	98.0
Steam.....	7,110	6,705	6,230	1,467,775	1,181,417	906,327	69.9	72.8	69.1
Gas.....	312	207	94	10,443	5,965	2,300	0.5	0.4	0.2
Water wheels.....	2,681	2,682	3,046	435,482	379,069	374,188	20.7	23.3	28.5
Water motors.....	19	13	(¹)	1,322	44	(¹)	0.1	(²)	.....
Other.....				7,563	1,683	1,655	0.4	0.1	0.1
Rented.....	7,457	1,666	(¹)	176,465	55,225	26,364	8.4	3.4	2.0
Electric.....	7,457	1,666	(¹)	154,370	27,622	6,606	7.4	1.7	0.5
Other.....				22,089	27,603	19,758	1.1	1.7	1.5
Electric motors.....	21,074	5,520	753	416,054	134,828	33,209	100.0	100.0	100.0
Run by current generated by establishment.....	13,617	3,854	753	261,678	107,206	26,603	62.9	79.5	80.1
Run by rented power.....	7,457	1,666	(¹)	154,376	27,622	6,606	37.1	20.5	19.9

¹ Not reported.

² Less than one-tenth of 1 per cent.

The total primary power used in the eight industries combined increased from 1,310,834 horsepower in 1899 to 2,099,050 horsepower in 1909, or 60.1 per cent. At each of the three censuses steam power constituted considerably more than two-thirds of the total primary power, the proportion being somewhat greater in 1904 than in either 1899 or 1909. Water power, which in 1899 formed 28.5 per cent of the total primary power formed but 20.8 per cent in 1909. There was a marked

increase, on the other hand, in the relative importance of the power of electric motors operated by purchased current (rented electric power). The amount of such power increased from 6,606 horsepower, or less than 1 per cent of the total primary power, in 1899, to 154,376 horsepower, or 7.4 per cent of the total, in 1909. The number and horsepower of electric motors used for distributing power by means of current-generated in the establishment also shows a rapid increase.

SPECIAL STATISTICS RELATING TO MATERIALS AND EQUIPMENT.

Raw fibers used.—Table 9 gives the quantities of the several raw fibers used as materials in the eight textile industries in 1909 and 1899. Mills which con-

fine their consumption of raw material to some one fiber often buy yarns of other fibers for weaving; such consumption is not, however, covered by Table 9.

Table 9

INDUSTRY.	COMBINED TEXTILES—RAW FIBERS CONSUMED (POUNDS).											
	Cotton.		Wool.		Animal hair and fur. ¹		Silk.		Flax.		Hemp, jute, etc.	
	1909	1899	1909	1899	1909	1899	1909	1899	1909	1899	1909	1899
Total.....	2,465,225,572	1,923,704,600	559,850,995	412,745,779	41,549,822	35,737,924	17,729,306	9,760,770	23,063,703	16,980,646	632,786,278	507,777,585
Cotton goods, including cotton small wares.....	2,335,344,900	1,817,643,390	41,400	.....	.....	.....	.....	.....	257,102	.....	1,108,918	.....
Cotton goods.....	2,332,262,630	1,814,002,512	41,400	.....	.....	.....	.....	.....	257,102	.....	1,108,918	.....
Cotton small wares.....	3,082,270	3,640,878	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woolen, worsted, and felt goods and wool hats.....	21,399,731	41,470,560	488,308,090	342,498,189	83,447,534	28,480,048	.....	.....	.....	.....	.....	.....
Woolen goods.....	15,801,894	34,967,959	87,037,951	150,200,616	17,719,863	21,034,607	.....	.....	.....	.....	.....	.....
Worsted goods.....	4,222,667	5,276,751	387,717,415	179,977,930	7,441,659	4,504,438	.....	.....	.....	.....	.....	.....
Felt goods.....	1,375,670	1,225,850	12,409,826	9,006,263	8,144,011	2,819,521	.....	.....	.....	.....	.....	.....
Wool hats.....	.....	.....	1,203,498	2,713,374	142,001	121,482	.....	.....	.....	.....	.....	.....
Hosiery and knit goods.....	75,416,023	49,451,301	7,008,788	17,953,907	191,344	962,119	.....	.....	.....	.....	.....	.....
Carpets and rugs, other than rag.	5,147,130	1,943,942	64,135,020	51,871,334	5,400,944	6,189,757	.....	.....	.....	.....	.....	.....
Shoddy.....	293,292	172,652	237,097	422,349	2,510,000	106,000	.....	.....	.....	.....	.....	.....
Silk and silk goods; including throwsters.....	.....	.....	.....	.....	.....	.....	17,472,204	9,760,770	.....	.....	.....	.....
Cordage and twine and jute and linen goods.....	27,624,490	13,022,755	.....	.....	.....	.....	.....	.....	20,954,785	16,980,646	632,764,191	507,777,585

¹ Includes 7,938,735 pounds of camel, alpaca, vicuna, and mohair in 1909 and 6,217,641 pounds in 1899.

Cotton is the fiber most generally used as a material, and in 1909 the purchase of raw cotton was reported by all of the seven branches of the combined textile industry using raw fiber except the silk industry. In 1909 cotton formed 65.8 per cent of the entire amount of raw fiber used, as compared with 66.2 per cent in 1899. The increase between 1899 and 1909 in the amount of cotton used in the textile industries was 541,520,972 pounds, or 28.1 per cent. In the cotton goods industry (including the manufacture of cotton small wares), which in 1909 consumed 94.7 per cent of the cotton used in the combined textile industries, there was an increase of 517,701,516 pounds, or 28.5 per cent. There was an increase of 25,964,722 pounds, or 52.5 per cent, during the decade, in the amount of cotton used in the hosiery and knit goods industry, while in the manufacture of carpets and rugs there was an increase of 3,203,188 pounds, or 164.8 per cent. In the other branches of the woolen industry, on the other hand, there was a material decrease in the use of cotton between 1899 and 1909.

Hemp, jute, and similar fibers, other than flax, ranked next to cotton in quantity used (though not in value), but the consumption reported is confined almost exclusively to the industry designated "cordage and twine and jute and linen goods." Aside from fibers of this character, wool is next in importance as a material in the textile industries, comprising in 1909 14.9 per cent of the entire quantity of fiber reported. There was an increase in the consumption of wool from 1899 to 1909 of 147,105,216 pounds, or 35.6 per cent. The increase was practically confined to the carpet and rug and to the worsted and the felt goods branches of the woolen industry. In the carpet and rug industry the increase was 12,263,686 pounds, or 23.6 per cent; in the worsted goods branch of the woolen industry the increase was 207,739,479 pounds,

or 115.4 per cent; and in the felt goods branch the increase was 2,803,563 pounds, or 29.2 per cent. In the period from 1899 to 1909 there was a decrease in the quantity of wool used in the hosiery and knit goods and the shoddy industries, and in the woolen goods and wool hat branches of the woolen industry. The greatest decrease is shown for the woolen goods branch of the woolen industry, which used 150,200,616 pounds of wool in 1899 and only 87,037,951 pounds in 1909—a reduction of 42.1 per cent. This does not indicate a falling off to that extent in the manufacturing capacity of the industry, but that owing to the demands of fashion, establishments which formerly engaged in the manufacture of woolen goods turned their attention to worsteds. In the hosiery and knit goods industry the decrease was 10,885,119 pounds, or 60.6 per cent.

The consumption of animal hair and fur by the combined industries was somewhat greater in 1909 than in 1899. There was a notable increase in the consumption of such material in the manufacture of shoddy, the quantity reported for 1909 being almost 24 times as great as that used in 1899.

The use of raw silk is practically confined to the silk industry, although in 1909 a small amount was used in the cotton goods industry. The increase between 1899 and 1909 in the quantity of raw silk used was 7,968,536 pounds, or 81.6 per cent. Some of the other textile industries, however, used considerable quantities of silk yarn. (See Table 10.)

Yarns purchased.—Table 10 shows, for 1909 and 1899, the quantity of purchased yarns used in the seven textile industries which use yarns, and in the branches of the cotton goods and woolen industries. The large quantities of yarns made in the same establishments which used them as material in further manufacture are not included.

Table 10

COMBINED TEXTILES—YARN PURCHASED (POUNDS).

INDUSTRY.	Cotton.		Woolen, worsted, and merino.		Silk.		Linen.		Jute, ramie, and other vegetable fiber.		Other kinds.	
	1909	1899	1909	1899	1909	1899	1909	1899	1909	1899	1909	1899
Total	430,483,305	293,368,075	122,714,085	89,383,267	9,929,573	5,047,955	10,652,240	10,943,297	56,817,959	41,240,020	2,000,260	1,222,943
Cotton goods, including cotton small wares.....	126,707,003	94,692,864	1,613,118	1,531,103	2,062,006	560,680	669,532	1,575,403	406,705	220,507	854,161	1,009,745
Cotton goods.....	108,360,478	83,832,216	1,251,282	1,209,444	1,923,727	507,119	665,532	1,575,403	350,755	220,507	795,934	291,301
Cotton small wares.....	18,346,525	10,860,648	361,836	321,659	138,279	53,561	4,000	4,000	55,950	—	58,227	718,444
Woolen, worsted, and felt goods and wool hats.....	39,432,613	35,394,433	62,167,817	34,732,876	282,536	131,929	14,453	27,064	1,148,389	1,118,707	—	—
Woolen goods.....	16,888,501	21,922,136	8,035,598	12,489,092	70,959	57,964	12,685	7,845	1,031,880	1,118,707	—	—
Worsteds.....	22,280,887	13,420,590	54,016,104	22,163,388	211,577	73,951	—	1,314	2,170	—	—	—
Felt goods.....	263,225	51,707	116,115	80,396	—	14	1,768	17,905	114,339	—	—	—
Wool hats.....	—	—	—	—	—	—	—	—	—	—	—	—
Hosiery and knit goods.....	210,987,611	131,820,068	20,524,878	10,426,592	982,753	266,247	1,241,754	71,478	—	44,082	—	—
Carpets and rugs, other than rag..	26,166,241	19,823,501	37,595,684	42,452,553	196,840	188,414	8,792,876	8,388,211	55,592,343	38,840,413	—	—
Shoddy.....	—	—	202,000	—	—	—	—	—	70,000	—	—	—
Silk and silk goods, including throwsters.....	14,111,878	6,664,009	610,588	239,461	6,405,438	3,894,811	(¹)	—	—	—	1,063,888	218,198
Cordage and twine and jute and linen goods.....	7,077,959	4,973,080	—	682	—	5,874	—	—	—	—	142,211	—

¹ Includes jute and other vegetable fiber yarns.
² Includes 1,494,586 pounds of mercerized cotton yarn.
³ Includes 219,861 pounds of mercerized cotton yarn.

⁴ Included with "other kinds"
⁵ Includes hemp yarn.

An increased quantity of each kind of yarn was purchased in 1909 as compared with 1899 except in the case of linen yarn, for which a slight decrease is shown. Of the different kinds of yarns purchased silk yarn shows the largest percentage of increase in consumption (96.7 per cent), and cotton yarn the next largest (46.7 per cent). The amount of linen yarns purchased decreased 2.7 per cent, while that of jute, ramie, and other vegetable fiber yarns increased 42.6 per cent, and that of woolen, worsted, and merino yarns 37.3 per cent.

Purchased cotton yarn was used in each of the seven branches of the combined textile industry covered by the table except the wool hat and shoddy industries, and, except in the woolen mills, larger quantities were used in 1909 than 1899. Purchased woolen, worsted, and merino yarns were used in 1909 in every industry covered by the table except the manufacture of cordage and twine and jute and linen goods and wool hats. The amount of purchased silk yarn used shows relatively large increases in practically every branch of the combined textile industry.

More than four-fifths (82.5 per cent) of the purchased linen yarns and nearly 95 per cent of the purchased jute yarns in 1909 were used in the carpet and rug industry, the quantities used being greater that year than in 1899.

Total production and consumption of cotton and woolen yarns.—The returns for 1909 permit of a tabulation of the total production and the total consumption of cotton, woolen and worsted, and merino yarns in the textile industries, as each establishment reported the quantities of these yarns made for its own consumption, the quantities made for sale, and the quantities of purchased yarns used. Table 11 presents statistics on this subject for the several industries.

Of the total production of cotton yarn in the textile industries in 1909, 1,647,131,776 pounds, or 77.4 per cent, was made for consumption in the establishment producing and 482,046,102 pounds, or 22.6 per cent, for sale. The total consumption in the seven industries covered by Table 11 includes 430,483,305 pounds purchased in addition to that made for consumption in the mills producing. The excess of the total production over the total consumption in these industries was 51,562,797 pounds, which is equal to 2.4 per cent of the production; this represents approximately the quantity of cotton yarn used in other industries and in the hand trades, that exported, and in stocks on hand

at close of the year. In like manner the excess of the production shown over the consumption of woolen and worsted yarns in the specified industries was 2,894,107 pounds, or eight-tenths of 1 per cent of the total production; and in the case of merino yarns, 7,305,393 pounds, or 10.9 per cent of the total production.

Table 11

INDUSTRY.	Cotton yarns (pounds).	Woolen and worsted yarns (pounds).	Merino yarns (pounds).
Production	2,129,177,878	353,834,571	66,855,573
Cotton goods, including cotton small wares.....	2,040,290,743	.....	.....
Woolen, worsted, and felt goods, and wool hats.....	7,343,235	292,447,515	45,330,262
Carpets and rugs, other than rag.....	4,183,091	52,847,303	.....
Hosiery and knit goods.....	76,628,689	8,539,753	21,345,311
Cordage and twine and jute and linen goods.....	732,120	.....	.....
Shoddy.....	.....	.....	180,000
Consumption	2,077,615,081	350,940,484	59,550,180
Cotton goods, including cotton small wares.....	1,696,626,751	1,307,448	305,670
Woolen, worsted, and felt goods, and wool hats.....	44,450,262	235,683,062	33,406,724
Carpets and rugs, other than rag.....	29,189,343	88,289,344	584,188
Hosiery and knit goods.....	286,158,888	25,050,022	24,871,598
Cordage and twine and jute and linen goods.....	7,077,959	.....	.....
Silk and silk goods.....	14,111,878	610,588	.....
Shoddy.....	.....	.....	382,000

Production, imports, exports, and consumption of raw fibers.—Table 12 shows, for the United States as a whole, the production, imports, exports, and consumption of the leading raw fibers for 1909, 1899, and 1889, together with the total value and average value per pound of the imports and exports, respectively.

The aggregate quantity of textile fibers produced in the United States in 1909, as shown in the table, was 5,497,285,000 pounds, as compared with 4,055,298,000 pounds in 1889, the increase for the 20-year period being 1,441,987,000 pounds, or 36 per cent. During the same period the imports of textile fibers increased from 557,688,000 pounds to 1,054,545,000 pounds, or 89 per cent, the exports from 2,489,050,000 pounds to 3,241,824,000 pounds, or 30 per cent, and the consumption in the United States from 2,021,224,000 pounds to 3,740,369,000 pounds, or 85 per cent.

The United States used more than one-fifth of the world's production of raw silk in 1909, ranking next to China in the consumption of this product. The increasing importance of manila hemp and sisal in the manufacture of cordage and twine is noteworthy. By far the greater portion of the jute imported is used in the manufacture of gunny bagging or burlap, large quantities of which are used for covering cotton bales, for grain sacks, and for various other purposes.

MANUFACTURES.

PRODUCTION, IMPORTS, EXPORTS, AND CONSUMPTION OF THE LEADING RAW TEXTILE FIBERS:
1909, 1899, AND 1889.

[The statistics for production were collected by the Bureau of the Census, except for flax for 1909, and for wool. Those for imports and exports were obtained from the reports of the Bureau of Foreign and Domestic Commerce, Department of Commerce. For some of the other figures, nonofficial sources have been consulted, and for these only an approximation to the facts is claimed. The statistics for production are for the growth year, those for imports and exports for the fiscal year beginning July 1, and those for consumption for the census year.]

FIBER.	Year.	Production (pounds).	IMPORTS.			EXPORTS (INCLUDING REEXPORTS).			Consumption (pounds).
			Quantity (pounds).	Value.	Average value per pound.	Quantity (pounds).	Value.	Average value per pound.	
Cotton.....	1909	5,157,691,000	86,038,000	\$15,816,000	\$0.184	3,212,240,000	\$451,746,000	\$0.141	2,465,226,000
	1899	4,729,968,000	97,399,000	7,961,000	0.118	3,127,607,000	243,158,000	0.078	1,923,705,000
	1889	3,736,256,000	8,606,000	1,393,000	0.162	2,472,048,000	251,008,000	0.102	1,193,399,000
Wool ¹	1909	328,111,000	293,928,000	51,221,000	0.194	4,055,000	869,000	0.214	559,851,000
	1899	272,191,000	155,928,000	20,261,000	0.130	7,903,000	1,219,000	0.154	412,746,000
	1889	295,779,000	105,431,000	15,204,000	0.145	3,520,000	590,000	0.168	374,103,000
Silk, including cocoons.....	1909	.....	20,412,000	65,439,000	3.206	93,000	336,000	3.602	17,729,000
	1899	.....	11,289,000	44,568,000	3.956	119,000	453,000	3.799	9,761,000
	1889	.....	6,106,000	23,374,000	3.828	19,000	78,000	4.101	6,377,000
Flax.....	1909	4,000,000	28,585,000	3,536,000	0.124	121,000	13,000	0.108	28,064,000
	1899	840,000	15,605,000	1,046,000	0.105	11,000	85	0.000	16,981,000
	1889	241,000	18,028,000	2,188,000	0.121	.....	.....	.....	18,269,000
Hemp.....	1909	7,483,000	14,388,000	1,040,000	0.072	925,000	59,000	0.063	19,724,000
	1899	7,616,000	7,616,000	450,000	0.059	336,000	17,000	0.051	25,589,000
	1889	23,022,000	31,964,000	3,342,000	0.090	3,556,000	3,540,000	0.098	104,430,000
Jute.....	1909	.....	152,067,000	3,728,000	0.024	876,000	30,000	0.034	200,379,000
	1899	.....	230,032,000	3,956,000	0.017	60,000	1,000	0.016	206,250,000
	1889	.....	202,494,000	3,250,000	0.016	939,000	11,000	0.011	201,555,000
Manila hemp.....	1909	.....	208,887,000	10,517,000	0.050	19,542,000	1,345,000	0.069	131,612,000
	1899	.....	95,478,000	7,172,000	0.075	2,287,000	246,000	0.108	123,242,000
	1889	.....	(²)	(²)	.....	(²)	(²)	.....	(²)
Sisal.....	1909	.....	223,924,000	11,441,000	0.050	2,191,000	128,000	0.058	203,849,000
	1899	.....	172,303,000	11,782,000	0.068	3,120,000	206,000	0.066	146,363,000
	1889	.....	(²)	(²)	.....	(²)	(²)	.....	(²)
Other vegetable fibers.....	1909	.....	55,716,000	2,157,000	0.039	1,781,000	89,000	0.050	53,935,000
	1899	.....	37,410,000	1,366,000	0.034	4,151,000	202,000	0.049	33,259,000
	1889	.....	7,135,059,000	7,762,000	0.057	7,119,908,000	7,737,000	0.062	123,091,000

¹ The statistics of production are as estimated by the National Association of Wool Manufacturers and include pulled wool, while those of imports and exports include hair of the alpaca, goat, and other like animals.

² Computed from other figures shown.

³ Includes manila.

⁴ Arrived at by subtraction. Manila hemp is included.

⁵ Included under "Hemp."

⁶ Included under "Other vegetable fibers."

⁷ Includes sisal.

⁸ Arrived at by subtraction. Sisal is included.

Table 13 gives the world's production of the leading textile fibers, by countries, for 1909, 1899, and 1889. It may be noted that although a considerable amount of flax is raised in the United States, most of it is grown for the seed alone, and only rough estimates are available for the small production of flax fiber utilized as a textile material.

In 1909 the United States produced 31 per cent of the total reported production of the leading textile fibers, 49 per cent of the two most important fibers, cotton and wool, combined, and 61 per cent of cotton alone. The cotton crop of the United States in 1909 was below the normal; the country, however, supplied about two-thirds of the world's production in 1907 and 1908, and more than seven-tenths in 1911.

The relative importance of the textile fibers named in the table has undergone considerable change since the beginning of the nineteenth century. Flax, which

was used to a larger extent than any other fiber in 1800, now ranks fourth, and the quantity of flax produced is only about three times as large as at the beginning of the last century. The production of wool, on the other hand, has increased from about 500,000,000 pounds in 1800 to nearly 2,800,000,000 pounds, or more than five times as much, in 1909, and the production of cotton from about 300,000,000 pounds to 8,505,000,000 pounds, or more than twenty-eight times as much. The most remarkable increase, however, has been in the production of jute, the quantity of this fiber produced in 1850 being about 60,000,000 pounds, as compared with 2,918,000,000 pounds in 1909.

The increase in the world's production of textile fibers between 1889 and 1909 were as follows: Cotton, 45 per cent; wool, 13 per cent; silk, 112 per cent; flax, 86 per cent; and jute, 57 per cent. Hemp shows a decrease of 1 per cent.

COMBINED TEXTILES.

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WORLD'S PRODUCTION OF THE LEADING TEXTILE FIBERS: 1909, 1899, AND 1889.

[The statistics for the United States were collected by the Bureau of the Census, except those for flax for 1909, and for wool. These statistics, as well as the statistics for foreign countries, have been compiled from a number of sources. Among them are reports of the National Association of Wool Manufacturers, Boston, of the Flax Supply Association, Belfast, of Russian Departments of Commerce and Agriculture, St. Petersburg, and of the Silk Association of America, New York, and data furnished by the International Flax Twine Co., Chicago, by the Columbia Rope Co., Auburn, N. Y., and by Hall Bros., New York. Since it has not been practicable to secure satisfactory data in all instances, only an approximation to the facts is claimed for the statistics not collected by special inquiries.]

Table 13 COUNTRY.	Year.	PRODUCTION (POUNDS).					
		Cotton.	Wool.	Silk. ¹	Flax.	Hemp.	Jute.
Total.....	1909	8,505,191,000	2,763,421,000	85,048,000	1,872,127,000	1,450,569,000	2,918,000,000
	1899	7,034,968,000	² 2,668,391,000	60,812,000	1,142,482,000	1,628,375,000	2,200,000,000
	1889	5,878,856,000	³ 2,445,479,000	40,066,000	1,007,224,000	1,470,270,000	1,860,000,000
United States.....	1909	5,187,691,000	328,111,000	.....	4,000,000	7,483,000	.....
	1899	4,729,968,000	272,191,000	.....	840,000	11,751,000	.....
	1889	3,736,256,000	295,779,000	.....	241,000	23,022,000	.....
Brazil.....	1909	180,000,000	1,130,000	.....	.....	.....	.....
	1899	150,000,000	1,500,000	.....	.....	.....	.....
	1889	120,000,000	1,875,000	.....	.....	.....	.....
Argentina.....	1909	.....	392,419,000	.....	.....	.....	.....
	1899	.....	370,000,000	.....	.....	.....	.....
	1889	.....	376,700,000	.....	.....	.....	.....
United Kingdom.....	1909	.....	133,705,000	.....	⁴ 26,934,000	.....	.....
	1899	.....	140,200,000	.....	16,034,000	.....	.....
	1889	.....	147,500,000	.....	42,139,000	.....	.....
Russia.....	1909	360,000,000	380,000,000	(⁵)	1,594,000,000	1,021,223,000	.....
	1899	300,000,000	361,100,000	(⁵)	876,788,000	1,100,000,000	.....
	1889	166,000,000	291,500,000	(⁵)	705,011,000	1,000,000,000	.....
France.....	1909	.....	78,000,000	1,486,000	⁴ 46,340,000	30,875,000	.....
	1899	.....	103,600,000	1,235,000	27,839,000	47,169,000	.....
	1889	.....	124,800,000	1,363,000	53,085,000	86,922,000	.....
Italy.....	1909	.....	21,500,000	9,373,000	⁶ 44,800,000	150,000,000	.....
	1899	.....	21,400,000	7,415,000	7,44,741,000	166,843,000	.....
	1889	.....	21,400,000	6,350,000	31,736,000	186,458,000	.....
Austria-Hungary.....	1909	.....	41,600,000	838,000	⁴ 104,332,000	144,513,000	.....
	1899	.....	64,300,000	605,000	112,809,000	145,581,000	.....
	1889	.....	54,300,000	589,000	99,538,000	143,868,000	.....
Turkey.....	1909	16,000,000	185,500,000	(⁵)	.....	.....	.....
	1899	25,000,000	100,500,000	(⁵)	.....	.....	.....
	1889	8,000,000	50,000,000	(⁵)	.....	.....	.....
British Indies.....	1909	1,801,000,000	50,000,000	⁸ 518,000	.....	73,764,000	2,918,000,000
	1899	837,500,000	85,000,000	⁸ 772,000	.....	27,755,000	2,200,000,000
	1889	1,200,000,000	72,000,000	⁸ 403,000	.....	16,000,000	1,860,000,000
Japan.....	1909	(⁵)	.....	30,135,000	.....	18,963,000	.....
	1899	(⁵)	.....	12,388,000	.....	24,161,000	.....
	1889	(⁵)	.....	7,828,000	.....	(⁵)	.....
China.....	1909	300,000,000	42,253,000	35,697,000	.....	.....	.....
	1899	200,000,000	35,000,000	34,344,000	.....	.....	.....
	1889	200,000,000	(⁵)	21,771,000	.....	.....	.....
Egypt.....	1909	455,500,000	3,000,000	.....	.....	.....	.....
	1899	647,500,000	3,000,000	.....	.....	.....	.....
	1889	291,000,000	2,800,000	.....	.....	.....	.....
Australia and New Zealand.....	1909	.....	756,590,000	.....	.....	.....	.....
	1899	.....	510,000,000	.....	.....	.....	.....
	1889	.....	550,000,000	.....	.....	.....	.....
All other countries.....	1909	235,000,000	399,613,000	7,001,000	⁴ 51,721,000	3,745,000	.....
	1899	145,000,000	600,600,000	4,053,000	63,431,000	2,615,000	.....
	1889	152,600,000	450,825,000	1,702,000	75,475,000	15,000,000	.....

¹ Does not include Tussah silk.

² Except for the United States and the United Kingdom, the figures are for 1900.

³ Except for the United States, the figures relate to 1891.

⁴ The figures relate to 1908.

⁵ Included in "all other countries."

⁶ The figures relate to 1902.

⁷ The figures relate to 1895.

⁸ Exports, instead of production.

The total estimated production for 1909 of the leading textile fibers, as shown in the table, was 17,594,356,000 pounds, of which cotton constituted 48 per cent; wool, 16 per cent; silk, about one-half of 1 per cent; flax, 11 per cent; hemp, 8 per cent; and jute, 17 per cent. During the 20 years covered by the table the proportion which cotton constituted of all fibers increased from 46 to 48 per cent, that for flax from 8 to 11 per cent, and that for jute from 15 to 17 per cent; silk also showed a slight increase in the proportion which it represented of the total, while the proportions represented by wool and hemp decreased. The total supply of these textile fibers in commercial channels

at the beginning of the nineteenth century amounted to approximately 1,400,000,000 pounds, of which cotton formed about 22 per cent; wool, 33 per cent; silk, 2 per cent; and flax, 43 per cent.

Producing spindles.—Table 14 gives the number of producing spindles in active textile mills at the time of each census from 1869 to 1909, inclusive. It does not include spindles in establishments engaged primarily in the manufacture of products other than textiles, nor spindles employed on flax, hemp, jute, and allied fibers, of which latter class 142,169 were returned in 1909; nor does it include doubling and twisting spindles which do not use raw fiber.

Table 14 NUMBER OF PRODUCING SPINDLES.

CENSUS YEAR.	NUMBER OF PRODUCING SPINDLES.				
	Total.	Cotton spindles.	Silk spindles.	Woolen spindles.	Worsted spindles.
1909.....	33,866,479	23,178,862	1,777,962	2,156,849	1,752,806
1904.....	28,721,742	23,672,064	1,394,020	2,456,389	1,199,269
1899.....	23,901,557	19,403,984	1,213,493	2,229,181	994,899
1889.....	18,092,133	14,384,180	718,360	2,332,289	657,324
1879.....	13,170,743	10,653,435	262,312	1,015,070	339,926
1869.....	9,338,953	7,280,800	12,040	1,845,496	200,617

¹ Includes some accessory spindles, except for silk.

The percentage of increase from 1899 to 1909 in the total number of spindles was greater than that for any other decade shown. In 1909 cotton spindles formed 83.2 per cent of the total number, silk spindles, 5.2 per cent, and woolen and worsted spindles combined, 11.5 per cent. In 1909 cotton spindles represented a slightly larger proportion of all spindles than in 1904 and 1899, and woolen and worsted spindles combined a slightly smaller proportion.

Looms.—The number of power and of hand looms, respectively, used in the manufacture of the several kinds of textiles, as reported for each census year from 1869 to 1909, is shown in Table 15. It does not include looms in establishments engaged primarily in the manufacture of products other than textiles, nor looms employed on flax, hemp, jute, and similar fibers.

The increase in the total number of power looms from 1899 to 1909 was 252,264, or 44 per cent. There was an increase from 1899 to 1909 in the number of each kind of power looms shown in the table except

the woolen looms, which decreased in number, though the combined number of woolen and worsted looms increased. The largest relative increase from 1904 to 1909 was in the worsted looms (power looms only), 40.4 per cent; the number employed on silk goods increased 26.1 per cent and the number on cotton goods 18.9 per cent. Cotton looms operated by power formed 80.6 per cent of the total number of looms in 1909 as compared with 79.5 per cent in 1899; silk power looms, 9.1 per cent as compared with 7.7 per cent; woolen power looms, 4 per cent as compared with 6.4 per cent; and worsted power looms, 4.8 per cent as compared with 4.6 per cent. The use of hand looms has been decreasing very rapidly since 1879 and their number in 1909 was insignificant.

Table 15 NUMBER OF LOOMS.

CLASS OF LOOMS AND CENSUS YEAR.	NUMBER OF LOOMS.					
	Total.	Cotton looms.	Silk looms.	Woolen looms.	Worsted looms.	Carpet and rug looms.
Power:						
1909.....	825,418	665,652	75,406	33,148	39,476	11,736
1904.....	696,785	559,781	59,775	38,104	28,123	11,002
1899.....	573,214	455,752	44,257	36,734	26,030	9,841
1889.....	412,441	324,866	20,322	38,523	19,029	8,501
1879.....	285,494	227,383	5,321	32,955	11,703	8,132
1869.....	200,791	157,748	1,281	34,183	6,128	1,451
Hand:						
1909.....	248	(¹)	(²)	41		207
1904.....	1,039	(¹)	283	66		690
1899.....	1,311	(¹)	173	83		1,055
1889.....	4,823	(¹)	1,747	448		2,628
1879.....	7,929	(¹)	3,153	781		3,995
1869.....	4,163	(¹)	188	(¹)		3,975

¹ Not reported.

² Included with power looms.

COTTON MANUFACTURES

COTTON MANUFACTURES.

GENERAL STATISTICS FOR THE INDUSTRY AS A WHOLE.

Scope of the industry.—Under the census classification "cotton goods, including cotton small wares," two classes of mills are distinguished: (1) those producing "cotton goods," including mills engaged in the spinning of cotton or in the weaving of piece goods, or in both of these processes; and (2) those producing "cotton small wares," including establishments manufacturing narrow fabrics, such as tapes, webbing and mill banding, braids, shoe and corset laces, and similar goods. All establishments producing piece goods are included in the former group, even though manufacturing some narrow woven goods or braids; and the latter group includes some establishments that do spinning, but only in cases where the yarns are used by the establishment in the manufacture of cotton small wares.

Summary for the industry: 1909.—Table 1 presents a summary of the statistics of the cotton goods industry as a whole for 1909.

	Total for the industry.	ESTABLISHMENTS ENGAGED PRIMARILY IN MANUFACTURING—	
		Cotton goods.	Cotton small wares.
Number of establishments.....	1,324	1,208	116
Persons engaged in the industry.....	387,771	379,538	8,233
Proprietors and firm members.....	8,377	303	74
Salaried employees.....	8,514	8,053	461
Wage earners (average number).....	378,880	371,182	7,698
Primary horsepower.....	1,296,517	1,286,105	10,412
Capital.....	\$822,237,529	\$808,413,757	\$13,824,772
Expenses.....	554,221,688	542,453,004	11,768,684
Services.....	147,270,903	143,504,935	3,765,968
Salaries.....	14,411,758	13,715,218	3,095,540
Wages.....	132,859,145	129,789,717	3,069,428
Materials.....	371,009,470	364,013,504	9,995,966
Miscellaneous.....	35,941,315	34,934,565	1,000,750
Value of products.....	628,391,813	615,217,702	13,174,111
Value added by manufacture (value of products less cost of materials).....	257,382,343	251,204,198	6,178,145

Of the two branches of the industry the cotton goods branch is by far the more important, comprising 91.2

per cent of the total number of establishments in the industry in 1909, and contributing 97.9 per cent of the total value of products.

Comparison with earlier censuses.—The first census at which statistics were obtained for the cotton goods industry was that of 1839. At that census 1,240 establishments were reported, giving employment to 72,119 persons, with products valued at \$46,350,453; for 1849, 1,094 establishments were reported, giving employment to 92,286 hands, and manufacturing products valued at \$61,869,184; and in 1859 there were 1,091 establishments, employing 122,028 hands, and with a value of products amounting to \$115,681,774.

Table 2 summarizes the statistics of the industry (the manufacture of cotton goods and of cotton small wares combined) for each census from 1869 to 1909, inclusive. Prior to the census of 1899 no distinction was made between plants manufacturing cotton goods and those manufacturing cotton small wares, but at that census and also at the censuses of 1909 and 1904 they were reported separately. In this and all following tables, however, the statistics for the two classes of establishments are combined, except as especially noted.

The financial figures for 1869 are given in currency, which at that time was worth only about 80 cents, gold, to the dollar. For strict comparison, therefore, these figures should be reduced about 20 per cent.

The figures for 1879 do not include those for 249 mills, employing 12,928 hands, classed as "special mills," which were engaged in the manufacture of hosiery, webbing, tapes, and fancy fabrics, and mixed goods or other fabrics not sold as specific manufactures of wool or cotton. The cotton used in these mills cost \$2,338,385, and the value of their products was \$18,860,273.

	COTTON GOODS, INCLUDING COTTON SMALL WARES.											
	Number or amount.						Per cent of increase. ¹					
	1909	1904	1899	1889	1879	1869	1899-1909	1904-1909	1899-1904	1889-1899	1879-1889	1869-1879
Number of establishments.....	1,324	1,154	1,055	905	756	956	25.5	14.7	9.4	16.6	19.7	-20.9
Persons engaged in the industry.....	387,771	323,287	308,237	(2)	(2)	(2)	25.8	19.9	4.9	.....	.....	.....
Proprietors and firm members.....	8,377	432	474	(2)	(2)	(2)	-20.5	-12.7	-8.9	.....	.....	.....
Salaried employees.....	8,514	6,981	4,902	(2)	(2)	(2)	73.7	22.0	42.4	.....	.....	.....
Wage earners (average number).....	378,880	315,874	302,861	213,876	172,544	135,369	25.1	19.9	4.3	(2)	(2)	(2)
Primary horsepower.....	1,296,517	986,694	795,824	464,881	275,504	146,040	62.9	31.4	24.0	71.2	68.7	88.6
Capital.....	\$822,237,529	\$613,110,655	\$467,240,157	\$354,020,843	\$208,280,346	\$140,706,291	76.0	34.1	31.2	32.0	70.0	48.0
Expenses.....	554,221,688	423,186,368	282,704,156	241,118,775	(2)	(2)	89.3	31.0	44.6	21.4	.....	.....
Services.....	147,270,903	100,443,687	94,039,951	69,489,272	42,040,510	39,044,132	56.6	38.4	13.2	35.3	65.3	7.7
Salaries.....	14,411,758	10,237,691	7,350,199	(2)	(2)	(2)	96.1	40.8	39.3	.....	.....	.....
Wages.....	132,859,145	96,205,796	86,689,782	(2)	(2)	(2)	53.3	38.1	11.0	.....	.....	.....
Materials.....	371,009,470	280,255,303	176,561,527	154,912,979	102,206,347	111,736,936	110.1	29.6	62.1	14.0	51.6	-8.5
Miscellaneous.....	35,941,315	30,487,373	22,112,878	16,715,524	(2)	(2)	62.5	17.9	37.9	32.3	.....	.....
Value of products.....	628,391,813	450,467,704	339,200,320	267,981,724	192,090,110	177,489,739	85.3	39.5	32.8	26.6	39.5	8.2
Value added by manufacture (value of products less cost of materials).....	257,382,343	164,212,401	162,648,793	113,068,745	89,883,763	65,752,803	58.2	56.7	1.0	43.8	25.8	36.7

¹ A minus sign (-) denotes decrease. Where percentages are omitted, comparable figures are not available.
² Comparable figures not available.
³ Figures not strictly comparable.

The cotton goods industry is one of the oldest and most typical factory industries in the United States. In 1909 it ranked third among the industries of the country in number of wage earners, being exceeded only by the lumber industry and the foundry and machine-shop industry, and seventh in value of products and in value added by manufacture.

The value of products reported for 1909, which, however, involves considerable duplication, was \$628,391,813. The total cost of materials was \$371,009,470, which was nearly three-fifths (59 per cent) of the total value of products, while the value added by manufacture (that is, the value of products less the cost of materials) was \$257,382,343.

The industry gave employment to an average of 387,771 persons, of whom 378,880 were wage earners. The amount paid in salaries and wages was \$147,270,903, which is equal to considerably more than half of the value added by manufacture.

The industry has had a steady growth throughout the 70 years for which statistics are available, the

value of products in 1909 being more than thirteen times as great as in 1839, and the number of wage earners more than five times as great, while the number of establishments shows an increase of 84, or 6.8 per cent. For most of the items covered by the table the percentages of increase for the decade 1899-1909 were higher than those for any other decade. The advance in the prices of commodities during the past decade, however, doubtless accounts in part for some of these increases.

Summary, by states.—Table 3 summarizes the more important statistics of the industry by states, the states being arranged according to the value of products reported for 1909. In determining the rank of the states, all states are considered, regardless of whether or not they are shown in the table; hence some omissions occur in the several series of numbers indicating rank, as certain states included under "all other states" held a higher rank in some items than some of the states for which separate figures are given.

Table 3

COTTON GOODS, INCLUDING COTTON SMALL WARES.

STATE.	Number of establishments: 1909	Wage earners.			Value of products.			Value added by manufacture.			Per cent of increase. ¹									
		Average number: 1909	Per cent of total: 1909	Rank.	Amount: 1909	Per cent of total: 1909	Rank.	Amount: 1909	Per cent of total: 1909	Rank.	Wage earners (average number).			Value of products.			Value added by manufacture.			
											1909	1904	1899	1909	1904	1899	1909	1904	1899	1909	1904	1899
United States.....	1,324	378,880	100.0	.....	\$628,391,813	100.0	.....	\$257,382,343	100.0	.....	25.1	19.9	4.3	85.3	39.5	32.8	58.2	56.7	1.0
Massachusetts.....	182	108,914	28.7	1	186,462,313	29.7	1	81,305,519	31.6	1	17.7	22.9	-4.2	67.8	43.4	17.0	43.3	63.3	-12.2	
North Carolina.....	281	47,231	12.5	2	72,680,385	11.6	2	23,992,813	9.3	4	56.0	29.0	20.1	156.2	53.8	66.5	11.8	68.6	20.5	
South Carolina.....	147	45,454	12.0	3	65,929,585	10.5	3	24,626,147	9.6	3	50.5	22.0	23.4	121.8	33.4	66.3	97.6	62.8	21.4	
Rhode Island.....	106	28,786	7.6	4	50,312,597	8.0	4	24,911,358	9.7	2	19.8	16.3	3.0	90.3	45.5	30.8	69.0	67.1	1.1	
Georgia.....	116	27,803	7.3	5	48,086,817	7.6	5	15,988,078	6.2	5	52.1	16.2	32.0	160.3	36.6	90.6	117.7	41.0	54.4	
Pennsylvania.....	175	16,293	4.3	7	33,917,033	5.4	6	15,160,098	5.9	6	-4.2	6.7	-10.3	33.3	29.0	3.3	23.5	26.6	-2.4	
New Hampshire.....	21	22,200	5.9	6	33,601,830	5.3	7	14,477,980	5.6	7	9.0	13.0	-3.5	46.1	13.7	28.4	31.2	31.1	0.1	
Connecticut.....	52	14,360	3.8	8	24,231,881	3.9	8	12,272,159	4.8	8	8.8	9.5	-0.6	56.4	31.5	19.0	54.3	49.3	3.4	
Alabama.....	51	12,731	3.4	10	22,211,748	3.5	9	7,838,501	3.0	11	52.8	10.9	37.8	172.4	32.5	105.6	135.6	65.1	42.7	
Maine.....	10	14,634	3.9	8	21,932,225	3.5	10	10,541,746	4.1	9	6.6	18.2	-9.8	49.9	42.4	5.3	38.8	69.1	-17.9	
New York.....	47	10,683	2.8	11	20,351,555	3.2	11	8,625,066	3.4	10	15.2	21.2	-5.0	88.7	51.5	24.5	70.1	80.1	-5.5	
New Jersey.....	26	6,638	1.8	12	13,728,874	2.2	12	5,164,141	2.0	12	16.8	.....	.....	98.1	.....	.....	36.9	.....	.....
Virginia.....	10	5,057	1.3	13	7,489,653	1.2	13	2,790,630	1.1	13	72.5	46.3	17.9	182.1	67.0	68.9	124.5	65.9	35.3	
Maryland.....	16	3,966	1.0	14	5,522,293	0.9	14	1,510,552	0.6	15	-16.1	-0.7	-15.5	1.8	5.3	-3.3	-36.7	10.1	-42.4	
Tennessee.....	17	3,078	0.8	15	5,200,791	0.8	15	1,857,119	0.7	14	46.0	34.2	8.8	160.7	46.1	78.5	118.0	40.7	54.9	
Mississippi.....	14	2,645	0.7	16	3,102,398	0.5	16	1,060,248	0.4	16	57.9	22.4	29.0	110.6	25.9	67.2	50.1	30.2	15.3	
Texas.....	13	1,590	0.4	17	2,814,581	0.4	17	1,021,285	0.4	17	61.6	60.1	0.9	134.6	77.4	32.2	82.8	79.6	1.8	
Indiana.....	7	1,582	0.4	18	2,501,698	0.4	18	831,601	0.3	19	11.3	34.8	-17.4	87.4	68.6	11.2	31.2	141.9	-45.7	
Illinois.....	5	1,319	0.3	19	2,111,208	0.3	19	1,009,194	0.4	18	21	.....	.....	244.4	.....	.....	217.3	.....	
Kentucky.....	4	1,044	0.3	20	1,902,467	0.3	20	714,532	0.3	20	-22.7	153.2	1.3	-23.7	14.3	21.5	-6.0	3.2	78.5	-42.2
Ohio.....	4	1,177	(*)	24	395,175	0.1	25	161,543	0.1	25	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other states.....	14	2,625	0.7	.....	3,954,806	0.6	.....	1,522,123	0.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

¹ Percentages are based on figures in Table 45. A minus sign (-) denotes decrease. Percentage not shown where base is less than \$100,000 for value added by manufacture, or where comparable figures can not be given without disclosing individual operations.

² Less than one-tenth of 1 per cent.

The industry is confined almost entirely to the states east of the Mississippi River. From the territory west of that river only 20 establishments were reported, these being distributed among five states, as follows: Texas, 13 establishments; Louisiana, 2; Missouri, 2; Arkansas, 2; and Kansas, 1. Among the states east of the Mississippi, on the other hand, there were only three states, namely, West Virginia, Florida, and Michigan, which were without cotton mills. Massachusetts is the most important state, ranking first both in 1909 and in 1904 in average number of wage

earners, value of products, and value added by manufacture. In the year 1909 this state employed 28.7 per cent of the total number of wage earners and contributed 29.7 per cent of the total value of products for the United States. The number of wage earners in the cotton goods industry in Massachusetts increased 17.7 per cent during the decade 1899-1909, and the value of its products 67.8 per cent. North Carolina ranked second in 1909 both in number of wage earners and in value of products, and South Carolina third, these two states having changed places since

1904. Rhode Island ranked fourth in value of products in 1909, having advanced from fifth place in 1904, and fourth in the number of wage earners employed, the same position as in 1904; in value added by manufacture, however, it ranked second in 1909, having advanced from third place in 1904. Georgia, Pennsylvania, New Hampshire, Connecticut, and Alabama, in the order named, were the states next in rank in value of products in 1909.

