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FOURTEENTH CENSUS OF THE UNITED STATES
MANUFACTURES: 1919

CORDAGE AND TWINE, JUTE GOODS, AND LINEN
GOODS; FUR-FELT HATS; DYEING AND FINISHING
TEXTILES; FLAX AND HEMP, DRESSED;
HAIRCLOTH; AND MATS AND MATTING

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures

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EXPLANATION OF TERMS.

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 statistics for these purposes it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or for which products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1919, 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 factory, 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, county, or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, 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 different from those covered by the class designation, and, on the other hand, may not represent the total product covered by this designation, because some products of this class may be made in establishments in which it is not the product of chief value.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1919 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.—The following general classes of persons engaged in the 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.

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. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date did not portray such conditions, an earlier date was requested.

In the case of employees other than wage earners the number thus reported for the representative date 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 has been 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 the representative date, a report was obtained of the number employed on the 15th of each month, by sex, without distinction of 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 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 number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined, because, in view of the variations of data, such a total is not believed to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In order to determine as nearly as possible the age distribution of the average number of wage earners for an industry, the per cent distribution by age of the wage earners for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year to determine the average numbers 16 years and over, and under 16, employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calcu-

late accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners 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 few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital (amount actually invested).—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."

These instructions were identical with those employed at the censuses of 1914 and 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

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" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include certain Federal taxes and state, county, and local taxes. Under "Federal taxes" there are included the internal revenue tax on manufactures (tobacco, beverages, etc.), excise taxes when included in values reported for products, corporation capital stock tax, and corporation income tax, but not the income tax for individuals and partners.

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.

Value added by manufacture.—The value of products is not always 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, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated 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.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power equipment of the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, fuel oils, gasoline and other volatile oils, and gas, and represent the quantity used during the year. As only the principal kinds of fuel are shown, comparison as to the total cost of all fuel is impracticable.

CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS.

By ARTHUR J. LECK.

GENERAL STATISTICS.

General character of the industry.—The statistics presented in this report cover the operations of three classes of establishments, distinguished with respect to their primary products and designated as follows: (1) Cordage and twine; (2) jute goods; and (3) linen goods.

A large quantity of cordage and twine, more especially binder twine, is manufactured in penal institutions; but such institutions were not required to file returns, and their operations are not included in this report except for the quantity and value of products reported by establishments that furnished materials and had the work done by such institutions on a contract basis.

Importance and growth of the industry.—The progress of the industry from 1899 to 1919 is shown in Table 1, combined as one industry, with separate statistics for each branch. The cordage and twine unit is the largest of the three and in 1919 employed 66.1 per cent of the average number of wage earners, and reported 76.3 per cent of the value of products for the group. A detailed account of the items presented in this table will be found in the succeeding tables.

Principal states, ranked by value of products.—Measured by value of products, Massachusetts was the leading state in 1919 in the manufacture of cordage and twine, jute goods, and linen goods, as shown in Table 2. During that year the combined value of products for the three states—Massachusetts, New York, and New Jersey—formed over one-half of the total output in the United States.

There are states which rank higher in value of products than some that are shown in the table, but data for such states could not be presented without disclosing the operations of individual establishments.

Persons engaged in the industry.—Table 3 shows comparative statistics for 1919, 1914, and 1909 with reference to the number of persons, both male and female, engaged in the industry.

Wage earners, by months, for selected states.—A monthly account of the number of wage earners employed in the industry is given in Table 4 according to the principal states.

Prevailing hours of labor.—Table 5 shows the changes which have taken place in five years with respect to the number of hours of employment for the industry in the United States and for selected states during 1919.

Size of establishments, by average number of wage earners.—Table 6 gives the distribution of the number of wage earners, by states, for 1919 and comparatively for the United States for 1919 and 1914, showing a slight deflection in the total employed in the industry in 1919.

Size of establishments, by value of products.—Table 7 reveals the fact that 81.2 per cent of the total value of products for the industry, in 1919, was manufactured by less than one-fourth of the total number of establishments. Figures are also shown for 1914 and 1909.

Character of ownership.—The corporate form of ownership largely predominated in this industry, figures for which are shown in Table 8 for the years 1919, 1914, and 1909.

Number and horsepower of types of prime movers.—The types of prime movers are shown in Table 9, with number of engines or motors and horsepower for each kind of power used in 1919.

Fuel consumed, by states.—Statistics on the quantity of various kinds of fuel used in the industry during 1919 are shown in Table 10.

MANUFACTURES.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, AND 1899.

	1919	1914	1909	1904	1899	PER CENT OF INCREASE. ¹			
						1914-1919	1909-1914	1904-1909	1899-1904
CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS.									
Number of establishments.....	156	160	151	133	141	-2.5	6.0	13.5	-5.7
Persons engaged.....	28,889	28,909	26,193	25,554	21,644	-0.1	10.4	2.5	18.1
Proprietors and firm members.....	42	57	72	54	100				
Salaried employees.....	2,197	1,529	1,265	992	641	43.7	21.8	26.5	54.8
Wage earners (average number).....	26,650	27,323	24,866	24,508	20,903	-2.5	9.9	1.5	17.2
Primary horsepower.....	104,847	93,937	77,091	65,984	47,733	11.6	21.9	16.8	38.2
Capital.....	\$149,112,423	\$98,561,044	\$73,552,315	\$54,423,531	\$41,991,762	51.3	34.0	35.1	29.6
Salaries and wages.....	28,230,830	13,886,970	10,628,783	10,075,517	7,288,931	103.3	30.7	5.5	38.2
Salaries.....	5,458,841	2,445,247	1,785,541	1,494,732	957,190	123.2	37.0	19.5	56.2
Wages.....	22,771,989	11,441,723	8,843,242	8,580,785	6,331,741	99.0	29.4	3.1	35.5
Paid for contract work.....	323,358	21,810	13,375	253,944	26,118				
Rent and taxes.....	7,001,979	701,740	575,849	2,465,129	2,381,423	983.3	21.9	23.8	21.9
Cost of materials.....	111,604,303	60,474,417	39,536,892	44,890,546	32,197,885	84.5	53.0	-11.9	39.4
Value of products.....	174,807,220	83,235,068	59,121,989	62,939,329	47,601,607	110.0	40.8	-6.1	32.2
Value added by manufacture ²	63,202,917	22,760,661	19,585,097	18,048,783	15,403,722	177.7	16.2	8.5	17.2
CORDAGE AND TWINE.									
Number of establishments.....	120	105	112	102	105	14.3	-6.3	9.8	-2.9
Persons engaged.....	10,232	16,849	15,559	15,396	13,627	14.1	8.3	1.1	13.0
Proprietors and firm members.....	29	38	61	51	77				
Salaried employees.....	1,581	1,042	869	731	436	51.7	19.9	18.9	67.7
Wage earners (average number).....	17,622	15,769	14,629	14,614	13,114	11.8	7.8	0.1	11.4
Primary horsepower.....	66,643	55,377	47,269	41,041	33,657	20.3	17.2	15.2	21.9
Capital.....	\$100,248,987	\$72,472,169	\$52,304,938	\$37,110,521	\$29,275,470	38.3	38.6	40.9	26.8
Salaries and wages.....	18,715,562	8,624,886	6,505,512	6,338,038	4,780,048	117.0	32.6	2.6	32.6
Salaries.....	4,015,501	1,629,290	1,201,122	999,860	666,936	146.5	35.6	20.1	49.9
Wages.....	14,700,061	6,995,596	5,304,390	5,338,178	4,113,112	110.1	31.9	-0.6	29.8
Paid for contract work.....	276,617	1,455	13,375	252,472	3,721				
Rent and taxes.....	6,235,378	457,018	313,892	2,256,513	2,223,604	1,264.4	45.6	22.4	14.7
Cost of materials.....	89,705,282	43,605,473	29,315,402	36,095,747	26,632,006	105.7	48.7	-18.8	35.5
Value of products.....	133,366,476	59,761,486	41,941,541	48,017,139	37,849,651	123.2	42.5	-12.7	26.9
Value added by manufacture ²	43,661,194	16,156,013	12,626,139	11,921,392	11,217,645	170.2	28.0	5.9	6.3
JUTE GOODS.									
Number of establishments.....	26	34	24	16	18				
Persons engaged.....	7,587	8,307	6,901	6,238	4,600	-8.7	20.4	10.6	35.4
Proprietors and firm members.....	13	17	10	3	12				
Salaried employees.....	430	303	227	152	88	43.9	33.5	49.3	72.7
Wage earners (average number).....	7,138	7,987	6,664	6,083	4,506	-10.6	10.9	9.6	35.0
Primary horsepower.....	32,135	28,628	20,993	18,810	8,191	12.3	36.4	11.6	129.6
Capital.....	\$41,335,845	\$17,279,006	\$13,789,951	\$11,019,132	\$7,027,293	139.2	25.3	25.1	56.8
Salaries and wages.....	7,550,301	3,575,314	2,701,172	2,248,027	1,329,103	111.2	32.4	20.2	69.1
Salaries.....	1,114,015	515,304	375,531	330,041	147,313	116.2	37.2	13.8	124.0
Wages.....	6,436,286	3,060,010	2,325,641	1,917,986	1,181,790	110.3	31.6	21.3	62.3
Paid for contract work.....	46,741	19,781			22,397				
Rent and taxes.....	1,194,102	164,801	204,120	2,159,342	2,080,004	624.0	-19.3	28.1	62.6
Cost of materials.....	17,708,834	12,579,840	6,254,918	5,054,130	3,015,362	40.8	101.1	23.8	67.6
Value of products.....	34,442,698	16,513,874	10,795,230	9,065,802	5,383,797	108.6	53.0	19.1	68.4
Value added by manufacture ²	16,733,864	3,934,034	4,540,312	4,011,672	2,368,435	325.4	-13.4	13.2	69.4
LINEN GOODS.									
Number of establishments.....	10	21	15	15	18				
Persons engaged.....	2,070	3,753	3,733	3,920	3,411	-44.8	0.5	-4.8	14.9
Proprietors and firm members.....	2	2	1		11				
Salaried employees.....	180	184	159	109	117	-2.2	15.7	45.9	-6.8
Wage earners (average number).....	1,890	3,567	3,573	3,811	3,283	-47.0	-0.2	-6.2	16.1
Primary horsepower.....	6,069	9,932	8,829	6,133	5,885	-38.9	12.5	44.0	4.2
Capital.....	\$7,527,596	\$8,809,899	\$7,457,426	\$6,293,878	\$5,688,999	-14.6	18.1	18.5	10.6
Salaries and wages.....	1,964,967	1,686,770	1,422,099	1,489,452	1,179,780	16.5	18.6	-4.5	26.2
Salaries.....	329,325	300,653	208,888	164,831	142,941	9.5	43.9	26.7	15.3
Wages.....	1,635,642	1,386,117	1,213,211	1,324,621	1,036,839	18.0	14.3	-8.4	27.8
Paid for contract work.....		574		1,522					
Rent and taxes.....	172,499	79,921	57,837	2,49,274	2,59,815	115.8	38.2	17.4	-17.6
Cost of materials.....	4,190,187	4,239,104	3,960,572	3,740,669	2,550,517	-2.3	8.1	6.0	46.7
Value of products.....	6,908,046	6,959,708	6,385,218	5,856,388	4,368,159	0.6	9.0	9.0	34.1
Value added by manufacture ²	2,807,859	2,670,604	2,418,646	2,115,719	1,817,642	5.1	10.4	14.3	16.4

¹ A minus sign (-) denotes decrease. Percentages are not shown where base is less than 100, or where figures are not strictly comparable.² Exclusive of internal revenue.³ Value of products less cost of materials.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States.....	156	26,650	100.0	....	\$174,807	100.0	....	\$63,203	100.0	....	Alabama.....	4	475	1.8	11	\$2,231	1.3	11	\$650	1.0	12
Massachusetts.....	19	6,850	25.7	1	47,151	27.0	1	17,561	27.8	1	Connecticut.....	9	348	1.3	14	1,933	1.1	12	495	0.8	13
New York.....	22	4,791	18.0	2	31,154	17.8	2	11,999	18.9	2	Kentucky.....	4	469	1.8	12	1,844	1.1	13	902	1.4	11
New Jersey.....	9	3,034	11.4	3	17,442	10.0	4	6,220	9.8	4	Rhode Island.....	5	125	0.5	18	645	0.4	21	195	0.3	21
Pennsylvania.....	27	2,763	10.4	4	14,302	8.2	5	6,101	9.7	5	All other states.....	57	7,795	29.2	68,045	38.2	19,110	30.2

CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS.

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TABLE 3.—PERSONS ENGAGED IN THE INDUSTRIES: 1919, 1914, AND 1909.

CLASS.	Cen- sus year.	Total.	Male.	Fe- male.	PER CENT OF TOTAL.		CLASS.	Cen- sus year.	Total.	Male.	Fe- male.	PER CENT OF TOTAL.	
					Male.	Fe- male.						Male.	Fe- male.
CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS.													
Total.....	1919	28,880	16,112	12,777	55.8	44.2	Total.....	1919	7,587	3,577	4,010	47.1	52.9
	1914	28,909	15,879	13,030	54.9	45.1		1914	8,307	4,075	4,232	49.1	50.9
	1909	26,193	14,201	11,992	54.6	45.4		1909	6,901	3,188	3,715	46.2	53.8
Proprietors and officials.....	1919	892	870	22	97.5	2.5	Proprietors and officials.....	1919	149	148	1	99.3	0.7
	1914	546	535	11	98.0	2.0		1914	115	113	2	98.3	1.7
	1909	442	430	12	97.3	2.7		1909	64	63	1	98.4	1.6
Proprietors and firm members...	1919	42	40	2	95.2	4.8	Proprietors and firm members...	1919	13	13	.....	100.0	.....
	1914	57	54	3	94.7	5.3		1914	17	16	1	94.1	5.9
	1909	72	64	8	88.9	11.1		1909	10	10	.....	100.0	.....
Salaried officers of corporations..	1919	214	206	8	96.3	3.7	Salaried officers of corporations..	1919	29	28	1	96.6	3.4
	1914	176	169	7	96.0	4.0		1914	38	37	1	97.4	2.6
	1909	145	141	4	97.2	2.8		1909	22	21	1	95.5	4.5
Superintendents and managers..	1919	636	624	12	98.1	1.9	Superintendents and managers..	1919	107	107	.....	100.0	.....
	1914	313	312	1	99.7	0.3		1914	60	60	.....	100.0	.....
	1909	225	225	.....	100.0	.....		1909	32	32	.....	100.0	.....
Clerks and other subordinate salaried employees.	1919	1,347	837	510	62.1	37.9	Clerks and other subordinate salaried employees.	1919	300	189	111	63.0	37.0
	1914	1,040	747	293	71.8	28.2		1914	205	158	47	77.1	22.9
	1909	885	676	209	76.4	23.6		1909	173	137	36	79.2	20.8
Wage earners (average number).....	1919	26,650	14,405	12,245	54.1	45.9	Wage earners (average number).....	1919	7,138	3,240	3,898	45.4	54.6
	1914	27,323	14,597	12,726	53.4	46.6		1914	7,987	3,804	4,183	47.6	52.4
	1909	24,866	13,185	11,681	53.0	47.0		1909	6,664	2,986	3,678	44.8	55.2
16 years of age and over.....	1919	25,795	14,002	11,793	54.3	45.7	16 years of age and over.....	1919	6,894	3,136	3,758	45.5	54.5
	1914	26,195	14,153	12,042	54.0	46.0		1914	7,714	3,657	4,057	47.4	52.6
	1909	23,267	12,315	10,952	52.9	47.1		1909	6,281	2,765	3,516	44.0	56.0
Under 16 years of age.....	1919	855	403	452	47.1	52.9	Under 16 years of age.....	1919	244	104	140	42.6	57.4
	1914	1,128	444	684	39.4	60.6		1914	273	147	126	53.8	46.2
	1909	1,599	870	729	54.4	45.6		1909	383	221	162	57.7	42.3
LINEN GOODS.													
Total.....	1919	2,070	998	1,072	48.2	51.8	Total.....	1919	2,070	998	1,072	48.2	51.8
	1914	3,753	1,538	2,215	41.0	59.0		1914	3,753	1,538	2,215	41.0	59.0
	1909	3,733	1,644	2,089	44.0	56.0		1909	3,733	1,644	2,089	44.0	56.0
Proprietors and officials.....	1919	44	42	2	95.5	4.5	Proprietors and officials.....	1919	44	42	2	95.5	4.5
	1914	58	58	.....	100.0	.....		1914	58	58	.....	100.0	.....
	1909	47	47	.....	100.0	.....		1909	47	47	.....	100.0	.....
Proprietors and firm members...	1919	2	2	.....	100.0	.....	Proprietors and firm members...	1919	2	2	.....	100.0	.....
	1914	1	1	.....	100.0	.....		1914	1	1	.....	100.0	.....
	1909	.....	.....	.....	.....	.....		1909	.....	.....	.....	.....	.....
Salaried officers of corporations..	1919	11	11	.....	100.0	.....	Salaried officers of corporations..	1919	11	11	.....	100.0	.....
	1914	17	17	.....	100.0	.....		1914	17	17	.....	100.0	.....
	1909	15	15	.....	100.0	.....		1909	15	15	.....	100.0	.....
* Superintendents and managers..	1919	33	31	2	93.9	6.1	* Superintendents and managers..	1919	33	31	2	93.9	6.1
	1914	30	30	.....	100.0	.....		1914	30	30	.....	100.0	.....
	1909	31	31	.....	100.0	.....		1909	31	31	.....	100.0	.....
Clerks and other subordinate salaried employees.	1919	136	73	63	53.7	46.3	Clerks and other subordinate salaried employees.	1919	136	73	63	53.7	46.3
	1914	128	97	31	75.8	24.2		1914	128	97	31	75.8	24.2
	1909	113	90	23	79.6	20.4		1909	113	90	23	79.6	20.4
Wage earners (average number).....	1919	1,890	883	1,007	46.7	53.3	Wage earners (average number).....	1919	1,890	883	1,007	46.7	53.3
	1914	3,557	1,883	2,184	38.8	61.2		1914	3,557	1,883	2,184	38.8	61.2
	1909	3,573	1,507	2,066	42.2	57.8		1909	3,573	1,507	2,066	42.2	57.8
16 years of age and over.....	1919	1,728	820	908	47.5	52.5	16 years of age and over.....	1919	1,728	820	908	47.5	52.5
	1914	3,360	1,813	2,047	39.1	60.9		1914	3,360	1,813	2,047	39.1	60.9
	1909	3,192	1,848	1,844	42.2	57.8		1909	3,192	1,848	1,844	42.2	57.8
Under 16 years of age.....	1919	162	63	99	38.9	61.1	Under 16 years of age.....	1919	162	63	99	38.9	61.1
	1914	207	70	137	33.8	66.2		1914	207	70	137	33.8	66.2
	1909	381	159	222	41.7	58.3		1909	381	159	222	41.7	58.3
CORDAGE AND TWINE.													
Total.....	1919	19,232	11,537	7,695	60.0	40.0	Total.....	1919	19,232	11,537	7,695	60.0	40.0
	1914	16,849	10,260	6,589	60.9	39.1		1914	16,849	10,260	6,589	60.9	39.1
	1909	15,559	9,461	6,098	60.8	39.2		1909	15,559	9,461	6,098	60.8	39.2
Proprietors and officials.....	1919	699	680	19	97.3	2.7	Proprietors and officials.....	1919	699	680	19	97.3	2.7
	1914	373	364	9	97.6	2.4		1914	373	364	9	97.6	2.4
	1909	331	320	11	96.7	3.3		1909	331	320	11	96.7	3.3
Proprietors and firm members...	1919	29	27	2	93.1	6.9	Proprietors and firm members...	1919	29	27	2	93.1	6.9
	1914	38	36	2	94.7	5.3		1914	38	36	2	94.7	5.3
	1909	61	53	8	86.9	13.1		1909	61	53	8	86.9	13.1
Salaried officers of corporations..	1919	174	167	7	96.0	4.0	Salaried officers of corporations..	1919	174	167	7	96.0	4.0
	1914	121	115	6	95.0	5.0		1914	121	115	6	95.0	5.0
	1909	108	105	3	97.2	2.8		1909	108	105	3	97.2	2.8
Superintendents and managers..	1919	496	486	10	98.0	2.0	Superintendents and managers..	1919	496	486	10	98.0	2.0
	1914	214	213	1	99.5	0.5		1914	214	213	1	99.5	0.5
	1909	162	162	.....	100.0	.....		1909	162	162	.....	100.0	.....
Clerks and other subordinate salaried employees.	1919	911	575	336	63.1	36.9	Clerks and other subordinate salaried employees.	1919	911	575	336	63.1	36.9
	1914	707	492	215	69.6	30.4		1914	707	492	215	69.6	30.4
	1909	599	449	150	75.0	25.0		1909	599	449	150	75.0	25.0
Wage earners (average number).....	1919	17,622	10,282	7,340	58.3	41.7	Wage earners (average number).....	1919	17,622	10,282	7,340	58.3	41.7
	1914	15,709	9,410	6,359	59.7	40.3		1914	15,709	9,410	6,359	59.7	40.3
	1909	14,629	8,692	5,937	59.4	40.6		1909	14,629	8,692	5,937	59.4	40.6
16 years of age and over.....	1919	17,173	10,046	7,127	58.5	41.5	16 years of age and over.....	1919	17,173	10,046	7,127	58.5	41.5
	1914	15,121	9,183	5,938	60.7	39.3		1914	15,121	9,183	5,938	60.7	39.3
	1909	13,794	8,202	5,592	59.5	40.5		1909	13,794	8,202	5,592	59.5	40.5
Under 16 years of age.....	1919	449	230	213	52.6	47.4	Under 16 years of age.....	1919	449	230	213	52.6	47.4
	1914	648	227	421	35.0	65.0		1914	648	227	421	35.0	65.0
	1909	835	490	345	58.7	41.3		1909	835	490	345	58.7	41.3

CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS.

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TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
All classes.....	156	160	151	26,650	27,323	24,866	\$174,807,220	\$83,235,068	\$59,121,989	\$63,202,917	\$22,760,651	\$19,585,097
Less than \$5,000.....	6	9	10	5	13	18	11,391	21,339	28,425	4,518	6,442	12,848
\$5,000 to \$20,000.....	5	19	17	13	144	113	51,668	221,076	193,533	31,028	58,558	80,208
\$20,000 to \$100,000.....	23	43	45	395	1,208	1,373	1,364,945	2,460,287	2,601,938	515,688	747,510	902,443
\$100,000 to \$500,000.....	66	59	67	3,755	9,517	11,215	17,324,238	13,554,247	23,153,709	6,299,144	7,124,154	7,847,180
\$500,000 to \$1,000,000.....	19	12	12	2,635	10,441	12,147	14,079,250	9,451,123	33,144,384	4,880,357	14,823,987	10,742,418
\$1,000,000 and over.....	37	18	12	10,847	10,441	12,147	141,975,728	57,526,946	33,144,384	51,472,282	14,823,987	10,742,418
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	3.8	5.6	6.6	(1)	(1)	0.1	(1)	(1)	0.3	(1)	(1)	0.1
\$5,000 to \$20,000.....	3.2	11.9	11.3	(1)	0.5	0.5	(1)	0.3	4.4	0.8	3.3	0.4
\$20,000 to \$100,000.....	14.7	26.9	29.8	1.5	4.4	5.5	0.8	3.0	4.4	10.0	31.3	40.1
\$100,000 to \$500,000.....	42.3	36.9	44.4	14.1	34.8	45.1	9.9	16.3	39.2	7.7	65.1	54.8
\$500,000 to \$1,000,000.....	12.2	7.5	7.9	9.9	60.2	48.8	8.1	11.4	56.1	81.4	65.1	54.8
\$1,000,000 and over.....	23.7	11.2	7.9	74.5	60.2	48.8	81.2	69.1	56.1	81.4	65.1	54.8

1 Less than one-tenth of 1 per cent.

TABLE 8.—CHARACTER OF OWNERSHIP: 1919, 1914, AND 1909.

CHARACTER OF OWNERSHIP.	Cen- sus year.	Number of estab- lish- ments.	Average number of wage earners.	Value of products.	Value added by manu- facture.	CHARACTER OF OWNERSHIP.	Cen- sus year.	Number of estab- lish- ments.	Average number of wage earners.	Value of products.	Value added by manu- facture.
All classes	1919 1914 1909	156 160 151	26,650 27,323 24,866	\$174,807,220 83,235,068 59,121,989	\$63,202,917 22,760,651 19,685,097	Per cent distribution:					
Individual.....	1919 1914 1909	27 33 30	730 780 509	3,832,515 1,997,745 1,002,207	1,323,247 732,431 305,449	Individual.....	1919 1914 1909	..... ..... .....	2.7 2.9 2.0	2.2 2.4 1.7	2.1 3.2 1.6
Corporation	1919 1914 1909	120 114 105	22,891 22,841 23,771	155,904,910 72,823,954 56,948,240	54,564,677 20,254,969 18,807,493	Corporation	1919 1914 1909	..... ..... .....	85.9 83.6 95.6	89.2 87.5 95.3	86.3 89.0 96.0
All other	1919 1914 1909	9 13 16	3,029 3,702 586	15,000,795 8,413,369 1,171,542	7,314,993 1,773,251 472,155	All other	1919 1914 1909	..... ..... .....	11.4 13.5 2.4	8.6 10.1 2.0	11.6 7.8 2.4

TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919.

POWER.	Number of en- gines or motors.	HORSEPOWER.		POWER.	Number of en- gines or motors.	HORSEPOWER.	
		Amount.	Per cent distribu- tion.			Amount.	Per cent distribu- tion.
Primary power, total.....	1,659	104,847	100.0	Primary power, total—Continued,	1,417	26,893	25.6
Owned.....	242	77,954	74.4	Rented.....	1,417	26,806	25.6
Steam.....	162	58,331	55.6	Electric.....	1,417	87	0.1
Engines.....	147	47,489	45.3	Other.....	2,132	51,183	100.0
Turbines.....	15	10,842	10.3	Electric.....	1,417	26,806	52.4
Internal-combustion engines.....	19	778	0.7	Rented.....	715	24,377	47.6
Water wheels and turbines.....	61	18,845	18.0	Generated by establishments reporting.....			

TABLE 10.—FUEL CONSUMED, BY STATES: 1919.

STATE.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (bar- rels).	Gasoline and other volatile oils (bar- rels).	Gas (1,000 cubic feet).	STATE.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (bar- rels).	Gasoline and other volatile oils (bar- rels).	Gas (1,000 cubic feet).
	Anthra- cite (tons, 2,240 pounds).	Bitu- minous (tons, 2,000 pounds).						Anthra- cite (tons, 2,240 pounds).	Bitu- minous (tons, 2,000 pounds).				
United States.....	57,028	161,725	17,408	19,742	280	58,406	New Jersey.....	28,383	3,701				781
Alabama.....		7,652					New York.....	11,252	20,715			30	
Connecticut.....	293	590					North Carolina.....		5,385				35
Kentucky.....		4,041					Pennsylvania.....	11,682	13,277		325		
Massachusetts.....	5,388	17,930	17,408	46	26	12	Rhode Island.....	30	250				
							All other.....		87,584		19,371	200	57,578

SPECIAL STATISTICS.

Detailed statistics of quantity and cost of materials.—The quantity and cost of materials used in the manufacture of cordage and twine, jute goods, and linen goods are shown in Table 11 for 1919, 1914, and 1909.

All hard fibers used in the manufacture of cordage and twine are imported, and form the most important raw materials of the industry. Manila hemp, a

native of the Philippines, is not the true hemp and is more properly, but not as commonly, called abacá. Other hard fiber materials of the industry are henequen (sisal from Mexico and Cuba), New Zealand hemp, sisal (from Africa, the Bahamas, Hawaii, and Java), istle or Tampico fiber, Maguey, Mauritius hemp, etc. The soft fibers used were both foreign and domestic, and the cotton was largely domestic.

TABLE 11.—MATERIALS USED IN THE MANUFACTURE OF CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS: 1919, 1914, AND 1909.

MATERIAL.	1919	1914	1909	MATERIAL.	1919	1914	1909
Total cost.....	\$111,604,303	\$60,474,417	\$39,536,892	Soft fibers—Continued.			
Hard fibers:				Jute butts—			
Pounds.....	427,932,476	437,330,084	352,683,572	Pounds.....	50,612,168	114,389,155	138,364,122
Cost.....	\$58,578,509	\$28,576,735	\$20,022,108	Cost.....	\$2,991,490	\$3,535,552	\$2,033,176
Manila hemp (abacá)—				Flax and flax tow—			
Pounds.....	122,736,510	99,519,803	131,611,993	Pounds.....	12,787,660	24,717,598	20,954,785
Cost.....	\$22,085,814	\$9,395,431	\$8,396,980	Cost.....	\$5,796,554	\$3,205,975	\$3,174,609
New Zealand hemp—				Hemp and hemp tow—			
Pounds.....	28,391,553	9,672,195	2,091,217	Pounds.....	14,930,337	22,752,353	19,724,070
Cost.....	\$4,251,900	\$579,322	\$115,942	Cost.....	\$2,433,502	\$1,861,817	\$1,496,125
Henequen—				Other soft fibers—			
Pounds.....	159,780,297	281,189,993		Pounds.....	1,432,288	48,174,653	(1)
Cost.....	\$23,351,203	\$15,736,496	203,848,581	Cost.....	\$159,740	\$932,339	(1)
Sisal—				Cotton:			
Pounds.....	30,608,827	38,982,642	\$10,917,326	Pounds.....	31,685,111	32,336,685	27,624,400
Cost.....	\$4,740,344	\$2,471,640		Cost.....	\$8,536,832	\$3,453,348	\$2,922,933
Other hard fibers—				Yarns purchased:			
Pound.....	86,415,289	7,966,051	15,131,781	Cotton—			
Cost.....	\$4,149,188	\$393,846	\$591,860	Pounds.....	7,950,240	7,968,054	7,077,959
Soft fibers:				Cost.....	\$4,081,394	\$1,458,159	\$1,291,599
Pounds.....	205,961,862	338,345,841	307,035,404	Flax, hemp, jute, and ramie—			
Cost.....	\$23,003,914	\$18,273,553	\$10,838,175	Pounds.....	5,520,126	6,269,660	2,676,367
Jute—				Cost.....	\$1,861,781	\$765,444	\$445,378
Pounds.....	126,190,459	128,312,032	121,992,427	All other materials.....	\$15,541,873	\$7,947,178	\$4,016,699
Cost.....	\$11,622,610	\$8,787,870	\$4,134,265				

¹ Not reported in 1909.

Detailed statistics of quantity and value of products.—Table 12 gives the quantity and value of the various products of the industry for 1919, 1914, and 1909.

Nearly one-third of the total value of products for the combined industry in 1919 was for the manufacture of rope, cable, and cordage, made chiefly from manila hemp. Binder twine was the second item of note, measured by value of product, the largest quantity of which was made from sisal, including henequen sisal. The higher priced and better grades of binder twine were made from manila hemp, and "all other" was made chiefly from New Zealand hemp. A considerable quantity of binder twine is

made annually in penal institutions but the statistics presented in this table do not include the production of such establishments only as explained in the foregoing paragraph relating to the general character of the industry.

Table 13 gives the total quantity and value of the cotton twine, and cordage and rope made in the United States, by states for 1919 and 1914.

The source of the largest production of cotton twine, cordage and rope was in mills engaged chiefly in the manufacture of cotton yarn and assigned to the cotton-goods industry, which in 1919 amounted to 17,622,902 pounds, valued at \$8,142,490.

CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS.

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TABLE 12.—PRODUCTS OF THE CORDAGE AND TWINE, JUTE-GOODS, AND LINEN-GOODS INDUSTRIES: 1919, 1914, AND 1909.

PRODUCT.	1919	1914	1909	PRODUCT.	1919	1914	1909
Total value.....	\$174,807,220	\$33,235,068	\$50,121,989	Twine, other than binder—Contd.			
Rope, cable, and cordage:				Cotton—			
Pounds.....	225,658,614	198,400,692	239,031,893	Pounds.....	23,433,440	17,927,286	20,412,631
Value.....	\$55,369,664	\$21,530,858	\$19,850,635	Value.....	\$12,283,755	\$3,472,050	\$3,518,036
Manila hemp—				Jute—			
Pounds.....	130,418,220	104,909,172	125,789,435	Pounds.....	52,398,422	55,282,159	35,516,217
Value.....	\$32,009,929	\$12,860,035	\$10,719,269	Value.....	\$10,904,108	\$5,263,357	\$2,557,744
Marine cordage—				Hemp—			
Pounds.....	79,152,020	(2)	(2)	Pounds.....	7,988,085	9,318,771	8,013,349
Value.....	\$20,538,519	(2)	(2)	Value.....	\$3,864,311	\$1,583,354	\$1,061,291
Hardware rope—				Flax—			
Pounds.....	13,236,497	(2)	(2)	Pounds.....	84,415	3,953,622	2,967,053
Value.....	\$2,906,139	(2)	(2)	Value.....	\$113,830	\$1,051,684	\$330,969
Drilling cable—				Other, including mixed—			
Pounds.....	10,853,867	(2)	(2)	Pounds.....	8,440,668	18,767,539	8,907,403
Value.....	\$2,640,079	(2)	(2)	Value.....	\$3,158,581	\$2,621,071	\$936,312
Transmission rope—				Yarns for sale:			
Pounds.....	3,347,125	(2)	(2)	Pounds.....	60,483,739	75,875,322	68,731,258
Value.....	\$808,987	(2)	(2)	Value.....	\$13,288,394	\$3,320,186	\$5,434,037
Other commercial and bolt				Jute—			
ropes—				Pounds.....	56,407,631	69,827,005	62,512,247
Pounds.....	23,828,702	(2)	(2)	Value.....	\$11,687,402	\$7,357,888	\$4,361,550
Value.....	\$5,116,205	(2)	(2)	Other—			
Sisal—				Pounds.....	4,076,108	6,048,317	6,219,011
Pounds.....	26,250,565	39,808,873	64,165,218	Value.....	\$1,700,992	\$962,298	\$1,072,487
Value.....	\$1,802,058	\$2,991,141	\$4,245,723	Linen thread:			
Henequen—				Pounds.....	4,279,264	5,707,668	6,530,503
Pounds.....	10,327,138	13,533,529	16,760,763	Value.....	\$6,690,440	\$3,409,136	\$3,407,008
Value.....	\$3,110,903	\$1,042,457	\$3,011,613	Woven goods:			
Cotton—				Linen—			
Pounds.....	11,947,094	13,244,198	27,749,512	Square yards.....	14,341,720	10,799,628	10,460,993
Value.....	\$6,119,785	\$2,539,006	\$1,566,160	Value.....	\$3,795,974	\$1,765,798	\$1,574,553
Jute—				Jute—			
Pounds.....	29,678,806	28,814,020	4,566,965	Carpets and rugs—			
Value.....	\$6,252,295	\$2,097,319	\$307,870	Square yards.....	2,288,270	4,862,302	2,206,114
All other—				Value.....	\$1,600,677	\$1,172,257	\$540,221
Pounds.....	11,030,731	285,337,047	3,200,596	Bagging for baling cotton—			
Value.....	\$3,074,694	\$22,457,054	\$192,036	Square yards.....	75,204,744	131,827,658	69,311,288
Binder twine:				Value.....	\$11,339,670	\$6,440,594	\$3,507,482
Pounds.....	229,508,186	302,286,862	189,172,151	Other bags and bagging—			
Value.....	\$46,256,024	\$21,094,565	\$14,079,671	Square yards.....	3,554,323	(2)	(2)
All or chiefly manila hemp				Value.....	\$666,837	(2)	(2)
(abaca)—				Webbing (not over 12 in.			
Pounds.....	9,286,584	16,948,915	24,380,247	width)—			
Value.....	\$2,285,608	\$1,637,511	\$2,173,078	Linear yards.....	25,417,400	(2)	(2)
All or chiefly sisal—				Value.....	\$1,053,170	(2)	(2)
Pounds.....	197,050,557	285,337,047	161,591,808	All other jute woven goods—			
Value.....	\$38,803,930	\$22,457,054	\$11,714,557	Square yards.....	4,013,586	(2)	(2)
All other—				Value.....	\$1,696,444	(2)	(2)
Pounds.....	23,171,045	3,200,596	219,489	All other woven goods—			
Value.....	\$5,106,486	\$192,036	\$154,990	Square yards.....	219,489	(2)	(2)
Twine, other than binder:				Value.....	\$154,990	(2)	(2)
Pounds.....	92,359,030	105,249,677	75,816,653	All other products, value.....	\$2,562,235	\$2,505,152	\$1,784,980
Value.....	\$30,320,651	\$13,090,522	\$8,934,352				

¹ In addition, cordage and twine, jute goods, and linen goods to the value of \$11,628,911 in 1919, \$5,480,558 in 1914, and \$4,472,546 in 1909, were reported by establishments engaged primarily in other industries. Of these amounts, \$8,142,490 in 1919, \$3,683,348 in 1914, and \$3,681,917 in 1909 represent the value of the twine and cordage and rope made by cotton mills engaged chiefly in the manufacture of yarn.

² Not reported separately.

TABLE 13.—TOTAL PRODUCTION OF COTTON TWINE, CORDAGE AND ROPE, BY STATES: 1919 AND 1914.

PRODUCT AND STATE.	QUANTITY (POUNDS).		VALUE.		PRODUCT AND STATE.	QUANTITY (POUNDS).		VALUE.	
	1919	1914	1919	1914		1919	1914	1919	1914
Cotton twine.....	35,208,635	31,228,601	\$18,224,000	\$6,263,291	Cotton cordage and rope.....	18,762,942	18,812,856	\$8,977,060	\$3,442,057
Alabama.....	3,722,117	1,245,323	1,813,999	269,519	Alabama.....	2,319,467	3,221,119	907,314	453,127
Connecticut.....	2,246,769	2,272,781	1,472,559	530,641	Georgia.....	1,284,464	1,601,895	543,837	330,872
Georgia.....	1,641,714	5,248,751	856,774	1,130,918	Kentucky.....	2,721,463	1,621,233	1,253,871	257,094
Massachusetts.....	1,461,547	1,616,029	721,074	360,506	Massachusetts.....	5,281,700	4,672,788	3,367,032	1,131,893
New York.....	1,590,352	650,000	557,177	144,167	North Carolina.....	1,187,327	826,998	536,989	150,163
North Carolina.....	3,517,401	3,280,802	1,705,362	658,501	Pennsylvania.....	1,347,351	2,483,554	461,021	317,801
South Carolina.....	3,122,482	3,470,690	1,832,320	603,921	All other states.....	4,621,170	4,383,269	1,906,996	801,107
All other states.....	18,003,253	13,443,532	9,205,735	2,570,118					

MANUFACTURES.

GENERAL TABLES.

Table 14 gives, for 1919, 1914, and 1909 in totals for the United States, and for 1919 and 1914 for states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for the combined industry.

Table 15 presents, for 1919, statistics in detail for the industry as a whole, and for each branch separately, for each state that can be shown without the possibility of disclosing the operations of individual establishments.

TABLE 14.--COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Cen- sus year.	Number of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	STATE.	Cen- sus year.	Number of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
United States.....	1919	156	26,650	104,847	\$22,772	\$111,604	\$174,807	New Jersey.....	1919	9	3,034	8,770	\$2,385	\$11,222	\$17,442
	1914	160	27,323	93,937	11,442	60,474	83,235		1914	6	760	3,366	315	2,281	2,883
	1909	151	24,866	77,091	8,843	39,537	59,122	New York.....	1919	22	4,791	19,767	4,484	19,185	31,154
Alabama.....	1919	4	475	2,580	301	1,581	2,231		1914	12	3,804	11,935	1,706	8,247	11,971
	1914	5	460	1,935	154	829	1,135	Pennsylvania.....	1919	27	2,763	7,558	2,464	8,261	14,362
Connecticut.....	1919	9	348	1,160	226	1,438	1,933		1914	28	2,678	7,028	1,071	5,057	6,776
	1914	10	316	1,255	103	506	666	Rhode Island.....	1919	5	125	589	92	449	615
Kentucky.....	1919	4	469	1,185	269	942	1,844		1914	5	134	398	52	179	279
	1914	5	506	1,625	160	611	883	All other states.....	1919	57	7,795	28,349	6,326	38,936	58,045
Massachusetts.....	1919	19	6,850	34,883	6,225	29,590	47,151		1914	82	17,124	61,790	7,230	40,969	55,612
	1914	7	1,541	4,005	652	1,795	3,050								

CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS.

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TABLE 15.—DETAILED STATEMENT, BY STATES: 1919.

INDUSTRY AND STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					EXPENSES.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		Capital.	Salaries and wages.	
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.		Officials.	Clerks, etc.
								Maximum month.	Minimum month.								
United States....	156	28,839	42	850	837	510	26,050	De 27,877	Ap 25,622	28,438	15,133	12,387	438	480	\$149,112,428	\$3,521,633	\$1,937,208
Cordage and twine.....	120	19,232	29	670	575	336	17,022	De 18,303	Ap 17,034	18,899	10,907	7,504	261	227	100,248,987	2,673,633	1,341,868
Alabama.....	4	494		11	5	3	475	Au 538	Oc 412	539	248	291			1,032,520	34,637	7,085
Connecticut.....	9	395	4	26	6	11	348	Au 366	Ap 330	375	170	172	17	16	1,318,349	60,222	13,213
Kentucky.....	4	491		15	4	3	469	De 520	Mh 362	520	281	235	1	3	1,258,001	32,315	7,284
Massachusetts.....	13	2,095	4	70	74	104	2,743	Mh 2,948	Ja 2,574	2,720	1,911	729	45	35	26,094,441	237,130	255,904
New Jersey.....	6	2,513		61	102	16	2,334	De 2,414	Au 2,225	2,403	1,087	1,167	73	76	10,819,891	441,197	215,581
New York.....	20	4,434	5	215	200	96	3,918	De 4,324	Ap 3,633	4,294	2,517	1,738	27	12	25,992,618	735,081	440,349
North Carolina.....	5	478		19	9	6	444	De 518	Mh 366	514	309	157	26	22	1,566,724	40,273	12,630
Pennsylvania.....	19	2,082	6	46	46	14	1,970	Oc 2,135	Mh 1,683	2,144	1,113	982	20	29	9,443,941	369,280	94,249
Rhode Island.....	5	140	3	6	2	4	125	De 148	Mh 104	148	77	65	3	3	341,804	9,050	3,411
All other states ¹	35	5,210	7	201	127	79	4,796			5,242	3,194	1,968	49	31	22,380,698	714,448	292,162
Jute goods.....	26	7,587	13	136	189	111	7,138	Au 7,513	Ap 6,702	7,486	3,351	3,881	110	144	41,335,845	681,074	432,941
New Jersey.....	3	720		16	7	6	700	No 773	Fe 613	761	310	421	15	15	2,651,034	100,280	20,619
Pennsylvania.....	8	849	8	19	19	10	793	Se 932	Ja 617	887	496	386	4	1	4,546,103	119,004	28,506
All other states ²	15	6,009	5	101	163	95	5,645			5,838	2,545	3,074	91	128	34,138,708	461,790	383,816
Linen goods.....	10	2,070		44	73	63	1,890	De 2,079	Je 1,798	2,053	875	1,002	67	109	7,527,596	186,926	162,399
Massachusetts.....	4	1,288		18	35	16	1,219	De 1,283	Ja 1,164	1,310	523	614	66	107	5,257,364	77,796	83,708
All other states ³	6	782		26	38	47	671			743	352	388	1	2	2,270,232	88,130	78,691

INDUSTRY AND STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.						
	Salaries and wages—Continued.	For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.	
			Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.					
										Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. ⁴	Rent. ⁵	
United States....	\$22,771,089	\$323,358	\$187,574	\$7,414,405	\$109,005,974	\$1,998,329	\$174,807,220	\$63,202,917	104,847	47,489	10,842	778	13,845	26,893	24,377
Cordage and twine.....	14,709,061	276,617	137,370	6,098,002	88,324,147	1,381,135	133,369,476	43,661,194	60,643	36,553	4,292	645	4,219	20,934	10,206
Alabama.....	301,308		1,162	48,835	1,529,429	51,847	2,230,905	649,629	2,580	1,375				1,205	
Connecticut.....	225,948	350	780	17,271	1,426,142	11,886	1,932,997	494,969	1,160					1,077	83
Kentucky.....	269,435		24,800	71,825	915,388	26,630	1,843,810	901,792	1,185	600				585	42
Massachusetts.....	2,360,020	250,000	11,820	2,690,563	19,227,341	203,609	28,086,044	8,655,094	10,967	5,191	3,687	225	478	1,396	1,893
New Jersey.....	1,794,974		538,998	9,610,371	178,949	14,540,263	4,750,943	6,376	4,717	5,025				1,034	2,328
New York.....	3,683,418		40,263	812,304	17,305,474	301,024	27,643,710	10,037,212	16,267	5,680		106	414	10,168	2,119
North Carolina.....	258,477		436	60,405	1,776,403	28,658	2,380,373	581,312	2,175	1,100			1,050	25	7
Pennsylvania.....	1,723,360	267	43,880	102,023	5,858,552	109,739	9,843,454	3,876,163	5,283	4,735		185	60	303	845
Rhode Island.....	91,714	23,591	1,985	10,186	443,410	5,989	644,636	195,237	589	195			240	154	
All other states ¹	3,001,401	2,409	3,270	1,738,992	30,231,637	462,801	44,214,284	13,519,843	20,071	13,060		130	900	5,981	2,894
Jute goods.....	6,436,286	46,741	37,067	1,156,435	17,255,328	453,506	34,442,698	16,733,864	32,135	8,420	6,100	12	13,046	4,557	13,076
New Jersey.....	589,684			214,335	1,393,656	39,407	2,002,057	1,468,994	2,400	2,375				25	60
Pennsylvania.....	740,204		9,107	137,553	2,254,967	37,388	4,518,328	2,225,973	2,275	2,140				135	85
All other states ²	5,106,398	46,741	28,560	804,547	13,606,705	376,711	27,022,313	13,038,897	27,460	3,905	6,100	12	13,046	4,897	12,931
Linen goods.....	1,035,642		12,531	159,998	4,026,499	163,688	6,998,046	2,807,859	6,069	2,516	450	121	1,580	1,402	1,065
Massachusetts.....	1,105,528		10,000	136,273	3,231,247	97,242	5,177,679	1,849,190	3,780	2,100	450		880	350	1,095
All other states ³	530,116		2,531	23,695	795,252	66,446	1,820,367	958,669	2,289	416		121	700	1,052	

¹ All other states embrace: California, 1 establishment; Georgia, 1; Illinois, 3; Indiana, 1; Iowa, 1; Maine, 1; Maryland, 1; Michigan, 2; Minnesota, 1; Mississippi, 1; Missouri, 2; New Hampshire, 1; Ohio, 7; Oklahoma, 1; Oregon, 1; South Carolina, 2; Tennessee, 2; Texas, 1; Virginia, 1; Washington, 1; and Wisconsin, 3.

² All other states embrace: California, 1 establishment; Delaware, 1; Georgia, 1; Illinois, 1; Maryland, 1; Massachusetts, 2; Missouri, 1; New Hampshire, 1; New York, 1; North Carolina, 2; South Carolina, 2; and Virginia, 1.

³ All other states embrace: Michigan, 1 establishment; Minnesota, 2; New Hampshire, 2; and New York, 1.

⁴ Includes water wheels, turbines, and water motors.

⁵ Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

FUR-FELT HATS.

GENERAL STATISTICS.

General character of the industry.—The fur-felt hat industry consists of establishments engaged in the manufacture of soft and stiff hats chiefly for men's wear. The raw material used, hatters' fur, is cut principally from the rabbit and hare, although the fur of other animals is used to a certain extent. The two natural divisions of the industry are making hat bodies (hats in the rough) and finishing hats. The larger manufacturers perform the complete operation from the fur to the finished hat while numerous smaller ones are either engaged in the making of hats in the rough or in finishing hats.

Comparative summary.—A summarization of the industry as a whole is presented in Table 16 for each census year from 1899 to 1919, inclusive.

Summary for the two branches of the industry.—Table 17 gives a summary of statistics, for 1919, with respect to the two branches of the industry, establishments engaged exclusively in finishing hats, and those making either hat bodies or the hat complete.

Principal states, ranked by value of products.—In Table 18 are shown the number of establishments, average number of wage earners, value of products, and value added by manufacture, for the principal states representing the industry in 1919, ranked according to value of products.

Principal cities in the industry.—Statistics for the cities which have a leading part in the industry are presented in Table 19 with respect to number of establishments and value of products for 1919 and 1914.

Persons engaged in the industry.—Table 20 gives the number of males and females employed in the

industry in 1919, 1914, and 1909, with percentages for each according to class of work performed.

Wage earners, by months, for selected states.—The total average number of wage earners employed in the industry, together with the number employed on the 15th (or nearest representative day) of each month during the year 1919 is given in Table 21 by states.

Prevailing hours of labor.—Table 22 shows that of the several groups of wage earners, classed according to the prevailing hours of labor per week, the largest number were employed 44 or less hours per week in 1919, between 48 and 54 in 1914, and from 54 to 60 in 1909.

Size of establishments, by average number of wage earners.—Table 23 presents statistics, by states, with respect to the size of establishments based on the average number of wage earners employed in the industry during 1919.

Size of establishments, by value of products.—The size of establishments as measured by value of products in 1919, 1914, and 1909 is shown in Table 24.

Character of ownership.—Table 25 presents statistics with reference to the character of ownership, or legal organization, of establishments in the industry, for the leading states, in 1919 and 1914.

Number and horsepower of types of prime movers.—The various types of power used in the industry are shown in Table 26 with the number and horsepower of each, in 1919, 1914, and 1909. Statistics on owned and rented power are shown separately.

Fuel consumed.—Table 27 shows the kinds and quantity of fuel used in the industry in 1919 in comparison with 1914.

TABLE 16.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, AND 1899.

	1919	1914	1909	1904	1899	PER CENT OF INCREASE. ¹			
						1914-1919	1909-1914	1904-1909	1899-1904
Number of establishments.....	176	224	273	216	171	-21.4	-17.9	26.4	26.3
Persons engaged.....	20,318	22,932	27,091	23,666	10,814	-11.4	-15.4	14.5	19.4
Proprietors and firm members.....	148	103	264	252	208	-9.2	-38.3	4.8	21.2
Salaried employees.....	1,660	1,451	1,763	1,357	726	14.4	-17.7	29.0	88.3
Wage earners (average number).....	18,510	21,318	25,064	22,047	18,880	-13.2	-14.9	13.7	16.8
Primary horsepower.....	20,389	20,851	19,245	16,630	11,843	-2.2	8.3	15.7	40.4
Capital.....	\$58,127,770	\$39,401,429	\$35,733,594	\$23,258,104	\$16,701,308	47.5	10.3	53.6	39.3
Salaries and wages.....	24,274,203	14,000,263	16,319,881	12,770,473	10,063,262	73.4	-14.2	27.8	26.9
Salaries.....	4,631,672	1,929,451	2,096,689	1,488,236	943,998	140.1	-8.0	40.9	57.7
Wages.....	19,642,531	12,070,812	14,223,192	11,282,237	9,119,264	62.7	-15.1	26.1	23.7
Paid for contract work.....	23,404	19,825	326,697	159,793	97,943	18.1	-93.9	104.5	63.1
Rent and taxes.....	2,353,206	324,026	289,573	212,905	146,783	624.9	13.3	.....	.....
Cost of materials.....	40,158,019	16,947,058	22,109,231	15,975,206	13,513,668	137.0	-23.3	38.4	18.2
Value of products.....	82,745,308	37,349,744	47,864,630	36,629,353	27,811,187	121.5	-22.0	30.7	31.7
Value added by manufacture ²	42,587,289	20,402,686	25,755,399	20,654,147	14,297,519	108.7	-20.8	24.7	44.5

¹ A minus sign (—) denotes decrease.

² Exclusive of internal revenue.

³ Value of products less cost of materials.

FUR-FELT HATS.

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TABLE 17.—SUMMARY FOR THE TWO BRANCHES OF THE INDUSTRY: 1919.

	Total for the industry.	ESTABLISHMENTS ENGAGED IN—		PER CENT DISTRIBUTION.			Total for the industry.	ESTABLISHMENTS ENGAGED IN—		PER CENT DISTRIBUTION.	
		Making hat bodies or hats complete.	Finishing hats.	Making hat bodies or hats complete.	Finishing hats.			Making hat bodies or hats complete.	Finishing hats.	Making hat bodies or hats complete.	Finishing hats.
Number of establishments.....	176	64	112	36.4	63.6	Salaries and wages.....	\$24,274,203	\$20,671,369	\$3,602,834	85.2	14.8
Persons engaged in the industry....	20,318	17,430	2,888	85.8	14.2	Salaries.....	4,631,672	3,840,532	791,140	82.9	17.1
Proprietors and firm members.....	148	40	108	27.0	73.0	Wages.....	19,642,531	16,830,837	2,811,694	85.7	14.3
Salaried employees.....	1,000	1,285	375	77.4	22.6	Paid for contract work.....	23,404	4,476	18,928	19.1	80.9
Wage earners (average number).....	18,510	16,105	2,405	87.0	13.0	Rent and taxes (including internal revenue).....	2,353,206	2,140,469	212,737	91.0	9.0
Primary horsepower.....	20,389	19,370	1,019	95.0	5.0	Cost of materials.....	40,158,019	30,446,116	9,711,903	75.8	24.2
Capital.....	\$58,127,770	\$51,890,400	\$6,237,370	89.3	10.7	Value of products.....	82,745,308	67,336,833	15,408,475	81.4	18.6
						Value added by manufacture ¹	42,587,289	36,890,717	5,696,572	86.6	13.4

¹ Value of products less cost of materials.

TABLE 18.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States.....	176	18,510	100.0	.....	\$82,745	100.0	.....	\$42,587	100.0	.....
Connecticut.....	41	4,580	24.7	2	23,152	28.0	1	10,948	25.7	2
New York.....	42	4,088	22.1	3	19,888	24.0	2	9,097	21.4	3
Pennsylvania.....	20	5,414	29.2	1	17,995	21.7	3	12,077	28.4	1
New Jersey.....	31	3,303	17.8	4	16,625	20.1	4	8,390	19.7	4
Missouri.....	5	323	1.7	6	1,479	1.8	6	458	1.1	6
California.....	6	69	0.4	7	558	0.7	7	159	0.4	7
Illinois.....	5	36	0.2	8	344	0.4	8	155	0.4	8
All other states.....	26	697	3.8	.....	2,704	3.3	.....	1,303	3.0	.....

TABLE 19.—PRINCIPAL CITIES IN THE INDUSTRY: 1919 AND 1914.

CITY.	NUMBER OF ESTABLISHMENTS.		VALUE OF PRODUCTS.		CITY.	NUMBER OF ESTABLISHMENTS.		VALUE OF PRODUCTS.	
	1919	1914	1919	1914		1919	1914	1919	1914
Philadelphia, Pa.....	13	17	\$15,952,000	\$9,014,443	Newark, N. J.....	19	26	\$9,103,649	\$3,900,954
Danbury, Conn.....	23	39	16,080,308	7,065,765	Orange, N. J.....	6	6	5,573,569	2,822,860
New York, N. Y.....	30	31	11,760,387	3,601,944					

TABLE 20.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.		CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.	
					Male.	Female.						Male.	Female.
All classes.....	1919	20,318	14,826	5,492	73.0	27.0	Clerks and other subordinate salaried employees.....	1919	1,128	714	414	63.3	36.7
	1914	22,932	16,909	6,023	73.7	26.3		1914	1,018	801	217	78.7	21.3
	1909	27,001	19,572	7,519	72.2	27.8		1909	1,250	1,022	228	81.8	18.2
Proprietors and officials.....	1919	680	634	46	93.2	6.8	Wage earners (average number).....	1919	18,510	13,478	5,032	72.8	27.2
	1914	506	500	27	95.5	4.5		1914	21,318	15,539	5,779	72.9	27.1
	1909	777	735	42	94.6	5.4		1909	25,064	17,815	7,249	71.1	28.9
Proprietors and firm members...	1919	148	147	1	99.3	0.7	16 years of age and over.....	1919	18,172	13,297	4,875	73.2	26.8
	1914	163	159	4	97.5	2.5		1914	21,069	15,381	5,688	73.0	27.0
	1909	264	258	6	97.7	2.3		1909	24,533	17,526	7,007	71.4	28.6
Salaried officers of corporations...	1919	210	204	6	97.1	2.9	Under 16 years of age.....	1919	338	181	157	53.6	46.4
	1914	161	157	4	97.5	2.5		1914	249	158	91	63.5	36.5
	1909	137	136	1	99.3	0.7		1909	531	289	242	54.4	45.6
Superintendents and managers...	1919	322	283	39	87.9	12.1							
	1914	272	253	19	93.0	7.0							
	1909	376	341	35	90.7	9.3							

MANUFACTURES.

TABLE 21.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States:														
1919.....	18,510	16,531	16,712	16,879	<i>16,353</i>	16,928	17,990	19,269	19,896	19,561	20,420	20,634	20,947	78.1
Males.....	13,478	12,014	12,211	12,305	<i>11,958</i>	12,363	13,221	14,124	14,571	14,307	14,794	14,829	15,039	79.5
Females.....	5,032	4,517	4,501	4,574	<i>4,395</i>	4,565	4,769	5,145	5,325	5,254	5,626	5,805	5,908	74.4
1914.....	21,318	21,519	21,783	21,581	20,518	<i>19,791</i>	20,134	22,030	22,269	22,356	22,438	20,844	20,553	88.2
1909.....	25,064	25,087	<i>19,894</i>	20,391	20,590	21,075	24,538	26,676	27,588	28,216	28,276	28,672	29,062	66.7
California.....	69	51	<i>50</i>	55	60	63	67	70	69	81	85	87	80	55.6
Connecticut.....	4,580	3,737	3,815	3,831	3,944	4,244	4,512	4,799	5,105	5,131	5,234	5,166	5,392	70.2
Illinois.....	36	34	36	37	37	36	36	35	38	38	30	35	34	89.5
Missouri.....	323	342	310	302	301	280	310	324	301	296	350	382	378	73.3
New Jersey.....	3,303	3,081	3,034	3,050	3,052	3,026	3,234	3,399	3,496	3,521	3,574	3,588	3,581	84.3
New York.....	4,088	3,571	3,771	3,845	3,801	3,583	3,893	4,354	4,442	3,998	4,631	4,805	4,862	67.9
Pennsylvania.....	5,414	5,000	5,038	5,150	5,023	5,019	5,231	5,571	5,726	5,762	5,778	5,825	5,845	85.5

TABLE 22.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—						STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—					
			44 and under.	Between 44 and 48.	48.1	Between 48 and 54.	54.	Between 54 and 60.				44 and under.	Between 44 and 48.	48.1	Between 48 and 54.	54.	Between 54 and 60.
United States....	1919	18,510	7,037	5,359	3,670	2,004	103	333	Missouri.....	1919	323	23	—	173	127	—	—
	1914	21,318	(2)	(2)	3,511	12,377	3,015	1,580		1914	114	(2)	(2)	101	—	13	—
	1909	25,064	(2)	(2)	2,182	7,885	5,163	8,957									
California.....	1919	69	47	9	13	—	—	—	New Jersey.....	1919	3,303	2,619	267	65	323	29	—
	1914	58	(2)	(2)	58	—	—	—		1914	4,401	(2)	(2)	700	3,075	374	7
Connecticut.....	1919	4,580	2,237	533	239	1,351	—	220	New York.....	1919	4,088	1,798	—	2,179	12	99	—
	1914	5,461	(2)	(2)	1,467	2,889	354	515		1914	3,563	(2)	(2)	677	650	1,951	1
Illinois.....	1919	36	32	—	4	—	—	—	Pennsylvania.....	1919	5,414	193	4,548	517	156	—	—
	1914	43	(2)	(2)	4	16	9	12		1914	6,714	(2)	(2)	265	5,722	545	182

¹ Includes 48 and under for 1914 and 1919.² Corresponding figures not available.

TABLE 23.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—																
	Estab-lish-ments.	Wage earners (average number).	No wage earners.	1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		101 to 250 wage earners, inclusive.		251 to 500 wage earners, inclusive.		501 to 1,000 wage earners, inclusive.		Over 1,000 wage earners.	
			Establish-ments.	Establish-ments.	Wage earners.	Establish-ments.	Wage earners.	Establish-ments.	Wage earners.	Establish-ments.	Wage earners.	Establish-ments.	Wage earners.	Establish-ments.	Wage earners.	Establish-ments.	Wage earners.	Establish-ments.	Wage earners.
United States..1919..	176	18,510	10	53	140	25	326	26	897	24	1,665	21	3,425	11	3,996	4	2,281	2	5,730
1914..	224	21,318	6	74	194	46	510	22	671	25	1,725	30	4,817	17	6,002	2	1,101	2	6,298
California.....	6	69	.....	2	6	2	16	2	47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Connecticut.....	41	4,580	3	2	3	3	54	9	324	8	561	12	1,971	3	1,134	1	533	.....	.....
Illinois.....	5	36	1	2	5	1	7	1	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Missouri.....	5	323	.....	1	1	2	23	.....	.....	.....	.....	2	299	.....	.....	.....	.....	.....	.....
New Jersey.....	31	3,303	1	9	21	.....	.....	6	210	6	388	4	724	4	1,402	1	558	.....	.....
New York.....	42	4,088	3	11	34	11	159	5	192	6	425	1	162	3	1,009	1	680	1,427
Pennsylvania.....	20	5,414	1	8	20	3	32	1	23	3	207	2	269	1	510	1	4,353

FUR-FELT HATS.

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TABLE 24.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
All classes.....	176	224	273	18,510	21,318	25,064	\$82,745,308	\$37,349,744	\$47,864,630	\$42,587,289	\$20,402,686	\$25,755,899
Less than \$5,000.....	20	39	35	13	52	53	59,775	89,827	104,234	36,681	55,025	57,340
\$5,000 to \$20,000.....	26	59	63	65	281	334	285,326	606,939	695,573	159,348	353,841	364,553
\$20,000 to \$100,000.....	33	52	78	258	1,379	1,987	1,436,109	2,534,833	3,639,413	614,374	1,095,499	1,899,810
\$100,000 to \$500,000.....	51	60	91	2,291	11,538	13,141	12,235,576	14,547,081	20,673,802	4,982,684	10,583,426	13,638,139
\$500,000 to \$1,000,000.....	25	8	6	3,057	12,826	8,068	17,094,028	5,951,207	13,618,957	7,584,954	8,314,895	9,795,557
\$1,000,000 and over.....	21	6	6	12,826	8,068	9,549	51,583,534	13,618,957	16,751,608	29,209,268	8,314,895	9,795,557
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	11.4	17.4	12.8	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.3	0.2
\$5,000 to \$20,000.....	14.8	26.3	23.1	0.4	1.3	1.3	0.3	1.6	1.5	0.4	1.7	1.4
\$20,000 to \$100,000.....	18.7	23.2	28.6	1.4	6.5	7.9	1.7	6.8	7.0	1.4	5.4	7.4
\$100,000 to \$500,000.....	29.0	26.8	33.3	12.4	54.1	52.4	14.8	39.0	55.7	11.7	51.9	53.0
\$500,000 to \$1,000,000.....	14.2	3.6	2.2	10.5	37.8	38.1	20.7	15.9	35.0	17.8	40.8	38.0
\$1,000,000 and over.....	11.9	2.7	2.2	69.3	37.8	38.1	62.3	36.5	35.0	68.6	40.8	38.0

TABLE 25.—CHARACTER OF OWNERSHIP, BY STATES: 1919 AND 1914.