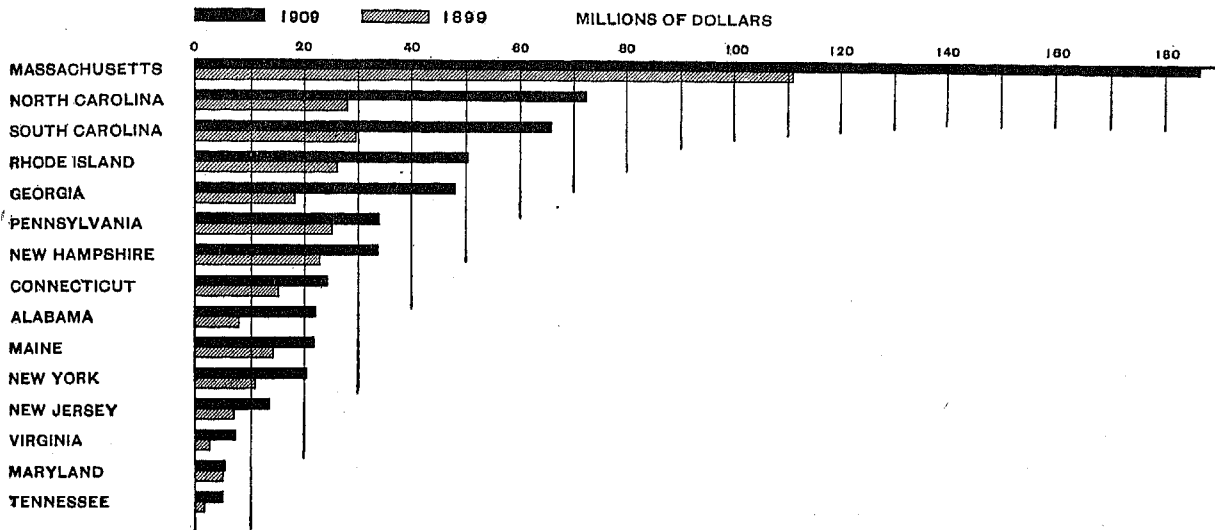
Eight of the states listed in Table 3 show an increase of over 100 per cent for the period 1899-1909 in value of products, and seven of the eight show a gain of over 50 per cent in number of wage earners. In general, the percentages of increase in the leading Southern cotton manufacturing states were decidedly greater

than those in the Northern states. Among the 10 leading states, Alabama shows the highest percentage of increase for the decade in value of products, and North Carolina the highest in number of wage earners; for the five-year period 1904-1909, however, North Carolina shows the greatest relative increase in both items.

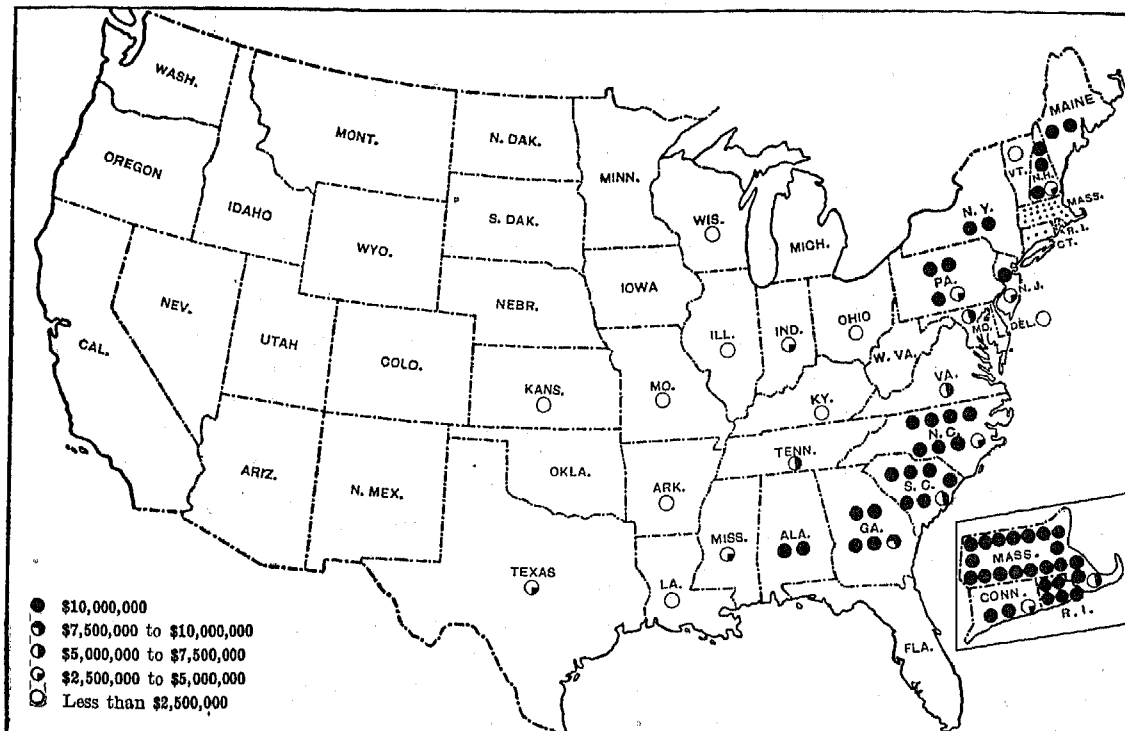
Most of the states held the same, or practically the same, rank in value added by manufacture in 1909 as in value of products.

The diagram below shows graphically the value of products reported for the most important states in the industry as a whole in 1909 and 1899, while the map shows the distribution of the value of products by states in 1909.

VALUE OF PRODUCTS FOR THE MOST IMPORTANT STATES: 1909 AND 1899.



VALUE OF PRODUCTS, BY STATES: 1909.



PERSONS ENGAGED IN THE INDUSTRY.

Summary: 1909.—Table 4 shows, for 1909, the number of persons engaged in the industry as a whole and in each of its branches, classified according to occupational status and sex, and in the case of wage earners, according to age also. It should be borne in mind that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

BRANCH OF THE INDUSTRY AND CLASS OF PERSONS.	PERSONS ENGAGED IN THE INDUSTRY: 1909		
	Total.	Male.	Female.
Cotton goods, including cotton small wares.....	387,771	221,299	166,472
Proprietors and officials.....	4,461	4,410	51
Proprietors and firm members.....	377	355	22
Salaried officers of corporations.....	1,728	1,715	11
Superintendents and managers.....	2,358	2,340	18
Clerks.....	4,430	3,413	1,017
Wage earners (average number).....	378,880	213,476	165,404
16 years of age and over.....	339,574	192,930	146,644
Under 16 years of age.....	39,306	20,546	18,760
Cotton goods.....	379,538	218,205	161,333
Proprietors and officials.....	4,167	4,121	46
Proprietors and firm members.....	303	281	22
Salaried officers of corporations.....	1,613	1,605	8
Superintendents and managers.....	2,251	2,235	16
Clerks.....	4,189	3,270	919
Wage earners (average number).....	371,182	210,814	160,368
16 years of age and over.....	332,358	190,377	141,981
Under 16 years of age.....	38,824	20,437	18,387
Cotton small wares.....	8,233	3,094	5,139
Proprietors and officials.....	294	289	5
Proprietors and firm members.....	74	74	0
Salaried officers of corporations.....	113	110	3
Superintendents and managers.....	107	105	2
Clerks.....	241	143	98
Wage earners (average number).....	7,698	2,662	5,036
16 years of age and over.....	7,216	2,553	4,663
Under 16 years of age.....	482	109	373

The average number of persons engaged in the cotton manufacturing industry as a whole during 1909 was 387,771, of whom 378,880, or 97.7 per cent, were wage earners; 4,461, or 1.2 per cent, were proprietors and officials; and 4,430, or 1.1 per cent, were clerks, this class including other subordinate salaried employees. Of the total number, 221,299, or 57.1 per cent, were males, and 166,472, or 42.9 per cent, were females. Of the clerks, 23 per cent were females, and of the wage earners over 16 years of age, 43.2 per cent. The average number of children under 16 years of age employed as wage earners was 39,306, of whom nearly one-half were girls. Children constituted 10.4 per cent of the total number of wage earners. The larger proportion of proprietors and officials in the cotton small wares branch of the industry is in part due to the generally smaller size of the establishments.

In order to compare the distribution of the persons engaged in the industry according to occupational status

in 1909 with that in 1904, it is necessary to use the classification employed at the earlier census. (See Introduction.) Such a comparison is made in Table 5.

CLASS.	1909		1904		Per cent of increase, 1904-1909
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	387,771	100.0	323,287	100.0	18.9
Proprietors and firm members.....	377	0.1	432	0.1	-12.7
Salaried employees.....	8,514	2.2	6,981	2.2	22.0
Wage earners (average number).....	378,880	97.7	315,874	97.7	19.9

¹ A minus sign (-) denotes decrease.

Each of the three classes shown in the table represented the same proportion of the total in both census years.

Table 6 shows the average number of wage earners in the industry as a whole, distributed according to age, and in the case of those 16 years and over, according to sex, for 1909, 1904, and 1899.

CLASS.	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	378,880	100.0	315,874	100.0	302,861	100.0
16 years of age and over.....	339,574	89.6	275,440	87.2	292,603	86.7
Male.....	192,930	50.9	147,283	46.6	135,721	44.8
Female.....	146,644	38.7	128,157	40.6	126,882	41.9
Under 16 years of age.....	39,306	10.4	40,434	12.8	40,258	13.3

The percentages of women and children employed decreased during each of the intercensal periods covered by the table, though the actual number of women employed was greater in 1909 than in either of the two earlier years.

The average number of wage earners in each state in 1909, 1904, and 1899 is given in Table 45. The distribution of the average number by sex and age is not shown for the individual states, but Table 46 gives such a distribution of the number employed on December 15, 1909, or the nearest representative day. The largest number of female wage earners employed in any state was 51,238 in Massachusetts, and the next largest number, 19,052, in North Carolina.

In three of the Southern states—Alabama, North Carolina, and South Carolina—nearly 19 per cent of all wage earners in the industry in 1909 were children under 16 years of age. In Massachusetts, the leading state in the industry, however, only 5.7 per cent were children.

The proportion of women employed was much larger in Massachusetts, New Hampshire, and Rhode Island than in the Southern states shown, the percentage in New Hampshire being 48.3, that in Rhode Island 43.3, and in Massachusetts 43.1.

Wage earners classified according to nature of employment.—The enumeration of spinners and weavers in cotton mills was first attempted at the census of 1899, but the form of the inquiry was so defective that it is not deemed advisable to place the data in comparison with that secured in 1909 and 1904. At the census of 1904 and again in 1909 a more satisfactory enumeration of the spinners and weavers employed in the industry was made. Table 7 shows, for the United States for 1909 and 1904, and for selected states for 1909, the distribution by sex and age of spinners, weavers, and all other wage earners. It should be

noted that the absolute figures for the two censuses are not strictly comparable, owing to the fact that the numbers shown for 1904 are computed averages for the entire year, while those for 1909 are the numbers reported for December 15, or the nearest representative day. The difference between the number of wage earners on this day and the average number for the year, however, was only 8,818, or a little more than 2 per cent of the total; and since there is little variation from month to month in the proportion of the different classes of employees, the figures representing the per cent distribution are fairly comparable.

Table 7		WAGE EARNERS IN THE COTTON MANUFACTURING INDUSTRY. ¹						WAGE EARNERS IN THE COTTON MANUFACTURING INDUSTRY. ¹							
CLASS.	Total.	Spinners.		Weavers.		All other.		CLASS.	Total.	Spinners.		Weavers.		All other.	
		Number.	Per cent of total.	Number.	Per cent of total.	Number.	Per cent of total.			Number.	Per cent of total.	Number.	Per cent of total.		
United States:															
1909.....	387,698	67,378	17.4	102,413	26.4	217,907	56.2	Massachusetts—Contd.							
1904.....	315,874	60,428	19.1	101,556	32.2	153,890	48.7	Under 16 years of age.....	6,347	1,145	18.0	871	13.7	4,331	68.2
16 years of age and over:								Male.....	3,101	504	16.3	394	12.7	2,203	71.0
1909.....	347,477	50,499	14.5	99,107	28.5	197,871	56.9	Female.....	3,246	641	19.7	477	14.7	2,128	65.6
1904.....	275,440	41,334	15.0	99,220	36.0	134,886	49.0	New Hampshire.							
Male—								16 years of age and over.....	22,018	2,385	10.8	4,620	21.0	15,011	68.2
1909.....	197,420	20,447	10.4	53,323	27.0	123,650	62.6	Male.....	21,578	2,213	10.3	4,557	21.1	14,808	68.6
1904.....	147,283	15,607	10.6	48,995	33.3	82,681	56.1	Female.....	10,935	1,160	10.5	1,921	17.6	7,804	71.9
Female—								Under 16 years of age.....	438	172	39.3	63	14.4	203	46.3
1909.....	150,057	30,052	20.0	45,784	30.5	74,221	49.5	Male.....	265	117	44.1	48	18.1	100	37.7
1904.....	128,163	25,727	20.1	50,231	39.2	52,205	40.7	Female.....	173	55	31.8	15	8.7	103	59.5
Under 16 years of age:								North Carolina.							
1909.....	40,221	16,870	42.0	3,306	8.2	20,036	49.8	16 years of age and over.....	49,171	12,778	26.0	9,472	19.3	26,921	54.7
1904.....	40,428	10,094	24.9	2,330	5.8	19,004	47.0	Male.....	39,868	8,233	20.7	8,978	22.5	22,657	56.8
Male, 1909.....	21,024	6,831	32.5	1,671	7.9	12,522	59.6	Female.....	25,137	3,527	14.0	5,504	21.9	16,106	64.1
Female, 1909.....	19,107	10,048	52.3	1,635	8.5	7,514	39.1	Under 16 years of age.....	14,731	4,706	31.9	3,474	23.6	6,551	44.5
Selected states, 1909.								Male.....	9,303	4,545	48.9	494	5.3	4,204	45.8
Alabama.	13,282	3,611	27.2	2,791	21.0	6,880	51.8	Female.....	4,982	1,535	30.8	207	4.1	3,180	63.8
16 years of age and over.	10,793	2,309	21.4	2,704	25.1	5,780	53.6	Under 16 years of age.....	4,321	3,010	69.7	227	5.3	1,084	25.1
Male.....	6,068	926	15.3	1,587	26.2	4,155	68.3	Rhode Island.							
Female.....	4,125	1,383	33.5	1,117	27.1	1,625	39.4	16 years of age and over.....	29,786	4,064	13.6	9,168	30.8	16,554	55.6
Under 16 years of age.....	2,489	1,302	52.3	87	3.5	1,100	44.2	Male.....	27,985	3,675	13.1	9,022	32.2	15,288	54.6
Male.....	1,281	457	35.7	28	2.2	790	62.1	Female.....	15,091	1,660	11.0	4,922	32.6	8,509	56.4
Female.....	1,208	845	70.0	59	4.9	304	25.2	Under 16 years of age.....	12,894	2,015	15.6	4,100	31.8	6,779	52.6
Georgia.	28,495	7,984	28.0	6,046	21.2	14,465	50.8	Male.....	1,801	389	21.6	146	8.1	1,266	70.3
16 years of age and over.....	24,212	5,750	23.7	5,670	23.4	12,792	52.8	Female.....	900	147	16.3	80	8.9	673	74.8
Male.....	14,993	2,542	17.0	3,297	22.0	9,154	61.0	Under 16 years of age.....	901	242	26.9	66	7.3	593	65.8
Female.....	9,219	3,208	34.8	2,373	25.7	3,638	39.5	South Carolina.							
Under 16 years of age.....	4,283	2,234	52.2	376	8.8	1,673	39.1	16 years of age and over.....	46,065	12,650	27.5	12,572	27.3	20,843	45.2
Male.....	2,333	971	41.6	194	8.3	1,168	50.1	Male.....	37,449	7,593	20.2	11,775	31.4	18,111	48.4
Female.....	1,950	1,263	64.8	182	9.3	505	25.9	Female.....	25,063	3,275	12.9	8,627	34.1	14,161	54.3
Massachusetts.	111,253	13,065	11.7	33,742	30.3	64,446	57.9	Under 16 years of age.....	11,386	4,288	37.7	3,148	27.6	3,950	34.7
16 years of age and over.....	104,906	11,920	11.4	32,871	31.3	60,115	57.3	Male.....	8,616	5,087	59.0	797	9.3	2,732	31.7
Male.....	56,914	3,966	7.0	16,520	29.0	36,428	64.0	Female.....	4,843	2,379	49.1	472	9.7	1,982	41.1
Female.....	47,992	7,954	16.6	16,351	34.1	23,687	49.4	Under 16 years of age.....	3,773	2,708	71.8	325	8.6	740	19.6

¹ For 1909 the figures are those reported for the 15th day of December, or the nearest representative day; for 1904 the average number is given.

Of the total number of wage earners in 1909, 17.4 per cent were spinners and 26.4 per cent were weavers. In 1904 spinners constituted 19.1 per cent and weavers 32.2 per cent of the total number of wage earners. The marked decline in the proportion of weavers is due in a measure to the more general installation of automatic looms, which make possible a great increase in the output per weaver.

The number of spinners in 1909 exceeded the number of weavers in each of the Southern states shown—Alabama, Georgia, North Carolina, and South Carolina—

while in Massachusetts, New Hampshire, and Rhode Island the weavers outnumbered the spinners. This difference is due to the fact that in the Northern states the proportion of finer and more elaborate fabrics woven is greater than in the Southern states.

Table 8 shows, for the United States as a whole for 1909 and 1904, and for certain important states in the industry for 1909 only, the percentage of men, women, and children, respectively, in the total number of wage earners and in each of the three classes for which statistics are presented in Table 7.

Table 8

CLASS.	COTTON GOODS, INCLUDING COTTON SMALL WARES—PER CENT OF TOTAL.		
	16 years and over.		Under 16 years.
	Male.	Female.	
United States:			
All wage earners—			
1909.....	50.9	38.7	10.4
1904.....	46.6	40.6	12.8
Spinners—			
1909.....	30.3	44.6	25.1
1904.....	25.8	42.6	31.6
Weavers—			
1909.....	52.1	44.7	3.2
1904.....	48.2	49.5	2.3
All other—			
1909.....	56.7	34.1	9.2
1904.....	53.7	33.9	12.3
Selected states, 1909:			
Alabama—			
All wage earners.....	50.2	31.1	18.7
Spinners.....	25.6	33.3	36.1
Weavers.....	56.9	40.0	3.1
All other.....	60.4	23.6	16.0
Georgia—			
All wage earners.....	52.6	32.4	15.0
Spinners.....	31.8	40.2	28.0
Weavers.....	54.5	39.2	6.2
All other.....	63.3	25.2	11.6
Massachusetts—			
All wage earners.....	51.2	43.1	5.7
Spinners.....	30.4	60.9	8.8
Weavers.....	49.0	48.5	2.6
All other.....	56.5	36.8	6.7
New Hampshire—			
All wage earners.....	49.7	48.3	2.0
Spinners.....	48.2	44.6	7.2
Weavers.....	41.6	57.1	1.4
All other.....	52.4	46.3	1.4
North Carolina—			
All wage earners.....	51.1	30.0	18.9
Spinners.....	27.6	36.8	35.6
Weavers.....	58.1	36.7	5.2
All other.....	59.8	24.3	15.8
Rhode Island—			
All wage earners.....	50.7	43.3	6.0
Spinners.....	40.8	49.6	9.6
Weavers.....	53.7	44.7	1.6
All other.....	51.4	41.0	7.6
South Carolina—			
All wage earners.....	56.6	24.7	18.7
Spinners.....	25.9	33.9	40.2
Weavers.....	68.6	25.0	6.3
All other.....	67.9	19.0	13.1

Of the total number of spinners in 1909, 44.6 per cent were women 16 years of age and over, and 25.1 per

cent were children under 16 years of age, the corresponding percentages for 1904 being 42.6 and 31.6. Among the weavers in 1909, 44.7 per cent were women and 3.2 per cent were children under 16 years of age, the proportion of women being somewhat lower and that of children somewhat higher than in 1904. The Southern states for which separate figures are presented show relatively high percentages of children for each of the three classes of wage earners for which figures are given in the table, as well as for the total number. In South Carolina, for example, 40.2 per cent of the spinners in 1909 were children under 16 years of age, as compared with 7.2 per cent in New Hampshire, and 6.3 per cent of the weavers, as compared with 1.4 per cent in New Hampshire.

Wage earners employed, by months.—Table 9 gives the number of wage earners employed on the 15th (or the nearest representative day) of each month during the year 1909 for each state in which an average of 500 or more wage earners were employed during the year, for which figures can be shown without disclosing individual operations.

The largest number of wage earners employed during any month of 1909 was 383,529, in December, and the smallest number, 374,433, in January, the minimum number being equal to 97.6 per cent of the maximum. The gradual increase in the number from May to December may probably be ascribed to the better industrial conditions existing at the close of the year. The industry, while not subject to material seasonal variations, is usually more active during the winter months than in the summer. In 1904 the maximum number of wage earners, 330,057, was reported for January, and the minimum number, 284,744, for August, the latter number being equal to 86.3 per cent of the former.

Table 9

STATE.	WAGE EARNERS EMPLOYED IN THE INDUSTRY—BOTH BRANCHES COMBINED: 1909 ¹												
	Average number during the year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
United States.....	378,880	374,433	376,348	377,982	377,521	377,487	377,862	378,700	378,920	380,363	381,225	382,232	383,529
Alabama.....	12,731	12,692	12,674	12,550	12,628	<i>12,559</i>	12,751	12,685	12,970	12,641	12,847	12,826	13,061
Connecticut.....	14,360	14,324	14,510	14,259	14,418	14,263	14,282	<i>14,199</i>	14,277	14,367	14,388	14,483	14,556
Georgia.....	27,803	28,148	28,167	27,840	27,770	27,275	27,812	<i>26,990</i>	27,842	27,732	27,837	28,218	28,001
Illinois.....	1,310	<i>1,212</i>	1,237	1,260	1,274	1,256	1,339	1,303	1,326	1,366	1,370	1,418	1,454
Indiana.....	1,582	1,635	1,636	1,614	1,578	1,591	1,617	1,613	1,577	1,546	1,537	1,522	<i>1,618</i>
Kentucky.....	1,044	1,037	1,026	1,051	1,042	1,056	1,069	1,036	<i>976</i>	1,064	1,064	1,043	1,058
Maine.....	14,634	<i>14,474</i>	14,506	14,603	14,595	14,721	14,721	14,653	14,922	14,626	14,714	14,501	14,576
Maryland.....	3,966	4,061	4,011	3,977	3,987	3,652	3,798	3,935	4,082	4,090	4,091	4,110	4,065
Massachusetts.....	108,914	<i>106,670</i>	107,243	108,629	108,631	108,879	108,518	109,181	108,938	110,230	109,612	109,654	110,781
Mississippi.....	2,645	2,631	2,708	2,792	2,701	2,665	2,672	2,689	2,666	2,582	2,551	2,578	<i>2,606</i>
New Hampshire.....	22,290	22,075	22,197	22,241	22,415	22,437	22,335	22,334	22,408	22,390	22,466	22,242	<i>21,941</i>
New Jersey.....	6,638	6,597	6,608	6,653	6,534	6,592	6,517	<i>6,500</i>	6,570	6,638	6,699	6,826	6,816
New York.....	10,663	10,671	10,881	10,729	10,638	10,577	10,658	10,577	10,568	10,684	10,502	10,845	10,671
North Carolina.....	47,231	<i>46,184</i>	46,531	46,649	46,835	46,625	46,414	47,221	47,137	47,385	48,291	48,466	49,034
Pennsylvania.....	16,293	15,951	15,817	16,116	16,186	16,336	16,416	16,240	16,176	16,375	16,485	16,709	16,709
Rhode Island.....	28,786	28,807	28,738	28,896	28,806	28,818	28,632	28,611	<i>28,342</i>	28,722	28,796	29,080	29,192
South Carolina.....	45,454	<i>44,609</i>	45,105	45,346	45,144	45,469	45,773	46,300	45,644	45,687	45,673	45,387	45,226
Tennessee.....	3,078	3,083	3,070	3,057	3,058	3,046	3,078	3,106	3,042	3,053	3,114	3,111	3,111
Texas.....	1,590	1,636	1,624	1,621	1,602	1,620	1,606	1,590	1,611	1,595	1,516	1,544	1,544
Vermont.....	683	678	651	648	650	660	660	649	692	701	726	730	753
Virginia.....	5,057	5,116	5,240	5,190	5,113	5,066	5,071	5,066	5,012	4,901	4,930	5,064	4,973

¹ The month of maximum employment for each state is indicated by boldface figures and that of minimum employment by italic figures.

Table 9 shows further that in the two foremost states, Massachusetts and North Carolina, the greatest activity occurred during December, while for South Carolina, the third state in respect to number of wage earners, the largest number was reported for July. In most of the states for which figures can be presented, however, there was no considerable variation in the number employed during the year. The months of maximum and minimum employment for 1909 and the number of wage earners reported for these months are given for 21 states in Table 46.

Prevailing hours of labor.—In Table 10 the wage earners in the cotton manufacturing industry have been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. In making this classification the average number of wage earners employed during the year in each establishment was classified as a total according to the hours prevailing in that establishment, even though a few employees worked a greater or smaller number of hours.

STATE.	Total.	In establishments with prevailing hours—						
		48 and under.	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	Be- tween 60 and 72.	72 and over.
United States...	378,880	304	2,879	571	180,998	119,226	64,687	215
Alabama.....	12,731		30		477	7,320	4,814	84
Connecticut.....	14,360		33		13,448	879		
Georgia.....	27,803	304	105		519	10,808	15,913	94
Illinois.....	1,319		887		96	330		
Indiana.....	1,532				38	1,544		
Kentucky.....	1,044					858	189	
Maine.....	14,634				1,118	13,516		
Maryland.....	3,966					3,966		
Massachusetts.....	108,914		11	41	108,760	35	58	
Mississippi.....	2,045				118	1,434	1,093	
New Hampshire.....	22,280				22,280	1,068		
New Jersey.....	6,638		3		5,337	1,068		
New York.....	10,663		247	17	1,277	9,122		
North Carolina.....	47,231				52	7,499	39,680	
Pennsylvania.....	16,293		1,112		8,294	6,887	94	
Rhode Island.....	28,736			34	28,658			
South Carolina.....	45,454		445			45,009		
Tennessee.....	3,073			65		1,333	1,643	37
Texas.....	1,590					397	1,193	
Vermont.....	683			21		662		
Virginia.....	5,057					5,057		

Practically one-half (50.4 per cent) of the wage earners employed in the cotton manufacturing industry in 1909 were in establishments where the prevailing hours were between 54 and 60 per week, and nearly one-third (31.5 per cent) were employed in establishments where the hours were 60 per week, these two classes of establishments giving employment to 81.9 per cent of the total number of wage earners in the industry. Only 1 per cent of the total were employed in establishments where the usual hours were 54 or less per week, and 17.1 per cent in establishments where more than 60 hours per week were required,

practically all of these latter being in Southern states. All of the wage earners in New Hampshire and nearly all of those in Massachusetts, Rhode Island, and Connecticut were in establishments where the prevailing hours were more than 54 but less than 60 per week, 90.7 per cent of the total number of wage earners in this group being reported from these four states. On the other hand, 84 per cent of the 47,231 wage earners in North Carolina and 57.2 per cent of the 27,803 wage earners in Georgia were employed in establishments where the prevailing hours of labor per week were more than 60 but less than 72, while 99 per cent of the wage earners in South Carolina were in establishments operating on a 60-hour basis.

CHARACTER OF OWNERSHIP.

Table 11 presents statistics with respect to the character of ownership of the establishments in the cotton manufacturing industry.

CHARACTER OF OWNERSHIP.	Number of establishments.		Value of products.	
	1909	1904	1909	1904
	Total.....	1,324	1,154	\$628,381,813	$450,467,704
Individual.....	110	114	11,489,389	11,834,968
Firm.....	101	118	18,132,188	20,706,429
Corporation.....	1,113	922	598,770,236	417,926,307
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	8.3	9.9	1.8	2.6
Firm.....	7.6	10.2	2.9	4.6
Corporation.....	84.1	79.9	95.3	92.8

¹ Includes one establishment under "other" ownership, to avoid disclosure of individual operations.

Of the total number of mills reported for the industry in 1909, 84.1 per cent were under corporate ownership, as compared with 79.9 per cent in 1904; of the total value of products the corporate establishments contributed 95.3 per cent in 1909 and 92.8 per cent in 1904. These figures indicate a slight gain during the five-year period in the relative importance, as measured by value of products, of establishments under corporate ownership.

Of the total number of wage earners reported for the cotton manufacturing industry in 1909, 5,366, or 1.4 per cent, were employed in establishments under individual ownership; 11,250, or 3 per cent, in those under firm ownership; and 362,264, or 95.6 per cent, in those owned by corporations.

Table 12 gives statistics for establishments classified according to form of ownership for each state in which an average of more than 500 wage earners were employed in 1909 for which figures can be shown without disclosing individual operations.

MANUFACTURES.

STATE.	Number of establishments owned by—			Wage earners in establishments owned by—			Value of products of establishments owned by—			Value added by manufacture in establishments owned by—		
	Individu-als.	Firms.	Corpora-tions.	Individu-als.	Firms.	Corpora-tions.	Individu-als.	Firms.	Corpora-tions.	Individu-als.	Firms.	Corpora-tions.
United States.....	110	101	1,113	5,366	11,250	362,264	\$11,489,389	\$18,132,188	\$598,770,236	\$4,811,009	\$7,519,105	\$245,052,229
Alabama.....			51			12,731			22,211,748			7,838,501
Connecticut.....	7	7	38	457	307	13,536	1,215,338	487,231	22,529,312	436,251	195,691	11,640,217
Georgia.....	6	2	108	834	(X)	26,919	1,863,989	(X)	46,172,878	581,893	(X)	15,406,215
Illinois.....			5			1,319			2,111,208			1,009,194
Indiana.....			7			1,582			2,501,598			831,601
Kentucky.....	1		3	(X)		1,044	(X)		1,902,467	(X)		714,532
Maine.....			16			14,634			21,932,225			10,541,746
Maryland.....		1	15	(X)		5,966	(X)		6,522,293	(X)		1,510,552
Massachusetts.....	12	13	157	643	1,593	100,678	1,181,169	2,321,164	182,959,980	380,666	1,012,783	79,012,070
Mississippi.....			14			2,645			3,102,398			1,060,248
New Hampshire.....	1	1	19	(X)	(X)	22,290	(X)	(X)	33,601,830	(X)	(X)	14,477,030
New Jersey.....	5	4	17	78	288	6,272	117,072	403,415	13,208,387	62,023	128,416	4,973,702
New York.....	8	6	33	110	309	10,244	579,535	790,762	18,981,258	236,676	408,243	7,980,147
North Carolina.....	9	10	262	648	943	45,640	924,409	1,354,931	70,401,045	354,830	485,928	23,152,055
Pennsylvania.....	48	43	84	2,424	3,540	10,329	5,355,654	6,602,593	21,958,816	2,609,366	2,672,054	9,878,588
Rhode Island.....	8	12	86	62	3,604	25,120	163,448	5,092,593	45,056,556	61,592	2,343,253	22,506,513
South Carolina.....	3		144	94		45,360	195,618		65,733,967	49,859		24,576,288
Tennessee.....	1	1	15	(X)	(X)	5,078	(X)	(X)	6,809,791	(X)	(X)	1,837,110
Texas.....			13			1,590			2,814,581			1,021,285
Virginia.....			10			5,057			7,489,653			2,790,630

NOTE.—In some states, in order to avoid disclosing the returns for individual establishments, the figures for one group have been consolidated with those for establishments under some other form of ownership. In such cases an (X) is placed in the column from which the figures have been omitted and the figures for the group with which they have been combined are printed in italics.

The corporate form of ownership was the only form reported in seven of the states listed and was the prevailing form in all of them. Pennsylvania was the only state in which establishments under individual and firm ownership formed any considerable proportion of the total. In that state, however, these two groups constituted 27.4 per cent and 24.6 per cent, respectively, of the total number of establishments, employed 14.9 per cent and 21.7 per cent, respectively, of the total number of wage earners, and contributed 15.8 per cent and 19.5 per cent, respectively, of the total value of products.

SIZE OF ESTABLISHMENTS.

Classification by value of products.—Table 13 presents statistics for 1909 and 1904 for establishments grouped according to the value of their products.

VALUE OF PRODUCTS PER ESTABLISHMENT.	Number of establishments.		Value of products.	
	1909	1904	1909	1904
	Total.....	1,324	1,154	\$628,391,813	$450,467,704
Less than \$5,000.....	17	26	41,056	67,549
\$5,000 and less than \$20,000.....	66	47	840,504	505,350
\$20,000 and less than \$100,000.....	280	273	17,137,769	15,698,309
\$100,000 and less than \$1,000,000.....	798	709	278,026,841	236,222,358
\$1,000,000 and over.....	163	99	332,345,643	197,834,132
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	1.3	2.3		
\$5,000 and less than \$20,000.....	5.0	4.1	(¹)	(¹)
\$20,000 and less than \$100,000.....	21.1	23.7	0.1	0.1
\$100,000 and less than \$1,000,000.....	60.3	61.4	2.7	3.5
\$1,000,000 and over.....	12.3	8.6	44.2	52.4
			52.9	43.9

¹ Less than one-tenth of 1 per cent.

Of the 1,324 establishments reported for 1909, 163, or 12.3 per cent, manufactured products valued at

\$1,000,000 or over. In 1904 there were 99 establishments of this class out of a total of 1,154, or 8.6 per cent. While such establishments represented a comparatively small proportion of the total number at both censuses, they reported 52.9 per cent of the total value of products in 1909 and 43.9 per cent in 1904. In 1909 there were included in this group 5 establishments with products valued at \$5,000,000 or over, the aggregate value of their products exceeding \$37,000,000.

In considering the increase between 1904 and 1909 in the proportion of the business controlled by large establishments, it should be borne in mind that in consequence of the marked increase which has taken place in the prices of commodities during this five-year period, establishments might pass from the next lower class into the class comprising establishments having products valued at \$1,000,000 or over without a corresponding increase in the volume of their output.

The small establishments—that is, those manufacturing products valued at less than \$20,000—constituted a very small proportion of the total number at both censuses, and the value of their products formed only one-tenth of 1 per cent of the total. The establishments with products between \$100,000 and \$1,000,000 in value constituted 60.3 per cent of the total number in 1909 and contributed 44.2 per cent of the total value of products; in 1904, however, they were the most important class as measured by value of products, reporting 52.4 per cent of the total.

The average value of products per establishment increased from \$390,353 in 1904 to \$474,616 in 1909, and the average value added by manufacture, as computed from the figures in Table 2, from \$142,298

to \$194,398, these increases being probably due in part to advances in the prices of products. The average number of wage earners, however, likewise increased, from 274 in 1904 to 286 in 1909.

Classification by number of wage earners.—Table 14 classifies the establishments in the cotton manufacturing industry in 21 of the leading states according to the number of wage earners employed.

Table 14 COTTON GOODS, INCLUDING COTTON SMALL WARES: 1909

STATE.	Total.		Establishments employing—																
	Es-tab-lish-ments.	Wage earners (average number)	No wage earners.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
				Es-tab-lish-ments.	Wage earners.	Es-tab-lish-ments.	Wage earners.	Es-tab-lish-ments.	Wage earners.	Es-tab-lish-ments.	Wage earners.	Es-tab-lish-ments.	Wage earners.	Es-tab-lish-ments.	Wage earners.	Es-tab-lish-ments.	Wage earners.	Es-tab-lish-ments.	Wage earners.	Es-tab-lish-ments.	Wage earners.
United States	1,324	378,880	3	37	116	102	1,302	181	6,534	224	16,317	360	58,942	213	76,793	127	88,745	77	130,131
Alabama.....	51	12,731						7	292	11	776	20	3,439	7	2,599	4	3,497	2	2,158
Connecticut.....	52	14,360	1	1	2	24	9	287	4	340	15	2,565	12	4,040	5	2,605	3	4,497	
Georgia.....	110	27,803				4	62	7	270	30	2,343	39	6,164	22	7,070	11	7,249	3	4,045
Illinois.....	5	1,319						2	98					2	609		623		
Indiana.....	7	1,582						2	86			2	459	3	1,037				
Kentucky.....	4	1,044						1	48			1	138	1	280		578		
Maine.....	16	14,634						2	81	1	55	2	395	2	790	3	2,309	6	11,004
Maryland.....	16	3,966				3	35	2	89		79	5	803	3	1,062	1	759	1	1,136
Massachusetts.....	182	108,914		8	25	11	134	14	488	20	1,431	21	3,519	29	11,184	40	29,019	39	63,114
Mississippi.....	14	2,645					1	9		3	218	7	1,227	3	1,191				
New Hampshire.....	21	22,290		1	1	1	9	2	55			5	792	3	1,172	4	3,650	5	16,711
New Jersey.....	26	6,638		3	10	7	81	2	89	3	249	4	692	4	1,520	2	1,601	1	2,496
New York.....	47	10,663	1	2	7	9	109	8	269	8	621	9	1,232	5	1,695	2	1,135	3	5,595
North Carolina.....	281	47,231		1	4	12	156	46	1,650	71	5,231	97	14,818	41	14,566	10	6,385	3	4,421
Pennsylvania.....	175	16,293	1	15	51	35	457	48	1,758	26	1,717	36	5,777	11	3,912	2	1,464	1	1,157
Rhode Island.....	106	28,730		4	10	10	130	15	502	15	1,080	20	3,481	25	8,895	12	7,711	5	6,977
South Carolina.....	147	45,454		1	4	4	47	6	202	13	906	60	10,738	35	12,639	25	17,281	3	3,637
Tennessee.....	17	3,078						4	146	6	404	4	650	1	299	2	1,579		
Texas.....	13	1,590								6	507	6	1,063						
Vermont.....	3	683					1	20				1	226	1	427				
Virginia.....	10	5,057						1	27	2	117	3	371	1	450	1	909	2	3,133

Of the 1,324 establishments reported for 1909, 3 employed no wage earners, 37, or 2.8 per cent, employed from 1 to 5, 21.4 per cent employed from 6 to 50, and 16.9 per cent from 51 to 100. The largest single class consisted of 360 mills employing from 101 to 250 wage earners, though 204 mills gave employment to over 500 wage earners each. Of the total number of wage earners reported, 2.1 per cent were in establishments employing from 1 to 50 wage earners, 4.3 per cent in establishments employing from 51 to 100, 15.6 per cent in establishments employing from 101 to 250, 20.3 per cent in establishments employing from 251 to 500, 23.4 per cent in establishments employing from 501 to 1,000, and 34.3 per cent in establishments employing over 1,000. Establishments employing 1,000 wage earners or more were relatively more important in Maine, New Hampshire, Virginia, Massachusetts, and New York than in any of the other states, more than half of the wage earners in each of these five states being employed in establishments of this class.

EXPENSES.

As stated in the Introduction, the census figures representing expenses do not purport to show the total cost of manufacture, since they take no account of interest or depreciation; hence they can not properly be used for determining profits. Facts of interest can be brought out, however, concerning the

relative importance of the different classes of expenses which were reported. Table 2 shows the total expenses reported for the industry in 1909 to have been \$554,221,688, distributed as follows: Cost of materials, \$371,009,470, or 66.9 per cent; wages, \$132,859,145, or 24 per cent; salaries, \$14,411,758, or 2.6 per cent; and miscellaneous expenses, made up of advertising, ordinary repairs of buildings and machinery, insurance, traveling expenses, and other sundry expenses, \$35,941,315, or 6.5 per cent. In establishments making cotton goods, the proportions were: Cost of materials, 67.2 per cent; wages, 23.9 per cent; salaries, 2.5 per cent; and miscellaneous expenses, 6.4 per cent. In the cotton small wares branch of the industry, the corresponding percentages were 59.4, 26.1, 5.9, and 8.6, respectively.

Table 15 shows in percentages, by states, the distribution of the total expenses reported for the cotton manufacturing industry as a whole in 1909.

There are considerable variations in the proportions represented by the different classes of expenses in the several states, but the cost of materials constituted over three-fifths of the total in all the 21 states shown in the table except Illinois, while the proportion for wages ranged from 15.5 per cent in Ohio to 30.2 per cent in Maine. In all of the Southern states, together with Ohio, Indiana, New Jersey, New York, and Pennsylvania, the percentage represented by wages was lower than the average for the United

States as a whole (24 per cent), while in Maine, New Hampshire, Rhode Island, Connecticut, Illinois, and Massachusetts it was higher. States showing a high percentage for wages almost uniformly show a low percentage for materials, as is natural, since wages and cost of materials together make up by far the larger part of the total expenses reported. The differences in the proportions in the different states are attributable in part to differences in wage scales and in part to differences in the fineness and the degree of elaboration of the products, the manufacture of fine or highly elaborated products requiring more labor in proportion to the quantity of materials and more highly skilled labor than the manufacture of a lower grade of products.

Table 15

STATE.	COTTON GOODS, INCLUDING COTTON SMALL WARES—PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages	Materials.	Miscellaneous expenses.
United States.....	2.6	24.0	66.9	6.5
Alabama.....	2.3	17.4	72.5	7.8
Connecticut.....	3.9	28.5	60.1	7.6
Georgia.....	2.3	17.7	73.5	6.5
Illinois.....	5.5	27.5	58.1	8.9
Indiana.....	4.3	19.7	68.0	7.1
Kentucky.....	2.2	18.6	71.7	7.6
Maine.....	1.9	30.2	60.2	7.7
Maryland.....	2.8	20.6	72.7	3.9
Massachusetts.....	2.1	27.4	63.9	6.7
Mississippi.....	3.6	23.6	69.2	3.6
New Hampshire.....	1.4	29.6	63.4	5.6
New Jersey.....	3.2	20.8	69.2	6.8
New York.....	3.2	22.7	64.0	10.1
North Carolina.....	2.5	18.5	74.1	4.9
Ohio.....	7.1	15.5	69.2	8.1
Pennsylvania.....	5.4	23.5	62.7	8.4
Rhode Island.....	3.3	29.1	62.6	5.1
South Carolina.....	2.5	20.2	71.7	5.5
Tennessee.....	2.2	17.8	69.4	10.6
Texas.....	2.4	20.0	71.6	6.0
Virginia.....	1.9	21.5	68.3	8.3
All other states.....	3.7	23.6	67.9	4.8

ENGINES, POWER, AND FUEL.

Engines and power.—The amount of power used in the cotton manufacturing industry was first reported at the census of 1869. Table 2 shows that the total primary power used in the industry as a whole increased from 146,040 horsepower in 1869 to 1,296,517 in 1909. Table 16 shows statistics of power as reported at the censuses of 1909, 1904, and 1899.

The total primary power increased from 795,834 horsepower in 1899 to 1,296,517 horsepower in 1909, or 62.9 per cent. In 1909, as in 1904 and 1899, the power of steam engines constituted more than two-thirds of the total primary power, the percentage in 1909 (67.1), though somewhat less than that in 1904, being slightly greater than in 1899. Water power, which in 1899 formed nearly one-third (31.6 per cent) of the total primary power, constituted in 1909 only 23.4 per cent of the total. There was a marked increase, on the other hand, in the relative importance of power generated by electric motors operated by purchased current (rented electric power), which increased from 2,081 horsepower in 1899 to 108,512

horsepower in 1909, or from three-tenths of 1 per cent of the total primary power used in the industry to 8.4 per cent. These changes are partly attributable to the marked growth of this industry in the Southern states, where the use of rented electric power has increased most conspicuously—much of the current being generated at a low cost by water power.

Table 16

POWER.	COTTON GOODS, INCLUDING COTTON SMALL WARES.								
	Number of engines or motors.			Horsepower.			Per cent distribution of horsepower.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899
Primary power, total.....	6,157	3,636	3,152	1,296,517	986,604	795,834	100.0	100.0	100.0
Owned.....	3,487	3,307	3,152	1,183,037	963,042	783,792	61.2	97.6	98.5
Steam.....	2,087	2,052	1,803	869,838	707,807	531,611	67.1	71.7	66.8
Gas.....	39	21	14	2,812	1,786	321	0.2	0.2	(1)
Water wheels.....	1,352	1,234	1,335	302,288	252,923	251,850	23.3	25.6	31.6
Water motors.....	9		(2)	736		(2)	0.1		
Other.....				7,363	726	10	0.6	0.1	(1)
Rented.....	2,670	329	(2)	113,480	23,562	12,042	8.8	2.4	1.5
Electric.....	2,670	329	(2)	108,512	14,095	2,081	8.4	1.4	0.3
Other.....				4,968	9,467	9,961	0.4	1.0	1.3
Electric motors.....	6,559	1,117	280	235,902	67,139	17,594	100.0	100.0	100.0
Run by current generated by establishment.....	3,889	788	280	127,390	53,044	15,513	54.0	79.0	88.2
Run by rented power.....	2,670	329	(2)	108,512	14,095	2,081	46.0	21.0	11.8

¹ Less than one-tenth of 1 per cent.