STATE.	Cen- sus year.	NUMBER OF ESTABLISH- MENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
					Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Corpora- tions.	All oth- ers.				
United States....	1919 1914	02 94	78 103	36 27	18,510 21,318	778 1,809	15,194 17,507	2,538 2,002	4.2 8.5	82.1 82.1	13.7 9.4	\$82,745,308 37,349,744	\$5,025,270 3,509,142	\$64,012,720 30,368,386	\$13,707,318 3,472,216	6.1 9.4	77.4 81.3	16.6 9.3				
Connecticut.....	1919 1914	9 10	24 33	8 6	4,580 5,401	245 538	3,613 4,437	722 480	5.3 0.9	78.9 81.2	15.8 8.9	23,152,463 9,476,778	1,240,407 1,063,554	18,317,049 7,539,623	3,595,012 872,601	5.4 11.2	79.1 79.6	15.5 9.2				
New Jersey.....	1919 1914	8 14	16 23	7 4	3,303 4,401	40 412	2,452 3,026	811 363	1.2 0.4	74.2 82.4	24.6 8.2	16,025,357 7,969,344	258,900 480,513	12,257,517 6,861,258	4,108,940 627,573	1.6 6.0	73.7 86.1	24.7 7.9				
New York.....	1919 1914	14 21	17 12	11 6	4,088 3,563	370 344	3,505 3,165	213 54	9.1 0.7	85.7 88.8	5.2 1.5	19,887,862 6,637,380	2,988,678 1,187,897	14,842,363 5,268,155	2,056,821 181,328	15.0 17.9	74.6 79.4	10.3 2.7				
Pennsylvania.....	1919 1914	10 16	4 7	6 4	5,414 6,714	51 438	4,555 5,339	778 937	0.9 6.5	84.7 79.5	14.4 14.0	17,995,301 11,040,820	169,508 591,760	13,958,346 8,936,362	3,867,447 1,482,698	0.9 5.4	77.6 81.2	21.5 13.4				

TABLE 26.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	807	638	483	20,389	20,851	19,245	100.0	100.0	100.0
Owned.....	102	155	185	15,381	18,119	16,845	75.4	86.9	87.5
Steam.....	90	147	175	15,251	17,936	16,653	74.8	86.0	86.5
Engines.....	98			14,251			69.9		
Turbines.....	1			1,000			4.9		
Internal-combustion engines.....	2	6	8	10	172		(*)	0.2	0.9
Water wheels and turbines.....	1	2	2	120	135	20	0.6	0.6	0.1
Rented.....	705	483	298	5,008	2,732	2,400	24.6	13.1	12.5
Electric.....	705	483	298	4,996	2,655	2,172	24.5	12.7	11.3
Other.....				12	77	228	0.1	0.4	1.2
Electric.....	1,789	1,258	834	9,631	8,141	6,186	100.0	100.0	100.0
Rented.....	705	483	298	4,996	2,655	2,172	51.9	32.6	35.1
Generated by establishments reporting.....	1,084	775	536	4,635	5,486	4,014	48.1	67.4	64.9

* Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.

* Less than one-tenth of 1 per cent.

TABLE 27.—FUEL CONSUMED: 1919 AND 1914.

KIND OF FUEL.	1919	1914	KIND OF FUEL.	1919	1914
Anthracite coal (tons, 2,240 lbs.).....	57,297	76,954	Fuel oils (barrels).....	3,915	228
Bituminous coal (tons, 2,000 lbs.).....	75,038	57,247	Gasoline and other volatile oils (barrels).....	135	(1)
Coke (tons, 2,000 lbs.).....	1,130	101	Gas (1,000 cubic feet).....	26,649	58,810

* Included in figures for fuel oils.

SPECIAL STATISTICS.

Summary of materials and products for the industry.—The quantity and cost of materials and the quantity and value of products for the fur-felt hat industry are shown for 1919, 1914, and 1909, in Table 28.

TABLE 28.—DETAILED STATISTICS OF QUANTITY AND VALUE:
1919, 1914, AND 1909.

	1919	1914	1909	PER CENT OF INCREASE. ¹		
				1914-1919	1909-1914	1909-1919
Materials, total cost...	\$40,158,019	\$16,947,058	\$22,109,231	137.0	-23.3	81.6
Hatters' fur:						
Pounds.....	6,205,607	5,766,904	8,645,576	7.6	-33.3	-28.2
Cost.....	\$20,374,170	\$7,108,248	\$9,278,922	186.6	-23.4	119.6
Fur-felt hat bodies and hats in the rough:						
Dozens.....	459,655	395,848	406,447	16.1	-2.6	13.1
Cost.....	\$6,636,707	\$2,453,503	\$2,575,248	170.5	-4.7	157.7
Chemicals and dyestuffs.....	\$820,577	\$432,161	\$843,587	89.9	-48.8	-2.7
All other materials.....	\$12,326,565	\$6,953,146	\$9,411,474	77.3	-26.1	31.0
Products, total value.....	\$82,745,308	\$37,349,744	\$47,864,630	121.5	-22.0	72.9
Fur-felt hats:						
Dozens.....	2,100,023	2,118,634	2,989,252	-0.9	-29.1	-29.7
Value.....	\$71,069,038	\$33,603,531	\$43,442,466	111.5	-22.6	63.6
Fur-felt hat bodies and hats in the rough:						
Dozens.....	518,111	329,363	366,371	57.3	-10.1	41.4
Value.....	\$7,657,114	\$2,372,937	\$2,703,738	222.7	-12.2	183.2
All other products, value.....	\$3,995,596	\$864,300	\$1,164,872	362.3	-25.8	243.0
Work on material for others.....	\$23,590	\$508,967	\$553,551	-95.4	-8.1	-95.7

¹A minus sign (—) denotes decrease.

Materials and products for the industry, by states.—

Table 29 shows the materials and products for each state for which statistics can be presented for 1919, 1914, and 1909.

TABLE 29.—MATERIALS AND PRODUCTS, BY PRINCIPAL STATES:
1919, 1914, AND 1909.

	Cost or value, 1919.	QUANTITY.		
		1919	1914	1909
MATERIALS.				
Hatters' fur.....	\$20,374,170	Pounds. 6,205,607	Pounds. 5,766,904	Pounds. 8,645,576
Connecticut.....	7,637,420	2,568,798	1,731,569	1,673,332
New Jersey.....	5,290,035	1,169,023	1,327,918	1,817,020
New York.....	2,949,887	1,036,482	842,514	1,883,207
Pennsylvania.....	4,291,290	1,290,704	1,459,412	1,976,118
All other states.....	296,538	140,000	405,491	1,295,899
Fur-felt hat bodies and hats in the rough.....	6,636,707	Dozens. 459,655	Dozens. 395,848	Dozens. 406,447
California.....	241,027	14,240	8,318	(1)
Connecticut.....	997,227	81,811	90,745	87,117
Illinois.....	64,100	6,200	5,012	12,993
Missouri.....	372,488	31,318	13,775	(1)
New Jersey.....	232,695	24,994	58,256	29,156
New York.....	4,154,237	250,604	180,848	194,268
Pennsylvania.....	60,129	7,550	11,987	26,984
All other states.....	508,804	42,938	26,907	55,929
PRODUCTS.				
Fur-felt hats.....	\$71,069,038	2,100,023	2,118,634	2,989,252
California.....	554,863	14,240	8,318	(1)
Connecticut.....	15,791,197	563,267	515,986	530,558
Illinois.....	128,800	6,200	5,012	13,286
Missouri.....	787,579	31,318	13,775	(1)
New Jersey.....	15,829,630	460,671	496,423	579,596
New York.....	17,907,436	565,561	477,338	776,258
Pennsylvania.....	17,820,204	378,599	472,498	668,666
All other states.....	2,213,329	80,167	129,284	420,853
Fur-felt hat bodies and hats in the rough.....	7,657,114	518,111	329,363	366,370
Connecticut.....	6,695,166	448,136	267,178	335,947
All other states.....	960,948	69,975	62,185	30,423

¹ Included in "All other states." to avoid disclosure of individual operations.

² In addition, fur-felt hats to the value of \$673,989 were made by establishments engaged primarily in other industries.

GENERAL TABLES.

Comparative summary, by states.—Table 30 shows number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for 1919, 1914, and 1909.

Detailed statement, by states.—In Table 31 are shown, for 1919, detail statistics for the industry for each state that can be shown without disclosing the operations of individual establishments.

TABLE 30.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mater- ials.	Value of prod- ucts.	STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mater- ials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
United States.....	1919	176	18,510	20,389	\$19,643	\$40,158	\$82,745	New Jersey.....	1919	31	3,303	4,447	\$4,264	\$8,235	\$16,625
	1914	224	21,318	20,851	12,071	16,947	37,350		1914	41	4,401	4,722	2,603	3,708	7,969
	1909	273	25,064	19,245	14,223	22,109	47,865		1909	58	4,657	5,046	2,960	4,112	8,525
California.....	1910	6	69	21	83	398	558	New York.....	1919	42	4,088	3,200	4,681	10,790	19,888
	1914	6	58	16	39	92	157		1914	39	3,563	2,388	1,855	3,491	6,637
									1909	44	5,013	1,451	2,725	5,406	10,219
Connecticut.....	1919	41	4,580	5,311	5,099	12,205	23,152	Pennsylvania.....	1919	20	5,414	6,367	4,641	5,918	17,995
	1914	58	5,461	6,029	3,057	4,633	9,476		1914	27	6,714	6,241	3,934	3,889	11,041
	1909	80	5,217	5,619	3,384	4,849	10,400		1909	38	7,220	5,335	3,725	5,013	13,023
Illinois.....	1919	5	36	40	44	189	344	All other states.....	1919	26	697	935	620	1,402	2,704
	1914	9	43	22	28	53	118		1914	38	964	1,409	482	879	1,631
	1909	10	99	20	71	155	287		1909	39	2,826	1,770	1,334	2,552	5,034
Missouri.....	1919	5	323	68	211	1,021	1,479								
	1914	6	114	24	73	202	321								
	1909	4	32	4	15	22	77								

FUR-FELT HATS.

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TABLE 31.—DETAILED STATEMENT, BY STATES: 1919.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	EXPENSES.			
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.			Salaries and wages.	Officials.	Clerks, etc.	
					Male.	Female.	Average number.	Number, 15th day of—		Male.	Female.	Male.	Female.					
								Maximum month.										Minimum month.
United States.	176	20,318	148	532	714	414	18,510	De 20,947	Ap 16,353	21,132	14,985	5,758	204	185	\$58,127,770	\$2,288,891	\$2,342,781	
California.....	6	83	4	5	4	1	69	De 90	Fe 50	83	40	43	.....	.....	212,927	11,267	13,971
Connecticut.....	41	5,012	29	165	126	112	4,580	De 5,392	Ja 3,787	5,531	4,179	1,222	84	46	11,996,703	858,072	496,934	
Illinois.....	5	55	1	8	9	1	36	Se 38	Ja 34	34	21	13	.....	.....	140,288	24,158	23,995
Missouri.....	5	395	3	20	40	9	323	No 382	My 280	366	113	248	4	1	746,678	37,298	28,247	
New Jersey.....	31	3,596	25	130	103	35	3,303	No 3,588	My 3,026	3,599	2,768	825	6	.....	9,428,583	498,096	407,921
New York.....	42	4,686	38	133	238	189	4,088	De 4,892	Ap 3,301	4,919	3,113	1,767	17	22	11,001,030	595,292	559,639	
Oregon.....	3	7	3	.....	.....	.....	4	(2) 4	(2) 4	4	.....	4	.....	.....	6,397	.....	.....
Pennsylvania.....	20	5,700	25	35	176	50	5,414	De 5,845	Ja 5,000	5,839	4,342	1,303	84	110	22,592,591	179,253	769,149	
All other states ¹	23	784	20	36	18	17	693	.....	.....	757	409	333	9	6	2,002,573	85,455	42,925

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.						Electric horsepower generated in establishments reporting.	
	Salaries and wages—Continued.		Rent and taxes.		For materials.				Primary horsepower.							
	Wage earners.	For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.						Rented. ³
										Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. ⁴			
United States.	\$10,642,531	\$23,404	\$224,805	\$2,128,371	\$39,128,707	\$1,020,222	\$82,745,303	\$42,587,289	20,389	14,251	1,000	10	120	5,008	4,635	
California.....	82,500	.....	4,761	2,459	399,511	1,942	557,913	159,460	21	.....	.....	.....	.....	21	.....
Connecticut.....	5,099,015	527	37,694	411,092	11,909,294	304,472	23,152,468	10,947,702	5,311	3,475	.....	.....	.....	1,836	874
Illinois.....	44,192	18,000	4,830	4,142	187,563	1,674	344,306	155,159	40	25	.....	.....	.....	15	.....
Missouri.....	211,220	.....	13,743	24,286	1,010,271	4,376	1,478,951	458,304	68	.....	.....	.....	.....	68	.....
New Jersey.....	4,263,918	600	41,116	396,218	7,997,198	237,968	16,625,357	8,390,191	4,447	3,058	.....	.....	.....	1,389	93
New York.....	4,681,091	2,021	89,915	273,499	10,595,046	194,750	19,887,862	9,097,466	3,200	2,305	.....	.....	120	775	942
Oregon.....	3,600	.....	1,430	58	8,549	397	21,560	12,614	2	.....	.....	.....	.....	2	.....
Pennsylvania.....	4,640,509	1,656	14,457	991,051	5,694,589	223,311	17,995,301	12,077,401	6,367	4,813	1,000	10	.....	544	2,556
All other states ¹	616,486	.....	10,949	25,566	1,332,176	60,332	2,681,500	1,288,992	933	575	.....	.....	.....	358	170

¹ Same number reported for one or more other months.

² Same number reported throughout the year.

³ All other states embrace: Arkansas, 1 establishment; Florida, 1; Kentucky, 1; Maine, 1; Maryland, 3; Massachusetts, 3; Michigan, 1; Nebraska, 2; New Hampshire, 1; Ohio, 3; Rhode Island, 2; South Dakota, 1; Washington, 1; West Virginia, 1; and Wisconsin, 1.

⁴ Includes water wheels, turbines, and motors (irrespective of ownership of water supply).

⁵ Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

DYEING AND FINISHING TEXTILES.

GENERAL STATISTICS.

General character of the industry.—The statistics presented in this report are for establishments engaged primarily in dyeing and finishing textiles. The report covers such operations as the bleaching and dyeing of stock, yarn, and cloth without regard to the kind of fiber, whether cotton, wool, silk, etc., also the mercerizing and printing or other converting of yarn and cloth, as well as the beaming, the winding of yarns, and the spooling of thread (except the winding and warping of silk).

The majority of establishments included in this industry specialize in this kind of work and instead of owning the materials, except for chemicals and dyestuffs, they are furnished by others and the work is performed on a contract or commission basis, so that the value of products for the industry represents the amount which is charged for performing the dyeing and finishing processes. In some instances, however, the goods dyed or finished are owned by the establishments which perform these final operations and under such circumstances the cost of the fabric is included in the cost of materials, while the value of the finished cloth is included in the value of products.

A considerable number of cotton, silk, and woolen mills carry on in the same establishments one or more of these subordinate processes in connection with the manufacture of textiles. Where practicable, separate returns were secured for the dyeing and finishing departments of such mills, in which case the departments were treated as separate establishments in compiling statistics for this report, and the value of products represented the cost of operating this branch of the plant.

Comparative summary.—The progress of the industry is shown in Table 32 for each census from 1899 to 1919, inclusive, also the percentages of increase.

Principal states, ranked by value of products.—Table 33 presents the more important statistics of the in-

dustry, by states. The states shown in the table are given their actual ranking among all states, the rank of certain states for which figures can not be presented being higher than that of some of those named.

Persons engaged in the industry.—Statistics relating to the number of male and female employees distributed according to class of employment are shown in Table 34 for 1919, 1914, and 1909, together with the per cent that each sex forms of the total for each class.

Wage earners, by months, for selected states.—The number of wage earners according to sex and state is shown in Table 35 by months for the year 1919. The total number of wage earners employed in the industry is shown by months for 1919, 1914, and 1909.

Prevailing hours of labor.—Table 36 shows the increase in the number of wage earners and the shortening of the working day since 1909.

Size of establishments, by average number of wage earners.—Table 37 shows the size of establishments as measured by the average number of wage earners employed in the industry as a whole and for the leading states.

Size of establishments, by value of products.—The size of establishments based on value of products may be found by reference to Table 38, which is comparative for 1919, 1914, and 1909.

Character of ownership.—The number of establishments, by character of ownership, with corresponding value of products for 1919 and 1914, is shown for selected states in Table 39.

Number and horsepower of types of prime movers.—The various types of power, both owned and rented, used in the industry during 1919, 1914, and 1909 are shown in Table 40 with figures for the number and horsepower of each type.

Fuel consumed.—Table 41 gives the quantity of the various kinds of fuel used in dyeing and finishing textiles, by states, for 1919 and 1914.

DYEING AND FINISHING TEXTILES.

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TABLE 32.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, AND 1899.

	1919	1914	1909	1904	1899	PER CENT OF INCREASE. ¹			
						1914-1919	1909-1914	1904-1909	1899-1904
Number of establishments.....	628	507	426	360	298	23.9	19.0	18.3	20.8
Persons engaged.....	62,588	53,273	47,303	38,071	31,394	17.5	12.6	24.2	21.3
Proprietors and firm members.....	363	353	318	310	300	2.8	11.0	2.6	3.3
Salaried employees.....	6,240	4,463	2,939	2,196	1,318	40.1	51.5	33.8	66.6
Wage earners (average number).....	55,985	48,407	44,046	35,565	29,776	15.5	10.0	23.8	19.4
Primary horsepower.....	160,430	130,172	107,740	84,808	69,238	23.2	20.8	27.0	22.6
Capital.....	\$229,948,486	\$139,193,871	\$114,092,654	\$88,709,576	\$60,643,104	65.2	22.0	28.6	46.3
Salaries and wages.....	73,441,533	31,343,723	26,261,634	18,879,586	14,993,444	134.3	19.4	39.1	25.9
Salaries.....	16,251,555	6,471,405	5,034,710	3,407,381	2,267,128	151.1	28.5	47.8	50.3
Wages.....	57,189,978	24,872,318	21,226,924	15,469,205	12,726,316	129.9	17.2	37.2	21.6
Paid for contract work.....	1,361,486	222,370	337,422	92,885	41,735	512.3	-34.1	203.3	122.6
Rent and taxes.....	14,710,308	1,412,795	847,216	812,903	427,049	941.2	66.8	.....	.....
Cost of materials.....	174,742,815	56,705,135	35,261,301	19,621,253	17,658,137	208.2	60.8	79.7	9.3
Value of products.....	323,967,683	109,291,536	83,556,432	50,849,545	44,663,331	196.4	30.8	64.3	13.1
Value added by manufacture.....	149,224,808	52,586,401	48,295,131	31,228,292	27,005,194	183.8	8.9	54.7	15.6

¹ A minus sign (-) denotes decrease.

² Exclusive of internal revenue.

³ Value of products less cost of materials.

TABLE 33.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States.....	628	55,985	100.0	.....	\$323,968	100.0	.....	\$149,225	100.0	.....
New Jersey.....	132	14,492	25.9	1	79,305	24.5	1	35,083	23.5	1
Massachusetts.....	62	12,321	22.0	2	75,262	23.2	2	31,052	20.8	2
New York.....	133	6,076	10.9	5	44,664	13.8	3	20,515	13.7	5
Pennsylvania.....	163	7,381	13.2	4	42,475	13.1	4	22,700	15.3	3
Rhode Island.....	67	9,819	16.6	3	42,258	13.0	5	21,331	14.3	4
Connecticut.....	16	1,918	3.4	6	8,350	2.6	7	4,900	3.3	6
Illinois.....	11	403	0.7	10	2,219	0.7	10	1,124	0.8	9
Ohio.....	6	339	0.6	12	1,514	0.5	11	769	0.5	12
North Carolina.....	8	414	0.7	9	1,243	0.4	12	501	0.3	14
All other states.....	30	3,322	5.9	.....	26,648	8.2	.....	11,190	7.5	.....

TABLE 34.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Cen-sus year.	Total.	Male.	Fe-male.	PER CENT OF TOTAL.		CLASS.	Cen-sus year.	Total.	Male.	Fe-male.	PER CENT OF TOTAL.	
					Male.	Fe-male.						Male.	Fe-male.
All classes.....	1919	62,588	47,531	15,057	75.9	24.1	Clerks and other subordinate salaried employees.....	1919	4,165	2,472	1,693	59.4	40.6
	1914	53,273	43,654	9,619	81.9	18.1		1914	3,311	2,444	867	73.8	26.2
	1909	47,303	38,581	8,722	81.6	18.4		1909	2,039	1,585	444	78.2	21.8
Proprietors and officials.....	1919	2,438	2,354	84	96.6	3.4	Wage earners (average number)....	1919	55,985	42,705	13,280	76.3	23.7
	1914	1,405	1,460	35	87.7	2.3		1914	48,467	39,750	8,717	82.0	18.0
	1909	1,218	1,190	28	97.7	2.3		1909	44,046	35,706	8,250	81.3	18.7
Proprietors and firm members.....	1919	363	353	10	97.2	2.8	16 years of age and over.....	1919	54,877	42,073	12,804	76.7	23.3
	1914	353	338	15	95.8	4.2		1914	47,692	39,221	8,471	82.2	17.8
	1909	318	308	10	96.9	3.1		1909	43,002	35,057	7,945	81.5	18.5
Salaried officers of corporations.....	1919	757	710	47	93.8	6.2	Under 16 years of age.....	1919	1,108	632	476	57.0	43.0
	1914	424	412	12	97.2	2.8		1914	775	520	246	68.3	31.7
	1909	289	287	2	99.3	0.7		1909	1,044	739	305	70.8	29.2
Superintendents and managers.....	1919	1,318	1,291	27	98.0	2.0							
	1914	718	710	8	98.9	1.1							
	1909	611	596	16	97.4	2.6							

MANUFACTURES.

TABLE 35.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

(The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.)

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States:														
1919.....	55,985	53,761	51,688	51,262	<i>51,052</i>	53,144	55,422	57,833	58,153	57,086	58,727	61,102	62,590	81.6
Males.....	42,705	40,676	39,006	<i>38,835</i>	39,061	40,779	42,617	44,376	44,472	43,351	44,824	46,606	47,857	81.1
Females.....	13,280	13,085	12,682	12,427	<i>11,991</i>	12,365	12,805	13,457	13,681	13,735	13,903	14,496	14,733	81.4
1914.....	48,467	49,059	50,369	51,070	50,815	49,681	49,291	47,915	46,981	48,007	47,062	<i>45,253</i>	45,501	86.6
1909.....	44,046	43,715	44,299	44,863	44,635	43,840	43,405	<i>43,212</i>	43,447	44,171	44,031	44,797	44,157	80.3
Connecticut.....	1,918	<i>1,444</i>	1,592	1,616	1,681	1,777	1,917	2,051	2,088	2,083	2,210	2,262	2,295	62.9
Illinois.....	403	458	478	411	418	393	380	361	359	361	400	404	413	75.1
Massachusetts.....	12,321	12,043	10,908	<i>10,800</i>	10,800	11,508	12,264	12,850	13,077	13,148	12,854	13,609	13,931	77.5
New Jersey.....	14,492	14,359	14,082	14,470	13,787	14,191	15,155	14,301	<i>13,156</i>	14,720	15,285	15,907	15,907	82.7
New York.....	6,076	5,726	<i>5,612</i>	5,073	5,071	5,633	5,795	6,235	6,392	6,446	6,448	6,547	6,734	83.3
Pennsylvania.....	7,381	6,761	6,643	<i>6,395</i>	6,665	7,018	7,394	7,671	7,944	7,623	7,782	8,314	8,382	76.5
Rhode Island.....	9,319	9,138	8,680	<i>8,214</i>	8,429	8,825	9,149	9,352	9,673	9,885	9,898	10,145	10,440	78.7

TABLE 36.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Cen- sus year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—								STATE.	Cen- sus year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Be- tween 44 and 48.	48. ¹	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	Over 60.				44 and under.	Be- tween 44 and 48.	48. ¹	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	Over 60.
United States.	1919	55,985	11,168	819	18,634	7,317	10,482	6,748	671	146	New Jersey.....	1919	14,402	8,957	40	992	2,154	712	1,635	2	
	1914	48,467	(²)	(²)	557	2,769	16,186	23,095	5,226	34		1914	11,683	(²)	(²)	7	912	159	9,203	1,402	
	1900	44,046	(²)	(²)	107	1,102	308	28,172	12,639	1,628	Connecticut.....	1919	6,076	1,058	730	2,543	1,212	146	370	12	
	1914	1,918	(²)	(²)	790	47	655	233	150	43		1914	5,514	(²)	(²)	246	439	2,914	951	964	
	1914	1,764	(²)	(²)	12	-----	2	1,648	102	-----	Pennsylvania.....	1919	7,381	889	46	2,076	2,007	1,157	973	233	
Illinois ^a	1919	403	47	-----	257	17	51	31	-----	-----		1914	6,389	(²)	(²)	184	166	1,301	3,087	1,641	
Massachusetts.....	1919	12,321	186	-----	8,559	877	1,540	1,013	43	103	Rhode Island.....	1919	9,319	-----	3	2,850	717	4,325	1,424	-----	
	1914	11,437	(²)	(²)	19	157	5,573	5,610	144	34		1914	7,928	(²)	(²)	3	832	5,862	972	259	

^a Includes 48 and under for 1914 and 1909.^b Corresponding figures not available.^c Not reported separately in 1914.

TABLE 37.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—																	
	Estab-lish-ments.	Wage earners (average number).	No wage earners.		1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		101 to 250 wage earners, inclusive.		251 to 500 wage earners, inclusive.		501 to 1,000 wage earners, inclusive.		Over 1,000 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.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.
United States... 1919..	628	55,985	11	108	202	178	2,183	141	4,662	69	5,010	68	10,264	29	10,330	19	12,534	7	10,707	
1914..	507	48,467	7	83	270	160	2,072	106	3,664	49	3,368	54	8,596	22	7,748	18	11,247	8	11,562	
Connecticut.....	16	1,918	.....	3	14	2	24	5	166	3	209	1	219	.....	.....	2	1,286	.....	.....
Illinois.....	11	403	.....	4	10	2	17	4	170	.....	.....	1	206	.....	.....	.....	.....	.....	.....
Massachusetts.....	62	12,321	.....	8	20	8	111	9	297	11	829	12	1,770	6	2,110	6	3,823	2	3,356
New Jersey.....	132	14,492	1	22	61	29	367	36	1,177	14	964	16	2,304	6	2,058	5	3,206	3	4,355	
New York.....	133	6,076	8	29	79	54	620	22	764	6	480	7	1,040	6	2,192	1	901	.....	.....
Pennsylvania.....	163	7,381	2	28	76	57	716	46	1,505	16	1,162	8	1,132	4	1,496	2	1,294	
Rhode Island.....	67	9,319	6	14	16	209	10	307	11	816	14	2,206	6	2,012	3	2,019	1	1,736	

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TABLE 38.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
All classes.....	628	507	426	55,985	48,467	44,046	\$323,967,683	\$109,291,536	\$83,556,432	\$140,224,868	\$52,586,401	\$48,295,131
Less than \$5,000.....	28	48	38	71	129	86	93,876	141,421	109,788	66,773	107,955	84,775
\$5,000 to \$20,000.....	85	100	89	414	866	743	950,125	1,212,588	1,079,228	671,371	842,050	792,475
\$20,000 to \$100,000.....	180	195	165	2,935	5,360	4,428	9,809,291	10,122,651	7,663,519	5,791,815	5,390,193	4,638,022
\$100,000 to \$500,000.....	206	116	114	10,605	22,034	21,798	47,995,838	20,594,862	37,395,345	25,504,606	23,205,327	22,415,860
\$500,000 to \$1,000,000.....	64	23	20	10,026	20,078	16,991	44,826,110	15,868,560	37,308,552	23,032,535	23,040,876	20,363,999
\$1,000,000 and over.....	65	25	20	31,934	20,078	16,991	220,292,443	55,351,454	37,308,552	93,257,768	23,040,876	20,363,999
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	4.5	9.5	8.9	0.1	0.3	0.2	(¹)	0.1	0.1	(¹)	0.2	0.2
\$5,000 to \$20,000.....	13.5	19.7	20.9	0.7	1.8	1.7	0.3	1.1	1.3	0.4	1.6	1.6
\$20,000 to \$100,000.....	28.7	38.5	38.7	5.2	11.1	10.1	3.0	9.3	9.2	3.9	10.3	9.6
\$100,000 to \$500,000.....	32.8	22.9	26.8	18.9	45.5	49.5	14.8	24.3	44.8	17.1	44.1	46.4
\$500,000 to \$1,000,000.....	10.2	4.5	4.7	17.9	41.4	38.6	13.8	14.5	44.6	16.0	43.8	42.2
\$1,000,000 and over.....	10.4	4.9	4.7	57.1	41.4	38.6	68.0	50.6	44.6	62.5	43.8	42.2

¹ Less than one-tenth of 1 per cent.

TABLE 39.—CHARACTER OF OWNERSHIP, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Cen- sus year.	NUMBER OF ESTABLISH- MENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
					Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Corpora- tions.	All oth- ers.				
United States...	1910	132	400	96	55,985	1,918	48,874	5,193	3.4	87.3	9.3	\$323,967,683	\$11,439,672	\$268,058,455	\$44,469,556	3.5	82.7	13.7				
	1914	134	276	97	48,467	4,270	41,219	2,972	8.8	85.0	6.1	109,291,536	7,971,546	94,193,033	7,126,957	7.3	86.2	6.5				
	1909	123	214	89	44,046	3,166	38,397	2,483	7.2	87.2	5.6	83,556,432	5,502,502	72,248,551	5,805,379	6.6	86.5	6.9				
Connecticut ¹	1919	1	14	1	1,918	.....	1,918	.....	100.0	.....	.....	8,350,098	.....	8,350,098	.....	.....	100.0	.....			
Illinois ¹	1919	1	8	2	403	.....	388	15	.....	96.3	3.7	2,219,109	.....	2,147,035	72,074	.....	96.8	3.2
Massachusetts.....	1919	6	52	4	12,321	224	11,207	890	1.8	91.0	7.2	75,261,815	1,268,201	61,998,544	11,995,070	1.7	82.4	15.9				
	1914	7	45	5	11,437	244	10,376	817	2.1	90.7	7.1	22,455,086	347,305	20,149,734	1,958,047	1.5	89.7	8.7				
New Jersey.....	1919	22	95	15	14,492	313	13,958	221	2.2	96.3	1.5	79,305,174	1,136,132	76,365,621	1,803,421	1.4	96.3	2.3				
	1914	20	65	13	11,683	386	10,821	476	3.3	92.6	4.1	27,986,512	602,055	26,576,945	807,512	2.2	95.0	2.9				
New York.....	1919	41	60	23	6,076	297	5,416	363	4.9	89.1	6.0	44,693,507	3,866,332	37,825,987	3,001,188	8.7	84.6	6.7				
	1914	34	43	22	5,514	366	4,784	364	6.6	86.8	6.6	16,302,576	1,167,860	13,850,983	1,283,733	7.2	85.0	7.9				
Pennsylvania.....	1919	51	73	39	7,381	824	5,644	913	11.2	76.5	12.4	42,475,000	4,001,120	30,716,416	7,757,464	9.4	72.3	18.3				
	1914	50	53	47	6,389	899	4,346	1,144	14.1	68.0	17.9	15,451,576	1,556,282	11,273,668	2,621,626	10.1	73.0	17.0				
Rhode Island.....	1919	6	55	6	9,310	152	6,712	2,455	1.6	72.0	26.3	42,287,545	486,129	32,176,248	9,595,163	1.2	76.1	22.7				
	1914	12	32	3	7,928	2,104	5,721	13	27.7	72.2	0.2	16,300,783	3,969,996	12,309,842	20,945	24.4	75.5	0.1				

¹ Figures not available for 1914.

² Includes the groups "Individuals" and "All others."

³ Includes the group "Individuals."

TABLE 40.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION.		
	1919	1914	1909	Amount.			1919	1914	1909
				1919	1914	1909			
Primary power, total.....	5,656	2,694	2,181	160,430	130,172	107,746	100.0	100.0	100.0
Owned.....	2,150	1,964	1,990	133,864	122,165	103,605	83.4	93.8	96.2
Steam ¹	2,042	1,868	1,893	118,197	111,506	92,284	73.7	85.7	85.6
Engines.....	1,963	(²)	(²)	85,899	(²)	(²)	53.5	.....	.....
Turbines.....	79	(²)	(²)	32,298	(²)	(²)	20.1	.....	.....
Internal-combustion engines.....	28	32	20	2,124	690	1,207	1.3	0.5	1.1
Water wheels, turbines, and motors.....	80	64	77	13,543	9,969	10,114	8.4	7.7	9.4
Rented.....	3,506	730	191	26,566	8,007	4,141	16.6	6.2	3.8
Electric.....	3,506	730	191	25,993	7,162	2,665	16.2	5.5	2.5
Other.....	.....	.....	.....	573	845	1,476	0.4	0.7	1.3
Electric.....	9,064	4,249	1,419	85,889	51,021	24,011	100.0	100.0	100.0
Rented.....	3,506	730	191	25,993	7,162	2,665	30.3	14.0	11.1
Generated by establishments reporting.....	5,558	3,519	1,228	59,896	43,859	21,346	69.7	86.0	88.9

¹ Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.

² Not reported separately.

MANUFACTURES.

TABLE 41.—FUEL CONSUMED, BY STATES: 1919 AND 1914.

STATE.	Cen- sus year.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (bar- rels).	Gasoline and other vola- tile oils (bar- rels).	Gas (1,000 cubic feet).	STATE.	Cen- sus year.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (bar- rels).	Gasoline and other vola- tile oils (bar- rels).	Gas (1,000 cubic feet).
		An- thracite (tons, 2,240 pounds).	Bitu- minous (tons, 2,000 pounds).							An- thracite (tons, 2,240 pounds).	Bitu- minous (tons, 2,000 pounds).				
United States.....	1919	442,855	1,071,156	13,624	393,328	6,930	516,218	New York.....	1919	43,769	81,038	6	1,043	3,023	25,834
	1914	490,587	896,589	.....	31,869	(¹)	143,953		1914	46,883	60,306	.....	690	(¹)	21,626
Connecticut.....	1919	2,585	55,096	12,231	282	(¹)	1,609	North Carolina.....	1919	.....	9,856	.....	.....	.....	.....
	1914	20	56,849	.....	1,570	(¹)	.....		1914	.....	3,620	.....	.....	.....	.....
Illinois.....	1919	.....	10,567	.....	.....	(¹)	823	Ohio.....	1919	.....	20,328	.....	.....	.....	3,239
	1914	.....	10,053	.....	7	(¹)	364		1914	.....	26,032	.....	.....	.....	11,000
Kentucky.....	1919	.....	6,032	.....	.....	75	.....	Pennsylvania.....	1919	43,773	109,984	480	28,034	750	5,537
	1914	.....	7,666	.....	.....	.....	.....		1914	77,869	142,182	.....	252	(¹)	23,097
Maryland.....	1919	.....	2,648	.....	.....	(¹)	.....	Rhode Island.....	1919	29,447	188,649	713	107,739	1,785	342,214
	1914	30	2,330	.....	1	(¹)	.....		1914	55,906	198,251	.....	18,790	(¹)	8,532
Massachusetts.....	1919	44,023	231,339	.....	239,373	44	18,328	All other states.....	1919	.....	89,132	.....	916	141	35,225
	1914	57,855	234,654	.....	1,174	(¹)	9,583		1914	.....	69,003	.....	6,995	(¹)	14,364
New Jersey.....	1919	279,258	179,487	194	15,941	1,112	85,018								
	1914	252,024	86,083	.....	2,390	(¹)	54,078								

¹ Included in figures for fuel oils.

GENERAL TABLES.

Comparative summary, by states.—Table 42 shows number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for 1919, 1914, and 1909.

Detailed statement, by states.—Table 43 presents, for 1919, statistics in detail for the industry for each state that can be shown without disclosing the operations of individual establishments.

TABLE 42.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
United States.....	1919	628	55,985	160,430	\$57,190	\$174,743	\$323,968	North Carolina.....	1919	8	414	1,431	\$229	\$741	\$1,243
	1914	507	48,467	130,172	24,872	56,705	109,292		1914	4	194	273	61	106	203
	1909	426	44,046	107,746	21,227	35,261	83,556		1909	4	330	556	86	113	307
Connecticut.....	1919	16	1,918	9,427	2,234	3,450	8,350	Ohio.....	1919	6	339	3,551	383	744	1,514
	1914	12	1,764	7,738	923	1,455	3,503		1914	5	382	4,100	191	444	706
	1909	10	1,710	5,851	872	1,480	3,562		1909	6	184	4,578	94	243	423
Illinois.....	1919	11	403	745	378	1,095	2,219	Pennsylvania.....	1919	163	7,381	18,140	8,121	19,715	42,475
	1914	8	268	479	149	208	504		1914	150	6,389	14,685	3,469	8,456	15,452
	1909	12	172	386	92	105	363		1909	135	6,086	13,560	2,988	5,331	12,059
Massachusetts.....	1919	62	12,321	39,133	12,241	44,210	75,262	Rhode Island.....	1919	67	9,319	28,920	9,357	20,927	42,258
	1914	57	11,437	30,932	5,843	10,989	22,455		1914	47	7,928	25,539	3,966	8,764	16,301
	1909	48	9,079	24,513	4,430	10,469	21,893		1909	45	7,792	21,179	3,616	5,819	13,956
New Jersey.....	1919	132	14,492	28,703	14,932	44,222	79,305	All other states.....	1919	30	3,322	13,230	3,153	15,461	26,649
	1914	98	11,683	22,876	5,026	13,706	27,987		1914	27	2,908	10,056	1,419	2,125	5,878
	1909	67	10,129	19,989	5,016	6,353	15,796		1909	18	3,303	8,384	1,712	1,709	5,524
New York.....	1919	133	6,076	17,150	6,167	24,178	44,693								
	1914	99	5,514	13,407	2,925	10,452	16,303								
	1909	81	5,252	8,750	2,321	4,139	9,673								

DYEING AND FINISHING TEXTILES.

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TABLE 43.—DETAILED STATEMENT, BY STATES: 1919.

STATE.	Number of establishments	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						EXPENSES.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		Capital.	Salaries and wages.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.		Officials.	Clerks, etc.	
								Maximum month.	Minimum month.									
United States.....	628	62,588	363	2,075	2,472	1,693	55,985	Dec 62,500	Ap 51,052	62,462	47,132	14,098	708	524	\$229,948,456	\$10,565,608	\$5,685,947	
Connecticut.....	16	2,062	3	48	48	45	1,918	De 2,205	Ja 1,444	2,300	1,901	325	56	18	8,626,670	360,630	108,080	
Illinois.....	11	497	5	20	32	28	403	Fe 478	Aug 359	413	191	218	2	2	1,641,958	160,077	94,783	
Massachusetts.....	62	13,389	13	379	322	354	12,321	De 13,931	Mh 10,800	13,786	10,414	3,117	153	102	58,279,255	1,822,530	830,747	
New Jersey.....	132	16,062	58	566	591	355	14,492	De 15,907	Se 13,156	15,687	11,900	3,435	176	176	47,239,040	3,145,522	1,206,251	
New York.....	133	7,316	95	349	524	272	6,076	De 6,734	Fe 5,612	6,840	4,688	2,135	10	7	26,434,445	1,449,206	1,079,584	
North Carolina.....	8	454	4	26	3	7	414	De 482	Je 381	482	281	194	3	4	1,445,362	51,557	8,560	
Ohio.....	6	367	.....	14	8	6	339	Se 373	Fe 300	377	316	61	.....	.....	2,108,425	37,744	31,666
Pennsylvania.....	163	8,290	142	266	311	190	7,381	De 8,362	Mh 6,395	8,399	6,700	1,557	85	57	29,895,844	1,875,048	702,856	
Rhode Island.....	67	10,507	25	305	510	348	9,319	De 10,440	Mh 8,214	10,472	8,122	2,131	142	77	39,960,365	1,294,391	1,348,935	
All other states ¹	30	3,644	18	93	123	88	3,322	.....	.....	3,706	2,619	925	81	81	14,407,116	368,903	274,485

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.							
	Salaries and wages—Continued.	Wage earners.	For contract work.	Rent and taxes.		For materials.			Primary horsepower.					Electric horsepower generated in establishments reporting.		
				Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.			Fuel and rent of power.	Total.	Owned.				Rented. ³	
											Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.			Water power. ²
United States.....	\$57,189,978	\$1,361,480	\$838,575	\$13,871,733	\$104,314,521	\$10,428,294	\$323,967,683	\$140,224,868	160,430	85,899	32,298	2,124	13,543	26,566	59,896	
Connecticut.....	2,233,708	.....	.....	4,401	564,395	3,043,674	400,445	8,350,098	4,890,979	9,427	3,279	628	.....	3,850	1,670	1,810
Illinois.....	373,608	89	.....	14,244	56,169	1,033,507	61,183	2,219,109	1,124,419	745	548	.....	.....	.....	.....	.....
Massachusetts.....	12,240,747	22,722	.....	12,930	4,594,062	41,845,090	2,363,839	75,261,815	31,052,277	39,133	13,613	14,259	.....	2,305	8,956	18,146
New Jersey.....	14,931,758	598,713	.....	125,875	2,363,181	41,712,221	2,509,779	70,305,174	35,083,174	28,703	22,069	3,204	.....	50	3,094	12,548
New York.....	6,166,676	230,842	.....	297,966	1,523,739	23,306,878	871,508	44,693,507	20,515,121	17,150	5,826	5,186	.....	166	3,262	6,162
North Carolina.....	229,208	.....	.....	200	28,217	680,222	61,300	1,242,579	501,057	1,431	90	825	.....	.....	516	610
Ohio.....	388,650	.....	.....	5,118	16,494	661,524	82,878	1,513,608	769,206	3,551	3,400	.....	.....	.....	151	511
Pennsylvania.....	8,120,617	477,192	.....	234,733	1,268,380	18,174,070	1,539,901	42,475,000	22,760,429	18,140	13,850	920	.....	45	3,293	3,241
Rhode Island.....	9,595,657	26,791	.....	105,620	2,773,580	18,901,077	2,025,663	42,257,545	21,330,805	28,020	16,733	4,951	1,685	2,374	3,177	14,902
All other states ¹	3,153,049	137	.....	37,488	683,408	14,955,049	505,798	26,649,248	11,188,401	13,230	6,491	2,235	.....	15	2,209	1,966

¹ All other states embrace: Alabama, 1 establishment; California, 2; Delaware, 2; Florida, 1; Indiana, 2; Kentucky, 3; Maine, 1; Maryland, 3; Michigan, 1; Minnesota, 3; Missouri, 2; New Hampshire, 1; South Carolina, 3; Tennessee, 2; West Virginia, 1; and Wisconsin, 2.

² Includes water wheels, turbines, and water motors (irrespective of ownership of water supply).

³ Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

FLAX AND HEMP, DRESSED.

General character of the industry.—Establishments included in this classification are engaged in separating the woody portion of the straw from the fiber, a combined process of decay and mechanical treatment technically known as retting, breaking, scutching, and hackling. The product of these establishments is line, or fiber, used principally in the manufacture of cordage and twine. A certain amount of tow, or waste, a natural by-product of the process of dressing, is also

reported as a product. This industry is principally located in three states—Kentucky with 3 establishments, reporting \$546,648 as value of products; Wisconsin, 7 establishments, reporting \$425,298; and Michigan, 4 establishments, reporting \$184,208.

Comparative summary.—Table 44 presents statistics for the industry for each census from 1899 to 1919, inclusive.

TABLE 44.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, AND 1899.

	1919	1914	1909	1904	1899	PER CENT OF INCREASE. ¹			
						1914-1919	1909-1914	1904-1909	1899-1904
Number of establishments.....	20	16	16	17	4				
Persons engaged.....	491	158	216	246	231	210.8	-26.9	-12.2	6.5
Proprietors and firm members.....	26	19	22	17	8				
Salaried employees.....	45	23	30	15	12				
Wage earners (average number).....	420	116	164	214	211	262.1	-20.3	-23.4	1.4
Primary horsepower.....	1,920	832	1,147	600	187	130.8	-27.5	91.2	220.9
Capital.....	\$2,783,958	\$234,619	\$784,771	\$238,842	\$71,496	1,086.0	-70.1	228.6	234.1
Salaries and wages.....	534,964	60,601	92,707	66,363	52,589	782.8	-34.6	33.7	31.9
Salaries.....	87,591	15,330	28,700	9,386	6,589	471.4	-46.6	205.8	42.4
Wages.....	447,373	45,271	64,007	56,977	46,000	888.2	-20.3	6.7	30.4
Paid for contract work.....	1,146			1,100					
Rent and taxes.....	19,081	3,280	5,636	24,607	2,685	481.7	-41.8	22.3	572.6
Cost of materials.....	1,708,670	185,247	336,300	233,132	91,032	822.4	-44.9	44.3	156.1
Value of products.....	2,369,114	282,648	467,346	346,963	158,650	738.2	-39.5	34.7	118.7
Value added by manufacture ²	660,444	97,401	131,046	113,831	67,618	578.1	-25.7	15.1	68.2

¹ A minus sign (—) denotes decrease; percentages are not shown where base is less than 100.

² Exclusive of internal revenue.

³ Value of products less cost of materials.

HAIRCLOTH.

General character of the industry.—Establishments engaged in this industry weave haircloth principally from a cotton warp with a horsehair filling, although some haircloth is made entirely from hair. The principal use of haircloth is for upholstering purposes in covering seats and backs of furniture or as a stiffening in the manufacture of clothing. Of the 18 estab-

lishments reporting in 1919, 14 were located in the state of Pennsylvania and reported \$2,791,676 as value of products.

Comparative summary.—Table 45 presents statistics relating to the haircloth industry for the years 1919, 1914, and 1909.

TABLE 45.—COMPARATIVE SUMMARY: 1919, 1914, AND 1909.

	1919	1914	1909	PER CENT OF INCREASE. ¹			1919	1914	1909	PER CENT OF INCREASE. ¹	
				1914-1919	1909-1914					1914-1919	1909-1914
Number of establishments.....	18	19	14	.....	.....	Salaries and wages.....	\$569,059	\$388,907	\$323,808	46.3	20.1
Persons engaged.....	511	674	621	-24.2	8.5	Salaries.....	143,910	98,627	71,529	45.9	37.9
Proprietors and firm members.....	19	22	11	.....	.....	Wages.....	425,140	290,280	252,279	46.5	15.1
Salaried employees.....	67	57	72	.....	.....	Paid for contract work.....	11,731	2,913	3,500	302.7	-16.8
Wage earners (average number).....	425	595	538	-28.6	10.6	Rent and taxes.....	56,004	35,161	32,996	59.3	6.6
Primary horsepower.....	1,153	1,723	995	-33.1	73.2	Cost of materials.....	2,259,142	1,654,006	1,613,581	30.6	2.5
Capital.....	\$2,909,150	\$2,945,244	\$2,280,717	1.8	20.1	Value of products.....	3,315,113	2,395,486	2,230,033	38.4	7.4
						Value added by manufacture ²	1,055,971	741,480	616,452	42.4	20.3

¹ A minus sign (—) denotes decrease; percentages are not shown where base is less than 100.

² Value of products less cost of materials.

MATS AND MATTING.

General character of the industry.—This industry includes establishments engaged in the manufacture of doormats and floor mattings, art squares, rugs and carpets. The principal materials used are wire grass, reeds, and coir yarn (coir being the fiber prepared from the outer husk of the coconut). This industry differs from the "carpets and rugs, other than rag,"

or the "jute goods" industries in that the chief material is not wool or cotton or jute.

In 1919 over one-half of the total value of products, or \$2,821,541, was reported by 5 establishments located in the state of Wisconsin.

Comparative summary.—Statistics are presented in Table 46 for the industry from 1899 to 1919, inclusive.

TABLE 46.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, AND 1899.

	1919	1914	1909	1904	1899	PER CENT OF INCREASE. ¹			
						1914-1919	1909-1914	1904-1909	1899-1904
Number of establishments.....	12	12	12	12	9	.....	.....	.....	.....
Persons engaged.....	1,173	977	1,040	696	1,248	20.1	-6.1	49.4	-44.2
Proprietors and firm members.....	7	10	18	13	9	.....	.....	.....	.....
Salaried employees.....	93	98	85	58	42	.....	.....	.....	.....
Wage earners (average number).....	1,073	869	937	625	1,197	23.5	-7.3	49.9	-47.8
Primary horsepower.....	1,670	1,643	1,433	1,524	1,733	1.6	14.7	-6.0	-12.1
Capital.....	\$7,190,675	\$5,055,114	\$4,051,467	\$338,007	\$994,155	42.2	24.8	383.1	-15.6
Salaries and wages.....	1,040,251	552,070	479,953	316,139	263,342	88.4	15.0	51.8	17.8
Salaries.....	229,644	95,823	94,519	67,035	31,090	137.2	2.4	41.0	115.8
Wages.....	810,607	456,247	385,434	249,104	237,282	78.1	18.1	54.7	5.0
Paid for contract work.....	3,303	21,230	50,127	34,241	100	-84.4	-57.6	40.4	.....
Rent and taxes.....	225,977	43,465	18,172	11,989	8,100	419.9	139.2	.....	.....
Cost of materials.....	2,102,580	1,170,214	1,065,566	574,168	516,137	79.7	9.7	85.8	11.2
Value of products.....	4,890,855	2,235,807	2,431,615	1,242,096	1,165,330	117.4	-8.1	95.6	6.7
Value added by manufacture ²	2,758,275	1,065,653	1,365,049	668,828	649,193	158.8	-21.9	104.1	3.0

¹ A minus sign (—) denotes decrease; percentages are not shown where base is less than 100.

² Exclusive of internal revenue.

³ Value of products less cost of materials.

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES
MANUFACTURES: 1919

COTTON MANUFACTURES

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures

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EXPLANATION OF TERMS.

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 statistics for these purposes it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or for which products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1919, 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 factory, 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, county, or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, 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 different from those covered by the class designation, and, on the other hand, may not represent the total product covered by this designation, because some products of this class may be made in establishments in which it is not the product of chief value.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1919 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.—The following general classes of persons engaged in the 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.

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. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date did not portray such conditions, an earlier date was requested.

In the case of employees other than wage earners the number thus reported for the representative date 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 has been 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 the representative date, a report was obtained of the number employed on the 15th of each month, by sex, without distinction of 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 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 number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is not believed to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In order to determine as nearly as possible the age distribution of the average number of wage earners for an industry, the per cent distribution by age of the wage earners for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year to determine the average numbers 16 years and over, and under 16, employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calcu-

late accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners 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 few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital (amount actually invested).—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."

These instructions were identical with those employed at the censuses of 1914 and 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

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" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include certain Federal taxes and state, county, and local taxes. Under "Federal taxes" there are included the internal revenue tax on manufactures (tobacco, beverages, etc.), excise taxes when included in value reported for products, corporation capital stock tax, and corporation income tax; but not the income tax for individuals and partners.

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.

Value added by manufacture.—The value of products is not always 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, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated 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.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power equipment of the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, fuel oils, gasoline and other volatile oils, and gas, and represent the quantity used during the year. As only the principal kinds of fuel are shown, comparison as to the total cost of all fuel is impracticable.

COTTON MANUFACTURES.

By ARTHUR J. LIECK.

GENERAL STATISTICS.

General character of the industry.—This report presents statistics for three classes of mills: (1) Those producing "Cotton goods," which includes mills engaged in spinning, in the weaving of piece goods, or any of the preliminary processes preparatory to spinning; (2) those producing "Cotton small wares," which includes mills engaged in the weaving of tape, webbing, figured labels, banding, belts, belting, trimmings, and edgings, or the making of flat and round braids, which includes shoe and corset laces (some of the mills producing their own yarns); and (3) those engaged in the manufacture of machine-made "Cotton lace goods."

Cotton manufactures rank as the most important branch of the textile industry. In 1919 the value of cotton manufactures amounted to over two billion dollars, or nearly 40 per cent of the total value of products for all kinds of textiles combined.

Comparative summary.—The development of the industry from 1899 to 1919 is shown in Table 1. The relative importance of the three branches of the industry is brought out in this table, showing that the manufacture of cotton goods is the preeminent feature, and that, while the manufacture of cotton small wares and of cotton lace are important industries, they form a comparatively small portion of the total.

Principal states, ranked by value of products.—Table 2 presents statistics, by states, for the industry in 1919. Massachusetts is the most important cotton-manufacturing state in the Union and has held this position for over 80 years. In 1919 more than one-half of the total value of products for the industry was reported by three states—Massachusetts and the Carolinas.

Persons engaged in the industry.—Comparative statistics for the number of persons engaged in the industry are shown in Table 3 for 1919, 1914, and 1909. This table has been extended to show similar figures for each branch of the industry for 1919 and 1914.

Wage earners, by months, for states.—Table 4 shows that the cotton-manufactures industry is not a seasonal one, but is very regular, employing approximately the same number of wage earners each month throughout the year. The majority of the states as well as the United States conform to this regularity.

Average number of wage earners, with per cent, by sex and age, for selected states.—Statistics are presented, by states, in Table 5 with respect to the average num-

ber of wage earners, male and female, according to age, employed in the industry for 1919, 1914, and 1909. The most prominent departure from the condition which existed in the industry prior to the census of 1919 is the reduction of child labor in the cotton-growing states.

Prevailing hours of labor.—The distribution of the average number of wage earners, according to the prevailing hours of labor and by selected states, is shown in Table 6 for 1919 and 1914. The mills in the New England states operated chiefly on a 48-hour basis, while the mills in the cotton-growing states operated largely between 54 and 60 hours per week. The general tendency of the industry for the United States is toward shorter hours.

Size of establishments, by average number of wage earners, by states.—The distribution, by states, according to size of establishments based on the average number of wage earners is shown in Table 7.

Size of establishments, by value of products.—Table 8 presents statistics relating to the size of establishments according to the value of products for 1919, 1914, and 1909. At the censuses of 1909 and 1914 establishments with products valued at "\$100,000 to \$1,000,000" constituted one group, but at the census of 1919 this group was subdivided into "\$100,000 to \$500,000" and "\$500,000 to \$1,000,000." Separate figures for the number of establishments and value of products have been compiled, however, from the returns of 1914. The table, therefore, gives combined figures for these two groups in the case of all items for 1909, and in the case of average number of wage earners and value added by manufacture for 1914. This table shows that, in 1919, 83 per cent of the total value of products for the industry was confined to establishments whose products amounted to over \$1,000,000 each.

Character of ownership, by states.—The corporate form of ownership prevails almost entirely in this industry as will be seen from the figures presented in Table 9.

Number and horsepower of types of prime movers.—The various types of power used in 1919, 1914, and 1909 are shown in Table 10 for the industry as a whole.

Fuel consumed, by states.—Table 11 relates to the quantity and kinds of fuel used in 1919 as compared with 1914 for the industry as a whole for the United States and for the various states.

MANUFACTURES.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, AND 1899.

	1919	1914	1909	1904	1899	PER CENT OF INCREASE. ¹			
						1914-1919	1909-1914	1904-1909	1899-1904
COTTON MANUFACTURES.									
Number of establishments.....	1,490	1,328	1,324	1,154	1,055	12.7	0.3	14.7	9.4
Persons engaged.....	462,873	403,911	387,771	323,287	308,237	14.6	4.2	19.9	4.9
Proprietors and firm members.....	346	489	377	432	474	-20.2	29.7	-12.7	-8.9
Salaried employees.....	15,675	10,018	8,514	6,981	4,902	56.5	17.7	22.0	42.4
Wage earners (average number).....	446,852	393,404	378,880	315,874	302,861	13.6	3.8	19.9	4.3
Primary horsepower.....	1,833,542	1,585,953	1,296,517	983,604	795,834	17.5	22.3	31.4	24.0
Capital.....	\$1,914,919,506	\$899,764,682	\$822,237,529	\$613,110,655	\$467,240,157	112.8	9.4	34.1	31.2
Salaries and wages.....	410,487,673	169,822,599	147,270,903	106,443,687	94,039,951	141.7	15.3	38.4	13.2
Salaries.....	41,763,961	17,400,000	14,411,758	10,237,891	7,350,199	140.0	20.7	40.8	39.3
Wages.....	368,723,712	152,422,599	132,859,145	96,205,796	86,689,752	141.9	14.7	38.1	11.0
Paid for contract work.....	4,162,821	1,614,636	2,157,069	528,826	1,702,393	157.8	-25.1	307.9	-68.9
Rent and taxes.....	123,148,109	8,409,837	6,193,492	2,489,973	2,420,155	1,364.3	35.7	26.5	14.2
Cost of materials.....	1,314,901,542	443,522,515	371,009,470	286,255,303	176,551,527	196.5	19.5	29.6	62.1
Value of products.....	2,195,565,881	701,300,933	628,391,813	450,467,704	339,200,320	213.1	11.6	39.5	32.8
Value added by manufacture ²	880,064,339	257,778,418	257,382,343	164,212,401	162,048,793	241.6	0.2	56.7	1.0
COTTON GOODS.									
Number of establishments.....	1,288	1,179	1,208	1,077	973	9.2	-2.4	12.2	10.7
Persons engaged.....	445,423	388,726	379,538	317,563	303,031	14.6	2.4	19.5	4.8
Proprietors and firm members.....	239	409	303	367	369	-41.6	35.0	-17.4	-5.7
Salaried employees.....	14,218	8,951	8,053	6,738	4,713	58.8	11.2	19.5	43.0
Wage earners (average number).....	430,966	379,366	371,182	310,458	297,929	13.6	2.2	19.6	4.2
Primary horsepower.....	1,840,201	1,566,757	1,289,105	979,109	789,858	17.5	21.8	31.4	24.0
Capital.....	\$1,853,069,816	\$867,043,678	\$808,412,757	\$605,100,164	\$460,842,772	113.7	7.3	33.6	31.3
Salaries and wages.....	392,839,415	161,679,759	143,504,935	104,289,463	92,249,884	143.0	12.7	37.6	13.1
Salaries.....	37,364,478	15,550,131	13,715,218	9,911,767	7,123,574	140.3	13.4	38.4	39.1
Wages.....	355,474,937	146,129,628	129,789,717	94,377,696	85,126,310	143.3	12.6	37.5	10.9
Paid for contract work.....	3,693,742	1,483,770	2,058,644	450,817	1,592,954	148.9	-27.9	356.6	-71.7
Rent and taxes.....	120,298,126	8,096,029	6,033,654	2,480,109	2,421,681	1,385.9	34.2	26.5	14.2
Cost of materials.....	1,277,785,597	431,602,540	364,013,504	282,047,648	173,441,390	196.1	18.6	29.1	62.6
Value of products.....	2,125,272,193	676,569,115	615,217,702	442,451,218	332,800,156	214.1	10.0	39.0	32.9
Value added by manufacture ²	847,480,596	244,966,575	251,204,198	160,403,570	159,364,766	246.0	-2.5	56.6	0.7
COTTON SMALL WARES.									
Number of establishments.....	164	108	116	77	82	51.9	-6.9	.....	.....
Persons engaged.....	10,254	7,062	8,233	5,724	5,209	45.2	-14.2	43.8	10.0
Proprietors and firm members.....	99	70	74	65	85	.....	.....	.....	.....
Salaried employees.....	759	394	461	243	189	92.6	-14.5	89.7	28.6
Wage earners (average number).....	9,396	6,598	7,698	5,416	4,932	42.4	-14.3	42.1	9.8
Primary horsepower.....	14,263	10,100	10,412	7,495	5,976	41.2	-3.0	38.9	25.4
Capital.....	\$20,559,474	\$11,764,495	\$13,824,772	\$8,010,491	\$6,397,385	151.3	-14.9	72.6	25.2
Salaries and wages.....	9,537,260	3,463,783	3,765,968	2,154,224	1,709,067	175.3	-8.0	74.8	20.3
Salaries.....	2,375,042	638,893	690,540	326,124	226,625	271.7	-8.3	113.6	43.9
Wages.....	7,162,218	2,824,890	3,069,428	1,828,100	1,563,442	153.5	-8.0	67.9	16.9
Paid for contract work.....	211,028	82,970	98,425	78,009	109,439	154.3	-15.7	26.2	-23.7
Rent and taxes.....	1,553,008	195,401	162,838	297,894	277,474	995.1	20.0	.....	.....
Cost of materials.....	24,030,951	6,243,027	6,966,906	4,207,055	3,110,137	285.1	-10.8	66.3	35.3
Value of products.....	40,896,835	11,525,033	13,174,111	8,016,486	6,394,164	254.9	-12.5	64.3	25.4
Value added by manufacture ²	10,856,884	5,282,006	6,178,145	3,808,831	3,284,027	219.1	-14.5	62.2	16.0
COTTON LACE.									
Number of establishments.....	44	41	(³)	(³)	(³)	.....	(³)	(³)	(³)
Persons engaged.....	7,196	8,123	(³)	(³)	(³)	-11.4	(³)	(³)	(³)
Proprietors and firm members.....	8	10	(³)	(³)	(³)	.....	(³)	(³)	(³)
Salaried employees.....	698	673	(³)	(³)	(³)	3.7	(³)	(³)	(³)
Wage earners (average number).....	6,490	7,440	(³)	(³)	(³)	-12.8	(³)	(³)	(³)
Primary horsepower.....	9,078	9,096	(³)	(³)	(³)	-0.2	(³)	(³)	(³)
Capital.....	\$32,260,216	\$20,956,509	(³)	(³)	(³)	53.9	(³)	(³)	(³)
Salaries and wages.....	8,110,998	4,679,057	(³)	(³)	(³)	73.3	(³)	(³)	(³)
Salaries.....	2,024,441	1,210,976	(³)	(³)	(³)	67.2	(³)	(³)	(³)
Wages.....	6,086,557	3,468,081	(³)	(³)	(³)	75.5	(³)	(³)	(³)
Paid for contract work.....	258,051	47,896	(³)	(³)	(³)	438.8	(³)	(³)	(³)
Rent and taxes.....	1,206,375	118,407	(³)	(³)	(³)	994.8	(³)	(³)	(³)
Cost of materials.....	13,075,994	5,076,948	(³)	(³)	(³)	180.3	(³)	(³)	(³)
Value of products.....	29,396,853	13,208,785	(³)	(³)	(³)	122.6	(³)	(³)	(³)
Value added by manufacture ²	16,320,859	7,529,837	(³)	(³)	(³)	116.7	(³)	(³)	(³)

¹ A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.² Exclusive of internal revenue.³ Value of products less cost of materials.⁴ Figures not available.

COTTON MANUFACTURES.

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TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States..	1,496	446,852	100.0	...	\$2,195,566	100.0	...	\$880,064	100.0	...	Virginia.....	10	6,518	1.5	13	\$32,535	1.5	13	\$14,991	1.7	13
Massachusetts.....	231	124,150	27.8	1	604,938	27.6	1	240,017	27.3	1	Tennessee.....	16	4,895	1.1	14	22,461	1.0	14	8,165	0.9	14
North Carolina.....	311	67,207	15.1	2	318,368	14.5	2	131,589	14.9	2	Maryland ¹	14	3,416	0.8	15	18,455	0.8	15	7,027	0.8	15
South Carolina.....	145	48,079	10.8	3	228,440	10.4	3	91,357	10.4	3	Texas.....	15	2,633	0.6	16	13,920	0.6	16	4,605	0.5	16
Georgia ¹	132	38,283	8.6	4	192,186	8.8	4	68,747	7.8	5	Illinois ¹	10	1,538	0.3	18	7,385	0.3	17	2,348	0.3	17
Rhode Island.....	132	36,336	8.1	5	177,423	8.1	5	77,275	8.8	4	Mississippi.....	15	2,406	0.5	17	8,067	0.4	18	3,093	0.4	17
Connecticut.....	57	16,483	3.7	8	105,054	4.8	6	39,252	4.5	7	Kentucky ¹	6	987	0.2	23	4,459	0.2	22	1,534	0.2	24
Pennsylvania.....	108	15,379	3.4	9	90,582	4.1	7	39,656	4.5	6	Vermont.....	4	1,092	0.2	21	4,354	0.2	23	2,257	0.3	21
New Hampshire ² ..	21	21,294	4.8	6	80,392	3.9	8	30,148	4.4	8	Indiana.....	4	997	0.2	22	4,353	0.2	24	1,863	0.2	22
Alabama.....	58	18,102	4.1	7	79,643	3.6	9	28,304	3.2	9	Wisconsin.....	6	171	(²)	26	1,269	0.1	26	385	(²)	26
New Jersey.....	45	9,672	2.2	12	60,475	2.8	10	19,013	2.2	12	All other states.....	24	4,888	1.1	...	22,926	1.0	...	8,893	1.0	...
Maine.....	14	11,763	2.6	10	56,564	2.6	11	27,139	3.1	10											
New York.....	58	10,493	2.3	11	55,287	2.5	12	23,976	2.7	11											

¹ Excludes statistics for 1 establishment to avoid disclosure of individual operations. These are included in "All other states."

² Excludes statistics for 2 establishments to avoid disclosure of individual operations. These are included in "All other states."

³ Less than one-tenth of 1 per cent.

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

INDUSTRY AND CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.		INDUSTRY AND CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.	
					Male.	Female.						Male.	Female.
COTTON MANUFACTURES.....	1910	402,873	268,602	194,211	58.0	42.0	COTTON SMALL WARES.....	1910	10,254	4,040	6,205	39.5	60.5
	1914	403,911	237,926	165,985	58.9	41.1		1914	7,062	2,906	4,156	41.1	58.9
	1909	387,771	221,299	166,472	57.1	42.9	Proprietors and officials.....	1919	467	446	21	95.5	4.5
Proprietors and officials.....	1919	7,733	7,593	140	98.2	1.8		1914	238	230	8	96.6	3.4
	1914	5,053	4,993	60	98.8	1.2	Proprietors and firm members..	1919	99	94	5	...	...
	1909	4,461	4,410	51	98.9	1.1		1914	70	69	1	...	...
Proprietors and firm members..	1919	3,461	3,21	25	92.8	7.2	Salaried officers of corporations..	1919	179	173	6	96.6	3.4
	1914	489	469	20	95.0	4.1		1914	88	82	6	...	...
	1909	377	355	22	94.2	5.8	Superintendents and managers..	1919	189	179	10	94.7	5.3
Salaried officers of corporations..	1919	2,604	2,656	38	98.6	1.4		1914	80	70	1	...	...
	1914	1,914	1,900	14	99.3	0.7	Clerks and other subordinate sal- aried employees.	1919	391	160	231	40.9	59.1
	1909	1,726	1,715	11	99.4	0.6		1914	226	129	97	57.1	42.9
Superintendents and managers..	1919	4,963	4,916	77	98.4	1.6	Wage earners (average number)..	1919	9,396	3,443	5,953	36.6	63.4
	1914	2,650	2,624	26	99.0	1.0		1914	6,598	2,547	4,051	38.6	61.4
	1909	2,358	2,340	18	99.2	0.8	16 years of age and over.....	1919	8,879	3,295	5,584	37.1	62.9
Clerks and other subordinate sal- aried employees.	1919	8,288	4,783	3,505	57.7	42.3		1914	6,198	2,436	3,762	39.3	60.7
	1914	5,451	4,062	1,389	74.5	25.5	Under 16 years of age.....	1919	517	148	369	28.6	71.4
	1909	4,430	3,413	1,017	77.0	23.0		1914	400	111	289	27.8	72.2
Wage earners (average number)..	1919	446,852	256,286	190,566	57.4	42.6	COTTON LACE.....	1919	7,196	3,605	3,591	50.1	49.9
	1914	393,404	223,571	169,833	58.2	41.8		1914	8,123	3,911	4,212	48.1	51.9
	1909	378,880	213,476	165,404	56.3	43.7	Proprietors and officials.....	1919	235	219	16	93.2	6.8
16 years of age and over.....	1919	425,271	245,688	179,583	57.8	42.2		1914	172	157	15	91.3	8.7
	1914	360,360	210,048	150,312	58.3	41.7	Proprietors and firm members..	1919	8	8	...	...	...
	1909	339,574	192,030	146,644	56.8	43.2		1914	10	10	...	...	...
Under 16 years of age.....	1919	21,681	10,598	10,083	49.1	50.9	Salaried officers of corporations..	1919	62	61	1	...	...
	1914	33,044	18,823	14,221	57.0	43.0		1914	54	54	...	...	...
	1909	39,306	20,516	18,790	52.3	47.7	Superintendents and managers..	1919	165	150	15	90.9	9.1
COTTON GOODS.....	1919	445,423	261,008	184,415	58.0	41.4		1914	108	93	15	86.1	13.9
	1914	388,726	231,109	157,617	59.5	40.5	Clerks and other subordinate sal- aried employees.	1919	471	292	179	62.0	38.0
Proprietors and officials.....	1919	7,031	6,928	103	98.5	1.5		1914	511	380	131	74.4	25.6
	1914	4,643	4,606	37	99.2	0.8	Wage earners (average number)..	1919	6,490	3,094	3,396	47.7	52.3
Proprietors and firm members..	1919	239	219	20	91.6	8.4		1914	7,440	3,374	4,066	45.3	54.7
	1914	409	390	19	95.4	4.6	16 years of age and over.....	1919	5,995	2,884	3,111	48.1	51.9
Salaried officers of corporations..	1919	2,453	2,422	31	98.7	1.3		1914	7,086	3,237	3,849	45.7	54.3
	1914	1,772	1,764	8	99.5	0.5	Under 16 years of age.....	1919	495	210	285	42.4	57.6
Superintendents and managers..	1919	4,339	4,287	52	98.3	1.7		1914	354	137	217	38.7	61.3
	1914	2,462	2,452	10	99.6	0.4							
Clerks and other subordinate sal- aried employees.	1919	7,426	4,331	3,095	58.3	41.7							
	1914	4,717	3,553	1,164	75.3	24.7							
Wage earners (average number)..	1919	430,966	249,749	181,217	58.0	42.0							
	1914	379,366	222,950	156,416	58.8	41.2							
16 years of age and over.....	1919	410,397	239,509	170,888	58.4	41.6							
	1914	347,076	204,375	142,701	58.9	41.1							
Under 16 years of age.....	1919	20,569	10,240	10,329	49.8	50.2							
	1914	32,290	18,575	13,715	57.5	42.5							

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TABLE 4.—WAGE EARNERS, BY MONTHS: 1919.

(The month of maximum employment for each industry and state is indicated by bold-faced figures and that of minimum employment by *italic* figures.)

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States:														
Cotton manufactures, 1919..	446,852	448,214	432,640	430,546	<i>429,551</i>	438,253	444,813	450,512	452,739	453,868	455,500	459,179	466,409	92.3
Males.....	256,286	255,677	247,794	246,842	<i>246,067</i>	251,380	254,678	258,511	260,581	260,913	261,706	263,591	267,692	91.9
Females.....	190,566	192,537	184,846	183,704	<i>183,484</i>	186,873	190,135	192,001	192,158	192,955	193,794	195,588	198,717	92.3
Cotton goods.....	430,906	432,978	417,786	415,600	<i>414,718</i>	423,205	429,213	434,345	436,312	437,375	438,711	442,252	449,007	92.4
Males.....	249,749	249,452	241,750	240,757	<i>240,037</i>	245,279	248,326	251,887	253,787	254,059	254,741	256,561	260,372	92.2
Females.....	181,217	183,526	176,036	174,843	<i>174,681</i>	178,016	180,887	182,478	182,525	183,316	183,970	185,691	188,635	92.6
Cotton small wares.....	9,396	9,295	8,879	8,943	<i>8,872</i>	8,884	9,180	9,634	9,646	9,622	9,774	9,921	10,102	87.8
Males.....	3,443	3,369	3,211	3,239	<i>3,232</i>	3,201	3,288	3,535	3,567	3,550	3,630	3,680	3,784	84.6
Females.....	5,953	5,896	5,668	5,704	<i>5,640</i>	5,683	5,892	6,099	6,079	6,072	6,144	6,241	6,318	89.3
Cotton lace.....	6,490	<i>5,941</i>	5,975	6,003	<i>5,961</i>	6,074	6,420	6,533	6,781	6,871	7,015	7,006	7,300	81.4
Males.....	3,094	2,826	2,833	2,846	<i>2,798</i>	2,900	3,064	3,109	3,227	3,304	3,335	3,350	3,536	79.1
Females.....	3,396	<i>3,115</i>	3,142	3,157	<i>3,163</i>	3,174	3,356	3,424	3,554	3,567	3,680	3,656	3,764	82.8
Cotton manufactures, 1914..	393,404	404,647	403,388	402,490	401,840	398,914	393,913	389,239	<i>382,702</i>	382,808	385,364	387,117	388,336	94.6
1909..	378,880	<i>374,433</i>	376,348	377,962	<i>377,521</i>	377,487	377,862	378,700	378,920	380,363	381,225	382,232	383,629	97.6
Alabama.....	18,102	17,747	18,011	17,579	<i>17,491</i>	17,835	17,927	17,971	18,744	18,457	18,562	18,870	18,990	92.4
Connecticut.....	16,483	16,022	16,017	16,346	<i>15,935</i>	16,167	16,323	16,780	16,514	16,649	16,887	16,936	17,220	92.5
Georgia ¹	38,283	40,041	37,273	36,536	<i>36,260</i>	37,111	37,464	37,958	38,772	38,634	39,223	39,508	40,616	89.3
Illinois ¹	1,538	1,399	<i>1,559</i>	1,442	<i>1,454</i>	1,494	1,533	1,591	1,625	1,624	1,615	1,605	1,715	79.2
Indiana.....	997	<i>950</i>	1,027	1,044	<i>1,014</i>	994	981	971	997	978	995	1,012	1,001	91.0
Kentucky ¹	967	1,181	1,196	1,201	1,206	1,153	1,211	608	623	627	652	624	1,022	50.2
Maine.....	11,763	13,106	7,644	<i>6,661</i>	<i>7,444</i>	12,785	13,079	13,291	13,311	13,427	13,402	13,495	13,511	49.3
Maryland ¹	3,416	3,579	3,621	3,449	<i>3,363</i>	3,332	<i>3,310</i>	3,379	3,388	3,408	3,370	3,357	3,456	91.4
Massachusetts.....	124,150	124,242	120,227	120,135	<i>119,715</i>	121,538	124,541	126,083	125,517	126,887	124,970	127,247	128,698	93.0
Mississippi.....	2,406	2,540	2,498	2,427	2,370	2,428	2,308	2,332	<i>2,297</i>	2,343	2,405	2,440	2,475	90.4
New Hampshire ²	21,294	<i>20,637</i>	20,705	20,866	20,931	20,772	21,270	21,690	21,883	21,876	21,778	21,441	21,719	93.8
New Jersey.....	9,672	9,519	<i>8,792</i>	9,083	9,508	9,694	9,808	9,732	9,927	9,927	9,910	9,941	10,223	86.0
New York.....	10,493	10,922	10,330	10,038	10,244	10,308	10,580	11,036	11,214	<i>9,727</i>	10,177	9,839	11,441	85.0
North Carolina.....	67,297	67,953	67,675	66,782	66,699	<i>65,620</i>	66,043	67,233	66,497	66,563	68,233	68,824	69,436	94.5
Pennsylvania.....	15,379	14,166	<i>14,009</i>	14,199	14,431	14,745	15,379	15,638	16,013	16,193	16,359	16,578	16,838	93.2
Rhode Island.....	36,336	35,296	<i>35,067</i>	35,010	35,408	35,530	35,814	36,852	36,900	37,193	37,000	37,505	37,827	92.7
South Carolina.....	48,079	48,701	47,156	47,309	<i>46,773</i>	47,049	47,592	47,297	48,046	49,238	49,071	48,818	49,898	93.7
Tennessee.....	4,895	5,162	5,066	4,922	4,609	4,708	4,732	4,722	4,918	4,453	5,039	5,130	5,219	85.3
Texas.....	2,633	2,612	2,673	2,620	2,564	2,613	2,605	2,618	2,688	2,669	2,633	2,576	2,620	90.3
Vermont.....	1,092	1,101	1,104	1,091	1,068	1,065	<i>1,062</i>	1,074	1,101	1,115	1,104	1,119	1,110	94.0
Virginia.....	6,518	<i>6,072</i>	6,124	6,175	6,364	6,480	6,531	6,596	6,722	6,794	6,636	6,851	6,871	88.4
States showing large proportion of females.														Per cent av. is of state.
Georgia ¹	14,588	15,394	13,905	13,858	<i>13,852</i>	14,261	14,430	14,520	14,736	14,650	14,992	15,067	15,396	38.1
Illinois ¹	782	703	708	736	<i>730</i>	742	774	830	841	830	810	795	897	56.8
Indiana.....	501	514	503	594	563	547	550	537	562	555	560	568	553	56.3
Kentucky ¹	521	662	676	678	676	630	693	<i>296</i>	385	303	480	303	532	54.9
Massachusetts.....	57,613	58,219	56,103	55,717	<i>55,628</i>	56,237	57,924	58,566	58,133	58,835	57,303	59,081	59,617	46.4
New Jersey.....	5,464	5,433	<i>5,145</i>	5,327	5,452	5,484	5,512	5,407	5,558	5,586	5,520	5,490	5,651	56.5
North Carolina.....	25,260	25,534	25,564	25,027	25,244	24,729	24,966	25,215	<i>24,618</i>	24,695	25,724	25,790	26,014	37.5
Rhode Island.....	16,877	16,550	<i>16,348</i>	16,413	16,354	16,379	16,508	17,087	17,170	17,216	17,405	17,427	17,658	46.4
South Carolina.....	15,790	16,117	15,476	15,677	15,440	<i>15,417</i>	15,542	15,430	15,572	16,112	16,066	16,042	16,541	32.8

¹ Excludes statistics for 1 establishment to avoid disclosure of individual operations.² Excludes statistics for 2 establishments to avoid disclosure of individual operations.

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TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES, WITH PER CENT, BY SEX AND AGE: 1919, 1914, AND 1909.

STATE.	Census year.	Wage earners (average number).	PER CENT OF TOTAL.			STATE.	Census year.	Wage earners (average number).	PER CENT OF TOTAL.		
			16 years of age and over.		Under 16 years of age.				16 years of age and over.		Under 16 years of age.
			Males.	Females.					Males.	Females.	
United States.....	1919	446,852	54.7	40.5	4.8	New Hampshire.....	² 1919	21,294	53.4	45.3	1.3
New England states.....	1919	211,118	51.7	43.3	5.0		1914	21,669	55.2	43.2	0.5
Cotton-growing states.....	1919	192,544	59.1	36.0	4.9		1909	22,290	49.7	48.3	2.0
All other states.....	1919	43,190	50.1	46.8	3.1	New Jersey.....	1919	9,472	43.5	53.1	3.3
United States.....	1914	393,404	53.4	38.2	8.4		1914	7,394	44.8	49.6	5.6
	1909	378,880	50.9	38.7	10.4		1909	6,638	38.1	52.9	8.9
Alabama.....	1919	18,102	60.4	37.9	1.8	New York.....	1919	10,493	60.5	38.6	0.9
	1914	13,697	51.3	32.0	16.7		1914	9,127	56.3	41.9	1.8
	1909	12,731	50.2	31.1	18.7		1909	10,963	55.3	42.0	2.8
Connecticut.....	1919	16,483	55.7	30.5	4.8	North Carolina.....	1919	67,297	56.0	37.1	6.0
	1914	15,466	53.3	30.4	4.3		1914	53,703	55.3	31.4	13.3
	1909	14,360	55.8	30.4	4.8		1909	47,231	51.1	30.0	18.9
Georgia.....	¹ 1919	38,283	60.3	36.4	3.4	Pennsylvania.....	1919	15,379	47.9	47.9	4.1
	¹ 1914	30,719	53.5	27.8	18.7		1914	14,640	44.9	48.1	7.0
	1909	27,803	52.6	32.4	15.0		1909	16,293	43.9	49.3	6.8
Illinois.....	¹ 1919	1,538	44.0	46.7	9.4	Rhode Island.....	1919	36,336	51.5	42.5	6.0
	1914	1,356	33.1	63.1	3.7		1914	29,483	51.3	43.1	5.6
	1909	1,319	30.6	62.7	6.7		1909	28,786	50.7	43.3	6.0
Indiana.....	1919	907	42.5	50.3	7.2	South Carolina.....	1919	48,079	63.5	30.2	6.3
	¹ 1914	961	40.8	52.5	6.7		1914	46,448	68.3	26.4	15.3
	1909	1,582	28.8	62.0	8.3		1909	45,454	56.6	24.7	18.7
Kentucky.....	¹ 1919	907	46.6	50.7	2.7	Tennessee.....	1919	4,895	51.7	43.7	4.6
	1914	1,158	44.2	55.0	0.8		1914	3,403	49.8	39.8	10.4
	1909	1,044	39.6	52.6	7.8		1909	3,078	44.5	37.9	17.6
Maine.....	1919	11,783	52.0	47.2	0.8	Texas.....	1919	2,633	62.0	37.5	0.5
	1914	13,834	52.1	44.8	3.1		1914	1,875	64.3	32.4	3.3
	1909	14,634	47.6	46.6	5.8		1909	1,590	53.1	32.7	14.2
Maryland.....	¹ 1919	3,416	50.7	48.2	1.1	Vermont.....	1919	1,092	55.6	43.2	1.2
	1914	3,424	50.1	43.0	6.9		1914	892	60.9	38.5	0.6
	1909	3,966	41.6	42.5	15.9		1909	683	43.0	51.4	5.6
Massachusetts.....	1919	124,150	50.9	43.3	5.8	Virginia.....	1919	6,518	62.1	35.3	2.5
	1914	113,559	52.0	44.1	3.9		1914	6,310	65.0	30.6	4.4
	1909	108,914	51.2	43.1	5.7		1909	5,057	57.1	29.5	13.4
Mississippi.....	1919	2,406	49.4	45.4	5.2						
	1914	1,989	50.2	40.3	9.5						
	1909	2,645	38.0	41.8	20.3						

¹ Excludes statistics for 1 establishment to avoid disclosure of individual operations.² Excludes statistics for 2 establishments to avoid disclosure of individual operations.

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TABLE 6.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—						
		44 and under.	Between 44 and 48.	48.	Between 48 and 54.	54.	Between 54 and 60.	60.			44 and under.	Between 44 and 48.	48.	Between 48 and 54.	54.	Between 54 and 60.	60.
United States:									New Hampshire:								
1919.....	446,852	1,697	413	173,366	19,028	63,455	141,218	47,208	1919.....	21,294	11		15,508	79	5,699		
1914.....	393,404	(2)	(2)	1,145	3,149	158,287	72,025	157,112	1914.....	21,669					30	21,639	
1909.....	378,880	(2)	(2)	304	2,879	571	190,998	119,226	New Jersey:								
Alabama:									1919.....	9,672	480		4,133	4,311	55	687	
1919.....	18,102			416		242	11,949	5,202	1914.....	7,394				47	5	6,051	691
1914.....	13,697				136		672	11,782	New York:								
Connecticut:									1919.....	10,493	153	4	6,439	632	3,228	37	
1919.....	16,483	323		11,502	1,035	8	3,615		1914.....	9,127	(2)	(2)	14	251	7,118	605	1,049
1914.....	15,466				71	6	15,273	116	North Carolina:								
Georgia:									1919.....	67,297	75		484	1,421	1,823	49,804	13,690
1919.....	38,283			142	260	1,520	18,871	17,490	1914.....	53,703						53,491	212
1914.....	30,719						117	30,602	Pennsylvania:								
Illinois:									1919.....	15,379	61	54	7,745	3,979	2,618	838	
1919.....	1,538			869	242		419	8	1914.....	14,640	(2)	(2)	79	715	11,576	2,270	
1914.....	1,356	(2)	(2)	1	245	402	290	218	Rhode Island:								
Indiana:									1919.....	36,336	67		10,486	1,004	24,631	97	51
1919.....	997				441	159	397		1914.....	29,483				335	27,248	1,802	8
1914.....	961					84	434	443	South Carolina:								
Kentucky:									1919.....	48,079			899		1,463	39,555	6,162
1919.....	967				335	407		225	1914.....	46,448					1,044	45,404	
1914.....	1,158						1,088	70	Tennessee:								
Maine:									1919.....	4,895					681	3,809	141
1919.....	11,703					11,703			1914.....	3,403				130	115	2,993	163
1914.....	13,834						13,834		Texas:								
Maryland:									1919.....	2,633					228	1,287	1,118
1919.....	3,416		325	2,183	80	352	476		1914.....	1,875					170	1,338	367
1914.....	3,424						820	2,604	Vermont:								
Massachusetts:									1919.....	1,092			147	692		253	
1919.....	124,150	388	(2)	111,303	3,284	7,808	1,343		1914.....	992						992	
1914.....	113,559	(2)	(2)	1,051	935	110,434	1,139		Virginia:								
Mississippi:									1919.....	6,518					438	5,344	736
1919.....	2,406					127	220	2,059	1914.....	6,310						60	6,250
1914.....	1,989					65		1,924									

¹ Includes 48 and under for 1914 and 1909.² Corresponding figures not available.³ Excludes statistics for 1 establishment to avoid disclosure of individual operations.⁴ Excludes statistics for 2 establishments to avoid disclosure of individual operations.

TABLE 7.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, BY STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—																	
	Estab-lish-ments.	Wage earners (average number).	No wage earners.		1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		101 to 250 wage earners, inclusive.		251 to 500 wage earners, inclusive.		501 to 1,000 wage earners, inclusive.		Over 1,000 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.	Estab-lish-ments.	Wage earners.		
United States...1910..	1,496	446,852	2	54	177	143	1,842	163	5,682	220	16,403	438	71,743	228	81,371	157	108,658	91	160,976	
1914..	1,328	393,404	8	30	125	100	1,197	153	5,494	217	16,332	375	61,502	213	74,840	144	99,099	79	134,815	
Alabama.....	58	18,102	.....	.....	.....	1	15	5	168	9	610	22	3,724	10	3,686	8	5,743	3	4,156
Connecticut.....	57	16,483	.....	1	5	6	46	9	285	6	469	13	2,296	13	4,711	7	4,686	2	3,985
Georgia.....	132	38,283	.....	.....	.....	.....	.....	5	213	23	1,703	53	8,250	32	11,673	13	8,489	6	7,953
Illinois.....	10	1,538	.....	.....	.....	4	50	.....	.....	.....	.....	3	356	2	557	1	575	.....	.....
Indiana.....	4	997	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	566	1	441	.....	.....	.....	.....
Kentucky.....	6	967	1	.....	.....	.....	.....	2	69	.....	.....	1	156	2	742	.....	.....	.....	.....
Maine.....	14	11,703	.....	.....	.....	.....	.....	.....	.....	1	52	3	527	.....	.....	6	4,137	4	7,047
Maryland.....	14	3,416	.....	1	5	1	6	3	118	2	164	3	494	2	538	1	654	1	1,437
Massachusetts.....	231	124,150	.....	4	15	28	370	27	874	24	1,744	22	3,611	35	13,192	49	34,065	42	70,279
Mississippi.....	15	2,406	.....	.....	.....	.....	.....	.....	.....	6	416	8	1,502	1	488	.....	.....	.....	.....
New Hampshire.....	21	21,294	.....	1	2	4	53	1	26	1	63	4	675	3	1,127	2	1,417	5	17,931
New Jersey.....	45	9,672	.....	6	18	8	104	12	434	3	218	7	1,181	5	1,759	9	3,330	4	5,938
New York.....	58	10,493	.....	7	22	13	169	10	325	8	638	8	1,114	6	2,024	3	1,840	3	4,361
North Carolina.....	311	67,297	.....	.....	.....	5	72	23	919	70	5,379	154	21,511	33	11,428	21	14,789	5	10,199
Pennsylvania.....	168	15,379	1	21	68	36	497	44	1,551	30	2,215	22	3,468	8	2,796	5	3,330	1	1,451	
Rhode Island.....	132	36,336	.....	10	32	28	338	9	298	17	1,193	25	4,377	27	9,639	9	7,177	7	13,282
South Carolina.....	145	48,079	.....	.....	.....	1	9	7	198	11	867	56	9,908	37	12,452	28	18,781	5	5,864
Tennessee.....	16	4,895	.....	.....	.....	.....	.....	.....	.....	1	54	10	1,535	3	1,116	1	752	1	1,438
Texas.....	15	2,633	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	2,095	2	538	.....	.....	.....	.....
Vermont.....	4	1,092	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	357	2	735	.....	.....	.....	.....
Virginia.....	10	6,518	.....	.....	.....	.....	.....	.....	.....	3	208	4	708	1	438	1	633	1	4,531

¹ Excludes statistics for 1 establishment to avoid disclosure of individual operations.² Excludes statistics for 2 establishments to avoid disclosure of individual operations.

COTTON MANUFACTURES.

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TABLE 8.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
All classes.....	1,496	1,328	1,324	446,852	393,404	378,880	\$2,195,565,881	\$701,300,933	\$628,391,813	\$880,664,339	\$257,778,418	\$257,382,343
Less than \$5,000.....	13	21	17	24	39	35	32,246	44,770	41,056	20,811	23,928	18,643
\$5,000 to \$20,000.....	39	59	66	196	441	641	495,653	697,035	840,501	273,039	276,796	366,628
\$20,000 to \$100,000.....	131	233	280	1,974	8,562	11,120	7,813,751	14,394,164	17,137,769	3,046,769	5,166,008	6,031,393
\$100,000 to \$500,000.....	433	924	798	29,929	173,295	174,990	127,432,091	157,056,051	278,026,841	48,363,093	104,105,038	108,548,215
\$500,000 to \$1,000,000.....	324	199	163	51,480	211,067	192,094	237,242,198	140,172,492	332,345,643	90,073,575	143,206,648	142,417,464
\$1,000,000 and over.....	556	192		363,249			1,822,749,942	888,936,431		738,887,052		
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	0.9	1.6	1.3	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
\$5,000 to \$20,000.....	2.6	4.4	5.0	0.4	0.1	0.2	0.3	0.1	0.1	0.3	0.1	0.1
\$20,000 to \$100,000.....	8.8	17.5	21.1	6.7	2.2	2.9	5.8	2.1	2.7	5.5	2.0	2.3
\$100,000 to \$500,000.....	28.9	47.0	60.3	11.5	44.0	46.2	10.8	22.4	44.2	10.2	40.4	42.2
\$500,000 to \$1,000,000.....	21.7	15.0		81.3	53.7	50.7	83.0	55.5	52.9	84.0	57.5	55.3
\$1,000,000 and over.....	37.2	14.5	12.3									

1 Less than one-tenth of 1 per cent.

TABLE 9.—CHARACTER OF OWNERSHIP, BY STATES: 1919 AND 1914.

STATE.	Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		OWNED BY—			OWNED BY—			OWNED BY—			OWNED BY—		
		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Total.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Total.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Total.
United States.....	1919	102	1,307	87	446,852	3,244	438,884	4,724	\$2,195,565,881	\$15,211,594	\$2,154,402,091	\$25,952,196	\$880,664,339
	1914	105	1,116	107	393,404	4,425	377,708	11,271	701,300,933	8,711,335	672,269,539	20,320,059	\$257,778,418
	1909	110	1,113	101	378,880	5,366	362,264	11,250	628,391,813	598,770,236			\$257,382,343
Cotton goods.....	1919	67	1,164	57	430,966	2,582	424,402	3,082	2,125,272,193	11,772,663	2,090,733,347	22,766,183	
	1914	75	1,021	83	379,366	3,641	365,404	10,321	676,569,115	7,392,140	650,389,740	18,790,235	
Cotton small wares.....	1919	32	104	28	9,396	623	8,031	742	40,896,835	3,255,072	34,455,750	3,186,013	
	1914	27	60	21	6,598	503	5,234	771	11,029,170	1,029,170	9,264,000	1,231,863	
Cotton lace.....	1919	3	39	2	6,490	139	6,451	179	29,396,853	1,183,859	29,212,994		
	1914	3	35	3	7,440	101	7,070	179	13,206,785	290,025	12,618,799	297,961	
Alabama.....	1919	1	55	2	18,102		17,536	566	79,643,343		78,069,912	1,573,431	
Connecticut.....	1919	3	51	3	16,483	64	16,214	205	105,654,383	286,145	103,216,975	1,551,263	
	1914	8	36	6	15,466	493	14,112	861	30,808,913	1,087,109	27,591,675	2,130,134	
Georgia.....	1919	1	128	3	38,283		37,813	470	192,185,896		190,037,096	2,148,800	
	1914	5	111	2	30,719		30,719		59,982,008		59,982,008		
Maine.....	1919		14		11,763		11,763		50,563,825		50,563,825		
Massachusetts.....	1919	6	216	9	124,160	278	123,324	548	604,937,749	1,869,558	600,485,237	2,582,054	
	1914	7	109	13	113,569	352	111,304	1,903	197,322,111	688,173	192,909,028	3,724,910	
New Hampshire.....	1919	2	16	3	21,204		21,019	275	86,391,695		84,712,579	1,679,116	
New Jersey.....	1919	7	36	2	9,672	146	9,526	95	60,475,426	1,629,932	59,845,494		
	1914	6	19	5	7,394	86	7,263	95	16,782,164	98,807	16,549,802	133,555	
New York.....	1919	12	40	6	10,493	201	10,050	236	55,287,042	785,421	52,463,340	2,038,272	
	1914	10	31	10	9,127	108	8,665	364	18,464,811	421,599	17,135,555	907,657	
North Carolina.....	1919	7	206	8	67,207	398	66,045	854	318,368,181	1,707,655	312,993,628	3,666,896	
	1914	11	273	9	53,703	834	52,075	794	90,743,683	1,811,435	87,694,395	1,237,853	
Pennsylvania.....	1919	41	89	38	15,379	1,158	12,359	1,862	90,581,026	6,454,555	73,380,524	10,746,547	
	1914	40	70	39	14,040	1,451	9,950	3,233	32,400,446	2,844,404	29,199,423	6,356,619	
Rhode Island.....	1919	13	111	8	86,336	211	36,019	106	177,423,087	623,289	176,189,288	610,510	
	1914	11	74	17	29,483	197	26,093	3,193	49,718,837	431,073	44,639,729	4,648,035	
South Carolina.....	1919		144	1	48,079		48,079		228,440,242		228,440,242		
	1914	1	145	2	46,448		46,225	223	78,446,145		78,011,480	434,665	

1 Includes the group "All others."

2 Figures not available for 1914.

3 Includes the group "Individuals."

4 Excludes statistics for 1 establishment to avoid disclosure of individual operations.

5 Includes the groups "Individuals" and "All others."

6 Excludes statistics for 2 establishments to avoid disclosure of individual operations.

TABLE 10.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	42,936	13,446	6,157	1,833,542	1,585,953	1,296,517	100.0	100.0	100.0
Owned.....	2,993	3,299	3,487	1,335,765	1,329,538	1,183,037	71.7	83.8	91.2
Steam.....	1,725	1,933	2,087	1,025,781	1,011,303	877,201	55.0	63.8	67.7
Engines.....	1,508	(2)	(2)	708,403	(2)	(2)	41.2	(2)	(2)
Turbines.....	217	(2)	(2)	257,358	(2)	(2)	13.8	(2)	(2)
Internal-combustion engines.....	11	59	39	2,842	4,016	2,812	0.2	0.3	0.2
Water wheels and turbines.....	1,227	1,307	1,361	307,162	314,210	303,024	16.5	19.8	23.4
Rented.....	39,943	10,147	2,670	527,777	256,415	113,480	28.3	16.2	8.8
Electric.....	39,943	10,147	2,670	523,696	252,864	108,512	28.1	15.9	8.4
Other.....				4,081	3,551	4,968	0.2	0.2	0.4
Electric.....	64,231	20,282	8,559	574,124	512,903	235,902	100.0	100.0	100.0
Rented.....	39,943	10,147	2,670	523,696	252,864	108,512	59.9	49.3	46.0
Generated by establishments reporting.....	24,288	10,135	3,889	350,428	260,039	127,390	40.1	50.7	54.0

Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.

2 Not reported separately.

TABLE 11.—FUEL CONSUMED, BY STATES: 1919.

STATE.	Census year.	COAL.					Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).	STATE.	Census year.	COAL.					Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).
		Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).	Coke (tons, 2,000 pounds).	Fuel oils (barrels).	(Gasoline and other volatile oils (barrels)).					Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).	Coke (tons, 2,000 pounds).	Fuel oils (barrels).	(Gasoline and other volatile oils (barrels)).		
United States.....	1919	368,595	3,663,302	32,400	504,135	3,904	134,581		New Jersey.....	1919	66,587	50,351	51	4,206	171	3,157	
	1914	313,531	3,633,563	15,537	24,755	(1)	42,846			1914	55,531	40,068		19	(1)	4,262	
Alabama.....	1919	2,040	203,675	561	5,231	110			New York.....	1919	34,118	106,505		7,909	954	281	
	1914	800	219,853		151	(1)				1914	24,160	67,417		574	(1)	6,314	
Connecticut.....	1919	18,227	114,338		3,226	67			North Carolina.....	1919	34,799	454,708	10	236	231		
	1914	9,527	106,137		84	(1)	166			1914	13,560	486,293	5,434	539	(1)		
Georgia.....	1919		386,897	400	444	663			Ohio.....	1919		10,752				3,900	
	1914		364,642		674	(1)				1914		2,048		89	(1)	2,292	
Illinois.....	1919		21,728						Pennsylvania.....	1919	67,249	83,115	350	11,075		2,157	
	1914		18,910				150			1914	55,159	72,152		251	(1)	12,611	
Indiana.....	1919		33,205	32					Rhode Island.....	1919	14,346	179,000	14,278	374,291	391	74,678	
	1914		31,275							1914	20,116	235,174	1,031	320	(1)	854	
Kentucky.....	1919		14,041			1			South Carolina.....	1919	9,325	467,264		51	78		
	1914		21,214							1914	2,584	481,939	3,389	833	(1)		
Louisiana.....	1919		5,428						Tennessee.....	1919		61,182	25				
	1914									1914		51,620	4,000	15	(1)		
Maine.....	1919	429	66,978						Texas.....	1919		17,571		85,460		40,577	
	1914	1,708	69,057		175	(1)	10			1914		87,426		14,074	(1)	70	
Maryland.....	1919	30	21,402			60			Vermont.....	1919	2,661	6,090					
	1914		26,094							1914		9,164					
Massachusetts.....	1919	59,590	1,094,395	1,370	43,812	1,005	9,801		Virginia.....	1919		74,038			52		
	1914	120,299	1,004,323	1,497	4,595	(1)	16,156			1914		56,429					
Michigan.....	1919		1,023						Wisconsin.....	1919		3,240			1		
	1914									1914							
Mississippi.....	1919		38,009	43					All other states.....	1919	11	17,839		10,634	180	30	
	1914		28,680		86	(1)				1914	1,552	20,252	1	24	(1)	46	
New Hampshire.....	1919	58,283	120,873	15,346	7,070												
	1914	37	178,185	185	1,682	(1)											

1 Included in figures for fuel oils.

2 Excludes statistics for 1 establishment to avoid disclosure of individual operations. These are included in "All other states."

3 Excludes statistics for 2 establishments to avoid disclosure of individual operations. These are included in "All other states."

SPECIAL STATISTICS.

Summary of materials for the United States.—Table 12 presents a detailed account of the quantity and cost of principal materials used in the cotton-manufactures industry as a whole for 1919, 1914, and 1909.

There is a certain amount of duplication of materials and products in a table of this kind which is the consequence of one establishment reporting as its product what another purchases and reports as materials. An illustration of this duplication is when a yarn mill and a weaving mill operate as independent establishments—the material for the former may be raw cotton and the product yarn, while the material for the latter is yarn and the product cloth. A complete mill, however, covering the operations of both spinning and weaving eliminates the duplication of many intermediate products.

TABLE 12.—PRINCIPAL MATERIALS USED IN COTTON MANUFACTURES: 1919, 1914, AND 1909.

MATERIAL.	1919	1914	1909
Total cost.....	\$1,314,901,542	\$443,522,515	\$371,009,470
Cotton (raw): ¹			
Pounds.....	2,731,404,436	2,523,500,837	2,335,344,006
Cost.....	\$907,683,931	\$330,315,223	\$274,724,210
Domestic—			
Pounds.....	2,612,851,431	2,431,405,884	2,250,312,074
Cost.....	\$849,286,927	\$312,586,001	\$261,547,820
Foreign—			
Pounds.....	118,553,005	92,094,953	76,031,932
Cost.....	\$58,397,004	\$17,220,222	\$13,176,390
Dyed, bleached, and other treated cotton:			
Pounds.....	623,047	1,052,836	101,779
Cost.....	\$145,940	\$111,423	\$21,591
Cotton waste:			
Pounds.....	120,743,520	54,116,105	80,044,061
Cost.....	\$14,344,834	\$3,542,631	\$4,225,790
All other fibers:			
Pounds.....	3,702,607	4,276,476	1,627,180
Cost.....	\$4,201,302	\$3,203,262	\$1,176,449
Cotton yarn:			
Pounds.....	230,061,217	139,482,027	120,707,003
Cost.....	\$192,018,472	\$39,793,131	\$34,384,791
All other yarns:			
Pounds.....	3,987,052	3,309,277	5,605,522
Cost.....	\$13,063,176	\$4,793,221	\$8,183,206
Starch, cost.....	\$5,579,310	\$2,629,558	\$2,114,756
Chemicals and dyestuffs, cost.....	\$13,073,488	\$5,769,235	\$4,886,514
All other materials, cost.....	\$103,891,089	\$53,364,831	\$41,202,163

¹ Not including linters.

Principal materials consumed, by states.—A distribution, by states, of the principal materials consumed in the cotton-manufactures industry is shown in Table 13 for 1919 and 1914.

TABLE 13.—CONSUMPTION OF PRINCIPAL MATERIALS IN COTTON MANUFACTURES, BY STATES: 1919 AND 1914.

MATERIAL AND STATE.	COST.		QUANTITY (POUNDS).	
	1919	1914	1919	1914
Raw cotton, ¹ total.....	\$907,683,931	\$330,315,223	2,731,404,436	2,523,500,837
Domestic ¹	849,286,927	312,586,001	2,612,851,431	2,431,405,884
Alabama.....	45,739,464	15,884,377	150,355,697	128,585,533
Connecticut.....	20,914,671	8,018,943	53,620,265	52,333,105
Georgia.....	104,448,982	34,922,233	239,838,008	280,910,513
Maine.....	24,550,268	10,585,745	77,426,777	85,632,910

¹ Not including linters.

² Excludes statistics for 1 establishment to avoid disclosure of individual operations. These are included in "All other states."

TABLE 13.—CONSUMPTION OF PRINCIPAL MATERIALS IN COTTON MANUFACTURES, BY STATES: 1919 AND 1914—Continued.

MATERIAL AND STATE.	COST.		QUANTITY (POUNDS).	
	1919	1914	1919	1914
Raw cotton—Continued.				
Domestic—Continued.				
Maryland.....	\$8,937,212	\$2,979,256	29,196,868	25,444,796
Massachusetts.....	210,174,038	80,309,154	597,742,102	576,617,532
Mississippi.....	4,335,759	1,545,593	14,370,837	13,897,361
New Hampshire.....	35,493,456	16,904,341	122,623,353	134,996,047
New Jersey.....	3,953,981	1,766,849	11,028,609	12,112,221
New York.....	20,352,023	7,399,836	62,166,373	57,118,973
North Carolina.....	155,667,051	51,040,026	479,263,912	415,424,339
Pennsylvania.....	4,724,840	2,326,431	13,735,249	19,727,080
Rhode Island.....	41,491,054	15,354,914	113,726,386	110,357,913
South Carolina.....	118,148,478	46,566,388	379,616,877	372,464,143
Tennessee.....	11,589,178	4,075,406	35,350,601	33,531,384
Texas.....	8,077,732	2,347,352	20,491,754	20,860,926
Virginia.....	14,707,306	5,179,780	47,069,150	39,202,891
All other states.....	15,981,434	5,379,372	57,720,013	46,197,917
Foreign.....	58,397,004	17,729,222	118,553,005	92,094,953
Connecticut.....	4,173,594	1,800,646	7,726,664	8,394,202
Massachusetts.....	34,198,223	9,017,409	64,984,048	48,110,012
New Hampshire.....	1,941,531	991,309	6,153,126	6,415,766
New Jersey.....	3,214,459	2,063,992	6,222,138	9,610,520
North Carolina.....	987,390	462,599	2,980,563	2,846,386
Pennsylvania.....	236,614	156,021	431,230	845,061
Rhode Island.....	11,887,843	2,458,741	26,378,748	12,045,334
South Carolina.....		87,591		430,188
All other states.....	1,807,350	690,914	3,676,488	3,397,484
Dyed, bleached, and other treated cotton.....	145,940	111,423	623,047	1,052,836
Raw silk.....	3,988,394	3,083,836	593,982	1,057,083
Fibers, other than cotton and silk.....	212,908	139,426	3,108,625	3,219,393
Cotton yarn.....	192,018,472	39,793,131	230,061,217	139,482,027
Connecticut.....	32,543,788	4,172,975	33,839,546	10,795,133
Maine.....	140,391	326,262	238,751	1,225,381
Maryland.....	1,588,857	806,266	2,749,457	4,746,710
Massachusetts.....	53,860,141	9,284,324	64,214,703	31,117,952
New Hampshire.....	1,437,940	440,536	2,572,142	2,020,727
New Jersey.....	23,834,892	4,675,353	28,646,931	12,240,169
New York.....	4,382,440	1,335,805	5,423,056	4,682,360
North Carolina.....	4,031,297	2,097,781	6,527,862	10,580,363
Pennsylvania.....	35,844,138	10,814,194	42,070,842	40,724,610
Rhode Island.....	27,731,899	4,212,245	33,401,710	13,282,085
All other states.....	6,622,689	1,627,440	10,376,217	8,116,587
Yarns, other than cotton.....	13,963,176	4,793,221	3,987,052	3,309,277
Cotton waste.....	14,344,834	3,542,631	120,743,520	54,116,105
Alabama.....	254,008	142,840	1,681,501	2,713,327
Connecticut.....	520,801	91,030	2,262,821	1,526,700
Georgia.....	2,329,156	549,612	12,420,841	6,936,231
Maine.....	648,926	455,747	3,489,561	5,004,702
Maryland.....		122,088		2,126,442
Massachusetts.....	3,707,323	860,435	36,868,630	17,886,518
New Hampshire.....	657,449	124,519	8,850,722	1,422,815
New York.....	1,405,682	411,106	13,361,455	4,517,820
North Carolina.....	278,992	128,442	2,142,844	1,919,953
Pennsylvania.....	149,203	112,625	1,476,593	2,504,161
Rhode Island.....	643,418	136,014	5,921,561	1,543,601
South Carolina.....	605,054	272,732	3,449,268	3,194,427
All other states.....	3,144,822	135,435	28,818,218	2,819,448

Detailed statement of materials used, by states.—A distribution, by states, of the principal materials used in the cotton-manufactures industry is shown in detail for 1919 in Table 14. The states are arranged according to rank by value of products.

The report which was secured at the census of 1919 was more comprehensive than those of former censuses and will be found to contain many new items of interest which are in keeping with the expansion of the industry. The quantities and kinds of cotton waste purchased and used are shown by states. The rags reported are those to be used for garnetting, or reworked for further manufacture, and not for paper stock. Considerable information is also shown for the first time with respect to the different kinds of yarn which were purchased and consumed by the industry.

MANUFACTURES.

TABLE 14.—MATERIALS USED IN COTTON MANUFACTURES, BY STATES: 1919.

MATERIAL.	UNITED STATES.		MASSACHUSETTS.	NORTH CAROLINA.	SOUTH CAROLINA.	GEORGIA.	RHODE ISLAND.	CONNECTICUT.	PENNSYLVANIA.
	Pounds.	Cost.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Raw cotton, total.....	2,731,404,436	\$907,683,931	662,726,150	482,244,475	379,616,877	340,157,702	140,105,134	61,355,929	14,166,479
Domestic.....	2,612,851,431	849,286,927	597,742,102	479,263,912	379,616,877	335,338,908	113,726,386	53,629,265	13,735,249
Sea-island.....	20,804,901	12,316,288	7,548,931	1,941,119	40,275	1,317,530	4,429,621	3,689,430	863,401
American-Egyptian.....	20,695,563	11,361,776	11,673,546	1,200,754			4,554,220	2,026,407	
Other long-staple (1½ inches and over).....	485,010,838	186,237,188	231,164,428	68,850,996	26,756,095	2,389,765	83,800,038	34,349,625	1,945,784
Short-staple (under 1½ inches).....	2,086,340,124	639,671,695	347,355,197	407,211,043	352,820,506	1,334,631,313	20,642,507	18,563,803	10,926,064
Foreign.....	118,553,005	58,397,004	64,934,045	2,080,538		1,819,094	26,378,748	7,726,664	431,230
Egyptian.....	88,710,604	47,419,879	50,825,797			1,671,855	21,322,148	7,221,811	378,355
Other.....	29,842,401	10,977,125	14,158,251	2,980,563		147,239	5,056,600	501,853	52,875
Linters.....	26,951,183	1,719,761	2,419,651		143,345	1,811,611	224,000		570,170
Open cotton fiber, dyed, bleached, etc.....	623,047	145,940		13,147				310,123	
Cotton waste, purchased.....	120,743,520	14,344,834	36,863,630	2,142,844	3,449,208	12,420,341	5,921,501	2,262,821	1,476,598
Soft.....	103,498,398		25,003,730	2,141,044	3,427,475	12,359,341	5,921,501	2,262,821	1,378,385
Hard.....	11,218,096		5,764,900	1,200	21,793	70,000			2,187
Rags.....	6,027,026		5,500,000						151,026
Wool waste, silk waste, and raw wool, purchased.....	39,717	22,810	22,910				7,508		2,000
Raw silk.....	503,932	3,988,394	384,846			21,285	167,405	14,506	
Other fibers.....	3,099,336	199,850	105,067						499,234
Cotton card laps, roping, sliver, and roving, purchased.....	2,625,789	1,631,349	6,444			3,171	2,037,472	95,323	
Yarn, purchased.....	234,048,269	205,981,648	65,518,725	6,533,435	3,095,482	3,020,000	33,709,190	34,164,853	43,480,231
Cotton.....	230,061,217	192,018,472	64,214,703	6,527,862	3,069,245	3,019,050	33,401,710	33,839,546	42,070,842
Not mercerized.....	224,125,368	184,685,086	63,406,663	6,525,878	3,069,245	3,019,050	31,501,639	33,026,279	40,213,655
Mercerized.....	5,035,850	7,332,486	808,035	1,984			1,807,074	813,267	1,857,187
Woolen, worsted, and merino.....	484,300	850,441					61,166		341,793
Woolen.....	115,539						2,500		112,997
Worsted.....	313,661	850,441					58,666		208,798
Merino.....	55,790								20,000
Silk.....	2,261,392	12,098,671	1,203,512	5,603	9,881	950	210,850	137,323	503,164
Organzine.....	184,272	1,071,026	152,892		804		6,048	3,361	14,537
Tram.....	1,044,124	5,811,605	752,151		7,607	950	113,213	120,000	37,205
Spun.....	200,991	1,407,483	138,180				16,154	11,630	60,700
Artificial.....	772,005	3,808,537	250,233	5,603	1,470		75,437	2,335	390,672
Other yarns.....	1,241,270	1,014,094	10,513		10,358		35,464	188,011	564,462
Starch, cost.....		5,579,310	\$1,343,057	\$765,198	\$873,335	\$906,802	\$242,740	\$350,710	\$39,002
Chemicals and dyestuffs, cost.....		13,073,458	\$3,322,344	\$2,637,435	\$435,736	\$904,331	\$957,367	\$250,012	\$985,903

MATERIAL.	NEW HAMPSHIRE.	ALABAMA.	NEW JERSEY.	MAINE.	NEW YORK.	VIRGINIA.	TENNESSEE.	MARYLAND.	TEXAS.	ALL OTHER STATES.
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Raw cotton, total.....	128,770,479	150,355,697	17,230,747	77,728,700	63,574,710	47,069,150	35,350,601	29,196,808	29,491,754	72,236,075
Domestic.....	122,023,353	150,355,697	11,028,609	77,426,777	62,166,378	47,069,150	35,350,601	29,196,808	29,491,754	72,090,850
Sea-island.....	753,649		1,684,346							
American-Egyptian.....	2,549		13,051				1,040			
Other long-staple (1½ inches and over).....	116,727	2,509,527	4,158,226	18,769,053	1,820,449	1,405,046	1,447,088	260,630		5,168,951
Short-staple (under 1½ inches).....	121,760,428	147,756,170	5,772,386	58,656,724	60,345,924	45,634,104	33,002,473	28,927,820	29,491,754	66,921,899
Foreign.....	6,153,126		6,222,138	302,923	1,408,348					146,125
Egyptian.....	3,479		5,625,100	302,923	1,408,348					53,200
Other.....	6,149,647		690,048		2,500					92,925
Linters.....		674,715	5,600,000		4,505,500					10,996,185
Open cotton fiber, dyed, bleached, etc.....					269,777					
Cotton waste, purchased.....	8,850,722	1,681,501	391,300	3,489,561	13,361,455	81,500		470,207		27,899,211
Soft.....	6,180,544	1,046,463	391,300	2,681,377	12,188,450	81,500		279,145		27,018,662
Hard.....	2,670,178	35,038		808,184	1,047,005			197,062		600,549
Rags.....					126,000					260,000
Wool waste, silk waste, and raw wool, purchased.....					5,940					7,239
Raw silk.....					216,000					2,210,035
Other fibers.....										
Cotton card laps, roping, sliver, and roving, purchased.....	403,370									50,000
Yarn, purchased.....	2,534,656	388,522	28,832,657	318,376	5,691,981	537,613	524,676	2,745,786	5,000	2,947,023
Cotton.....	2,524,903	382,761	28,640,631	238,751	5,423,056	524,070	524,676	2,703,157	5,000	2,941,651
Not mercerized.....	2,494,075	382,761	28,452,735	229,816	5,123,116	524,070	524,676	2,606,157	5,000	2,927,541
Mercerized.....	30,828		104,196	8,935	299,940			100,000		14,413
Woolen, worsted, and merino.....			41,790		42			30,629		
Woolen.....					42					
Worsted.....			6,000					39,620		
Merino.....			35,790							
Silk.....	9,227	5,761	27,411		42,854	13,543				1,310
Organzine.....			1,352		5,230					
Tram.....	173		10,500		2,325					1,056
Spun.....		5,761	12,459		1,502	13,543				254
Artificial.....	9,054		3,100		33,797					3,769
Other yarns.....	520		116,625	79,025	220,020					
Starch, cost.....	\$233,296	\$191,791	\$61,264	\$231,462	\$96,528	\$161,612	\$43,377	\$1,948	\$88,076	\$148,212
Chemicals and dyestuffs, cost.....	\$1,232,784	\$61,401	\$82,875	\$424,885	\$193,304	\$658,626	\$28,389	\$10,171	\$90,999	\$490,566

¹ Excludes statistics for 1 establishment to avoid disclosure of individual operations. These are included in "All other states."

Cotton consumed in the industry.—Table 15 shows the number of bales, pounds, and cost of the different kinds of raw cotton used in the industry during 1919.

TABLE 15.—COTTON CONSUMPTION IN COTTON MANUFACTURES: 1919.

KIND.	Bales.	Pounds.	Cost.
Total.....	5,529,422	2,731,404,436	\$907,683,931
Cotton (raw):			
Domestic.....	5,329,973	2,612,851,431	849,286,927
Sea-island.....	52,154	20,804,901	12,010,268
American-Egyptian.....	40,726	20,695,568	11,361,776
Other long-staple (1½ inches and over).....	961,450	435,010,838	186,237,188
Short-staple (under 1½ inches).....	4,276,643	2,080,340,124	639,671,695
Foreign.....	199,449	118,553,005	58,397,004
Egyptian.....	128,959	88,710,604	47,419,879
Other.....	70,490	29,842,401	10,977,125

¹ Not including linters, 55,155 bales; 26,951,133 pounds; \$1,719,761 cost.

Cotton consumed in the industry, by states.—The quantity of cotton consumed in the industry is shown in Table 16 for 1919, 1914, 1909, and 1904. Statistics are given also for the cotton-growing states, the New England states, and for the most important individual states.

Summary of products for cotton manufactures.—Detailed statistics of the various kinds of products manufactured within the cotton-goods, cotton small-wares, and cotton-lace industry are shown in Table 17. Separate total values for each of these industries are presented for 1919, 1914, and 1909, but the commodities listed according to kind and distributed by states are shown by quantity and value for the three industries combined.

TABLE 16.—COTTON CONSUMPTION IN COTTON MANUFACTURES, BY STATES: 1919, 1914, 1909, AND 1904.

	1919		1914		1909		1904	
	Bales.	Pounds.	Bales.	Pounds.	Bales.	Pounds.	Bales.	Pounds.
Total ¹	5,529,422	2,731,404,436	5,167,975	2,523,500,837	4,828,736	2,335,344,906	3,749,705	1,876,437,150
Domestic.....	5,329,973	2,612,851,431	5,027,391	2,431,405,884	4,717,343	2,259,312,974	3,690,145	1,832,736,744
Other than sea-island.....	5,277,819	2,592,046,530	4,945,718	2,400,803,011	4,649,594	2,233,038,701	3,635,701	1,810,874,712
Sea-island.....	52,154	20,804,901	² 81,673	² 30,602,873	² 67,749	² 26,274,273	54,884	21,862,032
Foreign.....	199,449	118,553,005	140,584	92,094,953	111,393	70,031,932	59,620	43,700,406
STATE GROUPS.								
Cotton-growing states ³	3,151,274	1,516,905,394	2,814,147	1,341,178,496	2,469,208	1,162,969,470	1,829,337	891,944,186
New England states.....	2,101,002	1,075,930,337	2,069,171	1,041,088,042	2,041,734	1,014,926,193	1,647,207	846,023,549
All other states.....	276,546	138,592,705	284,057	141,238,699	317,794	157,449,243	273,221	138,469,415
PRINCIPAL STATES.								
Alabama.....	302,867	150,355,697	265,846	128,068,433	241,073	116,232,495	199,806	99,100,678
Connecticut.....	122,414	61,355,929	118,808	60,727,307	117,189	57,723,360	104,025	53,278,482
Georgia.....	683,226	340,157,702	606,198	288,456,068	529,725	250,820,180	406,001	198,108,963
Maine.....	153,626	77,728,700	172,107	85,854,827	100,550	78,078,043	131,678	67,509,662
Maryland.....	58,960	29,196,868	54,128	25,979,525	57,358	27,400,792	53,794	27,054,032
Massachusetts.....	1,203,081	602,726,150	1,236,972	624,727,544	1,244,614	622,368,027	955,965	489,989,585
Mississippi.....	20,609	14,370,837	29,144	13,897,361	34,202	16,371,192	25,640	13,007,625
New Hampshire.....	256,009	128,776,479	291,332	141,411,813	285,659	138,532,627	262,894	134,806,578
New Jersey.....	35,008	17,250,747	39,147	21,722,741	34,354	18,400,527	33,358	16,319,367
New York.....	125,548	63,574,719	119,734	58,124,466	141,003	68,705,704	100,924	51,835,100
North Carolina.....	1,022,113	482,244,475	881,156	418,270,725	754,483	350,210,614	503,599	242,360,738
Pennsylvania.....	27,996	14,166,470	41,435	20,672,141	50,691	25,688,597	50,918	25,873,720
Rhode Island.....	266,174	140,105,134	238,206	122,403,247	223,670	112,757,027	183,132	95,548,035
South Carolina.....	784,001	379,616,877	784,231	372,894,331	690,834	324,385,778	558,100	270,957,461
Tennessee.....	73,452	35,350,601	69,714	33,531,384	58,574	28,312,077	38,832	19,292,275
Texas.....	58,884	29,491,754	42,520	20,850,926	32,686	15,893,288	18,055	9,268,589
Virginia.....	119,075	47,069,150	82,490	39,202,891	78,017	37,160,966	46,296	23,018,074
All other states ⁴	117,289	57,836,138	94,807	46,205,167	94,053	45,582,012	77,387	39,168,566

¹ Not including linters.

² The figures given for sea-island cotton for the years 1914 and 1909 represent the total consumption in all industries for the years ending August 31; those for "Other than sea-island" were obtained by deduction.

³ The cotton-growing states included in this group are: Alabama, Arkansas, California, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

⁴ Excludes statistics for 1 establishment to avoid disclosure of individual operations. These are included in "All other states."

⁵ All other states embrace: 1919—Arkansas, California, Illinois, Indiana, Kentucky, Louisiana, Michigan, Missouri, Ohio, Vermont, and Wisconsin; 1914—Arkansas, Delaware, Illinois, Indiana, Kentucky, Louisiana, Missouri, Ohio, Vermont, and Wisconsin; 1909—Arkansas, Delaware, Illinois, Indiana, Kansas, Kentucky, Louisiana, Missouri, Vermont, and Wisconsin; 1904—Arkansas, California, Delaware, Illinois, Indiana, Kentucky, Louisiana, Missouri, Vermont, and Wisconsin.

TABLE 17.—SUMMARY OF PRODUCTS FOR COTTON MANUFACTURES: 1919, 1914, AND 1909.

PRODUCT.	1919	1914	1909	PRODUCT.	1919	1914	1909
Total value ¹	\$2,195,565,881	\$701,300,933	\$628,391,813	Woven goods (over 12 inches in width)—Continued.			
Cotton goods.....	\$2,125,272,193	\$676,569,115	\$615,217,702	Pillow tubing—			
Cotton small wares.....	\$40,896,835	\$11,525,033	\$13,174,111	Square yards.....	12,112,573	15,212,622	(⁴)
Cotton lace.....	\$29,396,853	\$13,206,785	(²)	Value.....	\$2,555,543	\$1,483,847	(²)
Woven goods (over 12 inches in width):				Mosquito netting and tarlatan—			
Square yards.....	6,317,397,984	6,813,540,681	6,267,561,279	Square yards.....	34,425,307	97,981,783	59,100,819
Value.....	\$1,489,610,779	\$489,935,277	\$447,167,319	Value.....	\$3,273,376	\$2,820,524	\$2,103,560
Unbleached and bleached sheetings, shirtings, and muslins—				Bags and bagging ³ —			
Square yards.....	3,194,100,981	3,852,471,903	3,709,031,377	Square yards.....	82,433,300	129,357,002	63,107,568
Value.....	\$477,407,901	\$196,520,984	\$199,900,874	Value.....	\$13,139,820	\$9,705,616	\$4,862,451
Ducks—				Other woven goods (over 12 inches in width)—			
Square yards.....	336,500,457	251,367,711	162,476,322	Square yards.....	924,713,709	687,151,971	455,561,997
Value.....	\$237,032,551	\$49,179,212	\$27,486,892	Value.....	\$281,338,000	\$66,363,030	\$52,079,099
Ginghams—				Lace and lace curtains:			
Square yards.....	368,307,601	489,661,133	537,430,463	Value.....	\$28,258,489	\$12,521,053	\$8,922,052
Value.....	\$85,070,745	\$36,703,542	\$37,939,403	Tape and webbing:			
Drills—				Linear yards.....	1,065,551,328	1,026,231,549	(⁴)
Square yards.....	314,822,109	289,960,885	238,869,407	Value.....	\$15,290,061	\$5,030,062	\$5,531,674
Value.....	\$73,253,610	\$21,256,098	\$17,750,151	Twine:			
Twills and satens—				Pounds.....	11,860,195	13,284,875	13,715,771
Square yards.....	424,478,033	392,108,735	388,314,961	Value.....	\$5,935,245	\$2,792,125	\$2,417,391
Value.....	\$101,050,691	\$32,891,851	\$34,274,107	Cordage and rope:			
Ticks and denims—				Pounds.....	6,815,848	5,515,658	7,603,907
Square yards.....	220,381,180	220,330,389	264,870,508	Value.....	\$2,867,275	\$891,223	\$1,164,526
Value.....	\$70,080,567	\$24,917,083	\$27,350,162	Thread:			
Cotton flannel—				Pound.....	26,441,943	26,507,023	23,700,957
Square yards.....	268,067,853	263,862,227	305,655,894	Value.....	\$55,009,170	\$22,917,099	\$20,516,269
Value.....	\$60,152,426	\$24,352,020	\$25,695,367	Yarns for sale:			
Velvets, velveteens, corduroys, and plushes—				Pounds.....	618,201,812	497,989,999	470,370,995
Square yards.....	40,183,780	29,125,703	19,706,438	Value.....	\$453,764,883	\$127,363,952	\$109,314,953
Value.....	\$36,673,551	\$3,540,143	\$6,965,634	Cotton waste for sale:			
Toweling and terry weaves—				Pounds.....	315,314,238	317,360,019	310,513,348
Square yards.....	75,165,515	75,798,907	52,778,170	Value.....	\$36,357,674	\$14,421,929	\$10,874,386
Value.....	\$31,230,370	\$9,805,232	\$6,037,075	Old bagging and ties from cotton bales, value.....	\$2,507,021	\$1,010,344	(²)
Tapestries—				All other products, value.....	\$105,969,278	\$24,367,879	\$22,483,213
Square yards.....	21,705,586	10,137,710	10,657,385				
Value.....	\$17,295,608	\$5,411,592	\$4,723,907				

¹ In addition, in 1919, cotton products to the value of \$44,479,105; in 1914 to the value of \$17,015,899; and in 1909 to the value of \$10,821,250, were reported by establishments engaged primarily in other industries. Of these amounts, \$10,763,188 in 1919 represents the value of cotton thread and cotton yarn reported by mills engaged chiefly in the production of knit goods, silk goods, wool manufactures, and cordage and twine; \$4,442,141 in 1914, and \$2,067,506 in 1909, represents the value of cotton yarn reported by mills engaged chiefly in the production of knit goods, wool manufactures, and cordage and twine; and in 1919, \$18,408,540, in 1914, \$9,011,962, and in 1909, \$8,529,649, represents the value of cotton rope and twine reported by manufacturers of cordage and twine and jute and linen goods.