² Not reported.

The number and horsepower of electric motors used for distributing power by means of current generated in the establishments in the industry also show a very large increase, the horsepower of such motors increasing from 15,513 in 1899 to 127,390 in 1909.

Table 17 shows for 1909 the amount of the several kinds of power and of the different kinds of fuel used in 21 of the leading states.

The states which ranked highest with respect to the amount of power used were Massachusetts, South Carolina, North Carolina, Rhode Island, and Georgia. The total horsepower reported for these states in 1909 was 902,625, or 69.6 per cent of the total for the entire industry in the United States. Steam was the most important form of primary power in all the states shown separately except Maine and Virginia, in which states water power was used to a greater extent than any other form of power. The largest amounts of steam power (292,124 horsepower), of water power (60,510 horsepower), and of power generated by gas and other internal-combustion engines (1,736 horsepower), were reported for the state of Massachusetts. The largest amount of rented electric power, 43,239 horsepower, or nearly two-fifths of the total for the United States, was reported for North Carolina, with South Carolina following closely. In North Carolina over one-fourth of the total primary power was rented electric power and in South Carolina nearly one-fifth.

Table 17

COTTON GOODS, INCLUDING COTTON SMALL WARES: 1909

STATE.	Number of establishments reporting.	Total horsepower.	Primary horsepower.						Electric horsepower.		Fuel used.						
			Owned by establishments reporting.				Rented.		Total, rented and generated in the establishment reporting.	Generated in the establishment reporting.	Coal.		Coke (short tons).	Wood (cords).	Oil, including gasoline, (barrels).	Gas (1,000 feet).	
			Total.	Steam engines.	Gas engines.	Water wheels and motors.	Other.	Electric.			Other.	Anthracite (long tons).					Bituminous (short tons).
United States	1,324	1,296,517	1,183,037	869,838	2,812	303,024	7,363	108,512	4,968	235,902	127,390	415,604	3,327,802	20,605	130,572	38,792	278,256
Alabama	51	42,637	42,637	31,775	10,712	150	150	3,917	3,917	3,917	3,917	190,686	3,812	40	40	36	36
Connecticut	52	58,137	57,975	31,628	26,311	36	36	162	162	3,882	3,720	26,603	83,617	5,100	77	77	36
Georgia	116	92,979	84,957	63,023	21,748	196	196	6,812	1,200	13,992	7,180	6	356,218	2,500	19,033	587	210,360
Illinois	5	2,020	1,975	1,975	1,975	45	45	504	459	504	459	13,171	43,828				
Indiana	7	5,315	5,315	5,315						20	20						
Kentucky	4	3,159	3,159	3,000	159								21,386				
Maine	16	53,823	51,528	20,585	30,943			2,295		10,070	7,775	796	61,531	576	903		
Maryland	16	13,128	13,043	10,060	2,983			10	75	38	28	100	31,998	78			
Massachusetts	182	362,043	354,437	292,124	1,736	60,510	67	7,377	229	47,441	40,064	166,788	918,635	924	530	4,823	31,855
Mississippi	14	8,045	8,045	8,045						421	421		31,103	9,990			
New Hampshire	21	83,966	79,650	46,704	32,940			4,011	305	14,119	10,108	50	186,279	7,395	120	1,700	18,894
New Jersey	26	17,288	17,249	16,604	30	615		29	10	1,197	1,168	48,596	29,905		1	1	1,365
New York	47	33,354	30,051	18,505	152	9,654	1,740	3,269	34	6,064	3,395	39,624	85,025	13	43	3,953	
North Carolina	281	164,609	120,907	90,521	115	29,411	860	43,239	463	54,066	10,827	6,075	420,455	9,769	66,649	320	5,500
Pennsylvania	175	24,589	21,707	21,143	74	490		495	2,387	2,455	1,960	64,645	71,658		82	4,080	
Rhode Island	106	95,278	92,314	70,001	146	22,167		2,699	265	10,418	7,719	47,239	220,965	27	478	776	555
South Carolina	147	187,716	151,352	111,897	506	36,629	2,350	36,304		58,460	22,096	7,270	428,523		21,282	276	
Tennessee	17	11,129	9,672	9,487	5	180		1,467		1,809	352	831	46,599	2,258	9		
Texas	13	4,835	4,650	4,650				185		262	77		28,540		15,981		
Vermont	3	4,026	4,026	2,951	1,075					42	42	140	9,833		107		
Virginia	10	19,750	19,750	3,650	16,100					4,510	4,510	5,569	21,448				
All other states	15	8,691	8,628	6,225	12	391	2,000	63		1,615	1,552	1,281	26,399	653	13,067	1,688	

Fuel consumed.—Although a large proportion of the power used in this industry is either water power or rented electric power, the amount of fuel consumed is very large. Bituminous coal is the principal class of fuel used, 3,327,802 short tons being consumed in 1909. Massachusetts reported the largest quantity, 918,635 tons, or over one-fourth of the entire amount used in the industry. This state also reported the largest

quantity of anthracite coal—166,788 long tons, or practically two-fifths of the total for the United States. Only three states, North Carolina, New Hampshire, and Georgia, used coke to any extent, the state first named using nearly one-half of that reported for the entire United States. The largest amount of oil (15,981 barrels) was reported for Texas, and the largest quantity of gas (210,360,000 cubic feet), for Illinois.

SPECIAL STATISTICS RELATING TO MATERIALS, PRODUCTS, EQUIPMENT, ETC.

MATERIALS.

Summary for the United States.—Table 18 gives statistics of the chief materials used in the industry as a whole for 1909, 1904, and 1899.

MATERIAL.	COTTON GOODS, INCLUDING COTTON SMALL WARES.		
	1909	1904	1899
Total cost	\$371,009,470	\$286,255,308	\$176,551,527
Cotton:			
Pounds	2,335,344,906	1,876,437,150	1,817,643,390
Cost	\$274,724,210	\$222,212,749	\$125,169,616
Domestic—			
Pounds	2,259,312,974	1,832,736,744	1,761,798,458
Cost	\$261,547,820	\$214,615,844	\$119,098,443
Foreign—			
Pounds	76,031,932	43,700,406	55,844,932
Cost	\$13,176,390	\$7,596,905	\$6,071,173
Cotton yarn:			
Pounds	126,707,003	105,411,516	94,692,864
Cost	\$34,384,791	\$24,611,200	\$17,622,568
Cotton waste:			
Pounds	80,044,061	76,678,645	41,234,900
Cost	\$4,225,790	\$3,814,290	\$1,515,591
Starch:			
Pounds	71,774,574	54,489,534	53,800,734
Cost	\$2,114,766	\$1,506,804	\$1,227,010
Chemicals and dyestuffs	\$4,886,514	\$4,573,375	\$5,718,107
All other materials	\$50,673,409	\$29,536,885	\$28,298,635

The total cost of materials as reported for 1909, which, however, includes a considerable amount of duplication, was \$371,009,470, an increase of \$84,754,167, or 29.6 per cent, over 1904, and of \$194,457,943, or 110.1 per cent, over 1899. Raw cotton is by far the most important material, the next in importance being cotton yarn, most of which is purchased from other mills in the industry, and is thus an important element in the duplication of value of products. The amount of cotton used by establishments in this industry increased from 1,817,643,390 pounds in 1899 to 2,335,344,906 pounds in 1909, or 28.5 per cent, and its cost from \$125,169,616 to \$274,724,210, or 119.5 per cent. The domestic cotton consumed increased 28.2 per cent in quantity and 119.6 per cent in value from 1899 to 1909, while foreign cotton increased 36.1 per cent in quantity and 117 per cent in value during the same period. Foreign cotton constituted 3.3 per cent of the total quantity in 1909 and 3.1 per cent in 1899.

A large amount of cotton is consumed in industries other than that designated "cotton goods, including cotton small wares." The total consumption of cotton by all manufacturing industries in the United States

for the year ending August 31, 1909, was, according to the annual report of the Census Bureau on the supply and distribution of cotton, 5,198,963 equivalent 500-pound bales, comprising 5,037,225 bales of domestic cotton, round bales being counted as half bales, and 161,738 bales of foreign cotton. The consumption reported by the cotton manufacturing industry (comprising cotton goods and cotton small wares) for the calendar year 1909 was equal to 92.9 per cent of the total consumption of domestic cotton

above mentioned and to 94 per cent of the total consumption of the foreign cotton. The foreign cotton consumed is chiefly Egyptian, which is used largely in the manufacture of thread, knit goods, and machine lace, although some Peruvian cotton is used as a substitute for wool in the manufacture of woollen goods, and also some Chinese and Indian cotton.

Materials used, by states.—Table 19 gives, by states, the consumption of materials for the years 1909, 1904, and 1899, with the cost for 1909.

Table 19

MATERIAL AND STATE.	COTTON GOODS, INCLUDING COTTON SMALL WARES.				MATERIAL AND STATE.	COTTON GOODS, INCLUDING COTTON SMALL WARES.			
	Cost: 1909	Quantity (pounds).				Cost: 1909	Quantity (pounds).		
		1909	1904	1899			1909	1904	1899
Raw cotton.....	\$274,724,210	2,335,344,906	1,876,437,150	1,817,643,390	Cotton yarn—Continued.				
Domestic.....	261,547,820	2,259,312,974	1,832,736,744	1,761,798,458	Rhode Island.....	\$4,051,301	13,263,003	13,033,803	7,031,251
Alabama.....	12,593,961	116,143,543	98,616,393	67,987,299	All other states.....	1,198,332	4,300,941	2,759,349	5,654,350
Connecticut.....	6,425,319	51,604,951	49,775,004	50,910,101	Silk yarn.....	4,684,527	1,539,240	265,256	342,425
Georgia.....	27,684,309	249,741,617	197,240,356	145,608,115	Massachusetts.....	2,854,181	872,303	129,206	142,249
Maine.....	9,384,474	78,302,022	67,023,278	79,212,256	Pennsylvania.....	331,372	96,241	66,550	92,061
Maryland.....	3,230,428	27,460,702	27,054,032	39,901,955	Rhode Island.....	1,192,881	484,241	18,251	16,128
Massachusetts.....	70,495,332	578,315,382	467,110,958	525,691,880	All other states.....	306,093	88,455	51,449	91,987
Mississippi.....	1,797,222	16,371,192	13,007,625	10,363,458	Spun silk yarn.....	1,560,822	522,766	147,333	218,255
New Hampshire.....	14,751,838	136,801,463	134,425,428	136,805,127	Massachusetts.....	802,763	187,091	40,745	78,679
New Jersey.....	1,676,359	11,820,556	12,930,555	11,396,139	Pennsylvania.....	137,998	47,887	75,011	138,573
New York.....	8,020,811	68,314,158	50,653,472	51,124,370	Rhode Island.....	85,947	32,082	6,967	.....
North Carolina.....	40,005,341	348,979,258	240,937,988	190,133,759	All other states.....	534,114	255,106	24,610	1,003
Pennsylvania.....	2,540,885	23,607,952	24,810,154	35,083,214	Yarns, other than cotton				
Rhode Island.....	13,138,735	101,896,174	89,422,905	92,900,390	and silk.....	1,937,857	3,543,516	3,118,374	4,336,758
South Carolina.....	35,284,141	322,945,571	269,045,002	229,899,760	Cotton waste.....	4,225,790	80,044,061	76,678,645	41,234,900
Tennessee.....	2,041,046	28,312,077	19,292,275	15,028,584	Alabama.....	49,049	919,725	(*)	.....
Texas.....	1,597,058	15,893,288	9,206,589	9,304,434	Connecticut.....	149,267	2,224,582	1,049,150	2,067,674
Virginia.....	4,322,388	37,160,966	23,018,074	17,832,465	Georgia.....	310,055	8,201,342	3,067,157	2,48,641
All other states.....	5,053,173	45,582,012	39,166,566	52,609,872	Maine.....	304,700	4,218,459	1,094,075	3,821,532
Foreign.....	13,176,390	76,031,932	43,700,406	55,844,932	Maryland.....	60,917	952,245	910,992	.....
Connecticut.....	1,058,728	6,058,409	3,503,478	5,955,428	Massachusetts.....	1,100,785	20,024,977	15,185,313	22,399,334
Massachusetts.....	7,242,983	44,052,645	22,878,627	35,292,324	New Hampshire.....	77,854	1,067,102	1,979,322	434,053
New Hampshire.....	188,897	1,731,164	384,150	183,520	New York.....	245,848	2,617,141	2,055,038	124,628
New Jersey.....	1,437,087	6,579,971	3,388,812	3,891,729	North Carolina.....	335,595	0,041,351	1,399,977	777,101
North Carolina.....	231,543	1,231,356	1,422,750	1,466,319	Pennsylvania.....	80,421	1,310,239	2,140,344	2,286,614
Pennsylvania.....	338,765	2,080,645	1,063,566	6,575,088	Rhode Island.....	1,274,989	20,195,998	45,108,538	5,963,702
Rhode Island.....	2,030,857	10,860,853	6,125,040	154,447	South Carolina.....	160,087	1,960,350	1,093,007	367,110
South Carolina.....	249,068	1,440,207	1,912,459	.....	Tennessee.....	54,747	705,097	(*)	.....
All other states.....	340,462	1,990,682	3,020,924	2,325,047	All other states.....	31,446	605,453	990,958	2,964,461
Dyed, bleached, and other treated cotton.....	21,591	191,779	(1)	(1)	Cotton waste.....	2,114,756	71,774,574	54,489,534	53,800,734
Raw silk.....	987,177	257,102	(1)	(1)	Alabama.....	101,218	3,677,050	3,237,017	1,666,939
Fibers, other than cotton and silk.....	189,272	1,370,087	(1)	(1)	Connecticut.....	111,368	2,044,820	2,284,201	2,073,522
Cotton yarn.....	34,384,791	128,707,003	105,411,516	94,692,884	Georgia.....	167,823	6,083,644	5,169,567	3,413,851
Connecticut.....	1,430,813	3,671,011	3,958,978	2,488,512	Maine.....	99,783	3,327,490	3,008,052	3,020,423
Maine.....	305,638	1,266,512	1,515,472	1,417,213	Massachusetts.....	471,465	15,729,395	12,549,963	18,597,203
Maryland.....	414,199	2,254,334	1,910,717	926,469	New Hampshire.....	205,708	7,263,250	3,374,959	4,719,505
Massachusetts.....	8,279,665	27,175,076	18,048,019	16,537,776	New Jersey.....	33,040	1,021,083	644,881	1,390,068
Missachusetts.....	389,009	1,884,910	1,158,983	821,587	New York.....	70,581	1,835,188	1,858,150	1,107,898
New Hampshire.....	4,206,668	10,451,910	5,523,955	2,916,328	North Carolina.....	214,975	8,799,170	6,438,605	4,557,391
New Jersey.....	1,472,313	5,843,677	5,583,162	4,297,684	Pennsylvania.....	62,350	1,418,532	1,091,619	1,751,454
New York.....	1,789,555	9,738,724	10,656,597	10,284,488	Rhode Island.....	118,461	3,584,542	2,778,102	2,487,648
North Carolina.....	10,852,298	46,787,905	41,262,481	39,937,206	South Carolina.....	350,670	11,655,200	8,334,606	6,038,638
Pennsylvania.....	.....	.....	.....	.....	Texas.....	19,516	712,422	487,750	356,000
Rhode Island.....	.....	.....	.....	.....	Virginia.....	40,043	1,361,860	633,730	374,272
South Carolina.....	.....	.....	.....	.....	All other states.....	57,092	2,259,870	2,244,657	2,283,918
Tennessee.....	.....	.....	.....	.....	
Texas.....	.....	.....	.....	.....	
Virginia.....	.....	.....	.....	.....	
All other states.....	.....	.....	.....	.....	

* Not reported.
 † Consumption by cotton small wares branch of the industry included under "all other states."
 ‡ Included in totals, but amount not shown, to avoid disclosure of individual operations.

The comparative cost of cotton per pound in the different states is rather interesting. The average (domestic) for the whole country is about 11.6 cents. It is highest for New Jersey, owing to the character of its principal product—sewing thread—more than 14 cents. It is also higher in Massachusetts (12.9 cents) and Rhode Island (12.9 cents) because of the use of longer staple cotton in the manufacture of fine goods.

Foreign cotton constitutes but a very small proportion of the cotton consumed in the industry, and the use of such cotton is chiefly confined to a few states. In 1909 Massachusetts alone consumed 57.9 per cent

of the total, and the New England states together, exclusive of Maine, about five-sixths of the total. In Massachusetts foreign cotton represented 7.1 per cent of all the cotton consumed, while in New Jersey, where the proportion was highest, it represented 35.8 per cent of the total.

In addition to raw cotton, the mills reported the consumption of small quantities of cotton which had been dyed, bleached, or otherwise treated by other establishments, and also of 257,102 pounds of raw silk and 1,370,087 pounds of other fibers—flax, wool, jute, ramie, mohair, etc.—more than four-fifths of this latter amount being flax.

Some cotton mills confine themselves to spinning, selling the yarn to other mills for weaving, while others do weaving only, or spin only part of the yarn they weave. The state of Pennsylvania is the largest user of purchased cotton yarn, reporting 36.9 per cent of the total quantity purchased by all mills in the industry in 1909, 39.1 per cent in 1904, and 42.2 per cent in 1899. Much of this yarn is of course made in other states. The cost of the purchased yarn used by the Pennsylvania mills in 1909 was nearly four times as great as that of the raw cotton used by them, while in no other state except New Jersey did the cost of yarn purchased equal that of raw cotton. Massachusetts, the second state in the use of this material, reported 27,175,076 pounds of purchased cotton yarn in 1909, or 21.4 per cent of the total. Rhode Island, New Jersey, and North Carolina were the states next in importance.

The consumption of silk yarn (organzine and tram) and spun silk yarn shows large gains, the total quantity of the two combined reported for 1909 being nearly four times the quantity used in the cotton

manufacturing industry in 1899. Massachusetts reported more than half of the total quantity in 1909.

The mills in Rhode Island used 36.5 per cent of the entire amount of cotton waste reported for 1909 and 58.9 per cent of that reported for 1904, Massachusetts, Georgia, and North Carolina, in the order named, being the next largest users in 1909.

The cost of chemicals and dyestuffs, as reported at the census of 1909, was \$4,886,514, as compared with \$5,718,107 in 1899. The figures, however, do not cover the total cost of these materials, as in some cases their cost was not reported separately.

Consumption of cotton, by states.—Table 20 shows the consumption of foreign and domestic cotton in the industry designated "cotton goods, including cotton small wares" for the census years 1909, 1904, 1899, and 1889 (the reports of most establishments being for the calendar years). It shows also the total consumption of cotton in the two branches of the industry, in certain groups of states, and in the most important individual states.

Table 20

COTTON CONSUMPTION IN COTTON MANUFACTURES AS A WHOLE.

	1909		1904		1899		1889	
	Bales.	Pounds.	Bales.	Pounds.	Bales.	Pounds.	Bales.	Pounds.
Total	4,828,736	2,335,344,906	3,749,765	1,876,437,150	3,646,708	1,817,643,390	2,261,600	1,117,945,776
Domestic.....	4,717,343	2,259,312,974	3,690,145	1,832,736,744	3,570,500	1,761,798,468	2,252,668	1,111,384,825
Other than sea island.....	4,649,504	2,233,038,701	3,635,701	1,810,874,712	3,523,293	1,743,355,824	2,231,385	1,103,492,910
Sea island.....	67,839	26,274,273	54,444	21,862,032	47,207	18,442,644	21,283	7,891,915
Foreign.....	111,393	70,031,932	59,620	43,700,406	76,208	55,844,922	8,932	6,560,951
BRANCHES OF THE INDUSTRY.								
Cotton goods.....	4,822,405	2,332,202,636	3,743,089	1,873,074,716	3,639,495	1,814,002,512	(2)	(2)
Cotton small wares.....	6,331	3,082,270	6,676	3,362,434	7,213	3,640,878	(2)	(2)
STATE GROUPS.								
Cotton-growing states.....	2,469,208	1,162,969,470	1,828,337	891,944,186	1,479,006	707,842,111	526,856	250,637,646
New England states.....	2,041,734	1,014,926,193	1,647,207	846,023,540	1,829,678	940,903,114	1,425,953	714,091,714
All other states.....	317,794	157,449,243	273,221	138,469,415	338,024	168,893,165	308,786	152,416,416
PRINCIPAL STATES.								
Alabama.....	241,073	116,232,495	199,806	99,100,678	134,371	67,987,299	29,962	14,720,454
Connecticut.....	117,189	57,723,360	104,025	53,278,452	109,111	56,865,809	104,655	52,257,968
Georgia.....	529,726	250,820,180	406,001	198,108,953	304,431	145,833,115	145,839	69,139,410
Maine.....	160,550	78,678,643	131,578	67,509,692	157,428	79,765,573	132,504	65,717,262
Maryland.....	57,358	27,460,792	53,794	27,054,032	80,954	39,901,956	55,028	27,265,667
Massachusetts.....	1,244,614	622,368,027	955,965	489,939,585	1,085,236	560,984,204	772,520	386,767,326
Mississippi.....	34,202	16,371,192	25,640	13,007,625	20,962	10,363,458	17,366	8,449,334
New Hampshire.....	285,659	138,532,627	262,894	134,809,578	271,620	136,988,647	214,034	107,310,124
New Jersey.....	34,654	18,400,527	33,858	16,319,367	29,644	15,287,865	25,723	12,301,151
New York.....	141,003	68,766,704	100,924	51,335,100	102,590	52,243,049	78,824	39,522,057
North Carolina.....	754,483	350,210,014	503,550	242,360,733	404,535	190,138,759	114,371	53,546,289
Pennsylvania.....	50,691	25,688,597	50,918	25,873,720	76,425	36,849,533	92,705	44,629,588
Rhode Island.....	223,670	112,767,027	163,130	85,548,635	103,226	99,476,473	193,291	97,982,155
South Carolina.....	690,834	324,395,778	568,100	270,957,461	485,234	230,053,807	133,342	64,000,600
Tennessee.....	58,574	28,312,077	38,332	19,292,275	30,273	15,040,336	33,114	15,779,360
Texas.....	32,686	15,893,268	18,055	9,206,580	18,045	9,304,434	(2)	(2)
Virginia.....	78,017	37,160,966	46,296	23,018,074	38,118	17,832,465	22,731	10,616,206
All other states ⁴	94,053	45,582,012	77,387	39,166,566	104,496	53,027,601	95,573	47,925,335

¹ The figure given for sea-island cotton represents the total consumption in all industries during the year ending August 31, 1909, and that for "other than sea island" is obtained by subtracting this figure from the total for domestic cotton.

² Not reported separately.

³ Included under "all other states."

⁴ Includes the following:

1900—Arkansas, Delaware, Illinois, Indiana, Kansas, Kentucky, Louisiana, Missouri, Vermont, and Wisconsin.

1904—Arkansas, California, Delaware, Illinois, Indiana, Kentucky, Louisiana, Missouri, Vermont, and Wisconsin.

1899—Arkansas, California, Colorado, Delaware, Illinois, Indiana, Kentucky, Louisiana, Missouri, Nebraska, Vermont, West Virginia, and Wisconsin.

1889—Arkansas, California, Delaware, Illinois, Indiana, Iowa, Kentucky, Louisiana, Missouri, Ohio, Texas, Vermont, and Wisconsin.

The consumption of sea-island cotton in 1909 was not reported separately in connection with the census of manufactures, but the total consumption in the United States for the year ending August 31, 1909, was 67,749 bales, and presumably about the same amount was used during the year covered by the census of man-

ufactures. Practically all of this kind of cotton was used in the manufacture of thread, lace, and other goods where strength and fineness are indispensable.

One of the most important points brought out by the table is the marked increase in cotton consumption in the cotton-growing states and the consequent

decrease in the relative importance of the older manufacturing sections. In 1889 the New England states reported 63.9 per cent of the total cotton consumption for the industry, but the proportion had decreased to 51.8 per cent in 1899, to 45.1 per cent in 1904, and to 43.5 per cent in 1909. In like manner the proportion for all states other than the New England states and the cotton growing states, which was 13.6 per cent in 1889, decreased to 9.3 per cent in 1899, to 7.4 per cent in 1904, and to 6.7 per cent in 1909. On the other hand, the cotton growing states, which comprise Virginia, Kentucky, Missouri, Kansas, Oklahoma, and the states south, reported 22.4 per cent of the total consumption in 1889, 38.9 per cent in 1899, 47.5 per cent in 1904, and 49.8 per cent in 1909.

The percentage of increase in the amount of cotton consumed in the cotton-growing states was 182.2 per cent for the decade 1889-1899 and 64.3 per cent for the decade 1899-1909. For the New England states the corresponding increases were 31.7 per cent and 7.9 per cent, respectively, while the consumption by all the remaining states taken as a group increased 10.8 per cent during the former period, but decreased 6.8 per cent during the latter. For the New England states the actual increase in cotton consumption during the decade 1899-1909 was about 74,000,000 pounds. For the separate states the largest actual increase, about 160,000,000 pounds, is shown for North Carolina, but

Virginia shows the highest rate of increase among the states shown separately in Table 20—108.4 per cent.

Massachusetts was in 1909, as it had been in prior census years, the largest consumer of cotton, 1,244,614 bales, or 622,368,027 pounds, being used in the cotton manufacturing industry of the state during the year. This amount was 27 per cent greater than that reported in 1904. By reason of labor troubles, the year 1904 was one of low consumption of cotton in Fall River—the most important cotton manufacturing city in the country—and this accounted for the decrease in Massachusetts for the five-year period 1899-1904. For the decade 1899-1909 Massachusetts showed a gain of 10.9 per cent. North Carolina was the next largest user of cotton in 1909, having displaced South Carolina, which held second place in 1904 and 1899. The increase in consumption in this state from 1899 to 1909 was 84.2 per cent. South Carolina was third, Georgia fourth, and New Hampshire fifth in order in 1909, their consumption of cotton having increased during the decade 41 per cent, 72 per cent, and 1.1 per cent, respectively.

PRODUCTS.

Summary for the United States.—Table 21 gives in detail for the United States the quantity and value of the various products reported by establishments in the cotton manufacturing industry for 1909, 1904, and 1899.

Table 21 PRODUCT.	COTTON GOODS, INCLUDING COTTON SMALL WARES.			PRODUCT.	COTTON GOODS, INCLUDING COTTON SMALL WARES.		
	1909	1904	1899		1909	1904	1899
Total value	\$628,391,813	\$450,487,704	\$339,200,320	Woven goods—Continued.			
Woven goods:				Mosquito and other netting—			
Square yards	6,348,568,593	5,110,308,812	4,523,430,616	Square yards	50,100,819	36,232,918	41,885,023
Value	\$456,089,401	\$324,747,837	\$243,253,155	Value	\$2,103,560	\$794,953	\$375,868
Plain cloths for printing or converting—				Upholstery goods—			
Square yards	2,224,677,848	1,818,216,172	1,581,613,827	Square yards	94,840,051	65,592,212	51,314,609
Value	\$111,097,889	\$80,311,012	\$57,780,940	Value	\$14,882,842	\$12,111,698	\$8,705,384
Brown or bleached sheetings and shirtings—				Tapestries (piece goods and curtains)—			
Square yards	1,484,353,529	1,172,309,182	1,212,403,048	Square yards	10,657,385	9,605,006	10,166,538
Value	\$88,802,985	\$61,253,376	\$55,513,032	Value	\$4,723,907	\$4,242,506	\$4,158,600
Twill and sateens—				Lace and lace curtains—			
Square yards	388,314,961	366,142,513	235,860,518	Square yards	81,007,314	53,511,222	37,825,198
Value	\$34,274,107	\$23,701,305	\$14,301,302	Value	\$8,022,082	\$7,208,211	\$3,585,138
Fancy woven fabrics—				Other—			
Square yards	426,710,359	306,254,685	237,841,603	Square yards	3,175,352	2,476,984	3,322,573
Value	\$47,498,713	\$28,486,342	\$21,066,310	Value	\$1,236,853	\$660,981	\$661,646
Ginghams—				Bags and bagging—			
Square yards	537,430,463	302,316,132	278,392,708	Square yards	63,107,568	57,067,663	32,739,616
Value	\$37,939,040	\$22,471,867	\$16,179,200	Value	\$4,862,451	\$3,953,732	\$2,554,192
Duck—				Cotton towels and toweling—			
Square yards	162,476,322	122,601,212	129,234,076	Square yards	52,778,170	40,280,292	(?)
Value	\$27,485,892	\$17,005,932	\$14,263,008	Value	\$6,037,075	\$4,365,470	(?)
Drills—				Tape and webbing	\$5,531,674	\$4,060,488	\$2,521,402
Square yards	238,869,407	194,735,303	237,206,549	Yarns for sale:			
Value	\$17,750,151	\$12,596,063	\$11,862,704	Pounds	470,370,995	364,634,753	332,302,621
Ticks, denims, and stripes—				Value	\$109,314,953	\$79,939,687	\$55,210,960
Square yards	264,870,508	256,375,486	181,800,853	Thread:			
Value	\$27,350,162	\$23,797,578	\$16,446,633	Pounds	23,700,057	17,163,741	15,007,058
Cottonades—				Value	\$20,510,269	\$16,043,043	\$11,908,671
Square yards	25,676,286	25,362,346	26,323,947	Twine:			
Value	\$3,343,533	\$2,995,971	\$2,791,431	Pounds	13,715,771	7,301,969	11,642,718
Napped fabrics—				Value	\$2,417,391	\$1,428,994	\$1,546,611
Square yards	305,655,864	330,808,140	268,862,716	Cordage and rope:			
Value	\$26,695,367	\$26,103,315	\$18,231,044	Pounds	7,603,907	(?)	(?)
Corduroy, cotton velvet, and plush—				Value	\$1,164,526	(?)	(?)
Square yards	19,706,438	16,014,556	7,961,523	Cotton waste for sale:			
Value	\$6,965,634	\$4,790,573	\$2,682,017	Pounds	310,513,348	247,649,640	270,862,613
				Value	\$10,874,386	\$10,062,057	\$5,563,570
				All other products	\$22,483,213	\$16,185,598	\$19,190,845

¹ In addition, cotton goods to the value of \$2,224,096 were made by establishments engaged primarily in the manufacture of products other than cotton goods.
² Not reported separately.

The total value of all products reported by establishments in the industry designated "cotton goods, including cotton small wares," in 1909 was \$628,391,-

813, a gain of \$177,924,109, or 39.5 per cent, over 1904, and \$289,191,493, or 85.3 per cent, over 1899. The total value includes, as already stated, much duplica-

tion, and the increase shown is due in part to the higher prices prevailing in 1909. The total number of square yards of fabrics woven by establishments in the industry increased 24.2 per cent between 1904 and 1909 and 40.3 per cent between 1899 and 1909. The value of woven goods in 1909 represented a little less than three-fourths of the total value of all products.

Plain cloths for printing or converting comprise by far the most important class of woven goods, as measured by quantity, constituting, in 1909, 35 per cent of the total. Brown and bleached sheetings and shirtings ranked second, followed by gingham, fancy woven fabrics, twills and sateens, and napped fabrics, in the order named, the production of each of these classes of cloths being more than 300,000,000 square yards in 1909.

The output of plain cloths for printing or converting increased 40.7 per cent between 1899 and 1909, and its value 92.3 per cent. The output of sheetings and shirtings increased 22.4 per cent, and their value 60 per cent. For these, as for practically all the other classes of products, the percentage of increase in value was much greater than that in quantity. The decrease in the production of sheetings and shirtings between 1899 and 1904 was largely attributable to the prolonged labor disturbances in the cotton mills of Massachusetts in the latter year.

With one exception—napped fabrics—all classes of woven goods show an increase in quantity of output from 1904 to 1909, although the output of several classes was less in 1904 than in 1899, and that of two classes—cottonades and "other" upholstering goods—was less in 1909 than in 1899. The highest relative increase during the decade was in corduroy, cotton velvet, and plush, the production of which in 1909 was 147.5 per cent greater than in 1899, and the value 159.7 per cent greater. The production of gingham increased 93 per cent during the decade, that of upholstering goods 84.8 per cent, and that of fancy woven fabrics 79.4 per cent. The quantity of duck woven increased 25.7 per cent between 1899 and 1909, and the value increased 92.7 per cent. The total production of duck in 1909 included 8,658,111 square yards of sailcloth, valued at \$1,710,631, as compared with 9,586,519 square yards, valued at \$1,540,745, in 1904, and 11,750,151 square yards, valued at \$2,216,371, in 1899—the decrease for sailcloth during the decade being 26.3 per cent in quantity and 22.8 per cent in value.

The most important products of the industry, other than woven fabrics, are yarns, thread, and cotton waste. The value of the yarns made for sale as such in 1909 was \$109,314,953, or more than one-sixth of the total value of products of the industry. A considerable part of this yarn was sold to other establishments in the same industry. The quantity of yarn reported as produced for sale in 1909 was 470,370,995 pounds, while the quantity of yarn reported as purchased by cotton mills was 126,707,003 pounds. Much

of the yarn made by the cotton mills is sold to hosiery and knit goods factories, the consumption of purchased cotton yarn by such factories in 1909 being 216,987,611 pounds, and some is sold to factories in still other textile industries. The quantity of yarn reported as manufactured for sale increased 138,068,374 pounds, or 41.5 per cent, during the decade, while the value increased 98 per cent. The amount of thread manufactured increased 49 per cent, and its value 72.3 per cent.

In addition to the products shown in Table 21 for cotton manufacturing industry, cotton manufactures of similar character to the value of \$2,224,096 were reported for 1909 by establishments engaged primarily in other industries. On the other hand, the total value of products reported for 1909 for the cotton manufacturing industry proper covered products other than cotton goods and cotton small wares to the value of \$7,688,866.

Table 22 shows the total value of all cotton manufactures, and the total quantity and value of certain specific classes of goods, including all of those which were reported as secondary products by establishments engaged primarily in industries other than cotton manufacturing, except that the total production of cotton twine and cotton cordage and rope is shown in Table 23. The quantities and values of the cotton goods and cotton small wares produced by establishments in other industries, which are included in Table 22, do not enter into the statistics presented in any subsequent tables.

	PRODUCTION: 1909	
	Quantity.	Value.
All products of the cotton manufacturing industry—"Cotton goods, including cotton small wares".		\$628,391,813
Products other than cotton goods and cotton small wares ¹		7,688,866
Cotton goods and cotton small wares made in establishments in the cotton manufacturing industry.....		620,702,947
Cotton goods and cotton small wares made in establishments in other industries ²		2,224,096
Total production of cotton goods and cotton small wares.....		622,927,043
	<i>Square yards.</i>	
Plain cloths for printing or converting.....	2,224,806,423	111,123,604
Brown or bleached sheetings and shirtings.....	1,485,813,885	88,890,888
Fancy woven fabrics.....	427,409,747	47,650,030
Duck.....	182,823,644	27,590,089
Cottonades.....	25,965,026	3,411,736
Upholstery goods:		
Tapestry.....	11,006,869	4,821,096
Lace and lace curtains.....	86,447,827	10,010,185
Other.....	3,281,363	1,204,546
Cotton towels and toweling.....	52,807,543	6,086,449
	<i>Pounds.</i>	
Tape and webbing.....	9,711,482	5,559,099
Yarns for sale.....	470,958,108	109,400,376
Thread.....	24,095,164	20,650,619
All other.....		186,488,329

¹ Includes products manufactured primarily in the following industries: Bags, other than paper; carpets and rugs, other than rag; cordage and twine and jute and linen goods; dyeing and finishing textiles; foundry and machine-shop products; furnishing goods, men's; gas, illuminating and heating; hammocks; hosiery and knit goods; house-furnishing goods; ice, manufactured; mattresses and spring beds; millinery and lace goods; shoddy; silk and silk goods, including throwsters; woolen, worsted, and felt goods, and wool hats.

² Includes products made by establishments in the following industries: Carpets and rugs, other than rag; clothing, men's, including shirts; cordage and twine and jute and linen goods; furnishing goods, men's; gas and electric fixtures and lamps and reflectors; haircloth; oil, castor; patent medicines and compounds and druggists' preparations; rubber goods, not elsewhere specified; upholstering materials; woolen, worsted, and felt goods, and wool hats.

Cordage and twine are the most important of the secondary products of the cotton manufacturing industry, cotton twine and cotton cordage and rope to the amount of 21,319,678 pounds having been reported for 1909 by establishments engaged primarily in this industry. The value of these products, \$3,581,917, constituted almost half of the value of "products other than cotton goods and cotton small wares" reported by the cotton mills, and more than one-third of the total value of cotton twine and cotton cordage and rope reported by establishments in all industries together. The total quantity of these products reported for 1909 was 58,493,072 pounds, and the total value was \$10,111,566, most of the production outside the cotton mills being reported by establishments in the industry designated "cordage and twine and jute and linen goods." The total output and value of the cotton twine and the cotton cordage and rope produced in 1909 are shown, by states, in Table 23.

Table 23

PRODUCT AND STATE.	TOTAL PRODUCTION IN ALL INDUSTRIES: 1909	
	Quantity (pounds).	Value.
Cotton twine.....	34,128,402	\$5,935,427
Alabama.....	3,867,888	580,361
Connecticut.....	2,360,172	478,855
Georgia.....	5,161,778	918,824
Kentucky.....	2,100,857	350,181
Massachusetts.....	2,426,686	378,729
North Carolina.....	3,500,437	550,162
South Carolina.....	2,635,798	440,585
All other states.....	11,984,786	2,189,730
Cotton cordage and rope.....	24,364,670	4,176,139
Alabama.....	2,897,708	437,749
Georgia.....	2,091,581	319,312
Massachusetts.....	7,872,695	1,585,036
North Carolina.....	1,919,290	344,111
Pennsylvania.....	4,078,343	566,492
All other states.....	5,504,993	972,539

Products, by states.—Table 24 gives, by states, the quantities of the principal products of the cotton manufacturing industry for 1909, 1904, and 1899, with the values for 1909.

Table 24

PRODUCT AND STATE.	COTTON GOODS, INCLUDING COTTON SMALL WARES.				PRODUCT AND STATE.	COTTON GOODS, INCLUDING COTTON SMALL WARES.			
	Value: 1909	Quantity.				Value: 1909	Quantity.		
		1909	1904	1899			1909	1904	1899
Woven goods.....	\$456,089,401.6	348,568,593.5	110,308,812.4	5,623,430,616	Twills and sateens—Contd.	814,767	12,473,668	15,785,124	114,166
Alabama.....	16,423,719	213,195,840	219,746,574	119,328,687	North Carolina.....	4,139,572	53,871,639	56,095,999	43,308,277
Connecticut.....	16,084,224	186,690,012	174,376,394	164,265,504	Rhode Island.....	797,624	12,910,370	45,220,488	11,379,712
Georgia.....	33,436,737	489,225,528	377,921,674	263,913,404	South Carolina.....	1,158,960	12,664,947	24,231,858	19,613,273
Indiana.....	2,212,510	46,018,961	37,717,483	36,803,771	Fancy woven fabrics.....	47,498,713	426,710,359	306,254,685	237,841,603
Maine.....	20,684,419	250,188,405	198,501,318	227,136,731	Connecticut.....	1,747,789	17,222,224	14,316,168	20,518,769
Maryland.....	4,436,448	21,428,788	22,801,376	33,910,582	Georgia.....	843,863	12,449,694	5,070,261	965,038
Massachusetts.....	138,626,795.1	989,578,059.1	1,586,267,624.1	1,634,251,238	Maine.....	2,016,453	13,228,938	9,369,611	6,922,390
Mississippi.....	2,778,213	45,596,204	36,924,725	20,034,983	Massachusetts.....	22,378,381	197,402,205	130,960,271	137,064,111
New Hampshire.....	30,885,291	404,831,223	347,846,266	333,498,532	North Carolina.....	3,638,379	38,513,680	22,434,783	7,770,704
New Jersey.....	5,819,995	40,190,447	30,905,545	28,267,384	Pennsylvania.....	5,119,822	32,806,629	30,398,352	30,981,363
New York.....	11,068,423	147,069,542	112,527,732	130,911,878	Rhode Island.....	7,108,434	49,309,098	51,009,828	21,564,243
North Carolina.....	42,192,107	625,876,309	472,596,102	290,772,125	South Carolina.....	2,981,306	50,893,070	17,781,844	213,268
Pennsylvania.....	25,867,474	160,702,325	121,871,532	126,065,666	All other states.....	1,664,286	14,885,397	24,017,567	11,851,927
Rhode Island.....	31,623,150	363,138,635	299,072,076	300,750,005	Ginghams.....	37,939,040	537,430,463	302,316,132	278,392,798
South Carolina.....	57,508,154.1	678,066,885	872,190,108	618,217,502	Maine.....	4,350,538	43,424,412	25,793,707	9,835,556
Tennessee.....	3,683,512	63,029,001	37,804,774	29,655,984	Massachusetts.....	10,763,018	139,552,491	70,831,304	53,932,538
Texas.....	2,731,932	37,127,223	20,685,247	16,280,101	North Carolina.....	7,103,532	111,994,426	79,056,081	79,531,131
Virginia.....	6,067,544	103,045,596	68,467,082	55,894,104	Pennsylvania.....	1,654,746	13,671,537	8,211,240	11,792,638
All other states.....	5,074,754	82,568,550	74,094,470	98,466,895	South Carolina.....	1,525,286	29,417,246	26,212,195	16,752,808
Plain cloths for printing or converting.....	111,097,889.2	2,224,677,848.1	1,818,216,172.1	1,581,613,827	All other states.....	12,651,920	190,370,351	92,211,605	106,548,417
Alabama.....	2,187,901	48,108,666	40,226,106	10,460,526	Duck.....	27,485,892	162,476,322	122,601,212	129,234,076
Connecticut.....	4,571,087	69,730,709	66,974,935	60,580,820	Alabama.....	4,234,763	29,435,832	25,045,853	15,614,278
Georgia.....	1,685,182	48,989,335	29,036,228	6,213,595	Georgia.....	6,640,339	49,484,921	30,429,272	31,673,022
Maine.....	2,283,441	35,857,441	30,024,961	39,019,808	Maryland.....	3,478,113	13,872,294	14,148,404	25,139,642
Massachusetts.....	51,541,020.1	1,054,755,770	846,308,546	927,405,189	Massachusetts.....	5,088,828	29,169,491	14,486,473	17,908,957
New Hampshire.....	1,575,583	32,381,275	76,082,718	83,298,801	New Jersey.....	2,318,134	5,747,008	2,991,048	1,369,127
New York.....	3,537,860	86,800,075	70,321,095	80,123,110	Texas.....	1,534,588	13,660,253	7,070,619	7,655,784
North Carolina.....	4,998,095	104,895,423	93,278,990	51,244,944	All other states.....	3,291,127	21,106,523	27,229,543	29,878,266
Rhode Island.....	8,008,079	111,665,838	93,355,193	99,272,674	Drills.....	17,750,151	238,869,407	194,735,303	237,206,649
South Carolina.....	26,848,377	561,861,267	414,491,743	175,191,634	Alabama.....	1,865,822	21,790,867	11,602,266	14,867,094
Tennessee.....	1,907,859	41,468,485	16,463,814	.....	Georgia.....	4,378,103	64,075,402	41,727,888	36,378,886
All other states.....	1,952,805	38,163,573	41,696,853	48,822,826	Massachusetts.....	1,998,819	17,088,244	9,238,099	20,476,203
Brown or bleached sheetings and shirtings.....	88,802,985.1	484,353,529.1	1,172,309,182.1	1,212,403,048	Mississippi.....	437,721	7,705,349	8,883,605	4,436,078
Alabama.....	4,818,284	75,130,788	108,518,504	72,432,173	North Carolina.....	1,119,822	18,040,774	5,270,874	2,821,338
Connecticut.....	2,249,623	33,411,424	29,917,468	17,367,180	South Carolina.....	5,062,204	75,828,018	88,551,799	116,467,224
Georgia.....	11,442,365	214,520,588	189,503,361	131,739,917	All other states.....	2,887,660	33,438,853	20,460,772	41,760,846
Indiana.....	2,078,480	43,864,976	37,452,564	28,076,436	Ticks, denims, and stripes.....	27,350,162	284,870,508	256,375,486	181,800,853
Maine.....	6,839,398	100,591,496	83,465,950	94,416,781	Connecticut.....	1,612,636	14,888,985	19,479,607	17,180,813
Massachusetts.....	11,486,548	175,923,550	138,196,541	176,283,924	Georgia.....	2,585,817	35,219,627	33,766,527	16,971,764
Mississippi.....	908,094	17,225,461	7,740,785	3,797,382	Massachusetts.....	6,897,895	58,716,927	65,639,919	63,784,395
New Hampshire.....	2,012,789	29,818,914	29,075,111	64,953,520	Mississippi.....	226,838	3,000,420	4,611,716	.....
North Carolina.....	8,286,984	164,707,833	105,598,908	88,085,411	New Hampshire.....	2,455,764	21,324,650	22,796,522	32,201,176
Rhode Island.....	10,204,180	135,165,530	90,133,798	128,276,782	North Carolina.....	9,801,356	97,997,821	70,499,429	23,228,007
South Carolina.....	15,914,158	302,763,414	248,777,474	283,105,383	Pennsylvania.....	1,209,330	10,007,237	7,934,820	12,002,648
Virginia.....	6,656,609	97,332,899	38,308,557	18,206,054	South Carolina.....	808,407	8,582,177	6,533,888	1,802,138
All other states.....	5,905,473	93,896,651	65,617,101	105,662,103	All other states.....	1,752,119	15,132,075	25,113,058	14,359,712
Twills and sateens.....	34,274,107	388,314,861	366,142,513	235,860,518	Cottonades.....	3,343,533	25,676,286	25,362,346	26,323,947
Alabama.....	1,184,798	16,155,601	.....	1,397,609	Georgia.....	1,209,678	11,051,565	13,316,815	4,778,815
Connecticut.....	3,152,078	40,827,992	24,534,276	19,724,407	North Carolina.....	497,613	6,502,752	5,640,687	6,289,031
Maine.....	2,462,673	27,617,661	19,136,858	25,188,579	Pennsylvania.....	1,150,291	4,530,286	8,127,997	7,004,759
Massachusetts.....	14,889,807	159,658,540	136,315,041	86,668,240	All other states.....	486,551	3,591,633	3,376,947	8,866,342
New Hampshire.....	4,372,001	47,921,784	39,229,377	23,928,221					
New Jersey.....	1,311,827	5,213,309	5,533,592	4,540,034					

Table 24—Continued.

PRODUCT AND STATE.	COTTON GOODS, INCLUDING COTTON SMALL WARES.				PRODUCT AND STATE.	COTTON GOODS, INCLUDING COTTON SMALL WARES.			
	Value: 1909	Quantity.				Value: 1909	Quantity.		
		1909	1904	1899			1909	1904	1899
Napped fabrics.....	\$25,695,387	<i>Sq. yds.</i> 305,655,864	<i>Sq. yds.</i> 330,808,140	<i>Sq. yds.</i> 268,852,716	Tape and webbing.....	\$5,531,674	<i>Pounds.</i> 9,663,482	<i>Pounds.</i> (1)	<i>Pounds.</i> (1)
Georgia.....	1,700,757	20,472,753	6,797,117	6,044,140	Massachusetts.....	884,444	1,233,078	.....	.....
Massachusetts.....	9,470,477	123,982,755	144,456,099	137,199,384	Pennsylvania.....	2,141,821	3,971,970	.....	.....
New Hampshire.....	6,567,134	71,473,313	87,666,996	62,253,909	Rhode Island.....	2,214,178	3,791,553	.....	.....
North Carolina.....	5,389,195	64,627,668	62,053,042	30,175,177	All other states.....	291,231	686,875	.....	.....
Rhode Island.....	2,567,804	25,099,375	29,834,886	33,180,106	Yarns for sale.....	109,314,953	470,370,995	364,634,763	332,302,621
Corduroy, cotton velvet, and plush.....	6,965,634	19,708,438	16,014,556	7,961,523	Alabama.....	5,100,971	25,560,583	18,413,437	14,432,028
Massachusetts.....	1,707,507	6,109,238	4,149,619	1,687,597	Connecticut.....	2,846,742	7,914,873	6,385,473	6,010,562
New York.....	1,982,421	3,876,399	3,748,163	36,000	Georgia.....	11,971,488	61,956,708	45,356,389	35,748,694
Pennsylvania.....	1,515,405	3,038,945	2,944,944	3,945,504	Massachusetts.....	31,725,674	108,930,860	83,399,133	87,656,177
Rhode Island.....	1,135,767	3,106,039	3,422,296	1,965,422	New Jersey.....	1,810,075	4,925,844	2,420,629	3,727,865
All other states.....	624,534	3,575,217	1,749,534	327,000	New York.....	6,745,518	31,765,481	24,943,995	17,922,997
Mosquito and other netting.....	2,103,560	59,100,819	36,232,918	41,885,023	North Carolina.....	28,312,873	142,213,450	95,481,949	80,970,599
Upholstery goods:					Pennsylvania.....	2,591,458	11,448,343	14,303,093	18,718,490
Tapestries.....	4,723,907	10,657,385	9,605,006	10,166,538	Rhode Island.....	6,606,271	19,752,920	16,462,391	14,482,710
Pennsylvania.....	4,163,683	8,783,867	8,691,354	9,586,606	South Carolina.....	6,759,913	32,709,732	31,645,397	24,859,616
All other states.....	560,224	1,873,518	913,652	579,932	Tennessee.....	1,378,695	7,443,170	5,062,494	2,000,083
Chenille curtains.....	24,757	92,919	263,168	805,414	All other states.....	3,405,275	15,748,031	18,950,373	19,772,800
Lace and lace curtains...	8,922,082	81,007,314	53,511,222	37,825,198	Thread.....	20,516,289	23,700,957	17,163,741	15,907,058
New York.....	1,308,461	13,041,455	10,001,500	5,850,000	Connecticut.....	5,199,313	5,263,776	4,038,361	3,432,159
Pennsylvania.....	7,238,321	66,867,709	41,374,259	30,925,198	Massachusetts.....	5,285,730	6,563,216	4,717,974	3,390,883
All other states.....	285,300	1,098,160	1,535,463	1,050,000	New Jersey.....	5,440,068	5,848,927	3,990,863	3,634,795
Other upholstery goods.....	1,212,096	3,082,433	2,207,816	2,517,459	New York.....	234,296	594,642	63,088	330,000
Pennsylvania.....	1,054,591	2,423,143	1,180,573	1,655,011	Pennsylvania.....	355,440	471,467	511,080	258,719
All other states.....	157,505	659,290	1,027,243	862,448	Rhode Island.....	3,516,713	3,715,469	2,934,660	3,943,840
Bags and bagging.....	4,862,451	63,107,568	57,087,663	32,739,616	All other states.....	484,689	1,243,570	902,715	916,662
Georgia.....	588,047	8,056,804	7,313,137	4,030,293	Twine.....	2,417,391	13,715,771	7,301,589	11,642,718
Maine.....	764,110	9,512,876	2,522,430	6,142,221	Cordage and rope.....	1,184,526	7,603,907	(1)	(1)
Massachusetts.....	505,904	6,105,288	16,402,821	8,240,942	Cotton waste (mill waste)...	10,874,386	310,513,348	247,649,640	270,862,613
New Hampshire.....	696,769	4,588,550	3,831,493	5,591,681	Alabama.....	219,872	10,405,797	6,873,474	6,764,490
North Carolina.....	261,704	2,460,729	3,230,278	1,285,365	Connecticut.....	469,811	11,315,800	9,923,878	10,153,771
South Carolina.....	1,120,825	19,792,444	14,250,913	229,109	Georgia.....	510,168	19,684,927	16,162,249	15,310,595
All other states.....	924,492	12,590,877	9,516,591	7,220,005	Massachusetts.....	4,050,374	115,907,265	82,270,060	114,597,274
Cotton towels and towel- ing.....	6,037,075	52,778,170	40,280,292	(1)	New Hampshire.....	293,236	12,369,641	9,651,117	18,748,350
Georgia.....	1,374,772	12,204,366	4,057,247	.....	North Carolina.....	836,052	34,861,543	22,235,507	22,030,030
Massachusetts.....	413,532	4,155,909	7,774,515	.....	Rhode Island.....	1,084,192	42,156,042	40,352,389	19,159,895
New Hampshire.....	678,230	7,432,672	5,415,070	.....	South Carolina.....	850,246	29,621,480	24,199,029	25,582,484
New Jersey.....	630,614	10,103,237	2,849,854	.....	All other states.....	1,089,816	34,191,853	26,981,847	38,506,774
New York.....	430,393	1,955,625	1,255,460	.....				
North Carolina.....	279,390	2,740,348	8,661,799	.....				
Pennsylvania.....	1,749,813	10,501,557	5,408,582	.....				
All other states.....	480,331	3,624,456	4,857,705	.....				

¹ Figures not available.

² Excluding statistics for one establishment, to avoid disclosure of individual operations.

³ In addition, 20,412,631 pounds, valued at \$3,518,036, were made by establishments manufacturing cotton cordage and twine as primary products.

⁴ In addition, 16,760,763 pounds, valued at \$3,011,613, were made by establishments manufacturing cotton cordage and twine as primary products.

Massachusetts, the most important state in the industry as a whole, produced 47.4 per cent of the total output of plain cloths for printing or converting in 1909, as compared with 58.6 per cent in 1899. South Carolina ranked second, with 25.3 per cent of the total quantity in 1909 and 11.1 per cent in 1899, followed by Rhode Island, North Carolina, New York, and Connecticut.

South Carolina was the largest producer of sheetings and shirtings, reporting 20.4 per cent of the total output in 1909 and 23.4 per cent in 1899. Georgia ranked second in this respect, and Massachusetts third (though the latter state ranked second on the basis of value), while North Carolina and Rhode Island were fourth and fifth. The average value per yard of the sheetings and shirtings manufactured in North Carolina was \$0.0503, in South Carolina \$0.0526, in Georgia \$0.0533, in Massachusetts \$0.0653, and in Rhode Island \$0.0755.

Twills and sateens, whose manufacture involves fine spinning and complicated weaving, are produced for the most part in the Northern states. Massachu-

sets reported 41.1 per cent of the total quantity of these goods in 1909 and Rhode Island 13.9 per cent. The proportions reported by these states in 1899 were 36.7 per cent and 18.4 per cent, respectively.

Of the total production of fancy woven fabrics, Massachusetts reported 46.3 per cent in 1909 and 57.6 per cent in 1899. The table shows a large increase in the manufacture of this class of goods in the Southern states, Georgia, North Carolina, and South Carolina reporting a combined production of over 100,000,000 square yards in 1909, as compared with less than 10,000,000 in 1899.

Of the total output of gingham, Massachusetts produced 26 per cent and North Carolina 20.8 per cent in 1909, as compared with 19.4 and 28.6 per cent, respectively, in 1899.

Of the total quantity of duck woven, Georgia furnished 30.5 per cent in 1909, and Massachusetts 18 per cent, the corresponding proportions in 1899 being 24.5 per cent and 13.9 per cent, respectively.

South Carolina and Georgia, with 31.7 per cent and 26.8 per cent of the total, respectively, were the lead-

ing states in the production of drills in 1909. The former state, however, shows a smaller percentage of the total production for 1909 than for 1899. North Carolina and Massachusetts were the leading states in the production of ticks, denims, and stripes, the former reporting 37 per cent and the latter 22.2 per cent of the total production for the year 1909, as compared with 12.8 per cent and 35.1 per cent, respectively, for 1899. Of cottonades, Georgia reported the largest production in 1909 and 1904, and Pennsylvania in 1899. Massachusetts, New Hampshire, and North Carolina were the leading states in the manufacture of napped fabrics at all three censuses.

The state of Pennsylvania produces the great bulk of the tapestries manufactured in the United States, as well as of the lace and lace curtains. Chenille curtains were reported from Pennsylvania and New Jersey.

Of the total production of bags and bagging, in 1909, South Carolina reported 19,792,444 square yards,

or 31.4 per cent while Maine contributed 15.1 per cent. The production of tape and webbing was confined almost exclusively to Pennsylvania, Rhode Island, and Massachusetts.

Though the state of North Carolina spun more pounds of yarn for sale in 1904 and 1909 than any other state, the value in 1909 was less than that of the yarns produced in Massachusetts. The average reported value per pound of the yarn produced in the former state was 19.4 cents in 1904 and 19.9 cents in 1909, as compared with 25.6 cents and 29.1 cents, respectively, in the latter state.

In production of thread or sewing cotton, Massachusetts, New Jersey, Connecticut, and Rhode Island were the leading states.

Production of yarns.—Table 25 gives, by states, for 1909, 1904, and 1899, the production of cotton yarn, classified according to grade or fineness. Yarns made for use in further manufacture in the same establishments are included, as well as yarns made for sale.

Table 25

PRODUCTION OF COTTON YARN IN THE COTTON GOODS BRANCH OF THE INDUSTRY (POUNDS).

STATE.	Total.			No. 20 and under, coarse.			No. 21 to 40, medium.			No. 41 and over, fine.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1909	1904	1899
	United States..	2,037,653,722	1,529,483,718	1,467,565,971	1,014,069,688	803,764,679	850,203,953	866,328,605	601,971,584	540,166,147	157,255,429	123,747,455	77,195,871
Alabama.....	104,311,123	84,595,024	57,806,762	71,581,923	64,938,634	51,325,723	28,268,986	18,698,617	6,541,039	4,460,214	957,773	.....
Connecticut.....	48,241,048	43,622,529	44,808,803	11,780,876	13,068,506	15,634,079	20,407,387	18,368,951	19,280,451	16,052,785	12,185,072	9,894,273
Georgia.....	230,771,195	161,616,603	116,987,671	188,303,084	136,058,017	108,276,304	42,102,121	24,864,304	8,691,307	365,990	694,282	.....
Indiana.....	10,871,119	6,151,356	8,666,072	4,731,055	3,065,950	8,666,072	6,140,061	3,085,406	.....	.....	.....	.....
Kentucky.....	8,796,515	7,305,440	9,071,044	4,623,076	5,403,458	5,818,514	4,173,439	1,901,982	.....	.....	.....	.....
Louisiana ¹	7,547,631	5,561,703	7,891,495	7,547,631	5,082,790	7,891,495	.....	478,913	.....	.....	.....	.....
Maine.....	73,887,722	55,988,081	67,003,387	23,826,696	18,715,275	40,530,149	45,282,841	32,694,111	23,608,965	4,778,185	4,578,695	2,864,273
Maryland ²	24,449,126	23,550,570	31,143,023	24,390,580	23,414,644	30,215,181	58,546	135,926	927,842	.....	.....	.....
Massachusetts.....	523,523,228	381,108,770	442,538,758	175,150,251	141,986,900	164,190,352	283,053,920	178,143,116	235,617,217	65,319,057	60,978,754	42,731,189
Mississippi.....	12,678,372	10,904,221	7,909,625	9,589,216	8,144,612	7,909,625	3,089,156	2,586,463	.....	.....	173,146	.....
New Hampshire.....	122,469,975	108,439,032	108,968,243	68,370,303	66,579,541	79,300,869	51,389,977	39,680,978	29,667,374	2,709,695	2,178,543	.....
New Jersey.....	16,658,395	12,550,060	12,230,347	7,223,907	5,242,201	5,366,044	3,818,197	3,581,390	2,979,499	3,616,291	3,726,469	3,884,894
New York.....	60,403,324	43,797,990	42,014,730	31,215,894	21,667,253	25,241,091	28,391,604	21,500,176	16,443,639	795,826	630,561	330,000
North Carolina.....	308,694,753	202,362,469	156,435,539	175,683,089	122,105,707	99,021,341	116,466,984	74,691,014	56,527,998	16,454,680	5,665,748	886,200
Pennsylvania.....	22,636,781	23,157,717	32,468,390	18,131,579	18,445,420	25,344,251	3,745,849	4,434,282	6,754,139	759,353	278,015	370,000
Rhode Island.....	93,406,628	74,990,890	77,238,360	11,007,274	8,775,161	3,661,667	57,301,949	44,925,924	57,341,561	25,097,305	21,289,805	16,235,132
South Carolina.....	284,657,472	230,516,645	195,930,440	125,098,888	108,230,002	132,903,687	143,722,335	112,001,988	63,025,753	15,836,249	10,284,657	.....
Tennessee.....	26,617,310	16,005,737	11,152,567	15,825,402	11,975,474	11,152,567	10,435,908	3,847,416	.....	50,000	.....	.....
Texas.....	14,373,419	7,630,050	8,210,626	11,796,929	5,378,825	8,210,626	2,576,490	2,251,225	.....	.....	.....	.....
Vermont.....	4,359,021	3,799,474	5,432,983	.....	92,675	1,525,033	3,594,842	3,663,711	3,907,950	764,179	43,088	.....
Virginia.....	32,927,615	18,921,483	18,110,233	22,891,774	9,576,561	13,457,870	10,035,841	9,344,922	1,652,363	.....	.....	.....
All other states ³	7,768,053	6,907,844	8,506,873	5,300,261	5,817,073	4,561,353	2,272,172	1,090,771	3,945,520	195,620	.....	.....

¹ Includes Arkansas.

² Includes Delaware.

³ Includes states as follows: For 1909, Illinois, Kansas, Missouri, and Wisconsin; for 1904, California, Illinois, Missouri, and Wisconsin; and for 1899, California, Illinois, Missouri, and Wisconsin.

The increase in the total amount of yarn made in the establishments of the cotton manufacturing industry from 1904 to 1909 was 33.2 per cent; from 1899 to 1904, 4.2 per cent; and for the decade 1899-1909, 38.8 per cent. Each of the three grades of yarn for which statistics are presented shows a considerable increase for the decade, but there has been considerable variation from census to census in the proportions which the several grades formed of the total production.

Table 26 shows, in percentages, the distribution of the yarn production, by grades, for the census years from 1889 to 1909.

Table 26

PER CENT OF TOTAL YARN PRODUCTION IN THE COTTON MANUFACTURING INDUSTRY.

GRADE OR SIZE.	PER CENT OF TOTAL YARN PRODUCTION IN THE COTTON MANUFACTURING INDUSTRY.			
	1909	1904	1899	1889
Coarse (No. 20 and under).....	49.8	52.6	57.9	53.5
Medium (No. 21 to No. 40).....	42.5	39.4	36.8	42.9
Fine (No. 41 and over).....	7.7	8.1	5.3	3.9

This table shows that, in the country as a whole, coarse yarn formed a considerably smaller proportion of the total production in 1909 than in 1899, and both medium and fine yarns a considerably larger proportion.

The New England states reported nearly three-fourths of all the fine yarn produced in 1909, Massachusetts alone reporting 41.5 per cent of the total. Rhode Island ranked second in the production of fine yarn, North Carolina third, and Connecticut fourth. The total quantity reported in 1909 was 103.7 per cent greater than in 1899. The rapid increase in the production of yarn of this grade in North Carolina and some of the other Southern states is noteworthy.

The production of medium yarn (No. 21 to No. 40) shows an increase of 60.4 per cent for the decade 1899-1909. Massachusetts led in the production of this grade as well as of fine yarn, reporting nearly one-third of the total for the United States in 1909. South Carolina ranked second, North Carolina third, and Rhode Island fourth, these four states together furnishing about seven-tenths of the total quantity reported.

The output of coarse yarn (No. 20 and under) increased 26.2 per cent between 1904 and 1909, but a decrease took place during the five-year period 1899-1904, and the net increase for the decade was only 19.3 per cent. Georgia led in the amount of coarse yarn spun in 1909, with North Carolina second, Massachusetts third, and South Carolina fourth.

EQUIPMENT.

Spindles.—Although the number of spindles reported is not a strictly accurate index of the growth of the cotton industry, because of their different speeds and their use upon different grades of yarn, it is one of the best standards available and is the most generally accepted measure of progress. "Producing" spindles are those which are used in the production of yarn as distinguished from "doubling" and "twisting" spindles, which, as the name implies, twist two or more yarns together into a single strand. A spindle is termed "active" if it has been in operation at any time during the census year.

Table 27 gives, by geographic divisions, for 1909, 1904, and 1899, the number of active producing spindles in the cotton mills, exclusive of mills in the cotton small wares branch of the industry.

DIVISION.				Increase. ²	
	1909	1904	1899		
				1904-1909	1899-1904
United States.....	27,395,800	23,155,613	19,008,352	4,240,187	4,147,261
New England.....	15,383,909	13,911,241	12,850,987	1,472,668	1,060,254
Middle Atlantic.....	1,451,323	1,407,495	1,458,635	43,828	-51,140
East North Central.....	150,336	164,388	155,472	-14,052	8,916
South Atlantic.....	8,867,749	6,395,901	3,695,769	2,471,848	2,700,132
East South Central.....	1,338,201	1,113,006	676,979	225,195	435,027
West South Central.....	170,938	141,066	114,056	29,872	27,010
All other.....	33,344	29,516	56,454	10,828	-33,938

¹ Not including mills in the cotton small wares branch of the industry.

² A minus sign (-) denotes decrease.

The New England division reported 56.2 per cent of the entire number of active producing spindles in the cotton mills of the United States in 1909, as compared with 67.6 per cent in 1899, showing a considerable decrease in relative importance in this respect, notwithstanding an increase of 19.7 per cent in the total number of producing spindles during the decade. The South Atlantic division reported 32.4 per cent of the total number of active producing spindles in 1909 and 19.4 per cent in 1899 the increase during the decade being 139.9 per cent. The numerical gain in the South Atlantic division during the decade was 5,171,980, as compared with 2,532,922 in the New England division. The number of active producing spindles in the East South Central division increased 97.7 per cent from 1899 to 1909, but in the Middle Atlantic division the number in 1909 was slightly less than that in 1899.

Table 28 shows the number of active producing cotton spindles in the several textile industries, by geographic divisions and states, for 1909 and 1899, with the total for all textile industries for 1889 also.

The total number of cotton spindles in the principal textile industries in 1909 was 28,178,862, of which 27,425,608 were in the cotton mills, including a comparatively small number in mills making cotton small wares. The increase in the number of spindles from 1889 to 1899 was 5,079,804, or 35.3 per cent, and from 1899 to 1909, 8,714,878, or 44.8 per cent. The greatest percentage of increase in any industry from 1899 to 1909 was in the hosiery and knit-goods industry—134.8 per cent. A decrease is shown in the number of cotton spindles in the woolen and worsted mills and the carpet and rug factories combined.

Eight states—Georgia, the two Carolinas, and all the New England states except Vermont—reported over 1,000,000 active producing spindles in 1909. Massachusetts, the leading state, with 9,637,601 spindles, shows a gain of 1,705,930, or 21.5 per cent, for the 10-year period 1899-1909. South Carolina reported the greatest absolute and relative increase during the decade, the gain being 2,323,922 spindles, or 161.7 per cent. In North Carolina the increase was 1,820,907 spindles, or 160.1 per cent. The percentages of gain for the decade for the other states which reported a million or more spindles in 1909 are as follows: Georgia, 113.3 per cent; Maine, 21.3 per cent; Connecticut and Rhode Island, 20.3 per cent each, and New Hampshire, 6.1 per cent. Six states shown in the table reported fewer spindles in 1909 than in 1899, namely, Delaware, Maryland, New Jersey, Pennsylvania, Vermont, and Wisconsin.

Of the total number of cotton spindles in the hosiery and knit-goods industry, 195,089, or 40.4 per cent, were reported from the Middle Atlantic states, most of these being in the state of New York.

MANUFACTURES.

Table 28

ACTIVE PRODUCING COTTON SPINDLES IN THE TEXTILE INDUSTRIES.

DIVISION AND STATE.	ACTIVE PRODUCING COTTON SPINDLES IN THE TEXTILE INDUSTRIES.										
	Total.			In cotton mills. ¹		In hosiery and knitting mills.		In woolen, worsted, and carpet mills.		In cordage and twine factories.	
	1909	1899	1889	1909	1899	1909	1899	1909	1899	1909	1899
United States.....	28,178,862	19,463,984	14,364,180	27,426,608	19,050,952	483,117	205,742	131,717	147,524	138,420	59,766
New England.....	15,735,086	13,165,809	10,934,297	15,411,549	12,891,787	179,288	136,600	104,397	117,908	39,852	19,514
Maine.....	1,028,680	848,377	892,762	1,020,688	841,521	.....	.....	4,090	3,584	3,898	3,272
New Hampshire.....	1,325,900	1,249,875	1,198,643	1,318,932	1,243,555	3,992	6,320	336	.....	2,040	.....
Vermont.....	91,712	100,028	71,591	91,712	100,028	.....	.....	.....	.....	.....	.....
Massachusetts.....	9,637,601	7,931,671	5,872,852	9,375,094	7,784,687	151,160	90,780	98,813	53,204	12,624	6,000
Rhode Island.....	2,371,777	1,972,042	1,959,294	2,363,089	1,920,522	.....	.....	1,152	51,120	6,936	400
Connecticut.....	1,279,416	1,063,816	939,155	1,241,524	1,001,474	24,136	39,500	.....	10,000	13,756	12,842
Middle Atlantic.....	1,661,932	1,530,051	1,500,317	1,451,491	1,458,635	195,089	52,532	10,152	17,684	5,200	1,200
New York.....	962,841	762,896	629,324	778,036	720,268	176,753	38,404	7,352	4,224	700	.....
New Jersey.....	420,784	431,730	374,442	420,784	431,730	.....	.....	.....	.....	.....	.....
Pennsylvania.....	278,307	335,425	496,551	252,671	306,637	18,336	14,128	2,800	13,400	4,600	1,200
North Central.....	215,084	177,642	141,686	183,680	169,126	24,468	.....	.....	6,500	6,936	2,016
Indiana.....	124,104	108,988	80,604	119,568	102,488	.....	.....	.....	6,500	4,536	.....
Illinois.....	39,240	31,488	21,800	28,656	31,488	10,584	.....	.....	.....	.....	.....
Michigan.....	13,884	.....	.....	.....	.....	13,884	.....	.....	.....	.....	.....
Wisconsin.....	2,112	21,496	32,592	2,112	21,496	.....	.....	.....	.....	.....	.....
Missouri.....	30,744	13,654	6,690	28,344	13,654	.....	.....	.....	.....	2,400	.....
Kansas.....	5,000	.....	.....	5,000	.....	.....	.....	.....	.....	.....	2,016
South Atlantic.....	8,959,297	3,727,941	1,432,838	8,869,749	3,697,569	56,948	14,360	6,992	.....	25,608	16,012
Delaware.....	7,360	34,552	53,016	7,360	34,552	.....	.....	.....	.....	.....	.....
Maryland.....	133,302	154,064	161,786	133,302	154,064	.....	.....	.....	.....	.....	.....
Virginia.....	324,542	332,707	94,294	316,970	126,827	7,572	5,880	.....	.....	.....	.....
North Carolina.....	2,958,235	1,137,328	344,606	2,908,333	1,133,432	24,944	2,860	2,000	.....	22,608	1,036
South Carolina.....	3,760,891	1,436,969	332,784	3,754,251	1,431,349	6,640	5,620	.....	.....	.....	.....
Georgia.....	1,774,967	832,321	445,452	1,749,483	817,345	17,792	.....	4,992	.....	2,700	14,976
South Central.....	1,594,381	811,340	346,462	1,509,139	791,035	27,324	2,250	10,176	5,000	47,742	13,064
Kentucky.....	85,044	66,633	42,942	72,956	66,633	.....	.....	.....	.....	12,088	.....
Tennessee.....	247,530	130,296	98,324	225,638	123,896	11,892	.....	10,000	5,000	.....	1,400
Alabama.....	918,503	419,968	79,362	885,803	411,328	10,932	.....	176	.....	16,592	8,640
Mississippi.....	159,904	78,146	57,004	153,804	75,122	.....	.....	.....	.....	6,100	3,024
Arkansas.....	17,114	9,700	5,780	13,754	9,700	.....	.....	.....	.....	3,860	.....
Louisiana.....	67,902	57,850	47,050	59,556	55,600	4,500	2,250	.....	.....	3,846	.....
Oklahoma.....	5,756	.....	.....	.....	.....	.....	.....	.....	.....	5,756	.....
Texas.....	97,628	48,756	16,000	97,628	48,756	.....	.....	.....	.....	.....	.....
All other.....	13,082	51,192	28,580	.....	42,800	.....	.....	.....	432	13,082	7,900

¹ Including mills in the cotton small wares branch of the industry.

Table 29 shows the number of active producing ring and mule spindles in cotton mills, by states, for the years 1909, 1904, 1899, and 1889. It does not include 1889.

Table 29

ACTIVE RING AND MULE SPINDLES IN COTTON MILLS.

STATE.	ACTIVE RING AND MULE SPINDLES IN COTTON MILLS.											
	1909			1904			1899			1889 ¹		
	Total.	Ring.	Mule.	Total.	Ring.	Mule.	Total.	Ring.	Mule.	Total.	Ring.	Mule.
United States.....	27,395,800	22,679,004	4,716,794	23,155,613	17,933,756	5,221,857	19,008,352	13,444,872	5,563,480	14,188,103	8,824,617	5,363,486
Alabama.....	885,803	882,803	3,000	758,087	751,087	7,000	411,328	403,328	8,000	70,234	69,774	9,460
Connecticut.....	1,241,524	818,074	423,450	1,149,915	702,439	447,476	1,000,574	607,448	393,126	934,155	536,514	397,641
Georgia.....	1,747,483	1,077,987	669,496	1,316,573	1,247,901	69,272	815,545	730,619	84,626	445,452	424,628	20,524
Indiana.....	119,568	110,616	8,952	119,232	101,184	18,008	102,488	86,168	16,320	74,604	58,284	16,320
Kentucky.....	72,956	62,036	10,920	76,192	55,072	21,120	66,633	48,234	18,399	42,942	34,158	8,784
Louisiana.....	59,556	59,556	.....	59,052	56,552	2,500	55,600	55,600	.....	46,200	46,200	.....
Maine.....	1,020,688	859,372	161,316	891,246	667,522	223,724	841,521	584,573	256,948	885,762	541,065	344,687
Maryland.....	133,302	133,302	.....	133,672	133,672	.....	154,064	154,064	.....	158,930	153,574	5,356
Massachusetts.....	9,372,364	7,282,153	2,090,211	8,411,249	6,082,189	2,329,000	7,784,687	5,228,371	2,556,316	5,824,518	3,393,799	2,430,719
Mississippi.....	153,804	153,804	800	125,352	.....	.....	75,122	75,122	.....	57,004	57,004	.....
New Hampshire.....	1,318,932	1,164,386	154,546	1,301,281	1,032,205	269,076	1,243,555	956,390	287,165	1,195,643	831,409	364,234
New Jersey.....	420,784	107,381	313,403	436,764	87,960	348,804	431,730	64,638	367,092	374,442	69,962	304,480
New York.....	777,980	417,978	360,002	704,634	328,132	376,502	720,268	353,132	367,436	600,790	272,860	334,210
North Carolina.....	2,908,333	2,849,865	58,468	1,880,950	1,814,190	66,760	1,133,432	1,098,080	35,352	337,786	300,866	30,920
Pennsylvania.....	252,559	131,214	121,345	266,097	145,756	120,341	306,637	182,190	124,447	430,638	263,951	175,687
Rhode Island.....	2,371,777	1,463,346	875,343	2,049,522	1,199,284	850,238	1,880,622	940,294	940,328	1,924,480	1,112,617	811,869
South Carolina.....	3,754,251	3,731,039	23,212	2,864,622	2,848,980	15,112	1,431,349	1,420,597	10,752	332,784	328,784	4,000
Tennessee.....	225,638	215,638	10,000	153,375	148,375	10,000	123,896	103,116	20,780	97,524	75,936	21,588
Texas.....	97,628	97,628	.....	68,170	68,170	.....	48,756	48,756	.....	15,000	15,000	.....
Vermont.....	91,712	75,872	15,840	108,028	80,312	27,716	100,028	56,712	43,310	71,591	28,856	42,735
Virginia.....	316,970	316,970	.....	193,062	189,974	3,088	126,827	124,502	2,325	94,294	81,996	12,108
All other states.....	85,226	68,786	16,440	89,048	73,048	16,000	153,090	122,938	30,752	149,318	122,254	27,064

¹ Includes mills in the cotton small wares branch of the industry.

While the number of ring spindles has increased rapidly from census to census, the number of mule spindles reported decreased steadily from 1899 to 1909. In 1889 mule spindles formed 37.8 per cent of the total; in 1899, 29.3 per cent; in 1904, 22.6 per cent; and in 1909, only 17.2 per cent. Most of the individual states

show decreases in the number of mule spindles reported for 1909, as compared with the number in 1899.

The use of mule spindles is confined chiefly to the Northern states. In 1909 the number in Massachusetts, 2,090,211, represented more than two-fifths of the total number of mule spindles in the United States and more than one-fifth of the total number of all spindles in that state. The proportion of mule spindles, however, was considerably higher in some of the other states, including Connecticut, New Jersey, New York, Pennsylvania, and Rhode Island, about three-fourths of the spindles in New Jersey in 1909 being mule spindles. Apparently, however, the purchase and installation of mule spindles have practically ceased, for in the states where most of the cotton mills are comparatively new the number of mule spindles is relatively insignificant. In South Carolina, which has more spindles than any other state except Massachusetts, mule spindles constituted in 1909 less than 1 per cent of the total number of spindles.

In addition to the active spindles reported there were 523,911 idle "producing" spindles in active cotton mills in 1909, statistics for which are given in Table 30.

STATE.	IDLE SPINDLES IN THE COTTON MANUFACTURING INDUSTRY: 1909		
	Total.	Ring.	Mule.
United States.....	523,911	433,312	90,599
Alabama.....	18,844	18,844	
Connecticut.....	2,816	1,344	1,472
Georgia.....	30,477	30,477	
Indiana.....	1,248	1,248	
Louisiana.....	19,168	19,168	
Maine.....	8,496	8,496	
Maryland.....	3,680	3,680	
Massachusetts.....	66,972	51,165	14,807
Mississippi.....	7,544		7,544
New Hampshire.....	114,273	113,803	470
New Jersey.....	8,995	8,139	856
New York.....	7,104	7,104	
North Carolina.....	80,626	64,690	15,936
Pennsylvania.....	14,620	6,120	8,500
Rhode Island.....	40,495	10,457	30,038
South Carolina.....	73,010	73,010	
Tennessee.....	3,150	3,150	
Texas.....	224	224	
Vermont.....	13,472	2,496	10,976
Virginia.....	600	600	
All other states.....	9,117	9,117	

In addition to the active producing cotton spindles, the cotton mills reported, in 1909, 2,061,603 doubling and twisting spindles, and 5,044 producing spindles using fibers other than cotton. Table 31 shows the doubling and twisting spindles distributed by geographic divisions and states.

DIVISION AND STATE.	Doubling and twisting spindles in the cotton manufacturing industry: 1909	DIVISION AND STATE.	Doubling and twisting spindles in the cotton manufacturing industry: 1909
United States.....	2,061,603	South Atlantic.....	707,109
New England.....	985,648	Maryland.....	42,444
Maine.....	24,570	Virginia.....	300
New Hampshire.....	42,162	North Carolina.....	353,415
Vermont.....	220	South Carolina.....	139,224
Massachusetts.....	548,957	Georgia.....	160,726
Rhode Island.....	226,373	South Central.....	115,468
Connecticut.....	143,366	Kentucky.....	1,792
Middle Atlantic.....	249,410	Tennessee.....	22,588
New York.....	33,110	Alabama.....	75,484
New Jersey.....	192,678	Mississippi.....	7,680
Pennsylvania.....	23,624	Arkansas.....	3,000
North Central.....	3,968	Louisiana.....	192
Ohio.....	1,600	Texas.....	4,732
Indiana.....	560		
Wisconsin.....	1,000		
Missouri.....	808		

Looms.—Table 32 gives, by geographic divisions, for 1909, 1904, and 1899, the total number of looms employed in the cotton mills (exclusive of the mills in the cotton small wares branch of the industry), classified according to the character of the fabrics on which used.

Of the total number of looms in 1909, 74.8 per cent were employed on plain cloths, 12.4 per cent on twills and sateens, 11.8 per cent on fancy weaves, and only 1 per cent on all other fabrics.

The total number of looms increased 182,281, or 40.4 per cent, during the decade. The rate of increase in the number of looms in each five-year period was a little lower than that in the number of spindles. The greatest increase for the decade in any geographic division was 96,879, or 101.3 per cent, in the South Atlantic division. The New England division shows an increase of 74,675, or 25 per cent, the Middle Atlantic a slight decrease, and the East South Central an increase of 11,343, or 75.6 per cent.

Of the several classes of looms employed on the different widths of plain cloth, the one showing the greatest percentage of gain is that comprising looms over 36 inches wide, which increased 59 per cent in number during the decade 1899-1909, as compared with an increase of only 39.2 per cent in the total number of looms used on plain cloth. This means that the capacity of the looms employed on plain cloth increased more rapidly than their total number.

MANUFACTURES.

The number of looms on twills and sateens increased 19,453, or 33.1 per cent, most of this gain having been in the New England states. An actual loss was reported by the Middle Atlantic division. The number of looms on fancy weaves increased 29,204, or 63.9 per

cent. The largest absolute gain in number of looms reported was in the New England states, but the relative increase in these states was less than that in the South Atlantic division, which amounted to 256.9 per cent.

Table 32

DIVISION.	Census.	LOOMS IN COTTON MILLS. ¹									
		Aggregate.	On plain cloths.					On twills and sateens.	On fancy weaves.	On tapes and other narrow goods.	On bagging and other special fabrics.
			Total.	Less than 28 inches wide.	28 to 31 inches wide, inclusive.	32 to 36 inches wide, inclusive.	Over 36 inches wide.				
United States.....	1909	632,963	473,373	40,934	129,543	102,401	200,495	78,292	74,890	1,332	5,076
	1904	540,910	402,747	31,901	115,966	94,649	160,231	46,035	62,214	1,439	6,472
	1899	450,682	340,027	35,601	98,995	79,348	126,082	58,839	45,686	1,709	4,421
New England.....	1909	373,560	255,792	18,557	76,875	47,261	113,099	63,940	50,699	381	2,748
	1904	324,058	223,291	11,228	81,742	40,343	89,978	55,093	41,443	711	3,520
	1899	298,888	216,729	16,765	77,326	37,722	84,916	47,080	31,635	1,586	1,855
Middle Atlantic.....	1909	30,805	19,494	4,007	1,946	1,913	10,728	1,559	8,302	270	1,090
	1904	28,784	16,051	5,381	492	2,150	8,028	1,915	9,494	64	1,260
	1899	32,586	18,297	6,160	2,499	2,733	6,905	3,366	9,287	84	1,552
East North Central.....	1909	4,399	3,686	.....	350	2,784	552	152	55	500	6
	1904	4,696	4,277	430	55	2,709	1,083	.....	19	394	6
	1899	3,461	3,295	.....	523	2,571	202	.....	.....	.....	185
South Atlantic.....	1909	192,560	166,818	15,056	44,233	39,783	66,846	9,330	15,131	181	1,100
	1904	155,559	134,158	13,763	26,195	40,334	53,866	9,700	9,923	270	1,508
	1899	95,681	84,098	12,208	14,059	27,516	30,255	6,817	4,240	39	487
East South Central.....	1909	26,342	22,442	1,454	5,343	8,769	6,876	3,221	609	.....	70
	1904	23,431	21,176	1,097	6,922	7,397	5,760	1,280	901	.....	74
	1899	14,999	13,336	388	3,558	6,457	2,923	1,132	360	.....	171
West South Central.....	1909	4,501	4,345	60	676	1,503	2,106	90	4	.....	62
	1904	3,726	3,288	.....	560	1,466	1,262	50	384	.....	4
	1899	1,018	702	.....	498	204	.....	244	.....	.....	72
All other states ²	1909	796	796	.....	120	388	288	.....	.....	.....	100
	1904	656	506	2	.....	250	254	.....	50	.....	.....
	1899	4,052	3,569	20	522	2,146	881	200	164	.....	119

¹ Not including mills in the cotton small wares branch of the industry.

² In addition, establishments engaged primarily in the manufacture of products other than cotton goods reported cotton looms as follows:

Total number.....	540
On plain cloths.....	85
28 to 32 inches wide.....	19
36 inches wide and over.....	66
On twills and sateens.....	40
On fancy weaves.....	415

³ Includes the following states, with establishments as indicated: For 1909, Kansas, 1, and Missouri, 2; for 1904, California, 1, and Missouri, 1; for 1899, Arkansas, 2; California, 1; Colorado, 1; Illinois, 1; Louisiana, 2; Missouri, 2; Nebraska, 1; and West Virginia, 1.

Relation of spindles and looms to wage earners and cotton consumption.—Table 33 shows the average number of wage earners in cotton mills (including the mills in the cotton small wares branch of the industry), the amount of wages paid, the total number of active producing spindles, the number of such spindles per wage earner, and the amount of wages paid per spindle, for each census year from 1879 to 1909.

YEAR.	COTTON GOODS, INCLUDING COTTON SMALL WARES.				
	Wage earners (average number).	Wages.	Number of active producing spindles.	Number of spindles per wage earner.	Wages per spindle.
1909.....	378,880	\$132,859,145	27,425,608	72.39	\$4.84
1904.....	315,874	96,205,796	23,195,143	73.43	4.15
1899.....	302,861	86,689,752	19,050,952	62.90	4.55
1899.....	218,876	66,024,533	14,188,103	64.82	4.65
1879.....	172,544	42,040,510	10,653,435	61.74	3.95

While there is little necessary relation between the number of spindles in a single establishment, or even in a single state or division, and the number of wage earners employed, by reason of variations in the character of the products turned out, the grade of

labor employed, and other factors which would affect either the proportion of spinners in the total number of wage earners or the nominal efficiency of the labor, the average number of spindles per wage earner for the United States as a whole is not without significance. It shows the relation, at least, between two statistical elements which are widely used as standards for measuring the growth of industries; and the industry as a whole is not subject to the rapid and radical changes which sometimes affect the mills of a limited section. Temporary labor troubles in New England in 1904 somewhat reduced the average number of wage earners without making any corresponding reduction in the number of spindles reported, thus rendering the average number of spindles per wage earner for that year somewhat higher than it would otherwise have been; but this case is exceptional. Increasing rates of wages must be taken into account, of course, in considering the wage cost per spindle, and also the fact that salaries were to some extent included with wages at the earlier censuses.

Of somewhat more significance, perhaps, than the figures given in the preceding table, are statistics

showing the average number of spindles per spinner and the average number of looms per weaver. Such statistics are presented in Table 34.

STATE.	COTTON GOODS, INCLUDING COTTON SMALL WARES.	
	Average number of spindles per spinner.	Average number of looms per weaver.
United States:		
1909.....	407	6.5
1904.....	384	5.5
Leading states, 1909:		
New England—		
Massachusetts.....	718	6.9
New Hampshire.....	553	8.8
Rhode Island.....	582	7.6
Southern—		
Alabama.....	245	5.7
Georgia.....	219	5.8
North Carolina.....	228	5.4
South Carolina.....	297	7.5

The several states differ greatly in the number of spindles per spinner, the figures for the Southern states being very much lower than those for the New England states. These differences are doubtless mainly attributable to differences in the efficiency of labor, to the fact that relatively more children are employed as spinners in the South than in the North, and to differences in the grade of yarn made. The difference between the South and the North with respect to the number of looms per weaver is less conspicuous; in fact, the average number of looms per weaver was higher in South Carolina than in Massachusetts.

Table 35 shows the amount of cotton used per spindle in the United States during each census year from 1879 to 1909, and in the leading states during 1909.

STATE.	Cotton consumed per spindle in the cotton manufacturing industry (pounds).
United States:	
1909.....	85.15
1904.....	80.90
1899.....	85.41
1889.....	78.79
1879.....	70.43
Leading states, 1909:	
New England—	
Massachusetts.....	66.39
New Hampshire.....	105.03
Rhode Island.....	47.70
Southern—	
Alabama.....	131.22
Georgia.....	143.37
North Carolina.....	120.41
South Carolina.....	86.40

The consumption of cotton per spindle in the country as a whole was considerably greater in 1909 than in 1879, though much less than in 1899. The changes are doubtless due in large measure to the increasing importance of the Southern states in cotton manufacturing and to changing conditions in the South. The consumption of cotton per spindle was lower in the New England states than in the Southern states, which is partly attributable to differences in the grade of yarn made.

Dyeing and finishing and contract work.—Table 36 shows, by states, the number of establishments bleaching, dyeing, or printing their own products in 1909, the number performing these processes for others, and the number doing custom spinning or weaving.

STATE.	ESTABLISHMENTS IN THE COTTON MANUFACTURING INDUSTRY, 1909			
	Total number.	Bleaching, dyeing, or printing—		Doing custom spinning or weaving.
		Their own goods.	For others.	
United States.....	1,324	315	27	19
Alabama.....	51	4		
Connecticut.....	52	14	1	1
Georgia.....	116	31		
Illinois.....	5	3	1	
Indiana.....	7	2		
Kentucky.....	4	2		
Maine.....	16	3		
Maryland.....	16	2		
Massachusetts.....	182	48	9	4
Mississippi.....	14	5		
New Hampshire.....	21	9	2	
New Jersey.....	26	8	2	
New York.....	47	21	3	
North Carolina.....	281	70	3	
Ohio.....	4	1		
Pennsylvania.....	175	49	3	8
Rhode Island.....	106	19	3	5
South Carolina.....	147	19		
Virginia.....	10	2		
All other states.....	44	3		1

Of the 1,324 establishments in the cotton manufacturing industry in 1909, 315 reported that they bleached, dyed, or printed their own goods, 27 that they performed these processes for others as well as upon their own products, and 19 that they did custom spinning or weaving. Of the other establishments, some made only products requiring no bleaching, dyeing, or printing, while others had the work done under contract, either by other establishments in the industry or by establishments in other industries, particularly in the industry designated "dyeing and finishing textiles."