² Not reported separately in 1909.

³ In addition, bags to the value of \$5,629,537 in 1919 were manufactured in cotton mills principally from purchased fabric. The value of such bags has been included in "All other products."

⁴ Quantity in 1909 reported as 9,663,482 pounds.

Summary of products for cotton manufactures, by states.—Statistics similar to those presented in the preceding table are shown in Table 18. Each important class of products is presented, by states, except

in cases where individual operations would be disclosed. The quantity in pounds of woven goods was reported for the first time in 1919.

COTTON MANUFACTURES.

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TABLE 18.—SUMMARY OF PRODUCTS FOR COTTON MANUFACTURES, BY STATES: 1919, 1914, AND 1909.

PRODUCT AND STATE.	QUANTITY.				VALUE.		
	1919	1919	1914	1909	1919	1914	1909
Total value.....					\$2, 195, 565, 881	\$701, 300, 933	\$628, 391, 813
Cotton-goods industry.....					2, 125, 272, 193	676, 589, 115	615, 217, 702
Cotton small-wares industry.....					40, 896, 635	11, 525, 033	13, 174, 111
Cotton-lace industry.....					29, 396, 853	13, 206, 785	(¹)
Woven goods (over 12 inches in width).....	Pounds. 1, 814, 949, 042	Square yards. 0, 217, 397, 984	Square yards. 0, 813, 540, 681	Square yards. 0, 297, 561, 279	1, 489, 610, 779	489, 985, 277	447, 167, 319
Alabama.....	104, 582, 454	206, 585, 986	246, 512, 045	213, 195, 840	60, 578, 243	19, 525, 519	16, 423, 719
Connecticut.....	59, 780, 134	199, 244, 653	203, 868, 284	180, 690, 012	08, 628, 161	18, 560, 045	15, 084, 224
Georgia.....	223, 530, 118	550, 022, 081	590, 279, 936	489, 225, 528	140, 726, 106	43, 279, 755	33, 435, 737
Indiana.....	4, 302, 187	16, 223, 169	31, 190, 210	46, 018, 961	3, 880, 389	1, 720, 577	2, 212, 510
Maine.....	02, 251, 587	206, 021, 206	238, 972, 102	250, 188, 405	49, 269, 661	19, 918, 332	20, 684, 419
Maryland.....	21, 000, 544	17, 915, 469	17, 940, 482	21, 428, 788	14, 131, 542	4, 640, 284	4, 436, 448
Massachusetts.....	392, 314, 466	1, 765, 048, 678	2, 000, 981, 948	1, 989, 678, 059	140, 911, 004	140, 814, 418	138, 626, 795
Mississippi.....	10, 031, 668	38, 727, 354	42, 901, 210	45, 590, 264	6, 547, 360	2, 439, 871	2, 778, 213
New Hampshire.....	102, 672, 070	282, 531, 393	357, 859, 393	404, 831, 223	80, 028, 914	33, 485, 758	30, 985, 201
New Jersey.....	33, 828, 485	55, 136, 045	41, 313, 974	40, 196, 447	41, 220, 203	6, 758, 451	5, 319, 695
New York.....	22, 033, 459	108, 774, 299	121, 280, 718	134, 028, 087	22, 221, 635	7, 727, 228	9, 664, 662
North Carolina.....	231, 142, 805	769, 846, 326	748, 119, 020	625, 870, 309	172, 488, 385	50, 221, 104	42, 192, 107
Pennsylvania.....	30, 318, 286	58, 874, 786	60, 202, 770	93, 834, 616	48, 682, 122	18, 235, 292	18, 119, 153
Rhode Island.....	94, 562, 089	340, 789, 461	351, 074, 515	363, 133, 635	111, 177, 315	30, 042, 850	31, 523, 150
South Carolina.....	304, 876, 825	1, 283, 490, 769	1, 343, 006, 006	1, 076, 066, 885	204, 648, 028	70, 579, 894	67, 608, 154
Tennessee.....	21, 079, 756	64, 543, 615	70, 271, 185	63, 029, 001	13, 812, 757	4, 515, 562	3, 683, 512
Texas.....	25, 476, 065	53, 031, 345	41, 677, 534	37, 127, 223	13, 041, 254	3, 706, 054	2, 731, 932
Virginia.....	40, 451, 657	140, 700, 553	137, 932, 424	109, 045, 596	31, 501, 391	9, 062, 298	6, 967, 644
All other states.....	28, 914, 386	77, 934, 796	89, 550, 859	81, 470, 400	17, 712, 300	5, 833, 385	4, 789, 454
Unbleached and bleached sheetings, shirtings, and muslins.....	607, 674, 805	3, 194, 100, 981	3, 852, 471, 903	3, 709, 031, 377	477, 407, 901	196, 520, 934	199, 900, 874
Alabama.....	27, 836, 878	113, 402, 549	119, 924, 453	123, 239, 454	15, 497, 019	6, 266, 410	7, 005, 585
Connecticut.....	9, 557, 509	70, 427, 928	93, 298, 425	69, 142, 124	13, 401, 886	6, 423, 411	6, 820, 710
Georgia.....	64, 675, 779	268, 901, 897	312, 675, 717	263, 599, 923	40, 280, 952	15, 545, 371	13, 127, 547
Indiana.....	20, 510, 304	81, 537, 777	105, 715, 187	136, 448, 037	15, 310, 394	6, 023, 688	9, 122, 839
Maine.....	138, 038, 501	991, 503, 373	1, 340, 324, 920	1, 230, 679, 320	137, 986, 064	65, 014, 658	63, 028, 168
Massachusetts.....	11, 671, 242	41, 327, 918	54, 537, 854	62, 200, 149	8, 540, 052	3, 443, 893	3, 588, 372
New Hampshire.....	52, 600, 428	242, 477, 842	307, 495, 671	260, 603, 261	38, 944, 018	14, 260, 826	13, 285, 679
North Carolina.....	33, 227, 907	171, 255, 892	204, 023, 852	240, 831, 368	36, 907, 734	13, 923, 977	18, 212, 259
Rhode Island.....	207, 293, 129	1, 016, 912, 301	1, 092, 448, 052	864, 624, 681	140, 008, 485	51, 471, 351	42, 762, 535
South Carolina.....	42, 254, 038	196, 333, 504	251, 127, 772	418, 752, 120	30, 531, 297	13, 541, 399	22, 947, 180
All other states.....	288, 530, 650	336, 500, 457	251, 367, 711	162, 476, 322	237, 082, 551	49, 179, 212	27, 485, 892
Ducks.....	40, 150, 918	58, 722, 438	38, 730, 257	20, 435, 832	22, 478, 395	6, 469, 231	4, 234, 763
Alabama.....	67, 179, 083	77, 104, 106	77, 730, 088	49, 484, 921	43, 879, 551	11, 448, 884	6, 640, 339
Georgia.....	17, 122, 700	13, 818, 116	13, 212, 632	13, 872, 294	10, 405, 023	3, 840, 524	3, 478, 113
Maryland.....	49, 256, 263	49, 844, 048	35, 818, 599	20, 169, 491	50, 987, 332	10, 384, 436	5, 988, 828
Massachusetts.....	24, 966, 174	22, 441, 049	9, 641, 288	5, 747, 008	33, 318, 980	4, 401, 889	2, 318, 134
New Jersey.....	17, 785, 414	31, 833, 803	27, 667, 048	13, 680, 253	8, 596, 326	2, 601, 068	1, 534, 588
Texas.....	72, 061, 098	82, 641, 717	48, 566, 609	21, 106, 523	67, 416, 944	9, 936, 280	3, 291, 127
All other states.....	77, 306, 286	368, 307, 601	489, 661, 133	537, 430, 463	85, 070, 745	36, 706, 542	37, 939, 040
Ginghams.....	22, 568, 981	102, 297, 902	129, 379, 233	139, 552, 491	27, 409, 269	10, 157, 707	10, 753, 018
Massachusetts.....	21, 017, 005	105, 080, 259	100, 741, 627	111, 994, 426	19, 836, 135	6, 427, 154	7, 103, 532
North Carolina.....	6, 747, 880	30, 447, 592	26, 998, 766	29, 417, 246	6, 324, 700	1, 456, 884	1, 525, 286
South Carolina.....	27, 002, 420	123, 881, 848	233, 841, 607	256, 466, 300	31, 500, 632	18, 664, 797	18, 557, 204
All other states.....	117, 627, 118	314, 822, 100	280, 960, 885	238, 869, 407	73, 253, 640	21, 250, 698	17, 750, 151
Drills.....	30, 335, 163	80, 220, 872	68, 911, 226	64, 075, 402	19, 202, 104	5, 087, 850	4, 378, 103
Georgia.....	9, 532, 041	30, 513, 477	12, 425, 634	17, 088, 244	6, 670, 675	1, 690, 223	1, 998, 819
Massachusetts.....	2, 535, 093	7, 567, 026	6, 076, 949	7, 705, 349	1, 477, 025	448, 493	437, 721
Mississippi.....	14, 214, 296	38, 630, 477	18, 438, 152	18, 940, 774	9, 180, 838	912, 799	1, 119, 822
North Carolina.....	37, 335, 892	96, 339, 969	98, 617, 604	75, 828, 018	21, 243, 723	6, 610, 701	5, 062, 204
South Carolina.....	23, 674, 603	55, 544, 288	84, 900, 320	55, 230, 720	15, 479, 275	6, 506, 623	4, 753, 482
All other states.....	131, 537, 280	424, 478, 033	392, 108, 735	388, 314, 961	101, 056, 691	32, 891, 854	34, 274, 107
Twills and sateens.....	7, 175, 782	29, 198, 245	33, 445, 109	40, 827, 992	5, 982, 241	2, 911, 329	3, 152, 078
Connecticut.....	13, 491, 012	25, 622, 585	15, 353, 897	27, 617, 061	8, 589, 810	1, 188, 687	2, 585, 817
Georgia.....	14, 117, 549	40, 382, 934	29, 006, 653	29, 006, 653	10, 166, 527	2, 867, 347	2, 452, 673
Maine.....	31, 270, 208	116, 915, 845	129, 409, 523	159, 658, 540	25, 199, 482	11, 192, 661	14, 889, 807
Massachusetts.....	12, 173, 740	28, 112, 365	45, 353, 004	47, 921, 784	8, 250, 468	4, 939, 594	4, 372, 001
New Hampshire.....	3, 431, 323	14, 602, 532	15, 718, 054	12, 473, 668	2, 823, 646	1, 239, 480	814, 767
North Carolina.....	16, 031, 268	74, 851, 993	53, 871, 689	74, 415, 253	17, 125, 339	5, 338, 728	4, 139, 572
Rhode Island.....	9, 161, 611	27, 682, 951	13, 598, 202	12, 910, 370	6, 783, 891	844, 701	797, 024
South Carolina.....	23, 784, 207	67, 108, 583	35, 809, 030	33, 033, 857	16, 135, 287	2, 879, 327	3, 655, 685
All other states.....	105, 356, 438	220, 381, 180	229, 330, 389	264, 870, 508	70, 080, 557	24, 947, 983	27, 350, 162
Ticks and denims.....	5, 295, 014	10, 055, 188	13, 680, 250	14, 888, 985	3, 654, 608	1, 400, 188	1, 612, 636
Connecticut.....	10, 844, 923	19, 632, 858	30, 359, 304	35, 219, 627	7, 129, 775	2, 772, 007	2, 585, 817
Georgia.....	15, 865, 269	31, 588, 216	35, 128, 181	58, 716, 976	10, 479, 031	3, 941, 780	6, 897, 895
Massachusetts.....	10, 674, 183	19, 136, 608	17, 453, 313	21, 324, 650	7, 516, 894	2, 514, 731	2, 455, 764
New Hampshire.....	43, 940, 512	91, 881, 497	85, 473, 708	97, 997, 821	29, 276, 705	9, 045, 956	9, 801, 356
North Carolina.....	5, 432, 460	14, 131, 800	11, 790, 017	8, 582, 717	3, 583, 226	1, 135, 377	808, 407
South Carolina.....	13, 795, 077	33, 955, 003	35, 468, 610	28, 139, 732	8, 440, 318	4, 137, 964	3, 188, 287
All other states.....							

¹ Not reported separately in 1909.² Figures for 1919 exclude "ounce duck" to avoid disclosure of individual operations.

TABLE 18—SUMMARY OF PRODUCTS FOR COTTON MANUFACTURES, BY STATES: 1919, 1914, AND 1909—Continued.

PRODUCT AND STATE.	QUANTITY.				VALUE.		
	1919	1919	1914	1909	1919	1914	1909
	Pounds.	Square yards.	Square yards. ¹	Square yards.			
Woven goods—Continued.							
Cotton flannel.....	82,319,178	268,067,853	263,862,227	305,655,864	\$60,152,426	\$24,352,020	\$25,695,367
Georgia.....	8,331,595	15,656,295	16,190,524	20,472,753	4,598,467	1,316,680	1,700,757
Massachusetts.....	22,754,907	78,640,678	75,155,157	123,982,755	17,418,179	7,870,079	9,470,477
New Hampshire.....	17,572,707	59,592,244	40,650,233	71,473,313	13,348,096	5,102,818	6,567,134
North Carolina.....	28,507,076	98,436,715	90,152,119	64,627,668	20,447,106	7,262,674	5,389,195
All other states.....	5,152,743	15,741,921	32,714,194	25,099,375	4,339,678	2,709,769	2,567,804
Velvets, velveteens, corduroys, and plushes.....	26,175,547	40,183,780	29,128,703	19,706,438	36,673,551	8,540,143	6,965,634
Massachusetts.....	7,719,646	12,059,895	8,010,211	6,109,238	9,240,219	2,054,181	1,707,507
Pennsylvania.....	6,172,296	6,463,830	4,793,205	3,038,945	11,575,008	2,434,588	1,515,405
Rhode Island.....	3,274,998	5,180,230	5,457,570	3,106,639	4,166,569	2,140,780	1,138,767
All other states.....	9,008,607	16,479,825	10,867,717	7,451,616	11,601,755	1,910,594	2,606,855
Toweling and terry weaves.....	38,197,999	75,165,615	75,798,907	52,778,170	31,230,370	9,805,232	6,037,075
Georgia.....	5,169,816	8,566,611	14,836,281	12,264,366	3,807,842	1,657,011	1,374,772
Massachusetts.....	1,061,354	2,607,007	4,270,318	4,155,909	857,289	487,237	418,532
New Jersey.....	3,262,534	8,852,451	8,835,862	10,103,237	2,326,624	239,882	630,014
New York.....	992,340	2,920,388	3,460,425	1,955,625	1,307,398	665,423	430,898
Pennsylvania.....	4,476,857	8,328,002	9,989,645	10,501,557	5,200,040	2,759,147	1,749,813
All other states.....	23,235,098	49,794,056	42,397,376	13,797,476	17,671,177	3,990,532	1,437,951
Tapestries.....	9,625,430	21,705,586	10,137,710	10,657,385	17,295,608	5,411,592	4,723,907
Pennsylvania.....	5,991,985	9,052,124	8,106,698	8,783,897	13,160,694	4,803,688	4,163,683
All other states.....	3,633,445	12,653,462	2,031,012	1,873,518	4,134,914	607,904	560,224
Pillow tubing.....	3,510,374	12,112,573	15,212,622	(¹)	2,555,543	1,488,847	(¹)
Mosquito netting and tarlatan.....	3,271,283	34,425,907	97,931,783	59,100,819	3,273,376	2,820,524	2,103,660
Bags and bagging ²	25,650,705	82,433,300	129,357,002	63,107,568	13,139,820	9,705,616	4,802,451
Other woven goods (over 12 inches in width).....	298,069,949	924,712,709	687,151,971	455,561,997	281,338,000	66,363,030	52,079,099
Lace and lace curtains.....				81,007,314	28,258,489	12,521,053	8,922,082
Tape and webbing.....		Linear yards. 1,065,551,328	Linear yards. 1,026,231,549	(³)	15,296,061	5,030,052	5,531,674
Twine.....		Pounds. 11,880,195	Pounds. 13,284,875	13,715,771	5,935,245	2,792,125	2,417,391
Cordage and rope.....		6,815,848	5,515,658	7,603,907	2,857,275	891,223	1,164,526
Thread.....		26,441,943	26,507,023	23,700,957	55,009,176	22,917,099	20,516,269
Massachusetts.....		7,226,906	7,713,857	6,563,216	14,819,825	5,310,536	5,285,750
Rhode Island.....		4,936,512	2,675,562	3,715,469	10,410,983	3,247,298	3,616,713
All other states.....		14,278,525	16,117,604	13,422,272	20,778,368	14,350,265	11,713,806
Yarns, for sale.....		618,201,812	497,986,909	470,270,905	453,764,883	127,363,952	109,314,953
Alabama.....		31,708,348	25,757,706	25,500,583	17,452,524	5,220,758	5,100,971
Connecticut.....		13,483,829	8,400,090	7,914,873	11,735,652	3,497,870	2,846,742
Georgia.....		76,653,909	65,777,960	61,956,708	43,316,573	13,274,864	11,971,448
Maine.....		8,734,116	5,583,096	3,259,274	6,633,266	1,772,193	957,011
Massachusetts.....		154,715,201	112,623,022	108,930,860	145,888,149	38,784,313	31,725,674
Mississippi.....		2,055,323	1,333,799	1,119,504	1,285,530	288,050	220,920
New Hampshire.....		3,811,883	968,819	1,030,524	2,777,734	341,886	527,521
New Jersey.....		2,834,375	3,723,938	4,926,844	4,370,701	1,400,267	1,810,075
New York.....		37,033,298	31,675,350	31,765,481	22,198,743	6,968,631	6,745,518
North Carolina.....		199,191,556	168,810,924	142,213,450	130,208,931	37,538,174	28,312,873
Pennsylvania.....		6,232,189	9,476,991	11,448,343	3,020,163	2,075,228	2,591,458
Rhode Island.....		28,387,208	15,744,008	19,752,920	24,962,360	5,679,149	6,666,271
South Carolina.....		29,842,984	27,861,944	32,709,732	19,610,005	6,078,250	6,759,913
Tennessee.....		10,308,809	8,601,057	7,443,170	6,511,335	1,783,607	1,378,695
All other states.....		13,118,784	12,138,805	9,438,729	6,893,217	2,660,703	1,699,823
Cotton waste, for sale.....		315,314,228	317,360,019	310,513,348	36,357,674	14,421,929	10,874,380
Alabama.....		12,306,584	8,622,020	10,405,797	831,614	325,078	218,872
Connecticut.....		11,065,638	11,374,187	11,315,800	1,794,827	720,299	499,811
Georgia.....		24,407,154	19,128,934	19,684,927	1,747,062	605,781	510,168
Maine.....		5,576,872	9,529,852	7,748,539	577,372	379,392	251,179
Massachusetts.....		133,500,403	125,634,736	115,907,265	18,240,641	6,793,957	4,650,374
New Hampshire.....		7,636,620	15,360,363	12,366,641	461,538	409,865	263,256
New Jersey.....		5,298,907	4,686,591	3,569,041	509,348	357,725	211,347
New York.....		7,532,751	5,361,414	7,170,930	852,006	238,466	250,037
North Carolina.....		40,610,235	38,455,783	34,861,543	4,055,603	1,380,461	836,652
Pennsylvania.....		1,731,184	2,013,542	3,038,771	141,935	97,915	96,340
Rhode Island.....		22,859,631	23,079,944	42,188,042	3,095,472	1,325,590	1,984,192
South Carolina.....		32,541,008	40,417,952	29,621,480	1,349,787	1,349,787	850,246
Tennessee.....		2,428,933	2,246,044	2,164,304	185,613	68,806	56,954
All other states.....		7,818,218	10,848,648	10,590,268	690,943	358,807	223,958
Old bagging and ties from cotton bales.....					2,507,021	1,010,344	(¹)
All other products.....					105,969,278	24,367,879	22,483,213

¹ Not reported separately in 1909.² In addition, bags to the value of \$5,629,537 in 1919 were manufactured in cotton mills principally from purchased fabric. The value of such bags has been included in "All other products."³ Quantity in 1909 reported as 9,663,482 pounds.⁴ Figures for 1919 and 1914 include only waste produced in the cotton-goods industry.

Woven goods continue to lead as the principal product of the industry with 70 per cent of the total value. Within this group the value of sheetings has given way to ducks for first place among the products of the loom. In 1914 ducks represented 10 and sheetings 27.2 per cent of the total value of woven goods, while in 1919 the corresponding percentages were 16 and 14.9. In 1919 tire duck formed over one-half the total value of all kinds of duck, and in itself was 9.6 per cent of the total value of woven goods.

Summary of products for the cotton-goods industry.—The quantity (in pounds and square yards) and value of the products of the cotton-goods industry are presented in Table 19 for 1919. Statistics are given here in greater detail than in previous census reports, due to the expansion of the industry and to a rearrangement of items on the schedule used for collecting the data. Certain items included in composite classifications in Table 18 are here presented in detail, by states, for the cotton-goods industry, which excludes establishments manufacturing cotton small wares or cotton-lace goods as a primary product.

TABLE 19.—SUMMARY OF PRODUCTS FOR THE COTTON-GOODS INDUSTRY: 1919.

PRODUCT AND STATE.	Pounds.	Square yards.	Value.
Total value.....			\$2, 125, 272, 193
Woven goods (over 12 inches in width).....	1, 814, 949, 042	6, 317, 397, 984	1, 489, 610, 779
Sheetings.....	330, 303, 642	1, 308, 046, 386	220, 089, 704
Alabama.....	24, 445, 207	91, 042, 132	12, 991, 794
Georgia.....	50, 091, 159	238, 851, 455	30, 094, 787
Maine.....	10, 119, 574	72, 008, 602	13, 904, 420
Massachusetts.....	19, 500, 690	81, 307, 563	15, 488, 544
Mississippi.....	2, 980, 571	14, 026, 186	1, 720, 065
North Carolina.....	37, 886, 220	156, 590, 888	28, 004, 120
Rhode Island.....	10, 055, 207	69, 779, 650	13, 977, 743
South Carolina.....	107, 440, 543	472, 897, 617	60, 058, 605
Tennessee.....	2, 084, 594	9, 642, 198	1, 282, 847
All other states.....	41, 620, 901	161, 810, 106	29, 906, 080
Pillow tubing.....	3, 510, 374	12, 112, 573	2, 555, 543
Maine.....	1, 255, 073	3, 058, 706	951, 494
Massachusetts.....	789, 117	2, 602, 165	558, 307
All other states.....	1, 474, 584	5, 591, 042	1, 046, 742
Print cloth.....	107, 986, 446	997, 485, 012	122, 558, 328
Georgia.....	4, 572, 909	23, 394, 176	3, 444, 589
Massachusetts.....	55, 453, 205	373, 038, 032	41, 574, 384
North Carolina.....	11, 305, 804	70, 360, 345	7, 888, 751
Rhode Island.....	4, 393, 942	20, 598, 962	3, 922, 444
South Carolina.....	83, 358, 158	450, 997, 849	59, 358, 990
All other states.....	8, 902, 278	52, 195, 648	6, 309, 170
Tobacco, cheese, butter, bunting, and bandage cloths.....	22, 350, 184	230, 890, 071	10, 976, 323
Massachusetts.....	18, 362, 196	202, 401, 915	14, 010, 944
South Carolina.....	2, 110, 147	10, 331, 816	1, 323, 511
All other states.....	1, 877, 871	21, 132, 340	1, 635, 868
Lawns, nainsooks, cambrics, and similar muslins.....	53, 988, 370	417, 893, 406	79, 384, 890
Connecticut.....	5, 982, 690	52, 612, 464	9, 545, 224
Massachusetts.....	29, 241, 009	243, 580, 824	43, 709, 594
Rhode Island.....	10, 602, 052	65, 081, 875	17, 063, 718
South Carolina.....	4, 997, 600	33, 213, 842	5, 508, 197
All other states.....	3, 075, 010	22, 804, 401	3, 498, 159
Mosquito netting and tarlatan.....	3, 271, 283	34, 425, 307	3, 273, 376
Ginghams.....	77, 396, 286	368, 307, 601	85, 070, 745
Shirtings (not silk-striped).....	73, 736, 038	318, 263, 329	70, 969, 630
Connecticut.....	3, 103, 081	14, 725, 086	3, 877, 618
Massachusetts.....	17, 328, 644	92, 952, 720	22, 713, 363
North Carolina.....	17, 237, 152	63, 223, 540	13, 504, 979
South Carolina.....	9, 148, 388	42, 097, 575	6, 788, 917
All other states.....	26, 018, 773	105, 204, 902	24, 024, 753
Shirtings (silk-striped).....	5, 854, 054	33, 895, 803	12, 379, 237
Massachusetts.....	4, 712, 061	27, 074, 838	8, 032, 412
All other states.....	1, 141, 993	6, 890, 965	4, 346, 825
Pique (except shirtings).....	16, 251, 948	78, 854, 827	23, 060, 460
Drills.....	117, 627, 118	314, 822, 109	73, 253, 640

TABLE 19.—SUMMARY OF PRODUCTS FOR THE COTTON-GOODS INDUSTRY: 1919—Continued.

PRODUCT AND STATE.	Pounds.	Square yards.	Value.
Woven goods—Continued.....			
Twills and sateens.....	131, 537, 280	424, 478, 033	\$101, 056, 691
Ticks.....	18, 268, 115	53, 083, 485	13, 125, 054
Massachusetts.....	4, 695, 133	13, 383, 379	3, 278, 548
North Carolina.....	6, 020, 389	21, 514, 757	4, 219, 857
All other states.....	7, 552, 593	18, 785, 349	5, 626, 649
Denims.....	87, 088, 323	166, 697, 695	56, 955, 503
Massachusetts.....	10, 670, 136	18, 204, 837	7, 200, 483
North Carolina.....	37, 920, 123	70, 366, 740	25, 058, 848
All other states.....	38, 489, 064	78, 126, 118	24, 698, 172
Cotton flannel (canton flannel, flannelettes, and blanketings).....	82, 319, 178	268, 067, 853	60, 152, 426
Cottonades.....	6, 234, 880	13, 934, 761	3, 615, 925
Cotton worsteds.....	2, 637, 269	7, 197, 280	3, 861, 549
Tire duck.....	128, 174, 168	123, 405, 422	143, 086, 211
Georgia.....	10, 641, 439	11, 685, 777	9, 857, 878
Massachusetts.....	42, 294, 670	39, 639, 018	45, 722, 608
New Jersey.....	24, 906, 174	22, 441, 049	33, 318, 980
North Carolina.....	4, 194, 172	3, 507, 853	4, 226, 078
All other states.....	46, 077, 713	46, 191, 725	49, 960, 667
Ounce duck (except tire).....	122, 027, 248	178, 539, 527	70, 601, 255
Georgia.....	46, 490, 641	56, 970, 661	28, 018, 483
Massachusetts.....	4, 875, 125	8, 232, 194	3, 848, 918
South Carolina.....	5, 769, 751	9, 035, 790	2, 947, 153
Texas.....	17, 785, 414	31, 838, 893	8, 596, 326
All other states.....	47, 106, 317	72, 461, 989	27, 190, 375
Numbered duck (except tire).....	38, 329, 234	34, 495, 508	23, 395, 085
Georgia.....	10, 047, 003	8, 537, 758	6, 003, 190
Massachusetts.....	2, 086, 468	1, 972, 836	1, 415, 806
All other states.....	26, 195, 763	23, 984, 914	15, 976, 896
Tire fabrics, other than duck.....	29, 918, 856	36, 805, 932	32, 601, 941
Massachusetts.....	14, 567, 688	18, 047, 503	15, 261, 266
All other states.....	15, 349, 168	18, 758, 429	17, 340, 675
Canvas (except bagging).....	11, 867, 754	11, 784, 013	7, 497, 732
Bags and bagging.....	25, 636, 705	82, 433, 300	13, 139, 820
Bags (fabric woven in establishments reporting) ¹	5, 755, 378	16, 182, 932	2, 849, 296
Bagging.....	19, 901, 327	66, 250, 368	10, 290, 524
Tapestries.....	9, 625, 430	21, 705, 586	17, 295, 608
Plushes, velvets, and velveteens, cut or uncut.....	13, 368, 093	20, 320, 759	22, 808, 885
Pennsylvania.....	6, 172, 296	6, 463, 830	11, 575, 008
All other states.....	7, 195, 797	13, 856, 929	11, 233, 877
Corduroys.....	12, 807, 454	19, 863, 021	13, 864, 666
Turkish towels and toweling.....	16, 870, 538	31, 505, 619	14, 059, 097
All other terry weaves.....	573, 682	442, 443	418, 546
Towels and toweling, wash cloths, bath mats, wiping and polishing cloths (except pile fabrics).....	20, 753, 779	43, 217, 453	16, 752, 727
Bedspreeds and quilts (crochet, marseilles, and satin).....	12, 700, 004	24, 071, 651	10, 244, 732
Cotton table damask in the piece or otherwise.....	10, 543, 966	27, 490, 294	9, 544, 478
North Carolina.....	5, 885, 975	10, 071, 805	4, 544, 155
Pennsylvania.....	357, 843	952, 323	554, 302
All other states.....	4, 300, 148	10, 475, 166	4, 446, 021
Sheets and pillowcases.....	5, 018, 648	20, 810, 607	3, 368, 769
Cotton blankets.....	42, 320, 816	96, 620, 556	32, 639, 927
Massachusetts.....	17, 407, 849	46, 470, 714	18, 615, 019
All other states.....	24, 912, 967	50, 149, 842	18, 024, 908
Cloths, filled or coated (window holands, etc.).....	833, 985	2, 459, 427	1, 115, 393
Cloth composed of cotton and silk or other vegetable fiber and silk (except silk-striped shirtings).....	6, 692, 135	51, 404, 771	18, 587, 057
Massachusetts.....	2, 625, 171	21, 143, 714	8, 192, 727
All other states.....	4, 066, 964	30, 261, 057	10, 394, 330
Fabrics made entirely from cotton waste.....	3, 393, 629	4, 539, 734	1, 422, 451
All other woven goods (over 12 inches in width).....	103, 114, 130	366, 505, 330	87, 827, 375
Yarns, for sale.....	618, 034, 098		453, 624, 493
Made from cotton.....	609, 208, 442		450, 314, 593
Made from cotton waste or linters.....	8, 825, 656		3, 309, 900
Thread.....	26, 441, 943		55, 009, 176
Twine ²	11, 800, 195		5, 935, 245

¹ Bags to the value of \$8,478,333 were manufactured in cotton mills during 1919, \$5,629,537 of which represents the value of bags made principally from purchased fabric and \$2,849,296 the value of bags made from fabric woven in the establishments.

² In addition, in 1919, 23,405,520 pounds of cotton twine, valued at \$12,288,755, were reported by establishments engaged primarily in manufacturing cordage and twine, and linen goods.

TABLE 19.—SUMMARY OF PRODUCTS FOR THE COTTON-GOODS INDUSTRY: 1919—Continued.

PRODUCT AND STATE.	Pounds.	Square yards.	Value.
Cordage and rope ¹	5,762,707	.....	\$2,207,245
Cotton bags (made principally from purchased fabric) ².....	.....	.....	5,629,537
Batting, wadding, and mattress felts.....	68,516,943	.....	8,481,877
Cotton card laps, roping, silver, and roving.....	4,260,437	.....	1,956,379
Other manufactures of cotton waste.....	.....	.....	1,491,515
Cotton waste, for sale.....	314,953,971	.....	36,331,607
Old bagging and ties from cotton bales.....	.....	.....	2,505,078
Georgia.....	.....	.....	280,466
Massachusetts.....	.....	.....	424,416
North Carolina.....	.....	.....	498,515
Rhode Island.....	.....	.....	247,701
South Carolina.....	.....	.....	464,192
All other states.....	.....	.....	589,788
Amount received for contract work.....	.....	.....	6,081,962
All other products.....	.....	.....	56,404,300

¹ In addition, in 1919, 11,947,094 pounds of cotton cordage and rope, valued at \$6,119,785, were reported by establishments manufacturing cotton cordage and rope as a primary product.

² Bags to the value of \$8,478,833 were manufactured in cotton mills during 1919, \$5,629,537 of which represents the value of bags made principally from purchased fabric and \$2,849,296 the value of bags made from fabric woven in the establishments.

Products, by kind of loom.—The quantity and value of piece goods made on plain, dobby, and jacquard looms in 1919 are shown in Table 20.

TABLE 20.—QUANTITY AND VALUE OF PIECE GOODS PRODUCED, BY KIND OF LOOM, IN THE COTTON-GOODS INDUSTRY: 1919.

KIND OF LOOM.	QUANTITY.		Value.
	Pounds.	Square yards.	
Total.....	1,667,470,234	5,972,644,159	\$1,343,285,565
Plain.....	1,573,107,693	5,569,138,527	1,221,324,230
Dobby.....	77,734,842	349,869,622	92,246,392
Jacquard.....	16,627,699	53,636,010	29,714,943

Cloth produced in cotton mills, according to width.—Table 21 shows, by states, the quantity, in pounds and square yards, and the value of cloth according to width, 12 to 40 inches and 40 inches and over, produced in cotton mills of the United States.

TABLE 21.—CLOTH PRODUCED IN COTTON MILLS, BY WIDTH AND BY STATES: 1919.

STATE.	WIDTH.					
	Over 12 inches and less than 40.			40 inches and over.		
	Pounds.	Square yards.	Value.	Pounds.	Square yards.	Value.
United States.....	1,254,728,289	4,827,768,228	\$987,422,363	560,220,753	1,489,629,756	\$502,188,416
Connecticut.....	25,945,542	110,202,357	29,086,142	33,834,502	80,042,296	39,442,019
Georgia.....	131,553,555	364,077,383	80,313,260	91,976,563	191,944,698	60,412,846
Massachusetts.....	253,295,404	1,324,120,362	249,240,757	139,019,063	441,828,316	140,670,247
New Jersey.....	10,438,021	26,851,892	8,767,790	23,390,404	28,284,153	32,461,413
New York.....	12,177,118	54,201,774	12,711,890	10,758,341	54,482,525	9,509,745
North Carolina.....	180,471,231	634,834,706	141,429,787	41,671,575	135,011,620	31,058,698
Pennsylvania.....	13,488,373	32,585,144	19,592,271	16,829,913	26,280,642	20,089,851
Rhode Island.....	44,598,087	211,292,152	55,425,198	49,963,402	135,497,309	55,752,117
South Carolina.....	268,270,258	1,163,380,923	178,072,017	36,606,567	120,109,846	26,576,011
Texas.....	23,934,005	48,658,883	12,053,944	1,542,060	4,372,462	987,310
Virginia.....	31,258,612	115,968,021	26,001,119	9,193,045	33,738,532	5,500,272
All other states.....	250,297,484	732,504,631	174,728,188	105,437,168	238,028,357	70,727,987

Production of cotton yarn, according to counts, in different sections of the United States.—The quantity and counts of cotton yarn produced in the cotton-growing states and the New England states are compared in Table 22 for the cotton-goods industry in

1919 and 1914. Separate accounts are given for yarn which was produced for own consumption, that is, for further manufacture by the same establishment, and for yarn produced for sale.

TABLE 22.—PRODUCTION OF COTTON YARN IN THE COTTON-GOODS INDUSTRY, FOR OWN CONSUMPTION AND FOR SALE, ACCORDING TO SECTION AND COUNTS OF YARN: 1919 AND 1914.

SECTION.	TOTAL.		NO. 20 AND UNDER (COARSE).		NO. 21 TO 40 (MEDIUM).		NO. 41 AND OVER (FINE).	
	1919	1914	1919	1914	1919	1914	1919	1914
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
United States.....	2,346,854,120	2,170,578,612	1,122,730,389	989,413,874	1,062,731,573	1,026,306,852	161,392,158	154,857,886
Produced for own consumption.....	1,728,820,022	1,672,591,613	827,060,647	723,039,867	799,071,278	835,349,137	101,788,097	114,202,609
Cotton-growing states ¹	992,391,711	875,966,854	584,425,098	445,122,841	393,329,145	418,642,419	14,639,468	12,201,594
New England states.....	660,667,167	716,315,733	199,136,684	224,894,501	376,591,384	392,706,715	84,939,099	98,714,517
All other states ²	75,789,144	80,309,026	44,398,865	53,022,525	29,150,749	24,000,003	2,209,530	3,266,498
Produced for sale.....	618,034,098	497,986,999	294,769,742	266,374,007	263,660,295	190,957,715	59,604,061	40,655,277
Cotton-growing states ¹	359,003,634	303,579,577	210,604,312	182,310,358	119,575,965	108,271,960	28,823,357	12,997,239
New England states.....	208,964,523	143,328,525	52,523,953	47,677,120	127,578,605	69,590,392	28,861,965	26,061,013
All other states ²	50,065,941	51,078,897	31,641,477	36,386,529	16,505,725	13,085,363	1,913,739	1,597,005

¹ The cotton-growing states included in this group are: 1919—Alabama, Arkansas, California, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, and Virginia; 1914—Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

² All other states embrace: 1919—Illinois, Indiana, Maryland, Michigan, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin; 1914—Delaware, Illinois, Indiana, Maryland, Missouri, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin.

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Production of cotton yarn, according to counts.— titles of cotton yarn produced for own consumption and for sale, distributed by sections and states.

TABLE 23.—PRODUCTION OF COTTON YARN IN THE COTTON-GOODS INDUSTRY FOR OWN CONSUMPTION AND FOR SALE COMBINED, BY SECTION AND BY STATES (POUNDS): 1919, 1914, AND 1909.

SECTION AND STATE.	TOTAL.			NO. 20 AND UNDER, COARSE.			NO. 21 TO 40, MEDIUM.			NO. 41 AND OVER, FINE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
United States....	2,346,854,120	2,170,378,612	2,037,653,722	1,122,730,389	989,413,874	1,014,069,688	1,062,731,573	1,026,306,852	866,328,605	161,392,158	154,857,886	157,255,429
Cotton-growing states ¹	1,351,397,345	1,170,546,431	1,030,979,405	705,029,410	627,433,199	632,941,012	512,905,110	526,914,379	360,871,260	43,462,825	25,198,853	37,167,133
New England states.....	869,631,690	859,644,258	865,887,522	251,660,637	272,571,621	290,135,400	504,169,989	462,297,107	401,030,916	113,801,064	124,775,530	114,721,206
All other states.....	125,825,085	131,387,923	140,786,795	76,040,342	89,409,051	90,993,276	45,656,474	37,095,366	44,426,429	4,128,269	4,883,503	5,367,090
Alabama.....	137,737,674	118,428,585	104,311,123	106,253,776	90,972,806	71,581,923	30,485,896	26,815,898	28,268,986	997,902	639,881	4,400,214
Connecticut.....	50,067,406	49,677,573	48,241,048	12,309,030	11,813,929	11,780,876	21,859,725	21,603,655	20,407,387	12,898,651	16,199,989	16,052,785
Georgia.....	303,413,106	265,300,109	230,771,195	237,678,100	188,842,933	188,303,084	65,401,731	78,546,918	42,102,121	333,273	255	365,090
Indiana.....	5,084,233	6,473,165	10,871,116	3,686,757	5,123,407	4,731,055	1,397,476	1,349,758	6,140,061	.....	.....	.....
Kentucky.....	7,952,409	10,090,078	8,796,515	7,666,803	5,649,116	4,623,076	285,606	4,396,459	4,173,439	.....	50,503	.....
Louisiana and Arkansas.....	14,146,221	8,096,129	7,547,631	14,146,221	6,096,129	7,547,631	.....	2,000,000	.....	.....	.....	.....
Maine.....	72,001,282	80,414,603	73,887,722	10,480,473	27,787,019	23,826,690	51,128,975	50,610,781	45,282,841	1,391,834	2,016,803	4,778,185
Maryland and Delaware.....	27,313,806	25,853,213	24,449,126	27,082,010	25,755,407	24,390,580	.....	97,806	58,546	231,795	.....	.....
Massachusetts.....	516,558,488	512,325,911	523,523,228	135,472,643	152,209,593	175,150,251	302,150,903	278,459,727	283,053,920	78,934,042	83,656,591	65,310,057
Mississippi.....	12,462,559	12,080,821	12,678,372	5,712,548	7,130,630	9,589,210	6,750,011	4,944,191	3,089,156	.....	.....	.....
New Hampshire.....	112,969,433	120,233,769	122,469,975	69,305,542	68,746,257	68,370,307	43,215,680	50,872,404	51,389,977	418,311	615,108	2,709,665
New Jersey.....	14,861,702	16,449,512	14,658,395	4,943,115	8,375,972	7,223,903	6,976,877	4,100,623	3,818,197	2,941,770	3,772,917	3,616,291
New York.....	58,096,400	54,006,346	60,403,324	25,701,461	26,218,868	31,215,894	31,602,266	27,405,668	28,391,604	762,679	921,810	795,826
North Carolina.....	426,930,133	360,530,300	308,604,753	230,488,903	179,671,168	175,683,089	172,014,540	166,856,241	116,466,984	24,426,090	14,002,981	10,454,680
Pennsylvania.....	13,820,789	17,673,767	22,636,781	9,075,441	15,011,943	18,131,579	4,745,348	2,486,824	3,745,849	.....	175,000	750,353
Rhode Island.....	113,972,156	92,183,985	93,406,528	15,012,723	12,014,823	11,007,274	80,177,457	59,003,905	57,301,949	18,781,946	21,103,257	25,067,305
South Carolina.....	333,645,182	321,112,510	284,657,472	118,450,495	98,627,100	125,098,888	198,780,646	212,373,172	143,722,335	16,414,041	10,212,247	15,836,249
Tennessee.....	32,195,948	30,466,268	26,311,310	18,280,883	18,849,806	16,825,402	12,899,148	11,620,462	10,436,908	1,015,917	.....	50,000
Texas.....	27,197,073	18,734,292	14,873,419	22,378,070	16,714,336	11,796,929	4,819,003	2,019,956	2,576,490	.....	.....	.....
Vermont.....	4,032,926	4,808,417	4,359,021	20,328	.....	2,637,219	3,624,635	3,594,842	3,594,842	1,375,380	1,183,782	764,179
Virginia.....	44,072,763	34,011,243	32,027,615	22,329,234	16,977,175	22,891,774	21,468,529	17,341,082	10,935,841	275,000	292,986	.....
All other states ²	18,322,467	10,331,920	7,708,053	17,195,935	8,723,457	5,300,261	934,507	1,594,687	2,272,172	192,625	13,770	195,620

¹ The cotton-growing states included in this group are: 1919—Alabama, Arkansas, California, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, and Virginia; 1914 and 1909—Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

² All other states embrace: 1919—California, Illinois, Michigan, Missouri, Ohio, and Wisconsin; 1914—Illinois, Missouri, and Wisconsin; 1909—Illinois, Kansas, Missouri, and Wisconsin.

Cotton yarn, per cent distribution, according to size and section.—Table 24 shows in percentages, for 1919, 1914, and 1909, the aggregate and relative quantity of the various sizes of cotton yarn produced in the cotton-goods industry as distributed between the cotton-growing states and the New England states.

TABLE 24.—COTTON YARN IN THE COTTON-GOODS INDUSTRY, PER CENT DISTRIBUTION BY SECTION AND SIZE OF YARN, AND PER CENT OF INCREASE (BASED ON THE COMBINED PRODUCTION IN POUNDS OF YARN FOR OWN CONSUMPTION AND FOR SALE): 1919, 1914, AND 1909.

SECTION.	TOTAL.			COARSE.			MEDIUM.			FINE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
PER CENT OF AGGREGATE.												
United States.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cotton-growing states.....	57.6	54.3	50.6	70.8	63.4	62.4	48.3	51.3	41.7	26.9	16.3	23.6
New England states.....	37.0	39.6	42.5	22.4	27.6	28.6	47.4	45.1	53.2	70.5	80.6	73.0
All other states.....	5.4	6.1	6.9	6.8	9.0	9.0	4.3	3.6	5.1	2.6	3.1	3.4
RELATIVE PER CENT.												
United States.....	100.0	100.0	100.0	47.8	45.6	49.8	45.3	47.3	42.5	6.9	7.1	7.7
Cotton-growing states.....	100.0	100.0	100.0	58.8	53.2	61.4	38.0	44.7	35.0	3.2	2.1	3.6
New England states.....	100.0	100.0	100.0	28.9	31.7	33.5	58.0	53.8	53.2	13.1	14.5	13.3
All other states.....	100.0	100.0	100.0	60.4	68.1	64.6	36.3	28.2	31.6	3.3	3.7	3.8
PER CENT OF INCREASE. ¹												
United States.....	8.1	15.2	6.5	13.5	10.7	-2.4	3.5	22.7	18.5	4.2	2.6	-1.5
Cotton-growing states.....	14.6	31.1	14.4	26.7	25.6	-0.9	-2.7	42.1	46.0	72.5	16.9	-32.2
New England states.....	1.2	0.4	-0.7	-7.7	-13.3	-6.1	9.1	9.4	0.3	-8.8	-0.8	8.8
All other states.....	-4.2	-10.6	-6.7	-15.0	-16.4	-1.7	23.1	2.8	-16.5	-15.5	-23.1	-9.0

¹ A minus sign (—) denotes decrease.

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Production of cotton yarn with quantity produced for own consumption and for sale, by states.—The production of cotton yarn, by counts and quantity, is shown in Table 25, by states, for 1919. Statistics for-

yarn produced for further manufacture by the same companies reporting, and the yarn produced for sale only, are presented separately.

TABLE 25.—PRODUCTION OF COTTON YARN IN COTTON-GOODS INDUSTRY, BY COUNTS AND BY STATES: 1919.

STATE.	Total.	20 and under.	21 to 40.	41 to 60.	61 to 80.	81 to 100.	101 to 120.	121 and over.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
United States.....	2,346,851,120	1,122,730,389	1,062,731,573	124,928,902	23,172,598	10,801,999	2,133,868	351,791
Produced for own consumption.....	1,728,820,022	827,960,047	799,071,278	79,828,307	12,168,672	8,416,513	1,543,571	331,034
Produced for sale.....	618,031,098	294,769,754	263,660,295	45,600,595	11,003,926	2,385,486	590,297	23,757
Alabama.....	137,737,574	106,253,776	30,485,896	837,139	160,763			
Produced for own consumption.....	106,029,226	86,042,304	19,386,022		160,763			
Produced for sale.....	31,708,348	19,611,472	11,098,974	837,139				
Arkansas.....	805,745	805,745						
Produced for own consumption.....	805,745	805,745						
Produced for sale.....								
Connecticut.....	50,067,406	12,309,030	24,859,725	8,750,589	1,991,564	1,037,033	379,730	139,735
Produced for own consumption.....	36,583,577	8,574,360	18,008,167	6,444,797	1,853,821	1,291,332	282,240	128,890
Produced for sale.....	13,483,829	3,734,670	6,851,558	2,305,792	137,743	345,701	97,490	10,875
Georgia.....	303,413,106	237,678,100	65,401,731	333,275				
Produced for own consumption.....	226,759,197	172,558,859	53,869,063	333,275				
Produced for sale.....	76,653,909	65,121,241	11,532,668					
Illinois.....	4,528,901	3,402,369	934,507	192,025				
Produced for own consumption.....	1,370,616	1,091,746	278,870					
Produced for sale.....	3,158,285	2,310,623	655,637	192,025				
Indiana.....	5,084,233	3,686,757	1,397,476					
Produced for own consumption.....	4,986,210	3,588,734	1,397,476					
Produced for sale.....	98,023	98,023						
Kentucky.....	7,952,409	7,606,803	285,606					
Produced for own consumption.....	4,117,297	4,117,297						
Produced for sale.....	3,835,112	3,549,506	285,606					
California.....	6,180,526	6,180,526						
Produced for own consumption.....	6,180,526	6,180,526						
Produced for sale.....								
Louisiana.....	13,340,476	13,340,476						
Produced for own consumption.....	11,181,230	11,181,230						
Produced for sale.....	2,159,246	2,159,246						
Maine.....	72,001,282	19,480,473	51,128,975	1,186,508	205,326			
Produced for own consumption.....	63,267,166	15,263,588	47,157,147	656,106	200,326			
Produced for sale.....	8,734,116	4,226,885	3,971,828	530,403	5,000			
Maryland.....	27,313,805	27,082,010		231,795				
Produced for own consumption.....	26,804,034	26,804,034						
Produced for sale.....	509,771	277,976		231,795				
Massachusetts.....	516,558,488	135,472,643	302,150,903	65,265,000	9,603,405	3,245,901	729,429	91,207
Produced for own consumption.....	361,848,884	97,975,999	206,200,543	47,209,613	6,753,844	2,904,753	714,540	89,583
Produced for sale.....	154,709,604	37,496,644	95,950,360	18,055,387	2,849,561	341,148	14,880	1,624
Michigan.....	598,029	598,029						
Produced for own consumption.....	598,029	598,029						
Produced for sale.....								
Mississippi.....	12,462,559	5,712,548	6,750,011					
Produced for own consumption.....	10,407,236	4,595,458	5,811,778					
Produced for sale.....	2,055,323	1,117,090	938,233					
Missouri.....	5,463,851	5,463,851						
Produced for own consumption.....	5,463,851	5,463,851						
Produced for sale.....								
New Hampshire.....	112,999,433	69,365,442	43,215,680	392,381	25,930			
Produced for own consumption.....	106,187,550	68,999,148	39,961,818	200,654	25,930			
Produced for sale.....	3,811,883	366,294	3,253,862	191,727				
New Jersey.....	14,861,762	4,943,115	6,976,877		433,768	2,508,002		
Produced for own consumption.....	12,027,387	4,408,122	5,409,735			2,209,530		
Produced for sale.....	2,834,375	534,993	1,567,142		433,768	298,472		
New York.....	58,066,406	25,701,461	31,602,266	762,679				
Produced for own consumption.....	21,033,108		21,033,108					
Produced for sale.....	37,033,298	25,701,461	10,569,158	762,679				
North Carolina.....	426,930,133	230,488,903	172,014,540	17,378,049	6,712,754		335,887	
Produced for own consumption.....	227,738,577	132,851,730	94,060,680	826,167				
Produced for sale.....	199,191,556	97,637,173	77,953,860	16,551,882	6,712,754		335,887	
Ohio.....	598,029	598,029						
Produced for own consumption.....	598,029	598,029						
Produced for sale.....								
Pennsylvania.....	13,820,789	9,075,441	4,745,348					
Produced for own consumption.....	7,588,600	6,557,040	1,031,560					
Produced for sale.....	6,232,189	2,518,401	3,713,788					
Rhode Island.....	113,972,156	15,012,723	80,177,487	12,387,680	2,450,612	3,130,983	688,822	123,849
Produced for own consumption.....	85,747,065	8,313,263	62,628,490	10,190,367	2,226,754	1,730,818	546,782	112,591
Produced for sale.....	28,225,091	6,699,460	17,550,997	2,197,313	223,858	1,400,165	142,040	11,258
South Carolina.....	333,645,182	118,450,495	198,780,646	15,290,613	1,123,428			
Produced for own consumption.....	303,802,198	102,061,226	188,535,946	12,097,029	1,107,997			
Produced for sale.....	29,842,984	16,389,269	10,244,700	3,193,584	15,431			

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TABLE 18.—PRODUCTION OF COTTON YARN IN COTTON-GOODS INDUSTRY, BY COUNTS AND BY STATES:
1919—Continued.

STATE.	Total.	20 and under.	21 to 40.	41 to 60.	61 to 80.	81 to 100.	101 to 120.	121 and over.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Tennessee.....	32,195,948	18,280,883	12,899,148	550,869	465,048			
Produced for own consumption.....	21,707,139	15,058,918	6,738,221					
Produced for sale.....	10,398,809	3,221,965	6,160,927	550,869	465,048			
Texas.....	27,197,073	22,378,070	4,819,003					
Produced for own consumption.....	25,733,692	21,525,276	4,208,416					
Produced for sale.....	1,463,381	852,794	610,587					
Vermont.....	4,032,925	20,326	2,637,219	1,095,300		280,080		
Produced for own consumption.....	4,032,925	20,326	2,637,219	1,095,300		280,080		
Produced for sale.....								
Virginia.....	44,072,763	22,329,234	21,468,529	275,000				
Produced for own consumption.....	42,377,797	21,384,678	20,718,119	275,000				
Produced for sale.....	1,694,966	944,556	750,410					
Wisconsin.....	953,131	953,131						
Produced for own consumption.....	753,131	753,131						
Produced for sale.....	200,000	200,000						

Dyeing and finishing in connection with the cotton-goods industry.—Table 26 gives, by states, the total number of establishments, engaged primarily in the

manufacture of cotton goods, and shows the number which convert their own goods, convert for others, or do custom spinning or weaving for 1919 and 1914.

TABLE 26.—ESTABLISHMENTS IN THE COTTON-GOODS INDUSTRY, DYEING AND FINISHING, OR DOING CONTRACT WORK: 1919 AND 1914.

STATE.	TOTAL NUMBER.		BLEACHING, DYEING OR PRINTING—				DOING CUSTOM SPINNING OR WEAVING.		STATE.	TOTAL NUMBER.		BLEACHING, DYEING OR PRINTING—				DOING CUSTOM SPINNING OR WEAVING.	
			Their own goods.		For others.							Their own goods.		For others.			
	1919	1914	1919	1914	1919	1914	1919	1914		1919	1914	1919	1914	1919	1914	1919	1914
United States ¹	1,452	1,287	282	268	39	36	63	46	New Jersey.....	39	21	11	8	5	4	.....	2
Alabama.....	58	57	5	6	.....	.....	2	.....	New York.....	52	41	14	12	2	1	1	.....
Connecticut.....	52	44	13	12	3	1	6	2	North Carolina.....	311	293	57	61	5	4	4	5
Georgia.....	132	118	16	15	3	1	5	2	Pennsylvania.....	155	142	32	37	4	4	13	11
Maine.....	14	15	4	5	1	.....	2	2	Rhode Island.....	122	93	28	22	3	6	8	5
Massachusetts.....	231	189	55	48	9	10	15	15	South Carolina.....	145	148	14	13	.....	1	2	.....
New Hampshire.....	21	16	9	8	3	2	3	.....	All other states.....	120	110	24	21	1	2	2	2

¹ Includes cotton small wares.

Spindles and looms.—The number of spindles in operation during 1919, 1914, 1909, and 1904 is shown for the cotton-goods industry in Table 27. Separate statistics are presented in this table for the number of

frame and mule spindles according to location in New England and the cotton-growing states as well as for each state in the United States.

TABLE 27.—ACTIVE PRODUCING SPINDLES IN THE COTTON-GOODS INDUSTRY: 1919, 1914, 1909, AND 1904.

STATE.	CENSUS YEAR AND CLASS OF SPINDLE.											
	1919			1914			1909			1904		
	Total.	Frame.	Mule.	Total.	Frame.	Mule.	Total.	Frame.	Mule.	Total.	Frame.	Mule.
United States.....	33,718,953	30,578,703	3,140,250	30,815,731	27,123,236	3,692,495	27,395,800	22,679,006	4,716,794	23,155,613	17,933,756	5,221,857
New England.....	17,542,926	14,903,306	2,579,620	16,748,058	13,693,693	3,054,365	15,883,909	11,603,203	3,720,706	13,011,241	9,763,951	4,147,290
Cotton-growing states.....	14,568,272	14,437,712	130,560	12,440,700	12,340,678	100,022	10,222,472	10,046,526	175,946	7,494,905	7,300,053	194,852
All other states.....	1,607,755	1,177,685	430,070	1,626,973	1,088,865	538,106	1,789,419	969,277	820,142	1,749,467	899,752	879,715
Alabama.....	1,108,933	1,106,933	2,000	998,836	995,426	3,410	885,803	882,803	3,000	758,087	751,087	7,000
Connecticut.....	1,256,776	1,256,776	386,266	1,276,148	899,572	406,576	1,241,524	818,074	423,450	1,149,915	702,439	447,476
Georgia.....	2,459,143	2,405,333	53,810	2,043,386	1,998,698	44,718	1,747,483	1,677,987	69,496	1,316,573	1,247,301	69,272
Indiana.....	81,256	81,256	.....	80,256	80,256	.....	119,668	110,616	8,052	119,252	101,184	18,068
Kentucky.....	85,836	74,916	10,920	81,804	70,944	10,920	72,956	62,036	10,920	70,192	55,072	21,120
Louisiana.....	91,684	91,684	.....	40,456	40,456	.....	59,556	59,556	.....	59,052	56,552	2,500
Maine.....	1,091,991	1,049,831	42,160	1,098,142	1,012,718	85,424	1,020,688	859,372	161,316	891,246	667,522	223,724
Maryland.....	117,154	110,914	6,240	120,630	120,630	.....	133,302	133,302	.....	133,672	133,672	.....
Massachusetts.....	11,206,855	9,658,340	1,548,515	10,556,867	8,690,775	1,866,092	9,372,304	7,282,158	2,090,211	8,411,249	6,082,189	2,329,060
Mississippi.....	158,802	158,802	.....	120,186	120,186	.....	153,804	153,004	800	125,352	125,352	.....
New Hampshire.....	1,333,797	1,322,277	11,520	1,340,753	1,296,485	44,268	1,318,932	1,164,386	154,546	1,301,281	1,032,205	269,076
New Jersey.....	402,263	159,841	242,422	443,938	161,907	279,031	420,784	107,381	313,403	436,704	87,960	348,804
New York.....	741,618	664,896	76,732	671,077	544,424	126,653	777,980	417,978	360,002	704,634	328,132	376,502
North Carolina.....	4,622,714	4,504,508	28,206	3,703,482	3,678,486	24,816	2,908,883	2,849,865	58,518	1,880,950	1,814,190	66,760
Pennsylvania.....	195,839	106,328	89,511	212,088	97,522	114,566	252,559	131,214	121,345	266,097	145,756	120,341
Rhode Island.....	2,612,283	1,931,324	580,959	2,339,844	1,698,039	641,805	2,338,089	1,463,346	875,343	2,049,522	1,199,284	850,238
South Carolina.....	4,949,225	4,947,065	1,560	4,552,048	4,548,388	3,660	3,764,251	3,731,039	23,212	2,804,092	2,848,980	15,112
Tennessee.....	329,337	311,073	18,264	281,996	271,996	10,000	225,638	215,638	10,000	153,375	143,375	10,000
Texas.....	131,454	115,654	15,800	108,236	106,236	.....	97,628	97,628	.....	68,170	68,170	.....
Vermont.....	141,224	131,024	10,200	136,304	126,104	10,200	91,712	75,872	15,840	108,028	80,312	27,716
Virginia.....	500,280	560,280	.....	499,144	496,644	2,500	316,970	316,970	.....	193,062	189,974	3,088
All other states.....	140,489	125,324	15,165	106,150	88,294	17,856	85,226	68,786	16,440	89,048	73,048	16,000

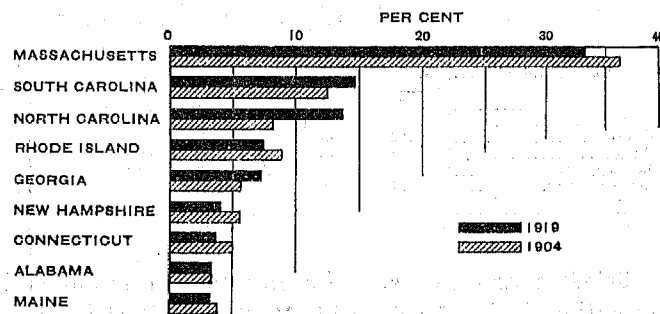
Includes Alabama, Arkansas, California, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

Active spindles—1919 and 1904.—In Table 28 the states engaged in the manufacture of cotton goods are arranged in the order of their importance according to the number of active cotton spinning spindles in 1919. Only states having a million or more spindles in operation during 1919 are shown, the remaining states being grouped as "All other states." The progress, by states, for this industry, based on spindles, is shown for the 15-year period 1904 to 1919. The table gives the per cent distribution of spindles for each state in 1919 and 1904, and is illustrated by the first diagram which follows. The relative per cent of increase for each state is shown in the table and also as in the second diagram accompanying the table. In addition, the table gives the per cent distribution of the total increase of spindles, by states.

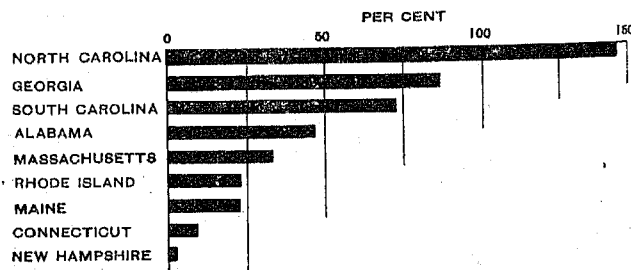
TABLE 28.—ACTIVE COTTON SPINDLES IN THE COTTON-GOODS INDUSTRY: 1919 AND 1904.

STATE.	1919	1904	PER CENT DISTRIBUTION.		Per cent of total increase, 1904-1919.	Per cent of increase, 1904-1919.
			1919	1904		
United States.....	33,718,953	23,155,613	100.0	100.0	100.0	45.6
Massachusetts.....	11,206,855	8,411,249	33.2	36.3	26.5	33.2
South Carolina.....	4,949,225	2,804,092	14.7	12.4	19.7	72.8
North Carolina.....	4,622,714	1,880,950	13.7	8.1	26.0	145.8
Rhode Island.....	2,612,283	2,049,522	7.5	8.9	4.4	22.6
Georgia.....	2,459,143	1,316,573	7.3	5.7	10.8	80.8
New Hampshire.....	1,333,797	1,301,281	4.0	5.6	0.3	2.5
Connecticut.....	1,256,776	1,149,915	3.7	5.0	1.0	9.3
Alabama.....	1,108,933	758,087	3.3	3.3	3.3	46.3
Maine.....	1,091,991	891,240	3.2	3.8	1.9	22.5
All other states.....	3,177,230	2,532,698	9.4	10.9	6.1	25.4

COTTON GOODS—PER CENT DISTRIBUTION OF ACTIVE COTTON SPINDLES FOR LEADING STATES: 1919 AND 1904.



COTTON GOODS—PER CENT OF INCREASE IN ACTIVE COTTON SPINDLES FOR LEADING STATES: 1919.



Active producing spindles, by geographic division.—Table 29 gives a distribution, according to geographic divisions, of the number of active producing cotton spindles in the cotton-goods industry for 1919, 1914, and 1909.

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TABLE 29.—ACTIVE PRODUCING SPINDLES IN THE COTTON-GOODS INDUSTRY, BY GEOGRAPHIC DIVISIONS: 1919, 1914, AND 1909.