The total expenditure of the cotton mills for contract work of all kinds in 1909 was \$2,157,069. This expenditure is distributed, by states, in Table 46.

SPECIAL STATISTICS FOR THE COTTON SMALL WARES BRANCH OF THE INDUSTRY.

Table 37 summarizes the statistics of the cotton small wares branch of the industry for 1909, 1904, and 1899.

	COTTON SMALL WARES BRANCH OF THE INDUSTRY.					
	Number or amount.			Per cent of increase. ¹		
	1909	1904	1899	1899-1909	1904-1909	1899-1904
Number of establishments.	116	77	82	41.5	50.6	-6.1
Persons engaged in the industry.	8,233	5,724	5,206	58.1	43.8	10.0
Proprietors and firm members.	74	65	85	-12.9	13.8	-23.5
Salaried employees.	461	243	189	143.9	89.7	28.6
Wage earners (average number).	7,698	5,416	4,932	56.1	42.1	9.8
Primary horsepower.	10,412	7,495	5,976	74.2	38.9	25.4
Capital.	\$13,824,772	\$8,010,491	\$6,397,385	116.1	72.6	25.2
Expenses.	11,768,684	6,918,456	5,362,738	119.5	70.1	29.0
Services.	3,785,968	2,154,224	1,790,067	110.4	74.8	20.3
Salaries.	606,540	326,124	226,625	207.4	113.6	43.9
Wages.	3,069,428	1,828,100	1,563,442	96.3	67.9	16.9
Materials.	6,995,966	4,207,655	3,110,137	124.9	66.3	35.3
Miscellaneous.	1,000,750	556,577	462,534	117.7	80.9	20.3
Value of products.	13,174,111	8,016,486	6,394,164	106.0	64.3	25.4
Value added by manufacture (value of products less cost of materials).	6,178,145	3,808,831	3,284,027	88.1	62.2	16.0

¹ A minus sign (-) denotes decrease.

A considerable number of establishments which use cotton or cotton yarn as their chief material do not

make piece goods, but confine their operations mainly to the manufacture of narrow fabrics, such as braids, tapes, binding, shoe laces, and corset laces, incidentally spinning small quantities of yarn for sale.

These establishments constitute the cotton small wares branch of the cotton manufacturing industry. Except as otherwise noted, the data relating to these establishments have been included with those for the other cotton mills in the statistics heretofore presented, but they are shown separately for 1909, 1904, and 1899 in Table 37. It should be borne in mind that large quantities of cotton small wares are also manufactured by establishments making piece goods as well.

From 1899 to 1904 the number of establishments in the cotton small wares branch of the industry decreased from 82 to 77, but in 1909 these establishments numbered 116. The average number of wage earners increased 56.1 per cent during the decade, and the value of products increased 106 per cent during the same period.

Summary, by states.—Table 38 summarizes, by states, the important statistics relating to the cotton small wares branch of the cotton manufacturing industry for 1909, 1904, and 1899.

COTTON SMALL WARES—COMPARATIVE STATISTICS, BY STATES: 1909, 1904, AND 1899.

STATE.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
			Expressed in thousands.										
United States	1909	116	8,233	74	461	7,698	10,412	\$13,825	\$697	\$3,069	\$6,996	\$13,174	\$6,178
	1904	77	5,724	65	243	5,416	7,495	8,010	326	1,828	4,208	8,016	3,808
	1899	82	5,206	85	189	4,932	5,976	6,397	227	1,563	3,110	6,394	3,284
Connecticut	1909	4	84	4	9	71	74	98	0	25	29	89	60
	1904	3	53	1	8	44	339	70	12	16	133	186	53
	1899												
Massachusetts	1909	24	986	20	70	896	1,626	1,391	94	365	980	1,711	722
	1904	19	868	13	48	807	1,177	883	55	203	501	898	307
	1899	14	465	11	24	430	800	528	32	151	321	647	326
New Jersey	1909	8	164	6	16	142	299	440	16	54	122	272	150
	1904												
	1899	5	180	1	16	163	264	410	19	44	231	390	159
New York	1909	9	342	12	26	304	288	556	47	134	304	603	299
	1904	3	236	1	24	211	350	548	33	71	242	416	174
	1899	18	664	22	42	600	290	551	36	163	461	840	379
Pennsylvania	1909	33	2,477	24	143	2,305	1,775	4,105	222	318	2,406	4,232	1,826
	1904	21	1,565	27	64	1,474	1,041	2,169	85	488	1,110	2,163	1,053
	1899	24	1,528	34	50	1,444	969	1,946	65	455	938	2,026	1,088
Rhode Island	1909	29	3,567	8	132	3,421	5,307	6,306	221	1,456	2,578	5,191	2,613
	1904	26	2,939	13	85	2,841	4,082	3,060	130	1,000	1,996	3,945	1,949
	1899	16	2,270	13	48	2,209	3,313	2,877	68	736	1,096	2,380	1,284
All other states	1909	9	613		54	559	1,043	929	88	217	568	1,076	598
	1904	5	263		10	239	506	390	11	50	226	408	182
	1899	5	99		4	86	340	85	7	14	63	111	48

¹ Included under "all other states."

In 1909 the largest number of establishments was reported for Pennsylvania, with Rhode Island ranking next, but in value of products the latter state ranked first. Three states show a very considerable increase in value of products between 1899 and 1909, namely,

Massachusetts (164.5 per cent), Rhode Island (118.1 per cent), and Pennsylvania (108.9 per cent).

Materials.—Table 39 shows statistics of the materials used by establishments in the cotton small wares branch of the industry for 1909, 1904, and 1899.

Table 39

MATERIAL.	MATERIALS USED IN THE COTTON SMALL WARES BRANCH OF THE INDUSTRY.		
	1909	1904	1899
Total cost	\$6,995,966	\$4,207,655	\$3,110,137
Cotton:			
Domestic—			
Bales.....	6,331	6,676	7,213
Pounds.....	3,082,270	3,362,434	3,040,878
Cost.....	\$359,106	\$390,805	\$264,541
Yarns:			
Cotton—			
Pounds.....	18,346,525	13,816,858	10,860,648
Cost.....	\$4,700,513	\$3,009,717	\$1,873,032
Silk—			
Pounds.....	100,662	23,924	43,709
Cost.....	\$350,334	\$98,617	\$134,296
Spun silk—			
Pounds.....	37,617	19,090	9,852
Cost.....	\$112,912	\$58,624	\$25,394
Other yarns—			
Pounds.....	480,013	389,148	1,040,103
Cost.....	\$252,385	\$66,975	\$264,331
Waste:			
Pounds.....	625,526	156,000	399,500
Cost.....	\$59,138	\$12,480	\$2,310
Starch.....	\$18,681	\$15,565	\$3,908
Chemicals and dyestuffs.....	\$77,337	\$36,032	\$46,339
All other materials.....	\$1,065,060	\$518,840	\$405,086

The total cost of materials used increased from \$3,110,137 in 1899 to \$4,207,655 in 1904 and to \$6,995,966 in 1909, an increase of 124.9 per cent for the decade. The most important of the materials is cotton yarn purchased as such, the consumption of which increased from 10,860,648 pounds in 1899 to 18,346,525 pounds in 1909, or 68.9 per cent. During the same period the cost increased 151 per cent, forming 60.2 per cent of the total cost of materials in 1899 and 67.2 per cent in 1909. The consumption of silk yarn and spun silk yarn also increased greatly from 1899 to 1909, but the quantity of raw cotton used shows a steady decrease for the decade.

Products.—Table 40 gives, so far as possible without the disclosure of individual operations, the quantity and value of the principal products of the cotton small wares branch of the cotton manufacturing industry for 1909, 1904, and 1899. It shows also the total quantity of yarn spun (including that used in further processes of manufacture), classified according to degree of fineness.

Table 40

PRODUCT.	PRODUCTS OF THE COTTON SMALL WARES BRANCH OF THE INDUSTRY.		
	1909	1904	1899
Total value	\$13,174,111	\$8,016,466	\$6,394,164
Tape and webbing	\$5,338,468	\$4,010,942	\$2,192,601
Yarns for sale:			
Pounds.....	150,428	162,000	116,609
Value.....	\$96,279	\$54,300	\$27,403
Waste for sale:			
Pounds.....	643,791	314,538	761,857
Value.....	\$15,306	\$13,020	\$11,336
Other cotton products	\$7,661,037	\$3,637,316	\$2,901,186
All other products	\$63,021	\$300,908	\$1,261,638
Yarn produced ² pounds..	2,637,021	2,410,268	(¹)
No. 20 and under (coarse).....	1,127,514	844,135	(¹)
No. 21 to No. 40 (medium).....	1,432,484	2,066,133	(¹)
No. 41 to No. 60 (fine).....	77,043	.....	(¹)

¹ Not reported. ² Including that used in the further processes of manufacture.

The value of tape and webbing constituted 40.5 per cent of the total value of products in 1909 and 34.3 per cent in 1899. The total quantity of yarn spun increased from 2,410,268 pounds in 1904 to 2,637,021 pounds in 1909, or 9.4 per cent, the quantity of coarse yarn made in 1909 being more than three times as great as in 1904, while the quantity of medium yarn decreased 30.7 per cent. No fine yarn was reported for 1904 and only a small quantity for 1909.

Spindles and looms.—Table 41 shows the number of spindles and of looms (including braiders) employed in the cotton small wares branch of the cotton manufacturing industry in 1909, 1904, and 1899, for the United States and for selected states.

Table 41

STATE.	Census.	COTTON SMALL WARES BRANCH OF THE INDUSTRY.	
		Spindles.	Looms (including braiders).
United States	1909	29,808	32,086
	1904	39,530	18,386
	1899	42,600	5,070
Massachusetts	1909	2,640	5,501
	1904	.....	5,506
	1899	.....	802
Pennsylvania	1909	112	5,275
	1904	250	3,167
	1899	.....	1,684
Rhode Island	1909	25,000	18,492
	1904	36,280	8,288
	1899	39,900	2,826
All other states	1909	2,056	2,818
	1904	3,000	1,425
	1899	2,700	258

The total number of spindles in 1909 was 29,808, as compared with 42,600 in 1899, a decrease of 30 per cent during the decade. Rhode Island reported 25,000 spindles in 1909, or 83.9 per cent of the total. The exceedingly small number of spindles reported by Pennsylvania is worthy of note, as indicating the use of purchased yarns in most of the cotton small wares mills of that state. While there was a considerable decrease during the decade in the total number of spindles reported, a great gain is shown in the number of looms and braiders, which was 32,086 in 1909; of this number, 26,382 were braiders. Of the total number of looms and braiders reported for 1909, 57.6 per cent were in Rhode Island. Of the 26,382 braiders in 1909, Rhode Island reported 16,871, Massachusetts 4,905, Pennsylvania 2,130, and all other states 2,476.

The spinning of the yarn has apparently become less and less a factor in this branch of the industry, the manufacturers preferring to buy the yarn of other establishments.

MANUFACTURES.

IMPORTS AND EXPORTS OF COTTON AND COTTON GOODS.

Table 42 shows, for each census year from 1850 to 1900, and for each year from 1905 to 1909, the production, net imports, consumption, and exports of raw cotton.

Table 42	QUANTITY (EQUIVALENT 500-POUND BALES).				YEAR.	QUANTITY (EQUIVALENT 500-POUND BALES).			
	Production. ¹	Net imports. ²	Consumption. ²	Exports. ²		Production. ¹	Net imports. ²	Consumption. ²	Exports. ²
1909.....	13,587,306	165,451	5,198,063	8,889,724	1900.....	9,459,935	134,778	3,687,253	6,187,623
1908.....	11,375,461	140,869	4,483,028	7,779,508	1890.....	7,472,511	18,334	2,618,409	4,928,921
1907.....	13,595,498	202,733	4,974,199	8,825,236	1880.....	5,466,387	7,578	1,500,688	3,742,762
1906.....	10,804,556	133,464	4,877,465	6,975,494	1870.....	2,409,597	3,026	796,616	1,937,708
1905.....	13,679,954	130,182	4,523,208	9,057,397	1860.....	4,309,642	.....	845,410	3,535,373
					1850.....	1,975,274	485	575,506	1,270,763

¹ Figures represent the crop grown in the preceding year.

² Statistics relate to year ending August 31.

Table 43 shows, for selected years, the imports of cotton manufactures, while Table 44 presents statistics of exports of cotton manufactures corresponding to the statistics of imports given in Table 43.

Table 43	IMPORTS OF COTTON MANUFACTURES, NOT INCLUDING WEARING APPAREL OR KNIT GOODS: 1869-1909									
	YEAR ENDING JUNE 30--	Total value.	Cloths.				Embroideries, lace, insertion, trimmings, lace curtains, cords, and gimps (value).	Thread (not on spools), yarns, warps, and warp yarn.		All other manufactures (value).
			Not bleached, dyed, colored, stained, painted, or printed.		Bleached, dyed, colored, stained, painted, or printed.			Quantity (pounds).	Value.	
			Quantity (square yards).	Value.	Quantity (square yards).	Value.				
1909.....	\$51,949,866	2,535,251	\$289,843	65,841,357	\$9,900,294	\$34,368,580	6,926,205	\$3,306,172	\$4,084,977	
1908.....	54,126,327	3,609,469	344,941	75,876,055	12,079,919	33,611,010	7,036,442	3,921,111	4,169,346	
1907.....	60,297,885	2,406,910	280,298	80,238,421	12,727,769	39,756,502	6,940,261	3,583,627	3,949,689	
1906.....	52,809,043	1,878,828	216,711	72,778,701	11,719,880	34,022,469	5,111,644	2,638,724	4,351,259	
1905.....	40,388,794	1,309,358	155,695	46,210,012	7,794,179	25,911,684	5,025,531	2,204,154	4,323,082	
1904.....	40,974,520	1,415,512	159,102	50,082,691	8,144,383	24,848,764	5,060,533	2,261,924	5,500,347	
1903.....	44,057,108	1,322,007	158,545	59,998,185	9,013,092	25,110,081	5,764,937	2,421,729	7,355,661	
1902.....	37,440,098	772,011	86,386	45,440,314	6,934,393	22,449,314	5,006,190	1,921,748	6,048,237	
1901.....	33,254,762	1,612,267	199,949	39,150,760	5,928,653	20,235,299	3,725,250	1,746,723	5,147,138	
1900.....	35,349,246	3,061,790	367,604	61,986,063	8,156,301	19,205,165	5,272,491	2,093,958	5,523,218	
1899.....	26,691,859	1,250,932	107,023	51,106,236	6,640,014	14,550,015	2,325,074	849,819	4,535,988	
1889.....	20,033,005	2,577,230	203,100	27,808,959	3,636,194	9,591,943	1,744,352	800,708	5,681,095	
1879.....	14,930,975	1,673,082	1789,359	5,195,126	707,064	.....	.....	.....	13,434,552
1869.....	16,474,036	1,26,860,638	1,3,633,332	21,480,786	2,990,918	.....	.....	.....	9,979,986

¹ Includes bleached goods.

² Includes jeans, denims, and drillings to the value of \$141,066.

³ Includes jeans, denims, and drillings to the value of \$991,051.

Table 44	EXPORTS OF DOMESTIC MANUFACTURES OF COTTON, NOT INCLUDING WEARING APPAREL OR KNIT GOODS: 1869-1909							
	YEAR ENDING JUNE 30--	Total value.	Cloths.				Yarn (value).	All other manufactures (value).
			Uncolored.		Dyed, colored, or printed.			
			Quantity (square yards).	Value.	Quantity (square yards).	Value.		
1909.....	\$27,631,899	246,123,197	\$14,527,501	121,508,345	\$7,165,579	\$551,002	\$5,387,757	
1908.....	20,476,279	125,729,841	8,450,064	80,204,971	5,809,019	400,600	5,307,596	
1907.....	27,511,186	206,054,287	13,737,105	120,286,042	7,502,082	328,688	5,942,301	
1906.....	48,605,458	594,517,108	36,252,553	116,075,946	6,929,307	365,452	6,083,146	
1905.....	46,188,428	560,584,218	33,905,134	127,916,497	7,325,408	310,237	4,557,649	
1904.....	19,703,293	156,060,758	9,256,922	91,319,979	5,439,277	172,286	4,834,806	
1903.....	29,616,168	325,867,530	16,909,436	169,511,607	8,443,148	(1)	4,263,584	
1902.....	30,017,770	358,004,521	18,501,908	146,769,292	7,369,288	(1)	4,156,574	
1901.....	18,617,882	136,554,132	7,581,812	115,949,219	6,554,225	(1)	4,481,845	
1900.....	22,400,479	264,314,474	13,229,443	87,880,515	4,839,491	(1)	4,331,545	
1899.....	22,291,075	303,063,083	13,748,619	108,940,972	5,221,278	(1)	3,321,178	
1889.....	9,910,841	77,596,862	5,577,401	40,856,329	2,885,373	(1)	1,448,067	
1879.....	10,853,950	84,081,319	6,288,131	45,116,058	3,208,285	(1)	1,355,534	
1869.....	5,874,222	(2)	(2)	(2)	(2)	(2)	(2)	

¹ Included under "all other manufactures."

² Not reported separately.

DETAILED STATE TABLES.

The principal statistics secured concerning the cotton manufacturing industry as a whole are presented, by states, in Tables 45 and 46.

Table 45 shows, for 1909, 1904, and 1899, the number of establishments, number of persons engaged in

the industry, primary horsepower, capital invested, salaries, wages, cost of materials, value of products, and value added by manufacture.

Table 46 gives more detailed statistics for the industry for 1909 only.

COTTON.

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COTTON GOODS, INCLUDING COTTON SMALL WARES—COMPARATIVE STATISTICS, BY STATES, 1909, 1904, AND 1899.

Table 45

STATE.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture (value of products less cost of materials).
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
United States.....	1909	1,324	387,771	377	8,514	378,880	1,296,517	\$822,238	\$14,412	\$132,859	\$371,009	\$528,302	\$257,383
	1904	1,154	323,287	432	6,981	315,874	986,604	613,111	10,238	96,206	286,255	450,468	184,213
	1899	1,055	306,237	474	4,902	302,861	795,834	487,240	7,350	86,690	176,552	339,200	162,648
Alabama.....	1909	51	13,041	.....	310	12,731	42,637	30,954	460	3,454	14,373	22,212	7,839
	1904	46	11,740	1	259	11,480	27,505	24,758	343	2,458	12,011	16,760	4,749
	1899	31	8,491	.....	159	8,332	22,997	11,630	198	1,482	4,826	8,153	3,327
Connecticut.....	1909	52	14,837	26	501	14,360	58,137	39,243	778	5,666	11,960	24,232	12,272
	1904	52	13,479	18	350	13,111	47,950	31,159	516	4,653	10,203	18,425	8,222
	1899	55	13,494	19	281	13,194	41,134	27,352	396	4,394	7,536	15,489	7,953
Georgia.....	1909	116	28,495	12	680	27,803	92,979	64,651	1,005	7,721	32,049	48,037	15,988
	1904	2 103	24,701	13	558	24,130	77,435	42,350	726	5,313	23,832	35,174	11,342
	1899	2 67	18,625	10	332	18,283	39,307	24,158	431	3,567	11,113	18,453	7,345
Illinois.....	1909	5	1,397	.....	78	1,319	2,020	1,979	105	522	1,102	2,111	1,009
	1904	3	542	2	25	521	1,666	1,869	27	187	295	613	318
Indiana.....	1909	7	1,621	.....	39	1,582	5,315	2,473	105	478	1,670	2,502	832
	1904	5	1,208	.....	34	1,174	5,250	2,277	51	302	1,140	1,484	344
	1899	2 4	1,442	3	18	1,421	3,994	1,678	34	324	701	1,335	634
Kentucky.....	1909	4	1,066	1	21	1,044	3,159	1,917	36	307	1,188	1,902	714
	1904	4	1,056	.....	25	1,031	3,085	2,156	25	243	1,165	1,565	400
	1899	6	1,375	.....	24	1,351	3,605	1,868	34	280	972	1,664	692
Maine.....	1909	16	14,783	.....	149	14,634	53,823	25,653	357	5,718	11,390	21,932	10,542
	1904	15	12,582	.....	200	12,382	37,236	21,643	342	4,037	9,173	15,406	6,233
	1899	15	13,824	1	100	13,723	39,608	21,087	232	4,330	7,036	14,631	7,595
Maryland.....	1909	16	4,077	3	108	3,966	13,128	9,024	152	1,139	4,012	5,522	1,510
	1904	12	4,101	8	100	3,998	11,995	6,955	93	934	3,873	5,245	1,372
	1899	14	4,818	7	84	4,727	10,864	7,709	133	1,186	3,039	5,423	2,384
Massachusetts.....	1909	182	110,686	43	1,729	108,914	362,043	214,017	3,450	45,117	105,157	186,402	81,305
	1904	161	90,239	47	1,552	88,640	296,244	174,552	2,714	32,555	80,285	130,069	49,801
	1899	177	93,667	48	1,104	92,515	276,161	166,289	2,046	32,479	54,389	111,125	56,736
Mississippi.....	1909	14	2,720	.....	75	2,645	8,045	5,336	105	695	2,042	3,102	1,060
	1904	14	2,225	.....	64	2,161	5,867	4,520	79	518	1,649	2,463	814
	1899	6	1,723	2	40	1,675	3,365	2,210	60	340	707	1,473	706
New Hampshire.....	1909	21	22,504	3	211	22,290	83,966	29,176	411	8,938	19,124	33,602	14,473
	1904	2 25	20,044	4	309	19,731	75,540	31,176	516	7,373	18,497	29,541	11,044
	1899	23	20,029	.....	175	20,454	68,473	29,262	371	6,759	11,960	22,998	11,038
New Jersey.....	1909	26	6,894	13	243	6,638	17,288	17,824	392	2,577	8,565	13,729	5,164
	1904	2 17	5,501	4	135	5,362	15,518	14,290	239	2,022	5,143	8,579	3,436
	1899	25	5,849	11	157	5,681	14,317	14,399	269	1,931	3,158	6,931	3,773
New York.....	1909	47	11,032	23	346	10,663	33,354	23,137	592	4,166	11,726	20,352	8,626
	1904	33	9,031	13	218	8,800	25,812	18,474	314	3,071	8,645	13,434	4,789
	1899	52	9,504	47	198	9,259	24,044	15,060	263	2,746	5,718	10,788	5,070
North Carolina.....	1909	281	48,525	42	1,252	47,231	164,609	96,993	1,610	12,131	48,688	72,680	23,992
	1904	212	37,292	33	903	36,356	92,215	57,413	973	7,504	33,025	47,254	14,229
	1899	177	30,973	41	659	30,273	56,986	33,012	587	5,127	17,387	28,373	10,986
Ohio.....	1909	4	195	1	17	177	446	301	24	52	234	395	161
	1904	2 3	117	4	6	107	365	190	14	27	89	154	65
	1899	2 3	119	1	12	106	345	168	11	28	142	231	89
Pennsylvania.....	1909	175	17,386	156	937	16,293	24,589	33,692	1,612	7,034	18,757	33,917	15,160
	1904	165	16,009	209	627	15,263	22,611	27,174	918	5,943	14,322	26,300	11,978
	1899	173	17,817	241	565	17,011	23,403	24,332	742	6,057	13,177	25,448	12,271
Rhode Island.....	1909	106	29,488	46	656	28,786	95,278	67,679	1,330	11,797	25,401	50,313	24,912
	1904	99	25,425	56	611	24,758	75,667	47,477	1,021	8,890	19,666	34,573	14,907
	1899	87	24,440	28	380	24,032	67,309	40,151	734	8,033	11,697	26,436	14,730
South Carolina.....	1909	147	46,342	3	885	45,454	187,716	125,549	1,460	11,661	41,303	65,930	24,627
	1904	127	38,038	6	761	37,271	133,397	82,337	1,008	7,702	34,308	49,438	15,130
	1899	80	30,621	5	415	30,201	73,042	39,259	537	5,067	17,264	29,724	12,460
Tennessee.....	1909	17	3,164	3	83	3,078	11,129	7,454	105	857	3,344	5,201	1,857
	1904	16	2,362	2	66	2,294	8,301	5,113	80	531	2,241	3,561	1,320
	1899	17	2,158	3	47	2,108	5,525	3,768	54	423	1,143	1,995	852
Texas.....	1909	13	1,633	.....	43	1,590	4,835	4,283	61	501	1,793	2,815	1,022
	1904	13	1,029	.....	36	983	3,452	2,729	36	270	1,018	1,587	569
	1899	4	1,065	.....	21	984	2,960	2,227	31	254	641	1,200	559
Virginia.....	1909	10	5,123	.....	66	5,057	19,750	14,070	130	1,480	4,699	7,490	2,791
	1904	10	3,501	.....	45	3,456	9,340	7,067	65	884	2,802	4,484	1,682
	1899	7	2,963	.....	32	2,931	5,020	4,403	50	609	1,412	2,655	1,243
All other states.....	1909	14	2,712	2	85	2,625	12,271	6,833	132	848	2,432	3,954	1,522
	1904	19	2,969	12	97	2,800	10,213	7,432	138	789	2,890	4,359	1,469
	1899	27	4,700	7	93	4,600	13,385	7,209	137	1,214	2,474	4,670	2,196

1 Excluding statistics for two establishments, to avoid disclosure of individual operations.
2 Excluding statistics for one establishment, to avoid disclosure of individual operations.
3 Figures can not be shown without disclosing individual operations.

MANUFACTURES.

COTTON GOODS, INCLUDING COTTON SMALL WARES—DETAILED STATISTICS, BY STATES: 1909.

STATE.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.							WAGE EARNERS—DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Primary horse-power.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents and managers.	Clerks.		Wage earners.			Total.	16 and over.			Under 16.	
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.		Male.	Female.
								Maximum month.	Minimum month.						
United States.	1,324	387,771	377	4,084	3,413	1,017	378,880	De 383,529	Ja 374,433	387,698	187,420	150,057	21,024	19,197	1,296,517
Alabama.	51	13,041	.....	184	110	16	12,731	De 13,061	My 12,539	13,282	6,668	4,125	1,281	1,208	42,637
Connecticut.	52	14,887	20	193	202	106	14,300	De 14,556	Jy 14,199	14,760	8,238	5,810	331	381	53,137
Georgia.	116	28,495	12	375	252	53	27,803	No 28,218	Jy 26,990	28,495	14,993	9,219	2,333	1,950	92,979
Illinois.	5	1,397	.....	33	26	19	1,319	De 1,454	Ja 1,212	1,454	445	911	43	55	2,020
Indiana.	7	1,021	.....	24	12	3	1,582	Fe 1,636	De 1,518	1,522	438	957	48	84	5,315
Kentucky.	4	1,068	1	13	5	3	1,044	Je 1,069	Au 976	1,058	419	557	39	43	3,159
Maine.	16	14,783	.....	84	55	10	14,634	Au 14,922	Ja 14,474	14,626	6,957	6,819	477	373	53,823
Maryland.	16	4,077	3	37	58	13	3,966	No 4,110	My 3,652	4,133	1,720	1,755	357	301	13,128
Massachusetts.	182	110,986	43	750	711	268	108,914	De 110,781	Ja 106,670	111,253	56,914	47,992	3,101	3,246	362,043
Mississippi.	14	2,720	.....	44	25	6	2,645	Mh 2,792	De 2,506	2,716	1,031	1,134	201	350	8,045
New Hampshire.	21	22,504	3	60	112	39	22,290	Oc 22,466	De 21,941	22,016	10,935	10,643	265	173	83,066
New Jersey.	26	6,894	13	83	136	24	4,638	No 6,826	Jy 6,500	6,816	2,600	3,607	270	339	17,288
New York.	47	11,032	23	126	175	45	10,663	Fe 10,881	Oc 10,502	10,848	5,995	4,553	210	84	33,354
North Carolina.	281	48,625	42	865	324	63	47,231	De 49,034	Ja 46,184	49,171	25,137	14,731	4,082	4,321	164,609
Ohio.	4	195	1	10	4	3	177	Oc 183	Se 172	181	42	135	.....	4	446
Pennsylvania.	175	17,386	156	348	449	140	16,293	No 16,709	Fe 15,817	16,806	7,405	8,318	424	719	24,890
Rhode Island.	106	29,488	46	279	262	115	28,786	De 29,192	Au 28,342	29,786	15,091	12,894	900	901	95,278
South Carolina.	147	46,342	3	443	370	72	45,454	Jy 46,300	Ja 44,609	46,065	26,063	11,386	4,843	3,773	187,716
Tennessee.	17	3,164	3	48	31	4	3,078	My 3,120	Se 3,042	3,123	1,389	1,183	277	274	11,129
Texas.	13	1,633	.....	24	18	1	1,590	Ja 1,636	No 1,516	1,659	881	543	130	105	4,835
Virginia.	10	1,123	.....	26	39	1	5,057	Fe 5,240	Se 4,901	5,098	2,910	1,504	364	320	19,750
All other states ² .	14	2,712	2	35	37	13	2,625	.....	.....	2,770	1,140	1,281	147	193	12,271

¹ Same number reported for one or more other months.
² All other states embrace: Arkansas, 2 establishments; Delaware, 1; Kansas, 1; Louisiana, 2; Missouri, 2; Vermont, 3; Wisconsin, 3.

STATE.	Capital.	EXPENSES.										Value of products.	Value added by manufacture (value of products less cost of materials).	
		Total.	Services.			Materials.			Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.			
United States.	\$822,237,529	\$554,221,688	\$10,417,443	\$3,994,315	\$132,859,145	\$13,985,896	\$357,023,574	\$442,284	\$5,754,208	\$2,157,069	\$27,587,754	\$628,391,813	\$257,382,243	
Alabama.	30,954,016	19,829,579	362,070	97,488	3,454,147	445,568	13,927,670	.....	126,735	13,176	1,402,716	22,211,748	7,838,501
Connecticut.	39,243,161	19,908,236	530,394	247,399	5,665,836	478,710	11,481,012	37,286	180,927	2,268	1,284,404	24,231,881	12,272,150	
Georgia.	64,660,706	43,621,506	754,733	260,398	7,721,245	1,020,216	31,028,523	2,786	304,083	107,296	2,342,276	48,036,817	15,988,078	
Illinois.	1,979,075	1,896,952	80,860	44,043	522,073	30,720	1,071,294	18,800	9,620	.....	130,542	2,111,208	1,009,194
Indiana.	2,473,185	2,424,187	91,670	13,166	478,443	51,361	1,618,636	1,200	14,249	.....	155,472	2,501,698	831,601
Kentucky.	1,016,512	1,657,054	28,018	7,657	307,479	29,311	1,158,624	1,000	19,985	.....	104,030	1,902,467	714,532
Maine.	25,653,089	18,914,496	258,205	98,549	5,717,776	341,762	11,048,717	600	207,037	271,753	910,097	21,932,225	10,541,746	
Maryland.	9,024,145	5,519,730	96,291	55,988	1,138,766	86,911	3,924,830	4,451	30,259	6,681	175,553	5,522,293	1,510,562	
Massachusetts.	214,017,247	164,686,952	2,614,677	835,114	45,117,089	4,041,092	101,115,702	32,045	2,539,622	375,846	8,015,785	186,462,313	81,305,619	
Mississippi.	5,336,477	2,940,375	69,456	35,975	695,466	101,557	1,940,593	.....	24,701	250	81,387	3,102,398	1,060,248
New Hampshire.	29,176,121	30,176,118	253,490	187,430	8,938,317	712,663	18,411,187	4,282	295,624	198	1,402,927	33,601,830	14,477,980	
New Jersey.	17,823,899	12,377,660	247,104	144,568	2,577,121	199,252	8,365,481	8,117	67,522	123,801	644,681	13,728,874	5,164,141	
New York.	23,136,944	18,331,670	368,722	223,542	4,166,333	407,128	11,319,361	29,415	182,024	269,789	1,365,366	20,351,555	8,625,066	
North Carolina.	96,993,125	65,676,383	1,333,803	276,025	12,130,608	2,170,315	46,517,257	20,192	438,471	423,684	2,366,028	72,680,385	23,992,813	
Ohio.	300,858	337,519	19,850	4,256	52,411	4,621	229,011	4,662	3,137	.....	19,571	395,175	161,543
Pennsylvania.	33,692,380	20,927,595	937,664	674,348	7,034,407	450,989	18,306,036	243,547	71,857	229,998	1,987,749	33,917,033	16,100,038	
Rhode Island.	67,678,645	40,585,017	991,129	339,263	11,796,733	1,045,147	24,356,092	22,491	350,511	187,046	1,406,605	60,312,597	24,911,358	
South Carolina.	125,549,218	57,614,650	1,124,211	335,851	11,060,653	1,977,599	39,325,839	.....	599,693	148,186	2,442,613	65,929,585	24,626,147
Tennessee.	7,453,807	4,816,321	81,409	23,957	856,837	103,111	3,240,561	.....	32,270	444	477,732	5,200,791	1,867,119
Texas.	4,282,742	2,305,607	40,810	19,845	500,694	93,834	1,699,462	.....	13,491	5,650	131,821	2,814,581	1,021,285
Virginia.	14,069,096	6,879,793	80,330	49,482	1,479,897	84,418	4,614,605	200	68,291	.....	502,573	7,489,653	2,790,630
All other states ² .	6,832,461	3,383,325	72,547	59,981	846,869	109,611	2,323,072	11,260	24,099	.....	137,886	3,954,806	1,522,123

HOSIERY AND KNIT GOODS

THE HOSIERY AND KNIT GOODS INDUSTRY.

GENERAL STATISTICS.

Scope of the industry.—The classification "hosiery and knit goods" covers all establishments engaged primarily in the manufacture of knit goods, irrespective of the kind of materials used. Formerly a distinction was made between those employing power in the operation of the knitting machines and those using hand machines, the statistics for the latter class of establishments being presented under the designation "hand knit goods." The distinction between the two classes of establishments, however, has lost most of its significance because the use of power-driven machines has become almost universal, and the present report covers both classes of establishments. In 1909, 110 establishments were reported as using hand machines, these establishments manufacturing products valued at \$1,571,939, giving employment to an average of 567 wage earners, and paying out \$213,-568 in wages and \$824,991 for materials. The rela-

tively small importance of this class of establishments is indicated by the fact that they formed only 8 per cent of the total number of establishments in the industry in the United States, employed only four-tenths of 1 per cent of the total number of wage earners, and reported only eight-tenths of 1 per cent of the total value of products.

Comparison with earlier censuses.—Statistics for the hosiery and knit goods industry were first obtained at the census of 1849, when 85 establishments were reported, with products valued at \$1,028,102. In 1859, 197 establishments were reported, with products valued at \$7,280,606. Table 1 summarizes the statistics of the industry for each census from 1869 to 1909, inclusive. The financial figures for 1869 are given in currency, which at that time was worth only about 80 cents, gold, to the dollar. For strict comparison, therefore, these figures should be reduced about 20 per cent.

Table 1

	HOSIERY AND KNIT GOODS INDUSTRY.											
	Number or amount.						Per cent of increase. ¹					
	1909	1904	1899	1889	1879	1869	1899-1909	1904-1909	1899-1904	1889-1899	1879-1889	1869-1879
Number of establishments.....	1,374	1,144	1,006	824	398	248	36.6	20.1	13.7	22.1	107.0	60.5
Persons engaged in the industry.....	136,130	109,489	(²)	(²)	(²)	(²)	.....	24.3	.....	.....	.....	.....
Proprietors and firm members.....	1,134	1,067	(²)	(²)	(²)	(²)	.....	6.3	.....	.....	.....	.....
Salaried employees.....	5,721	4,330	2,831	(²)	(²)	(²)	102.1	32.1	52.9	.....	.....	.....
Wage earners (average number).....	129,275	104,092	83,691	59,774	30,699	14,788	54.5	24.2	24.4	(³)	(³)	(³)
Primary horsepower.....	103,709	78,769	57,346	34,564	11,561	6,498	80.8	31.7	37.4	65.9	109.0	77.9
Capital.....	\$163,641,171	\$106,943,072	\$82,065,517	\$50,686,206	\$15,732,291	\$10,931,260	99.4	53.0	30.3	61.9	222.2	43.9
Expenses.....	175,729,583	123,276,675	85,395,367	57,922,723	(²)	(²)	105.8	42.5	44.4	47.4	.....	.....
Services.....	52,431,680	36,069,758	27,572,657	18,325,261	6,839,195	4,429,085	90.2	45.4	30.8	50.5	167.9	54.4
Salaries.....	7,691,457	4,455,151	3,138,160	(²)	(²)	(²)	145.1	72.6	42.0	.....	.....	.....
Wages.....	44,740,223	31,614,607	24,434,497	(²)	(²)	(²)	83.1	41.5	29.4	.....	.....	.....
Materials.....	110,241,053	76,789,348	51,195,330	35,949,865	15,449,991	9,835,823	115.3	43.6	50.0	42.4	132.7	57.1
Miscellaneous.....	13,056,850	10,417,569	6,627,380	3,647,597	(²)	(²)	97.0	25.3	57.2	81.7	.....	.....
Value of products.....	200,143,527	137,076,454	95,833,692	67,446,788	29,613,581	18,411,564	108.8	46.0	43.0	42.1	127.8	60.8
Value added by manufacture (value of products less cost of materials).....	89,902,474	60,287,106	44,638,362	31,496,923	14,163,590	8,575,741	101.4	49.1	35.1	41.7	122.4	65.2

¹ Where percentages are omitted, comparable figures are not available.

² Comparable figures not available.

³ Figures not strictly comparable.

There were in 1909, 1,374 establishments in the hosiery and knit goods industry, in which 136,130 persons were engaged, of whom 129,275 were wage earners. The amount paid in salaries and wages was \$52,431,680. The value of products was \$200,143,527; the cost of materials, \$110,241,053, equal to 55.1 per cent of the value of products; and the value added by manufacture \$89,902,474. Between 1899 and 1909 the number of wage earners increased 54.5 per cent, while the cost of materials, value of products, and value added by manufacture more than doubled. At

least part of the increase shown in cost of materials and value of products, however, is doubtless attributable to increased prices.

The growth of the industry has been continuous throughout the period covered by Table 1, each census showing substantial increases as compared with that preceding. The number of establishments reported for 1909 was more than five times as great as in 1869 and the value of products nearly eleven times as great. The greatest relative growth took place during the decade 1879-1889, each item for which comparable

figures can be presented showing a greater percentage of increase for this decade than for any other covered by the table.

As the proprietors and firm members were not reported separately prior to 1899, it is probable that, in the case of small establishments, a considerable number were included with the wage earners. Salaried employees were also included to some extent with wage earners at the earlier censuses. The statistics of wage earners for the censuses of 1899, 1904, and 1909 are therefore more exactly comparable than are those for earlier censuses.

Summary, by states.—Table 2 summarizes, by states, the more important statistics of the industry, the states being arranged according to the value of products reported for 1909. In determining the rank of the states, all states are considered, whether or not they are shown separately in the table; hence some omissions occur in the several series of numbers indicating rank, as certain states included under "all

other states" held a higher rank than some of the states for which separate figures are given.

The hosiery and knit goods industry is widely distributed throughout the United States, one or more establishments being reported from 38 of the 48 states. New York is the most important state, ranking first in value of products and value added by manufacture at the censuses of both 1909 and 1904. In the number of wage earners employed, however, New York ranked second in 1909, although it ranked first in 1904. The number of wage earners employed in the industry in the state increased 35 per cent during the decade ending with 1909, and the value of products increased 86.3 per cent. In 1909 the value of products for New York represented more than one-third of the total for the industry in the United States.

Pennsylvania ranked first in the number of wage earners employed in 1909 and second in value of products and value added by manufacture. Massachusetts ranked third in all three items.

Table 2

HOSIERY AND KNIT GOODS INDUSTRY.

STATE.	Number of establishments: 1909	Wage earners.			Value of products.				Value added by manufacture.				Per cent of increase. ¹														
		Average number: 1909	Per cent of total: 1909	Rank.		Amount: 1909	Per cent of total: 1909	Rank.		Amount: 1909	Per cent of total: 1909	Rank.		Wage earners.			Value of products.			Value added by manufacture.							
				1909	1904			1909	1904			1909	1904	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904	1899-1909	1904-1909	1899-1904					
																					1909	1904	1904	1909	1904	1904	1909	1904	1904
United States..	1,374	129,275	100.0	.....	.....	\$200,143,527	100.0	.....	.....	\$89,902,474	100.0	.....	.....	54.5	24.2	24.4	108.8	46.0	43.0	101.4	49.1	35.1
New York.....	360	35,950	27.8	2	1	67,130,296	33.5	1	1	28,452,025	31.6	1	1	35.0	22.4	10.3	86.3	44.9	28.6	80.5	57.1	14.9					
Pennsylvania.....	464	38,208	29.6	1	2	49,657,506	24.8	2	2	22,439,555	25.0	2	2	77.0	35.6	30.5	126.4	61.2	40.5	104.1	51.0	34.4					
Massachusetts.....	65	9,941	7.7	3	3	14,736,025	7.4	3	3	7,784,439	8.6	3	3	48.8	22.4	21.6	121.9	46.0	52.0	108.5	53.0	36.3					
Wisconsin.....	61	4,282	3.3	5	4	7,843,339	3.9	4	5	3,956,193	4.4	4	4	56.8	0.7	55.8	212.7	57.5	98.5	199.2	47.6	102.8					
Ohio.....	39	3,149	2.4	7	9	6,433,431	3.2	5	6	2,582,012	2.9	7	6	121.8	26.5	75.4	305.9	60.9	152.2	233.2	41.9	134.8					
Illinois.....	43	2,913	2.3	10	10	5,946,737	3.0	6	8	2,714,372	3.0	6	9	59.0	24.4	27.8	169.7	59.4	69.2	185.4	73.5	70.3					
Connecticut.....	21	3,340	2.6	6	5	5,800,692	2.9	7	4	2,752,145	3.1	5	5	3.0	-7.1	10.8	43.4	8.0	32.8	49.5	8.1	33.3					
North Carolina.....	62	5,151	4.0	4	7	5,151,692	2.6	8	12	2,139,397	2.4	8	11	244.5	75.0	96.9	403.6	107.4	142.8	312.3	96.5	169.8					
New Hampshire.....	21	3,129	2.4	8	8	4,764,119	2.4	9	7	2,128,446	2.4	9	8	25.6	12.2	12.0	83.7	19.9	53.3	67.0	21.9	37.0					
Michigan.....	35	2,545	2.0	12	6	4,029,105	2.0	10	9	1,982,499	2.2	11	7	1.4	-17.5	23.0	44.4	11.2	29.8	48.8	11.3	33.6					
Rhode Island.....	17	1,774	1.4	15	15	3,885,792	1.9	11	10	1,421,335	1.6	14	12	11.2	3.1	7.8	41.9	15.6	22.8	49.1	32.4	12.6					
New Jersey.....	37	2,566	1.9	13	14	3,810,241	1.9	12	11	1,984,363	2.2	10	10	34.7	42.5	-5.5	113.8	49.5	43.0	157.3	70.0	51.4					
Tennessee.....	22	3,117	2.4	9	13	3,595,436	1.8	13	17	1,445,211	1.6	13	17	510.0	72.2	254.2	802.5	119.0	312.2	899.7	119.3	351.4					
Georgia.....	22	2,743	2.1	11	11	3,232,623	1.6	14	13	1,360,187	1.5	15	14	127.1	41.8	60.2	162.6	39.0	89.0	187.1	49.7	61.8					
Virginia.....	11	1,715	1.3	16	12	2,462,737	1.2	15	14	995,651	1.1	17	15	-7.0	-6.9	-0.2	64.4	16.8	40.7	42.3	27.4	11.7					
Indiana.....	5	1,693	1.5	14	16	2,381,219	1.2	16	15	1,466,586	1.6	12	13	-4.1	12.4	-14.7	-1.8	13.1	-13.2	19.8	46.6	-18.3					
Minnesota.....	10	1,662	0.8	17	21	2,242,694	1.1	17	18	1,156,624	1.3	16	18	259.0	71.1	109.9	447.1	86.4	193.4	443.2	100.5	170.9					
Vermont.....	8	946	0.7	19	18	1,745,670	0.9	18	16	656,822	0.7	18	16	-0.1	3.3	-12.0	-4.0	-12.2	8.4	-8.8	-15.0	7.4					
Maryland.....	11	1,022	0.8	18	19	1,172,325	0.6	19	20	475,170	0.5	19	20	49.9	16.7	28.4	128.0	23.1	85.2	184.4	12.8	152.1					
South Carolina.....	7	839	0.6	20	17	655,340	0.3	20	19	321,470	0.4	21	19	133.7	-20.7	194.7	67.1	-39.3	175.3	108.4	-34.9	220.1					
Alabama.....	6	811	0.5	22	22	591,000	0.3	22	21	277,345	0.3	22	22	.....	21.0	.....	.....	28.5	.....	.....	34.5	.....				
California.....	6	268	0.2	25	24	451,970	0.2	23	22	252,338	0.3	23	21	.....	20.7	.....	229.9	26.6	160.6	.....	19.4	.....				
Delaware.....	4	492	0.4	23	23	448,987	0.2	24	25	166,887	0.2	26	25	-16.5	52.3	-44.5	4.7	61.7	-31.0	-24.1	26.5	-40.0					
Utah.....	11	174	0.1	27	26	419,229	0.2	25	24	126,856	0.1	27	24	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iowa.....	4	251	0.2	26	29	325,500	0.2	26	28	169,865	0.2	25	26	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maine.....	5	45	(²)	29	30	78,586	(²)	29	30	46,041	0.1	29	30	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other states..	17	1,181	0.9	.....	.....	1,201,136	0.6	.....	.....	667,960	0.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

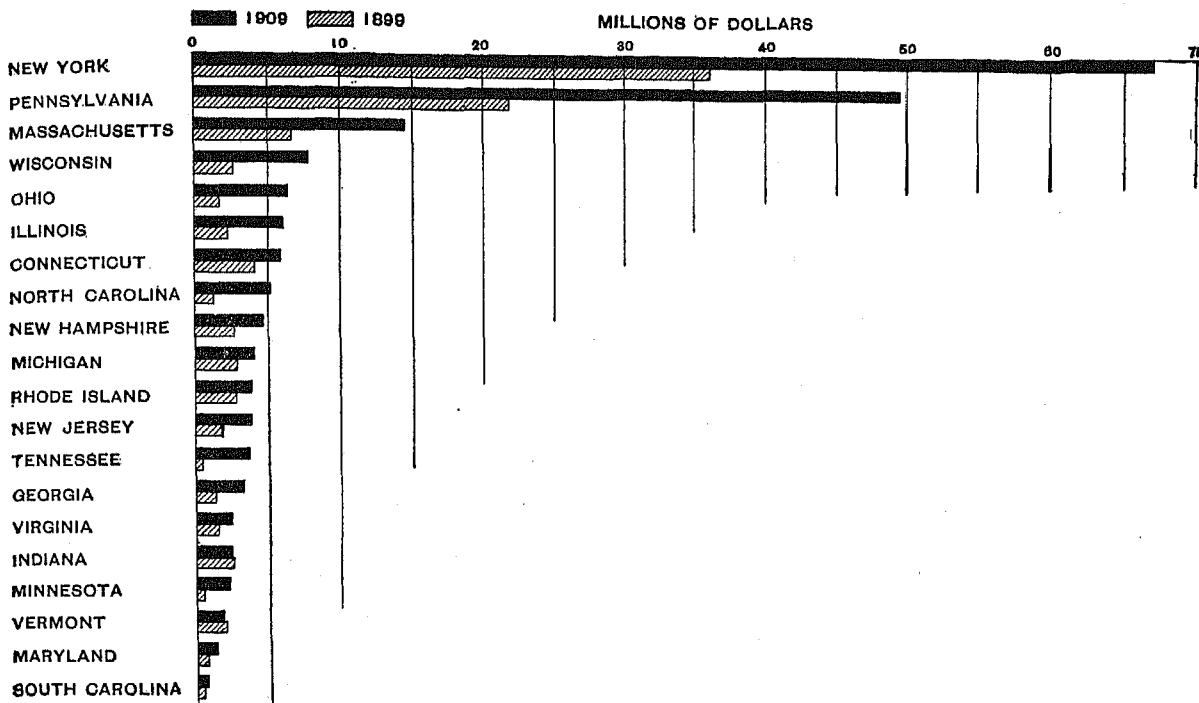
¹ Percentages are based on figures in Table 30. A minus sign (-) denotes decrease. Percentage not shown where base is less than 100 for wage earners or less than \$100,000 for value of products or value added by manufacture, or where comparable figures can not be given without disclosing individual operations.
² Less than one-tenth of 1 per cent.

Of the 10 leading states in 1909 on the basis of value of products the 1 showing the largest percentage of increase from 1899 to 1909 (403.6) was North Carolina. Still higher percentages of increase, however, are shown for Tennessee and Minnesota. Vermont and South Carolina are the only states which

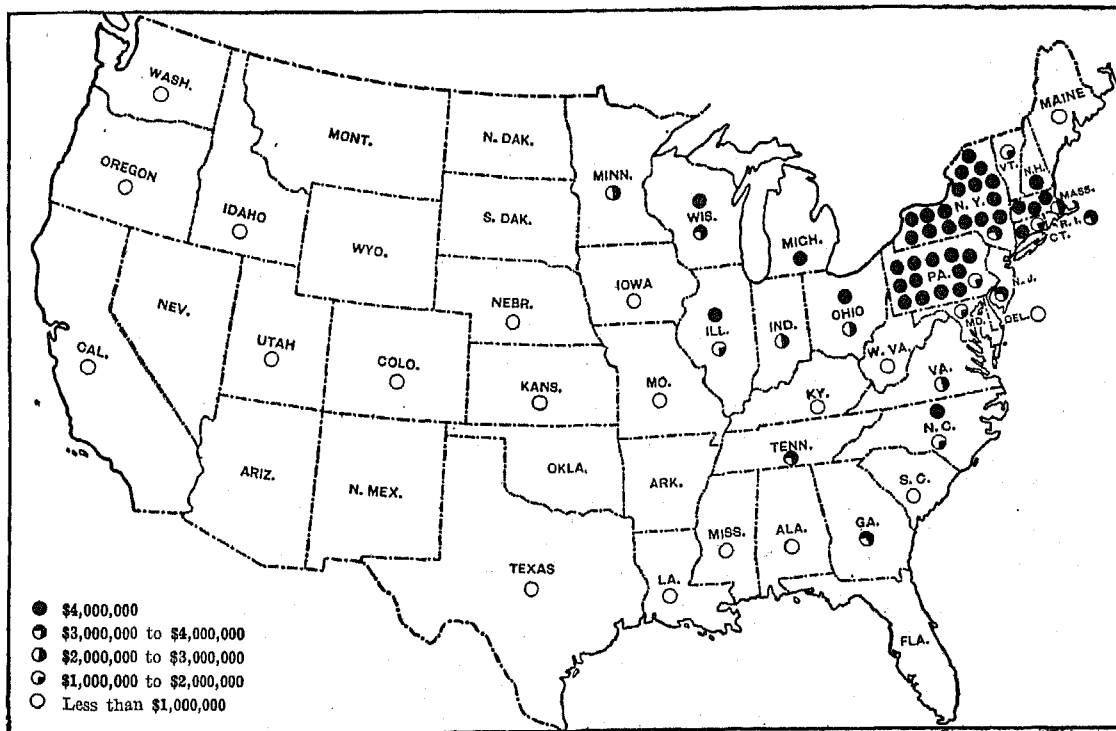
show a decrease in value of products between 1904 and 1909.

The diagram shows graphically the value of products reported for the most important states in the industry in 1909 and 1899, and the map shows the distribution of the value of products, by states, for 1909.

VALUE OF PRODUCTS FOR THE MOST IMPORTANT STATES: 1909 AND 1899.



DISTRIBUTION OF THE VALUE OF PRODUCTS, BY STATES: 1909.



PERSONS ENGAGED IN THE INDUSTRY.

Summary: 1909.—Table 3 shows for 1909 the number of persons engaged in the industry classified according to occupational status and sex, and in the case of wage earners according to age also. It should be borne in mind that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

CLASS.	PERSONS ENGAGED IN THE HOSEY AND KNIT GOODS INDUSTRY: 1909		
	Total.	Male.	Female.
All classes.....	136,130	43,950	92,180
Proprietors and officials.....	3,308	3,125	183
Proprietors and firm members.....	1,134	1,067	67
Salaried officers of corporations.....	799	781	18
Superintendents and managers.....	1,375	1,277	98
Clerks.....	3,547	2,398	1,149
Wage earners (average number).....	129,275	38,427	90,848
16 years of age and over.....	118,769	35,383	83,386
Under 16 years of age.....	10,506	3,044	7,462

The average number of persons engaged in the industry during 1909 was 136,130, of whom 129,275, or 95 per cent, were wage earners; 3,308, or 2.4 per cent, proprietors and officials; and 3,547, or 2.6 per cent, clerks, this class including other subordinate salaried employees. Of the total number of persons engaged in the industry, 43,950, or 32.3 per cent, were males, and 92,180, or 67.7 per cent, females. Of the wage earners, 70.3 per cent were females. This is the highest percentage of female wage earners reported for any of the textile industries, the percentage in the silk manufacturing industry being 62.6; in the woolen industry 44.5; and in the cotton goods industry, 43.7. Children under 16 years of age constituted 8.1 per cent of the wage earners in the hosiery and knit goods industry, as compared with 8 per cent in the silk manufacturing industry, 5.7 per cent in the woolen industry, and 10.4 per cent in the cotton goods industry.

The average number of wage earners employed in each state in 1909, 1904, and 1899 is given in Table 30. The distribution of the average number by sex and age is not shown for the individual states, but Table 31 gives such a distribution of the number employed on December 15, or the nearest representative day. The largest number of female wage earners 16 years of age and over (28,045) was employed in Pennsylvania, and the next largest number (24,424) in New York. The largest number of wage earners under 16 years of age (4,515) was also reported from Pennsylvania, but the next largest (1,501) was in North Carolina.

Of the states in which more than 2,000 wage earners were employed in the hosiery and knit goods industry in 1909, Ohio reported the highest proportion of women 16 years of age and over in the total number of wage earners (76.5 per cent). In the other states of

this class the percentages were as follows: Michigan, 76.4; Wisconsin, 71.7; Pennsylvania, 69.5; New Hampshire, 66.7; Connecticut, 66.1; New York, 63.6; Illinois, 63.3; New Jersey, 58; Tennessee, 57.6; Georgia, 55.1; Indiana, 54.4; Massachusetts, 53.9; and North Carolina, 49.7.

The proportion of children under 16 years of age was higher in North Carolina (27.7 per cent) than in any other state employing 2,000 or more wage earners in this industry. In the other states of this class the percentages were as follows: Indiana, 19.3; Tennessee, 16.6; Georgia, 16.1; Pennsylvania, 11.2; Wisconsin, 10.6; Ohio, 7; Illinois, 6.8; New Jersey, 4.9; Massachusetts, 4.4; Connecticut, 3.1; Michigan, 2.7; New Hampshire, 1.9; and New York, 1.8.

In order to compare the distribution of the persons engaged in the industry according to occupational status in 1909 with that in 1904, it is necessary to use the classification employed at the earlier census. (See Introduction.) Such a comparison is made in Table 4.

CLASS.	PERSONS ENGAGED IN THE HOSEY AND KNIT GOODS INDUSTRY.				Per cent of increase: 1904-1909
	1909		1904		
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	136,130	100.0	109,489	100.0	24.3
Proprietors and firm members.....	1,134	0.8	1,067	1.0	6.3
Salaried employees.....	5,721	4.2	4,330	4.0	32.1
Wage earners (average number).....	129,275	95.0	104,092	95.1	24.2

Salaried employees show the highest percentage of increase for the five-year period and proprietors and firm members the lowest.

Table 5 shows the average number of wage earners in the industry, distributed according to age, and in the case of those 16 years of age and over, according to sex, for 1909, 1904, and 1899.

CLASS.	AVERAGE NUMBER OF WAGE EARNERS IN THE HOSEY AND KNIT GOODS INDUSTRY.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	129,275	100.0	104,092	100.0	83,691	100.0
16 years of age and over.....	118,769	91.9	94,405	90.7	75,022	89.6
Male.....	35,383	27.4	25,212	24.2	21,197	25.3
Female.....	83,386	64.5	69,193	66.5	53,825	64.3
Under 16 years of age.....	10,506	8.1	9,687	9.3	8,669	10.4

Although the actual number of children reported as employed in the hosiery and knit goods industry has shown an increase at each succeeding census, the percentage which they have formed of the total number of wage earners has decreased. The percentage of females 16 years of age and over was approximately the same for 1899 and 1909, though that for 1904 was a little higher.

Wage earners classified according to nature of employment.—Table 6 gives for the United States the number of wage earners employed as spinners, knitters, and finishers, respectively, in 1909 and 1904, classified according to age and sex, with similar statistics for New York and Pennsylvania for 1909 only. It should be noted that the absolute figures for the two censuses are not strictly comparable, owing to the fact that the numbers shown for 1904 are computed averages for the entire year, while those for 1909 are the numbers reported for December 15, or the nearest representative day. The difference between the number of wage earners on this day and the average number for the year 1909, however, was only 7,438, or about 5 per cent of the total; and since there is little variation from month to month in the proportion of the different classes of employees, the figures representing the per cent distribution may be taken as fairly comparable.

In 1909, of the 136,713 wage earners employed on December 15, or the nearest representative day, 2.3 per cent were employed as spinners, 26.5 per cent as knitters, and 39.4 per cent as finishers. In Pennsylvania, where, as shown by Table 21, hosiery constitutes the chief product of the industry, the distribution of the wage earners, according to occupation, is very different from that in New York, where the products are largely shirts and drawers, sweaters, cardigan jackets, etc.

Among the knitters and finishers women 16 years of age and over predominate, constituting, in 1909, 63.5 per cent of all knitters and 81.1 per cent of all finishers, but of the spinners men formed 66.3 per cent. The proportion of children under 16 years of age among spinners was 6.9 per cent, among knitters 8.9 per cent, among finishers 5.9 per cent, and among all other wage earners 10.3 per cent.

CLASS.	WAGE EARNERS IN THE HOSIERY AND KNIT GOODS INDUSTRY. ¹					CLASS.	WAGE EARNERS IN THE HOSIERY AND KNIT GOODS INDUSTRY.					
	Total.	16 years of age and over.		Under 16 years of age.			Total.	16 years of age and over.		Under 16 years of age.		
		Male.	Female.	Male.	Female.			Male.	Female.	Male.	Female.	
Total:												
1909.....	136,713	37,419	88,183	3,219	7,892							
1904.....	103,715	25,187	68,867	9,681								
Spinners:												
1909.....	3,133	2,078	839	116	100							
1904.....	2,909	2,011	662		236							
Knitters:												
1909.....	36,193	9,994	22,978	820	2,397							
1904.....	28,697	7,783	18,012	2,902								
Finishers:												
1909.....	53,818	6,991	43,627	857	2,343							
1904.....	40,362	4,302	33,740	2,320								
All other:												
1909.....	43,560	18,356	20,744	1,417	3,052							
1904.....	31,747	11,071	16,453	4,223								
Per cent of total:												
Spinners:												
1909.....	2.3	5.6	1.0	3.6	1.3							
1904.....	2.8	8.0	1.0		2.4							
Knitters:												
1909.....	26.5	26.7	26.1	25.8	30.4							
1904.....	27.7	30.9	26.2		30.0							
Finishers:												
1909.....	39.4	18.7	49.5	26.6	29.7							
1904.....	38.9	17.1	49.0		24.0							
All other:												
1909.....	31.9	49.1	23.5	44.0	38.7							
1904.....	30.6	44.0	23.9		43.6							

NEW YORK, 1909:					
Total.	16 years of age and over.		Under 16 years of age.		
	Male.	Female.	Male.	Female.	
Total.....	38,419	13,289	24,424	165	541
Spinners.....	1,288	1,060	222	3	3
Knitters.....	4,087	2,800	1,246	9	32
Finishers.....	18,879	1,500	17,102	50	227
All other.....	14,165	7,929	5,854	103	279
Per cent of total—					
Spinners.....	3.4	8.0	0.9	1.8	0.6
Knitters.....	10.6	21.1	5.1	5.5	5.9
Finishers.....	49.1	11.3	70.0	30.3	42.0
All other.....	36.9	59.7	24.0	62.4	51.6
PENNSYLVANIA, 1909:					
Total.	16 years of age and over.		Under 16 years of age.		
	Male.	Female.	Male.	Female.	
Total.....	40,326	7,766	28,045	1,124	3,391
Spinners.....	357	236	81	27	13
Knitters.....	16,272	2,897	11,817	338	1,220
Finishers.....	13,387	2,365	9,609	381	1,032
All other.....	10,310	2,268	6,538	378	1,126
Per cent of total—					
Spinners.....	0.9	3.0	0.3	2.4	0.4
Knitters.....	40.4	37.3	42.1	30.1	36.0
Finishers.....	33.2	30.5	34.3	33.9	30.4
All other.....	25.6	29.2	23.3	33.6	33.2

¹ For 1909, the figures are those reported for December 15, or the nearest representative day; for 1904, the average number for the year is given.
² Not including the few operatives of this class in establishments using hand machines, for which figures are not available.

Wage earners employed, by months.—Table 7 gives the number of wage earners employed in the hosiery and knit goods industry on the 15th (or the nearest representative day) of each month during the year 1909 for 21 states in which an average of 500 or more wage earners were employed during the year.

The largest number of wage earners reported as employed in the hosiery and knit goods industry during any month of 1909 was 134,540, in November, and the smallest number, 123,308, in January, the minimum number being equal to 91.7 per cent of the maximum. This industry is not subject to any material changes from one part of the year to another, the statistics

for 1904 showing even less variation from month to month than those for 1909. The maximum number in 1904, 106,203, was reported for October and the minimum number, 101,212, which was equal to 95.3 per cent of the maximum, for January.

Table 7 shows further that in each of the three principal states in the industry—New York, Pennsylvania, and Massachusetts—the greatest activity in 1909 occurred during the fall and early winter. The months of maximum and minimum employment for 1909 and the number of wage earners reported for these months are given for a larger number of states in Table 31.

MANUFACTURES.

Table 7

STATE.	Average number during the year.	WAGE EARNERS EMPLOYED IN THE HOSIERY AND KNIT GOODS INDUSTRY: 1909 ¹											
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
United States	129,275	123,308	125,181	128,052	129,317	129,270	128,899	127,845	128,231	130,329	132,997	134,540	133,340
Alabama.....	611	580	581	576	593	599	580	575	623	650	661	658	687
Connecticut.....	3,340	3,433	3,418	3,450	3,462	3,483	3,501	3,080	2,918	3,282	3,442	3,481	3,192
Georgia.....	2,743	2,626	2,656	2,674	2,691	2,706	2,700	2,777	2,741	2,809	2,852	2,887	2,887
Illinois.....	2,913	2,678	2,767	2,829	2,852	2,890	2,941	2,943	2,950	3,012	2,960	3,001	3,041
Indiana.....	1,933	1,738	1,797	1,828	1,860	1,876	1,896	1,919	1,947	2,021	2,070	2,100	2,094
Maryland.....	1,022	1,048	1,029	1,029	1,015	1,016	1,013	1,040	1,021	1,008	1,002	1,021	1,021
Massachusetts.....	9,941	9,625	9,677	9,809	9,880	10,028	9,920	9,759	9,752	9,934	10,205	10,399	10,234
Michigan.....	2,545	2,237	2,451	2,636	2,608	2,561	2,557	2,390	2,570	2,638	2,655	2,671	2,567
Minnesota.....	1,052	836	1,001	1,028	1,040	1,039	1,120	1,058	1,104	1,153	1,173	1,181	949
New Hampshire.....	3,129	3,061	3,085	3,117	3,177	3,141	3,105	3,075	3,011	3,093	3,198	3,248	3,240
New Jersey.....	2,506	2,856	2,301	2,331	2,432	2,424	2,397	2,452	2,552	2,658	2,775	2,780	2,722
New York.....	35,950	33,719	34,894	35,793	36,055	36,428	36,235	35,850	35,746	36,030	36,669	37,244	36,745
North Carolina.....	5,151	4,980	5,115	5,111	5,150	5,161	5,161	5,085	5,083	5,210	5,233	5,221	5,222
Ohio.....	3,149	2,682	2,718	2,889	3,025	3,114	3,237	3,321	3,427	3,877	3,339	3,360	3,309
Pennsylvania.....	38,206	37,163	36,967	38,131	38,372	37,879	37,136	37,408	37,674	38,472	39,530	39,911	39,530
Rhode Island.....	1,774	1,805	1,810	1,741	1,778	1,782	1,773	1,780	1,711	1,745	1,785	1,803	1,825
South Carolina.....	839	863	853	847	858	849	856	840	830	819	825	807	822
Tennessee.....	3,117	3,097	3,087	3,058	3,191	3,156	3,171	3,105	3,097	3,157	3,076	3,115	3,119
Vermont.....	946	952	991	991	967	946	956	895	863	893	925	1,000	977
Virginia.....	1,715	1,633	1,706	1,694	1,685	1,675	1,735	1,742	1,731	1,716	1,750	1,748	1,784
Wisconsin.....	4,282	3,938	4,038	4,179	4,245	4,292	4,316	4,335	4,393	4,321	4,370	4,444	4,513

¹ The month of maximum employment for each state is indicated by boldface figures and that of minimum employment by italic figures.

Prevailing hours of labor.—In Table 8 the wage earners in the hosiery and knit goods industry have been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. In making this classification the average number of wage earners employed during the year in each establishment has been classified as a total according to the hours prevailing in that establishment, even though a few employees worked a greater or smaller number of hours.

STATE.	AVERAGE NUMBER OF WAGE EARNERS IN THE HOSIERY AND KNIT GOODS INDUSTRY: 1909						
	Total.	In establishments with prevailing hours—					
		48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.
United States	129,275	908	3,331	4,753	65,422	49,934	4,927
Alabama.....	611	2	2	2	493	118	118
Connecticut.....	3,340	2	441	2,622	276	965	965
Georgia.....	2,743	83	553	78	1,320	878	878
Illinois.....	2,913	83	553	78	1,320	878	878
Indiana.....	1,933	83	553	78	1,090	243	243
Maryland.....	1,022	8	308	807	756	666	666
Massachusetts.....	9,941	12	245	86	9,598	138	138
Michigan.....	2,545	8	308	807	756	666	666
Minnesota.....	1,052	8	308	807	756	666	666
New Hampshire.....	3,129	24	109	107	2,140	126	126
New Jersey.....	2,506	24	109	107	2,140	126	126
New York.....	35,950	427	1,312	454	7,945	24,034	878
North Carolina.....	5,151	10	45	921	859	2,524	1,938
Ohio.....	3,149	10	45	921	1,019	1,154	1,154
Pennsylvania.....	38,206	275	381	496	24,508	12,472	74
Rhode Island.....	1,774	1	1	1	1,702	71	71
South Carolina.....	839	1	1	1	840	839	839
Tennessee.....	3,117	24	109	107	2,140	126	126
Vermont.....	946	24	109	107	2,140	126	126
Virginia.....	1,715	24	109	107	2,140	126	126
Wisconsin.....	4,282	24	96	920	2,870	366	366

Of the wage earners employed in the hosiery and knit goods industry in 1909, 92.9 per cent were in establishments where the prevailing hours of labor were from 54 to 60, inclusive, per week, and 50.6 per cent were in establishments where the prevailing

hours were more than 54 but less than 60 per week. In 12 of the states for which figures are given, a larger number of wage earners worked in establishments where the prevailing hours were between 54 and 60 per week than in any other group, but in 8 of the states shown the most common hours were 60 per week.

CHARACTER OF OWNERSHIP.

Table 9 presents statistics with respect to the character of ownership of the hosiery and knitting mills.

CHARACTER OF OWNERSHIP.	HOSIERY AND KNIT GOODS INDUSTRY.			
	Number of establishments.		Value of products.	
	1909	1904	1909	1904
Total	1,374	1,144	\$200,143,527	\$137,076,454
Individual.....	443	391	24,852,520	21,311,199
Firm.....	1,280	2,275	33,289,175	29,451,418
Corporation.....	651	475	142,021,832	86,308,316
Other.....	3	3	10,221	10,521
Per cent of total	100.0	100.0	100.0	100.0
Individual.....	32.2	34.2	12.4	15.5
Firm.....	20.4	24.0	16.6	21.5
Corporation.....	47.4	41.5	71.0	63.0
Other.....	0.3	0.3	0.0	(¹)

¹ Includes one establishment under cooperative ownership, to avoid disclosure of individual operations.

² Includes one establishment under corporate ownership, to avoid disclosure of individual operations.

³ Less than one-tenth of 1 per cent.

In 1909, of the total number of establishments reported for the industry, 47.4 per cent were under corporate ownership, as compared with 41.5 per cent in 1904. There was an appreciable increase during the five-year period in the relative importance, as measured by value of products, of establishments under corporate ownership, such establishments contributing 71 per cent of the total value of products in 1909, as compared with 63 per cent in 1904.

Of the total number of wage earners reported for the industry in 1909, as shown by Table 10, 12.7 per cent were employed in establishments under individual ownership, 15.2 per cent in those under firm ownership (including the one establishment under "other" owner-

ship), and 72.1 per cent in those owned by corporations. The table also gives statistics for the hosiery and knitting mills classified according to form of ownership for 21 states in which an average of more than 500 wage earners were employed in 1909.

Table 10 HOSIERY AND KNIT GOODS INDUSTRY: 1909

STATE.	Number of establishments owned by—			Wage earners in establishments owned by—			Value of products of establishments owned by—			Value added by manufacture in establishments owned by—		
	Individuals.	Firms.	Corporations.	Individuals.	Firms.	Corporations.	Individuals.	Firms.	Corporations.	Individuals.	Firms.	Corporations.
United States	443	280	651	16,453	19,648	93,174	\$24,852,520	\$33,269,175	\$142,021,832	\$10,469,747	\$14,657,706	\$64,775,021
Alabama.....			0			611			501,000			277,345
Connecticut.....	2		19	(X)		5,340	(X)		5,809,692	(X)		2,762,145
Georgia.....		1	21		(X)	2,743		(X)	3,232,623		(X)	1,509,187
Illinois.....	15	10	18	144	576	2,193	241,370	968,465	4,795,902	118,689	443,598	2,152,088
Indiana.....			5			1,933			2,381,219			1,466,586
Maryland.....	5	2	4	522	(X)	500	559,454	(X)	582,871	213,408	(X)	261,762
Massachusetts.....	20	7	38	215	1,001	8,725	474,926	2,549,024	11,712,075	190,521	1,130,605	6,443,293
Michigan.....	8	4	23	244	61	2,240	332,168	104,798	3,592,139	199,669	48,407	1,748,483
Minnesota.....	5	1	4	93	(X)	959	182,857	(X)	2,059,537	30,202	(X)	1,066,332
New Hampshire.....	3	4	14	12	691	2,426	26,460	1,143,838	3,593,821	13,373	581,630	1,533,443
New Jersey.....	14	9	14	339	304	1,863	522,759	486,455	2,801,027	227,411	226,185	1,530,767
New York.....	131	73	156	3,634	7,231	25,085	7,360,501	13,969,732	45,800,063	3,012,405	6,087,870	19,352,650
North Carolina.....	5	13	44	240	521	4,390	185,322	558,012	4,407,458	58,648	202,359	1,878,390
Ohio.....	8	8	23	236	493	2,420	369,992	1,046,149	5,017,290	201,979	411,163	1,968,870
Pennsylvania.....	185	130	149	9,363	7,714	21,129	12,180,619	10,952,157	26,544,730	5,059,341	4,868,638	12,511,576
Rhode Island.....	4	2	11	488	(X)	1,286	356,126	(X)	3,029,666	437,784	(X)	983,541
South Carolina.....	1	1	5	(X)	(X)	839	(X)	(X)	655,340	(X)	(X)	281,470
Tennessee.....	2		20	(X)		3,117	(X)		3,565,456	(X)		1,445,211
Vermont.....	1	2	5	(X)	233	723	(X)	479,850	1,265,820	(X)	218,074	438,548
Virginia.....	5	1	5	1,231	(X)	484	1,833,726	(X)	629,061	743,603	(X)	252,048
Wisconsin.....	22	3	30	97	19	4,166	119,081	61,709	7,662,599	58,949	26,684	3,872,560

NOTE.—In some states, in order to avoid disclosing the returns for individual establishments, the figures for one group have been consolidated with those for establishments under some other form of ownership. In such cases an (X) is placed in the column from which the figures have been omitted and the figures for the group with which they have been combined are printed in italics. The figures for establishments under firm ownership include those for one establishment under cooperative ownership.

There was little variation in the several states with respect to the relative importance of establishments operated under the different forms of ownership. In the majority of the states establishments owned by corporations constituted the most important class, as measured by number of wage earners employed and value of products, those owned by firms ranking second, and those under individual ownership third. In Pennsylvania, New Jersey, and Michigan, however, the number of wage earners and the value of products for establishments under individual ownership were greater than those for establishments controlled by firms. Of the leading states in the industry, Pennsylvania had the largest proportion of establishments under individual ownership, namely, 39.9 per cent.

SIZE OF ESTABLISHMENTS.

Classification by value of products.—Table 11 presents statistics for 1909 and 1904 for hosiery and knitting mills grouped according to the value of their products.

In comparing the figures shown for 1909 and 1904 in the foregoing table, it should be noted that by reason of advance in prices of materials and products an establishment might pass from a lower to a higher class without a corresponding increase in the quantity of its output.

Table 11 HOSIERY AND KNIT GOODS INDUSTRY.

VALUE OF PRODUCTS PER ESTABLISHMENT.	Number of establishments.		Value of products.	
	1909	1904	1909	1904
Total.....	1,374	1,144	\$200,143,527	\$137,076,454
Less than \$5,000.....	129	121	319,050	313,493
\$5,000 and less than \$20,000.....	221	197	2,627,769	2,288,270
\$20,000 and less than \$100,000.....	534	1,450	27,241,233	1,22,809,014
\$100,000 and less than \$1,000,000..	465	365	132,829,875	96,646,967
\$1,000,000 and over.....	25	11	37,125,570	15,018,710
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	9.4	10.6	0.2	0.2
\$5,000 and less than \$20,000.....	16.1	17.2	1.3	1.7
\$20,000 and less than \$100,000.....	38.9	139.3	13.6	18.6
\$100,000 and less than \$1,000,000..	33.8	31.9	66.4	70.5
\$1,000,000 and over.....	1.8	1.0	18.5	11.0

¹ Includes one establishment with products valued at \$100,000 and less than \$1,000,000 to avoid disclosure of individual operations.

Of the 1,374 hosiery and knitting mills reported for 1909, 25, or 1.8 per cent, manufactured products valued at \$1,000,000 or over. In 1904 there were 11 establishments of this class out of a total of 1,144. While such establishments represented an insignificant proportion of the total number at both censuses, they reported 18.5 per cent of the total value of products of the industry in 1909 and 11 per cent in 1904. On the other hand, the small establishments—that is, those manufacturing products valued at less than \$20,000—constituted more than one-quarter (25.5 per

cent) of the total number of establishments in 1909, but the value of their products amounted to only 1.5 per cent of the total. Both in 1909 and 1904 the greater part of the products of the industry were manufactured in establishments with products valued at from \$100,000 to \$1,000,000, such establishments reporting 66.4 per cent of the total value of products for the industry in 1909 and 70.5 per cent in 1904.

The average value of products per establishment increased from \$119,822 in 1904 to \$145,665 in 1909, and the average value added by manufacture, as com-

puted from the figures in Table 1, from \$52,699 to \$65,431. The increase in these averages was due, in part, to the increase in the prices of materials and products. The average number of wage earners per establishment increased from 91 in 1904 to 94.1 in 1909.

Classification by number of wage earners.—Table 12 gives a classification, according to the number of wage earners employed, in the hosiery and knitting mills in 21 states in which an average of more than 500 wage earners were employed in 1909.

Table 12

STATE.	HOSIERY AND KNIT GOODS INDUSTRY: 1909																		
	Total.		Establishments employing—																
			No wage earners.		1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.
Estab-lish-ments.	Wage earners (average number).	Estab-lish-ments.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	
United States	1,374	129,275	31	168	479	298	3,907	288	9,780	233	16,840	234	36,105	89	31,954	26	17,669	7	12,541
Alabama	6	611						2	77	1	92	3	442						
Connecticut	21	3,340		2	6	1	15	1	40	2	141	11	1,749	4	1,389				
Georgia	22	2,743						2	87	11	752	6	935	3	969				
Illinois	43	2,013	4	11	37	11	144	7	201	2	179	3	453	5	1,890				
Indiana	5	1,933				1	12	1	28			2	371					1	1,522
Maryland	11	1,022	3	2	4			1	38	1	72	2	288	2	620				
Massachusetts	65	9,941	3	12	26	10	118	17	569	10	740	6	1,017	3	944	2	1,457	2	5,063
Michigan	35	2,545	3	8	12	161		5	165	8	556	5	764	2	891				
Minnesota	10	1,052		1	5	3	36	3	87			2	265			1	659		
New Hampshire	21	3,129	1	2	6	3	32			3	207	7	1,119	4	1,224	1	541		
New Jersey	37	2,506		3	8	11	150	14	454	5	365	1	116	2	675	1	738		
New York	360	35,960	7	44	133	107	1,409	57	1,912	44	3,298	68	10,326	21	8,167	9	6,451	3	4,264
North Carolina	62	5,151		6	23	12	178	9	316	20	1,377	11	1,512	3	840	1	907		
Ohio	39	3,149		10	25	2	29	7	229	9	672	9	1,550	2	644				
Pennsylvania	464	38,206	7	39	108	90	1,181	137	4,738	95	6,796	62	9,584	25	9,299	8	4,798	1	1,702
Rhode Island	17	1,774		1	3	3	32	3	96	3	191	5	875	2	579				
South Carolina	7	839				1	19	2	53	1	87	2	286	1	394				
Tennessee	22	3,117		1	5	3	48	2	70	4	258	9	1,385	2	688	1	663		
Vermont	8	946		1	5			2	79	3	213	1	151	1	496				
Virginia	11	1,715						1	21	3	262	5	827	2	605				
Wisconsin	61	4,282	5	15	34	13	161	8	307	7	513	9	1,379	3	1,072	1	816		

Of the 1,374 establishments reported for 1909, 31, or 2.3 per cent, employed no wage earners, 33.9 per cent employed from 1 to 20 wage earners, 37.9 per cent from 21 to 100, 23.5 per cent from 101 to 500, and 2.4 per cent more than 500.

Of the total number of wage earners employed, 3.4 per cent were reported by establishments employing from 1 to 20 wage earners, 20.6 per cent by establishments employing from 21 to 100, 52.6 per cent by establishments employing from 101 to 500, and 23.4 per cent by establishments employing more than 500 wage earners. Most of the establishments employing over 500 wage earners were situated in New York, Pennsylvania, and Massachusetts.

EXPENSES.

As stated in the Introduction, the census figures for expenses do not purport to represent the total cost of manufacture, since they take no account of interest or depreciation; hence they can not properly be used for determining profits. Facts of interest can be brought

out, however, concerning the relative importance of the different classes of expenses which were reported. Table 1 shows the total expenses reported for hosiery and knitting mills in 1909 to have been \$175,729,583, distributed as follows: Cost of materials, \$110,241,053, or 62.7 per cent; wages, \$44,740,223, or 25.5 per cent; salaries, \$7,691,457, or 4.4 per cent; and miscellaneous expenses, made up of advertising, ordinary repairs of buildings and machinery, insurance, traveling expenses, and other sundry expenses, \$13,056,850, or 7.4 per cent.

Table 13 shows, by states, for 1909, the per cent distribution of the expenses reported for the hosiery and knit goods industry.

The differences among the states with respect to the proportions which the cost of materials and wages, respectively, formed of the total reported expenses are attributable largely to differences in the character of materials used and to differences in the degree of fineness and elaboration of the products. The cost of materials is likely to form a smaller proportion and

wages a higher proportion of the total expenses in establishments which do their own spinning than in establishments that buy the yarn which they use for knitting.

Table 13.

PER CENT OF TOTAL EXPENSES REPORTED FOR THE HOSIERY AND KNIT GOODS INDUSTRY: 1909

STATE.	PER CENT OF TOTAL EXPENSES REPORTED FOR THE HOSIERY AND KNIT GOODS INDUSTRY: 1909			
	Salaries.	Wages.	Cost of materials.	Miscellaneous expenses.
United States	4.4	25.5	62.7	7.4
Alabama.....	5.5	24.4	61.7	8.3
California.....	14.5	25.7	45.8	14.0
Connecticut.....	6.2	26.1	58.3	9.4
Delaware.....	3.0	28.6	66.0	2.5
Georgia.....	5.2	24.2	62.9	7.7
Illinois.....	4.5	22.6	65.4	7.5
Indiana.....	9.3	36.0	48.0	6.7
Iowa.....	8.1	25.8	51.1	15.1
Maine.....	9.9	22.4	49.8	17.9
Maryland.....	2.8	22.4	66.7	8.2
Massachusetts.....	4.2	31.4	56.7	7.7
Michigan.....	9.3	22.1	53.8	9.8
Minnesota.....	10.4	19.4	60.6	9.5
New Hampshire.....	2.3	27.5	63.4	6.8
New Jersey.....	6.9	29.6	59.9	3.6
New York.....	3.4	24.8	64.7	7.0
North Carolina.....	4.1	24.0	67.0	4.9
Ohio.....	6.8	18.6	66.8	7.8
Pennsylvania.....	3.8	26.8	62.0	7.4
Rhode Island.....	4.4	18.8	72.3	4.6
South Carolina.....	4.5	26.3	57.9	11.3
Tennessee.....	3.8	22.2	64.9	9.1
Utah.....	7.2	13.5	74.9	4.4
Vermont.....	2.7	24.8	65.9	6.6
Virginia.....	3.9	22.7	66.1	7.3
Wisconsin.....	7.6	23.6	58.0	10.8
All other states.....	7.1	34.1	51.4	7.4

The percentage that the cost of materials formed of the total expenses reported varies considerably in the different states, being highest in Utah (74.9) and Rhode Island (72.3) and lowest in California (45.8), Indiana (48), and Maine (49.8). For New York the percentage was 64.7; for Pennsylvania, 62; and for Massachusetts, 56.7. In Massachusetts the mills use relatively more raw cotton and less purchased cotton yarn than in Pennsylvania and New York.

ENGINES, POWER, AND FUEL.

Engines and power.—As shown by Table 1, the amount of power used in the industry increased from 6,498 horsepower in 1869 to 103,709 in 1909. Table 14 shows the statistics of power as reported at the censuses of 1909, 1904, and 1899.

The total primary power used in the hosiery and knitting mills increased from 57,346 horsepower in 1899 to 103,709 horsepower in 1909, or 80.8 per cent. In 1909, as in 1904 and 1899, the power of steam engines constituted by far the larger part of the total primary power. Water power, which formed 25.8 per cent of the total primary power in 1899, consti-

tuted only 11.6 per cent of the total in 1909. There was a marked increase during the decade, on the other hand, in the relative importance of electric motors operated by purchased current (rented electric power), the total horsepower of such motors increasing from 1,304, or 2.3 per cent of the total primary power, in 1899, to 13,286, or 12.8 per cent of the total, in 1909. The number and horsepower of electric motors used for applying power by means of current generated in the establishments reporting also show very large increases.

Table 14

HOSIERY AND KNIT GOODS INDUSTRY.

KIND.	Number of engines or motors.			Horsepower.			Percent distribution of horsepower.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899
	Primary power, total.....	2,736	1,414	932	103,709	78,769	57,346	100.0	100.0	100.0
Owned.....	1,085	1,049	932	88,033	71,660	54,727	84.9	91.0	95.4
Steam.....	811	795	697	74,560	57,480	39,603	71.9	72.9	69.2
Gas.....	113	76	29	1,235	668	206	1.2	0.8	0.4
Water wheels.....	158	176	208	12,015	13,522	14,824	11.6	17.2	25.8
Water motors.....	3	2	(¹)	23	10	(¹)	(²)	(²)	(²)
Other.....	.....	.....	.....	200	.....	4	0.2	.....	(²)
Rented.....	1,651	365	.....	15,676	7,109	2,619	15.1	9.0	4.6
Electric motors.....	1,651	365	(¹)	13,286	4,648	1,304	12.8	5.9	2.3
Other.....	.....	.....	.....	2,390	2,461	1,315	2.3	3.1	2.3
Electric motors.....	2,839	779	71	25,485	9,724	2,049	100.0	100.0	100.0
Run by current generated by establishment.....	1,188	414	71	12,199	5,076	745	47.9	52.2	36.4
Run by rented power.....	1,651	365	(²)	13,286	4,648	1,304	52.1	47.8	63.6

¹ Not reported.

² Less than one-tenth of 1 per cent.

Table 15 shows for 1909 the amount of each of the several kinds of power and of the different kinds of fuel used in the industry in the 21 states for which statistics have been presented in previous tables.

The states which ranked highest with respect to the amount of power used were New York, Pennsylvania, and Massachusetts, the total horsepower reported for these states in 1909 being 66,792, or 64.4 per cent of the aggregate for all hosiery and knitting mills in the United States. Steam was the most important form of power in all of the states shown separately with the exception of New Hampshire, where water power formed 65.1 per cent of the total primary power. New York exceeds any other state in the horsepower of steam engines, water wheels, electric motors, and gas and other internal-combustion engines.

Table 15

HOSIERY AND KNIT GOODS INDUSTRY: 1909

STATE.	Number of establishments reporting.	Total horsepower.	Primary horsepower.						Electric horsepower.		Fuel used.						
			Owned by establishments reporting.					Rented.		Total, rented and generated by establishment.	Generated in the establishment reporting.	Coal.		Coke (short tons).	Wood (cords).	Oil, including gas-oil (barrels).	Gas (1,000 feet).
			Total.	Steam engines.	Gas engines.	Water wheels and motors.	Other.	Electric.	Other.			Anthracite (long tons).	Bituminous (short tons).				
United States..	1,255	103,709	88,033	74,560	1,235	12,038	200	13,286	2,390	25,485	12,199	124,420	441,187	1,080	6,845	2,182	33,861
Alabama.....	6	750	750	750						55	55		5,086				
Connecticut.....	19	3,540	3,510	2,075	35	800		30		444	414	110	14,414		27	88	1,515
Georgia.....	22	2,948	2,023	2,023				925		1,042	117	232	23,537	26	805		
Illinois.....	37	3,452	3,146	2,980	66	100		276	30	504	228	6,302	19,225			277	615
Indiana.....	5	1,393	1,393	1,060				30		405	375		7,794				
Maryland.....	7	460	392	392				68		188	120	5	4,353				
Massachusetts.....	58	9,113	7,959	7,730	90	160		839	285	1,401	562	3,212	35,196	785		22	1,040
Michigan.....	33	3,201	2,348	2,034	39	275		943		1,539	596	69	13,203		90	120	625
Minnesota.....	10	853	824	815	9			29		39	10	37	11,845		15	18	
New Hampshire.....	19	2,315	2,155	645	4	1,506		65	95	104	39	623	5,849		401	87	24
New Jersey.....	32	1,477	1,357	1,160	47	150		85	35	352	267	1,898	8,757			42	1,117
New York.....	307	35,852	31,241	22,968	316	7,757	200	4,377	264	7,931	3,554	36,435	139,576	265	15	220	18,373
North Carolina.....	62	4,024	3,397	3,185	62	150		621	6	1,225	605		24,596		4,065	286	
Ohio.....	37	1,613	1,302	1,107	195			306	5	616	310	4	11,522				5,849
Pennsylvania.....	450	21,797	16,818	16,154	164	500		3,407	1,572	7,074	3,667	72,667	49,824		41	433	3,521
Rhode Island.....	17	1,626	1,470	1,435		35		126	30	376	250	59	6,666				
South Carolina.....	7	507	485					112		112			3,087		1,148		
Tennessee.....	22	2,758	2,588	2,588				144	26	142	116		22,317				440
Vermont.....	4	962	802	500		302		160		160		1,446	3,413		7		17
Virginia.....	11	1,079	1,000	1,000				69	10	81	12		6,102			326	
Wisconsin.....	48	2,312	1,933	1,740	193			372	7			825	14,879	4	36	262	362
All other states.....	42	1,467	1,140	1,125	15			302	25	1,694	77		9,946		105	1	383

Fuel consumed.—Owing to the extensive use of water power in the hosiery and knit goods industry, less fuel is consumed in generating power than would otherwise be required. As shown by Table 15, bituminous coal was the principal fuel used, 441,187 short

tons being consumed during 1909. The largest quantity of anthracite coal, 72,667 long tons, or more than one-half the total consumed in the industry, was reported for Pennsylvania. Gas was used to some extent, the largest quantity being reported for New York.