DIVISION. ¹	1919	1914	1909	INCREASE. ²	
				1914-1919	1909-1914
United States....	33,718,953	30,815,731	27,395,800	2,903,222	3,419,931
New England.....	17,542,926	16,748,058	15,383,909	794,868	1,364,149
Middle Atlantic.....	1,339,720	1,327,103	1,451,323	12,617	-124,220
North Central.....	179,745	171,980	183,680	7,765	-11,700
South Atlantic.....	12,708,516	10,925,950	8,867,749	1,782,596	2,058,201
East South Central....	1,682,908	1,482,882	1,338,201	200,026	144,681
West South Central....	230,138	159,758	170,938	70,380	-11,180
All other.....	35,000			35,000	

¹ The states comprising each division are shown in Table 26.

² A minus sign (—) denotes decrease.

Idle spindles.—Table 30 shows for the combined industries—cotton-goods, cotton small-wares, and cotton-lace—the number of frame and mule spindles which were idle in each state during 1919 as compared with 1914.

TABLE 30.—IDLE SPINDLES IN THE COTTON-MANUFACTURES INDUSTRY: 1919 AND 1914.

STATE.	IDLE SPINDLES.					
	Total.		Frame.		Mule.	
	1919	1914	1919	1914	1919	1914
United States.....	623,188	730,220	473,320	492,819	149,868	237,901
Alabama.....	7,256	9,572	2,656	7,732	4,600	1,840
Arkansas.....		6,808		6,808		
Connecticut.....	87,978	28,613	64,554	10,809	23,424	17,804
Georgia.....	29,205	35,007	29,205	35,007		
Indiana.....	5,448	9,248	5,448	9,248		
Louisiana.....		25,000		25,000		
Maine.....	2,040	176		176	1,440	
Maryland.....		20,590		20,590		
Massachusetts.....	231,246	319,085	195,176	223,362	36,070	95,723
Mississippi.....	12,738		12,738			
New Hampshire.....	9,445	10,446	9,445	10,446		
New Jersey.....	47,270	1,291	9,260	278	38,010	1,013
New York.....		42,303		21,044		21,259
North Carolina.....	39,438	33,061	35,838	32,741	3,600	320
Pennsylvania.....	22,141	10,532	12,384	1,344	9,757	9,188
Rhode Island.....	56,530	125,104	27,072	34,500	29,467	90,514
South Carolina.....	37,612	30,320	36,512	30,320	1,100	
Tennessee.....	3,302	600	3,392	600		
Texas.....		224		224		
Vermont.....						
Virginia.....		10,000		10,000		
All other states.....	31,440	3,240	20,040	3,000	2,400	240

Doubling and twisting spindles.—Table 31 relates to doubling and twisting spindles, which are not included with statistics on spinning, or producing spindles as they are sometimes called. The number of doubling and twisting spindles used in 1919, 1914, and 1909 are shown by geographic divisions and by states.

Consumption of cotton per spindle.—Table 32 gives the number of pounds of cotton consumed per spindle since 1889 for the United States and for each of the principal states—1919 and 1914—engaged in cotton manufactures. The amount of cotton consumed per spindle varies inversely with the counts of yarn produced.

Relation of spindles to wage earners and wages.—In Table 33 the number of spindles per wage earner and the wages for the entire industry per spindle are shown for each census year since 1879.

TABLE 31.—DOUBLING AND TWISTING SPINDLES IN THE COTTON-MANUFACTURES INDUSTRY: 1919, 1914, AND 1909.

DIVISION AND STATE.	1919	1914	1909
UNITED STATES.....	2,893,972	2,399,920	2,061,603
NEW ENGLAND.....	1,486,505	1,204,444	985,648
Maine.....	37,288	25,424	24,870
New Hampshire.....	54,910	46,278	42,162
Vermont.....	220	220	220
Massachusetts.....	842,354	747,994	548,957
Rhode Island.....	379,580	246,928	226,373
Connecticut.....	172,153	137,600	123,366
MIDDLE ATLANTIC.....	272,195	258,800	249,410
New York.....	17,467	26,631	33,110
New Jersey.....	229,714	209,928	192,676
Pennsylvania.....	25,014	22,241	23,624
NORTH CENTRAL.....	10,056	4,698	3,968
Ohio.....	3,780	180	1,600
Indiana.....	936	416	560
Illinois.....	3,144	2,306	
Wisconsin.....	1,400	1,000	1,000
Missouri.....	796	796	808
SOUTH ATLANTIC.....	992,924	794,998	707,109
Maryland.....	32,352	49,718	42,444
Virginia.....	1,056	5,136	300
North Carolina.....	578,671	439,272	358,415
South Carolina.....	136,148	131,660	139,224
Georgia.....	244,697	169,212	166,726
SOUTH CENTRAL.....	125,432	136,980	115,468
Kentucky.....	3,506	5,056	1,792
Tennessee.....	36,170	24,754	22,588
Alabama.....	73,254	94,270	75,484
Mississippi.....	7,320	7,860	7,680
Arkansas.....	208	200	3,000
Louisiana.....	3,372	192	192
Texas.....	1,608	4,648	4,732
All other states.....	1,900		

TABLE 32.—COTTON CONSUMED PER SPINDLE IN COTTON MANUFACTURES, UNITED STATES AND LEADING STATES.

STATE.	Quantity (pounds).	
United States:		
1919.....	80.82	
1914.....	81.70	
1909.....	85.15	
1904.....	80.60	
1899.....	95.41	
1889.....	78.70	
Leading states:		
New England—		
Massachusetts.....	59.08	59.13
New Hampshire.....	96.55	105.47
Rhode Island.....	54.78	50.98
Southern—		
Alabama.....	135.58	128.82
Georgia.....	138.49	141.36
North Carolina.....	104.32	112.94
South Carolina.....	76.70	81.92

TABLE 33.—RELATION OF SPINDLES TO WAGE EARNERS AND WAGES: 1919, 1914, 1909, 1904, 1899, 1889, AND 1879.

YEAR.	COTTON-MANUFACTURES INDUSTRY.				
	Wage earners, average number.	Wages.	Number of active producing spindles.	Number of spindles per wage earner.	Wages per spindle.
1919.....	446,852	\$368,723,712	33,840,184	75.73	\$10.90
1914.....	393,404	152,422,599	30,915,489	78.58	4.93
1909.....	378,880	132,859,145	27,425,608	72.39	4.34
1904.....	315,874	96,205,796	23,195,143	73.43	4.15
1899.....	302,861	86,680,752	19,050,952	62.90	4.55
1889.....	218,876	66,024,538	14,188,103	64.82	4.65
1879.....	172,544	42,040,510	10,653,435	61.74	3.95

Cotton goods—number and capacity of mills, by states and geographic divisions.—The statistics presented in Table 34 show that the cotton-goods industry in the United States consists largely of mills doing spinning and weaving in the same establishment. The extent of this practice is shown, by geographic divisions and by states, for 1919, 1904, and 1899.

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TABLE 34.—COTTON GOODS—NUMBER AND CAPACITY OF SPINNING MILLS, WEAVING MILLS, AND MILLS WHICH DO BOTH SPINNING AND WEAVING, BY STATES AND GEOGRAPHIC DIVISIONS: 1919, 1904, AND 1899.

DIVISION AND STATE.	Census year.	Number of establishments.	SPINNING AND WEAVING MILLS.			SPINNING MILLS.		WEAVING MILLS.		Number of establishments having no spindles or looms for spinning or weaving.
			Number.	Capacity.		Number.	Capacity, number of spindles.	Number.	Capacity number of looms.	
				Number of spindles.	Number of looms.					
UNITED STATES.....	1919	1,288	632	27,050,718	673,017	409	7,280,639	180	19,152	67
	1904	1,077	590	19,171,542	522,301	295	3,984,071	169	18,609	23
	1899	973	502	15,882,095	432,959	274	3,126,257	168	17,723	29
NEW ENGLAND.....	1919	346	214	14,827,162	369,030	66	3,101,412	34	4,676	32
	1904	308	220	12,097,602	319,711	53	1,813,639	20	4,347	15
	1899	332	223	11,233,326	295,710	76	1,617,601	17	3,175	16
Maine.....	1919	14	13	1,087,223	23,822	1	6,808			
	1904	15	13	886,914	24,050	1	4,332	1	139	
	1899	15	13	837,021	23,229	1	4,500	1	137	
New Hampshire.....	1919	16	13	1,326,598	39,747	1	16,644			2
	1904	25	21	1,244,289	36,115	3	16,992			1
	1899	23	20	1,235,907	35,123	3	7,648			
Vermont.....	1919	4	4	141,224	3,304					
	1904	4	3	106,103	2,539	1	1,920			
	1899	5	3	81,576	2,099	2	18,452			
Massachusetts.....	1919	191	114	9,302,859	223,980	39	2,135,242	17	1,399	21
	1904	142	105	7,295,418	191,507	22	1,115,831	8	3,179	7
	1899	103	110	6,712,998	170,554	36	1,071,689	10	2,726	7
Rhode Island.....	1919	74	43	1,908,834	48,473	14	658,388	12	2,448	5
	1904	73	46	1,641,870	44,735	14	407,652	9	998	4
	1899	71	44	1,469,404	39,366	20	411,218	3	106	4
Connecticut.....	1919	47	27	1,060,424	24,710	11	284,330	5	829	4
	1904	49	32	883,003	20,765	12	266,912	2	31	3
	1899	55	33	896,420	19,339	14	104,154	3	206	5
MIDDLE ATLANTIC.....	1919	188	19	694,607	16,052	26	705,250	126	11,305	17
	1904	191	24	752,710	16,267	29	654,785	132	12,517	6
	1899	208	34	896,538	20,477	28	562,097	134	12,109	12
New York.....	1919	37	6	509,812	11,029	11	231,806	10	1,010	10
	1904	30	9	573,522	11,857	7	131,112	12	607	2
	1899	34	14	626,040	14,110	7	94,228	10	435	3
New Jersey.....	1919	33	5	87,085	2,123	4	361,848	21	2,142	3
	1904	17	4	71,648	1,745	5	365,116	7	492	1
	1899	20	3	101,688	1,576	4	330,042	10	650	3
Pennsylvania.....	1919	118	8	97,200	2,900	11	111,596	95	8,153	4
	1904	144	11	107,540	2,665	17	158,557	113	11,418	3
	1899	154	17	108,810	4,791	17	137,827	114	11,024	6
NORTH CENTRAL.....	1919	26	8	180,556	3,524	4	33,077	3	74	11
	1904	14	8	174,292	4,583	1	2,112	4	469	1
	1899	14	9	182,864	4,761	1	1,750	3	172	1
Ohio.....	1919	5	1	15,910	42			1	6	3
	1904	3						2	400	1
	1899	3						2	158	1
Indiana.....	1919	4	4	86,704	2,110					
	1904	5	5	119,252	3,165					
	1899	4	4	102,488	2,712					
Illinois.....	1919	7	1	33,168	600	2	29,352			4
	1904	2	1	32,000	748			1	19	
	1899	1	1	31,488	700					
Michigan.....	1919	3	1	15,910	42					2
Wisconsin.....	1919	6				2	3,725	2	68	2
	1904	3	1	11,024	314	1	2,112	1	50	
	1899	3	2	21,496	577			1	14	
Missouri.....	1919	1	1	28,864	730					
	1904	1	1	12,016	356					
	1899	2	1	11,904	356	1	1,750			
Nebraska.....	1899	1	1	15,488	416					

1 No establishments reported for 1904 and 1899.

2 No establishments reported for 1919 and 1904.

COTTON MANUFACTURES.

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TABLE 34.—COTTON GOODS—NUMBER AND CAPACITY OF SPINNING MILLS, WEAVING MILLS, AND MILLS WHICH DO BOTH SPINNING AND WEAVING, BY STATES AND GEOGRAPHIC DIVISIONS: 1919, 1904, AND 1899—Continued.

DIVISION AND STATE.	Census year.	Number of establishments.	SPINNING AND WEAVING MILLS.			SPINNING MILLS.		WEAVING MILLS.		Number of establishments having no spindles or looms for spinning or weaving.
			Number.	Capacity.		Number.	Capacity, number of spindles.	Number.	Capacity number of looms.	
				Number of spindles.	Number of looms.					
SOUTH ATLANTIC.....	1919	612	324	9,850,135	247,768	269	2,955,636	15	2,872	4
	1904	465	274	5,118,477	154,283	177	1,277,424	13	1,276	1
	1899	349	193	2,908,677	93,433	142	787,092	14	2,267	.....
Delaware ¹	1904	1	1	7,552	238	.....	.....	.....	.....	.....
	1899	3	2	21,552	738	1	13,000	.....	.....	.....
Maryland.....	1919	14	6	117,154	1,421	.....	.....	7	1,106	1
	1904	12	7	133,672	2,159	.....	.....	5	567	.....
	1899	14	10	154,064	2,509	.....	.....	4	301	.....
Virginia.....	1919	10	9	554,680	13,325	1	5,600	.....	.....	.....
	1904	10	3	158,140	5,429	6	34,922	1	35	.....
	1899	7	7	126,827	4,608	.....	.....	.....	.....	.....
West Virginia ²	1899	1	.....	.....	.....	.....	.....	1	19	.....
North Carolina.....	1919	311	107	2,525,504	70,874	199	2,136,648	4	664	1
	1904	212	100	1,148,716	42,545	104	732,234	7	674	1
	1899	177	75	649,442	23,992	94	483,990	8	1,477	.....
South Carolina.....	1919	145	120	4,750,507	115,890	22	236,330	2	1,042	1
	1904	127	96	2,618,194	72,702	31	245,898	.....	.....	.....
	1899	80	57	1,304,181	42,193	22	127,168	1	470	.....
Georgia.....	1919	132	82	1,911,200	40,258	47	577,058	2	60	1
	1904	103	67	1,052,203	31,210	36	264,370	.....	.....	.....
	1899	67	42	652,611	19,393	25	162,934	.....	.....	.....
SOUTH CENTRAL.....	1919	114	66	1,454,168	36,128	44	485,264	1	165	3
	1904	98	63	1,017,961	27,157	35	236,111	.....	.....	.....
	1899	68	41	633,378	17,858	27	157,657	.....	.....	.....
Kentucky.....	1919	6	1	49,504	1,350	3	39,332	.....	6	2
	1904	4	1	47,072	1,292	3	29,120	.....	.....	.....
	1899	6	2	37,502	991	4	29,041	.....	.....	.....
Tennessee.....	1919	16	7	206,771	5,471	9	125,958	.....	.....	.....
	1904	16	8	116,275	3,008	8	37,100	.....	.....	.....
	1899	17	9	97,558	2,995	8	26,338	.....	.....	.....
Alabama.....	1919	58	30	845,087	19,738	27	271,102	1	159	.....
	1904	46	28	617,714	15,659	18	140,373	.....	.....	.....
	1899	31	18	325,560	8,549	13	85,768	.....	.....	.....
Mississippi.....	1919	15	11	137,764	3,883	3	33,776	.....	.....	1
	1904	14	12	113,544	3,472	2	11,808	.....	.....	.....
	1899	6	5	73,872	2,404	1	1,250	.....	.....	.....
Arkansas.....	1919	1	1	7,000	133	.....	.....	.....	.....	.....
	1904	2	1	7,124	240	1	6,720	.....	.....	.....
	1899	2	2	9,700	257	.....	.....	.....	.....	.....
Louisiana.....	1919	3	2	86,684	2,018	1	5,000	.....	.....	.....
	1904	3	2	55,752	1,600	1	3,300	.....	.....	.....
	1899	2	2	55,600	1,584	.....	.....	.....	.....	.....
Texas.....	1919	15	14	121,358	3,535	1	10,096	.....	.....	.....
	1904	13	11	60,480	1,886	2	7,690	.....	.....	.....
	1899	4	3	33,496	1,018	1	15,260	.....	.....	.....
MOUNTAIN AND PACIFIC.....	1919	2	1	35,000	509	.....	.....	1	60	.....
	1904	1	1	10,500	300	.....	.....	.....	.....	.....
	1899	2	2	27,312	720	.....	.....	.....	.....	.....
Colorado ³	1899	1	1	17,312	480	.....	.....	.....	.....	.....
Utah ³	1919	1	.....	.....	.....	.....	.....	1	60	.....
California.....	1919	1	1	35,000	509	.....	.....	.....	.....	.....
	1904	1	1	10,500	300	.....	.....	.....	.....	.....
	1899	1	1	10,000	240	.....	.....	.....	.....	.....

¹ No establishments reported for 1919.² No establishments reported for 1919 and 1904.³ No establishments reported for 1904 and 1899.

Number of looms, by width.—The number of looms in the United States which were active during the years 1919 and 1914 are shown in considerable detail for the cotton-goods industry in Table 35. The figures are given in this table for the number of webbing and

ribbon looms reported for 1919 as operating in connection with this industry.

Looms, by kinds and by states.—Statistics similar to those in the foregoing table are shown in Table 36 with a distribution of types of looms according to states.

TABLE 35.—NUMBER OF LOOMS IN THE COTTON-GOODS INDUSTRY, BY WIDTH: 1919 AND 1914.

LOOM.	Cen- sus year.	Total.	WIDTH.			Domes- tic make.	For- eign make.	LOOM.	Cen- sus year.	Total.	WIDTH.			Domes- tic make.	For- eign make.
			Nar- row, less than 32 inches.	Broad, 32 but less than 42 inches.	Special, 42 inches and over. ¹						Nar- row, less than 32 inches.	Broad, 32 but less than 42 inches.	Special, 42 inches and over. ¹		
Total.....	1919	692,169	115,352	456,025	120,792	691,800	369	Fancy, total.....	1919	108,188	13,431	72,931	21,826	108,184	4
	1914	672,754	115,507	477,884	79,363	672,351	403		1914	115,429	14,882	86,337	14,210	115,273	156
Plain, total.....	1919	583,550	101,490	383,094	98,966	583,185	365	Nonautomatic.....	1919	79,781	10,366	54,992	14,423	79,777	4
	1914	557,325	100,625	391,547	65,153	557,078	247		1914	104,462	13,519	77,699	13,244	104,442	20
Nonautomatic.....	1919	257,081	50,935	159,436	37,710	256,726	355	Dobby.....	1919	48,817	4,815	38,009	5,993	48,813	4
	1914	359,476	70,203	246,922	42,351	359,366	110		1914	66,940	8,030	54,435	4,475	66,920	20
Two-harness.....	1919	154,283	30,897	99,267	24,119	154,100	183	Dobby box.....	1919	14,916	2,264	9,813	2,839	14,916	.....
	1914	211,220	39,526	146,316	25,378	211,198	22		1914	18,145	3,072	13,324	1,749	18,145	.....
More than two-har- ness.....	1919	55,117	10,626	33,011	11,480	54,955	162	Jacquard.....	1919	8,660	2,869	4,040	1,751	8,660	.....
	1914	105,189	16,158	74,800	14,231	105,111	78		1914	12,986	1,355	7,381	4,250	12,986	.....
Box.....	1919	47,681	18,412	27,158	2,111	47,671	10	Jacquard box.....	1919	7,388	418	3,130	3,840	7,388	.....
	1914	43,067	14,519	25,806	2,742	43,057	10		1914	6,391	1,062	2,559	2,770	6,391	.....
Automatic.....	1919	326,469	41,555	223,658	61,256	326,459	10	Automatic.....	1919	28,407	3,065	17,939	7,403	28,407	.....
	1914	197,849	30,422	141,025	22,802	197,712	137		1914	10,967	1,363	8,638	966	10,831	136
								Webbing and ribbon looms.....	1919	431	431	.....	.....	431	.....
									1914	(²)	.....	.....	.....	.....	.....

¹ The basis of the special width loom was 42 inches in 1919 and 43 inches in 1914.² Not reported separately in 1914.

TABLE 36.—COMPARATIVE STATISTICS FOR LOOMS IN THE COTTON-GOODS INDUSTRY, BY WIDTH AND BY STATES: 1919 AND 1914.

CLASS.	STATE AND CENSUS YEAR.													
	United States.		Georgia.		Massachusetts.		North Carolina.		Rhode Island.		South Carolina.		All other states.	
	1919	1914	1919	1914	1919	1914	1919	1914	1919	1914	1919	1914	1919	1914
Total.....	692,169	672,754	46,318	41,869	225,379	228,127	71,538	60,931	50,921	52,095	116,932	111,189	181,081	178,543
Domestic make.....	691,800	672,351	46,318	41,869	225,379	228,056	71,538	60,931	50,855	52,005	116,932	111,187	180,778	178,213
Foreign make.....	369	403	.....	.....	.....	71	.....	.....	66	.....	.....	2	303	330
Plain.....	583,550	557,325	42,753	38,336	171,261	170,620	64,763	51,593	38,842	40,814	108,763	99,216	157,168	157,246
Nonautomatic.....	257,081	359,476	11,017	23,637	119,097	134,483	33,583	34,072	15,760	28,560	18,518	52,901	59,106	84,914
Two-harness.....	154,283	211,220	7,846	13,883	86,167	83,784	14,719	16,076	9,147	17,290	13,715	40,983	22,689	38,604
Narrow (less than 32 inches).....	30,897	30,526	2,056	913	19,566	20,754	3,509	6,227	296	302	1,118	5,864	3,752	5,466
Broad (32 but less than 42 inches).....	99,267	146,316	3,713	9,859	51,531	54,167	10,059	9,779	6,319	14,072	12,244	32,417	15,401	26,022
Special (42 inches and over).....	24,119	25,378	1,477	3,111	15,070	8,863	1,161	670	2,532	2,016	353	2,702	3,536	7,118
More than two-harness.....	55,117	105,189	2,707	6,441	28,224	44,600	5,922	11,059	4,439	11,153	756	9,501	15,080	21,775
Narrow.....	10,626	16,158	729	905	4,630	7,509	735	2,282	437	717	180	1,293	3,915	3,362
Broad.....	33,011	74,800	1,918	4,872	16,423	32,382	5,065	8,522	2,087	6,223	566	8,258	6,952	14,443
Special.....	11,480	14,231	60	964	5,171	4,019	122	855	1,915	4,213	10	10	4,202	3,870
Box.....	47,681	43,067	404	3,313	6,706	6,069	12,942	6,937	2,174	126	4,047	2,357	21,348	24,535
Narrow.....	18,412	14,519	30	288	2,878	779	7,201	4,070	4	28	1,873	1,401	6,426	7,947
Broad.....	27,158	25,806	294	2,491	3,724	5,136	5,591	2,461	1,501	20	1,824	722	14,034	14,976
Special.....	2,111	2,742	140	534	104	184	150	100	579	78	250	234	888	1,612
Automatic.....	326,469	197,849	31,736	14,699	52,164	36,137	31,180	16,021	23,082	11,745	90,245	46,315	98,062	72,332
Narrow.....	41,555	30,422	2,753	2,088	6,014	5,268	5,986	3,317	513	878	12,413	5,270	13,876	13,611
Broad.....	223,658	144,025	17,065	10,157	35,009	20,832	17,554	10,489	14,278	9,959	74,773	40,109	64,279	47,139
Special.....	61,256	22,802	11,318	2,454	11,141	4,047	7,640	2,815	8,291	968	3,059	936	10,907	11,582
Fancy.....	108,188	115,429	3,364	3,533	54,065	57,507	6,772	9,338	12,078	11,781	8,160	11,973	23,740	21,267
Nonautomatic.....	79,781	104,462	1,375	3,373	40,915	52,884	2,912	7,715	9,408	11,627	4,081	10,425	15,092	18,433
Dobby.....	48,817	66,940	430	2,063	34,179	38,104	288	2,222	3,845	4,972	3,251	9,357	6,824	10,222
Narrow.....	4,815	8,030	60	40	5,945	3,837	.....	582	81	291	428	2,153	311	1,127
Broad.....	38,009	54,435	354	1,797	27,248	32,385	288	1,040	2,141	3,563	2,583	7,124	5,395	7,921
Special.....	5,993	4,475	26	226	2,986	1,882	.....	.....	1,623	1,113	240	80	1,118	1,174
Dobby box.....	14,916	18,145	382	806	6,147	6,437	1,924	3,733	2,168	2,732	506	698	3,789	3,739
Narrow.....	2,264	3,072	258	92	877	387	599	1,925	136	367	38	.....	56	301
Broad.....	9,813	13,324	124	522	3,593	5,488	1,005	1,808	1,352	1,757	468	698	3,271	3,051
Special.....	2,839	1,749	.....	192	1,677	502	20	.....	680	608	.....	.....	462	387
Jacquard.....	8,660	12,986	336	372	4,647	7,263	760	1,351	926	1,087	274	318	1,777	2,595
Narrow.....	2,869	1,355	232	.....	2,106	860	200	92	.....	100	3	61	323	242
Broad.....	4,040	7,881	.....	229	2,396	5,726	64	140	696	818	152	180	732	318
Special.....	1,751	4,250	104	143	145	677	436	1,119	230	169	119	107	717	2,035
Jacquard box.....	7,388	6,391	227	132	1,942	1,080	.....	409	2,467	2,836	50	52	2,702	1,882
Narrow.....	418	1,062	24	.....	.....	12	.....	350	256	620	.....	.....	138	80
Broad.....	3,130	2,559	182	.....	523	600	.....	6	1,709	1,618	50	50	666	287
Special.....	3,840	2,770	21	182	1,419	468	.....	53	502	600	.....	2	1,898	1,515
Automatic.....	28,407	10,967	1,989	160	7,150	4,623	3,860	1,623	2,072	154	4,088	1,548	8,648	2,859
Narrow.....	3,065	1,363	472	.....	256	138	378	.....	182	58	78	24	1,099	1,143
Broad.....	17,939	8,638	1,114	160	4,905	3,896	1,977	1,615	1,953	55	3,489	1,524	4,501	1,388
Special.....	7,403	966	403	.....	1,989	589	1,505	8	537	41	521	.....	2,448	323
Webbing and ribbon looms.....	431	(¹)	201	(¹)	53	(¹)	3	(¹)	1	(¹)	.....	.....	173	(¹)

¹ Not reported separately.

Looms, width by states.—Table 37 presents statistics in the fullest detail with respect to looms for the year 1919. Comparative figures could not be shown as this was the first census at which information was received on the number of harness and boxes used in connection with the automatic loom.

TABLE 37.—DETAILED STATISTICS FOR LOOMS IN THE COTTON-GOODS INDUSTRY: 1919.

LOOM.	United States.	Ala-bama.	Conne-cticut.	Georgia.	Maine.	Massa-chusetts.	New Hamp-shire.	New York.	North Carolina.	Penn-sylvania.	Rhode Island.	South Carolina.	Vir-ginia.	All other states.
Total.....	602,169	19,897	25,539	46,318	28,822	225,379	39,747	12,039	71,538	11,053	50,921	116,932	13,325	30,659
Plain.....	583,550	19,623	19,384	42,753	27,134	171,261	37,990	9,393	64,793	5,083	38,842	108,763	12,591	25,970
Domestic.....	583,185	19,623	19,312	42,753	27,134	171,261	37,990	9,350	64,793	5,009	38,776	108,763	12,591	25,851
Foreign.....	365		72					34		74	66			119
Nonautomatic.....	257,081	4,223	12,427	11,017	2,935	119,097	17,270	674	33,583	3,485	15,760	18,518	3,598	14,488
Two-harness—														
Narrow (less than 32 inches).....	30,897	514	512	2,056	150	19,566		12	3,500	335	296	1,118		2,229
Broad (32 to 42 inches).....	99,267	2,098	2,897	3,713	293	51,531	1,132	512	10,059	193	6,819	12,244	202	8,074
Special (42 inches and over).....	24,119	802	922	1,477	218	15,070	7	40	1,151	14	2,532	353		1,533
Two-harness, box—														
Narrow (less than 32 inches).....	12,364			30		1,040	1,500		6,650	322		1,749	964	100
Broad (32 to 42 inches).....	16,618	50	16	252	1,159	2,644	4,887		5,185	457		1,908		60
Special (42 inches and over).....	630		4	140		20			100	64	72	230		
More than two-harness—														
Narrow (less than 32 inches).....	10,628	67	2,179	729		4,630	1,412	39	735	113	437	180	43	62
Broad (32 to 42 inches).....	33,011	168	4,299	1,918	601	16,423	576	18	5,065	174	2,087	566		1,116
Special (42 inches and over).....	11,480	216	1,598	60		5,171	1,374	52	122	514	1,915	10		448
More than two-harness, box—														
Narrow (less than 32 inches).....	6,048					1,829	1,500	1	551	15	4	124	2,024	
Broad (32 to 42 inches).....	10,540	308		42	514	1,080	4,888		406	760	1,591	16	365	570
Special (42 inches and over).....	1,481					84			50	524	507	20		296
Automatic.....	326,409	15,400	6,057	31,736	24,199	52,164	20,714	8,719	31,180	1,598	23,082	90,245	8,993	11,482
Two-harness—														
Narrow (less than 32 inches).....	23,569	2,674	4	1,896	772	2,649	306		2,322		512	9,864	2,298	272
Broad (32 to 42 inches).....	135,945	5,293	516	10,286	4,429	21,044	249	2,080	11,271	129	8,743	63,409	3,113	5,573
Special (42 inches and over).....	38,171	1,956	375	6,397	4,166	7,267	469	2,546	3,359	538	5,407	3,059	256	2,406
Two-harness, box—														
Narrow (less than 32 inches).....	2,072			223		704			660			300	185	
Broad (32 to 42 inches).....	7,515	266		644	240	1,499			456			1,828	2,486	96
Special (42 inches and over).....	1,185			24		48			1,030	66	16			1
More than two-harness—														
Narrow (less than 32 inches).....	15,171	368	268	602	3,698	2,375	1,490		2,829		1	2,054	422	1,064
Broad (32 to 42 inches).....	74,196	3,967	5,271	6,234	7,845	11,627	15,870	2,651	5,429	723	5,439	8,184		1,456
Special (42 inches and over).....	19,637	804	523	4,865	1,093	3,485	1,600	1,482	2,049	110	2,888		17	791
More than two-harness, box—														
Narrow (less than 32 inches).....	743			32		286	30		175			195	25	
Broad (32 to 42 inches).....	6,002	37		501	2,456	839			498	32	96	1,652	191	
Special (42 inches and over).....	2,263	35		32		401	700		1,072					23
Fancy.....	108,188	274	6,153	3,364	1,688	54,065	1,757	2,646	6,772	5,938	12,078	8,169	734	4,550
Domestic.....	108,184	274	6,153	3,364	1,688	54,065	1,757	2,642	6,772	5,938	12,078	8,169	734	4,550
Foreign.....	4							4						
Nonautomatic.....	79,781	139	4,789	1,375	1,004	46,915	379	487	2,912	5,475	9,406	4,081	304	2,515
Dobby—														
Narrow (less than 32 inches).....	4,815	100	84	50		3,945		31		96	81	428		1,192
Broad (32 to 42 inches).....	38,009		8,575	354	120	27,248		07	288	137	2,141	2,553	304	1,192
Special (42 inches and over).....	5,993		278	26		2,986				304	1,623	240		536
Dobby, box—														
Narrow (less than 32 inches).....	2,204		1	258		877		29	899	14	136	38		12
Broad (32 to 42 inches).....	9,813		542	124	316	3,593		18	1,005	2,235	1,352	408		160
Special (42 inches and over).....	2,839		161			1,677			20	280	680			21
Jacquard—														
Narrow (less than 32 inches).....	2,869			232	106	2,106		25	200			3		197
Broad (32 to 42 inches).....	4,040	30		74		2,396	379	14	64	219	696	152		7
Special (42 inches and over).....	1,751		20	104	14	145		8	436	598	230	119		77
Jacquard, box—														
Narrow (less than 32 inches).....	418			24				51		86	256			1
Broad (32 to 42 inches).....	3,130		100	182		523		244		259	1,709	50		63
Special (42 inches and over).....	3,840		28	21	374	1,419				1,247	502			249
Automatic.....	28,407	135	1,364	1,989	684	7,150	1,378	2,159	3,860	463	2,672	4,088	430	2,035
Dobby—														
Narrow (less than 32 inches).....	1,567		34	50		103		20	188			72		1,100
Broad (32 to 42 inches).....	15,021	25	1,041	886	380	4,386	1,001	1,324	248	73	1,850	3,332		475
Special (42 inches and over).....	3,846	20	265	403		1,053	377	779	138		293	498		20
Dobby, box—														
Narrow (less than 32 inches).....	873			366		128			54			6	219	100
Broad (32 to 42 inches).....	2,029			60		487			1,295	42		115		30
Special (42 inches and over).....	462					264			179			19		
Jacquard—														
Narrow (less than 32 inches).....	429			56	106	1			136	4	126			
Broad (32 to 42 inches).....	711		24	168	50	32		36	273		103	25		
Special (42 inches and over).....	2,567	90			148	235			1,188	340	157	4	105	300
Jacquard, box—														
Narrow (less than 32 inches).....	196					24					56		106	10
Broad (32 to 42 inches).....	178								161			17		
Special (42 inches and over).....	528					437				4	87			
Webbing and ribbon looms:														
Number.....	431		2	201		53			3	32	1			139
Aggregate number of divisions.....	5,209		24	2,403		636			168	86	8			1,884

Looms, by geographic divisions.—A distribution of the number of looms in the cotton-goods industry, according to geographic divisions, is shown in Table 38 for 1919, 1914, 1909, and 1904.

TABLE 38.—LOOMS IN THE COTTON-GOODS INDUSTRY, BY GEOGRAPHIC DIVISIONS: 1919, 1914, 1909, AND 1904.

DIVISION.	1919	1914	1909	1904
United States.....	602,169	672,754	632,963	510,910
New England.....	373,712	380,177	373,560	324,058
Middle Atlantic.....	27,357	25,097	30,805	28,784
North Central.....	3,598	3,797	5,195	4,696
South Atlantic.....	250,640	230,978	192,560	155,559
East South Central.....	30,607	28,510	26,342	23,431
West South Central.....	5,686	4,195	4,501	3,726
All other states ¹	569			656

¹ All other states embrace, for 1919, California, 1 establishment and Utah, 1; for 1904, California, 1 and Missouri, 1.

Statistics for the cotton small-ware industry.—Special statistics relating to cotton small wares are presented in the following tables. Other information which is more general in character but shown separately for this industry will be found in Tables 1, 3, 9, and 48.

Materials.—The quantity and cost of the chief materials used in the manufacture of cotton small wares are itemized in Table 39 for 1919, 1914, and 1909.

TABLE 39.—MATERIALS USED IN THE COTTON SMALL-WARES INDUSTRY: 1919, 1914, AND 1909.

MATERIAL.	1919	1914	1909
Total cost.....	\$24,039,951	\$6,243,027	\$6,995,966
Cotton:			
Domestic—			
Bales.....	10,209	20,192	6,331
Pounds.....	4,966,774	9,810,156	3,082,270
Cost.....	\$1,580,169	\$954,079	\$359,106
Silk:			
Pounds.....	(¹)		100,662
Cost.....	(¹)		\$350,834
Yarns:			
Cotton—			
Pounds.....	22,594,202	14,716,200	18,346,525
Cost.....	\$10,840,808	\$3,598,598	\$4,700,513
Silk and spun silk—			
Pounds.....	58,463	86,943	37,617
Cost.....	\$475,996	\$313,439	\$112,912
Artificial silk—			
Pounds.....	106,279	78,344	(²)
Cost.....	\$844,083	\$148,790	(²)
Other yarns—			
Pounds.....	23,406	326,520	480,013
Cost.....	\$24,944	\$199,255	\$252,385
Waste:			
Pounds.....	201,960	121,175	625,526
Cost.....	\$35,466	\$9,466	\$59,138
Starch, cost.....	\$71,020	\$5,123	\$18,681
Chemicals and dyestuffs, cost.....	\$237,180	\$75,503	\$77,337
All other materials, cost.....	\$3,930,289	\$938,774	\$1,065,060

¹ Included in "All other materials" in order to avoid disclosure of individual operations.

² Not reported separately.

Products.—Detailed statistics are shown in Table 40 with respect to the quantity and value of the principal products of the industry reported at the censuses of 1919 and 1914. The growth of the industry warranted a further segregation of products than had been made

prior to the census of 1919, so that comparison with 1914 is not available for a number of commodities.

TABLE 40.—PRODUCTS—COTTON SMALL-WARES INDUSTRY: 1919 AND 1914.

PRODUCT.	1919	1914
Number of establishments.....	164	108
Value of products.....	\$40,896,835	\$11,525,033
Woven tape and webbing (not elsewhere specified).....		
Linear yards.....	1,060,863,168	1,023,839,328
Value.....	\$15,104,429	\$4,927,498
Banding, belts, and belting (not over 12 inches in width).....		
Linear yards.....	14,283,019	(¹)
Value.....	\$625,934	(¹)
Spindle banding.....		
Pounds.....	440,392	(¹)
Value.....	\$423,557	(¹)
Labels, woven figures.....		
Linear yards.....	915,189	(¹)
Value.....	\$623,837	(¹)
Trimnings, edgings, etc.....		
Linear yards.....	51,048,784	(¹)
Value.....	\$1,438,201	(¹)
Braids:		
Flat—		
Woven and knitted.....		
Linear yards.....	58,350,120	(¹)
Value.....	\$901,874	(¹)
Lace and braided lace.....		
Linear yards.....	101,663,950	(¹)
Value.....	\$1,889,470	(¹)
Round (including shoe and corset laces).....		
Linear yards.....	894,249,563	(¹)
Value.....	\$15,195,776	(¹)
All other.....		
Linear yards.....	65,627,656	(¹)
Value.....	\$1,333,504	(¹)
Cotton waste:		
Soft.....		
Pounds.....	360,257	
Value.....	\$26,067	161,700
Hard.....		
Pounds.....	363,881	
Value.....	\$26,202	\$5,059
All other cotton small wares.....		
Linear yards.....	53,202,689	(¹)
Value.....	\$1,227,244	(¹)
All other cotton products.....		
Value.....	\$1,589,862	\$6,296,530
All other products (including contract work).....		
Value.....	\$496,818	\$295,946

¹ Included in "All other cotton products."

Equipment.—A distribution, by states, of the spindles, braiding machines, and looms used in the industry during 1919 is shown in Table 41. Looms used in establishments where the primary occupation is weaving belting and hose, suspender and garter webbing, or any elastic webbing are not included in this table, as such establishments are given other industry classifications.

TABLE 41.—MACHINERY USED IN THE MANUFACTURE OF COTTON SMALL WARES: 1919.

KIND.	Total.	Massachusetts.	New Jersey.	New York.	Pennsylvania.	Rhode Island.	All other states.
Spindles.....	78,779	15,880		1,177		58,952	2,770
Producing spindles.....	58,360	10,632		120		45,504	2,104
Mule spinning.....	2,680			120		2,560	
Frame spinning.....	55,680	10,632				42,944	2,104
Doubling and twisting spindles.....	20,419	5,248		1,057		13,448	666
Braiding machines:							
Number.....	62,630	13,333	1,498	5,957	12,256	27,275	2,311
Aggregate number of carriers.....	1,672,081	333,345	28,059	206,918	374,789	660,992	67,978
Webbing and ribbon looms:							
Number.....	4,973	845	48	201	1,562	1,905	412
Aggregate number of divisions.....	160,007	24,769	1,536	8,266	55,265	60,329	9,852

¹ Mills in this industry reported 71,758 spindles in 1914; 29,808 in 1909; 39,630 in 1904; and 42,600 in 1899.

² Not including 1,600 mule spinning spindles idle entire year.

Wage earners.—The number of spinners, weavers, and braiders is shown, by states, in Table 42 for 1919, with a division of such operatives by sex and age.

TABLE 42.—WAGE EARNERS IN THE COTTON SMALL-WARES INDUSTRY: 1919.

[On Dec. 15, or nearest representative day.]

CLASS.	Total.	Massachu- setts.	New Jersey.	New York.	Pennsylva- nia.	Rhode Island.	All other states.
United States.....	10,065	1,683	226	452	2,606	4,360	648
Spinners, mule.....	4					4	
16 years of age and over, male.....	4					4	
16 years of age and over, female.....							
Spinners, frame.....	150	24				121	5
16 years of age and over, male.....	34	4				30	
16 years of age and over, female.....	93	20				69	4
Under 16 years of age, male.....	9					9	
Under 16 years of age, female.....	14					13	1
Weavers.....	2,084	367	37	98	671	739	172
16 years of age and over, male.....	710	166	16	82	122	253	71
16 years of age and over, female.....	1,345	201	21	16	532	479	96
Under 16 years of age, male.....	2						2
Under 16 years of age, female.....	27				17	7	3
Braiders.....	1,941	397	38	107	541	790	68
16 years of age and over, male.....	590	75	9	15	154	320	17
16 years of age and over, female.....	1,272	290	29	92	353	459	49
Under 16 years of age, male.....	13	4			8	1	
Under 16 years of age, female.....	66	28			26	10	2
All other.....	5,886	805	151	247	1,484	2,706	403
16 years of age and over, male.....	2,255	299	35	128	694	978	121
16 years of age and over, female.....	3,216	485	113	116	763	1,483	256
Under 16 years of age, male.....	134	36	2		17	71	8
Under 16 years of age, female.....	281	75	1	3	10	174	18

Statistics for the cotton-lace industry.—A special schedule designed for the exclusive use of those establishments reporting the manufacture of cotton lace has made it possible to present statistics in detail as shown by the following tables. Information which is more general in character may be found for this industry by referring to Tables 1, 3, 9, and 48.

Materials.—The quantity and cost of the principal materials used in the manufacture of cotton-lace goods, during 1919 and 1914, are presented in Table 43 for the United States and the most important states.

TABLE 43.—MATERIALS USED IN THE COTTON-LACE INDUSTRY: 1919 AND 1914.

MATERIAL.	1919		1914	
	Quantity (pounds).	Cost.	Quantity (pounds).	Cost.
United States.....		\$13,075,994		\$5,676,948
Yarns:				
Cotton—				
United States.....	111,036,109	10,055,733	111,137,700	13,709,978
New York.....	1,040,257	1,580,610	1,040,677	677,212
Pennsylvania.....	6,725,186	5,512,058	7,451,857	2,171,934
Rhode Island.....	1,341,404	1,717,414	1,093,489	525,902
All other states.....	1,029,352	1,244,751	645,677	434,930
Mercerized cotton—				
United States.....	711,106	816,989	247,801	83,433
Silk and spun silk—				
United States.....	2 17,456	2 137,141	2 55,240	2 263,612
Rhode Island.....	11,387	91,080	34,312	163,910
All other states.....	6,069	46,061	20,928	99,702
Artificial silk—				
United States.....	2,860	26,242	3,508	7,533

¹ Includes raw cotton, statistics for which can not be shown separately without disclosing individual operations.

² Includes raw silk, statistics for which can not be shown separately without disclosing individual operations.

TABLE 43.—MATERIALS USED IN THE COTTON-LACE INDUSTRY: 1919 AND 1914—Continued.

MATERIAL.	1919		1914	
	Quantity (pounds).	Cost.	Quantity (pounds).	Cost.
Starch:				
United States.....		\$59,477		\$39,070
Pennsylvania.....		33,427		33,891
All other states.....		26,050		5,179
Chemicals and dyestuffs:				
United States.....		178,575		75,433
New York.....		27,698		9,558
Pennsylvania.....		77,889		41,549
Rhode Island.....		27,664		10,962
All other states.....		45,424		13,364
All other materials.....		1,801,837		1,497,889

Products.—Table 44 presents statistics in regard to the quantity and value of the leading products of the industry for 1919 and 1914 for the United States and for those states which can be presented separately.

TABLE 44.—PRODUCTS OF THE COTTON-LACE INDUSTRY: 1919 AND 1914.

PRODUCT.	1919		1914	
	Quantity.	Value.	Quantity.	Value.
United States.....		\$29,396,853		\$13,206,785
New York.....		4,146,000		2,194,088
Pennsylvania.....		14,813,995		6,534,485
Rhode Island.....		4,110,419		2,056,962
All other states.....		6,326,439		2,421,250
Nottingham lace curtains:	<i>Pairs.</i>		<i>Pairs.</i>	
United States.....	3,933,493	8,165,447	5,591,154	4,678,847
Pennsylvania.....	2,935,614	6,679,158	4,127,985	3,342,828
All other states.....	997,879	1,486,289	1,463,169	1,336,019
Nottingham lace-curtain nets:	<i>Lin. yds.</i>		<i>Lin. yds.</i>	
United States.....	19,464,962	7,616,339	7,504,809	1,258,307
Pennsylvania.....	15,234,267	5,532,697	6,696,842	1,019,217
All other states.....	4,230,695	2,083,642	807,967	239,090
Levers laces:	<i>Square yds.</i>		<i>Square yds.</i>	
United States.....	11,629,123	6,607,546	7,230,934	3,681,042
Rhode Island.....	7,327,531	3,869,113	3,761,362	1,815,006
All other states.....	4,301,592	2,738,433	3,475,572	1,866,036
Other narrow laces.....	<i>Lin. yds.</i>		<i>Lin. yds.</i>	
	70,406,312	673,070	166,169,567	896,602
Panels and other small pieces:	<i>Number.</i>		<i>Number.</i>	
United States.....	1,759,444	540,962	2,359,879	322,594
Pennsylvania.....	633,220	265,380	2,275,928	278,844
All other states.....	1,126,224	275,582	83,951	43,750
Bedspreeds:	<i>Number.</i>		<i>Number.</i>	
United States.....	105,092	119,325	719,333	484,107
Pennsylvania.....	54,977	65,245	530,780	316,330
All other states.....	50,115	54,080	188,553	167,777
All other laces:				
United States.....		3,641,821		1,199,464
Pennsylvania.....		745,739		464,820
All other states.....		2,896,082		734,644
All other products:				
United States.....		2,032,343		685,732
Pennsylvania.....		233,041		221,923
All other states.....		1,799,302		463,809

¹ In addition, in 1919, cotton lace to the value of \$2,025,790 and in 1914, to the value of \$958,738, was manufactured by establishments engaged primarily in other industries.

Equipment.—The number of spindles and lace machines, both active and idle, is shown in Table 45.

It will be noticed that a large majority of the lace machines used in this industry are of foreign make.

TABLE 45.—MACHINERY USED IN THE MANUFACTURE OF COTTON LACE: 1919 AND 1914.

MACHINERY.	1919			1914
	Total.	Active.	Idle.	Total. ¹
Spindles:				
Frame—				
Domestic.....	27,552	18,368	9,184	28,000
Twisting and doubling—				
Domestic.....	14,880	9,020	4,960	(²)
Lace machines.....	2,020	1,811	218	11,582
Nottingham lace curtain—				
Foreign.....	410	342	77	1,412
Bobbinet.....	474	474		31
Foreign.....	473	473		28
Domestic.....	1	1		3
Levers.....	508	406	102	1,444
Foreign.....	503	401	102	374
Domestic.....	5	5		70
Warp.....	47	45	2	135
Foreign.....	11	9	2	26
Domestic.....	36	36		9
All other.....	581	544	37	660
Foreign.....	365	348	17	508
Domestic.....	216	196	20	152

¹ All active except 11 lace-curtain machines, 9 levers, and 1 warp reported idle in 1914.

² None reported in 1914.

Wage earners.—The number of spinners, lace weavers, and lace-curtain weavers are given, by states, in Table 46, according to sex and age.

TABLE 46.—WAGE EARNERS IN THE COTTON LACE-GOODS INDUSTRY: 1919.

[On Dec. 15, or nearest representative day.]

CLASS.	Total.	Connecticut.	New Jersey.	New York.	Pennsylvania.	Rhode Island.	All other states.
United States total.....	7,441	815	244	957	3,575	1,165	685
Spinners, frame.....	28				28		
16 years of age and over, male.....	25				25		
16 years of age and over, female.....	3				3		
Lace weavers.....	760	137	69	24	117	350	63
16 years of age and over, male.....	732	137	48	21	110	350	60
16 years of age and over, female.....	28		21	3	1		3
Lace-curtain weavers.....	558	19		100	398		32
16 years of age and over, male.....	531	19		100	371		32
16 years of age and over, female.....	27				27		
All other.....	6,095	659	175	824	3,032	815	590
16 years of age and over, male.....	2,111	222	42	417	1,025	232	173
16 years of age and over, female.....	3,425	396	118	379	1,959	468	405
Under 16 years of age, male.....	244	5	10	12	176	35	6
Under 16 years of age, female.....	315	30	5	16	172	80	6

GENERAL TABLES.

Comparative summary, by states.—Table 47 presents a statistical summary, by states, for the industry as a whole in 1919, 1914, and 1909.

Detailed statement, by states.—Table 48 gives a detailed account of the industry as a whole, and separately for each of the three branches.

TABLE 47.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Expressed in thousands.		
					Wages.	Cost of mate- rials.	Value of prod- ucts.
United States.	1919	1,496	446,852	1,863,542	\$368,724	\$1,314,902	\$2,195,566
	1914	1,328	393,404	1,585,953	152,423	443,523	701,301
	1909	1,324	378,880	1,206,517	132,850	371,000	628,392
Alabama.....	1919	58	18,102	73,569	11,358	51,339	79,643
	1914	57	13,697	48,278	4,206	17,779	25,623
	1909	51	12,731	42,637	3,454	14,373	22,212
Connecticut.....	1919	57	16,483	72,606	15,648	65,802	105,054
	1914	50	15,466	65,020	0,082	17,335	30,809
	1909	52	14,360	58,137	5,666	11,960	24,232
Georgia.....	1919	132	38,283	150,363	26,278	123,438	192,186
	1914	118	30,719	112,626	8,119	41,210	59,982
	1909	116	27,803	92,979	7,721	32,040	48,037
Illinois.....	1919	10	1,538	4,766	1,245	5,038	7,385
	1914	7	1,356	3,759	030	1,513	2,779
	1909	6	1,319	2,020	522	1,102	2,111
Indiana.....	1919	4	997	4,550	701	2,490	4,353
	1914	4	961	4,015	365	1,133	1,797
	1909	7	1,582	5,315	478	1,670	2,502
Kentucky.....	1919	6	967	5,524	639	2,925	4,459
	1914	4	1,158	3,725	359	1,330	1,991
	1909	4	1,044	3,159	307	1,188	1,902
Maine.....	1919	14	11,763	71,702	11,420	29,424	56,564
	1914	15	13,834	64,404	5,775	13,033	22,122
	1909	16	14,634	53,823	5,718	11,390	21,932
Maryland.....	1919	14	3,416	17,323	2,091	11,427	13,455
	1914	13	3,424	16,975	1,230	4,452	6,791
	1909	16	3,966	13,128	1,139	4,012	5,522
Massachusetts.....	1919	231	124,150	526,367	111,141	364,921	604,938
	1914	180	113,559	438,083	50,706	119,834	197,322
	1909	182	108,914	362,043	45,117	105,157	186,462
Michigan.....	1919	3	116	633	77	546	741
	1914	3	31	80	14	115	149
Mississippi.....	1919	15	2,406	6,039	1,537	4,974	8,067
	1914	11	1,980	5,510	580	1,812	2,789
	1909	14	2,645	8,045	695	2,042	3,102
New Hampshire.....	1919	21	21,294	90,980	18,233	47,243	86,392
	1914	20	21,660	87,386	10,045	22,790	35,793
	1909	21	22,290	83,966	8,938	19,124	33,602
New Jersey.....	1919	45	9,672	22,780	\$8,477	\$41,432	\$60,475
	1914	30	7,394	20,987	3,287	10,116	16,782
	1909	26	6,638	17,288	2,577	8,565	13,729
New York.....	1919	58	10,493	49,901	9,918	31,312	55,287
	1914	51	9,127	38,922	4,240	11,653	18,465
	1909	47	10,663	33,354	4,166	11,726	20,352
North Carolina.....	1919	311	67,297	258,463	49,135	186,780	318,368
	1914	293	53,703	245,600	15,796	62,338	90,744
	1909	281	47,231	164,609	12,131	48,688	72,680
Ohio.....	1919	5	577	1,954	461	2,328	3,068
	1914	6	478	598	226	361	912
	1909	4	177	446	52	234	395
Pennsylvania.....	1919	163	15,379	28,743	14,672	50,926	90,582
	1914	155	14,640	23,411	6,676	17,604	32,400
	1909	175	16,293	24,689	7,034	18,757	33,917
Rhode Island.....	1919	132	36,336	120,895	33,218	100,148	177,423
	1914	102	29,483	110,289	15,785	28,756	49,719
	1909	106	28,786	95,278	11,797	25,401	50,313
South Carolina.....	1919	145	48,079	267,090	36,402	137,084	228,440
	1914	148	46,448	231,220	14,436	53,889	78,446
	1909	147	45,454	187,716	11,661	41,303	65,930
Tennessee.....	1919	16	4,895	16,093	3,171	14,295	22,461
	1914	15	3,408	12,311	1,046	4,554	6,486
	1909	17	3,078	11,129	857	3,344	5,201
Texas.....	1919	15	2,633	14,210	1,840	9,315	13,920
	1914	12	1,875	5,948	675	2,643	3,755
	1909	13	1,590	4,835	501	1,793	2,815
Vermont.....	1919	4	1,092	6,561	907	2,127	4,384
	1914	4	992	4,933	450	952	1,559
Virginia.....	1919	10	6,518	38,963	6,077	17,544	32,535
	1914	9	6,310	34,220	2,174	6,057	10,216
	1909	10	5,057	19,750	1,480	4,699	7,490
All other states.....	1919	22	4,366	12,567	3,172	12,044	19,486
	1914	12	1,688	7,044	612	2,304	3,870
	1909	14	2,625	12,271	848	2,432	3,954

¹ Excludes statistics for 1 establishment to avoid disclosure of individual operations. These are included in "All other states."
² Excludes statistics for 2 establishments to avoid disclosure of individual operations. These are included in "All other states."

TABLE 48.—DETAILED STATEMENT,

INDUSTRY AND STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS, DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

COTTON MANUFACTURES.

																		Dollars.
1	United States.....	1,496	462,873	346	7,387	4,783	3,505	446,852	De	460,409	Ap	429,531	477,351	261,347	193,241	11,137	11,626	1,914,919,506
2	Alabama.....	58	18,628	10	250	193	73	18,102	No	18,870	Ap	17,431	18,631	11,257	7,054	72	248	69,673,498
3	Connecticut.....	57	17,049	12	387	403	364	16,483	De	17,220	Ap	15,935	17,214	9,500	6,792	393	439	89,997,981
4	Georgia.....	132	39,417	14	630	317	173	38,283	De	40,616	Ap	36,260	40,511	24,410	14,730	719	652	150,191,479
5	Illinois.....	10	1,038	3	34	37	26	1,538	De	1,715	Fe	1,359	1,719	756	802	96	65	5,130,335
6	Indiana.....	4	1,043	18	20	8	997	Mh	1,044	Ja	950	1,001	420	503	19	53	3,627,971	
7	Kentucky.....	6	1,007	3	21	7	9	967	Je	1,211	Jy	608	1,022	477	518	13	14	4,107,714
8	Maine.....	14	11,951	89	65	34	11,763	De	13,511	Mh	6,661	13,522	7,034	6,378	63	47	54,738,225	
9	Maryland.....	14	3,716	3	90	124	83	3,416	Fe	3,621	Je	3,310	3,440	1,743	1,658	24	15	16,441,008
10	Massachusetts.....	231	127,655	30	1,458	1,059	958	124,150	De	128,698	Ap	119,715	130,172	66,293	50,350	3,615	3,914	509,651,572
11	Mississippi.....	15	2,500	1	62	18	13	2,406	Ja	2,540	Au	2,297	2,805	1,386	1,273	69	77	6,680,362
12	New Hampshire.....	21	21,814	10	210	165	135	21,294	Au	21,883	Ja	20,537	21,760	11,622	9,853	157	128	83,546,903
13	New Jersey.....	45	10,176	12	246	156	90	9,672	De	10,223	Fe	8,792	10,199	4,441	5,420	106	232	55,291,554
14	New York.....	58	11,078	27	257	154	147	10,493	De	11,441	Se	9,727	11,449	6,932	4,418	54	45	51,265,047
15	North Carolina.....	311	69,502	36	1,327	565	277	67,297	De	69,436	My	65,626	72,831	41,414	27,046	2,192	2,179	268,322,984
16	Pennsylvania.....	168	16,792	145	498	461	309	15,379	De	16,838	Ap	14,009	16,971	8,135	8,132	335	369	70,545,742
17	Rhode Island.....	132	37,852	30	687	328	471	36,336	De	37,827	Fe	35,067	42,254	21,745	17,956	1,225	1,328	138,017,008
18	South Carolina.....	145	49,434	2	756	415	182	48,079	De	49,898	Ap	46,773	50,576	32,121	15,251	1,667	1,537	248,327,427
19	Tennessee.....	16	5,066	86	60	25	4,895	De	5,219	Se	4,453	5,192	2,686	2,268	142	96	21,064,680	
20	Texas.....	15	2,730	62	20	15	2,633	Ja	2,812	Oc	2,538	2,592	1,606	973	2	11	10,188,487	
21	Vermont.....	4	1,138	26	9	11	1,092	No	1,179	Je	1,052	1,142	635	494	11	2	4,477,985	
22	Virginia.....	10	6,635	49	56	12	6,518	De	6,871	Ja	6,072	6,896	4,284	2,437	90	85	33,731,798	
23	Wisconsin.....	6	211	3	11	22	4	171	No	184	Ap	152	186	85	95	.....	6	696,715
24	All other states.....	24	5,241	5	133	120	86	4,888	.....	.....	.....	5,266	2,260	2,840	73	84	19,203,031	

COTTON GOODS.

1	United States.....	1,288	445,423	230	0,792	4,331	3,095	430,966	De	449,007	Ap	414,718	450,845	254,380	183,810	10,735	10,920	1,853,099,816
2	Alabama.....	58	18,628	10	250	193	73	18,102	No	18,870	Ap	17,431	18,631	11,257	7,054	72	248	69,673,498
3	Connecticut.....	47	16,098	12	334	377	328	15,647	De	16,277	Ap	15,157	16,271	9,182	6,315	385	389	85,809,530
4	Georgia.....	132	39,417	14	630	317	173	38,283	De	40,616	Ap	36,260	40,511	24,410	14,730	719	652	150,191,479
5	Illinois.....	7	1,355	30	26	22	1,277	De	1,454	Mh	1,098	1,458	689	614	96	59	4,728,285	
6	Indiana.....	4	1,043	18	20	8	997	Mh	1,044	Ja	950	1,001	426	503	19	53	3,627,971	
7	Kentucky.....	6	1,007	3	21	7	9	967	Je	1,211	Jy	608	1,022	477	518	13	14	4,107,714
8	Maine.....	14	11,951	89	65	34	11,763	De	13,511	Mh	6,661	13,522	7,034	6,378	63	47	54,738,225	
9	Maryland.....	14	3,716	90	124	83	3,416	Fe	3,621	Je	3,310	3,440	1,743	1,658	24	15	16,441,008	
10	Massachusetts.....	191	125,834	17	1,361	1,046	911	122,499	De	127,017	Ap	118,106	128,489	65,749	55,354	3,575	3,811	504,295,192
11	Mississippi.....	15	2,500	1	62	18	13	2,406	Ja	2,540	Au	2,297	2,805	1,380	1,273	69	77	6,680,362
12	New Hampshire.....	16	21,688	2	207	164	132	21,183	Se	21,753	Ja	20,421	21,637	11,568	9,788	155	126	83,219,151
13	New Jersey.....	33	9,700	6	212	134	87	9,261	De	9,771	Fe	8,437	9,729	4,291	5,118	94	226	53,552,871
14	New York.....	37	9,658	13	202	120	101	9,222	De	10,038	Se	8,391	10,040	6,160	3,812	42	26	46,212,802
15	North Carolina.....	311	69,502	36	1,327	565	277	67,297	De	69,436	My	65,626	72,831	41,414	27,046	2,192	2,179	268,322,984
16	Pennsylvania.....	118	10,618	110	331	235	175	9,767	De	10,611	Fe	8,734	10,700	5,653	4,772	134	141	45,864,475
17	Rhode Island.....	74	32,561	6	524	262	364	31,405	De	32,337	Fe	30,378	36,729	19,578	14,908	1,109	1,044	120,067,679
18	South Carolina.....	145	49,434	2	756	415	182	48,079	De	49,898	Ap	46,773	50,576	32,121	15,251	1,667	1,537	248,327,427
19	Tennessee.....	16	5,066	86	60	25	4,895	De	5,219	Oc	4,453	5,192	2,686	2,268	142	96	21,064,680	
20	Texas.....	15	2,730	62	20	15	2,633	Ja	2,812	Se	2,538	2,592	1,606	973	2	11	10,188,487	
21	Vermont.....	4	1,138	26	9	11	1,092	No	1,119	Je	1,052	1,142	635	494	11	2	4,477,985	
22	Virginia.....	10	6,635	49	56	12	6,518	De	6,871	Ja	6,072	6,890	4,284	2,437	90	85	33,731,798	
23	Wisconsin.....	6	211	3	11	22	4	171	No	184	Ap	152	186	85	95	.....	6	696,715
24	All other states.....	15	4,333	1	114	76	56	4,086	.....	.....	.....	4,445	1,946	2,361	62	76	16,779,498	

¹ Includes water wheels and turbines (irrespective of ownership of water supply) and water motors (operated by water from city mains).

² Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

³ Excludes statistics for 1 establishment, to avoid disclosure of individual operations. These all included in "All other states."

COTTON MANUFACTURES.

33

BY STATES: 1919.

EXPENSES.								Value of products	Value added by manufacture.	POWER.						
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.						
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.				Rent- ed. ¹	Elec- tric horse- power gener- ated in estab- lish- ments report- ing.
											Steam engines (not tur- bines).	Steam tur- bines.	Inter- nal- com- bus- tion en- gines.	Water pow- er. ¹		

COTTON MANUFACTURES.

Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.								
29,673,081	12,090,880	368,723,712	4,162,821	1,858,779	121,289,330	1,276,638,111	38,263,431	2,195,565,881	880,664,339	1,863,542	768,403	257,358	2,842	307,162	527,777	350,428	1	
835,820	289,864	11,357,948	3,676	1,201	3,343,719	49,901,930	1,437,223	79,643,343	28,304,190	73,569	31,079	7,183		11,900	23,407	3,192	2	
1,672,770	1,072,864	15,648,008	416,124	161,767	5,489,868	64,697,645	1,204,764	105,054,383	39,251,974	72,606	32,615	8,111	80	25,627	6,173	9,611	3	
2,316,670	839,234	26,277,763	295,640	50,400	10,834,929	120,406,162	3,032,346	192,185,896	68,747,388	150,363	64,309	10,292		22,735	53,027	17,885	4	
218,465	133,175	1,245,167		22,270	73,943	4,943,838	94,027	7,385,333	2,347,468	4,766	4,105				661	1,105	5	
70,435	43,451	700,509			379,683	2,385,791	104,114	4,352,535	1,862,630	4,550	2,080	2,470				2,593	6	
77,140	23,265	639,332		1,500	79,139	2,834,454	90,475	4,459,039	1,534,110	5,524	3,048		2	90	2,384		7	
442,745	153,373	11,425,977	386,370	1,138	4,214,637	28,691,470	732,905	56,563,825	27,139,450	71,702	13,750	16,053		38,153	3,746	20,611	8	
319,727	229,608	2,990,753	3,934	27,978	552,887	11,139,221	288,336	18,454,957	7,027,400	17,323	4,386	1,900		3,055	7,982	1,745	9	
7,003,578	2,803,102	111,141,208	569,775	976,443	36,209,338	353,199,181	11,721,543	604,937,749	240,017,025	526,367	267,720	87,234	1,411	69,685	100,317	117,955	10	
163,595	43,166	1,537,147	400		457,764	4,780,440	187,607	8,066,769	3,092,662	6,939	6,030		6		903	847	11	
840,491	375,207	18,293,343	41,743	8,272	5,277,307	45,391,773	1,851,750	80,391,695	39,148,172	90,980	21,185	29,042	10	23,334	17,409	30,855	12	
1,004,642	345,041	8,476,985	81,426	38,404	1,942,898	40,656,642	775,352	60,475,426	19,043,432	22,780	12,502	4,687	191	710	4,690	9,341	13	
1,032,245	452,923	9,917,560	558,430	69,241	3,134,668	30,334,595	976,917	55,287,042	23,975,530	49,901	14,012	18,575	111	7,620	9,583	20,223	14	
4,470,673	1,174,210	49,134,506	558,653	28,092	16,269,060	181,021,415	5,758,300	318,368,181	131,588,466	258,463	76,299	17,153	10	27,054	137,947	31,836	15	
2,451,293	1,642,141	14,671,574	647,913	279,789	3,788,609	49,883,216	1,042,350	60,581,626	39,656,000	28,743	21,198	670	183	359	6,333	4,461	16	
2,065,181	1,024,973	33,217,979	291,277	104,036	8,490,328	97,270,701	2,877,310	177,423,057	77,275,076	120,895	59,676	13,346		19,618	28,255	25,009	17	
2,635,929	716,088	36,401,912	115,833	3,081	14,408,829	132,590,854	4,492,731	228,440,242	91,356,657	267,090	107,352	19,798		39,530	100,410	27,963	18	
825,803	120,304	3,171,482	163,325		1,639,597	13,928,887	366,468	22,460,737	8,165,382	16,093	9,721	1,025		250	5,097	2,103	19	
188,860	49,857	1,840,264	2,794		527,831	8,987,812	327,081	13,919,603	4,604,710	14,210	4,785		800		8,625	15	20	
78,135	20,917	907,400			246,432	2,013,265	114,020	4,383,835	2,256,550	6,561	3,300	30		1,677	1,554	100	21	
379,551	166,276	6,077,197		14,000	3,101,047	17,132,814	411,159	32,534,934	14,990,961	38,963	5,206	17,929		15,405	423	22,528	22	
30,820	78,265	129,219		1,320	40,726	865,643	18,911	1,269,504	384,950	1,073	300	325	30	300	118	208	23	
445,540	293,534	3,580,470	25,508	10,187	816,091	13,674,362	367,682	22,926,140	8,894,096	14,081	3,745	1,535	8	60	8,733	514	24	

COTTON GOODS.

27,015,767	10,348,711	355,474,937	3,693,742	1,647,489	118,650,637	1,240,463,758	37,321,839	2,125,272,193	847,486,596	1,840,201	756,073	257,073	2,639	305,204	519,212	346,300	1
835,820	288,864	11,357,948	3,076	1,201	3,343,719	49,901,930	1,437,223	79,643,343	28,304,190	73,569	31,079	7,183	.....	11,900	23,407	3,192	2
1,466,496	1,006,929	14,783,982	393,947	140,915	5,126,817	63,258,805	1,162,353	101,551,071	37,139,913	71,856	32,605	8,111	80	25,592	5,468	9,496	3
2,316,670	839,234	26,277,763	295,040	50,400	10,834,929	120,406,162	3,032,346	192,185,896	68,747,388	150,363	64,309	10,292	.....	22,735	53,027	17,885	4
181,265	102,682	1,085,712	.....	18,770	66,239	4,430,197	78,592	6,484,463	1,975,674	4,546	4,070	.....	.....	.....	476	1,105	5
70,435	43,451	700,509	.....	.....	379,683	2,385,791	104,114	4,352,535	1,862,630	4,550	2,080	2,470	.....	.....	.....	2,593	6
77,140	23,265	639,332	.....	1,500	79,139	2,834,454	90,475	4,459,039	1,534,110	5,524	3,048	.....	2	90	2,384	.....	7
442,745	153,373	11,425,977	386,370	1,138	4,214,637	28,691,470	732,903	56,563,825	27,139,450	71,702	13,750	16,053	.....	38,153	3,746	20,611	8
319,727	229,608	2,990,753	3,934	27,978	552,887	11,139,221	288,336	18,454,957	7,027,400	17,323	4,386	1,900	.....	3,055	7,982	1,745	9
6,611,577	2,740,039	109,902,503	549,728	939,202	35,955,862	348,077,063	11,598,176	596,687,441	237,012,202	523,645	267,200	87,234	1,380	69,480	98,371	117,895	10
183,595	43,166	1,537,147	400	.....	457,764	4,789,440	187,607	8,066,769	3,092,662	6,939	6,030	.....	6	.....	903	647	11
835,611	370,942	18,136,098	41,743	6,097	5,273,081	15,152,817	1,845,321	85,986,158	38,988,020	90,895	21,185	29,012	.....	23,289	17,379	30,881	12
894,775	290,706	8,115,852	18,990	14,601	1,908,511	39,856,021	756,292	58,705,655	18,093,342	22,373	12,352	4,687	111	710	4,513	9,333	13
710,635	342,020	8,800,275	542,740	58,927	2,090,315	27,215,006	888,215	49,076,293	20,973,072	47,861	12,572	18,290	89	7,585	9,325	19,709	14
4,470,673	1,174,210	49,134,506	558,653	28,092	10,269,060	181,021,415	5,758,300	318,368,181	131,588,466	258,463	76,299	17,153	10	27,054	137,947	31,836	15
1,675,731	737,179	10,200,630	552,787	234,400	2,937,456	38,076,870	742,873	66,404,059	27,584,316	21,504	15,504	670	123	359	4,848	2,817	16
1,936,147	643,385	28,974,008	63,182	90,798	7,512,674	85,099,501	2,584,149	155,488,347	67,204,697	111,986	55,860	13,346	.....	18,060	24,720	23,630	17
2,635,929	716,088	36,401,912	115,833	3,081	14,408,829	132,590,854	4,492,731	228,440,242	91,356,657	267,090	107,352	19,798	.....	39,530	100,410	27,963	18
325,808	120,304	3,171,482	163,325	.....	1,639,597	13,928,887	366,468	22,460,737	8,165,382	16,093	9,721	1,025	.....	250	5,097	2,103	19
188,860	49,857	1,840,264	2,794	.....	527,831	8,987,812	327,081	13,919,603	4,604,710	14,210	4,785	.....	800	.....	8,625	15	20
78,135	20,917	907,400	.....	.....	246,432	2,013,265	114,020	4,383,835	2,256,550	6,561	3,300	30	.....	1,677	1,554	100	21
379,551	166,276	6,077,197	.....	14,000	3,101,047	17,132,814	411,159	32,534,934	14,990,961	38,963	5,206	17,929	.....	15,405	423	22,528	22
30,820	78,265	129,219	.....	1,320	40,726	865,043	18,911	1,269,504	384,950	1,073	300	325	30	300	118	206	23
367,624	166,971	2,884,498	.....	7,069	785,402	12,011,320	314,132	19,785,306	7,459,854	13,112	3,080	1,535	8	.....	8,489	10	24

¹ Excludes statistics for 2 establishments, to avoid disclosure of individual operations. These are included in "All other states."² All other states embrace: Arkansas, 1 establishment; California, 1; Louisiana, 3; Michigan, 3; Missouri, 1; Nebraska, 1; Ohio, 7; Utah, 1; and 6 establishments in certain states, statistics for which can not be shown separately without disclosing individual operations.³ All other states embrace: Arkansas, 1 establishment; California, 1; Louisiana, 3; Michigan, 3; Missouri, 1; Ohio, 5; and Utah, 1.

TABLE 48.—DETAILED STATEMENT,

INDUSTRY AND STATE.	Number of establishments	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS, DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Fe-Male.	Average number.	Number, 15th day of—			Male.	Fe-male.	Male.		Fe-male
								Maximum month.	Minimum month.						

COTTON SMALL WARES.

																	Dollars. 29,559,474
1	United States.....	104	10,254	99	308	160	231	9,396	De 10,102	Ap 8,872	10,065	3,593	5,926	158	388		
2	Connecticut.....	5	143	.....	10	7	18	108	De 128	Fe 91	128	30	81	3	14		334,286
3	Illinois.....	3	283	3	4	11	4	261	Ap 262	Se 259	261	67	188	.....	6		402,050
4	Massachusetts.....	40	1,821	13	97	13	47	1,651	Ja 1,768	Fe 1,541	1,683	544	996	40	103		5,356,380
5	New Hampshire.....	5	126	8	3	1	3	111	Aug 132	Fe 63	123	54	65	2	2		327,752
6	New Jersey.....	6	239	3	10	6	2	209	No 234	Ja 183	226	60	163	2	1		486,095
7	New York.....	15	506	13	17	14	13	449	Aug 460	My 420	452	225	224	.....	3		1,237,160
8	Pennsylvania.....	37	2,687	33	75	51	56	2,472	De 2,723	Fe 2,254	2,696	970	1,048	25	53		7,450,378
9	Rhode Island.....	48	4,281	23	129	54	85	3,990	De 4,366	Ap 3,637	4,360	1,585	2,490	81	204		13,237,086
10	All other states ¹	5	168	3	14	3	3	145	.....	.....	130	58	71	5	2		728,287

COTTON LACE.

1	United States.....	44	7,196	8	227	202	179	6,490	De 7,300	Ja 5,941	7,441	3,374	3,505	244	318		32,260,216
2	Connecticut.....	5	808	.....	43	19	18	728	De 815	Fe 579	815	378	396	5	36		3,854,165
3	New Jersey.....	6	237	3	15	10	1	202	Aug 239	Fe 171	244	90	130	10	5		952,588
4	New York.....	6	914	1	38	20	33	822	De 951	Ap 736	957	547	382	12	16		3,815,085
5	Pennsylvania.....	13	3,487	2	92	175	78	3,140	De 3,504	My 2,875	3,575	1,512	1,712	170	175		17,230,889
6	Rhode Island.....	10	1,010	1	34	12	22	941	De 1,124	Mar 801	1,165	582	468	35	80		4,712,243
7	All other states ²	4	740	1	5	50	27	657	.....	.....	685	265	408	6	6		1,695,246

¹ Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).² Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).³ Same number reported for one or more other months.

COTTON MANUFACTURES.

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BY STATES: 1919—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.						
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.	
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.					Rented. ¹
											Steam engines (not turbines)	Steam turbines.	Internal-combustion engines.	Water power. ¹		

COTTON SMALL WARES.

Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.							
1,679,774	695,288	7,162,218	211,028	184,507	1,369,101	23,498,348	541,603	40,896,835	16,850,884	14,263	5,907	.....	126	1,783	6,447	1,512
26,107	22,316	78,390	.....	3,583	22,844	153,133	12,800	415,773	249,840	145	10	.....	35	100	15	2
37,200	30,493	159,455	.....	3,500	7,704	513,641	15,435	900,870	371,794	220	35	.....	.....	185	.....	3
392,001	63,083	1,238,705	20,047	37,241	253,476	5,122,118	123,367	8,250,308	3,004,823	2,722	520	.....	31	225	1,948	60
4,880	4,325	97,275	.....	2,173	4,226	238,956	6,429	405,537	160,152	85	.....	.....	10	45	30	4
58,265	9,355	149,663	22,508	21,518	5,845	391,505	8,444	771,049	371,100	258	150	.....	65	.....	43	6
117,156	53,565	368,237	11,910	10,114	12,390	1,191,593	24,417	2,064,749	848,739	670	415	.....	.....	255	76	7
398,388	173,773	1,693,962	49,014	44,909	259,615	5,589,452	109,054	9,363,572	3,668,066	2,054	1,211	.....	20	823	263	8
596,241	331,963	3,273,984	107,549	58,349	787,473	9,759,437	232,589	17,824,321	7,832,295	7,728	3,466	.....	1,438	2,824	1,064	9
49,536	6,415	102,547	.....	3,118	15,528	538,513	12,068	900,656	350,075	381	100	.....	40	241	.....	10

COTTON LACE.

977,540	1,046,901	6,086,557	258,051	26,783	1,269,592	12,676,005	399,989	29,399,853	16,320,859	9,078	6,423	285	77	175	2,118	2,616
180,167	43,619	785,636	22,177	17,269	340,207	1,185,707	39,611	3,087,539	1,862,221	605	.....	.....	.....	.....	605	.....
51,602	44,980	211,470	39,928	2,345	30,542	409,116	10,610	998,722	578,990	149	.....	.....	15	.....	134	.....
204,454	57,338	749,057	3,780	200	131,933	1,927,996	64,285	4,146,000	2,153,719	1,370	1,025	285	22	35	3	438
377,144	731,180	2,776,982	46,112	480	561,538	0,216,894	193,423	14,813,995	8,403,078	5,185	4,483	.....	40	.....	602	1,381
132,793	49,627	969,987	120,546	6,489	190,181	1,811,763	60,572	4,110,419	2,238,084	1,181	350	.....	.....	120	711	285
81,380	120,148	593,425	25,508	.....	15,161	1,124,529	31,482	2,240,178	1,084,167	588	565	.....	.....	20	3	504

¹ All other states embrace: Georgia, 1 establishment; Kentucky, 1; Maryland, 1; Nebraska, 1; and Ohio, 1.

² All other states embrace: Illinois, 1 establishment; New Hampshire, 2; and Ohio, 1.

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES
MANUFACTURES: 1919

DRUGGISTS' PREPARATIONS, PATENT
MEDICINES AND COMPOUNDS, AND
PERFUMERY AND COSMETICS

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures

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EXPLANATION OF TERMS.

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 statistics for these purposes it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or for which products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1919, 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 factory, 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, county, or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, 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 different from those covered by the class designation, and, on the other hand, may not represent the total product covered by this designation, because some products of this class may be made in establishments in which it is not the product of chief value.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1919 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.—The following general classes of persons engaged in the 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.

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. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date did not portray such conditions, an earlier date was requested.

In the case of employees other than wage earners the number thus reported for the representative date 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 has been 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 the representative date, a report was obtained of the number employed on the 15th of each month, by sex, without distinction of 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 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 number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is not believed to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In order to determine as nearly as possible the age distribution of the average number of wage earners for an industry, the per cent distribution by age of the wage earners for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year to determine the average numbers 16 years and over, and under 16, employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calcu-

late accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners 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 few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital (amount actually invested).—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."

These instructions were identical with those employed at the censuses of 1914 and 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

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" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include certain Federal taxes and state, county, and local taxes. Under "Federal taxes" there are included the internal revenue tax on manufactures (tobacco, beverages, etc.), excise taxes when included in values reported for products, corporation capital stock tax, and corporation income tax, but not the income tax for individuals and partners.

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.

Value added by manufacture.—The value of products is not always 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, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated 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.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power equipment of the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, fuel oils, gasoline and other volatile oils, and gas, and represent the quantity used during the year. As only the principal kinds of fuel are shown, comparison as to the total cost of all fuel is impracticable.

DRUGGISTS' PREPARATIONS, PATENT MEDICINES AND COMPOUNDS, AND PERFUMERY AND COSMETICS.

GENERAL STATISTICS.

General character of the industries.—Separate statistics have been compiled for these three allied industries. Druggists' preparations include, in the main, articles of manufacture for use by druggists in compounding medicines to be dispensed upon physicians' prescriptions. Patent medicines and compounds are those sold under the protection of a patent, copyright or trade-mark, or prepared according to secret formula, including those of a proprietary character though not necessarily patented. Perfumery and cosmetics embrace toilet preparations, toilet waters, cold cream, etc., and perfumes. Each establishment is classed according to its principal products in one of these industries, but in many cases an establishment manufactures products pertaining to more than one branch, and there is also a large production of these commodities by establishments that fall under other classified industries. With respect to a specific product, the report aims to give the total production irrespective of the classification of the establishment.

Drug grinding is a closely allied industry and the statistics pertaining to establishments engaged primarily in the grinding of drugs are given at the end of the report.

Comparison with earlier censuses.—Table 1 presents the comparative statistics for the industrial group, and for the three industries constituting the industrial group, for the census years 1899 to 1919, inclusive, with percentages of increase for the census periods.

Principal states, ranked by value of products.—Table 2 presents the statistics relating to number of establishments, wage earners, value of products, and value added by manufacture for the industrial group, by states, ranked according to value of products. The only change in rank among the leading 10 states since 1914 is with respect to Illinois, now second, which ranked third in 1914, Michigan then being second.

Persons engaged in the industry.—The age classification of the average number of wage earners, as given in Table 3, is an estimate obtained by the method described in the "Explanation of terms." The table presents the statistics for the industrial group and for the component industries. Statistics for states will be found in Table 16.

Wage earners, by months.—Table 4 gives the total number of wage earners, by months, for the industrial group for 1919, 1914, and 1909, and for the component industries for 1919 and 1914. These industries give employment to a large number of females and the statistics are given, by states, for the combined industries for all wage earners and for females. The figures reflect the steadiness of employment, or the reverse, during the census year. The fluctuation in employment during 1919 did not differ materially from 1914 and 1909. The proportion of females employed in 1919 ranged from 44.2 per cent of the total state number in Iowa to a maximum of 64.3 per cent in Maryland.

Prevailing hours of labor.—Table 5 shows that in 1909 only 20.8 per cent of the wage earners were employed in establishments where the prevailing hours of labor were 48 per week or less. In 1914 it was 25 per cent, and in 1919 it increased to 60.1 per cent, with 16 per cent in the "44 and under" group. On the other hand, 7.6 per cent of all wage earners in 1909 were in establishments where the prevailing hours of labor per week were 60 or more. This dropped to 5.4 per cent in 1914, with a still further reduction to 1.4 per cent in 1919.

Size of establishments, by average number of wage earners.—Table 6 shows that in 1919, 75.7 per cent of the establishments employed not exceeding 5 wage earners, inclusive of those where the work is done by the proprietor or proprietors. In 1914 the corresponding proportion was 82.6 per cent, and in 1909, 83.6 per cent. The preponderance of small establishments is most pronounced in the "Perfumery and cosmetics" industry, where the groups of "No wage earners," and "1 to 5 wage earners" comprised 80.1 per cent of the establishments in 1919. In the "Patent medicines and compounds" industry, 72.2 per cent were of this character; and in "Druggists' preparations," 58.8 per cent. In 1919 there were 21 establishments which employed over 250 wage earners, these establishments reporting 33.4 per cent of all wage earners. In 1914 there were 12 establishments of like character with 24.5 per cent of the wage earners; and in 1909, 9 establishments with 22.7 per cent. Considering the group

as a unit, the establishments averaged 11 wage earners per establishment in 1919, 7 in 1914, and 6 in 1909. The industry includes a large number of establishments owned by individuals or by firms, and this condition is reflected in the relatively large number of establishments that employ few or no wage earners.

Size of establishments, by value of products.—The grouping by value of products in Table 7 reflects the general increase in values. The average value of products per establishment for the industrial group increased from \$38,970 in 1909 to \$43,872 in 1914, and to \$108,531 in 1919, the 1919 increase being essentially due to the advance in prices, which accounts for the changes from lower to higher groups. The establishments engaged primarily in the manufacture of druggists' preparations show the highest average values per establishment, namely, \$218,690 in 1919, \$115,408 in 1914, and \$117,223 in 1909. Next comes the perfumery and cosmetics industry with an average value of \$104,769 in 1919, \$34,071 in 1914, and \$33,128 in 1909; and then patent medicines and compounds with \$86,000 in 1919, \$35,296 in 1914, and \$29,518 in 1909.

Character of ownership.—Table 8 shows the classification of the establishments according to ownership. The industry includes a large number of individual establishments, and likewise those classed as "All

other," chiefly firms. The decrease in the total number of establishments in 1919 as compared with 1914 is mainly in these two groups, the decrease of 255 establishments consisting of 140 owned by individuals, 109 of the "All other" class, and 6 corporations. The "Corporation" group, however, employed 86.5 per cent of the wage earners in 1919 as compared with 82.3 per cent in 1914 and 79.4 per cent in 1909; and reported 87.4 per cent of the products in 1919, 83.2 per cent in 1914, and 78.5 per cent in 1909.

Number and horsepower of types of prime movers.—Table 9 presents the power statistics for the industrial group for 1919, 1914, and 1909, and for the three component industries for 1919 and 1914. Electric power is a growing factor, and of the total primary power, 72.4 per cent was utilized in the form of electric power in 1919, this including electric motor equipment operated with purchased current, specified as rented, and secondary electric or that generated by the establishment, as compared with 62.1 per cent in 1914 and 43.6 per cent in 1909.

Fuel consumed.—Table 10 shows the consumption of fuels, by kinds, for the industrial group and for the component industries in 1919 and 1914, and by states for the group for 1919. Figures for gas include both natural and manufactured.

DRUGGISTS' PREPARATIONS, ETC.

5

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, AND 1889.

	1919	1914	1909	1904	1899	1889	PER CENT OF INCREASE. ¹				
							1914-1919	1909-1914	1904-1909	1899-1904	1889-1899
THE INDUSTRIAL GROUP.											
Number of establishments.....	3,500	3,815	3,612	2,777	2,154	3,089	-6.7	4.8	31.1	28.9	-30.3
Persons engaged.....	63,985	45,856	41,101	32,248	(2)	(2)	39.5	11.6	27.5	.....	.....
Proprietors and firm members.....	2,304	2,725	2,802	2,293	(2)	(2)	-15.4	-2.7	22.2	.....	.....
Salaries and wages.....	23,264	17,629	15,404	9,483	8,094	4,600	32.0	14.4	62.4	17.2	76.0
Wage earners (average number).....	38,417	25,502	22,895	20,472	19,028	10,485	50.6	11.4	11.8	7.6	(2)
Primary horsepower.....	40,571	28,872	25,659	17,008	12,707	3,439	40.5	12.5	50.9	33.8	269.5
Capital.....	\$278,294,501	\$127,721,551	\$99,942,150	\$75,607,029	\$59,172,646	\$25,460,538	117.9	27.8	32.2	34.6	120.6
Salaries and wages.....	74,378,463	35,587,443	26,904,013	17,888,264	15,175,024	7,910,581	109.0	32.3	50.4	17.9	91.8
Salaries.....	44,484,709	22,877,808	17,007,339	9,974,946	8,265,413	3,613,992	94.4	34.5	70.5	20.7	128.7
Wages.....	29,893,754	12,709,575	9,896,674	7,913,318	6,909,611	4,296,589	135.0	28.4	25.1	14.5	60.8
Paid for contract work.....	1,107,217	222,025	364,723	254,171	(2)	(2)	396.7	-38.9	43.5	.....	.....
Rent and taxes.....	23,976,047	3,109,070	2,050,454	1,442,351	(2)	(2)	671.2	51.6	42.2	.....	.....
Cost of materials.....	170,104,918	66,339,943	50,375,665	30,494,289	31,949,890	15,571,187	156.4	31.7	27.6	23.6	105.1
Value of products.....	386,369,132	167,372,129	141,941,602	117,435,874	88,790,774	43,910,120	130.8	17.9	20.9	32.3	102.0
Value added by manufacture ²	216,264,214	101,032,186	91,565,937	77,941,585	59,840,884	28,338,933	114.1	10.3	17.5	37.1	100.6
DRUGGISTS' PREPARATIONS.											
Number of establishments.....	524	416	375	240	173	* 1,805	26.0	10.9	56.2	38.7	-90.4
Persons engaged.....	22,569	14,508	14,408	10,304	(2)	(2)	55.6	0.7	39.8	.....	.....
Proprietors and firm members.....	283	220	225	155	(2)	(2)	23.6	1.8	45.2	.....	.....
Salaries and wages.....	6,718	5,002	4,693	2,739	1,982	1,009	34.3	6.6	71.3	38.2	3.8
Wage earners (average number).....	15,568	9,277	9,490	7,410	5,658	2,031	67.8	-2.2	28.1	31.0	178.6
Primary horsepower.....	12,698	8,417	9,580	6,102	3,813	51	50.9	-12.1	57.0	60.0	7,376.5
Capital.....	\$102,120,257	\$46,638,098	\$37,767,112	\$25,152,363	\$16,004,640	\$4,024,814	119.0	23.5	50.2	57.2	246.1
Salaries and wages.....	25,480,411	11,709,490	10,028,713	5,967,095	4,229,124	1,938,700	115.9	17.7	68.1	41.1	118.1
Salaries.....	13,318,486	7,044,982	5,870,281	3,174,181	2,222,584	1,099,014	89.0	20.0	84.9	42.8	102.2
Wages.....	12,161,925	4,764,508	4,158,432	2,792,914	2,006,540	839,686	155.8	14.3	48.9	39.2	139.0
Paid for contract work.....	78,918	27,901	66,575	5,321	(2)	(2)	182.9	-58.1	1,151.2	.....	.....
Rent and taxes.....	5,706,890	739,139	487,876	4,352,065	(2)	(2)	684.3	51.5	38.6	.....	.....
Cost of materials.....	55,138,475	22,934,723	17,847,006	13,419,635	10,814,432	2,411,851	140.4	28.5	33.0	24.1	348.4
Value of products.....	114,593,486	48,009,654	43,958,479	31,782,250	22,714,889	6,659,797	138.7	9.2	38.3	39.9	241.1
Value added by manufacture ²	59,465,011	25,074,931	20,111,473	18,362,615	11,900,457	4,247,946	137.1	-4.0	42.2	54.3	180.1
PATENT MEDICINES AND COMPOUNDS.											
Number of establishments.....	2,467	2,903	2,838	2,245	1,719	1,127	-15.0	2.3	28.4	30.6	52.5
Persons engaged.....	31,970	25,927	22,470	18,770	(2)	(2)	23.3	15.4	19.7	.....	.....
Proprietors and firm members.....	1,648	2,112	2,219	1,862	(2)	(2)	-22.0	-4.8	19.2	.....	.....
Salaries and wages.....	12,878	10,487	9,227	5,928	5,304	2,332	22.8	13.7	55.7	11.8	127.4
Wage earners (average number).....	17,444	13,328	11,030	10,980	11,606	7,053	30.9	20.8	0.5	-5.4	(2)
Primary horsepower.....	25,077	18,542	14,704	10,092	8,223	2,928	38.5	26.1	45.7	22.7	180.8
Capital.....	\$143,498,611	\$71,436,840	\$55,380,674	\$45,611,640	\$36,077,833	\$18,596,823	100.9	29.0	21.4	24.4	97.2
Salaries and wages.....	38,485,025	20,030,530	14,233,422	10,275,541	9,619,559	5,094,202	92.0	40.8	38.5	6.8	88.8
Salaries.....	24,730,212	13,364,371	9,480,401	5,923,674	5,285,134	2,138,819	85.1	40.8	60.2	12.1	147.1
Wages.....	13,754,813	6,666,159	4,753,021	4,351,867	4,334,425	2,955,383	106.0	40.7	9.0	0.4	46.7
Paid for contract work.....	803,210	175,617	274,978	244,820	(2)	(2)	357.4	-36.1	12.3	.....	.....
Rent and taxes.....	15,674,708	1,807,077	1,245,011	1,005,908	(2)	(2)	734.2	50.0	37.4	.....	.....
Cost of materials.....	88,819,417	35,940,434	26,894,628	21,293,051	18,000,441	11,030,916	147.1	23.6	26.3	18.3	63.2
Value of products.....	212,162,255	102,463,374	83,771,154	74,520,765	58,988,181	32,620,182	107.1	22.3	12.4	26.3	80.8
Value added by manufacture ²	123,342,838	66,522,040	56,876,526	53,227,714	40,987,740	21,680,266	85.4	17.0	6.9	29.9	89.9
PERFUMERY AND COSMETICS.											
Number of establishments.....	509	496	429	292	262	167	14.7	15.6	46.9	11.5	66.9
Persons engaged.....	9,440	5,421	4,217	3,174	(2)	(2)	74.2	28.6	32.9	.....	.....
Proprietors and firm members.....	873	384	368	276	(2)	(2)	-2.9	7.3	29.7	.....	.....
Salaries and wages.....	3,608	2,140	1,484	816	808	359	71.4	44.2	81.9	1.0	125.0
Wage earners (average number).....	5,405	2,897	2,375	2,082	1,764	1,396	86.6	22.0	14.1	18.0	(2)
Primary horsepower.....	2,196	1,913	1,375	814	671	460	14.8	39.1	68.9	21.3	45.9
Capital.....	\$32,606,633	\$9,646,613	\$6,788,364	\$4,843,026	\$3,400,173	\$2,238,901	238.6	42.1	40.2	38.8	55.9
Salaries and wages.....	10,413,027	3,748,414	2,641,878	1,645,628	1,326,341	877,679	177.8	41.9	60.5	24.1	51.1
Salaries.....	6,430,011	2,468,515	1,647,657	877,091	757,695	376,159	160.5	49.8	87.9	15.8	101.4
Wages.....	3,983,016	1,279,899	994,221	768,537	568,646	501,520	211.2	28.7	29.4	35.2	13.4
Paid for contract work.....	225,089	10,407	23,170	4,030	(2)	(2)	1,059.8	-16.2	474.9	.....	.....
Rent and taxes.....	2,604,440	502,354	317,567	1,184,378	(2)	(2)	417.9	58.3	72.2	.....	.....
Cost of materials.....	20,147,026	7,464,786	5,634,031	4,781,603	3,135,017	2,128,420	250.3	32.5	17.8	52.5	47.3
Value of products.....	59,613,391	16,899,101	14,211,969	11,132,859	7,087,704	4,630,141	252.8	18.9	27.7	57.1	53.1
Value added by manufacture ²	33,466,365	9,434,315	8,577,938	6,351,256	3,952,687	2,501,721	254.7	10.0	35.1	60.7	58.0

¹ A minus sign (—) denotes decrease.

² Figures not available.

³ Figures not strictly comparable.

⁴ Exclusive of internal revenue.

⁵ Value of products less cost of materials.

⁶ Includes custom and neighborhood shops.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States.....	3,590	38,417	100.0	...	\$386,369	100.0	...	\$216,264	100.0	...	Iowa.....	114	746	1.9	12	10,659	2.8	12	6,003	2.8	12
New York.....	680	9,218	24.0	1	101,457	26.3	1	56,021	25.9	1	Minnesota.....	75	646	1.7	13	7,270	1.9	13	4,112	1.9	13
Illinois.....	314	2,812	7.3	4	39,060	10.1	2	22,270	10.3	2	North Carolina.....	31	213	0.6	23	4,892	1.3	14	3,294	1.5	14
Michigan.....	107	4,751	12.4	2	34,945	9.0	3	20,255	9.4	3	Connecticut.....	38	431	1.1	15	4,775	1.2	15	3,210	1.5	15
Pennsylvania.....	332	3,399	8.9	3	25,374	6.8	4	15,123	7.0	4	California.....	137	577	1.5	14	4,152	1.1	17	2,205	1.0	17
Missouri.....	201	1,786	4.6	8	21,325	5.5	5	12,948	6.0	5	Georgia.....	54	244	0.6	19	3,681	1.0	18	2,013	1.2	16
Massachusetts.....	139	2,390	6.2	6	20,327	5.3	6	11,716	5.4	6	Wisconsin.....	61	232	0.6	22	2,643	0.7	19	1,538	0.7	20
Ohio.....	207	1,695	4.4	9	18,922	4.9	7	11,607	5.3	7	Texas.....	68	301	0.8	17	2,505	0.6	20	1,509	0.7	21
New Jersey.....	112	2,420	6.3	5	18,715	4.8	8	8,274	3.8	8	Kentucky.....	38	256	0.7	18	2,327	0.6	22	1,578	0.7	21
Maryland.....	70	1,461	3.8	10	15,806	4.1	9	7,377	3.4	10	Louisiana.....	25	171	0.4	24	1,006	0.3	29	584	0.3	27
Indiana.....	118	1,877	4.9	7	14,035	3.6	10	7,841	3.6	9	Washington.....	30	47	0.1	33	510	0.1	32	289	0.1	32
Tennessee.....	93	1,004	2.6	11	11,092	2.9	11	6,199	2.9	11	Rhode Island.....	27	40	0.1	36	351	0.1	35	204	0.1	33
											All other states.....	423	1,700	4.4	...	19,540	5.1	...	9,594	4.4	...

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRIES: 1919, 1914, AND 1909.

CLASS.	Cen- sus year.	Total.	Male.	Fe- male.	PER CENT OF TOTAL.		CLASS.	Cen- sus year.	Total.	Male.	Fe- male.	PER CENT OF TOTAL.	
					Male.	Fe- male.						Male.	Fe- male.
THE INDUSTRIAL GROUP.....	1919	63,985	34,546	29,439	54.0	46.0	PATENT MEDICINES AND COM- POUNDS.....	1919	31,070	18,041	13,329	58.3	41.7
	1914	45,856	27,561	18,295	60.1	39.9		1914	25,927	16,376	9,551	63.2	36.8
	1909	41,101	23,676	17,425	57.6	42.4		1909	22,476	13,624	8,852	60.6	39.4
Proprietors and officials.....	1919	7,460	6,684	776	89.6	10.4	Proprietors and officials.....	1919	4,673	4,197	476	89.8	10.2
	1914	5,969	5,470	499	91.6	8.4		1914	4,333	3,979	354	91.8	8.2
	1909	5,647	5,187	460	91.9	8.1		1909	4,077	3,738	339	91.7	8.3
Proprietors and firm members.....	1919	2,304	2,041	263	88.6	11.4	Proprietors and firm members.....	1919	1,648	1,473	175	89.4	10.6
	1914	2,725	2,428	297	89.1	10.9		1914	2,112	1,897	215	89.8	10.2
	1909	2,802	2,489	313	88.8	11.2		1909	2,219	1,976	243	89.0	11.0
Salaried officers of corporations.....	1919	2,208	2,072	226	90.2	9.8	Salaried officers of corporations.....	1919	1,465	1,321	144	90.2	9.8
	1914	1,679	1,563	116	93.1	6.9		1914	1,201	1,121	80	93.3	6.7
	1909	1,427	1,362	65	95.4	4.6		1909	972	935	37	96.2	3.8
Superintendents and managers.....	1919	2,858	2,571	287	90.0	10.0	Superintendents and managers.....	1919	1,560	1,403	157	89.9	10.1
	1914	1,565	1,479	86	94.5	5.5		1914	1,020	961	59	94.2	5.8
	1909	1,418	1,336	82	94.2	5.8		1909	886	827	59	93.3	6.7
Clerks and other subordinate salaried employees.....	1919	18,108	10,141	7,967	56.0	44.0	Clerks and other subordinate salaried employees.....	1919	9,853	5,915	3,938	60.0	40.0
	1914	14,385	9,093	5,292	63.2	36.8		1914	8,266	5,151	3,115	62.3	37.7
	1909	12,559	7,631	4,928	60.8	39.2		1909	7,369	4,400	2,969	59.7	40.3
Wage earners (average number).....	1919	38,417	17,721	20,696	46.1	53.9	Wage earners (average number).....	1919	17,444	8,529	8,915	48.9	51.1
	1914	25,502	12,998	12,504	51.0	49.0		1914	13,328	7,246	6,082	54.4	45.6
	1909	22,895	10,858	12,037	47.4	52.6		1909	11,030	5,486	5,544	49.7	50.3
16 years of age and over.....	1919	37,724	17,455	20,269	46.3	53.7	16 years of age and over.....	1919	17,096	8,401	8,695	49.1	50.9
	1914	25,096	12,825	12,271	51.1	48.9		1914	13,089	7,137	5,952	54.5	45.5
	1909	22,425	10,681	11,744	47.6	52.4		1909	10,776	5,405	5,371	50.2	49.8
Under 16 years of age.....	1919	693	266	427	38.4	61.6	Under 16 years of age.....	1919	348	128	220	36.8	63.2
	1914	406	173	233	42.6	57.4		1914	239	109	130	45.6	54.4
	1909	470	177	293	37.7	62.3		1909	254	81	173	31.9	68.1
DRUGGISTS' PREPARATIONS.....	1919	22,599	12,108	10,461	53.6	46.4	PERFUMERY AND COSMETICS.....	1919	9,446	3,797	5,649	40.2	59.8
	1914	14,508	8,636	5,872	59.5	40.5		1914	5,421	2,549	2,872	47.0	53.0
	1909	14,408	8,044	6,364	55.8	44.2		1909	4,217	2,008	2,209	47.6	52.4
Proprietors and officials.....	1919	1,654	1,538	116	93.0	7.0	Proprietors and officials.....	1919	1,133	940	194	83.8	16.2
	1914	864	834	30	96.5	3.5		1914	772	657	115	85.1	14.9
	1909	903	877	26	97.1	2.9		1909	667	572	95	85.8	14.2
Proprietors and firm members.....	1919	283	261	22	92.2	7.8	Proprietors and firm members.....	1919	373	307	66	82.3	17.7
	1914	220	225	4	98.3	1.7		1914	384	306	78	79.7	20.3
	1909	225	214	11	95.1	4.9		1909	358	299	59	83.5	16.5
Salaried officers of corporations.....	1919	430	406	33	92.5	7.5	Salaried officers of corporations.....	1919	394	345	49	87.6	12.4
	1914	268	258	10	96.3	3.7		1914	210	184	26	87.6	12.4
	1909	290	282	8	97.2	2.8		1909	165	145	20	87.9	12.1
Superintendents and managers.....	1919	932	871	61	93.5	6.5	Superintendents and managers.....	1919	366	297	69	81.1	18.9
	1914	367	351	16	95.6	4.4		1914	178	167	11	93.8	6.2
	1909	388	381	7	98.2	1.8		1909	144	128	16	88.9	11.1
Clerks and other subordinate salaried employees.....	1919	5,347	3,032	2,315	56.7	43.3	Clerks and other subordinate salaried employees.....	1919	2,908	1,194	1,714	41.1	58.9
	1914	4,367	3,067	1,300	70.2	29.8		1914	1,752	875	877	49.9	50.1
	1909	4,015	2,640	1,375	65.8	34.2		1909	1,175	591	584	50.3	49.7
Wage earners (average number).....	1919	15,568	7,538	8,030	48.4	51.6	Wage earners (average number).....	1919	5,405	1,654	3,751	30.6	69.4
	1914	9,277	4,735	4,542	51.0	49.0		1914	2,897	1,017	1,880	35.1	64.9
	1909	9,490	4,527	4,963	47.7	52.3		1909	2,375	845	1,530	35.6	64.4
16 years of age and over.....	1919	15,342	7,440	7,902	48.5	51.5	16 years of age and over.....	1919	5,286	1,614	3,672	30.5	69.5
	1914	9,164	4,688	4,476	51.2	48.8		1914	2,843	1,000	1,843	35.2	64.8
	1909	9,320	4,455	4,865	47.8	52.2		1909	2,329	821	1,508	35.3	64.7
Under 16 years of age.....	1919	226	98	128	43.4	56.6	Under 16 years of age.....	1919	119	40	79	33.6	66.4
	1914	113	47	66	41.6	58.4		1914	54	17	37	31.5	68.5
	1909	170	72	98	42.4	57.6		1909	46	24	22	52.2	47.8

DRUGGISTS' PREPARATIONS, ETC.

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TABLE 4.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States:														
The industrial group—														
1919.....	38,417	38,013	30,347	39,102	37,995	37,457	<i>36,784</i>	37,050	37,311	38,027	39,095	40,036	39,378	91.9
Males.....	17,721	17,516	17,680	17,724	17,507	17,435	<i>17,237</i>	17,549	17,571	17,768	17,964	18,334	18,367	93.5
Females.....	20,696	21,397	21,667	21,378	20,488	20,022	<i>19,547</i>	19,501	19,740	20,259	21,131	21,702	21,011	89.9
1914.....	25,502	26,073	26,453	26,674	26,363	25,808	<i>24,804</i>	24,626	24,184	25,111	25,446	25,329	25,153	90.7
1909.....	22,895	22,526	22,898	23,337	23,138	22,672	<i>21,942</i>	21,406	21,540	22,829	23,865	24,363	24,202	89.9
Druggists' preparations:														
1919.....	15,568	16,275	16,359	16,159	15,484	15,219	<i>14,941</i>	15,138	14,961	15,221	15,547	15,709	15,803	91.3
Males.....	7,538	7,534	7,448	7,487	7,344	7,358	<i>7,339</i>	7,584	7,595	7,719	7,682	7,676	7,690	93.1
Females.....	8,030	8,741	8,911	8,672	8,140	7,861	<i>7,602</i>	7,554	7,366	7,502	7,865	8,033	8,113	84.2
1914.....	9,277	9,549	9,558	9,540	9,423	9,311	<i>9,146</i>	8,976	8,855	9,301	9,351	9,247	9,067	92.6
Patent medicines and compounds:														
1919.....	17,444	17,917	18,112	17,938	17,415	17,092	<i>16,629</i>	16,607	16,756	17,086	17,600	18,165	18,101	91.4
Males.....	8,529	8,507	8,710	8,701	8,607	8,467	<i>8,289</i>	8,316	8,288	8,305	8,490	8,846	8,822	93.7
Females.....	8,915	9,410	9,402	9,237	8,808	8,625	<i>8,340</i>	8,291	8,468	8,781	9,110	9,319	9,279	88.1
1914.....	13,328	13,878	14,143	14,235	14,000	13,599	<i>12,753</i>	12,804	12,543	12,862	12,945	13,082	13,122	88.1
Perfumery and cosmetics:														
1919.....	5,405	4,781	4,876	5,005	5,006	5,236	<i>5,214</i>	5,314	5,594	5,720	5,948	6,162	5,974	76.6
Males.....	1,654	1,475	1,522	1,536	1,556	1,610	<i>1,600</i>	1,649	1,688	1,744	1,792	1,812	1,855	79.5
Females.....	3,751	3,306	3,354	3,469	3,450	3,626	<i>3,615</i>	3,665	3,906	3,976	4,156	4,350	4,119	74.6
1914.....	2,897	2,646	2,762	2,890	2,940	2,905	<i>2,905</i>	2,846	2,786	2,948	3,150	3,000	2,964	84.0
California.....	577	615	615	582	589	574	<i>563</i>	548	543	548	553	581	613	88.3
Illinois.....	2,812	2,705	2,831	2,838	2,739	2,757	<i>2,690</i>	2,717	2,781	2,821	2,885	2,906	2,984	90.1
Indiana.....	1,877	2,048	2,031	1,953	1,811	1,799	<i>1,772</i>	1,805	1,772	1,830	1,801	1,874	1,878	86.5
Iowa.....	746	695	677	713	729	743	<i>759</i>	772	780	781	786	746	751	88.4
Maryland.....	1,461	1,418	1,430	1,404	1,472	1,440	<i>1,393</i>	1,422	1,394	1,428	1,559	1,561	1,551	89.2
Massachusetts.....	2,390	2,722	2,790	2,547	2,289	2,191	<i>2,071</i>	2,158	2,034	2,240	2,418	2,577	2,593	74.2
Michigan.....	4,751	4,732	4,781	4,788	4,661	4,608	<i>4,551</i>	4,646	4,725	4,800	4,803	4,984	4,930	91.4
Minnesota.....	646	556	585	590	613	642	<i>702</i>	738	714	666	674	642	621	75.3
Missouri.....	1,786	1,755	1,787	1,800	1,766	1,753	<i>1,713</i>	1,677	1,730	1,810	1,884	1,885	1,872	89.0
New Jersey.....	2,420	2,616	2,549	2,561	2,414	2,258	<i>2,225</i>	2,259	2,315	2,351	2,465	2,533	2,494	85.1
New York.....	9,218	9,466	9,604	9,404	9,270	9,063	<i>8,824</i>	8,687	8,867	8,969	9,313	9,669	9,480	89.8
Ohio.....	1,695	1,610	1,657	1,750	1,669	1,605	<i>1,586</i>	1,601	1,680	1,691	1,778	1,840	1,873	84.7
Pennsylvania.....	3,399	3,440	3,482	3,412	3,277	3,240	<i>3,169</i>	3,332	3,336	3,464	3,567	3,532	3,537	88.8
Tennessee.....	1,004	919	924	984	981	1,031	<i>1,060</i>	990	991	993	1,036	1,056	1,083	81.9
States showing large proportion of females.														Per cent av. of state.
California.....	328	370	352	327	340	330	<i>323</i>	309	303	307	313	328	334	56.8
Illinois.....	1,526	1,557	1,585	1,591	1,499	1,496	<i>1,456</i>	1,453	1,507	1,498	1,530	1,548	1,592	54.3
Indiana.....	1,085	1,304	1,246	1,171	1,052	1,030	<i>980</i>	1,005	995	1,028	1,077	1,078	1,089	57.8
Iowa.....	330	335	320	323	313	303	<i>318</i>	327	329	339	353	347	353	44.2
Maryland.....	940	925	932	950	956	924	<i>900</i>	913	887	902	1,010	991	987	64.3
Massachusetts.....	1,142	1,207	1,451	1,301	1,055	1,015	<i>980</i>	1,020	944	1,038	1,140	1,272	1,281	47.8
Michigan.....	2,653	2,721	2,684	2,676	2,598	2,579	<i>2,559</i>	2,600	2,593	2,676	2,647	2,746	2,757	55.8
Minnesota.....	367	301	323	337	341	360	<i>401</i>	434	415	374	393	368	357	56.8
Missouri.....	984	990	1,013	1,009	975	962	<i>922</i>	890	932	989	1,046	1,039	1,041	55.1
New Jersey.....	1,129	1,285	1,264	1,263	1,170	1,042	<i>986</i>	999	1,044	1,037	1,118	1,186	1,154	46.7
New York.....	5,312	5,547	5,609	5,443	5,394	5,189	<i>5,014</i>	4,889	5,084	5,144	5,400	5,638	5,393	57.6
Ohio.....	943	901	914	982	926	888	<i>874</i>	889	936	950	1,006	1,052	1,058	55.9
Pennsylvania.....	1,690	1,791	1,814	1,769	1,670	1,651	<i>1,588</i>	1,580	1,584	1,662	1,731	1,723	1,717	49.7
Tennessee.....	581	551	534	589	580	612	<i>618</i>	569	566	565	580	601	619	58.0

MANUFACTURES.

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Between 44 and 48.	48. ¹	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
United States:	1919	38,417	6,123	6,742	10,242	10,808	2,868	1,018	503	23
The industrial group.....	1911	25,502	(2)	(2)	6,373	9,894	5,172	2,690	1,307	66
	1900	22,895	(2)	(2)	4,763	6,517	6,574	3,398	1,665	68
Druggists' preparations.....	1919	15,568	1,421	4,207	2,920	5,173	1,343	208	296	.....
	1914	9,277	(2)	(2)	1,264	4,394	2,400	869	264	26
Patent medicines and compounds.....	1919	17,444	3,075	1,664	5,860	4,581	1,262	779	200	21
	1914	13,328	(2)	(2)	4,223	4,251	2,241	1,565	1,008	40
Perfumery and cosmetics.....	1919	5,405	1,627	871	1,402	1,144	263	31	7	.....
	1914	2,897	(2)	(2)	886	1,240	471	250	35	.....
California ²	1910	577	179	101	283	.....	2	.....	12	.....
Illinois.....	1910	2,812	648	425	795	636	240	5	63	.....
	1914	1,844	(2)	(2)	472	518	562	227	65	.....
Indiana.....	1919	1,877	217	6	115	1,230	169	66	74	.....
	1914	804	(2)	(2)	86	506	173	57	27	15
Iowa ³	1910	746	90	134	260	98	40	18	88	.....
Maryland.....	1910	1,461	46	27	78	1,200	15	1	4	.....
	1914	1,053	(2)	(2)	376	608	40	18	11	.....
Massachusetts.....	1910	2,390	133	106	1,969	173	7	.....	2	.....
	1914	1,381	(2)	(2)	477	693	85	105	21	.....
Michigan.....	1919	4,751	770	2,928	912	618	112	60	43	.....
	1914	3,369	(2)	(2)	77	2,701	380	132	19	.....
Minnesota.....	1919	646	31	102	237	81	175	15	5	.....
	1914	613	(2)	(2)	98	98	181	215	21	.....
Missouri.....	1910	1,786	313	180	451	334	455	35	15	3
	1914	1,090	(2)	(2)	224	584	204	16	45	17
New Jersey.....	1919	2,420	526	498	110	1,237	26	9	1	4
	1914	1,271	(2)	(2)	105	160	508	493	35	.....
New York.....	1919	9,218	2,361	1,065	3,229	1,809	631	109	12	2
	1914	5,699	(2)	(2)	1,979	2,268	708	696	39	9
Ohio.....	1919	1,695	334	271	276	706	41	43	17	7
	1914	1,032	(2)	(2)	205	234	157	354	82	.....
Pennsylvania.....	1919	3,399	639	313	340	1,677	375	40	13	2
	1914	2,833	(2)	(2)	576	693	1,501	14	49	.....
Tennessee.....	1919	1,004	46	119	179	412	176	58	12	2
	1914	648	(2)	(2)	65	227	171	71	106	8

¹ Includes 48 and under for 1914 and 1909.² Corresponding figures not available.³ Included in "All other states" in 1914.

TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—																
	Establishments.	Wage earners (average number).	No wage earners.	1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		101 to 250 wage earners, inclusive.		251 to 500 wage earners, inclusive.		501 to 1,000 wage earners, inclusive.		Over 1,000 wage earners.	
			Establishments.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
United States: The industrial group—1919.....	3,560	38,417	951	1,744	3,516	565	6,067	179	5,801	66	4,584	34	5,623	14	4,736	4	2,975	3	5,115
Druggists' preparations.....	524	15,568	96	212	494	127	1,353	46	1,509	22	1,569	8	1,308	8	2,951	2	1,269	3	5,115
Patent medicines and compounds.....	2,467	17,444	721	1,255	2,401	327	3,439	109	3,501	29	2,020	21	3,387	3	990	2	1,706	.....	.....
Perfumery and cosmetics.....	569	5,405	134	277	621	111	1,275	24	791	15	995	5	928	3	795	.....	.....	.....	.....
1914.....	3,815	25,502	1,179	1,973	3,936	456	4,956	131	4,190	46	3,341	18	2,841	9	3,209	2	1,335	1	1,694
1909.....	3,642	22,895	1,051	1,993	3,942	403	4,251	125	3,868	40	2,889	21	2,743	6	2,228	2	1,185	1	1,789
California.....	137	577	50	64	112	16	150	4	99	3	216	.....	.....	.....	.....	.....	.....	.....	.....
Illinois.....	314	2,812	77	155	379	54	566	16	481	7	404	4	724	1	258	.....	.....	.....	.....
Indiana.....	118	1,877	29	61	115	17	159	7	233	3	240	.....	.....	.....	.....	.....	.....	1	1,130
Iowa.....	114	746	24	67	144	13	142	6	160	3	198	1	102	.....	.....	.....	.....	.....	.....
Maryland.....	76	1,461	19	36	64	12	129	4	140	2	124	1	143	1	281	1	580	.....	.....
Massachusetts.....	139	2,390	39	60	120	29	337	6	206	3	193	1	180	.....	.....	.....	.....	1	1,354
Michigan.....	107	4,751	30	43	92	21	237	3	71	5	310	2	341	1	280	1	783	1	2,631
Minnesota.....	75	646	13	38	65	17	164	5	169	1	75	1	173	.....	.....	.....	.....	.....	.....
Missouri.....	201	1,786	50	94	202	39	374	11	378	5	390	1	127	1	315	.....	.....	.....	.....
New Jersey.....	112	2,420	24	51	98	20	218	10	345	2	174	2	386	3	1,109	.....	.....	.....	.....
New York.....	680	9,218	160	304	638	136	1,569	46	1,593	20	1,411	8	1,389	5	1,695	1	923	.....	.....
Ohio.....	267	1,695	92	127	247	33	362	10	347	1	80	4	669	.....	.....	.....	.....	.....	.....
Pennsylvania.....	332	3,399	99	165	328	40	394	18	544	4	310	3	432	2	702	1	689	.....	.....
Tennessee.....	93	1,004	11	62	90	17	187	8	244	3	173	2	310	.....	.....	.....	.....	.....	.....

TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
THE INDUSTRIAL GROUP.												
All classes.....	3,560	3,815	3,642	38,417	25,502	22,895	\$386,369,132	\$167,372,129	\$141,941,602	\$216,261,214	\$101,032,186	\$91,565,937
Less than \$5,000.....	1,225	1,851	1,741	430	910	997	2,595,863	3,622,268	3,438,580	1,551,108	2,338,809	2,375,162
\$5,000 to \$20,000.....	901	1,004	1,016	1,547	2,361	2,232	9,437,917	10,475,453	10,163,891	5,425,969	6,448,308	6,630,614
\$20,000 to \$100,000.....	853	641	610	4,830	4,711	4,711	39,793,188	29,150,874	28,181,453	22,020,857	17,293,181	17,634,400
\$100,000 to \$500,000.....	428	280	247	8,414	9,787	9,025	95,751,065	55,235,239	66,522,117	52,163,733	49,098,132	44,105,836
\$500,000 to \$1,000,000.....	79	34	19	4,549	7,691	5,920	54,727,620	22,668,135	33,632,561	31,229,120	25,853,696	20,813,925
\$1,000,000 and over.....	74	25		18,641			184,080,479	46,220,169		103,273,518		
DRUGGISTS' PREPARATIONS.												
All classes.....	524	416	375	15,568	9,277	9,190	114,593,186	48,009,654	43,958,479	59,455,011	25,074,931	26,111,473
Less than \$5,000.....	124	112	(1)	38	99	(1)	235,042	261,826	(1)	142,531	165,394	(1)
\$5,000 to \$20,000.....	117	103		257	292		1,307,771	1,122,106		720,752	596,423	
\$20,000 to \$100,000.....	144	125		1,051	1,241		7,175,183	5,825,328		3,745,196	2,981,821	
\$100,000 to \$500,000.....	97	59		2,342	2,837		22,698,187	11,647,596		11,186,444	8,744,038	
\$500,000 to \$1,000,000.....	23	7		1,850			15,351,495	4,594,273		6,417,028		
\$1,000,000 and over.....	19	10		10,030	4,808		67,830,808	24,558,525		36,812,460	12,587,235	
PATENT MEDICINES AND COMPOUNDS.												
All classes.....	2,467	2,903	2,838	17,444	13,328	11,030	212,162,255	102,463,374	83,771,154	123,342,838	66,522,940	56,876,526
Less than \$5,000.....	942	1,519	(1)	330	704	(1)	1,978,248	2,911,607	(1)	1,196,696	1,901,501	(1)
\$5,000 to \$20,000.....	630	749		1,047	1,594		6,498,742	7,707,045		3,839,459	4,913,784	
\$20,000 to \$100,000.....	551	436		2,854	2,749		25,474,880	19,745,307		15,191,432	12,445,537	
\$100,000 to \$500,000.....	258	160		4,503	5,521		57,084,474	34,697,995		32,321,835	34,611,806	
\$500,000 to \$1,000,000.....	44	25		2,067			30,735,031	16,775,394		18,690,974		
\$1,000,000 and over.....	42	14		6,643	2,760		90,390,880	20,626,026		52,102,532	12,647,312	
PERFUMERY AND COSMETICS.												
All classes.....	509	496	429	5,405	2,897	2,375	59,613,391	16,809,101	14,211,969	33,466,365	9,434,315	8,577,938
Less than \$5,000.....	159	220	(1)	62	116	(1)	382,573	448,835	(1)	211,971	268,974	(1)
\$5,000 to \$20,000.....	154	152		243	475		1,631,404	1,646,302		865,658	938,101	
\$20,000 to \$100,000.....	158	80		931	751		7,143,125	3,580,239		3,684,229	1,865,823	
\$100,000 to \$500,000.....	73	41		1,599			15,976,404			8,655,454		
\$500,000 to \$1,000,000.....	12	2		632	1,555		8,641,094	11,223,725		5,690,527	6,361,417	
\$1,000,000 and over.....	13	1		1,908			25,838,791			14,358,526		
PER CENT DISTRIBUTION.												
THE INDUSTRIAL GROUP.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	31.4	48.5	47.8	1.1	3.6	4.4	0.7	2.2	2.4	0.7	2.3	2.6
\$5,000 to \$20,000.....	25.3	26.3	27.0	4.0	9.3	9.7	2.4	6.3	7.2	2.5	6.4	7.2
\$20,000 to \$100,000.....	24.0	16.8	17.0	12.6	18.6	20.6	10.3	17.4	19.9	10.5	17.1	19.3
\$100,000 to \$500,000.....	12.0	6.8	6.8	21.9	38.4	39.4	24.8	33.0	46.9	24.1	48.6	48.2
\$500,000 to \$1,000,000.....	2.2	0.9		11.8			14.2	13.5		14.4		
\$1,000,000 and over.....	2.1	0.7	0.5	48.5	30.2	25.9	47.6	27.6	23.7	47.8	25.6	22.7
DRUGGISTS' PREPARATIONS.												
All classes.....	100.0	100.0	(1)	100.0	100.0	(1)	100.0	100.0	(1)	100.0	100.0	(1)
Less than \$5,000.....	23.7	26.9		0.2	1.1		0.2	0.5		0.2	0.7	
\$5,000 to \$20,000.....	22.3	24.8		1.7	3.1		1.1	2.3		1.2	2.4	
\$20,000 to \$100,000.....	27.5	30.0		6.8	13.4		6.3	12.1		6.3	11.9	
\$100,000 to \$500,000.....	18.5	14.2		15.0	30.6		19.8	24.3		18.8	34.9	
\$500,000 to \$1,000,000.....	4.4	1.7		11.9			13.4	9.6		11.5		
\$1,000,000 and over.....	3.6	2.4		61.1	51.8		50.2	51.2		61.0	50.2	
PATENT MEDICINES AND COMPOUNDS.												
All classes.....	100.0	100.0	(1)	100.0	100.0	(1)	100.0	100.0	(1)	100.0	100.0	(1)
Less than \$5,000.....	38.2	52.3		1.9	5.3		0.9	2.8		1.0	2.9	
\$5,000 to \$20,000.....	25.5	25.8		6.0	12.0		3.1	7.5		3.1	7.4	
\$20,000 to \$100,000.....	22.3	15.0		16.4	20.6		12.0	19.3		12.3	18.7	
\$100,000 to \$500,000.....	10.5	5.5		25.8	41.4		26.9	33.9		26.2	52.0	
\$500,000 to \$1,000,000.....	1.8	0.9		11.8			14.5	16.4		15.2		
\$1,000,000 and over.....	1.7	0.5		38.1	20.7		42.6	20.1		42.2	19.0	
PERFUMERY AND COSMETICS.												
All classes.....	100.0	100.0	(1)	100.0	100.0	(1)	100.0	100.0	(1)	100.0	100.0	(1)
Less than \$5,000.....	27.9	44.4		1.1	4.0		0.6	2.7		0.6	2.9	
\$5,000 to \$20,000.....	27.1	30.6		4.5	16.4		2.7	9.7		2.6	9.9	
\$20,000 to \$100,000.....	27.8	16.1		17.2	25.9		12.0	21.2		11.0	19.8	
\$100,000 to \$500,000.....	12.8	8.3		29.0	53.7		26.8	36.4		25.9	67.4	
\$500,000 to \$1,000,000.....	2.1	0.4		11.7			14.5			17.0		
\$1,000,000 and over.....	2.3	0.2		36.4			43.3			42.9		

Figures not available.

TABLE 8.—CHARACTER OF OWNERSHIP: 1919, 1914, AND 1909.

CHARACTER OF OWNERSHIP.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.	CHARACTER OF OWNERSHIP.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
All classes.....	1919 1914 1909	3,560 3,815 3,642	38,417 25,502 22,895	\$386,369,132 167,372,129 141,941,602	\$216,264,214 101,032,186 91,565,937	Per cent distribution:					
Individual.....	1919 1914 1909	1,358 1,498 1,520	3,417 2,735 2,624	30,749,346 15,272,953 16,571,003	17,642,335 9,688,004 10,868,714	Individual.....	1919 1914 1909	38.1 30.3 41.7	8.9 10.7 11.5	7.9 9.1 11.7	8.1 9.6 11.9
Corporation.....	1919 1914 1909	1,818 1,824 1,610	33,226 20,988 18,176	337,617,858 130,303,775 111,493,887	188,356,445 83,300,188 72,081,395	Corporation.....	1919 1914 1909	51.1 47.8 44.2	86.5 82.3 79.4	87.4 83.2 78.5	87.1 82.4 78.7
All other.....	1919 1914 1909	384 493 512	1,774 1,779 2,095	18,001,028 12,795,401 13,876,712	10,265,434 8,043,994 8,615,828	All other.....	1919 1914 1909	10.8 12.9 14.1	4.6 7.0 9.2	4.7 7.6 9.8	4.8 8.0 9.4

TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
THE INDUSTRIAL GROUP.									
Primary power, total.....	5,128	3,069	2,020	40,571	28,872	25,659	100.0	100.0	100.0
Owned.....	339	461	507	19,719	18,087	18,035	48.6	62.6	70.3
Steam ¹	232	280	333	18,713	15,908	16,050	46.1	55.1	62.6
Engines.....	229	(²)	(²)	18,182	(²)	(²)	44.8	(²)	(²)
Turbines.....	3			531			1.3		
Internal-combustion engines.....	96	170	161	951	2,000	1,712	2.3	6.9	6.7
Water wheels, turbines, and motors.....	11	11	13	55	179	264	0.1	0.6	1.0
Rented.....	4,789	2,608	1,513	20,852	10,785	7,624	51.4	37.4	29.7
Electric.....	4,789	2,608	1,513	20,556	10,422	6,882	50.7	36.1	26.8
Other.....				296	363	742	0.7	1.3	2.9
Electric.....	7,142	4,253	2,354	29,364	17,924	11,175	100.0	100.0	100.0
Rented.....	4,789	2,608	1,513	20,556	10,422	6,882	70.0	58.1	61.6
Generated by establishments reporting.....	2,353	1,645	841	8,808	7,502	4,293	30.0	41.9	38.4
DRUGGISTS' PREPARATIONS.									
Primary power, total.....	1,344	634	(²)	12,098	8,417	(²)	100.0	100.0	(²)
Owned.....	115	89		8,406	6,285		66.2	74.7	
Rented.....	1,229	545		4,292	2,132		33.8	25.3	
Electric.....	2,724	1,574		8,432	6,130		100.0	100.0	
Rented.....	1,220	545		4,204	2,083		50.7	34.0	
Generated by establishment reporting.....	1,495	1,029		4,168	4,047		49.3	66.0	
PATENT MEDICINES AND COMPOUNDS.									
Primary power, total.....	2,994	2,081	(²)	25,677	18,542	(²)	100.0	100.0	(²)
Owned.....	210	340		10,684	11,093		42.8	59.8	
Rented.....	2,784	1,741		14,093	7,449		57.2	40.2	
Electric.....	3,635	2,310		19,046	10,468		100.0	100.0	
Rented.....	2,784	1,741		14,425	7,233		76.1	69.1	
Generated by establishment reporting.....	851	569		4,621	3,235		23.9	30.9	
PERFUMERY AND COSMETICS.									
Primary power, total.....	790	354	(²)	2,196	1,913	(²)	100.0	100.0	(²)
Owned.....	14	32		329	709		15.0	37.1	
Rented.....	776	322		1,867	1,204		85.0	62.9	
Electric.....	783	369		1,886	1,326		100.0	100.0	
Rented.....	776	322		1,867	1,106		99.0	83.4	
Generated by establishment reporting.....	7	47		19	220		1.0	16.6	

¹ Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.² Not reported separately.³ Figures not available.