SPECIAL STATISTICS RELATING TO MATERIALS, PRODUCTS, AND EQUIPMENT.

MATERIALS.

Summary for the United States.—Table 16 shows statistics of the materials used in the hosiery and knit goods industry for 1909, 1904, and 1899.

Most of the mills in the hosiery and knit goods industry purchase the yarn which they use instead of spinning it themselves. This is shown by the fact that in the case of cotton yarn, the principal material used in the industry, the weight of the purchased yarn used in 1909 was more than three times as great as the weight of the yarn made by establishments in the industry for their own use, and that the combined weight of the purchased worsted and woolen yarns used was nearly twice as great as that of such yarns made by the establishments in the industry for their own use, although for woolen yarns alone the quantity made in the establishment using was somewhat greater than that purchased. In the case of merino yarn, however, the quantity made by the establishments in the industry for their own use was more than five times as great as the quantity purchased. The total cost of purchased yarns of all classes in 1909 shown in the table was \$68,389,818, or 62 per cent of the cost of all materials, while the cost of the raw cotton and wool used represented 10.6 per cent of the total cost of materials.

Table 16

MATERIAL.	MATERIALS USED IN THE HOSIERY AND KNIT GOODS INDUSTRY.		
	1909	1904	1899
Total cost.....	\$110,241,053	\$76,789,348	\$51,195,330
Cotton:			
Pounds.....	75,416,023	50,586,700	49,451,301
Cost.....	\$5,803,509	\$3,869,317	\$3,501,592
Wool, in condition purchased:			
Pounds.....	7,065,788	17,300,616	17,959,907
Cost.....	\$2,919,055	\$6,159,858	\$5,292,135
Equivalent of above in scoured condition, pounds.....	5,582,839	13,909,144	13,031,308
Shoddy, purchased:			
Pounds.....	7,482,553	7,489,353	3,770,626
Cost.....	\$919,970	\$923,719	\$483,792
Wool waste and noils, purchased:			
Pounds.....	8,583,261	6,020,450	5,276,454
Cost.....	\$2,813,129	\$1,711,669	\$1,487,907
Yarns, purchased:			
Cotton—			
Pounds.....	216,987,611	161,500,466	131,820,068
Cost.....	\$48,165,749	\$34,372,910	\$22,204,918
Worsted—			
Pounds.....	10,370,004	8,789,570	5,823,215
Cost.....	\$10,116,325	\$7,457,690	\$4,865,304
Woolen—			
Pounds.....	6,140,265	4,839,843	2,621,893
Cost.....	\$3,834,094	\$2,708,454	\$1,257,587
Merino—			
Pounds.....	4,014,600	2,568,890	1,981,494
Cost.....	\$2,667,051	\$1,118,909	\$642,535
Silk and spun silk—			
Pounds.....	982,763	320,671	266,247
Cost.....	\$3,606,599	\$1,200,259	\$940,501
Chemicals and dyestuffs.....	\$2,541,930	\$1,677,252	\$1,023,161
All other materials.....	\$23,853,633	\$13,505,221	\$9,454,598
Yarns made in the establishment using—			
Cotton, pounds.....	69,171,277	39,954,890	40,845,889
Woolen, pounds.....	8,316,349	(1)	(1)
Worsted, pounds.....	223,404	(1)	(1)
Merino, pounds.....	20,856,989	(1)	(1)

1 Not reported.

The total cost of the materials used in the industry increased 115.3 per cent from 1899 to 1909. The amount of raw cotton consumed in the industry shows an increase of 25,964,722 pounds, or 52.5 per cent, between 1899 and 1909, while its cost more than doubled; the increase in consumption, however, took place mainly during the five-year period 1904-1909, the increase for the period 1899-1904 amounting to only 1,135,459 pounds, or 2.3 per cent. Wool, on the contrary, shows a considerable decrease for the decade, amounting, on the scoured basis, to 7,448,469 pounds, or 57.2 per cent; this decrease, however, was confined entirely to the second half of the decade, the consumption increasing somewhat between 1899 and 1904. Shoddy and wool waste and noils show an increase from 1899 to 1909, although shoddy shows a slight decrease between 1904 and 1909.

There was a marked increase during the decade in the quantity of all kinds of purchased yarns used, that for cotton yarn amounting to 85,167,543 pounds, or 64.6 per cent; that for worsted yarns to 4,546,789 pounds, or 78.1 per cent; that for merino yarns to 2,033,125 pounds, or 102.6 per cent; and that for silk yarns to 716,506 pounds, or 269.1 per cent. In the case of yarns made for use in the same establishment, figures

for prior censuses are available only for cotton yarn, the quantity of which increased 69.3 per cent from 1899 to 1909. In 1909, as already stated, the amount of purchased cotton yarn used was more than three times as great as the amount spun for use in the same establishment; the proportion of purchased yarn was, however, smaller in that year than in either 1904 or 1899.

Table 16 does not cover the materials used by establishments in other industries which manufactured hosiery and knit goods as subsidiary products. A number of these establishments, manufacturing hosiery and knit goods to the value of \$1,773,291 in 1909, are included under other industries of the textile group, and their total consumption of cotton, silk, and wool, or of yarns, as the case may be, is included in the statistics for the industries to which these establishments belong. In 1909, however, approximately 600,000 pounds of scoured wool and considerable quantities of cotton, animal hair, etc., and yarns were used by establishments in nontextile industries which manufactured hosiery and knit goods as subsidiary products.

Materials used, by states.—Table 17 presents statistics of the principal materials used in the industry, by states.

MATERIAL AND STATE.	Cost: 1909	HOSIERY AND KNIT GOODS INDUSTRY—PRINCIPAL PURCHASED MATERIALS USED, BY STATES.			MATERIAL AND STATE.	Cost: 1909	HOSIERY AND KNIT GOODS INDUSTRY—PRINCIPAL PURCHASED MATERIALS USED, BY STATES.		
		Quantity (pounds).					Quantity (pounds).		
		1909	1904	1899			1909	1904	1899
Cotton	\$8,803,509	175,416,023	50,556,760	49,451,301	Cotton yarn	\$48,165,749	216,987,611	161,500,466	131,820,068
Connecticut.....	286,488	1,971,512	2,143,881	2,008,413	Connecticut.....	463,922	1,539,828	1,221,624	991,497
Georgia.....	456,056	4,043,536	(3)	(3)	Georgia.....	978,805	4,886,428	6,606,954	3,707,218
Massachusetts.....	1,012,046	16,459,053	12,043,679	10,615,858	Illinois.....	1,553,056	6,677,751	5,112,300	3,817,650
New Hampshire.....	173,411	1,314,200	1,936,848	1,942,884	Massachusetts.....	1,771,206	6,063,775	3,711,210	2,610,885
New York.....	4,014,367	34,665,053	24,470,590	24,337,305	Michigan.....	595,320	2,366,690	2,218,111	1,736,671
North Carolina.....	398,635	3,631,967	2,112,160	1,300,378	New Hampshire.....	728,469	3,712,733	2,874,555	1,836,881
Pennsylvania.....	302,702	2,500,120	1,874,085	2,218,426	New Jersey.....	620,832	2,264,614	1,815,300	1,923,684
Tennessee.....	472,781	3,591,120	(3)	(3)	New York.....	13,824,123	86,676,623	56,512,123	59,112,590
All other states.....	786,123	7,333,402	5,404,937	6,687,937	North Carolina.....	1,858,760	9,527,471	5,115,099	2,136,094
Wool:					Ohio.....	1,238,527	4,207,238	1,649,479	432,372
In condition purchased.....	\$2,919,055	\$7,068,788	\$17,300,616	\$17,953,907	Pennsylvania.....	16,283,401	59,035,958	46,895,164	38,323,301
Connecticut.....	467,854	1,019,245	1,935,983	2,472,767	Rhode Island.....	1,220,424	4,609,892	4,778,112	4,071,207
Massachusetts.....	195,577	440,374	1,505,141	1,146,940	Tennessee.....	1,203,887	4,746,986	4,701,653	1,099,000
Michigan.....	68,059	166,186	1,043,144	1,434,998	Virginia.....	1,033,018	5,017,117	4,446,241	2,097,316
New Hampshire.....	99,855	211,544	803,633	820,271	Wisconsin.....	1,666,561	4,804,716	3,954,448	1,532,591
New York.....	955,849	1,967,337	4,977,789	5,528,329	All other states.....	3,125,388	9,949,791	9,887,493	6,996,601
Pennsylvania.....	205,403	467,877	1,168,283	1,347,914	Woolen yarn	3,834,094	6,140,265	4,839,343	2,621,893
Vermont.....	146,313	256,348	509,502	540,934	Illinois.....	112,505	187,752	145,233	109,600
Wisconsin.....	139,581	302,740	704,796	709,357	Massachusetts.....	87,798	113,368	80,380	128,631
All other states.....	640,564	2,237,187	4,602,345	3,862,397	Michigan.....	240,060	449,928	525,370	205,029
Equivalent of above in scoured condition		5,582,839	13,909,144	13,031,308	New Jersey.....	113,150	154,248	190,074	43,800
Connecticut.....		815,927	1,604,988	1,722,259	New York.....	2,077,718	3,186,332	1,742,576	902,234
Massachusetts.....		340,769	993,141	571,387	Ohio.....	439,977	773,371	327,684	64,823
Michigan.....		150,082	822,169	1,382,584	Pennsylvania.....	399,134	618,890	661,645	409,163
New Hampshire.....		210,171	722,857	441,685	Wisconsin.....	245,736	522,896	546,051	276,286
New York.....		1,967,327	4,831,010	4,803,101	All other states.....	118,016	203,561	620,330	482,327
Pennsylvania.....		436,848	1,056,052	1,069,994	Worsted yarn	10,116,325	10,370,004	8,789,570	5,823,215
Vermont.....		256,348	499,502	540,934	Connecticut.....	393,596	416,566	345,003	286,247
Wisconsin.....		287,095	600,300	422,423	Illinois.....	295,626	287,276	222,625	215,700
All other states.....		1,119,272	2,779,116	2,076,941	Massachusetts.....	638,014	619,140	736,826	411,468
Shoddy, mungo, and wool ex- tract		7,482,553	7,488,358	3,770,628	Michigan.....	296,721	306,325	359,380	238,822
Illinois.....		117,428	470,287	332,698	New Hampshire.....	700,228	733,465	529,943	270,820
Massachusetts.....		34,382	269,443	284,974	New Jersey.....	350,746	338,566	134,164	232,157
New Hampshire.....		118,187	566,214	685,075	New York.....	3,078,048	3,232,368	2,340,773	1,585,842
New York.....		551,877	5,410,605	4,444,651	Ohio.....	1,003,980	1,095,829	784,777	455,569
Pennsylvania.....		34,880	414,432	175,762	Pennsylvania.....	1,616,975	1,684,860	1,584,710	1,115,863
Vermont.....		19,669	151,800	161,145	Rhode Island.....	686,017	597,037	622,209	531,778
All other states.....		43,547	200,272	561,824	Wisconsin.....	547,900	568,093	514,792	277,930
Wool waste and noils		2,813,129	6,020,459	5,276,454	All other states.....	508,474	490,553	614,368	263,984
Connecticut.....		630,130	2,015,712	493,216	Merino (cotton mixed) yarn	2,687,051	4,014,609	2,568,890	1,981,484
Massachusetts.....		107,839	271,388	204,756	Silk yarn and spun silk yarn	3,606,599	882,763	320,671	286,247
Pennsylvania.....		288,337	602,235	487,078	Linen, jute, and other vegetable fiber yarn	180,818	241,754	62,617	116,160
New York.....		1,428,402	4,398,579	2,735,224					
All other states.....		377,421	1,354,085	1,167,552					

¹ Includes 3,429,494 pounds of Egyptian or other foreign cotton, costing \$526,001.
² Included in figures for "all other states," to avoid disclosure of individual operations.
³ Includes for 1909, 472,707 pounds of foreign wool, costing \$252,419; for 1904, 1,130,433 pounds; and for 1899, 3,446,838 pounds.

New York was the leading state in the use of raw cotton in all three years, with Massachusetts second. Connecticut and New Hampshire both show a decrease in the amount used in 1909 as compared with 1899.

A decrease in the amount of wool used took place between 1899 and 1909 in every state for which figures are given in the table. New York used more raw wool than any other state, the consumption in 1909 in this state amounting to 27.8 per cent of the total for the industry in the United States.

The greater part of the shoddy, mungo, and wool extract reported (more than one-half in each of the three years covered by the table) was reported from New York. More than one-half of the total amount of purchased wool waste and noils used in the industry in 1909 (4,398,579 pounds) was also reported from New York.

Of the total amount of purchased yarns used in the industry in 1909 (238,736,996 pounds), 94,455,289 pounds, or 39.6 per cent, was reported from New York. Pennsylvania ranked second in this respect, with 61,995,291 pounds, or 26 per cent of the total.

Of the purchased cotton yarn used in 1909, 39.9 per cent was used in New York and 27.2 per cent in Pennsylvania. Every state for which statistics as to this material are given in the table shows an increase between 1899 and 1909 in the quantity used, the largest relative increases being in Ohio (873.1 per cent) and North Carolina (345.9 per cent).

Of the purchased woolen yarn used in the industry in 1909, slightly more than one-half (51.9 per cent) was reported from New York. With the exception of Massachusetts, which shows a slight decrease, all the states listed in the table show gains in consumption for the decade, the largest relative increases being in Ohio, where the consumption in 1909 was nearly twelve times that in 1899, and New York and New Jersey, where the consumption in 1909 was more than three and one-half times as great as in 1899. New York also led the states in the use of purchased worsted yarn in 1909, its consumption in that year being more than twice as great as in 1899.

Table 18 gives statistics as to the other materials used in the industry, by states, for 1909.

HOSIERY AND KNIT GOODS INDUSTRY—OTHER MATERIALS USED, BY STATES: 1909.

Table 18		MATERIAL AND STATE.		Quantity (pounds).	Cost.	MATERIAL AND STATE.		Quantity (pounds).	Cost.
Tops		121,568	\$92,895	Linen, jute, and other vegetable fiber yarns—Contd.					
Connecticut.....		38,783	29,597	Wisconsin.....		4,941	\$5,404		
New York.....		60,814	49,789	All other states.....		174,334	51,686		
All other states.....		15,808	13,609	All other materials forming a component part of products (not including those covered by Table 17)				1,502,919	
Merino (cotton mixed) yarn		4,014,609	2,667,051	Connecticut.....				18,853	
Illinois.....		297,717	201,890	Illinois.....				26,366	
Massachusetts.....		406,747	475,769	Massachusetts.....				11,537	
Michigan.....		149,591	63,099	New Hampshire.....				20,003	
Minnesota.....		164,004	140,895	New York.....				1,170,422	
New Hampshire.....		69,405	67,316	Pennsylvania.....				31,843	
New York.....		925,440	693,856	Virginia.....				193,304	
Ohio.....		843,181	308,934	All other states.....				29,931	
Pennsylvania.....		389,296	292,453	Chemicals and dyestuffs				2,541,939	
Rhode Island.....		314,648	146,544	Connecticut.....				52,249	
Wisconsin.....		238,931	159,878	Georgia.....				64,658	
All other states.....		156,247	115,717	Illinois.....				87,423	
Silk yarn and spun silk yarn		982,753	3,606,599	Indiana.....				25,456	
Massachusetts.....		124,715	369,777	Maryland.....				28,965	
New Jersey.....		57,403	231,114	Massachusetts.....				242,632	
New York.....		423,230	1,644,050	Michigan.....				54,091	
Ohio.....		38,281	97,848	New Hampshire.....				91,871	
Pennsylvania.....		250,467	978,071	New Jersey.....				102,941	
Rhode Island.....		22,900	84,955	New York.....				363,607	
Wisconsin.....		38,582	117,606	North Carolina.....				151,329	
All other states.....		27,175	83,172	Pennsylvania.....				894,026	
Linen, jute, and other vegetable fiber yarns		241,754	180,818	Rhode Island.....				32,160	
Massachusetts.....		7,408	17,215	Tennessee.....				121,614	
New York.....		11,296	9,266	Wisconsin.....				179,336	
Ohio.....		27,800	79,680	All other states.....				139,681	
Pennsylvania.....		15,975	17,507						

PRODUCTS.

Summary for the United States.—Table 19 shows the products of the hosiery and knit goods industry in the United States, as reported at the censuses of 1909, 1904, and 1899.

Of the total value of products of the industry in 1909, that of hosiery constituted 34.3 per cent; that of shirts, drawers, and combination suits, 42.2 per cent; that of sweaters, cardigan jackets, etc., 11.2 per cent; that of gloves and mittens, 3.6 per cent; and that of all other products, 8.6 per cent. In the case of each of the classes of hosiery, as well as of shirts and drawers and combination suits, the cotton product predominated as to both quantity and value.

Cotton hosiery constituted 91.2 per cent of the total output of hosiery in 1909, as compared with 88.2 per cent in 1899. Of the cotton hosiery manufactured in 1909, 43.3 per cent consisted of half hose. Woolen and worsted hosiery constituted only 3.5 per cent of the total output in 1909, and of such hosiery, 47.6 per cent was half hose. Most of the merino hosiery consisted of half hose.

Of the shirts and drawers made in 1909, 89.1 per cent were cotton and 10 per cent merino or mixed.

The total production of hose and half hose increased from 29,903,899 dozen pairs in 1899 to 62,825,069 dozen pairs in 1909, a gain of 110.1 per cent, while the value of this class of products increased 150.6 per cent. The production of silk hose, which aggregated only

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12,572 dozen pairs in 1899, amounted to 434,414 dozen pairs in 1909. There was comparatively little increase in the production of woolen and worsted hosiery during the decade.

PRODUCT.	PRODUCTS OF THE HOSIERY AND KNIT GOODS INDUSTRY.				PRODUCT.	PRODUCTS OF THE HOSIERY AND KNIT GOODS INDUSTRY.			
	1909	1904	1899	Per cent of increase: 1899-1909		1909	1904	1899	Per cent of increase: 1899-1909
Total value.....	\$200,143,527	\$137,076,454	\$95,833,692	108.8	Shirts and drawers—Continued.				
Hosiery:					Silk and silk mixed—				
Dozen pairs.....	62,825,069	44,189,063	29,903,899	110.1	Dozens.....	56,022	16,045	54,807	2.2
Value.....	\$69,721,825	\$44,113,260	\$27,420,029	150.6	Value.....	\$709,074	\$305,410	\$518,045	36.9
Cotton, merino, and woolen—					Combination suits:				
Hose—					Dozens.....	2,473,103	1,440,420	986,555	150.6
Dozen pairs.....	34,490,562	25,999,813	16,641,769	107.3	Value.....	\$14,853,536	\$6,793,947	\$3,691,847	302.3
Value.....	\$37,903,011	\$26,152,043	\$16,203,372	133.9	All cotton—				
Cotton—					Dozens.....	2,047,637	1,260,301	824,632	148.3
Dozen pairs.....	32,499,104	24,169,804	15,028,173	116.3	Value.....	\$9,713,597	\$4,478,664	\$2,240,566	333.5
Value.....	\$34,078,622	\$22,764,799	\$13,275,732	156.7	Merino or mixed—				
Merino or mixed—					Dozens.....	364,387	105,242	139,994	160.3
Dozen pairs.....	834,029	746,226	436,891	90.9	Value.....	\$4,217,432	\$1,199,949	\$1,133,328	272.1
Value.....	\$1,466,283	\$1,182,164	\$659,959	122.2	All wool—				
Woolen or worsted—					Dozens.....	50,102	68,067	9,501	427.3
Dozen pairs.....	1,166,429	1,083,783	1,176,705	-0.9	Value.....	\$683,289	\$965,132	\$201,667	238.8
Value.....	\$2,358,106	\$2,205,080	\$2,207,681	4.0	Silk or silk mixed—				
Half hose—					Dozens.....	10,977	6,810	12,728	-13.7
Dozen pairs.....	27,891,093	18,144,185	13,249,558	110.5	Value.....	\$230,218	\$150,202	\$116,286	105.8
Value.....	\$27,218,398	\$17,438,914	\$11,030,244	146.8	Sweaters, cardigan jackets, etc:				
Cotton—					Dozens.....	2,221,410	811,629	594,090	272.9
Dozen pairs.....	24,805,917	15,223,243	11,352,081	118.5	Value.....	\$22,430,817	\$8,345,369	\$3,498,837	541.1
Value.....	\$21,831,365	\$11,821,830	\$7,906,945	176.1	Gloves and mittens:				
Merino or mixed—					Dozen pairs.....	2,527,889	2,200,508	1,898,587	33.1
Dozen pairs.....	2,023,641	1,611,066	957,520	111.3	Value.....	\$7,296,887	\$5,556,260	\$4,244,046	71.9
Value.....	\$3,209,912	\$2,214,678	\$1,384,764	133.3	Hoods, scarfs, nubias, etc.:				
Woolen or worsted—					Dozens.....	883,223	589,315	343,429	158.6
Dozen pairs.....	1,061,535	1,309,876	939,957	12.9	Value.....	\$3,217,985	\$1,774,802	\$1,002,392	221.0
Value.....	\$2,087,121	\$3,402,406	\$1,738,535	20.1	Shawls:				
Silk—					Dozens.....	218,923	435,306	157,622	38.9
Dozen pairs.....	434,414	42,065	12,572	3,355.4	Value.....	\$916,294	\$1,293,348	\$328,720	178.7
Value.....	\$3,600,416	\$522,303	\$186,413	1,831.4	Boot and shoe linings:				
Shirts and drawers:					Square yards.....	9,726,770	11,768,961	10,406,440	-6.5
Dozens.....	25,337,779	19,723,141	15,873,700	59.6	Value.....	\$1,209,464	\$1,249,401	\$2,205,003	-45.1
Value.....	\$69,592,817	\$56,643,860	\$45,675,594	52.4	Yarns for sale.....	\$1,785,531	\$1,000,083	\$498,790	258.0
All cotton—					Cotton—				
Dozens.....	22,567,121	17,107,958	12,058,431	87.1	Pounds.....	7,457,412	3,304,615	2,419,282	208.2
Value.....	\$60,007,598	\$39,658,762	\$26,882,902	86.0	Value.....	\$1,568,417	\$654,234	\$422,100	271.6
Merino or mixed—					Woolen, worsted, and merino—				
Dozens.....	2,536,473	2,113,810	2,675,416	-5.2	Pounds.....	483,322	491,559	134,529	263.0
Value.....	\$17,055,024	\$13,031,754	\$13,293,829	28.3	Value.....	\$217,114	\$345,849	\$76,690	183.1
All wool—					All other products.....	\$10,118,371	\$10,306,064	\$7,268,434	39.2
Dozens.....	178,163	485,328	1,085,046	-83.6					
Value.....	\$1,820,521	\$3,647,934	\$4,980,818	-63.4					

¹ A minus sign (-) denotes decrease.
² In addition, hosiery and knit goods to the value of \$2,975,749 were made in 1909 by establishments in the following industries: Boots and shoes, rubber; clothing, men's, including shirts; clothing, women's; cotton goods, including cotton small wares; gloves and mittens, leather; hats and caps, other than felt, straw, and wool; millinery and lace goods; silk and silk goods, including throwsters; woolen, worsted, and felt goods, and wool hats. In 1904 products to the value of \$1,579,633 were made by establishments not engaged primarily in the manufacture of hosiery and knit goods.
³ Includes products to the value of \$1,028,907, the character of which pertains to the following industries: Boxes, fancy and paper; clothing, men's, including shirts; clothing, women's; dyeing and finishing textiles; fancy articles, not elsewhere specified; gloves and mittens, leather; hats and caps, other than felt, straw, and wool; instruments, professional and scientific; photographic apparatus and materials; waste; and woolen, worsted, and felt goods, and wool hats.

The production of shirts and drawers of all classes increased from 15,873,700 dozens in 1899 to 25,337,779 dozens in 1909, a gain of 59.6 per cent. The relative increase in the value of the product, however, was somewhat less (52.4 per cent)—a fact attributable to a change in the proportions represented by the different classes, as for each separate class, with the exception of cotton, the percentage of increase in value was greater (or the percentage of decrease less) than that in quantity, while for cotton shirts and drawers the relative increases in quantity and value were approximately the same. The production of all-wool shirts and drawers declined greatly during the decade, and that of silk and silk mixed and of merino and merino mixed was substantially the same in 1909 as in 1899, although greater than in 1904, but the production of cotton shirts and drawers increased 87.1 per cent. There was an increase of 150.6 per cent between 1899 and 1909 in the production of combination suits,

all classes, with the exception of silk and silk mixed, showing an increase. The highest percentage of gain (427.3) was reported for the all-wool varieties. There was a very great increase during the decade in the production of sweaters, cardigan jackets, etc., and of hoods, scarfs, nubias, etc., and a considerable increase in the production of knit gloves and mittens and shawls, but a decrease in the output of boot and shoe linings. The yarns manufactured for sale in the hosiery and knit goods industry in 1909 had a value of \$1,785,531, representing an increase of 258 per cent as compared with that in 1899. Of the total value in 1909, 87.8 per cent represented that of cotton yarn and 12.2 per cent that of woolen, worsted, and merino yarns. The output of cotton yarn for sale shows an increase of 208.2 per cent for the decade, and that of woolen, worsted, and merino yarns an increase of 263 per cent.

Table 20		Production in the hosiery and knit goods industry.		Production in other industries. ¹		Production in the hosiery and knit goods industry.		Production in other industries. ¹	
PRODUCT.	Total.	Production in the hosiery and knit goods industry.	Production in other industries. ¹	PRODUCT.	Total.	Production in the hosiery and knit goods industry.	Production in other industries. ¹		
Value of products.....	\$203,119,276	\$200,143,527	\$2,975,749	Combination suits—Continued.					
Hosiery:				Merino or mixed—					
Dozen pairs.....	63,313,290	62,825,069	488,221	Dozens.....	364,439	364,387	52		
Value.....	\$69,381,989	\$68,721,825	\$660,164	Value.....	\$4,218,160	\$4,217,432	\$728		
Cotton—				All other—					
Dozen pairs.....	57,634,372	57,305,021	379,351	Dozens.....	61,079	61,079			
Value.....	\$56,215,975	\$55,909,987	\$305,938	Value.....	\$922,507	\$922,507			
Merino or mixed—				Sweaters, cardigan jackets, etc.:					
Dozen pairs.....	2,864,879	2,857,670	7,209	Dozens.....	2,228,038	2,221,410	6,628		
Value.....	\$4,792,600	\$4,766,195	\$26,405	Value.....	\$22,523,797	\$22,430,817	\$92,980		
Woolen or worsted—				Gloves and mittens:					
Dozen pairs.....	2,329,625	2,227,964	101,661	Dozen pairs.....	2,538,761	2,527,889	10,872		
Value.....	\$4,772,998	\$4,445,227	\$327,771	Value.....	\$7,310,097	\$7,296,887	\$13,210		
Silk—				Leggings and gaiters:					
Dozen pairs.....	434,414	434,414		Dozen pairs.....	95,285	65,326	29,959		
Value.....	\$3,600,416	\$3,600,416		Value.....	\$521,601	\$192,242	\$329,359		
Shirts and drawers:				Hoods, scarfs, nubbias, etc.:					
Dozens.....	25,855,725	25,337,779	517,946	Dozens.....	904,728	858,223	46,505		
Value.....	\$70,738,024	\$69,592,817	\$1,145,207	Value.....	\$3,373,066	\$3,217,985	\$155,081		
Cotton—				Shawls:					
Dozens.....	23,084,107	22,567,121	516,986	Dozens.....	218,923	218,923			
Value.....	\$51,145,223	\$50,007,598	\$1,137,630	Value.....	\$916,294	\$916,294			
Merino or mixed—				Fancy knit goods, wristers, etc.:					
Dozens.....	2,537,898	2,536,473	925	Dozens.....	974,600	943,267	31,333		
Value.....	\$17,062,451	\$17,055,624	\$6,827	Value.....	\$2,428,414	\$2,392,927	\$35,487		
All wool—				Boot and shoe linings:					
Dozens.....	178,198	178,163	35	Square yards.....	10,546,770	9,726,770	820,000		
Value.....	\$1,821,271	\$1,820,121	\$750	Value.....	\$1,314,298	\$1,209,464	\$104,834		
Silk and silk mixed—				Eider down goods, jersey cloth, stockinet, astrakhan, and similar fabrics:					
Dozens.....	56,022	56,022		Square yards.....	4,819,801	4,819,801			
Value.....	\$709,074	\$709,074		Value.....	\$1,496,009	\$1,496,009			
Combination suits:				Yarns for sale:					
Dozens.....	2,474,696	2,473,103	1,593	Pounds.....	7,945,734	7,945,734			
Value.....	\$14,873,526	\$14,853,536	\$19,990	Value.....	\$1,785,531	\$1,785,531			
Cotton—				All other products.....	\$5,373,078	\$4,954,708	\$418,370		
Dozens.....	2,049,178	2,047,637	1,541	Contract work.....	\$1,083,552	\$1,082,485	\$1,067		
Value.....	\$9,732,859	\$9,713,597	\$19,262						

¹ These industries include boots and shoes, rubber; clothing, men's, including shirts; clothing, women's; cotton goods, including cotton small wares; gloves and mittens, leather; hats and caps, other than felt, straw, and wool; millinery and lace goods; silk and silk goods; woolen, worsted, and felt goods, and wool hats.

² Includes products to the value of \$1,028,907, chargeable to the following industries: Boxes, fancy and paper; clothing, men's, including shirts; clothing, women's; dyeing and finishing textiles; fancy articles, not elsewhere specified; gloves and mittens, leather; hats and caps, other than felt, straw, and wool; instruments, professional and scientific; photographic apparatus and materials; waste; woolen, worsted, and felt goods, and wool hats.

Table 20 shows, for 1909, the quantity and value of the principal classes of hosiery and knit goods, so far as reported separately, manufactured, respectively, in all industries combined, in the hosiery and knit goods industry, and in other industries.

The total value of products reported for the hosiery and knit goods industry in 1909 (\$200,143,527) includes \$2,814,438 representing the value of products other than hosiery and knit goods and of yarns, which class of products are usually the primary products of other industries. The subtraction of this latter figure from the total value of products for the industry leaves a remainder of \$197,329,089, which represents approximately the value of the hosiery and knit goods made in the industry. On the other hand, hosiery and knit goods to the value of \$2,975,749 were reported by establishments engaged primarily in the manufacture of other products, although this may not represent the total production of hosiery and knit goods outside the hosiery and knit goods industry, as some establishments making these products may not have reported them separately. Adding together the two figures just given, a total of \$200,304,838 is obtained, which represents approximately the total value of the strictly hosiery and knit goods manufactured in 1909, whether in the hosiery and knit goods industry or in other industries.

Products, by states.—Table 21 shows the different products of the industry in 1909, 1904, and 1899, by states.

Of the hosiery manufactured in the United States in 1909, Pennsylvania produced 27,832,601 dozen pairs,

or 44.3 per cent; Massachusetts, 4,506,960 dozen pairs; and Georgia, 3,726,330 dozen pairs. Wisconsin shows the largest percentage of increase in production for the decade 1899–1909 (260.8), Georgia following with 211.7. Connecticut, New Jersey, and Ohio show a decrease in production for the five-year period 1904–1909, although the output in 1909 was in each case somewhat greater than that in 1899.

Of the total output of cotton hosiery manufactured in the United States in 1909, Pennsylvania produced 27,139,582 dozen pairs, or 47.4 per cent. New York, the leading state in the hosiery and knit goods industry as a whole, produced only an insignificant quantity of cotton hose. Wisconsin shows the largest percentage of increase from 1899 to 1909 (487.7), although that for North Carolina is nearly as great (442.9). New Jersey is the only state listed in the table which shows a decrease between 1899 and 1909; all of this decrease, however, took place in the five-year period 1904–1909.

In the manufacture of woolen and worsted hosiery New Hampshire is the leading state, producing 44.5 per cent of the entire output in 1909. Pennsylvania showed an increase of 107 per cent in 1909 as compared with 1899, which is the highest rate of increase reported for any state. As compared with 1904, however, the production in 1909 represented a decrease of 14.6 per cent. Wisconsin also showed a decrease in output in 1909 as compared with 1904, although the production was slightly larger in 1909 than in 1899.

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HOSIERY AND KNIT GOODS INDUSTRY—PRODUCTS, BY STATES:

Table 21	PRODUCT AND STATE.	Value: 1900	QUANTITY.			PRODUCT AND STATE.	Value: 1900	QUANTITY.		
			1900	1904	1899			1900	1904	1899
			<i>Doz. pairs.</i>	<i>Doz. pairs.</i>	<i>Doz. pairs.</i>			<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>
Hosiery	\$68,721,825	62,825,069	44,186,063	29,903,839	Shirts and drawers—Continued.					
Connecticut.....	1,109,017	590,100	672,242	393,111	Silk or silk mixed.....	709,074	56,022	16,045	54,807	
Georgia.....	2,389,012	3,726,330	1,880,495	2,790,860	Massachusetts.....	208,184	33,998	2,995	4,500	
Massachusetts.....	4,780,361	4,506,900	2,790,860	1,195,362	New York.....	359,108	12,639	6,270	23,785	
Michigan.....	1,419,432	605,589	356,459	445,612	All other states.....	141,782	9,385	6,780	26,522	
New Hampshire.....	3,164,589	2,631,273	2,800,948	1,592,267	Combination suits	14,853,536	2,473,103	1,440,420	986,855	
New Jersey.....	1,608,231	850,932	1,101,536	794,926	Massachusetts.....	2,011,791	183,175	123,144	44,833	
New York.....	639,185	355,687	233,697	100,272	Ohio.....	2,076,484	191,932	76,089	18,167	
Ohio.....	664,128	400,275	411,817	233,716	Pennsylvania.....	1,394,282	436,275	281,527	404,538	
Pennsylvania.....	30,847,344	27,832,601	20,327,710	15,232,324	All other states.....	9,370,979	1,661,721	959,600	519,317	
Virginia.....	522,282	715,807	561,484	360,300	Cotton	9,713,597	2,047,637	1,260,301	824,632	
Wisconsin.....	3,806,117	2,373,201	1,673,731	657,806	Massachusetts.....	861,787	100,024	53,825	12,069	
All other states.....	17,776,537	18,216,254	11,875,084	6,474,271	New York.....	4,238,442	938,554	655,324	288,779	
Cotton	55,909,987	57,305,021	39,393,047	28,380,254	Ohio.....	1,047,775	131,186	55,823	11,517	
Connecticut.....	302,049	97,616	29,529	95,818	Pennsylvania.....	1,155,327	412,567	271,069	374,507	
Georgia.....	2,389,012	3,726,330	1,880,495	1,194,772	All other states.....	2,410,266	465,306	224,200	138,910	
Illinois.....	2,914,121	3,069,634	1,801,140	1,662,150	Merino or mixed	4,217,432	364,387	105,242	139,994	
Massachusetts.....	3,734,618	4,280,266	2,556,261	2,255,341	Massachusetts.....	968,915	74,643	24,609	30,514	
New Hampshire.....	934,243	1,186,912	1,043,153	569,439	New York.....	500,830	52,254	27,297	54,153	
New Jersey.....	755,731	752,452	1,090,511	757,836	Ohio.....	961,771	58,063	15,643	5,135	
New York.....	254,720	280,383	194,664	78,248	Pennsylvania.....	234,855	23,208	9,858	29,366	
North Carolina.....	4,100,689	5,806,140	2,928,032	1,060,431	All other states.....	1,551,061	166,159	27,835	20,826	
Pennsylvania.....	28,097,548	27,139,582	19,707,227	14,858,506	All wool	683,289	50,102	68,067	9,501	
Virginia.....	522,282	715,807	561,484	355,800	Silk or silk mixed	239,218	10,977	6,810	12,728	
Wisconsin.....	2,935,926	2,042,952	1,449,096	347,614	Sweaters, cardigan jackets, etc.	22,430,817	2,221,410	811,629	594,090	
All other states.....	8,339,048	8,206,947	6,091,555	3,146,299	Illinois.....	434,090	22,280	9,753	5,310	
Hose	34,078,622	32,499,104	24,169,804	15,028,173	Massachusetts.....	718,562	40,544	15,023	7,476	
Georgia.....	1,018,088	1,228,235	602,388	460,427	New Jersey.....	987,559	70,772	21,880	3,363	
Illinois.....	1,739,376	1,188,667	504,304	460,000	New York.....	13,915,043	1,656,396	540,236	451,262	
Massachusetts.....	2,801,323	3,506,546	2,118,003	2,031,921	Ohio.....	1,355,728	115,457	44,183	38,190	
New Jersey.....	626,199	656,236	940,802	624,195	Pennsylvania.....	2,086,061	221,700	44,183	38,190	
North Carolina.....	2,877,922	3,879,392	1,950,878	796,094	Wisconsin.....	1,105,326	54,292	35,051	5,377	
Pennsylvania.....	16,058,169	13,876,893	11,769,534	7,863,561	Gloves and mittens	7,296,887	2,527,889	2,260,508	1,898,587	
Wisconsin.....	1,774,409	1,143,366	1,437,595	256,586	Michigan.....	640,017	245,797	347,135	293,282	
All other states.....	7,193,138	7,021,766	4,937,450	2,586,389	New York.....	4,270,020	1,195,140	750,632	567,720	
Half hose	21,831,365	24,305,917	15,223,243	11,352,081	Ohio.....	283,848	319,522	211,990	273,940	
Georgia.....	1,370,926	2,500,065	1,278,107	794,345	Pennsylvania.....	1,037,894	284,931	152,714	32,163	
Illinois.....	1,184,745	1,380,967	1,193,150	1,193,150	Wisconsin.....	845,823	368,157	429,822	355,582	
Massachusetts.....	933,295	773,720	438,165	223,420	All other states.....	215,285	114,342	348,185	325,892	
New Jersey.....	1,222,767	1,926,748	977,454	343,337	Hoods, scarfs, nubles, etc.	3,217,985	888,223	589,315	343,429	
North Carolina.....	12,630,379	13,262,689	7,937,693	6,994,435	New York.....	440,411	124,301	255,857	171,060	
Pennsylvania.....	1,161,517	899,586	111,601	91,028	Ohio.....	1,064,969	272,478	206,024	122,102	
Wisconsin.....	3,318,736	3,562,112	3,123,484	1,711,856	Pennsylvania.....	581,208	138,427	70,460	42,760	
Woolen or worsted	4,445,227	2,227,964	2,393,659	2,116,682	Wisconsin.....	1,037,318	322,688	26,531	5,744	
Connecticut.....	420,639	232,920	164,679	171,211	All other states.....	94,070	30,329	30,443	1,763	
New Hampshire.....	1,589,567	991,105	600,706	784,891	Shawls	916,294	118,923	435,306	157,622	
Pennsylvania.....	805,725	428,918	502,226	207,200	New York.....	66,235	9,800	23,330	200	
Wisconsin.....	350,835	128,894	187,876	124,265	Ohio.....	465,694	122,080	310,031	82,960	
All other states.....	1,278,461	446,418	829,095	489,095	Pennsylvania.....	190,052	47,479	15,869	30,000	
Merino or mixed	4,766,195	2,857,670	2,357,292	1,394,411	Wisconsin.....	104,708	21,581	8,000	9,000	
New Hampshire.....	590,779	503,256	657,089	247,937	All other states.....	89,605	17,983	4,548	35,462	
Ohio.....	504,930	328,948	239,162	105,000	Leggings and gaiters	192,242	65,326	122,462	71,038	
Pennsylvania.....	153,666	118,604	97,222	160,618	New York.....	144,185	52,107	23,196	39,813	
All other states.....	3,616,811	1,911,821	1,363,819	880,856	All other states.....	48,057	13,219	99,266	31,225	
Silk	3,600,416	434,414	42,065	12,572	Fancy knit goods, wristers, etc.	2,332,927	943,267	582,275	284,685	
Pennsylvania.....	1,190,405	145,497	21,036	6,000	Illinois.....	210,173	18,858	130,065	67,670	
All other states.....	2,410,011	288,917	21,030	6,572	New York.....	889,263	366,071	67,000	60,000	
Shirts and drawers	69,592,817	25,337,779	19,723,141	15,973,700	Ohio.....	84,843	28,197	60,600	110,630	
Connecticut.....	3,056,160	471,708	440,731	520,310	Pennsylvania.....	934,915	442,355	222,655	110,630	
Georgia.....	573,020	314,893	425,068	205,165	All other states.....	223,733	87,786	160,055	35,385	
Massachusetts.....	6,080,517	1,067,482	1,253,170	990,144	Boot and shoe linings	1,209,484	9,726,770	11,768,961	10,406,440	
Michigan.....	928,540	720,202	532,829	309,804	Connecticut.....	323,469	2,935,038	(1)	983,295	
New Hampshire.....	1,200,038	200,703	287,864	200,708	Rhode Island.....	862,090	6,686,112	9,021,002	5,151,255	
New Jersey.....	766,719	178,150	195,730	9,220,519	All other states.....	23,905	105,620	2,747,899	4,271,890	
New York.....	38,210,508	12,474,922	10,350,484	9,220,519	Eider down goods	442,431	1,298,322	4,843,939	(?)	
Ohio.....	400,704	126,305	119,454	39,605	New York.....	77,645	272,444	(1)	(?)	
Pennsylvania.....	9,815,054	6,721,609	4,029,491	2,875,037	Pennsylvania.....	199,982	624,438	438,519	(?)	
Tennessee.....	555,597	246,019	157,600	580,744	All other states.....	164,804	401,440	4,405,420	(?)	
Wisconsin.....	717,339	58,090	52,204	22,200	Jersey cloth and stockinet	784,255	3,111,272	3,354,028	4,488,911	
All other states.....	3,088,021	2,097,730	1,877,856	1,294,697	New York.....	300,809	2,053,563	618,785	1,563,961	
Cotton	50,007,598	22,567,121	17,107,958	12,058,431	Pennsylvania.....	135,792	177,706	(1)	178,199	
Connecticut.....	475,545	113,603	122,108	159,139	Rhode Island.....	206,609	505,889	(1)	834,269	
Georgia.....	573,020	314,893	425,000	205,165	All other states.....	141,045	374,054	2,735,241	1,912,482	
Massachusetts.....	4,257,591	1,415,227	1,093,633	852,107	Astrakhan and similar fabrics	269,323	410,207	455,274	664,779	
Michigan.....	620,888	692,266	519,984	303,955	Yarns for sale:					
New Jersey.....	330,689	133,992	135,815	95,035	Cotton.....	1,568,417	7,457,412	3,364,615	2,419,282	
New York.....	29,577,805	11,238,711	8,974,368	6,636,642	Georgia.....	60,446	276,604	(1)	(1)	
Pennsylvania.....	8,833,761	6,552,364	3,852,513	2,670,341	New York.....	519,454	2,499,483	992,834	211,000	
Tennessee.....	555,597	246,019	157,600	580,744	Pennsylvania.....	140,809	362,633	349,138	327,612	
Virginia.....	1,865,171	725,509	733,761	575,213	All other states.....	847,708	2,052,043	2,492,043	1,850,070	
All other states.....	2,917,531	1,134,537	1,098,176	655,213	Woolen, worsted, and merino	217,114	488,322	491,559	134,529	
Merino or mixed	17,055,624	2,856,473	2,113,810	2,675,416						
Connecticut.....	2,941,515	338,589	286,049	298,148						
Massachusetts.....	1,206,785	182,903	44,729	75,121						

In the manufacture of merino hosiery New Hampshire, Michigan, Illinois, Rhode Island, Ohio, and Connecticut were the six leading states. Of the states for which figures are given in Table 21, New Hampshire and Ohio show large increases in production for the decade, while Pennsylvania shows a decrease, all of this decrease, however, taking place during the five-year period 1899-1904.

In the manufacture of silk hosiery, Pennsylvania is the leading state, producing, in 1909, 33.5 per cent of the total output reported for the United States.

Of the total output of shirts and drawers in 1909, New York produced 49.2 per cent. Pennsylvania was the second state in importance in the manufacture of these products, reporting 26.5 per cent of the total; in the production of merino or mixed garments, however, Pennsylvania ranked only fifth.

New York and Pennsylvania are also the leading states in the production of combination suits. Massachusetts, Ohio, and New Hampshire are, however, the leading states in the production of merino or mixed suits, New York and Pennsylvania both showing a slight decrease in the production of such suits for the decade as a whole, although an increase for the five-year period 1904-1909.

New York is the leading state in the manufacture of sweaters, cardigan jackets, etc., reporting 74.6 per cent of the total output in 1909. Wisconsin is the only one of the states for which figures are presented in the table showing an increase between 1899 and 1909 of less than 100 per cent.

New York contributed nearly 50 per cent of the total output of knit gloves and mittens in the United States in 1909; Wisconsin ranked second in quantity of output, while Pennsylvania ranked second in the value of the product. Wisconsin and Michigan show decreases in output for the five-year period 1904-1909, although Wisconsin shows a small increase for the decade as a whole.

In the manufacture of hoods, scarfs, nubias, and similar articles, Wisconsin and Ohio are the leading states. Ohio reported over one-half of the output of knit shawls in 1909 and nearly three-fourths in 1904. New York produces the bulk of the knit leggings and gaiters and Pennsylvania and New York the bulk of the fancy knit goods, wristers, etc. Practically all of the knit fabric used for boot and shoe linings is made in Rhode Island and Connecticut. Pennsylvania, Massachusetts, and New York are the leading states in the manufacture of eider down goods, while New York produced nearly two-thirds of the Jersey cloth and stockinet.

In 1909 the leading states reporting cotton yarn made for sale were New York, Massachusetts, and Illinois, while the bulk of the woolen, worsted, and merino yarns made for sale was reported from Pennsylvania.

In addition to the products listed separately in Table 21, miscellaneous products to the value of \$4,954 708 were reported as manufactured in 1909. Among the more important of these products were bathing suits, athletic suits, women's skirts, waists and sacques, towels and face cloths, stocking feet, glove linings, etc.

Table 22 shows the number of establishments in the hosiery and knit goods industry in 1909 which dyed and finished their goods, the number of establishments that dyed or finished goods owned by others, as well as their own product, and the number that did custom spinning and knitting. Some dyeing and finishing is done for establishments in this industry by establishments in other industries, particularly those engaged in the dyeing and finishing of textiles.

Table 22

NUMBER OF ESTABLISHMENTS IN THE HOSEY AND KNIT GOODS INDUSTRY: 1909

STATE.	NUMBER OF ESTABLISHMENTS IN THE HOSEY AND KNIT GOODS INDUSTRY: 1909				
	Total.	Dyeing their own goods.	Finishing their own goods.	Dyeing or finishing for others.	Doing custom spinning or knitting.
United States.....	1,374	381	1,263	39	88
Alabama.....	0	5	5	.....	.....
California.....	6	.....	6	.....	3
Connecticut.....	21	14	21	.....	5
Delaware.....	4	3	4	1	.....
Georgia.....	22	15	21	.....	.....
Illinois.....	43	9	36	2	3
Indiana.....	5	3	5	.....	.....
Iowa.....	4	3	4	.....	.....
Maine.....	5	2	3	.....	1
Maryland.....	11	5	9	.....	.....
Massachusetts.....	65	16	57	2	6
Michigan.....	35	15	33	.....	.....
Minnesota.....	10	2	10	.....	1
New Hampshire.....	21	13	20	1	2
New Jersey.....	37	5	34	1	4
New York.....	360	91	330	9	15
North Carolina.....	62	35	55	4	.....
Ohio.....	39	10	36	1	2
Pennsylvania.....	464	98	426	15	7
Rhode Island.....	17	5	16	3	1
South Carolina.....	7	6	7	.....	1
Tennessee.....	22	18	21	.....	.....
Utah.....	11	3	11	.....	.....
Vermont.....	8	7	8	.....	.....
Virginia.....	11	7	11	.....	.....
Wisconsin.....	61	15	57	.....	5
All other states.....	17	6	17	.....	2

Table 23 shows, by geographic divisions, for the censuses of 1909, 1904, and 1899, the output of hosiery, of shirts and drawers, of combination suits, of cardigan jackets, sweaters, etc., and of gloves and mittens, and the value of all other products, as reported by establishments in the hosiery and knit goods industry.

The Middle Atlantic division is the leading division in the manufacture of hosiery and knit goods, as measured by total value of products, and also ranks first in the production of each class of products shown separately in the table. The New England division ranked second in total value of products in 1909, the East North Central third, and the South Atlantic fourth. The South Atlantic division, however, ranked second in 1909 in the output of hosiery, and third in that of shirts and drawers, showing increases of 221.5 per cent and 53.2 per cent, respectively, for the decade. In 1899 the New England division outranked the South

THE HOSIERY AND KNIT GOODS INDUSTRY.

Atlantic in the manufacture of hosiery, but by 1904 it had dropped to third place in this respect. The industry is comparatively unimportant in the West North Central, the two South Central, and the Mountain and Pacific divisions, but high percentages of increase for the decade are shown for all these divisions.

HOSIERY AND KNIT GOODS INDUSTRY—PRINCIPAL PRODUCTS, BY GEOGRAPHIC DIVISIONS: 1909, 1904, AND 1899.

Table 23 DIVISION AND YEAR.	Number of establishments.	PRODUCTS.								Value of all other products.
		Total value.	Principal products.							
			Value.	Quantity.						
				Hosiery (dozen pairs).	Shirts and drawers (dozens).	Combination suits (dozens).	Sweaters, cardigan jackets, etc. (dozens).	Gloves and mittens (dozen pairs).		
United States:										
1909	1,374	\$200,143,527	\$182,895,882	62,825,069	25,337,779	2,473,103	2,221,410	2,527,889	\$17,247,645	
1904	1,144	137,078,454	121,452,696	44,186,063	18,723,141	1,440,420	811,629	2,260,508	15,623,758	
1899	1,006	95,833,692	84,530,353	29,903,899	15,873,700	986,855	594,080	1,898,587	11,303,339	
New England—										
1909	137	30,990,884	27,884,676	8,409,837	2,758,239	447,005	46,051	56,542	3,106,208	
1904	136	24,807,979	20,068,978	6,222,109	2,336,597	170,992	17,446	81,159	4,739,001	
1899	145	17,806,327	14,550,546	4,689,422	2,110,157	77,093	8,642	78,990	3,815,781	
Middle Atlantic—										
1909	861	120,598,043	111,280,584	29,039,220	19,374,641	1,436,323	1,948,808	1,480,071	9,317,459	
1904	676	79,031,629	72,669,422	21,662,943	14,575,705	987,682	707,619	903,376	7,012,207	
1899	610	59,739,128	55,046,869	10,187,522	12,284,987	700,234	537,791	649,883	4,692,259	
East North Central—										
1909	183	26,633,881	22,641,245	7,782,722	1,091,844	329,004	201,925	991,076	3,992,636	
1904	159	18,435,857	15,073,130	5,331,986	821,134	115,684	70,635	1,275,973	3,362,177	
1899	133	11,513,341	8,473,429	3,699,107	433,621	40,657	44,536	1,169,051	3,039,912	
West North Central—										
1909	18	2,607,647	2,418,496	302,880	106,735	100,066	14,037	200	189,151	
1904	10	1,202,586	1,080,253	123,219	150,954	-----	7,814	-----	122,333	
1899	8	410,092	383,845	95,969	9,430	13,262	1,616	495	26,247	
South Atlantic—										
1909	119	13,770,901	13,423,965	13,070,504	1,585,542	134,858	90	-----	346,936	
1904	100	9,243,635	9,028,120	7,739,948	1,553,064	155,159	60	-----	215,539	
1899	72	5,087,402	5,015,089	4,065,999	1,034,640	93,907	-----	-----	72,313	
East and West South Central—										
1909	33	4,581,498	4,405,383	4,213,253	406,439	4,000	-----	-----	176,115	
1904	24	2,083,069	2,084,949	2,204,093	273,471	3,750	-----	-----	3,120	
1899	4	395,150	395,150	543,500	-----	-----	-----	-----	-----	
Mountain and Pacific—										
1909	23	990,673	841,533	6,653	14,339	21,847	10,499	-----	119,140	
1904	14	683,391	550,224	7,285	6,679	7,047	7,876	-----	127,167	
1899	11	203,437	97,087	8,370	840	1,642	1,445	160	105,750	
Production in states which can not be distributed by geographic divisions without disclosing individual operations—										
1909	-----	-----	-----	-----	-----	-----	-----	-----	-----	
1904	25	933,778	891,564	889,490	627	106	189	-----	42,214	
1899	23	618,315	567,738	614,010	25	10	60	8	51,077	
Per cent of totals:										
New England—										
1909	10.0	15.5	15.2	13.4	10.9	18.1	2.1	2.2	18.0	
1904	11.9	18.1	16.5	14.1	11.8	11.9	2.1	3.6	30.3	
1899	14.4	18.6	17.2	15.7	13.3	7.8	1.5	4.2	29.3	
Middle Atlantic—										
1909	62.7	60.3	60.8	46.2	76.5	58.1	87.7	58.5	54.0	
1904	59.1	58.1	59.8	49.0	73.9	68.6	87.2	49.0	44.9	
1899	60.6	62.3	65.1	54.1	77.4	77.0	90.5	34.2	41.5	
East North Central—										
1909	13.3	13.3	12.4	12.4	4.3	13.3	0.1	39.2	23.1	
1904	13.9	13.4	12.4	12.1	4.2	8.0	8.7	56.4	21.5	
1899	13.2	12.0	10.0	12.4	2.7	4.1	7.5	61.6	26.9	
West North Central—										
1909	1.3	1.3	1.3	0.5	0.4	4.0	0.6	(1)	1.1	
1904	0.9	0.9	0.9	0.3	0.3	-----	1.0	-----	0.8	
1899	0.8	0.4	0.5	0.3	0.1	1.3	0.3	(1)	0.2	
South Atlantic—										
1909	8.7	6.9	7.3	20.8	6.3	5.5	(1)	-----	2.0	
1904	8.7	6.7	7.4	17.5	7.9	10.8	(1)	-----	1.4	
1899	7.2	5.3	5.9	13.8	6.5	9.5	-----	-----	0.6	
East and West South Central—										
1909	2.4	2.3	2.4	6.7	1.6	0.2	(1)	-----	1.0	
1904	2.1	1.5	1.7	5.0	1.4	0.3	-----	-----	(1)	
1899	0.5	0.4	0.5	1.8	-----	-----	-----	-----	-----	
Mountain and Pacific—										
1909	1.7	0.5	0.5	(1)	0.1	0.9	0.5	-----	0.7	
1904	1.2	0.5	0.5	(1)	(1)	0.5	1.0	-----	0.8	
1899	1.1	0.2	0.1	(1)	(1)	0.2	0.2	(1)	0.9	
Production in states which can not be distributed by geographic divisions without disclosing individual operations—										
1909	-----	-----	-----	-----	-----	-----	-----	-----	-----	
1904	2.2	0.7	0.7	2.0	(1)	(1)	(1)	(1)	0.3	
1899	2.3	0.7	0.7	2.1	(1)	(1)	(1)	(1)	0.5	

(1) Less than one-tenth of 1 per cent.

EQUIPMENT.

Wool-combing machines.—Six wool-combing machines were reported as used in the industry in 1909, three of American manufacture in Massachusetts, and three of foreign manufacture in Illinois. Wool-combing machines were not reported separately in 1904 and 1899, but only the total number of combing machines, while at the census of 1909 the number of wool-combing machines and not the total number of combing machines was reported.

Cards and spindles.—Table 24 shows the number of cards and spindles used in 1909, 1904, and 1899 in the hosiery and knit goods industry in the United States.

At the census of 1899 the number of sets of cotton, worsted, and shoddy cards was not reported. The decrease in the number of woolen and worsted cards and spindles and the increase in that of cotton cards and spindles is a marked feature of the statistics. In 1904 the number of cotton cards and of spindles was approximately the same as for woolen, worsted, and shoddy cards and spindles combined, but in 1909 cotton

cards and spindles constituted two-thirds of the respective totals. During the decade 1899–1909 the number of cotton spindles increased 277,375, or 134.8 per cent, while that of woolen and worsted spindles decreased 57,612, or 18.9 per cent.

CLASS.	HOSIERY AND KNIT GOODS INDUSTRY: 1909					
	Number.			Per cent of total.		
	1909	1904	1899	1909	1904	1899
Sets of cards	2,681	2,001	.....	100.0	100.0	100.0
Cotton.....	1,827	1,000	(¹)	68.1	50.0	.....
Woolen.....	785	927	1,161	29.3	46.3	.....
Worsted.....	10	24	(¹)	0.4	1.2	.....
Shoddy.....	59	50	(¹)	2.2	2.5	.....
Spindles	736,774	603,180	521,871	100.0	100.0	100.0
Producing.....	729,935	596,362	510,172	99.1	98.9	97.8
Cotton.....	483,117	300,037	205,742	65.6	49.7	39.4
Woolen and shoddy.....	244,458	286,661	290,366	33.2	47.6	55.6
Worsted.....	2,360	9,664	14,004	0.3	1.6	2.7
Doubling and twisting.....	6,839	6,818	11,699	0.9	1.1	2.2

¹ Not reported.

Table 25 gives, by states, the statistics of cards and spindles for 1909.

STATE.	HOSIERY AND KNIT GOODS INDUSTRY: 1909									
	Sets of cards.				Spindles.					
	Total.	Woolen, worsted, and shoddy.	Cotton.	Aggregate.	Producing.					Doubling and twisting.
					Total.	Mule.			Frame.	
				Total.		Woolen, worsted, and shoddy.	Cotton.			
United States	2,681	1,854	1,827	736,774	729,935	436,582	244,959	191,623	293,353	6,839
Alabama.....	30	.....	30	10,932	10,932	.....	.....	.....	10,932	.....
Connecticut.....	144	114	30	54,108	52,904	52,904	29,768	23,136	1,000	204
Georgia.....	139	.....	139	18,376	17,792	2,400	.....	2,400	15,392	584
Illinois.....	61	13	48	18,384	6,312	.....	.....	.....	10,584	1,488
Massachusetts.....	545	36	509	164,390	163,248	76,784	10,296	66,488	86,464	1,142
Michigan.....	67	15	52	19,316	18,344	5,528	4,412	1,116	12,816	972
New Hampshire.....	81	66	15	20,939	20,742	17,918	16,760	1,168	2,824	197
New Jersey.....	44	32	12	9,582	9,582	9,582	9,582	.....	.....	.....
New York.....	1,151	457	694	303,736	303,528	181,771	126,764	55,007	121,757	208
North Carolina.....	92	.....	92	26,232	24,944	13,264	.....	13,264	11,680	288
Ohio.....	13	13	.....	4,670	4,670	.....	.....	.....	.....	.....
Pennsylvania.....	115	43	72	34,684	33,648	28,912	15,312	13,600	4,736	1,036
South Carolina.....	16	.....	16	6,640	6,640	5,616	.....	5,616	.....	.....
Tennessee.....	66	.....	66	11,892	11,892	.....	.....	.....	11,892	.....
Vermont.....	22	19	3	5,424	5,424	5,424	5,424	.....	.....	.....
Virginia.....	25	.....	25	7,572	7,572	.....	.....	.....	.....	.....
Wisconsin.....	22	20	2	6,729	6,345	.....	.....	7,572	.....	.....
All other states.....	48	26	22	14,168	13,832	11,580	9,324	2,250	2,252	336

¹ Includes 785 sets of woolen cards, 10 of worsted, and 59 of shoddy.
² Includes 241,699 woolen, 2,360 worsted, and 900 shoddy spindles.

³ Includes 291,494 cotton and 1,859 woolen spindles.
⁴ Includes 2,066 woolen, 1,055 worsted, and 3,688 cotton spindles.

The woolen cards and spindles are largely concentrated in New York and Connecticut. There were 416 sets of woolen cards in New York in 1909, as compared with 491 in 1904 and 674 in 1899; and 114 in Connecticut, as compared with 109 in 1904 and 134 in 1899. Of the total number of sets of cotton cards in 1909, New York and Massachusetts reported nearly two-thirds, and of the total number of producing spindles of all kinds these states reported 63.9 per cent.

Table 26 shows, for 1909, by states, the number of establishments reporting producing spindles and the

number which did not, and also the number of producing spindles and the number of mills having 4,000 or more such spindles each, with the aggregate number of spindles in such mills.

New York reported 66 establishments with producing spindles and 18 of them had more than 4,000 spindles each. Of 37 establishments in New Jersey only 1 reported the operation of spindles, and in Pennsylvania, which had the largest number of establishments of any of the states (464), only 9 establishments reported spindles.

Table 26 ESTABLISHMENTS IN THE HOSIERY AND KNIT GOODS INDUSTRY: 1909

STATE.	Total number.	Without producing spindles.	With producing spindles.			
			Total.		Having 4,000 spindles or over.	
			Number.	Number of spindles.	Number.	Number of spindles.
United States.....	1,374	1,216	158	729,935	45	521,588
Alabama.....	6	4	2	10,932	2	10,932
Connecticut.....	21	6	15	53,904	5	31,260
Georgia.....	22	17	5	17,792	2	8,480
Illinois.....	43	41	2	16,896	2	16,896
Louisiana.....	1	.....	1	4,500	1	4,500
Massachusetts.....	65	56	9	163,248	4	151,160
Michigan.....	35	28	7	18,344	1	12,768
New Jersey.....	37	36	1	9,582	1	9,582
New York.....	360	294	66	303,528	18	209,956
North Carolina.....	62	59	3	24,944	2	22,136
Pennsylvania.....	464	455	9	33,648	4	26,586
South Carolina.....	7	6	1	6,640	1	6,640
Tennessee.....	22	19	3	11,892	2	10,692
All other states.....	229	195	34	54,085	.....	.....

are not included in the table, but the number of such machines in 1909 is shown in the footnote.

In 1909 the total number of knitting machines reported by establishments in the industry was 115,019, as against 69,047 in 1899, an increase of 45,972, or 66.6 per cent. Over 96 per cent of all the knitting machines in 1909 were power machines. There was an increase of 3,167, or 21.8 per cent, in the number of spring-beard needle machines between 1899 and 1909, while the increase in the number of latch needle machines was 42,805, or 78.5 per cent. Latch needle machines constituted 84.6 per cent of the total number of machines in 1909, as compared with 79 per cent in 1889.

Circular and circular hosiery automatic machines formed 80.7 per cent of the total number in 1909 and 78.4 per cent in 1899, the proportion of circular hosiery machines increasing from 31.4 per cent of the total number in 1899 to 38.8 per cent in 1909, while that of circular machines fell during the same period from 47 per cent to 41.9 per cent.

Table 28 gives, by states, the knitting-machine equipment of the mills in 1909.

Knitting machines.—Table 27 gives, for the United States, the number of the different kinds of knitting machines reported at the censuses of 1909, 1904, and 1899. Machines in establishments in other industries

Table 27 NUMBER OF KNITTING MACHINES EMPLOYED IN THE HOSIERY AND KNIT GOODS INDUSTRY.

KIND OF MACHINE.	NUMBER OF KNITTING MACHINES EMPLOYED IN THE HOSIERY AND KNIT GOODS INDUSTRY.			KIND OF MACHINE.	NUMBER OF KNITTING MACHINES EMPLOYED IN THE HOSIERY AND KNIT GOODS INDUSTRY.		
	1909	1904	1899		1909	1904	1899
Total.....	115,019	88,374	69,047	Latch needle.....	97,339	74,475	54,524
Power:				Power:			
Flat.....	10,423	6,964	6,714	Flat—			
Full-fashioned flat.....	3,388	3,542	2,361	Ribbed.....	2,516	2,343	1,655
Circular.....	48,142	39,409	32,470	Plain.....	5,556	2,410	1,936
Circular hosiery, automatic.....	44,676	31,961	21,693	Full-fashioned flat—			
All other.....	4,001	(²)	(²)	Ribbed.....	902	770	358
Hand (Lamb and other varieties).....	4,389	6,498	5,809	Plain.....	309	1,317	869
				Circular—			
Spring-beard needle.....	17,680	13,899	14,513	Ribbed.....	30,080	24,452	17,490
Power:				Plain.....	9,806	6,707	6,760
Flat—				Circular hosiery, automatic.....	40,861	30,313	19,993
Ribbed.....	964	1,455	1,691	All other.....	3,292	(²)	(²)
Plain.....	1,387	756	1,432	Hand (Lamb and other varieties).....	4,017	0,163	5,473
Full-fashioned flat—							
Ribbed.....	209	260	65	Per cent of total.....	100.0	100.0	100.0
Plain.....	1,968	1,195	1,069	Power.....	96.2	92.6	91.6
Circular.....				Flat.....	9.1	7.9	9.7
Ribbed.....	2,188	1,087	1,467	Full-fashioned flat.....	2.9	4.0	3.4
Plain.....	6,068	7,183	6,763	Circular.....	41.9	44.6	47.0
Circular hosiery, automatic.....	3,815	1,648	1,700	Circular hosiery, automatic.....	38.8	36.2	31.4
All other.....	709	(²)	(²)	All other.....	3.5	.....	.....
Hand (Lamb and other varieties).....	372	335	336	Hand (Lamb and other varieties).....	3.8	7.4	8.4
				Spring-beard needle.....	15.4	15.7	21.0
				Latch needle.....	84.6	84.3	79.0

¹ In addition, 32 establishments manufacturing hosiery and knit goods as secondary products, reported 1,232 knitting machines, comprising 69 flat power machines, 596 circular, 326 circular hosiery, 112 miscellaneous power machines, and 139 hand machines. Of the 1,232 machines, 307 were spring-beard needle and 925 were latch needle machines.

² Not reported.

³ Not including machines used by manufacturers employing hand machines exclusively, which were not reported in 1904 and 1899.

Table 28

KNITTING MACHINES EMPLOYED IN THE HOSIERY AND KNIT GOODS INDUSTRY: 1909

STATE.	Total.	Power.							Hand (Lambd other variety).	
		Flat.		Full-fashioned flat.		Circular.		Circular hosiery, automatic.		All other.
		Ribbed.	Plain.	Ribbed.	Plain.	Ribbed.	Plain.			
ALL CLASSES.										
United States.....	115,019	3,480	6,943	1,111	2,277	32,268	15,874	44,678	4,001	4,389
Alabama.....	429		28			136	8	257		
California.....	228	8	102		1	30	24	20		48
Connecticut.....	2,501	168	97	95	428	225	652	670	155	11
Delaware.....	917	5				227		612	66	7
Georgia.....	3,530					779	646	2,011	94	
Illinois.....	5,521	23	1,980	66	15	831	441	1,575	39	551
Indiana.....	1,050	99	42	15	190	310		354	23	17
Iowa.....	310	10				115		185		
Maine.....	125	12				7	2	11		93
Maryland.....	1,021					250		735	31	5
Massachusetts.....	7,741	313	310	59	108	1,653	2,155	2,779	84	274
Michigan.....	2,754	106	255	42	50	1,049	559	308	25	350
Minnesota.....	497	19	29		10	255	25	102		57
New Hampshire.....	2,902			1	18	1,168	152	1,345	123	95
New Jersey.....	1,492	225	42	8	250	337	54	356	35	185
New York.....	15,047	990	1,597	200	163	6,209	3,470	527	601	1,290
North Carolina.....	6,365	40	20	22		1,368	318	4,353	274	
Ohio.....	2,068	314	292	2	5	945	162	144	91	113
Pennsylvania.....	44,900	833	1,794	274	806	11,315	5,226	22,523	1,812	377
Rhode Island.....	1,669	14	20		73	542	661	357		2
South Carolina.....	1,375		6			470	48	786	65	
Tennessee.....	3,929	20	158			1,902	597	1,252		
Vermont.....	523	50				247		164		1
Virginia.....	1,304	10	84		100	386	130	450	144	
Wisconsin.....	5,150	191	60	322	57	1,295	408	1,689	203	795
All other states.....	1,581	30	20	5	3	217	15	1,131	46	114
SPRING-BEARD NEEDLE.										
United States.....	17,680	984	1,387	209	1,968	2,188	6,068	3,815	709	372
Connecticut.....	1,428	141	97	3	428	20	599	140		
Georgia.....	295						42	253		
Illinois.....	71	4		24	4	4		21		14
Indiana.....	300	52	42	15	190					1
Massachusetts.....	1,820	89	68	15	89	572	926	16	20	25
Michigan.....	69	5	10			25	29			
New Hampshire.....	32			1	18	10	3			
New Jersey.....	537	24		7	250	19	47	99	11	80
New York.....	4,814	487	911	94	84	275	2,552	120	101	190
North Carolina.....	349	1				11	3	334		
Ohio.....	141	10	19			86	22	4		
Pennsylvania.....	5,072	92	90	48	800	518	953	2,034	517	20
Rhode Island.....	675	7	8		73	19	559	9		
Tennessee.....	240					107	133			
Vermont.....	243	50				131	61			1
Virginia.....	308		78			180				
Wisconsin.....	995	2	25	2	32	284	1	592	20	37
All other states.....	391		39			107	8	193	40	4
LATCH NEEDLE.										
United States.....	97,339	2,516	5,556	902	309	30,080	9,806	40,861	3,292	4,017
Alabama.....	401					136	8	257		
California.....	223	8	101		1	20	22	20		42
Connecticut.....	1,073	27		92		205	53	530	155	11
Delaware.....	917	5				227		612	66	7
Georgia.....	3,235					779	604	1,758	94	
Illinois.....	5,450	19	1,980	42	11	827	441	1,554	39	537
Indiana.....	750	47				310		354	23	16
Iowa.....	260	10				105		145		
Maine.....	125	12				7	2	11		93
Maryland.....	1,020					250		735	31	4
Massachusetts.....	5,921	224	248	44	19	1,081	1,229	2,763	64	249
Michigan.....	2,685	101	246	42	50	1,024	530	308	25	359
Minnesota.....	492	19	25		10	254	25	102		57
New Hampshire.....	2,870					1,158	149	1,345	123	95
New Jersey.....	955	201	42	1		318	7	257	24	105
New York.....	10,233	503	686	106	79	5,934	918	407	500	1,100
North Carolina.....	5,046	39	20	22		1,357	315	4,019	274	
Ohio.....	1,927	304	273	2	5	859	140	140	91	113
Pennsylvania.....	39,888	741	1,704	226	6	10,797	4,273	20,489	1,205	557
Rhode Island.....	994	7	12			523	102	348		2
South Carolina.....	1,369					470	48	786	65	
Tennessee.....	3,689	20	158			1,795	464	1,252		
Vermont.....	280					116		164		
Virginia.....	1,096	10	6		100	386		450	144	
Wisconsin.....	4,155	189	35	320	25	1,011	467	1,077	273	758
All other states.....	1,285	30	20	5	3	122	9	978	6	112

In 1909 Pennsylvania reported nearly two-fifths of the total number of knitting machines, one-half of the circular automatic hosiery machines, and one-third of the circular machines (ribbed and plain combined). New York reported about one-eighth of the total number and one-fifth of the circular (ribbed and plain) machines, but only a small proportion of the automatic circular hosiery machines.

Sewing machines.—Table 29 gives the number of sewing machines employed in the industry in 1909, 1904, and 1899, and shows, by states, the number in 1909.

The total number reported increased 78.9 per cent during the decade 1899–1909. New York and Pennsylvania together reported more than two-thirds of the total for 1909.

Table 29			
STATE.	Sewing machines employed in the hosiery and knit goods industry.	STATE.	Sewing machines employed in the hosiery and knit goods industry.
United States:		Individual states, 1909—	
1909	43,885	Continued.	
1904	30,410	Minnesota	477
1899	24,535	New Hampshire	398
Individual states, 1909:		New Jersey	654
Alabama	115	New York	19,212
California	124	North Carolina	909
Connecticut	859	Ohio	1,380
Delaware	85	Pennsylvania	10,475
Georgia	721	Rhode Island	578
Illinois	813	South Carolina	104
Indiana	298	Tennessee	611
Iowa	13	Utah	190
Maine	8	Vermont	499
Maryland	36	Virginia	837
Massachusetts	2,869	Wisconsin	694
Michigan	830	All other states	96

DETAILED STATE TABLES.

The principal statistics secured by the census inquiry concerning the hosiery and knitting mills are presented, by states, in Tables 30 and 31.

Table 30 shows, for 1909, 1904, and 1899, the number of establishments, number of persons engaged in the

industry, primary horsepower, capital invested, salaries, wages, cost of materials, value of products, and value added by manufacture.

Table 31 gives more detailed statistics for the industry for 1909 only.

MANUFACTURES.

HOSIERY AND KNIT GOODS—COMPARATIVE STATISTICS, BY STATES: 1909, 1904, AND 1899.

Table 30	STATE.	Cen- sus.	Number of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse- power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture (value of products less cost of mate- rials).
				Total.	Proprietors and firm mem- bers.	Salaried em- ployees.	Wage earners (average number).							
	United States.....	1909	1,374	136,130	1,134	5,721	129,275	103,709	\$163,641	\$7,691	\$44,740	\$110,241	\$200,144	\$89,903
		1904	1,144	109,489	1,067	4,330	104,092	78,769	106,943	4,455	31,815	76,789	137,076	60,287
		1899	1,006			2,831	83,691	57,346	82,066	3,138	24,434	51,195	95,834	44,639
	Alabama.....	1909	6	634		23	611	750	627	28	124	314	591	277
		1904	8	531	4	22	505	805	503	18	93	254	460	206
	California.....	1909	6	316	2	46	268	44	515	63	112	200	452	252
		1904	5	263	3	38	222	21	256	36	88	146	357	211
		1899	6	101	3	10	88	10	92	12	31	74	137	63
	Connecticut.....	1909	21	3,524	2	182	3,340	3,540	6,464	324	1,363	3,040	5,801	2,752
		1904	24	3,703	7	102	3,594	3,642	5,815	163	1,305	2,825	5,371	2,546
		1899	25	3,356	12	101	3,243	3,108	6,149	159	1,131	2,203	4,044	1,841
	Delaware.....	1909	4	508	1	15	492	200	289	13	122	282	449	187
		1904	7	352	2	27	323	275	213	18	75	164	296	132
		1899	7	603	2	19	582	246	299	15	123	209	429	220
	Georgia.....	1909	22	2,880	3	134	2,743	2,948	3,270	155	719	1,872	3,233	1,361
		1904	21	2,027	4	88	1,935	2,095	1,947	93	396	1,417	2,326	909
		1899	10	1,254		46	1,208	557	929	39	201	787	1,231	474
	Illinois.....	1909	43	3,141	40	188	2,913	3,452	5,116	221	1,116	3,232	5,047	2,715
		1904	38	2,446	38	66	2,342	2,903	2,903	97	782	2,165	3,730	1,565
		1899	27	1,896	18	46	1,832	815	1,550	67	507	1,286	2,205	919
	Indiana.....	1909	5	2,032		99	1,933	1,393	2,406	178	687	915	2,381	1,466
		1904	5	1,804		84	1,720	1,415	2,215	85	510	1,105	2,105	1,000
		1899	7	2,119		103	2,016	1,360	2,728	201	703	1,200	2,424	1,224
	Maine.....	1909	5	56	7	4	45	69	129	7	15	33	79	46
		1904	*3	61	5		56	2	16		13	18	34	16
		1899	*3	43	6		37		9		7	11	29	18
	Maryland.....	1909	11	1,062	10	30	1,022	460	930	29	234	697	1,172	475
		1904	*4	910	4	39	876	405	639	29	196	531	952	421
		1899	*4	712	2	28	682	160	312	15	119	347	514	167
	Massachusetts.....	1909	65	10,287	37	309	9,941	9,113	12,477	516	3,855	6,972	14,736	7,764
		1904	62	8,417	54	244	8,119	10,390	7,836	318	2,842	5,021	10,095	5,074
		1899	63	6,891	45	167	6,679	6,691	6,306	213	2,097	2,917	6,641	3,724
	Michigan.....	1909	35	2,818	19	254	2,545	3,291	3,735	325	789	2,047	4,029	1,982
		1904	38	3,274	14	175	3,085	2,501	3,284	175	789	1,844	3,624	1,780
		1899	*32	2,714	4	201	2,509	1,456	2,136	188	580	1,459	2,791	1,332
	Minnesota.....	1909	10	1,200	7	141	1,052	853	1,979	187	348	1,086	2,243	1,157
		1904	10	671	5	51	615	310	968	72	190	626	1,203	577
		1899	*8	315	1	21	203	304	484	27	78	197	410	213
	New Hampshire.....	1909	21	3,223	25	69	3,129	2,315	3,530	97	1,143	2,636	4,764	2,128
		1904	*21	2,899	20	89	2,790	2,216	2,759	92	943	2,229	3,974	1,745
		1899	22	2,559	16	51	2,492	2,313	2,525	58	791	1,319	2,593	1,274
	New Jersey.....	1909	37	2,658	34	118	2,506	1,477	3,489	210	903	1,826	3,810	1,984
		1904	28	1,840	26	56	1,758	1,077	1,953	67	539	1,382	2,549	1,167
		1899	25	1,938	15	62	1,861	913	1,993	74	451	1,011	1,782	771
	New York.....	1909	360	37,673	302	1,421	35,950	35,882	52,582	2,042	14,839	38,677	67,180	28,453
		1904	271	30,694	224	1,105	29,365	25,310	35,310	1,284	10,160	28,210	46,320	18,110
		1899	258	27,700	250	824	26,626	21,551	30,307	942	8,998	20,266	30,028	15,762
	North Carolina.....	1909	62	5,361	34	176	5,151	4,924	5,104	185	1,080	3,012	5,152	2,140
		1904	40	3,084	38	102	2,944	2,143	2,081	125	617	1,395	2,484	1,089
		1899	24	1,574	15	64	1,495	1,736	675	40	255	504	1,023	519
	Ohio.....	1909	39	3,412	31	232	3,149	1,613	4,408	391	1,072	3,851	6,493	2,582
		1904	*28	2,649	25	134	2,490	1,221	2,330	146	714	2,177	3,997	1,820
		1899	28	1,504	28	56	1,420	550	1,072	55	356	810	1,585	775
	Pennsylvania.....	1909	464	40,248	509	1,533	38,206	21,797	38,989	1,668	11,760	27,218	49,658	22,440
		1904	377	30,054	506	1,377	28,171	14,749	23,933	1,067	7,901	16,038	30,812	14,774
		1899	327	22,648	376	688	21,584	9,478	15,760	638	5,834	10,936	21,920	10,993
	Rhode Island.....	1909	17	1,849	9	66	1,774	1,629	2,878	147	635	2,444	3,866	1,422
		1904	*15	1,802	9	72	1,721	1,505	2,277	100	574	2,271	3,345	1,074
		1899	18	1,675	13	66	1,596	1,231	2,454	88	470	1,771	2,725	954
	South Carolina.....	1909	7	864	3	22	839	597	755	26	152	334	655	321
		1904	14	1,103	5	40	1,058	890	824	30	187	586	1,079	493
		1899	6	377	3	15	501	359	345	14	74	238	392	164
	Tennessee.....	1909	22	3,229	2	110	3,117	2,758	3,055	125	724	2,120	3,565	1,445
		1904	16	1,855	4	41	1,810	1,052	1,100	41	341	809	1,628	659
		1899	4	523		12	511	212	217	15	78	249	395	146
	Utah.....	1909	11	212	6	32	174	80	311	28	53	292	419	127
		1904	*9	214	4	39	171	25	199	28	48	167	326	159
		1899	5	108	4	13	91	5	53	5	22	24	66	42
	Vermont.....	1909	8	974	7	21	946	902	1,753	44	411	1,089	1,746	657
		1904	11	966	14	36	916	1,351	1,388	42	366	1,216	1,989	770
		1899	14	1,082	9	32	1,041	1,213	1,590	42	390	1,115	1,835	783
	Virginia.....	1909	11	1,780	7	58	1,715	1,079	1,093	88	503	1,467	2,463	996
		1904	14	1,913	11	60	1,842	1,211	1,716	49	430	1,326	2,108	782
		1899	15	1,887	4	38	1,845	1,203	979	36	305	798	1,498	700
	Wisconsin.....	1909	61	4,659	28	349	4,282	2,312	6,183	508	1,579	3,887	7,843	3,956
		1904	50	4,476	18	205	4,253	2,112	4,404	235	1,187	2,298	4,970	2,681
		1899	39	2,881	26	125	2,730	1,169	2,571	150	602	1,186	2,508	1,322
	All other states.....	1909	21	1,530	9	89	1,432	1,074	1,514	96	432	689	1,527	833
		1904	25	1,472	23	38	1,411	639	903	45	289	409	933	524
		1899	23		43	871		564	581	39	146	308	620	312

¹ Figures can not be shown without disclosing individual operations.
² Excluding statistics for two establishments, to avoid disclosure of individual operations.
³ Excluding statistics for one establishment, to avoid disclosure of individual operations.

THE HOSIERY AND KNIT GOODS INDUSTRY.

HOSIERY AND KNIT GOODS—DETAILED STATISTICS, BY STATES: 1909.

Table 31

STATE.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.							WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						
United States..	1,374	136,130	1,134	2,174	2,398	1,149	129,275	No 134,540	Ja 123,308	136,713	37,419	88,183	3,219	7,892	103,709
Alabama.....	6	634	.....	15	6	2	611	De 687	Je 560	645	156	312	60	117	750
California.....	6	316	2	11	26	9	208	Au 1 289	My 248	284	40	242	.....	2	44
Connecticut.....	21	3,524	2	56	98	28	3,340	Je 3,501	Au 2,918	3,493	1,076	2,308	24	85	3,540
Delaware.....	4	508	1	9	3	3	492	My 525	Fe 458	526	89	366	17	54	200
Georgia.....	22	2,880	3	53	64	17	2,743	De 2,897	Ja 2,626	2,897	834	1,596	193	274	2,948
Illinois.....	43	3,141	40	52	103	33	2,913	No 3,091	Ja 2,678	3,137	938	1,987	53	159	3,452
Indiana.....	5	2,032	.....	16	59	24	1,933	No 2,100	Ja 1,782	2,094	550	1,140	186	218	1,398
Iowa.....	4	279	.....	13	9	6	251	Jy 293	Oc 189	248	48	159	10	31	229
Maine.....	5	56	7	2	2	.....	45	Au 52	Mh 38	52	23	27	.....	2	69
Maryland.....	11	1,062	10	15	9	6	1,022	Ja 1,046	Oc 1,002	1,021	192	666	51	112	400
Massachusetts.....	65	10,287	37	110	121	78	9,941	No 10,399	Ja 9,625	10,287	4,284	5,549	128	326	9,113
Michigan.....	35	2,818	19	78	100	70	2,545	No 2,671	Ja 2,237	2,675	560	2,044	21	50	3,291
Minnesota.....	10	1,200	7	28	66	47	1,052	Oc 1,173	Ja 835	949	148	770	2	22	835
New Hampshire.....	21	3,223	25	38	10	21	3,129	No 3,246	Au 3,011	3,302	1,034	2,204	27	87	2,315
New Jersey.....	37	2,658	34	60	44	14	2,506	No 2,780	Ja 2,256	2,767	1,028	1,604	36	99	1,477
New York.....	360	37,673	302	479	655	287	35,950	No 37,244	Ja 33,712	38,419	13,289	24,424	165	541	35,882
North Carolina.....	62	5,361	34	111	50	15	5,151	De 5,292	Ja 4,980	5,411	1,219	2,691	562	939	4,024
Ohio.....	39	3,412	31	84	100	48	3,149	Au 3,427	Ja 2,682	3,371	567	2,578	32	204	1,613
Pennsylvania.....	464	40,248	509	651	883	299	38,206	No 39,911	Fe 36,957	40,326	7,766	28,045	1,124	3,391	21,797
Rhode Island.....	17	1,849	9	28	18	20	1,774	De 1,825	Au 1,711	1,880	374	1,374	9	123	1,626
South Carolina.....	7	864	3	12	8	2	839	Ja 863	No 807	822	293	375	68	86	597
Tennessee.....	22	3,229	2	60	28	22	3,117	Ap 3,101	Mh 3,038	3,261	841	1,878	209	333	2,758
Utah.....	11	212	6	15	8	.....	174	No 223	Ja 125	214	36	175	3	.....	80
Vermont.....	8	974	7	10	7	4	946	No 1,000	Au 863	977	341	631	1	4	962
Virginia.....	11	1,780	7	34	22	2	1,715	De 1,764	Ja 1,633	1,764	579	957	96	132	1,079
Wisconsin.....	61	4,659	28	98	183	68	4,282	De 4,513	Ja 3,938	4,513	797	3,236	69	411	2,312
All other states ¹	17	1,251	9	36	16	9	1,181	.....	.....	1,378	327	839	73	139	845

STATE.	Capital.	EXPENSES.										Value of products.	Value added by manufacture (value of product less cost of material).
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
United States..	\$163,641,171	\$175,729,583	\$4,317,022	\$3,374,435	\$44,740,223	\$1,970,277	\$108,270,776	\$772,606	\$572,735	\$2,158,078	\$9,553,431	\$200,143,527	\$89,902,474
Alabama.....	627,282	598,184	22,180	6,020	124,096	10,653	303,002	622	1,818	.....	39,793	591,000	277,345
California.....	5,165,170	436,250	30,720	32,703	112,261	1,819	197,813	5,443	903	.....	54,597	451,970	252,338
Connecticut.....	6,465,932	5,225,820	158,412	165,825	1,363,148	67,643	2,980,904	13,372	44,370	31,518	400,628	5,800,692	2,752,145
Delaware.....	288,941	427,438	10,803	1,821	122,212	4,152	277,948	.....	760	.....	9,742	448,987	166,887
Georgia.....	3,269,652	2,975,327	81,612	73,578	718,931	61,757	1,810,679	.....	15,428	.....	213,442	3,232,623	1,360,187
Illinois.....	5,115,092	4,938,859	105,179	115,841	1,116,476	56,391	3,175,974	38,128	14,057	38,825	277,086	5,946,737	2,714,372
Indiana.....	2,405,786	1,906,913	73,562	104,409	688,755	20,429	894,204	881	9,743	.....	116,930	2,381,219	1,466,586
Iowa.....	420,276	304,848	18,120	6,426	78,500	6,304	149,241	958	787	.....	44,422	325,500	169,865
Maine.....	128,593	65,357	2,500	4,000	14,621	2,078	30,467	300	353	8,919	2,119	78,586	46,041
Maryland.....	929,500	1,045,892	16,550	12,567	233,819	15,256	681,899	1,560	2,667	40,574	40,970	1,172,325	476,170
Massachusetts.....	12,477,388	12,287,791	309,396	206,677	3,854,828	174,846	6,796,760	28,717	95,290	168,501	652,786	14,736,025	7,764,419
Michigan.....	3,734,803	3,483,550	133,387	191,032	768,956	51,910	1,994,699	13,122	29,374	101,303	198,670	4,029,105	1,982,499
Minnesota.....	1,978,729	1,791,799	50,221	130,318	348,310	17,517	1,068,553	2,450	7,121	.....	161,309	2,242,694	1,156,624
New Hampshire.....	3,529,826	4,157,043	76,137	20,761	1,143,227	35,995	2,599,678	2,690	13,093	128,181	137,281	4,764,119	2,128,440
New Jersey.....	3,489,294	3,048,159	138,865	70,741	903,311	39,254	1,786,624	13,743	8,232	5,658	81,731	3,810,241	1,984,863
New York.....	52,582,240	59,754,254	1,149,844	891,969	14,838,655	648,588	38,028,783	230,545	156,689	692,058	3,117,123	67,130,298	28,452,925
North Carolina.....	5,164,117	4,406,511	136,849	47,874	1,080,410	92,812	2,919,483	4,915	21,625	.....	159,426	5,151,692	2,139,397
Ohio.....	4,407,502	5,760,921	229,642	160,950	1,071,780	37,563	3,813,856	44,033	14,319	32,156	356,622	6,433,431	2,682,012
Pennsylvania.....	38,989,088	43,892,123	992,064	665,889	11,750,386	421,700	26,796,251	276,882	72,816	.....	687,872	49,657,506	22,439,555
Rhode Island.....	2,878,478	3,381,983	85,910	61,338	635,119	29,795	2,414,662	4,936	10,369	7,693	132,161	3,865,792	1,421,335
South Carolina.....	755,398	576,254	19,787	6,010	151,629	13,321	320,549	406	7,510	49,043	7,999	655,340	321,470
Tennessee.....	3,054,790	3,265,867	83,171	41,530	723,756	42,916	2,077,309	4,740	8,808	40,921	236,721	3,565,436	1,445,211
Utah.....	311,224	390,342	16,501	11,479	52,792	3,307	289,066	2,948	1,673	.....	12,576	419,229	129,856
Vermont.....	1,752,780	1,653,483	31,536	12,780	410,770	17,597	1,071,451	15,038	1,686	.....	.....	1,745,670	650,622
Virginia.....	1,093,087	2,219,821	65,233	22,300	503,224	25,727	1,441,409	26,264	5,158	7,807	122,690	2,462,787	985,651
Wisconsin.....	6,183,128	6,698,050	212,663	295,465	1,578,816	59,960	3,827,236	29,592	29,967	107,932	662,419	7,843,380	3,856,193
All other states ²	1,094,415	1,036,765	60,278	13,532	353,435	10,897	522,279	10,321	2,734	.....	63,289	1,201,136	667,960

¹ Same number reported for one or more other months.
² "All other states" embrace: Colorado, 1 establishment; Idaho, 1; Kansas, 1; Kentucky, 2; Louisiana, 1; Mississippi, 1; Missouri, 2; Nebraska, 1; Oregon, 1; Texas, 1; Washington, 3; West Virginia, 2.