TABLE 10.—FUEL CONSUMED, BY STATES: 1919 AND 1914.

STATE.	COAL.		Coke (tons, 2,000 lbs.).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).
	An-thracite (tons, 2,240 lbs.).	Bitumi-nous (tons, 2,000 lbs.).				
United States: The industrial group—						
1919.....	60,251	190,375	817	16,079	1,489	166,987
1914.....	60,504	142,656	459	5,640	(?)	512,736
Druggists' preparations—						
1919.....	15,486	78,976	29	171	414	46,340
1914.....	18,969	52,523	71	301	(?)	74,200
Patent medicines and com-pounds—						
1919.....	43,033	106,045	775	10,806	1,038	102,410
1914.....	39,158	87,366	378	5,333	(?)	425,142
Perfumery and cosmetics—						
1919.....	1,732	5,351	13	5,102	37	18,237
1914.....	2,377	2,767	10	6		13,394
California.....		56	2	4,358	91	7,424
Connecticut.....	442	1,468			36	698
District of Columbia.....	20	42				
Georgia.....	3	546		3		1,323
Illinois.....	510	16,702	553	575	8	5,179
Indiana.....		130		8	1	101
Iowa.....		577		1	8	167
Kansas.....		8		24	20	4,043
Kentucky.....		1				922
Louisiana.....		7	4			134
Maine.....	126	25				428
Maryland.....	264	4,307				2,259
Massachusetts.....	1,449	6,060		229		3,909
Michigan.....	86	34,577	12	4	158	1,349
Minnesota.....	552	3,102	10		3	1,351
Missouri.....	148	9,604	68	363	63	6,008
Nebraska.....		691	30	18	80	200
New Jersey.....	19,591	32,515		5,352	13	3,058
New York.....	27,318	16,756	25	279	47	26,961
North Carolina.....		214	5		1	
Ohio.....	243	7,457	21	331	26	25,524
Pennsylvania.....	8,304	6,888	22	4	314	44,157
Rhode Island.....	39		12	50	120	353
Tennessee.....	22	2,368			10	410
Texas.....		91			91	686
Virginia.....	83	8,618		2		70
Washington.....		198	22	601	10	132
Wisconsin.....	116	1,131	20		13	16,405
All other states.....	210	6,220	2	3,877	94	6,330

¹ Includes some semianthracite.² Included in figures for fuel oils.

SPECIAL STATISTICS.

Consumption of alkaloids and alcohol.—The establishments within these industries reported the consumption of alkaloids, alkaloid materials, and the alcohols, and this information is given in Table 11.

TABLE 11.—MATERIALS—CONSUMPTION OF ALKALOIDS AND ALCOHOL: 1919.

	Num-ber of estab-lish-ments.	Quantity.	Cost.
		Pounds.	
Alkaloids and alkaloid materials.....			\$9,759,061
Cinchona bark.....	100	2,363,000	1,592,926
Coca leaves.....	16	735,000	368,561
Opium.....	282	328,900	3,097,890
Alkaloids and salts thereof—			
Arecoline.....	6	7	6,764
Atropine.....	22	24	8,257
Berberine.....	8	15	591
Caffeine.....	253	39,414	312,285
Cinchonine.....	20	2,472	22,046
Cinchonidine.....	20	810	11,426
Cocaine.....	112	516	60,454
Cocain.....	181	2,313	206,302
Colchicine.....	9	5	5,087
Emetine.....	6	30	10,283
Heroin.....	178	702	178,545
Hydrastine.....	11	8	2,785
Morphine.....	217	3,984	635,912
Nicotine.....	8	1,327	6,717
Pilocarpine.....	7	12	2,200
Quinine.....	439	183,517	2,718,238
Sparteine.....	6	11	1,786
Strychnine.....	282	16,419	372,304
Miscellaneous and unclassified.....		125	17,556
Alcohol:		Gallons.	
Grain (ethyl).....	1,434	2,962,842	14,379,871
Denatured.....	277	796,871	524,049
Wood (methyl).....	105	73,208	106,147

¹ Includes cinchona bark, coca leaves, and opium to the amount of \$3,359,990, consumed by establishments manufacturing alkaloids as subsidiary products.

This table shows the number of establishments reporting the purchase of the respective materials, and quantities and costs; but establishments in other industries manufacturing the distinctive products of these indus-

tries did not report the consumption of these materials, and the products of the outside establishments constitute a very considerable part of the total production of many of the alkaloids; hence the figures for these materials are not to be taken as representing the total consumption.

Production of alkaloids and derivatives.—Table 12 presents the statistics for the principal alkaloids in 1919. The figures give total production. The production of cocaine as reported by all establishments was 6,781 pounds, of which 5,377 pounds, or 80 per cent, were by establishments within the classified industry. The principal alkaloids derived from opium are morphine, codein, and heroin, and the production, as reported by all establishments, was 3,295 pounds of codein, 6,933 pounds of heroin, and 38,122 pounds of morphine, a total of 48,350 pounds of opium alkaloids.

TABLE 12.—PRODUCTS—ALKALOIDS AND DERIVATIVES: 1919.

KIND.	Produc-tion, pounds.	Made and con-sumed in same estab-lish-ments, pounds.	PRODUCED FOR SALE.	
			Pounds.	Value.
Total.....	481,059	23,161	457,898	\$15,416,028
Quinine.....	238,132	188	237,944	3,929,606
Opium products—				
Morphine.....	38,122	1,075	37,047	5,906,201
Heroin (diacetyl morphine).....	6,933		6,933	1,310,883
Codein.....	3,295		3,295	473,322
Cocaine.....	6,781		6,781	1,021,423
Caffeine.....	40,537	21,795	18,742	379,528
Strychnine.....	26,041	2	26,029	985,702
Other alkaloids and alkaloids not item-ized.....	121,228	101	121,127	1,408,364

Products—Comparative summary.—Table 13 gives comparative statistics for products, 1919 and 1914, classified according to industries and the character of products.

Products, by states.—Table 14 presents the statistics of products, by states, for 1919 and 1914.

TABLE 13.—PRODUCTS—COMPARATIVE SUMMARY: 1919 AND 1914.

	1919	1914		1919	1914
Number of establishments, total.....	3,839	4,092	Alkaloids and derivatives.....	\$15,416,028	\$16,231,301
The classified industries, establishments engaged primarily in the manufacture of:			Synthetic preparations, including coal-tar medicinals.....	\$8,890,533	(1)
Druggists' preparations.....	524	416	Biological products (serums, vaccines, toxins, etc.):	91	98
Patent medicines and compounds.....	2,467	2,903	Number of establishments.....	291	298
Perfumery and cosmetics.....	569	493	Value.....	\$15,876,358	\$6,223,475
Other industries, establishments reporting as subsidiary products:			Other druggists' preparations (not patent or proprietary):		
Druggists' preparations.....	67	277	Tinctures, fluid extracts, medicinal sirups, and other liquid preparations not otherwise accounted for.....	\$38,679,454	\$13,900,402
Patent medicines and compounds.....	151		Pills, tablets, powders, etc., not otherwise accounted for.....	\$37,893,903	\$10,903,036
Perfumery and cosmetics.....	61		Pharmaceutical metals and their salts.....	\$420,952	\$732,307
Products, total value.....	\$418,221,150	\$176,747,090	Patent and proprietary medicines:		
The classified industries:			For sale in unbroken unit packages to the general public.....	\$132,978,871	\$89,455,264
Druggists' preparations.....	\$114,503,486	\$48,000,654	Ethical pharmaceutical specialties.....	\$29,494,936	\$16,514,332
Patent medicines and compounds.....	\$212,102,255	\$102,463,374	Patent and proprietary compounds.....	\$40,351,234	\$19,160,407
Perfumery and cosmetics.....	\$50,613,391	\$16,889,101	Flavoring essences and extracts.....	\$5,222,192	\$8,241,318
Subsidiary products of other industries:			All other products.....	\$17,628,633	
Druggists' preparations.....	\$21,839,202	\$5,353,646			
Patent medicines and compounds.....	\$6,878,102	\$3,202,057			
Perfumery and cosmetics.....	\$3,134,714	\$819,248			

¹ Figures not available.

² Distributed by states (91): Missouri, 14 establishments; Kansas, 11; Indiana, 10; Nebraska, 9; Iowa, 7; Illinois, 5; New York, 5; Pennsylvania, 5; Michigan, 4; Tennessee, 3; Texas, 3; 2 each in California, Colorado, New Jersey, and Oklahoma; and 1 each in District of Columbia, Kentucky, Minnesota, Ohio, South Dakota, Utah, and Wisconsin.

TABLE 14.—PRODUCTS, BY PRINCIPAL STATES: 1919 AND 1914.

STATE.	Census year.	Number of establishments.	Total value of products.	DRUGGISTS' PREPARATIONS.				Patent and proprietary medicines.	Patent and proprietary compounds.	Toilet preparations, perfumery and cosmetics.	All other products.
				Biological products, serums, vaccines, toxins, etc.	Tinctures, fluid extracts, medicinal sirups, etc., not otherwise accounted for.	Pills, tablets, powders, etc., not otherwise accounted for.	Alkaloids, synthetic preparations (including coal-tar medicinals, and pharmaceutical metals and their salts).				
United States.....	1919	3,839	\$418,221,150	\$15,876,358	\$38,679,454	\$37,893,903	\$24,736,513	\$162,473,807	\$40,351,234	\$69,449,056	\$22,850,325
Per cent of increase.....	1914	4,092	176,747,090	6,223,475	13,000,402	10,903,056	18,348,806	83,455,264	16,514,352	19,160,407	8,241,318
			136	155	179	247	35	95	181	262	177
Alabama.....	1919	28	419,846		53,130	(1)	(1)	254,774	52,105	45,445	(1)
	1914	32	230,028		24,520	(1)	(1)	159,005	21,029	7,025	220
California.....	1919	148	4,407,222	379,452	139,905	415,650	(1)	1,256,105	1,297,407	704,712	(1)
	1914	142	2,510,741	(1)	84,847	370,504	(1)	1,080,774	427,331	271,298	111,039
Illinois.....	1919	333	41,714,235	345,762	1,024,771	4,461,279	118,513	15,646,504	7,859,460	10,095,574	1,262,282
	1914	391	15,580,958	160,619	491,399	1,093,753	157,229	7,966,158	2,799,881	1,852,035	1,069,861
Indiana.....	1919	124	14,119,227	1,820,628	2,815,940	2,244,430	150,363	5,090,226	510,217	321,909	1,163,545
	1914	162	5,766,270	269,132	1,797,914	1,283,160	(1)	2,176,637	219,896	98,700	(1)
Iowa.....	1919	120	10,800,656	2,026,701	131,510	548,874		5,312,249	286,433	1,435,263	1,056,536
	1914	99	4,868,245	503,191	88,893	10,850	(1)	3,025,571	249,789	500,129	(1)
Maryland.....	1919	80	15,880,471		476,916	5,808,163	5,218	6,675,741	619,477	564,054	1,730,962
	1914	89	6,445,509		1,088,504	381,204	(1)	3,526,967	440,362	452,106	(1)
Massachusetts.....	1919	154	21,999,285		2,660,636	1,423,188		10,055,491	3,807,031	3,749,579	297,369
	1914	179	8,630,115		459,859	485,534	344,798	4,980,881	1,075,128	1,220,523	63,482
Michigan.....	1919	112	35,576,067	1,703,473	8,360,209	6,359,328	701,483	10,255,031	1,245,815	3,582,427	3,363,273
	1914	155	16,518,489	1,364,893	708,389	1,108,646	(1)	3,710,705	316,470	991,533	(1)
Minnesota.....	1919	81	7,312,060	(1)	(1)	1,904	300	3,389,623	1,059,591	905,907	1,545,226
	1914	107	4,926,555	(1)	12,086	633	(1)	2,834,458	397,928	514,549	1,067,262
Missouri.....	1919	210	24,117,789	799,531	1,360,681	1,190,585	2,642,776	14,381,023	1,497,139	1,638,899	607,135
	1914	236	10,713,205	376,875	774,038	208,897	(1)	6,009,810	736,965	805,585	(1)
New Jersey.....	1919	142	23,008,622	(1)	(1)	1,386,628	3,949,324	6,090,947	3,847,210	4,570,407	2,063,651
	1914	136	8,654,192		114,269	1,221,769	1,220,602	3,373,040	1,458,709	810,199	440,595
New York.....	1919	733	109,504,004	1,316,149	9,253,067	8,129,173	8,187,864	41,724,974	9,723,949	26,708,960	4,459,868
	1914	852	43,037,468	312,744	4,835,653	1,548,835	2,107,225	21,383,575	3,569,503	7,507,804	1,792,069
Ohio.....	1919	288	19,734,075	(1)	(1)	964,343	12,484	8,211,951	3,515,340	4,532,300	780,489
	1914	268	7,983,411		732,663	324,231	(1)	4,613,034	1,062,373	841,559	(1)
Pennsylvania.....	1919	350	35,515,359	1,810,659	6,210,615	3,717,349	8,791,368	9,122,961	2,298,466	2,103,072	1,460,573
	1914	354	17,828,762	1,647,664	1,653,525	2,550,700	3,851,696	5,923,204	954,151	848,704	399,115
Tennessee.....	1919	101	11,252,844	148,353	1,106,514	303,193	26,780	6,566,542	510,653	1,726,681	804,128
	1914	86	5,015,227	(1)	474,985	113,579	(1)	3,325,871	196,057	436,690	490,641
Wisconsin.....	1919	66	2,766,646	(1)	267,912	37,574	(1)	1,039,487	353,745	795,533	(1)
	1914	63	1,443,730	12,766	23,376	42,578	66,014	839,128	72,936	255,990	130,912
All other states.....	1919	760	40,092,762	4,974,622	740,643	752,269	150,040	17,400,088	7,867,168	5,959,334	2,248,568
	1914	741	16,564,524	1,635,591	626,881	189,183	315,778	8,623,437	2,605,241	1,646,207	2,646,682

¹ Included in "All other states."

GENERAL TABLES.

Comparative statistics, by states.—Table 15 gives the comparative statistics for the principal items, number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for the census years 1919, 1914,

and 1909, for the industrial group and for the component industries, and by states for the group.

Detailed statistics, by states.—Table 16 is a detailed statement, by states, for the census of 1919, for the three branches of the industry.

TABLE 15.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earn- ers (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earn- ers (aver- age num- ber).	Pri- mary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
Expressed in thousands.								Expressed in thousands.							
United States: The industrial group..	1919	3,560	33,417	40,571	\$20,894	\$170,105	\$386,369	Massachusetts.....	1919	139	2,390	1,981	\$1,905	\$8,612	\$20,327
	1914	3,815	25,502	28,872	12,710	66,340	107,372		1914	162	1,381	1,586	696	3,323	8,263
	1909	3,642	22,895	25,659	9,897	50,376	141,942		1909	154	1,183	1,376	566	2,727	7,432
Druggists' prepara- tions.	1919	524	15,568	12,698	12,162	55,139	114,594	Michigan.....	1919	107	4,751	2,642	4,151	14,690	31,945
	1914	416	9,277	8,417	4,755	22,935	48,010		1914	142	3,369	2,691	1,994	7,003	16,431
	1909	375	9,400	9,580	4,159	17,817	43,959		1909	159	3,249	2,270	1,509	4,911	13,475
Patent medicines and compounds.	1919	2,467	17,444	25,677	13,740	88,819	212,162	Minnesota.....	1919	75	646	2,345	414	3,159	7,270
	1914	2,903	13,328	18,542	6,675	35,940	102,463		1914	99	613	945	285	2,341	4,879
	1909	2,838	11,030	14,704	4,744	26,895	83,771		1909	101	475	741	188	1,600	4,412
Perfumery and cos- metics.	1919	569	5,405	2,196	3,083	26,147	59,613	Missouri.....	1919	201	1,786	2,058	1,280	8,376	21,325
	1914	496	2,897	1,913	1,280	7,465	16,809		1914	212	1,000	867	532	2,026	9,010
	1909	429	2,375	1,375	904	5,634	14,212		1909	185	980	908	415	2,536	7,639
California.....	1919	137	577	723	507	1,916	4,151	New Jersey.....	1919	112	2,420	3,207	1,652	10,441	18,715
	1914	126	328	508	150	1,187	2,496		1914	129	1,271	2,223	616	3,147	7,673
	1909	89	310	347	148	639	1,549		1909	111	1,005	1,478	432	2,089	5,410
Connecticut.....	1919	38	431	485	295	1,566	4,775	New York.....	1919	680	9,218	8,975	7,180	45,437	101,457
	1914	43	327	206	125	764	2,063		1914	806	5,699	5,549	2,977	16,912	41,796
	1909	64	237	381	88	488	1,342		1909	743	4,728	5,423	2,226	12,589	37,343
Georgia.....	1919	54	244	142	131	1,068	3,681	North Carolina.....	1919	31	213	198	153	1,597	4,891
	1914	45	155	206	63	592	1,219		1914	26	74	17	27	260	512
	1909	50	210	84	81	442	1,421		1909	26	60	28	18	216	474
Illinois.....	1919	314	2,812	3,905	2,436	16,780	39,059	Ohio.....	1919	267	1,695	1,670	1,297	7,417	18,622
	1914	363	1,844	2,573	1,066	5,097	15,032		1914	252	1,032	1,949	470	3,018	7,734
	1909	359	1,869	3,234	805	4,413	13,114		1909	261	905	1,568	385	1,888	5,859
Indiana.....	1919	118	1,877	1,518	1,125	6,195	14,036	Pennsylvania.....	1919	332	3,399	3,603	2,987	11,251	26,374
	1914	156	864	968	415	2,095	5,740		1914	324	2,833	2,495	1,233	6,474	14,721
	1909	113	801	809	354	1,460	4,344		1909	367	2,761	2,619	1,145	5,310	12,656
Iowa.....	1919	114	746	1,129	658	4,655	10,658	Tennessee.....	1919	93	1,004	1,041	540	4,892	11,092
	1914	94	418	642	229	1,667	4,828		1914	82	648	802	249	1,824	4,942
	1909	100	358	503	133	1,005	3,401		1909	76	433	418	148	1,341	3,515
Kentucky.....	1919	38	256	307	142	740	2,327	Texas.....	1919	68	301	108	208	997	2,506
	1914	45	376	838	140	755	2,163		1914	61	116	97	52	288	740
	1909	49	280	447	93	756	2,123		1909	59	145	51	62	411	1,014
Louisiana.....	1919	25	171	42	84	423	1,006	Washington.....	1919	30	47	101	60	220	510
	1914	25	65	46	21	132	401		1914	32	45	94	21	142	273
	1909	21	111	68	29	134	363		1909	18	38	95	19	106	258
Maryland.....	1919	76	1,461	1,936	1,018	8,430	15,806	Wisconsin.....	1919	61	232	223	172	1,105	2,644
	1914	83	1,053	1,424	432	2,389	5,970		1914	62	278	275	131	510	1,442
	1909	83	1,193	683	429	2,167	5,548		1909	62	269	219	118	445	1,707
								All other states.....	1919	450	1,740	2,232	1,490	10,090	19,892
									1914	446	1,623	1,748	738	3,494	9,041
									1909	392	1,295	1,909	506	2,523	7,543

TABLE 16.—DETAILED STATE

STATE.		Number of establishments	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital. Dollars.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Average number.	Wage earners.		Total.	16 and over.		Under 16.		
						Male.	Female.		Maximum month.	Minimum month.		Male.	Female.	Male.	Female.	
THE INDUSTRIAL GROUP.																
1	United States.....	3,560	63,985	2,304	5,156	10,141	7,967	38,417	.....	.....	40,749	18,509	21,501	284	455	278,294,601
DRUGGISTS' PREPARATIONS.																
2	United States.....	524	22,569	283	1,371	3,032	2,315	15,568	Fe 16,359	Je 14,941	15,877	7,667	7,981	101	128	102,129,257
3	California.....	15	284	11	18	20	13	222	Ja 235	Oc 208	233	90	143	.....	.....	1,007,686
4	Connecticut.....	6	35	7	7	4	3	21	Fe 34	No 14	27	0	7	.....	.....	245,758
5	District of Columbia.....	3	47	10	10	.....	.....	32	Mh 35	Au 26	31	8	13	3	7	244,434
6	Georgia.....	5	72	1	7	8	2	54	My 55	Ja 53	53	13	40	.....	.....	141,012
7	Illinois.....	31	979	15	68	214	179	503	Ja 581	Je 425	501	299	106	3	3	3,076,433
8	Indiana.....	25	1,844	15	81	118	221	1,409	Ja 1,617	Au 1,289	1,338	633	705	.....	.....	6,598,250
9	Iowa.....	15	374	7	50	55	28	234	Jy 258	Fe 205	251	192	50	.....	.....	1,606,666
10	Kansas.....	17	285	9	60	20	12	184	Jy 236	De 123	144	137	7	.....	.....	1,401,906
11	Kentucky.....	6	22	4	3	1	.....	14	(*) 14	(*) 14	16	4	12	.....	.....	45,988
12	Louisiana.....	3	18	3	2	.....	1	12	(*) 12	(*) 12	12	7	3	2	.....	22,650
13	Maine.....	3	19	3	.....	.....	1	15	(*) 15	(*) 15	15	5	10	.....	.....	83,322
14	Maryland.....	13	1,198	11	75	294	122	696	No 756	Au 636	703	191	503	3	6	4,491,553
15	Massachusetts.....	24	2,573	7	125	295	447	1,699	Fe 2,097	Au 1,446	1,848	864	952	16	16	15,396,709
16	Michigan.....	16	3,991	7	112	326	327	3,219	No 3,317	Ap 3,145	3,309	1,450	1,850	.....	.....	26,343,212
17	Minnesota.....	6	217	2	33	6	34	142	Jy 152	Ja 123	148	51	97	.....	.....	1,076,297
18	Missouri.....	30	977	24	102	133	72	646	Oc 666	Je 618	661	370	287	3	1	3,253,439
19	Nebraska.....	11	161	2	27	32	11	89	Ap 130	No 47	70	32	7	29	2	1,481,522
20	New Jersey.....	16	1,294	6	85	99	109	994	Ja 1,184	Je 872	997	526	416	10	45	3,400,974
21	New York.....	98	3,358	45	263	559	281	2,210	My 2,279	De 2,119	2,251	1,004	1,146	14	27	11,759,796
22	North Carolina.....	4	6	5	.....	.....	.....	1	(*) 1	(*) 1	4	.....	.....	.....	.....	4,075
23	Ohio.....	29	835	21	40	142	101	525	Mh 624	No 478	493	219	274	.....	.....	2,466,992
24	Pennsylvania.....	62	3,235	34	97	586	303	2,215	Oc 2,312	Je 2,045	2,298	1,217	1,042	18	21	13,128,089
25	Rhode Island.....	8	36	7	3	8	3	15	Ap 20	Mh 11	18	14	4	.....	.....	97,630
26	Tennessee.....	16	276	14	37	65	24	136	No 160	Fe 109	159	77	82	.....	.....	2,709,340
27	Texas.....	9	145	1	16	14	5	109	Se 132	Ja 74	115	54	61	.....	.....	400,333
28	Virginia.....	9	34	7	7	2	.....	18	Oc 20	Fe 16	20	8	12	.....	.....	80,841
29	Washington.....	7	20	8	1	.....	.....	20	Se 23	Fe 18	22	15	7	.....	.....	90,516
30	Wisconsin.....	6	46	2	8	2	1	33	(*) 33	(*) 33	33	26	7	.....	.....	228,810
31	All other states.....	25	179	12	27	29	10	101	.....	.....	107	69	38	.....	.....	646,368
PATENT MEDICINES AND COMPOUNDS.																
32	United States.....	2,467	31,970	1,648	3,025	5,915	3,938	17,444	No 18,165	Jy 16,607	18,796	9,002	9,418	137	239	143,498,611
33	Alabama.....	22	93	12	17	17	4	43	Jy 57	Ja 29	56	28	27	1	.....	199,469
34	Arkansas.....	23	105	33	7	5	7	53	Fe 58	Je 40	57	30	27	.....	.....	97,930
35	California.....	90	550	66	74	60	74	276	Ja 317	Je 258	307	100	147	.....	.....	1,914,287
36	Colorado.....	25	82	5	13	11	14	39	No 51	Ap 20	55	26	29	.....	.....	227,128
37	Connecticut.....	26	282	18	28	36	38	162	No 195	Ap 145	194	142	52	.....	.....	1,277,572
38	District of Columbia.....	15	107	10	11	14	22	50	Oc 55	Je 45	51	21	30	.....	.....	158,580
39	Florida.....	24	113	21	10	14	10	58	De 64	Ja 53	62	20	42	.....	.....	561,831
40	Georgia.....	43	334	34	47	49	37	167	No 186	Ju 136	185	81	103	1	.....	909,007
41	Illinois.....	208	3,696	124	301	964	708	1,599	De 1,666	Ap 1,530	1,675	842	768	18	47	16,991,395
42	Indiana.....	83	749	53	83	109	84	420	De 494	Ap 363	516	158	340	1	17	1,760,083
43	Iowa.....	90	1,541	68	131	776	173	393	Se 418	Ja 363	429	239	185	1	4	4,215,997
44	Kansas.....	27	122	23	15	21	22	41	No 45	Ju 37	42	17	23	.....	.....	1,089,553
45	Kentucky.....	28	355	17	31	49	30	228	Ap 271	Oc 158	209	148	60	.....	.....	1,512,655
46	Louisiana.....	17	176	10	28	18	9	111	De 132	My 100	132	41	66	16	9	418,718
47	Maine.....	19	63	17	5	4	7	30	Se 37	Mh 23	39	17	22	.....	.....	227,633
48	Maryland.....	55	1,054	43	72	145	95	699	Oc 735	Je 663	734	318	378	15	23	5,180,926
49	Massachusetts.....	97	1,072	56	115	118	179	604	No 686	Je 522	659	397	250	7	5	5,384,266
50	Michigan.....	70	2,146	41	223	248	242	1,392	No 1,501	Jy 1,256	1,485	645	838	.....	.....	6,627,919
51	Minnesota.....	51	906	20	82	175	159	461	Jy 541	Ja 396	444	201	237	3	3	7,939,775
52	Mississippi.....	8	16	7	2	.....	1	6	Fe 7	Au 5	6	1	5	.....	.....	12,682
53	Missouri.....	142	2,098	79	207	513	259	1,040	Oc 1,112	Ju 961	1,114	432	644	13	25	7,919,699
54	Montana.....	4	13	2	2	6	.....	3	Ja 11	Ju 1	11	8	3	.....	.....	21,392
55	Nebraska.....	29	252	27	25	59	34	107	Je 131	No 83	111	85	25	.....	.....	1,547,818
56	New Hampshire.....	6	19	3	4	.....	1	11	Ju 12	Ja 10	9	6	3	.....	.....	42,963
57	New Jersey.....	81	1,487	38	117	185	126	1,021	Mh 1,087	Ju 902	1,102	609	407	27	59	10,097,400
58	New York.....	403	7,429	193	706	1,172	812	4,546	Fe 5,125	Ju 4,122	4,808	2,186	2,576	11	35	37,889,917
59	North Carolina.....	27	379	16	32	96	23	212	De 220	Ja 204	218	57	160	1	.....	2,001,156
60	Ohio.....	202	1,705	128	171	309	208	889	De 1,026	Je 818	1,036	512	520	2	2	6,534,040
61	Oklahoma.....	17	133	23	8	29	9	64	De 78	Ap 59	88	13	75	.....	.....	393,317
62	Oregon.....	16	197	28	25	26	10	99	Oc 126	My 88	96	24	72	.....	.....	1,955,550
63	Pennsylvania.....	234	1,773	217	171	201	195	989	Oc 1,055	Au 936	1,055	525	519	11	.....	7,675,618
64	Rhode Island.....	15	60	10	6	9	12	23	De 34	My 20	28	24	3	1	.....	143,457
65	South Carolina.....	8	24	6	3	2	2	11	De 14	Ap 9	12	7	5	.....	.....	61,352
66	Tennessee.....	67	1,325	47	97	240	176	765	De 826	Fe 716	854	364	486	2	2	5,167,128

¹ Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).

² Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

³ Same number reported for one or more other months.

DRUGGISTS' PREPARATIONS, ETC.

15

MENT, BY STATES: 1919.

EXPENSES.										POWER.											
Salaries and wages.				For contract work.	Rent and taxes.		For materials.		Value of products.	Value added by manufacture.	Primary horsepower.						Electric horsepower generated in establishments reporting.				
Officials.	Clerks, etc.	Wage earners.	Rent of factory.		Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.	Total.			Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. ¹	Rent. ²						
Dollars. 19,491,811	Dollars. 24,992,898	Dollars. 20,893,754	Dollars. 1,107,217	Dollars. 2,003,135	Dollars. 21,372,912	Dollars. 168,200,030	Dollars. 1,895,888	Dollars. 386,369,132	Dollars. 216,264,214	40,571	18,182	531	951	55	20,852	8,808	1				
4,899,050	8,419,436	12,101,925	78,918	409,513	5,297,386	54,451,977	686,498	114,593,486	59,455,011	12,698	7,731	500	173	2	4,292	4,168	2				
57,994	44,113	181,549	840	16,765	50,992	607,380	5,566	1,187,841	484,889	95			7		88	29	3				
9,420	9,055	18,207		2,010	1,319	46,454	3,948	71,324	20,922	128	110				18		4				
29,940	5,800	23,405		2,066	1,092	181,620	707	313,692	131,275	16					16		5				
23,861	20,070	28,007		3,202	4,282	207,334	409	433,590	225,847	9					9		6				
260,501	505,445	446,401	105	47,712	196,094	2,071,500	41,667	4,888,543	2,775,381	915	671		33		211	361	7				
304,797	637,075	775,487	20,141	21,656	340,681	4,579,350	62,427	9,257,192	4,615,415	1,031	635		4		392	506	8				
172,741	175,798	266,330	1,050	19,009	104,400	1,906,225	14,894	3,070,077	1,058,058	161			10		151		9				
173,706	39,406	233,697	885	14,008	67,847	2,753,071	9,403	3,694,847	932,313	106	10				90		10				
5,030	150	6,690		1,770	278	36,365	250	69,465	32,853	8					8		11				
2,350	200	9,596	150	1,100	637	14,090	175	43,769	29,504	3					3		12				
	1,300	6,532		515	1,182	34,026	306	61,475	27,143	1					1		13				
240,691	640,878	461,614	108	20,256	298,938	3,340,882	20,995	6,406,804	3,044,927	704	625				79	433	14				
761,357	812,636	1,307,006	420	22,061	784,156	4,913,010	39,859	9,989,720	5,036,851	757	610				147	508	15				
549,113	1,180,893	2,830,077		14,441	2,207,430	9,880,817	115,376	23,903,858	13,907,663	1,471	540	500			431	50	16				
72,933	40,668	86,040		8,061	5,102	252,765	5,439	618,798	360,594	87	40				47	6	17				
226,134	319,692	332,861	212	21,572	99,176	2,563,586	24,000	4,831,651	2,242,065	1,060	991		8	2	149	345	18				
71,594	73,188	98,999		9,552	20,515	326,705	6,026	928,975	595,844	93	10		22		61		19				
183,970	237,088	502,737		4,069	74,282	3,012,482	78,662	5,334,918	2,243,774	1,436	565		8		863	314	20				
921,962	1,471,372	1,823,187	43,858	206,107	547,725	8,500,728	120,436	18,000,192	9,379,028	2,113	1,439				674	515	21				
	1,134			100	10	2,695	69	7,918	5,154								22				
148,943	359,605	395,284		10,248	56,440	1,773,505	15,999	3,941,307	2,151,803	422	135		7		280	14	23				
403,020	1,605,777	1,997,516	2,715	25,500	304,139	4,719,348	89,077	12,006,051	7,797,626	1,821	1,425		41		355	1,086	24				
5,115	20,030	11,610		3,021	1,514	52,196	1,260	119,727	66,271	14					14	25	25				
124,745	108,506	83,552		1,986	47,429	1,187,640	5,129	1,893,082	700,323	54					54		26				
46,126	58,275	88,701	7,220	2,149	27,840	177,906	2,738	770,506	589,862	46			13		33		27				
9,320	5,985	14,609		2,600	8,480	44,290	1,543	120,314	83,472								28				
2,000		22,862	1,205	700	428	87,417	1,743	283,475	194,315	12			12				29				
26,900	3,600	35,969		5,355	16,080	135,763	12,345	347,117	199,009	63	15				48	1	30				
64,757	42,831	81,116		10,422	28,289	860,812	5,000	1,388,242	522,430	72			2		70		31				
11,554,701	13,181,511	13,748,813	803,210	1,471,482	14,103,226	87,732,309	1,087,108	212,162,255	123,342,838	25,677	10,156	31	744	53	14,093	4,621	32				
32,791	33,832	26,101	75	6,208	6,122	103,744	511	297,540	193,285	15					15		33				
13,100	10,058	45,404	300	6,026	875	100,280	945	258,242	151,017	20					20		34				
159,676	142,389	240,108	2,409	41,222	109,784	985,566	14,999	2,382,734	1,382,169	597	132		2		463		35				
23,912	17,026	30,008	1,198	8,376	9,135	93,281	1,505	262,109	167,323	27					27		36				
249,714	72,453	158,934	1,044	8,621	94,062	343,990	10,418	1,085,223	1,624,815	184					184		37				
24,952	10,783	25,090	441	9,365	49,438	98,793	834	480,411	380,784	102	40				62	7	38				
17,859	35,749	35,009		7,801	15,244	386,854	489	738,214	350,871	34	15		14		5		39				
94,496	98,836	91,034	3,375	13,481	148,050	680,957	5,977	2,888,284	2,195,350	122	60		12		50	2	40				
1,511,586	2,418,493	1,217,052	425,236	103,072	1,270,437	11,153,418	101,018	25,395,228	14,140,792	2,642	720		83	1	1,838	817	41				
293,061	197,814	327,920	19,472	25,895	180,777	1,366,529	16,827	4,481,247	3,097,891	469	140		10		319	200	42				
264,563	1,180,392	332,404	3,476	26,606	174,596	1,933,126	20,776	6,348,551	4,394,649	864	185		73		606	93	43				
112,560	64,058	32,798	2,075	4,569	39,373	181,018	3,145	513,381	328,818	46			2		44		44				
98,088	80,922	128,181	75	7,202	651,159	642,928	43,350	2,209,571	1,523,293	296	280				16		45				
99,306	30,410	50,879		7,014	64,122	314,076	1,151	786,408	471,181	24					24		46				
23,236	8,873	19,930		4,175	7,551	112,103	1,598	312,342	198,641	27					27		47				
316,443	360,953	524,700	3,008	14,614	612,356	4,755,072	30,915	8,878,122	4,092,135	1,210	105		9		1,096		48				
481,893	370,279	530,058	23,570	65,542	746,304	3,019,198	38,149	9,107,058	6,050,611	1,196	636		120	20	411	50	49				
660,907	683,520	1,204,350	11,612	49,883	333,938	4,143,426	69,380	9,948,329	5,735,523	1,026	610		3		842	50	50				
308,258	453,160	295,073	9,960	34,621	448,773	2,696,968	25,065	6,302,629	3,580,566	2,234	6		7		2,221	51	51				
4,200	600	2,552		660	305	11,728	86	29,499	17,685								52				
798,182	1,147,376	880,379	10,565	104,561	1,574,892	5,145,822	44,996	14,590,676	9,399,858	895	267		55		573	103	53				
2,100	2,070	3,000	90	212	15,317	15,317	226	34,943	19,400	8			7		1		54				
59,737	110,062	90,562	116,167	11,831	19,557	458,711	5,742	1,111,298	646,845	242	8		25	10	199		55				
6,038	1,752	9,340	3,309	1,700	1,305	17,462	1,554	50,760	40,744	5					5		56				
440,742	394,971	820,900	8,464	34,303	171,827	5,028,284	131,965	8,548,141	3,387,892	1,705	1,197		93		415	467	57				
3,281,276	2,535,672	3,670,076	87,712	507,084	4,277,653	24,377,522	203,777	57,957,977	33,316,678	6,230	3,631	31	43	5	2,520	1,511	58				
176,665	162,991	151,036	17,181	5,033	770,206	1,592,479	2,112	4,883,436	3,288,845	198					193		59				
550,689	680,054	688,001	8,051	75,092	550,002	4,206,307	50,481	10,860,925	6,514,137	1,069	422		14</								

TABLE 16.—DETAILED STATE

STATE.		Number of establishments	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Average number.	Wage earners.		Total.	16 and over.		Under 16.					
						Male.	Female.		Maximum month.	Minimum month.		Male.	Female.	Male.	Female.				
																Number, 15th day of—			
PATENT MEDICINES AND COMPOUNDS—continued.																			
1	Texas.....	52	340	64	32	49	18	177	Je	214	De	119	226	166	58	2	736,690	
2	Utah.....	9	31	3	3	1	1	23	Je	25	Fe ³	22	25	15	10	.....	63,069	
3	Vermont.....	14	238	4	22	52	22	138	Fe	146	Ap	119	138	58	80	.....	1,428,110	
4	Virginia.....	39	424	18	32	44	29	301	My	347	Oc	201	300	217	81	2	1,551,762	
5	Washington.....	15	39	5	6	2	3	23	Mh	36	Je ²	14	38	36	1	.....	183,127	
6	West Virginia.....	9	30	6	2	8	2	12	De ³	14	Jy ³	11	14	4	10	.....	82,507	
7	Wisconsin.....	50	310	43	43	34	66	124	Mh	142	Au	111	125	71	51	2	968,287	
8	All other states ⁴	7	102	1	16	45	6	34					51	51			326,556	
PERFUMERY AND COSMETICS.																			
9	United States.....	569	9,446	373	760	1,194	1,714	5,405	No	6,162	Ja	4,721	6,076	1,840	4,102	46	88	32,666,633	
10	California.....	32	162	32	18	9	24	79	No ³	86	Ja	63	106	39	67	.....	372,393	
11	Colorado.....	3	9	3	1	.....	1	4	(c)	4	(c)	4	5	2	3	.....	46,037
12	Connecticut.....	6	327	2	18	30	20	248	De	288	Ja	205	287	59	207	3	18	1,847,554	
13	Georgia.....	6	59	5	11	11	9	23	Se ³	26	Ja ³	20	21	9	12	.....	165,195	
14	Illinois.....	75	1,390	40	129	112	399	710	De	815	Ja	605	815	207	574	10	24	4,371,602	
15	Indiana.....	10	66	6	8	3	1	48	Se ³	49	De	28	50	15	22	.....	118,219	
16	Iowa.....	9	225	10	19	61	16	119	De	137	My	109	137	26	111	.....	730,555	
17	Kentucky.....	4	19	3	.....	.....	2	14	(c)	14	(c)	14	14	6	8	.....	13,097
18	Louisiana.....	5	77	3	10	10	6	48	Mh ³	51	Je ³	45	51	13	35	1	2	210,117	
19	Maryland.....	8	124	4	10	17	27	66	No ³	72	Ja ³	54	72	14	58	.....	215,785	
20	Massachusetts.....	18	142	11	17	17	10	87	Ja	95	Fe	80	88	26	58	4	571,230	
21	Michigan.....	21	222	11	25	14	32	140	Oc	169	Ja	101	163	60	97	4	2	565,248	
22	Minnesota.....	18	197	8	10	121	15	43	Se	50	Fe ³	35	52	23	28	.....	172,401	
23	Missouri.....	23	284	16	18	31	119	100	No	107	Au	89	102	25	77	.....	1,079,869	
24	New Jersey.....	15	513	3	35	35	35	405	No	448	Fe	376	418	107	249	2	3,563,383	
25	New York.....	179	3,978	112	282	498	624	2,462	No	2,878	Ja	2,125	2,740	864	1,847	19	19	13,704,509	
26	Ohio.....	36	657	30	62	126	158	281	No	364	Ja	196	307	93	272	1	1	1,778,353	
27	Oklahoma.....	3	12	2	2	1	1	6	(c)	6	(c)	6	7	3	2	1	1	54,596	
28	Pennsylvania.....	36	406	33	29	37	112	195	No	207	Ja	178	210	59	146	1	4	1,202,672	
29	Rhode Island.....	4	5	3	.....	.....	.....	2	(c)	2	(c)	2	3	2	21	.....	8,042
30	Tennessee.....	10	145	3	13	13	13	103	Oc ³	115	Ja	92	108	35	73	.....	362,072	
31	Texas.....	7	40	3	9	12	1	15	Au	18	Ja ³	13	15	7	8	.....	120,849	
32	Washington.....	8	11	4	2	1	.....	4	De	6	Mh	2	6	3	3	.....	14,614
33	Wisconsin.....	5	143	4	10	15	39	75	No	87	Je	51	86	17	66	.....	386,749	
34	All other states ⁵	28	233	22	22	11	50	128					144	66	78	.....	991,487	

¹ Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).

² Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

³ Same number reported for one or more other months.

MENT, BY STATES: 1919—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.				
											Steam engines (not turbines).	Steam turbines.	Internal combustion engines.	Water power. ¹		Rent.^{2}
Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.						
64,049	84,448	107,583	19,796	15,654	32,072	645,875	1,162	1,455,162	808,125	58			11	47	1
3,650	2,100	13,214	450	1,795	864	82,884	1,031	116,413	32,498	87				87	2
56,542	78,297	82,961		1,130	222,935	904,526	14,587	1,948,703	1,029,590	18			2	16	130
64,952	97,413	262,444		20,558	325,191	831,411	31,036	1,871,789	1,009,342	570	500			69	3
5,575	6,016	32,864		2,682	2,236	107,271	5,078	189,494	77,145	87	77			10	5
1,650	18,480	15,340	271	3,168	1,339	153,956	484	269,172	114,732	2				2	6
82,275	106,162	101,101	1,032	22,662	21,696	673,670	7,145	1,516,296	835,481	140			10	130	7
33,233	45,657	53,117		7,968	1,275	451,569	35,152	1,060,362	573,641	455	180			275	8
3,038,060	3,391,951	3,983,016	225,089	632,140	1,972,300	26,024,744	122,282	50,613,391	33,466,365	2,196	295		34	1,867	19
28,770	27,671	79,774	500	18,502	3,961	240,190	2,486	580,901	338,225	31				31	10
1,200	480	1,846		900	881	13,089	201	24,032	10,742	4				4	11
67,587	66,770	118,191		4,300	43,331	1,148,817	5,999	2,718,711	1,563,895	173	105			68	19
30,600	25,074	11,776		5,720	15,463	106,055	1,214	358,843	191,574	11				11	12
516,200	471,781	772,710	3,107	91,021	283,650	3,405,086	16,345	8,775,561	5,354,180	348				348	14
22,398	4,206	21,621		3,872	2,404	168,550	953	297,405	127,902	18				18	15
53,950	117,013	59,301		6,880	14,950	685,985	4,459	1,239,587	549,143	104	30			74	16
	1,664	6,759	69	1,007	98	25,608	145	48,060	22,247	3				3	17
10,055	9,045	23,066		3,300	3,013	93,514	296	176,319	82,509	15				15	18
25,025	39,410	31,450		4,561	4,102	279,335	2,369	521,491	239,787	22				22	19
48,854	43,202	68,265	1,250	13,307	133,543	600,922	900	1,229,460	627,638	28				28	20
79,524	59,934	116,688	135	20,511	32,201	474,034	7,268	1,092,499	611,197	145	30			115	21
14,424	21,315	33,206	1,064	12,101	5,154	176,054	2,388	348,293	169,851	24				24	22
52,174	160,983	60,954	1,314	10,088	27,872	589,734	6,067	1,902,228	1,306,427	103				103	23
259,228	142,817	318,791		22,499	148,237	2,175,343	14,183	4,831,705	2,642,179	66	3			63	24
1,309,137	1,603,829	1,680,676	216,250	342,191	716,319	12,136,036	38,461	25,499,207	13,324,710	632	15		6	611	25
179,050	277,721	213,129		21,160	224,923	1,272,546	6,477	4,119,975	2,840,952	179	46			134	26
3,800	2,105	6,890		1,320	1,646	75,514	232	104,712	28,966	1				1	27
74,659	165,299	121,977		19,986	15,227	826,733	3,843	1,854,332	1,023,756	150	55		28	67	28
		1,791	350	625	65	7,125	36	16,308	9,147						29
28,271	33,220	60,581		4,549	73,259	383,469	963	923,843	539,411	52				52	30
21,325	10,163	11,747		3,764	9,026	168,805	229	279,841	110,807	4				4	31
2,595	700	3,525		1,355	360	19,110	61	37,074	17,903	2				2	32
47,471	52,414	35,383		7,331	15,029	274,088	2,019	780,245	504,138	20				20	33
161,763	55,135	122,919	150	11,290	192,586	618,942	4,688	1,852,759	1,229,129	61	12			49	34

¹ All other states embrace: Idaho, 2 establishments; North Dakota, 2; South Dakota, 3.

² Same number reported throughout the year.

³ All other states embrace: Alabama, 3 establishments; District of Columbia, 2; Florida, 2; Kansas, 2; Maine, 4; Montana, 1; Nebraska, 3; New Hampshire, 1; North Dakota, 1; Oregon, 2; Vermont, 1; Virginia 6.

DRUG GRINDING.

Comparative summary.—Powdered or pulverized drugs are the principal products of establishments under this classification, which includes the grinding of drugs, charcoal, roots, herbs, gums, licorice root, etc. Statistics for this industry are presented in Table 17 for the census years 1889 to 1919, inclusive.

These statistics are confined to the independent drug-grinding establishments, and do not cover drugs ground and used by establishments engaged in the manufacture of druggists' preparations or patent medicines and compounds.

TABLE 17.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, AND 1889.

	1919	1914	1909	1904	1899	1889	PER CENT OF INCREASE, ¹				
							1914-1919	1909-1914	1904-1909	1899-1904	1889-1899
Number of establishments.....	31	29	25	27	26	13	.....	.....	.....	.....	.....
Persons engaged.....	1,661	1,280	1,152	1,111	775	(²)	29.8	11.1	3.7	43.4	.....
Proprietors and firm members.....	16	22	16	23	29	(²)	.....	.....	.....	.....	.....
Salaried employees.....	298	199	214	107	102	(²)	49.7	-7.0	100.0	4.9	.....
Wage earners (average number).....	1,347	1,059	922	981	644	148	27.2	14.9	-6.0	52.3	335.1
Primary horsepower.....	6,725	4,972	3,322	2,866	4,697	845	10.8	49.7	15.9	-39.0	455.9
Capital.....	\$14,091,135	\$8,434,036	\$5,187,214	\$4,991,218	\$2,837,911	\$337,885	77.7	62.6	3.9	75.9	739.9
Salaries and wages.....	2,323,779	935,484	732,456	637,780	418,446	103,594	148.0	27.7	14.8	52.4	303.9
Salaries.....	797,642	352,123	268,328	154,683	126,623	(²)	126.0	31.2	73.5	22.2	.....
Wages.....	1,526,137	583,361	464,128	483,097	291,823	(²)	162.0	25.7	-3.9	65.5	.....
Paid for contract work.....	111,651	35	5,000	.....	12,050	(²)	.....	-99.3	.....	.....	.....
Rent and taxes.....	910,931	91,883	55,339	\$43,709	\$43,963	(²)	891.0	66.0	.....	-0.6	.....
Cost of materials.....	11,556,480	5,215,267	3,453,720	3,024,305	3,315,228	192,321	122.0	51.0	14.2	-8.8	1,624.0
Value of products.....	16,937,698	8,080,118	6,006,999	5,145,522	4,308,144	430,766	110.0	34.5	16.7	19.4	880.0
Value added by manufacture ⁴	6,381,218	2,864,831	2,553,270	2,121,217	992,916	244,445	87.8	12.2	20.4	114.0	306.0

¹ A minus sign (-) denotes decrease.
² Figures not available.

³ Exclusive of internal revenue.
⁴ Value of products less cost of materials.

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES
MANUFACTURES: 1919

NATURAL DYESTUFFS
AND EXTRACTS

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures

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EXPLANATION OF TERMS.

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 statistics for these purposes it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or for which products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1919, 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 factory, 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, county, or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, 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 different from those covered by the class designation, and, on the other hand, may not represent the total product covered by this designation, because some products of this class may be made in establishments in which it is not the product of chief value.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1919 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.—The following general classes of persons engaged in the 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.

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. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date did not portray such conditions, an earlier date was requested.

In the case of employees other than wage earners the number thus reported for the representative date 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 has been 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 the representative date, a report was obtained of the number employed on the 15th of each month, by sex, without distinction of 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 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 number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is not believed to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In order to determine as nearly as possible the age distribution of the average number of wage earners for an industry, the per cent distribution by age of the wage earners for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year to determine the average numbers 16 years and over, and under 16, employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calcu-

late accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners 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 few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital (amount actually invested).—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."

These instructions were identical with those employed at the censuses of 1914 and 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

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" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include certain Federal taxes and state, county, and local taxes. Under "Federal taxes" there are included the internal revenue tax on manufactures (tobacco, beverages, etc.), excise taxes when included in values reported for products, corporation capital stock tax, and corporation income tax, but not the income tax for individuals and partners.

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.

Value added by manufacture.—The value of products is not always 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, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated 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.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power equipment of the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, fuel oils, gasoline and other volatile oils, and gas, and represent the quantity used during the year. As only the principal kinds of fuel are shown, comparison as to the total cost of all fuel is impracticable.

NATURAL DYESTUFFS AND EXTRACTS.

GENERAL STATISTICS.

General character of the industry.—The census classification covers establishments engaged primarily in the manufacture of natural dyestuffs as distinguished from the artificial or synthetic dyes, that is, from forest products, woods, barks, berries, etc., and also tanning extracts and liquors, including chrome tanning solutions, and mordants, assistants and sizes.

Comparative Summary.—Table 1 presents the general statistics for the census years 1879 to 1919, inclusive. At prior censuses the industry included the artificial dyestuffs and mineral colors and dyes. The manufacture of artificial dyestuffs, however, chiefly concerns the coal-tar products industry and establishments engaged in the manufacture of coal-tar dyes are included therein, although at prior censuses they were not segregated from the natural dyestuffs and extracts. At the census of 1869 the industry was represented by 73 establishments with products valued at \$2,878,609.

Principal states, ranked by value of products.—The general statistics are presented in Table 2, by states, ranked according to value of products. It is largely centered in the Atlantic and Eastern states, 70 per cent of the production being reported by Atlantic Coast states, from Massachusetts to North Carolina, inclusive.

Persons engaged in the industry.—The age classification of the average number of wage earners in Table 3 is an estimate obtained by the method described in the "Explanation of terms." Figures for states will be found in Table 15.

Wage earners, by months, for states.—The statistics for wage earners, Table 4, are intended to show the steadiness of employment, or the reverse, in accordance with the industrial conditions existing during the year. The fluctuation in number of wage earners per month is relatively small. The females employed as wage earners constituted but 1.7 per cent of the total number.

Prevailing hours of labor.—The statistics presented in Table 5 show a reduction in the hours of labor per week, though the movement is not as pronounced as in some of the other industries. In 1909, 77.3 per cent of the wage earners were employed in establishments where the prevailing hours of labor per week were 60 or over. In 1914 the proportion was 73.4 per cent, and in 1919 it dropped to 65.2 per cent. On the other hand, in 1909 only 5.7 per cent were employed in

establishments where the hours were fewer than 54 per week, and the percentage for this group increased to 9.1 per cent in 1914, and to 17.4 per cent in 1919.

Size of establishments by average number of wage earners.—The industry is one of relatively small units, see Table 6, the average number of wage earners per establishment being 30 in 1919, 25 in 1914, and 22 in 1909. In 1919 the establishments employing over 100 wage earners were 14 in number, with 48.6 per cent of the wage earners; and in 1914 they were 6 in number, with 30.9 per cent.

Size of establishments, by value of products.—The grouping by value of products, as shown in Table 7, necessarily reflects the general increase in values. The average value of products per establishment increased from \$111,000 in 1904 to \$149,000 in 1909, to \$184,000 in 1914, and to \$373,000 in 1919. The ratios of value of product per wage earner at the several censuses is an index of increase in values. This ratio in 1909 was \$6,656 per wage earner, in 1914 \$7,263, and in 1919 it averaged \$12,378. This increase in values accounts in the main for the changes from lower to higher groups.

Character of ownership.—The preponderance of corporate ownership is shown in Table 8. The establishments owned by corporations employed 95.8 per cent of all wage earners and reported 92.5 per cent of the value of products in 1919 as compared with 92.1 per cent and 91.4 per cent, respectively, in 1914, and 89.7 per cent and 91.2 per cent in 1909.

Number and horsepower of types of prime movers.—Table 9 presents the statistics concerning power. The total horsepower reported in 1919 shows an increase of 11,030 horsepower, or 47.4 per cent, over that reported for 1914. This increase, however, is largely in rented power, which constituted 7.9 per cent of the primary power in 1919 and 3.2 per cent in 1914. The total electric power as utilized in 1919, including electric motor equipment operated with purchased current, specified as rented, and secondary electric or that generated by the establishment, constituted 24.3 per cent of the primary power in 1919 as compared with 11.8 per cent in 1914 and 7.5 per cent in 1909.

Fuel consumed.—Table 10 presents the statistics for fuel consumed, by kinds of fuel, for 1919, 1914, and 1909, and by states for 1919.

MANUFACTURES.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, 1889, AND 1879.

	1919	1914	1909	1904	1899	1889	1879	PER CENT OF INCREASE. ¹					
								1914-1919	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889
Number of establishments.....	144	112	107	98	77	62	41	28.6	4.7	.....	.....	.....	.....
Persons engaged.....	5,205	3,551	3,015	3,150	(²)	(²)	(²)	46.6	17.8	-4.3	.....	.....	.....
Proprietors and firm members.....	59	56	65	82	(²)	(²)	(²)	.....	.....	.....	.....	.....	.....
Salaried employees.....	804	656	553	361	229	(²)	(²)	22.6	18.6	53.2	57.6	.....	.....
Wage earners (average number).....	4,342	2,839	2,397	2,707	1,647	2,111	992	52.0	18.4	-11.5	64.4	(³)	(³)
Primary horsepower.....	34,320	23,290	22,213	17,671	11,409	11,896	(²)	47.4	4.8	25.7	54.9	-4.1	.....
Capital.....	\$38,689,058	\$21,283,974	\$17,934,545	\$14,904,150	\$7,830,034	\$8,645,458	\$2,363,700	81.8	18.7	20.3	90.1	-9.3	255.8
Salaries and wages.....	7,055,528	3,001,959	2,233,705	1,873,282	1,100,051	1,289,987	512,097	135.0	34.4	19.2	70.3	-14.7	151.9
Salaries.....	2,320,914	1,388,843	942,320	608,790	312,109	252,336	(²)	67.1	47.4	54.8	95.1	23.7	.....
Wages.....	4,734,614	1,613,116	1,291,379	1,264,492	787,942	1,037,651	(²)	193.5	24.9	2.1	60.5	-24.1	.....
Paid for contract work.....	225,880	2,487	4,738	2,675	(²)	(²)	(²)	8,982.4	-47.5	77.1	.....	.....	.....
Rent and taxes.....	2,521,380	225,582	106,415	477,639	(²)	(²)	(²)	1,017.7	112.0	.....	.....	.....	.....
Cost of materials.....	34,592,698	13,237,995	9,683,651	6,829,340	4,745,912	6,500,928	3,918,741	161.3	36.7	41.8	43.9	-27.0	65.9
Value of products.....	53,744,283	20,620,336	15,954,574	10,893,113	7,350,748	9,292,514	5,253,038	160.6	29.2	46.5	48.2	-20.9	76.9
Value added by manufacture.....	19,151,585	7,382,341	6,270,923	4,063,773	2,604,836	2,791,556	1,334,297	159.4	17.7	54.3	56.0	-6.7	106.2

¹ A minus sign (-) denotes decrease percentages are omitted where base is less than 100.² Figures not available.³ Figures not strictly comparable.⁴ Exclusive of internal revenue.⁵ Value of products less cost of materials.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States.....	144	4,342	100.0	.....	\$53,744	100.0	.....	\$19,152	100.0	.....	Massachusetts.....	27	165	3.8	7	\$5,811	10.8	5	\$1,336	7.0	5
New York.....	27	593	13.7	3	9,561	17.8	1	3,628	18.9	3	Pennsylvania.....	12	426	9.8	4	3,800	7.1	7	938	4.9	6
Virginia.....	17	1,002	23.1	2	9,426	17.5	2	4,493	23.4	1	North Carolina.....	5	335	7.7	6	2,444	4.6	8	782	4.1	7
Tennessee.....	10	1,037	23.8	1	7,562	14.1	3	3,889	20.3	2	Rhode Island.....	14	66	1.5	10	1,024	1.9	10	358	1.9	10
New Jersey.....	17	385	8.9	5	5,924	11.0	4	2,375	12.4	4	All other states.....	15	333	7.7	.....	8,192	15.2	.....	1,353	7.1	.....

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.		CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.	
					Male.	Female.						Male.	Female.
All classes.....	1919	5,205	4,950	255	95.1	4.9	Clerks and other subordinate salaried employees.....	1919	445	274	171	61.6	38.4
	1914	3,551	3,402	149	95.8	4.2		1914	442	330	112	74.7	25.3
	1909	3,015	2,901	114	96.2	3.8		1909	354	278	76	78.5	21.5
Proprietors and officials.....	1919	418	408	10	97.6	2.4	Wage earners (average number).....	1919	4,342	4,268	74	98.3	1.7
	1914	270	262	8	97.0	3.0		1914	2,839	2,810	29	99.0	1.0
	1909	264	262	2	99.2	0.8		1909	2,397	2,361	36	98.5	1.5
Proprietors and firm members.....	1919	59	55	4	93.2	6.8	16 years of age and over.....	1919	4,328	4,259	69	98.4	1.6
	1914	56	50	6	89.3	10.7		1914	2,823	2,796	27	99.0	1.0
	1909	65	64	1	98.5	1.5		1909	2,391	2,355	36	98.5	1.5
Salaried officers of corporations.....	1919	142	137	5	96.5	3.5	Under 16 years of age.....	1919	14	9	5	64.3	35.7
	1914	103	102	1	99.0	1.0		1914	16	14	2	87.5	12.5
	1909	91	91	.....	100.0	.....		1909	6	6	.....	100.0	.....
Superintendents and managers.....	1919	217	216	1	99.5	0.5							
	1914	111	110	1	99.1	0.9							
	1909	108	107	1	99.1	0.9							

NATURAL DYESTUFFS AND EXTRACTS.

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TABLE 4.—WAGE EARNERS, BY MONTHS, FOR STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON THE 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States:														
1919.....	4,342	4,278	4,285	4,165	<i>4,103</i>	4,214	4,336	4,511	4,172	4,454	4,360	4,488	4,438	91.0
Males.....	4,268	4,208	4,215	4,095	<i>4,034</i>	4,146	4,261	4,427	4,302	4,376	4,291	4,417	4,354	91.1
Females.....	74	70	70	70	69	68	75	84	80	78	69	71	84	81.0
1914.....	2,830	2,719	<i>2,662</i>	2,779	2,838	2,848	2,849	2,798	2,785	2,917	2,889	2,967	2,917	89.1
1909.....	2,397	<i>2,293</i>	2,351	2,351	2,436	2,344	2,399	2,432	2,478	2,453	2,324	2,450	2,430	92.5
Massachusetts.....	165	152	149	130	<i>127</i>	148	176	175	180	182	182	185	194	65.5
New Jersey.....	385	370	348	337	<i>332</i>	352	339	376	409	420	437	480	454	72.2
New York.....	593	549	560	574	545	<i>534</i>	534	577	578	602	636	684	743	71.9
North Carolina.....	335	363	360	349	367	360	363	367	373	356	258	263	241	64.6
Pennsylvania.....	426	433	444	453	406	<i>391</i>	403	398	417	416	435	463	453	84.4
Rhode Island.....	66	64	<i>57</i>	61	<i>67</i>	61	60	65	65	71	72	78	81	70.4
Tennessee.....	1,037	<i>981</i>	1,048	1,004	1,020	1,027	1,103	1,120	1,066	1,041	991	1,060	983	87.6
Virginia.....	1,002	1,015	1,010	974	<i>925</i>	1,000	1,015	1,050	1,044	1,015	1,015	983	968	87.3

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR STATES: 1919.

STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
		44 and under.	Be- tween 44 and 48.	48. ¹	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.			Over 60.	44 and under.	Be- tween 44 and 48.	48. ¹	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	Over 60.
United States..1919.	4,342	166	193	267	129	363	392	1,535	1,297	593	32	38	69	40	140	4	166	104
1914.	2,830	(²)	(²)	85	173	46	452	1,311	772	335	71	8	4	6	33	4	230	34
1909.	2,397	(²)	(²)	97	39	58	351	1,361	491	426	8	5	3	6	10	42	58	317
Massachusetts.....	165	38	5	42	34	9	32	5	.....	66	5	.....	3	6	10	42	453	372
New Jersey.....	385	11	55	14	43	7	182	8	65	1,037	.....	95	125	.....	.....	.....	546	236
										1,002	.....	.....	.....	.....	.....	.....	.....	.....

¹ Includes 48 and under for 1914 and 1909.

² Corresponding figures not available.

TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—												
	Estab-lish-ments.	Wage earners (average number).	No wage earners.	1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.		51 to 100 wage earners, inclusive.		101 to 250 wage earners, inclusive.		Over 250 wage earners.	
			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.
United States...1919..	144	4,342	9	59	161	29	291	15	510	18	1,268	13	1,836	1	276
1914..	112	2,839	4	37	86	33	333	20	662	12	832	6	876	.....	.....
Massachusetts.....	27	165	2	18	58	5	49	2	58	.....	65	1	170	.....	.....
New Jersey.....	17	385	1	4	15	8	82	2	53	1	.....	3	398	.....	.....
New York.....	27	593	2	12	28	7	75	3	92	.....	156	1	143	.....	.....
North Carolina.....	5	335	.....	1	2	.....	.....	1	34	2	.....	.....	.....	.....	.....
Pennsylvania.....	12	426	1	5	12	2	17	3	121	.....	.....	.....	.....	1	276
Rhode Island.....	14	66	3	9	22	1	9	1	35	.....	.....	.....	.....	.....	.....
Tennessee.....	10	1,037	.....	.....	.....	.....	.....	.....	.....	7	509	3	528	.....	.....
Virginia.....	17	1,002	.....	4	17	2	23	.....	.....	7	487	4	475	.....	.....

MANUFACTURES.

TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
All classes.....	144	112	107	4,342	2,830	2,397	\$53,744,283	\$20,620,336	\$15,954,574	\$19,151,585	\$7,382,341	\$6,270,923
Less than \$5,000.....	5	6	10	1	3	12	11,056	11,372	25,838	4,803	6,264	15,571
\$5,000 to \$20,000.....	17	19	19	32	49	66	198,366	216,921	240,409	85,074	110,230	105,736
\$20,000 to \$100,000.....	49	37	36	200	308	390	2,521,776	1,860,718	1,892,747	1,052,403	670,451	832,065
\$100,000 to \$500,000.....	38	41	42	1,007	2,479	1,929	11,263,383	18,531,325	13,795,580	4,080,641	6,595,396	5,317,011
\$500,000 to \$1,000,000.....	24	6		1,488			15,700,228			5,848,609		
\$1,000,000 and over.....	11	3		1,524			24,049,474			8,080,055		
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	3.5	5.4	9.3	(1)	0.1	0.5	(1)	0.1	0.2	(1)	0.1	0.2
\$5,000 to \$20,000.....	11.8	17.0	17.8	0.7	1.7	2.8	0.4	1.1	1.5	0.5	1.5	1.7
\$20,000 to \$100,000.....	34.0	33.0	33.6	4.6	10.9	16.3	4.7	9.0	11.9	5.5	9.1	13.3
\$100,000 to \$500,000.....	26.4	36.6	39.3	25.3	87.3	80.4	21.0	89.8	86.4	21.3	89.3	84.8
\$500,000 to \$1,000,000.....	16.7	5.3		34.3			20.2			30.5		
\$1,000,000 and over.....	7.6	2.7		35.1			44.7			42.2		

¹ Less than one-tenth of 1 per cent.

TABLE 8.—CHARACTER OF OWNERSHIP, BY STATES: 1919.

STATE.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
				Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
	Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.		Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.	Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.		Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.	Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.				
United States.....	1919..	38	96	10	4,342	156	4,160	26	3.6	95.8	0.6	\$53,744,283	\$3,406,538	\$49,691,965	\$645,780	6.3	92.5	1.2			
	1914..	25	75	12	2,839	143	2,615	81	5.0	92.1	2.9	20,620,336	1,144,266	18,854,821	621,249	5.5	91.4	3.1			
	1909..	23	69	15	2,397	145	2,151	101	6.1	89.7	4.2	15,954,574	946,201	14,558,545	449,828	5.9	91.2	2.8			
Massachusetts.....		12	12	3	165	38	120	7	23.0	72.7	4.2	5,811,567	1,135,937	4,380,598	295,032	19.5	75.4	5.1			
New Jersey.....		2	13	2	385	128	357	7	7.3	92.7	.....	5,924,057	1,004,305	4,919,752	.....	17.0	83.0	.....		
New York.....		6	21	.....	593	23	570	.....	3.9	96.1	.....	9,580,583	317,448	9,243,135	.....	3.3	96.7	.....		
Pennsylvania.....		4	8	.....	420	8	418	.....	1.9	98.1	.....	3,800,246	274,138	3,526,108	.....	7.2	92.8	.....		
Rhode Island.....		9	3	2	66	156	10	.....	84.8	15.2	.....	1,024,287	188,054	141,233	.....	86.2	13.8	.....		
Tennessee.....		.....	10	.....	1,037	.....	1,037	.....	100.0	.....	.....	7,561,944	.....	7,561,944	.....	.....	100.0	.....		
Virginia.....		3	13	1	1,002	117	985	.....	1.7	98.3	.....	9,425,657	183,686	9,341,971	.....	0.9	99.1	.....		
All other states.....		2	16	2	668	.....	663	25	.....	99.3	0.7	10,635,942	.....	10,577,224	58,718	.....	99.4	0.6

¹ Includes the group "All others."² Includes the group "Individuals."

TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909
Primary power, total.....	562	306	270	34,320	23,290	22,213	100.0	100.0	100.0
Owned.....	268	224	251	31,603	22,543	22,020	92.1	96.8	99.1
Steam.....	256	218	247	31,289	22,032	21,685	91.2	94.6	97.6
Engines.....	232	(2)	(2)	28,316	(2)	(2)	82.5	.....	.....
Turbines.....	24	(2)	(2)	2,973	(2)	(2)	8.7	.....	.....
Internal-combustion engines.....	9	4	1	201	455	15	0.6	2.0	0.1
Water wheels and turbines.....	3	2	3	113	56	320	0.3	0.2	1.4
Rented.....	294	82	19	2,717	747	193	7.9	3.2	0.9
Electric.....	294	82	19	2,692	745	191	7.8	3.2	0.9
Other.....	.....	.....	.....	25	2	2	0.1	.....	.....
Electric.....	539	195	106	8,341	2,750	1,664	100.0	100.0	100.0
Rented.....	294	82	19	2,692	745	191	32.3	27.1	11.5
Generated by establishments reporting.....	245	113	87	5,649	2,005	1,473	67.7	72.9	88.5

¹ Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.² Not reported separately.

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TABLE 10.—FUEL CONSUMED, BY STATES: 1919.

STATE.	COAL.		Coke (tons, 2,000 lbs.).	Fuel oils (bar- rels).	Gasoline and other volatile oils (bar- rels).	Gas (1,000 cubic feet).	STATE.	COAL.		Coke (tons, 2,000 lbs.).	Fuel oils (bar- rels).	Gasoline and other volatile oils (bar- rels).	Gas (1,000 cubic feet).
	Anthra- cite (tons, 2,240 lbs.).	Bitumi- nous (tons, 2,000 lbs.).						Anthra- cite (tons, 2,240 lbs.).	Bitumi- nous (tons, 2,000 lbs.).				
United States... 1919..	13,585	330,092	2,325	3,705	91	148,848	North Carolina.....		36,781				
..... 1914..	24,457	173,888	25	227	(1)	187,673	Pennsylvania.....	398	10,693	5		24	721
Massachusetts.....	1,447	4,067		165		643	Rhode Island.....	33	1,672	93	1,970		86
New Jersey.....	1,153	10,080	2,227		60	682	Tennessee.....		114,715		970		
New York.....	8,830	20,879		600		382	Virginia.....	1,724	109,292			7	
							All other states.....		21,913				146,334

¹ Included in figures for fuel oils.

SPECIAL STATISTICS.

Materials.—Table 11 presents the statistics for the principal materials consumed in the manufacture of natural dyestuffs and extracts in 1919, including the consumption by tanneries and other establishments manufacturing extracts for their own consumption, as well as the materials consumed by the establishments that constitute the classified industry.

TABLE 11.—MATERIALS: 1919.

[Including forest products consumed by tanneries and establishments manufacturing dyestuffs and extracts as subsidiary products.]

	Quantity.	Cost.
Total.....		\$47,208,538
The classified industry: Dyestuffs and extracts—natural.		34,592,698
Other industries manufacturing natural dyestuffs and tanning extracts for consumption or as subsidiary products.....		12,615,840
Forest products.....	Tons (2,000 lbs.). 1,559,405	24,161,486
Woods:		
Chestnut.....	787,498	7,347,284
Spruce.....	366	6,833
Logwood.....	54,806	1,943,704
Quebracho.....	9,228	566,498
Fustic.....	5,134	215,227
Brazilwoods.....	3,175	137,360
Barks:		
Hemlock.....	309,917	5,017,827
Oak or oak and chestnut mixed.....	261,519	5,076,356
Chestnut-oak.....	61,155	918,391
Black-oak.....	10,353	134,117
Sumac leaves.....	7,822	534,129
Myrobalans.....	8,354	488,982
Divi-divi.....	5,200	398,337
Mangrove.....	2,078	125,750
Gambier.....	342	92,237
Valonia.....	303	22,393
All other forest products ¹	32,145	1,138,151
Starch.....	45,924	4,820,447
Rosin.....	14,593	2,167,365
Gums other than rosin.....	85	56,159
Castor oil.....	Gallons. 225,234	356,919
Dyes and extracts purchased for blending, etc.: Of coal-tar origin.....		444,006
Other.....		890,374
Fuel and rent of power.....		1,675,728
All other materials.....		12,636,026

¹ Includes larch, Osage orange, wattle bark, archil, gallnuts, etc.

Table 12 shows the consumption of forest products, by states. The figures cover the consumption by all classes of establishments so far as the reports are available.

TABLE 12.—MATERIALS—FOREST PRODUCTS, BY STATES: 1919.

STATE.	Tons.	Cost.
Total.....	1,559,405	\$24,161,486
Virginia.....	422,463	4,946,424
Pennsylvania.....	218,881	4,892,012
Tennessee.....	343,126	3,473,602
North Carolina.....	184,124	2,189,426
New York.....	34,056	1,306,340
Massachusetts.....	34,351	776,043
New Jersey.....	15,899	621,988
All other states.....	306,505	5,955,651

The principal forest products consumed in Virginia were chestnut-oak bark, chestnut wood, and logwood; in Pennsylvania, hemlock and black-oak bark, logwood, fustic, Brazilwoods, mangrove, myrobalans, quebracho, sumac, and valonia; in Tennessee, chestnut wood and hemlock bark; in North Carolina, chestnut wood and bark; in New York, logwood, quebracho, spruce, and sumac; in Massachusetts, Brazilwoods, myrobalans, divi-divi, sumac, and gambier; and in New Jersey, logwood, fustic, Brazilwoods, and gambier.

Products.—Table 13 presents the statistics for products in 1919 in comparison with 1914 and 1909. Dyestuffs and extracts made by dye and print works or by tanneries for their own consumption are not included. Figures therefor are not available.

MANUFACTURES.

TABLE 13.—PRODUCTS: 1919, 1914, AND 1909.

[Not including tanning extracts made and consumed in establishment producing.]

	1919	1914	1909		1919	1914	1909
Number of establishments.....	176	133	124	Tanning materials—Continued.			
The classified industry: Dyestuffs and extracts—natural.....	144	112	107	Extracts—Continued.			
Other Industries.....	32	21	17	Oak and chestnut—Continued.			
PRODUCTS.				Value.....	\$18,663,125	\$4,130,042	\$4,321,637
Total value.....	\$56,905,553	\$21,382,689	\$16,788,676	Average value, 100 pounds.....	\$3.65	\$1.25	\$1.60
The classified industry: Dyestuffs and extracts—natural.....	\$53,744,283	\$20,020,336	\$15,954,574	Hemlock—	2 11	7	
Subsidiary products from other industries.....	\$3,161,270	\$762,353	\$834,102	Number of establishments.....	19,705,590	18,978,013	12,588,078
Dyestuffs:				Pounds.....	\$879,366	\$340,402	\$280,487
Natural dyestuffs.....	\$4,699,111	\$1,892,162	\$1,135,694	Value.....	\$4.45	\$1.80	\$2.25
Dyewood extracts—				Average value, 100 pounds.....	2 5		
Logwood—				Sumac—			
Number of establishments.....	2 10	9	6	Number of establishments.....	4,507,433	4,512,361	3,148,799
Pounds.....	32,751,757	28,980,992	22,317,248	Pounds.....	\$253,088	\$129,631	\$107,456
Value.....	\$3,202,512	\$1,311,966	\$991,974	Value.....	\$5.60	\$2.90	\$3.40
Average value, 100 pounds.....	\$10.00	\$4.50	\$1.45	Average value, 100 pounds.....			
Fustic—				Other tanning extracts, quebracho, spruce, gambier, chrometanning, myrobalans, divi-divi, and gall-nuts, in order as to value—			
Number of establishments.....	2 5	5	(3)	Pounds.....	170,846,336	100,597,041	\$2,614,391
Pounds.....	3,844,390	4,509,943	(3)	Value.....	\$8,059,912	\$2,044,006	
Value.....	\$355,029	\$222,804	(3)	Other tanning materials.....	\$4,760,740	\$353,601	
Average value, 100 pounds.....	\$9.25	\$4.95		Mordants:			
Quercitron—				Tannic acid—			
Number of establishments.....	2 6	4	(3)	Pounds.....	665,772	760,100	
Pounds.....	6,745,979	3,814,882	(3)	Value.....	\$528,463	\$234,630	\$598,516
Value.....	\$303,472	\$112,945	(3)	Other mordants.....	\$690,178	\$157,791	
Average value, 100 pounds.....	\$4.50	\$2.95		Assistants:			
Other dyewood extracts—Brazil-woods, cutch, etc.—				Turkey red oil—			
Pounds.....	2,078,287	3,434,150	(3)	Pounds.....	2,477,874	11,681,884	1,814,506
Value.....	\$312,924	\$90,934	(3)	Value.....	\$319,050	\$820,491	\$108,292
All other, dyewoods ground or chipped, and dyestuffs not dyewoods.....	\$435,174	\$123,513	\$143,720	Other assistants.....	\$2,526,246	\$716,510	(1)
Tanning materials.....	\$32,016,231	\$7,898,672	\$7,323,971	Sizes:			
Extracts:				Dextrin—			
Oak and chestnut—				Pounds.....	49,328,560	18,913,641	
Number of establishments.....	2 34	24		Value.....	\$3,791,372	\$705,584	
Pounds.....	507,905,777	328,197,524	206,529,514	Average value, 100 pounds.....	\$7.69	\$3.73	16,148,931
North Carolina.....	63,879,651	48,855,547	(3)	Gum, other than rosin—			
Tennessee.....	175,418,997	117,510,960	(3)	Pounds.....	8,680,048	3,832,182	\$3.78
Virginia.....	236,470,807	119,701,202	(3)	Value.....	\$634,595	\$205,282	
All other states.....	32,136,762	42,129,815	(3)	Average value, 100 pounds.....	\$7.31	\$5.36	
				Rosin—			
				Pounds.....	57,055,943	20,717,148	
				Value.....	\$2,888,000	\$373,218	\$1,835,046
				Average value, 100 pounds.....	\$5.06	\$1.80	
				Other sizes.....	\$4,204,074	\$1,768,777	
				All other products.....	\$3,947,633	\$6,630,572	\$5,176,158

1 Includes artificial dyestuffs and mineral colors or dyes to the value of \$5,252,693 in 1914 and \$3,683,553 in 1909.

2 Distribution by states, 1919—Logwood, 10: New Jersey 3, Massachusetts 2, Pennsylvania 2, and 1 each in Maryland, New York, and Virginia; fustic, 5: New Jersey 2, and 1 each in New York, Pennsylvania, and Virginia; quercitron, 6: Pennsylvania 2, Virginia 2, New Jersey 1, and Tennessee 1; oak and chestnut, 34: Virginia 11, Tennessee 10, North Carolina 4, Pennsylvania 3, West Virginia 2, and 1 each in Alabama, California, Massachusetts, and New Jersey; hemlock, 11: Tennessee 4, Virginia 3, West Virginia 2, Michigan 1, and Pennsylvania 1; sumac, 5: Virginia 2, Massachusetts 1, New Jersey 1, and Pennsylvania 1.

3 Figures not available.

GENERAL TABLES.

Table 14 gives for 1919, 1914, and 1909, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for the industry.

Table 15 presents for 1919 the statistics in detail for the industry as a whole, and by states, so far as they can be shown without disclosing the operations of individual establishments.

TABLE 14.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of ma- terials.	Value of prod- ucts.
					Expressed in thousands.		
United States.....	1919	144	4,342	34,320	\$4,735	\$34,593	\$53,744
	1914	112	2,839	23,290	1,613	13,238	20,620
	1909	107	2,397	22,213	1,291	9,684	15,955
Massachusetts.....	1919	27	165	773	200	4,476	5,811
	1914	17	148	520	99	1,162	1,674
	1909	10	80	325	50	512	725
New Jersey.....	1919	17	385	2,312	498	3,549	5,924
	1914	18	343	1,625	216	3,044	4,969
	1909	13	279	1,006	179	1,969	3,130
New York.....	1919	27	593	3,615	755	5,933	9,561
	1914	23	647	3,570	450	3,885	6,226
	1909	18	418	3,647	259	2,867	4,505
Pennsylvania.....	1919	12	426	4,145	446	2,863	3,800
	1914	9	265	3,113	182	1,158	1,569
	1909	14	369	3,516	187	1,373	2,345
Rhode Island.....	1919	14	66	686	\$75	\$666	\$1,024
	1914	7	91	729	52	512	793
	1909	10	87	689	82	632	828
Tennessee.....	1919	10	1,037	7,643	895	3,673	7,562
	1914	6	365	4,065	173	770	1,536
	1909	6	336	4,110	156	642	1,313
Virginia.....	1919	17	1,002	10,038	1,090	4,933	9,426
	1914	13	429	4,309	161	1,138	1,677
	1909	14	346	4,200	123	686	1,200
All other states.....	1919	20	668	5,108	776	8,500	10,636
	1914	19	551	5,353	280	1,569	2,176
	1909	22	482	4,702	255	1,003	1,809

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TABLE 15.—DETAILED STATEMENT FOR THE INDUSTRY, BY STATES: 1919.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					EXPENSES.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Average number.	Wage earners.		Total.	16 and over.		Capital.	Salaries and wages.					
					Male.	Female.		Number, 15th day of—			Male.	Female.		Male.	Female.	Officials.	Clerks, etc.		
								Maximum month.	Minimum month.										
United States	144	5,205	59	359	274	171	4,342	Ju 4,511	Ap 4,103	4,505	4,474	77	9	5	\$38,689,058	\$1,676,984	\$643,930		
Massachusetts.....	27	277	19	32	34	27	165	De 194	Ap 127	186	175	5	1	5	2,261,813	118,664	91,065		
New Jersey.....	17	490	6	55	28	16	385	No 460	Ap 332	454	439	8	7	.....	4,056,912	314,940	103,775	
New York.....	27	791	6	80	73	39	593	De 743	Je 534	744	709	35	.....	.....	9,218,733	551,112	131,529
North Carolina.....	5	351	1	11	3	1	335	Au 373	De 241	346	346	.....	.....	.....	1,649,705	33,792	6,011
Pennsylvania.....	12	519	4	29	33	27	426	No 463	My 391	452	451	.....	1	.....	3,721,936	112,563	78,223
Rhode Island.....	14	103	13	7	11	6	66	De 81	Fe 57	78	77	1	.....	.....	784,674	27,197	26,016
Tennessee.....	10	1,109	.....	40	24	8	1,037	Jy 1,120	Ja 981	983	980	3	.....	.....	6,425,456	132,174	57,327
Virginia.....	17	1,112	5	55	33	17	1,002	Jy 1,060	Ap 925	971	971	.....	.....	.....	6,527,445	189,037	75,274
All other states *.	15	453	5	50	35	30	333	Jy 373	Mh 283	351	326	25	.....	.....	4,042,384	197,505	74,680

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.						Electric horsepower generated in establishments reporting.
	Salaries and wages—Continued.		Rent and taxes.		For materials.				Primary horsepower.						
	Wage earners.	For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.				Rent. ⁴	
										Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. ³		
United States.....	\$4,734,614	\$225,880	\$84,864	\$2,436,516	\$32,016,072	\$1,675,726	\$53,744,283	\$19,151,585	34,320	28,316	2,973	201	113	2,717	5,649
Massachusetts.....	199,918	.....	22,183	152,958	4,422,910	52,920	5,811,567	1,335,737	773	319	.....	25	8	421	.....
New Jersey.....	497,624	.....	15,238	88,119	3,443,082	105,885	5,921,057	2,375,090	2,312	435	1,150	.....	.....	727	1,049
New York.....	754,700	.....	29,274	1,028,216	5,765,125	167,903	9,560,583	3,627,465	3,615	2,676	373	.....	.....	566	658
North Carolina.....	306,330	.....	.....	37,239	1,467,013	194,514	2,443,899	782,372	3,138	2,663	475	.....	.....	.....	305
Pennsylvania.....	445,579	.....	6,371	60,222	2,793,103	69,419	3,800,246	937,724	4,145	3,893	.....	157	.....	95	1,051
Rhode Island.....	74,616	100,033	9,334	20,111	642,001	24,170	1,024,287	358,116	686	374	.....	.....	.....	312	.....
Tennessee.....	894,619	.....	.....	453,519	3,257,765	415,365	7,561,944	3,888,814	7,643	7,100	510	4	.....	29	1,497
Virginia.....	1,089,676	125,847	220	477,781	4,428,378	504,105	9,425,657	4,493,174	10,038	9,243	420	15	105	255	217
All other states *.	471,552	.....	2,244	107,351	6,697,595	141,355	8,192,043	1,353,093	1,970	1,613	45	.....	.....	312	872

¹ Same number reported for one or more other months.

² All other states embrace: California, 2 establishments; Georgia, 1; Illinois, 3; Louisiana, 2; Maryland, 1; Michigan, 2; West Virginia, 3; and Wisconsin, 1.

³ Includes water wheels and turbines (irrespective of ownership of water supply).

⁴ Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES
MANUFACTURES: 1919

ELECTRICAL MACHINERY APPARATUS AND SUPPLIES

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures

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EXPLANATION OF TERMS.

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 statistics for these purposes it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or for which products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1919, 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 factory, 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, county, or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, 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 different from those covered by the class designation, and, on the other hand, may not represent the total product covered by this designation, because some products of this class may be made in establishments in which it is not the product of chief value.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1919 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.—The following general classes of persons engaged in the 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.

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. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date did not portray such conditions, an earlier date was requested.

In the case of employees other than wage earners the number thus reported for the representative date 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 has been 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 the representative date, a report was obtained of the number employed on the 15th of each month, by sex, without distinction of 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 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 number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is not believed to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In order to determine as nearly as possible the age distribution of the average number of wage earners for an industry, the per cent distribution by age of the wage earners for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year to determine the average numbers 16 years and over, and under 16, employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calcu-

late accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners 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 few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital (amount actually invested).—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."

These instructions were identical with those employed at the census of 1914 and 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

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" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include certain Federal taxes and state, county, and local taxes. Under "Federal taxes" there are included the internal revenue tax on manufactures (tobacco, beverages, etc.), excise taxes when included in values reported for products, corporation capital stock tax, and corporation income tax, but not the income tax for individuals and partners.

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.

Value added by manufacture.—The value of products is not always 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, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated 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.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power equipment of the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, fuel oils, gasoline and other volatile oils, and gas, and represent the quantity used during the year. As only the principal kinds of fuel are shown, comparison as to the total cost of all fuel is impracticable.

ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES.

GENERAL STATISTICS.

General character of the industry.—This industry covers the manufacture of machinery, apparatus, and supplies for use in the generation, transmission, or utilization of electric energy. In addition to generators, transformers, motors, switchboards, and batteries, for its generation, regulation, application, and storage, the general utilization of electricity for supplying power, transportation, light, heat, etc., involves the use of a vast variety of electrical manufactures, such as insulated wire and cables, starting and controlling apparatus, telephone and telegraph (including radio) apparatus, incandescent and arc lamps, household and industrial apparatus, electric measuring instruments, and other apparatus, devices, and supplies. Statistics of electric lighting fixtures made in establishments engaged primarily in their manufacture are not included in this report, but are shown separately in the general report on manufactures.

Comparative summary.—In Table 1 are summarized the more important data for establishments engaged in this industry, presenting statistics for each census since 1879, with percentages of increase or decrease for each five-year period. With few exceptions, increases are noticeable at each succeeding census, the only decreases shown being in the period 1909 to 1914, in the items, "proprietors and firm members" and "contract work," both of which have little significance.

The large increases, however, from 1914 to 1919, are due in a large measure to conditions brought about by the World War, when high wages and prices affected practically every industry in the country. A truer index to conditions is to be found in the increase in the average number of wage earners and primary horsepower utilized. The addition of the Federal income tax since 1914 will account for the large increase in "Rent and taxes." Contract work, or work performed by employees other than those in the plants reporting, has little significance, since it represents merely the methods of manufacture used by establishments, which vary from year to year.

Principal states, ranked by value of products.—New York, as shown by Table 2, is the leading state in the manufacture of electrical machinery, a position it also held at the censuses of 1914, 1909, and 1904. Ohio is second, having advanced from sixth place since 1914. This state made greater strides in the industry during the period 1914-1919 than any other state, its products advancing from \$36,120,978 in 1914 to \$156,924,143 in 1919, equivalent to an increase of 334.4 per cent. Altogether, 42 states, including the District of Columbia, reported establishments belonging to this classifica-

tion, but an idea of how the industry is centralized may be seen from the fact that 6 states, New York, Ohio, Pennsylvania, New Jersey, Illinois, and Massachusetts, together produced 80.3 per cent of the total value of products reported by the industry, and employed 78.1 per cent of the total number of wage earners.

Persons engaged in the industry.—The classification by sex, for 1919, was reported separately, but for 1914 and 1909 was obtained in the same manner as the distribution by age. The age classification of the average number of wage earners in Table 3 is an estimate, obtained by the method described in the "Explanation of terms." Figures by states will be found in Table 26.

Wage earners, by months.—The statistics for wage earners in Table 4 show the regularity of employment, or the reverse, in accordance with existing industrial conditions during the census year reported. The number employed in the industry during 1919 ranged from a maximum of 241,640 in December to a minimum of 196,418 in May, the minimum number being equivalent to 81.3 per cent of the maximum. Figures for the principal states are given separately for 1919, while, for the United States, totals are given for 1909 and 1914, and a segregation of sex for 1919.

Prevailing hours of labor.—Table 5 shows a marked shortening of the working-day for the industry since 1914. In that year only 29.3 per cent of the wage earners were reported as being employed less than 54 hours per week, as against 84 per cent in 1919. In 1914 wage earners working over 54 hours per week constituted 37.8 per cent of the total, as compared with 10.8 per cent in 1919.

Size of establishments, by average number of wage earners.—Analysis of Table 6 discloses the significant fact that in 1919, 418 establishments, or 29.8 per cent of the total, employed less than 6 wage earners each, while only 1,087, or one-half of 1 per cent of the total number of wage earners, were employed therein. On the other hand, the class "1,000 and over," comprising 37 establishments, employed 53.5 per cent of the total number of wage earners, illustrating the extent of manufacturing operations in a few large establishments.

Size of establishments, by value of products.—At the censuses of 1909 and 1914, establishments with products ranging in total value from "\$100,000 to \$1,000,000" constituted one group, while in 1919 this group was subdivided into groups of "\$100,000 to \$500,000" and "\$500,000 to \$1,000,000." Separate figures for the number of establishments and the value of products have been compiled, however, from the 1914 reports. Table 7, therefore, gives combined figures for all items

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for 1909, and, in the case of average number of wage earners, the value added by manufacture for 1914. The statistics in the table show the degree of concentration of production in large establishments. In 1919 the group "\$1,000,000 and over" included 182 establishments, or 13 per cent of the total number for the industry, employed 79.7 per cent of the total number of wage earners, and reported 82.1 per cent of the total value of products.

Character of ownership.—Table 8 emphasizes the predominance of the corporate form of ownership. Corporations owned 75.9 per cent of the total number of establishments reporting, employed 98.7 per cent of the wage earners, and reported 98.6 per cent of the total value of products. During the five-year period the average number of wage earners employed by corporations increased by 94,619, or 82.2 per cent, and the value of products \$657,122,181, or 201.3 per cent.

Number and horsepower of types of prime movers.—From 1914 to 1919, as shown by Table 9, there was an increase of 211,108 horsepower in the industry, due in a large measure to the gain in the use of rented power, which increased by 160,475 horsepower, or 211.5 per cent. Owned power increased by 50,633 horsepower, or 33.3 per cent.

Fuel consumed.—Table 10 shows the principal kinds of fuel used for the industry in 1919 and 1914, and also gives separately the amounts consumed in states requiring considerable quantities of fuel for manufacturing purposes. Anthracite coal is naturally consumed in the Eastern states, New York, New Jersey, and Pennsylvania together using 88.9 per cent of the total amount reported. New York was also the largest consumer of bituminous coal and coke. Massachusetts led in the consumption of fuel oil, also gasoline and other volatile oils.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, 1889, AND 1879.

	1919	1914	1909	1904	1899	1889	1879	PER CENT OF INCREASE. ¹					
								1914-1919	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889
Number of establishments.....	1,404	1,030	1,009	784	581	189	76	36.3	2.1	28.7	34.9	207.4	.....
Persons engaged.....	271,012	144,712	105,600	71,485	(²)	(²)	(²)	87.9	37.0	47.7	.....	.....	.....
Proprietors and firm members.....	473	308	439	400	(²)	(²)	(²)	28.5	-18.2	9.8	.....	.....	.....
Salaried employees.....	59,065	26,266	17,905	10,619	5,067	(²)	(²)	124.9	46.7	68.6	109.6	.....	.....
Wage earners (average number).....	212,374	118,078	87,256	60,466	42,013	8,802	1,271	79.9	35.3	44.3	43.9	377.3	.....
Primary horsepower.....	433,830	227,731	153,768	105,376	43,674	7,494	(²)	92.7	43.4	50.7	141.3	.....	.....
Capital.....	\$357,856,496	\$355,724,750	\$267,844,432	\$174,006,026	\$83,659,924	\$18,997,337	\$1,509,753	141.2	32.8	53.9	108.1	340.4	1,153.3
Salaries and wages.....	336,369,291	109,097,610	69,574,540	42,932,406	25,210,917	5,366,188	683,164	208.3	56.8	62.1	70.3	399.8	685.5
Salaries.....	98,180,430	35,291,281	20,193,395	11,090,885	4,631,723	(²)	(²)	178.2	74.8	82.1	139.5	.....	.....
Wages.....	238,188,852	73,806,329	49,381,145	31,841,521	20,579,194	(²)	(²)	222.7	49.5	55.1	64.7	.....	.....
Paid for contract work.....	1,218,203	290,889	368,049	266,410	(²)	(²)	(²)	318.8	-21.0	38.2	.....	.....	.....
Rent and taxes (including internal revenue).....	46,357,187	3,286,870	1,962,722	\$ 1,334,837	(²)	(²)	(²)	1,310.4	67.5	47.0	.....	.....	.....
Cost of materials.....	425,093,211	164,728,076	108,566,404	66,836,926	49,453,272	8,819,498	1,116,470	174.7	42.5	62.4	35.1	460.8	689.9
Value of products.....	907,968,119	385,170,194	221,308,563	140,809,369	82,434,435	19,114,714	2,655,036	197.7	51.4	57.2	52.3	383.6	619.9
Value added by manufacture.....	572,860,908	180,442,118	112,742,159	73,972,443	42,976,163	10,295,216	1,638,566	217.5	60.0	52.4	72.1	317.4	569.1

¹ A minus sign (—) denotes decrease; percentages are omitted where base is less than 100.

² Figures not available.

³ Exclusive of internal revenue.

⁴ In addition, electrical machinery, apparatus, and supplies to the value of \$69,627,180, in 1919; \$24,261,961, in 1914; \$18,728,916, in 1909; \$18,742,633, in 1904; and \$13,397,430, in 1899, were reported by establishments engaged primarily in other industries.

⁵ Value of products less cost of materials.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States.....	1,404	212,374	100.0	...	\$907,968	100.0	...	\$572,870	100.0	...	Kentucky.....	9	255	0.1	19	\$1,137	0.1	17	\$583	0.1	17
New York.....	255	37,598	17.7	1	179,973	18.0	1	106,133	18.5	1	Washington.....	12	190	0.1	20	1,067	0.1	18	421	0.1	18
Ohio.....	180	26,672	12.6	3	156,924	15.7	2	84,627	14.8	2	North Carolina.....	7	270	0.1	13	1,663	0.1	19	308	0.1	21
Pennsylvania.....	129	24,228	11.4	5	132,674	13.3	3	81,316	14.2	3	Maryland.....	13	137	0.1	21	523	0.1	21	366	0.1	20
New Jersey.....	105	20,135	12.3	4	120,341	12.1	4	61,359	10.7	5	Nebraska.....	6	88	0.1	22	420	(¹)	22	207	(¹)	22
Illinois.....	161	27,290	12.9	2	119,528	12.0	5	67,002	11.9	4	Iowa.....	7	82	(¹)	23	280	(¹)	23	141	(¹)	23
Massachusetts.....	110	23,889	11.2	6	91,939	9.2	6	60,102	10.5	6	Tennessee.....	4	62	(¹)	25	185	(¹)	25	115	(¹)	25
Connecticut.....	54	11,403	5.4	8	51,911	5.2	7	28,470	5.0	7	Texas.....	6	33	(¹)	27	175	(¹)	27	83	(¹)	27
Indiana.....	47	11,756	5.5	7	41,594	4.2	8	20,784	3.6	8	Louisiana.....	5	32	(¹)	28	154	(¹)	28	98	(¹)	28
Michigan.....	54	4,100	2.0	11	25,026	2.5	9	15,990	2.8	9	Colorado.....	8	38	(¹)	26	139	(¹)	29	82	(¹)	28
Wisconsin.....	43	5,875	2.8	10	23,636	2.4	10	14,268	2.5	10	Oregon.....	3	20	(¹)	32	103	(¹)	30	65	(¹)	31
Missouri.....	35	0,397	3.0	9	22,008	2.2	11	13,845	2.4	11	All other states.....	29	898	0.4	...	2,815	0.3	...	1,685	0.3	...
California.....	73	2,008	0.9	12	11,368	1.1	12	6,338	1.1	12											
Rhode Island.....	13	1,513	0.7	13	7,597	0.8	13	4,440	0.8	13											
Minnesota.....	20	942	0.4	14	4,854	0.4	14	2,321	0.4	14											
New Hampshire.....	7	425	0.2	15	1,404	0.1	15	821	0.1	15											

¹ Less than one-tenth of 1 per cent.

ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES.

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TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Cen- sus year.	Total.	Male.	Fe- male.	PER CENT OF TOTAL.		CLASS.	Cen- sus year.	Total.	Male.	Fe- male.	PER CENT OF TOTAL.	
					Male.	Fe- male.						Male.	Fe- male.
All classes.....	1919	271,912	196,023	75,889	72.1	27.9	Clerks and other subordinate salaried employees.	1919	48,364	29,233	19,131	60.4	39.6
	1914	144,712	114,742	29,970	79.3	20.7		1914	22,388	16,325	6,063	72.9	27.1
	1909	105,600	81,616	23,984	77.3	22.7		1909	14,223	10,431	3,792	73.3	26.7
Proprietors and officials.....	1919	11,174	10,853	321	97.1	2.9	Wage earners (average number)...	1919	212,374	155,937	56,437	73.4	26.6
	1914	4,246	4,164	82	98.1	1.9		1914	118,078	94,253	23,825	79.8	20.2
	1909	4,121	4,055	66	98.4	1.6		1909	87,256	67,130	20,126	76.9	23.1
Proprietors and firm members.	1919	473	461	12	97.5	2.5	16 years of age and over.....	1919	210,421	154,601	55,820	73.5	26.5
	1914	368	357	11	97.0	3.0		1914	117,364	93,836	23,528	80.0	20.0
	1909	439	428	11	97.5	2.5		1909	86,453	66,622	19,831	77.1	22.9
Salaried officers of corporations	1919	1,882	1,825	57	97.0	3.0	Under 16 years of age.....	1919	1,953	1,336	617	68.4	31.6
	1914	1,165	1,129	36	96.9	3.1		1914	714	417	297	58.4	41.6
	1909	997	979	18	98.2	1.8		1909	803	508	295	63.3	36.7
Superintendents and managers	1919	8,819	8,567	252	97.1	2.9							
	1914	2,713	2,678	35	98.7	1.3							
	1909	2,685	2,648	37	98.6	1.4							

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Percent mini- mum is of maxi- mum.
		Janu- ary.	Febru- ary.	March.	April.	May.	June.	July.	August.	Septem- ber.	Octo- ber.	Novem- ber.	Decem- ber.	
United States:														
1919	212,374	209,593	205,856	201,393	198,316	<i>196,418</i>	198,071	204,160	212,354	218,493	227,409	235,285	241,640	81.3
Males.....	155,937	152,763	150,089	147,042	146,084	<i>145,070</i>	145,752	150,865	156,269	160,140	166,730	172,299	178,161	81.4
Females.....	56,437	56,830	55,287	54,351	52,232	<i>51,348</i>	52,319	53,295	56,085	58,353	60,679	62,986	63,479	80.9
1914	118,078	128,766	126,610	126,240	123,742	120,956	118,743	116,340	115,347	113,768	110,944	108,203	<i>107,277</i>	83.3
1909	87,256	77,444	79,193	80,779	81,699	83,229	85,117	86,080	88,133	91,822	95,496	98,239	<i>98,868</i>	78.0
California.....	2,008	1,865	1,809	1,837	1,873	<i>1,803</i>	1,804	2,031	2,107	2,084	2,275	2,328	2,280	77.4
Connecticut.....	11,403	10,529	10,411	9,759	<i>9,648</i>	10,168	10,797	11,442	11,706	12,218	12,584	13,466	13,823	69.8
Illinois.....	27,290	26,772	25,804	<i>25,650</i>	25,705	25,868	26,046	26,241	27,846	28,129	29,117	29,837	30,965	82.8
Indiana.....	11,756	<i>9,859</i>	10,177	10,251	10,475	10,943	11,285	12,156	12,771	13,324	13,017	13,621	13,313	72.9
Massachusetts.....	23,889	22,102	22,543	21,716	<i>21,582</i>	22,019	22,353	23,219	24,362	25,256	26,294	27,198	28,024	77.0
Michigan.....	4,190	3,847	3,853	3,845	<i>3,776</i>	3,854	3,928	4,050	4,369	4,493	4,697	4,908	4,661	76.9
Minnesota.....	942	<i>916</i>	925	971	918	918	938	928	924	940	954	967	1,005	91.1
Missouri.....	6,367	5,867	<i>5,567</i>	5,464	5,545	5,759	6,184	6,493	6,779	6,720	7,182	7,300	7,694	69.6
New Jersey.....	26,135	28,285	27,542	26,708	25,963	25,651	24,484	<i>24,299</i>	24,816	25,480	26,061	26,690	27,641	85.9
New York.....	37,598	39,068	37,946	36,923	36,282	36,040	<i>35,639</i>	35,914	36,290	37,175	38,630	40,036	41,333	86.0
Ohio.....	26,672	25,360	25,021	25,262	24,841	<i>22,800</i>	23,970	25,350	27,478	28,277	29,496	30,558	31,551	72.6
Pennsylvania.....	24,228	25,060	24,293	23,551	22,387	<i>21,791</i>	22,088	22,771	23,742	24,333	25,795	27,108	27,817	78.3
Rhode Island.....	1,513	1,695	1,688	1,652	1,567	1,496	1,424	<i>1,348</i>	1,361	1,392	1,452	1,513	1,568	79.5
Wisconsin.....	5,875	5,727	5,671	5,456	5,366	4,945	<i>4,915</i>	5,409	5,839	6,200	6,872	6,981	7,119	69.0
States showing a large proportion of females.														Per ct. av. is of state.
Connecticut.....	4,036	3,643	3,539	3,149	<i>3,078</i>	3,438	3,922	4,115	4,203	4,485	4,832	4,997	5,031	35.4
Illinois.....	7,793	7,861	7,448	7,338	7,343	7,401	7,365	<i>7,295</i>	7,745	8,016	8,319	8,556	8,829	28.6
Indiana.....	3,568	3,283	3,330	<i>3,281</i>	3,321	3,431	3,324	3,519	3,803	3,914	3,821	3,992	3,791	30.4
Massachusetts.....	5,994	6,060	5,711	5,507	<i>5,308</i>	5,378	5,501	5,730	6,103	6,393	6,707	6,958	6,968	25.1
Michigan.....	1,638	1,482	1,488	1,502	<i>1,481</i>	1,512	1,529	1,559	1,719	1,776	1,848	2,027	1,783	39.1
Missouri.....	1,887	1,783	1,674	1,725	<i>1,670</i>	1,705	1,871	1,933	2,030	2,023	2,023	2,068	2,139	29.6
New Jersey.....	8,817	9,723	9,560	9,388	8,871	8,586	8,326	8,222	<i>8,211</i>	8,427	8,590	8,889	9,005	33.7
Ohio.....	7,341	7,231	7,142	7,529	6,962	<i>6,118</i>	6,727	6,737	7,494	7,841	7,958	8,131	8,222	27.5

MANUFACTURES.

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Between 44 and 48.	48. ¹	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
United States.....	1919	212,374	19,533	7,722	98,016	53,203	10,885	19,783	3,028	204
	1914	118,078			4,078	30,520	38,838	41,715	2,890	19
	1909	87,256			1,114	13,909	20,781	45,538	5,874	40
California.....	1919	2,008	1,005	4	336	656	7			
	1914	780	(²)	(²)	224	152	364	40		
Connecticut.....	1919	11,403	704	11	2,385	1,628	262	6,410	3	
	1914	5,059	(²)	(²)	4	695	735	3,625		
Illinois.....	1919	27,290	1,227	309	17,856	5,639	1,775	474	10	
	1914	10,483	(²)	(²)	352	14,680	750	687	14	
Indiana.....	1919	11,756	133	870	7,666	1,888	172	995	32	
	1914	4,075	(²)	(²)	1,025	117	6	2,854	73	
Massachusetts.....	1919	23,889	250	878	19,380	3,060	112	39	170	
	1914	17,125	(²)	(²)	637	2,205	10,519	3,763	1	
Michigan.....	1919	4,190	16	47	453	2,461	370	515	128	200
	1914	1,144	(²)	(²)	73	118	471	277	205	
Minnesota.....	1919	942	39		14	404	68	417		
	1914	236	(²)	(²)	19	76	18	122		1
Missouri.....	1919	6,367	5	658	992	1,806	2,902		4	
	1914	2,560	(²)	(²)	329	424	1,751	52	4	
New Jersey.....	1919	26,135	2,643	4,394	13,479	4,298	66	1,255		
	1914	14,405	(²)	(²)	262	3,638	4,878	5,223	404	
New York.....	1919	37,598	10,747	126	12,816	9,672	2,139	1,540	558	
	1914	23,738	(²)	(²)	348	3,828	3,703	15,145	690	18
Ohio.....	1919	26,672	736	362	6,336	10,998	722	5,468	2,050	
	1914	12,095	(²)	(²)	657	3,850	4,098	3,795	295	
Pennsylvania.....	1919	24,228	301	41	12,491	7,945	1,891	1,552	3	4
	1914	14,866	(²)	(²)	60	458	10,331	3,621	396	
Rhode Island.....	1919	1,513	144		14	1,154	82	119		
	1914	1,581	(²)	(²)		34	417	595	535	
Wisconsin.....	1919	5,875	1,318		2,951	1,088	111	407		
	1914	2,115	(²)	(²)	3	56	685	1,345	26	

¹ Includes 48 and under for 1914 and 1909.² Corresponding figures not available.

TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—																
	Establishments.	Wage earners (average number).	No wage earners.	1 to 5 wage earners, inclusive.	6 to 20 wage earners, inclusive.	21 to 50 wage earners, inclusive.	51 to 100 wage earners, inclusive.	101 to 250 wage earners, inclusive.	251 to 500 wage earners, inclusive.	501 to 1,000 wage earners, inclusive.	Over 1,000 wage earners.								
			Establishments.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.				
United States..1919..	1 404	212,374	42	376	1,037	355	4,212	212	7,220	117	8,530	147	23,862	80	27,812	38	25,947	37	113,665
1914..	1,030	118,078	35	307	831	263	3,108	150	4,720	98	6,080	95	15,031	45	16,183	20	13,874	17	58,351
California.....	73	2,008	4	41	124	15	160	6	175	4	282	11	1,730	5	748	1	510	2	4,938
Connecticut.....	54	11,403	3	13	38	8	88	4	141	4	230	11	1,730	5	1,713	4	2,525	5	16,294
Illinois.....	161	27,290	4	33	96	46	568	23	888	21	1,544	18	2,802	7	2,367	4	2,731	3	7,961
Indiana.....	47	11,756	—	10	26	13	163	5	198	6	471	6	981	2	660	2	1,287	4	16,939
Massachusetts.....	110	23,889	3	21	71	32	303	17	555	15	1,034	10	1,688	6	1 948	2	1,261	—	1,242
Michigan.....	54	4,190	2	15	42	13	171	6	254	7	573	8	1,250	2	658	—	—	1	2,874
Minnesota.....	20	942	2	6	23	5	52	2	55	3	173	—	—	2	639	2	1,570	1	14,174
Missouri.....	35	6,367	—	4	12	12	125	5	167	4	280	5	695	11	3,936	6	4,037	8	19,933
New Jersey.....	105	26,135	—	16	41	24	335	20	745	6	434	14	2,433	17	6,046	6	4,288	4	12,511
New York.....	255	37,598	9	69	173	66	756	46	1,462	17	1,325	21	3,613	17	6,046	6	4,288	6	15,500
Ohio.....	189	26,672	5	48	144	40	496	38	1,311	11	798	25	4,142	11	3,762	5	3,508	2	12,327
Pennsylvania.....	129	24,228	5	41	116	33	390	18	614	5	359	15	2,367	6	1,992	4	2,890	—	—
Rhode Island.....	13	1,513	—	4	16	1	14	2	52	2	179	1	138	3	1,114	—	—	1	1,327
Wisconsin.....	43	5,875	—	11	28	7	75	5	138	5	358	9	1,365	3	1,244	2	1,340	—	—

ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES.

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TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
All classes.....	1,404	1,030	1,009	212,374	118,078	87,256	\$997,968,119	\$335,170,194	\$221,308,563	\$572,860,908	\$180,442,118	\$112,742,159
Less than \$5,000.....	89	156	150	80	204	256	252,654	440,280	395,175	151,102	254,058	234,883
\$5,000 to \$20,000.....	271	249	287	982	1,329	1,493	3,293,968	2,785,685	3,209,873	1,892,140	1,715,694	1,924,861
\$20,000 to \$100,000.....	422	292	309	5,616	5,867	6,474	20,520,023	14,211,891	14,715,392	11,525,344	7,951,750	8,456,335
\$100,000 to \$500,000.....	331	224	232	18,084	33,223	28,108	77,234,924	51,612,977	76,612,783	41,473,572	49,290,339	41,436,270
\$500,000 to \$1,000,000.....	109	56	31	18,264	77,465	50,925	77,577,378	39,916,257	126,375,340	43,650,088	121,229,707	60,689,810
\$1,000,000 and over.....	182	53	31	169,348	77,465	50,925	819,089,172	226,203,104	126,375,340	474,177,662	121,229,707	60,689,810
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	6.3	15.1	14.9	0.2	0.2	0.3	0.3	0.1	0.2	0.3	0.1	0.2
\$5,000 to \$20,000.....	19.3	24.2	28.4	0.5	1.1	1.7	0.8	0.8	1.5	1.9	1.0	1.7
\$20,000 to \$100,000.....	30.1	28.4	30.6	2.6	5.0	7.4	2.1	4.2	6.6	2.0	4.4	7.5
\$100,000 to \$500,000.....	23.6	21.7	23.0	8.5	28.1	32.2	7.7	15.4	34.6	7.2	27.3	36.8
\$500,000 to \$1,000,000.....	7.8	5.4	3.1	8.6	65.6	58.4	7.8	11.9	57.1	7.6	67.2	53.8
\$1,000,000 and over.....	13.0	5.1	3.1	79.7	65.6	58.4	82.1	67.5	57.1	82.8	67.2	53.8

TABLE 8.—CHARACTER OF OWNERSHIP, BY SELECTED STATES: 1919 AND 1914.

STATE.	Census year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.						VALUE OF PRODUCTS.					
					In establishments owned by—			Per cent of total.			Of establishments owned by—			Per cent of total.		
		Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.	Total.	Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.	Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.	Total.	Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.	Indi-vid-u-als.
United States.....	1919	218	1,066	120	212,374	1,661	209,704	1,009	0.8	98.7	0.5	\$997,968,119	\$9,127,570	\$983,623,816	\$5,216,733	0.9
	1914	196	753	81	118,078	2,240	115,085	753	1.9	97.5	0.6	335,170,194	6,469,529	326,501,635	2,199,030	1.9
	1909	178	720	111	87,256	1,692	84,397	1,167	1.9	96.7	1.3	221,308,563	4,808,989	213,088,053	3,411,521	2.2
California.....	1919	28	31	14	2,008	119	1,799	90	5.9	89.6	4.5	11,368,196	603,546	10,382,170	382,480	5.3
	1914	7	20	2	780	135	745	.....	4.5	95.5	.....	2,861,653	1,104,666	2,756,967	.....	3.7
Connecticut.....	1919	5	44	5	11,403	19	11,375	9	0.2	99.8	0.1	51,911,332	68,652	51,810,728	31,952	0.1
	1914	5	38	.....	5,059	23	5,036	.....	0.5	99.5	.....	14,330,156	125,908	14,204,248	.....	0.9
Illinois.....	1919	13	134	14	27,290	47	27,167	76	0.2	99.5	0.3	119,528,022	169,894	118,802,411	555,717	0.1
	1914	27	103	12	16,483	125	16,286	72	0.8	98.8	0.4	45,667,450	265,105	45,171,971	230,380	0.6
Indiana.....	1919	2	43	2	11,756	12	11,746	210	0.5	99.9	0.1	41,594,125	.....	41,558,885	235,240	0.6
	1914	4	35	2	4,075	122	4,053	.....	0.5	99.5	.....	8,879,178	51,158	8,828,020	.....	0.6
Massachusetts.....	1919	18	86	6	23,889	199	23,655	35	0.8	99.0	0.1	91,938,738	985,985	90,746,156	206,597	1.1
	1914	20	67	4	17,125	260	16,812	53	1.5	98.2	0.3	43,869,294	793,483	42,937,503	138,308	1.8
Michigan.....	1919	9	40	5	4,190	84	4,092	14	2.0	97.7	0.3	25,025,528	275,840	24,600,021	89,667	1.1
	1914	7	26	2	1,144	150	1,094	.....	4.4	95.6	.....	3,415,500	99,993	3,315,507	.....	2.9
Minnesota.....	1919	1	16	3	942	.....	879	263	.....	93.3	6.7	4,353,949	.....	4,171,786	218,213	.....
Missouri.....	1919	3	31	1	6,367	165	6,302	.....	1.0	99.0	.....	22,007,658	244,467	21,763,191	.....	1.1
	1914	7	12	.....	2,560	321	2,239	.....	12.5	87.5	.....	6,643,210	359,782	6,283,428	.....	5.4
New Jersey.....	1919	7	91	7	26,135	40	26,035	60	0.2	99.8	0.2	120,341,356	186,386	119,546,759	608,211	0.2
	1914	12	58	6	14,405	169	14,144	92	1.2	98.2	0.6	40,740,810	615,547	39,706,778	418,485	1.5
New York.....	1919	50	184	21	37,598	296	37,185	117	0.8	98.9	0.3	179,972,580	2,264,513	176,916,881	791,186	1.3
	1914	50	151	14	23,738	553	23,079	106	2.3	97.2	0.5	73,944,708	1,037,412	71,990,474	316,822	2.2
Ohio.....	1919	26	151	12	26,672	179	26,329	164	0.7	98.7	0.6	156,924,143	828,705	155,381,835	713,603	0.5
	1914	20	87	12	12,695	88	12,482	125	0.7	98.3	1.0	36,120,978	257,035	35,520,772	343,168	0.7
Pennsylvania.....	1919	26	87	16	24,228	323	23,788	117	1.3	98.2	0.5	132,673,856	2,777,588	129,279,238	617,030	2.1
	1914	16	73	16	14,866	480	14,233	153	3.2	95.8	1.0	44,395,789	1,968,552	42,071,501	365,736	4.4
Rhode Island.....	1919	2	9	2	1,513	141	1,472	.....	2.7	97.3	.....	7,566,790	112,074	7,441,816	.....	1.7
	1914	2	10	1	1,581	136	1,545	.....	2.3	97.7	.....	5,468,065	77,207	5,390,858	.....	1.4
Wisconsin.....	1919	3	37	3	5,875	9	5,828	38	0.2	99.2	0.6	23,636,473	58,043	23,375,737	202,693	0.2
	1914	4	24	1	2,115	14	2,101	.....	0.7	99.3	.....	5,396,802	52,264	5,344,538	.....	1.0

¹ Includes the group "All others."² Includes the group "Individuals."³ Not shown separately in 1914.

MANUFACTURES.

TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	42,468	17,572	6,596	438,839	227,731	158,768	100.0	100.0	100.0
Owned.....	445	550	601	202,477	151,844	107,764	46.1	66.7	67.9
Steam.....	325	350	410	193,231	142,085	99,897	44.0	62.4	62.9
Engines.....	274	(2)	(2)	62,000	(2)	(2)	14.1		
Turbines.....	51	(2)	(2)	131,231	(2)	(2)	29.9		
Internal-combustion engines.....	103	181	166	7,446	8,694	6,753	1.7	3.8	4.3
Water wheels, turbines, and motors.....	17	19	25	1,800	1,065	1,114	0.4	0.5	0.7
Rented.....	42,023	17,022	5,995	236,362	75,887	51,004	53.9	33.3	32.1
Electric.....	42,023	17,022	5,995	235,605	74,476	50,045	53.7	32.7	31.5
Other.....				757	1,411	959	0.2	0.6	0.6
Electric.....	80,495	39,568	22,650	479,366	262,119	164,540	100.0	100.0	100.0
Rented.....	42,023	17,022	5,995	235,605	74,476	50,045	49.1	28.4	30.4
Generated by establishments reporting.....	38,472	22,546	16,655	243,761	187,643	114,495	50.9	71.6	69.6

¹ Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.² Figures not available.

TABLE 10.—FUEL CONSUMED, BY SELECTED STATES: 1919.

STATE.	Cen- sus year.	COAL.		Coke (tons, 2,000 pounds).	Fuel oil (barrels).	Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).
		Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).				
United States.....	1919	175,800	1,091,704	61,617	473,332	32,328	2,786,332
	1914	66,841	769,280	26,378	125,523	(1)	2,767,856
California.....	1919			196	3,596		91,769
	1914		60	3	5,402	(1)	3,329
Connecticut.....	1919	7,770	58,243	1,010	9,907	1,276	25,796
	1914	3,074	24,686	27	308	(1)	16,103
Illinois.....	1919	424	124,772	7,002	8,674	4,581	444,068
	1914	159	79,135	6,319	4,970	(1)	326,637
Indiana.....	1919	1,139	53,412	528	7,173	369	116,249
	1914	1,136	24,515	6,000	3,473	(1)	7,984
Massachusetts.....	1919	6,707	95,077	6,125	237,720	9,984	171,836
	1914	1,496	117,165	4,407	18,402	(1)	50,431
Michigan.....	1919	41	10,210	140	16	781	38,846
	1914	15	3,974	306	559	(1)	6,771
Minnesota ²	1919	6	1,395	36		5	35,603
Missouri.....	1919		13,252	428	6,229	208	107,402
	1914	4	8,799	30	951	(1)	19,261
New Jersey.....	1919	52,844	120,300	721	26,058	9,317	224,893
	1914	20,592	44,084	50	2,930	(1)	107,366
New York.....	1919	37,625	274,014	26,085	92,196	2,627	225,718
	1914	21,362	251,332	3,880	51,168	(1)	142,082
Ohio.....	1919	2,355	104,243	12,880	31,553	1,860	611,664
	1914	81	59,496	1,257	5,407	(1)	1,094,338
Pennsylvania.....	1919	65,866	204,456	5,119	24,177	533	591,494
	1914	3,155	122,889	2,913	26,768	(1)	433,317
Rhode Island.....	1919	309	5,691	8	1,067	118	41,050
	1914	6,612	12,189	54	4,207	(1)	19,426
Wisconsin.....	1919	476	19,929	1,314	21,611	513	42,784
	1914	50	17,156	1,095	628	(1)	98,403

¹ Included in fuel oils for 1914.² Not reported separately in 1914.

SPECIAL STATISTICS.

Certain additional information concerning the quantity and value of products for the industry is collected by means of supplemental schedules. In the foregoing tables statistics were presented for only those establishments engaged primarily in the manufacture of electrical machinery, apparatus, and supplies. There is, however, a certain amount of this class of product manufactured in establishments classified under other industry captions. In order to present full detailed statistics for the industry, the subsidiary electrical products of these establishments have been included in Table 11. This table summarizes in comparative form, for the past four census periods, the values of the various groups of electrical commodities. Porcelain electrical supplies manufactured in the clay-working industries and globes and jars accredited to the glass industry are not included; statistics for these items will be found in the general figures for the industries named.

In comparing statistics of the different censuses, allowances should be made, particularly in the case of some of the less distinctive products, for changes in the form of the schedule used and for the possibility that all manufacturers did not classify their products in the same way.

The more important classes of products are treated separately in tables presenting statistics of production in detail.

TABLE 11.—DETAILED STATISTICS OF VALUES: 1919, 1914, 1909, AND 1904.

	1919	1914	1909	1904
Products, total value.....	\$1,060,724,805	\$359,432,155	\$240,037,479	\$159,551,402
The electrical industry—Electrical machinery and apparatus.....	997,908,119	335,170,104	221,308,503	140,809,369
Subsidiary electrical products of other industries.....	62,756,686	24,261,961	18,728,916	18,742,033
<i>Principal groups.</i>				
Generating apparatus and parts.....	86,266,114	17,865,542	14,077,071	11,084,234
Transformers and feeder potential regulators.....	53,495,570	28,276,338	14,630,715	7,142,026
Motors (not including starters or controllers).....	116,893,638	44,176,235	32,087,482	22,370,626
Electric locomotives, mining, industrial, and railway.....	8,159,825	3,720,914	(1)	(1)
Batteries, storage.....	60,036,152	13,080,964	4,678,209	2,045,749
Batteries, primary.....	32,427,043	10,321,491	5,934,261	1,598,144
Carbons: Furnace, lighting, and welding; brushes, battery and miscellaneous.....	13,291,615	3,602,741	1,934,864	2,710,935
Are lamps.....	606,771	742,142	1,706,959	1,574,422
Searchlights, projectors, and focusing lamps.....	4,342,246	2,081,545	935,874	114,795
Incandescent lamps.....	57,646,900	17,350,385	15,714,809	6,953,205
Rectifying apparatus, including rotating commutators, electric valves, mercury rectifiers, and vibrating commutators.....	1,964,876	147,965	(1)	(1)
Telegraph apparatus.....	12,816,341	2,248,375	1,957,432	1,111,194
Telephone apparatus.....	46,214,342	22,815,640	14,259,357	15,863,698
Household and industrial apparatus and devices.....	54,793,195	4,048,915	1,954,112	395,827
Magnetoignition instruments.....	19,322,184	8,786,506	7,800,010	5,004,763
Magnetoignition apparatus.....	51,286,793	22,260,847	6,092,343	678,077

TABLE 11.—DETAILED STATISTICS OF VALUES: 1919, 1914, 1909, AND 1904—Continued.

	1919	1914	1909	1904
Miscellaneous electrical machinery, apparatus, and supplies.....				
Switchboards, panel boards, and cut-out cabinets for light and power.....	\$17,735,780	\$8,989,111	\$5,971,804	\$3,766,044
Railway switches, signals, and attachments.....	4,466,611	2,393,551	2,377,843	1,451,337
Circuit breakers, oil.....	2,733,535	(3)	(3)	(3)
Circuit breakers, air and carbon.....	1,391,911	(3)	(3)	(3)
Fuses, cut-outs, and fuse plugs.....	7,895,098	1,757,430	1,001,719	868,079
Insulators.....	6,504,147	(3)	(3)	(3)
Sockets, receptacles, bases, and attachment plugs.....	15,008,365	5,512,609	4,521,729	2,010,860
Wiring supplies (current carrier).....	6,857,819	(3)	(3)	(3)
Lightning arresters, choke coils, reactors, and other protective devices.....	2,353,416	1,188,773	940,171	587,124
Insulated wire.....	66,570,958			
Insulated cables, rubber insulation.....	32,520,587	69,505,573	51,624,737	34,519,699
Insulated cables, paper insulation.....	26,739,302			
Pole-line hardware.....	9,379,145	(3)	(3)	(3)
Circuit fittings, not elsewhere provided for.....	5,052,994	2,067,683	1,080,287	3,525,446
Underground conduits.....	890,749			
Interior conduits.....	18,375,880	4,874,709	5,098,264	2,416,245
Electric lighting fixtures of all kinds.....	2,703,266	3,383,955	2,200,668	3,294,606
Annunciators and push buttons.....	709,941	263,806	235,867	185,870
Electric clocks and time mechanisms.....	1,797,909	410,774	352,513	373,926
Bells, buzzers, and signal gongs.....	3,616,281	(3)	(3)	(3)
Therapeutic apparatus, including X-ray tubes.....	8,895,402	2,653,098	1,107,858	1,036,962
All other electrical machinery, apparatus, and supplies.....	95,232,300	27,276,294	18,995,176	
All other products.....	76,573,808	17,951,652		26,267,509
Amount received for custom work and repairing.....	27,106,016	5,676,592	17,765,645	

¹ Figures not available.

² Reported as "Electric switches, signals, and attachments."

³ Not reported separately.

⁴ Not including fixtures made by establishments engaged primarily in the manufacture of "Gas and electric fixtures."

Subsidiary electrical products.—Table 12 shows, for 1919, 1914, and 1909, the value of the various kinds of electrical apparatus included in the totals shown in Table 11, which were manufactured as subsidiary products by establishments in other industries.

TABLE 12.—SUBSIDIARY ELECTRICAL PRODUCTS OF OTHER INDUSTRIES: 1919, 1914, AND 1909.

	1919	1914	1909
Number of establishments.....	177	91	142
Total value.....	\$62,756,686	\$24,261,961	\$18,728,916
Generating apparatus and parts.....	2,353,520	1,363,723	1,751,122
Transformers and feeder potential regulators.....	1,169,175	473,538	377,845
Motors (not including starters or controllers).....	1,489,686	900,083	1,213,761
Batteries, storage and primary.....	166,633	(1)	(1)
Searchlights, projectors, and focusing lamps.....	1,438,711	(1)	(1)
Telegraph apparatus.....	113,318	(1)	(1)
Household and industrial apparatus and devices.....	1,897,059	(1)	(1)
Electric measuring instruments.....	118,249	(1)	(1)
Magnetoignition apparatus.....	1,534,998	105,541	79,183
Insulators.....	865,727	(2)	(2)
Insulated wire and cables.....	48,366,898	18,183,964	11,374,165
All other electrical machinery, apparatus, and supplies.....	3,212,712	3,234,512	3,932,840

¹ Included in "All other electrical machinery."

² Not reported separately.

Generating apparatus and parts.—Table 13 shows detailed figures, for 1919 and 1914, regarding generating apparatus. A remarkable development is found in this item in the five-year period, the value increas-

ing 382.9 per cent. Another evidence of the progress is seen in the tendency to build larger units, the large generators averaging 348 kilowatt capacity each in 1919 as against 116 kilowatts each in 1914.

TABLE 13.—GENERATING APPARATUS AND PARTS: 1919 AND 1914.

	1919	1914
Total value.....	\$86,266,114	\$17,865,542
Generators (other than small dynamos under 10 kw.):		
Alternating current—		
Steam-turbine driven, under 2,000 kva.—		
Number.....	532	375
Kilowatts.....	665,971	600,185
Value.....	(¹)	\$3,895,291
Steam-turbine driven, 2,000 kva. or over—		
Number.....	144	2,137
Kilowatts.....	1,236,827	587,820
Value.....	\$8,262,802	\$3,542,154
Other, including water-wheel driven—		
Number.....	3,123	2,137
Kilowatts.....	821,597	587,820
Value.....	\$4,403,290	\$3,542,154
Direct current—		
Steam-turbine driven—		
Number.....	2,262	264
Kilowatts.....	408,866	14,916
Value.....	\$2,704,563	\$398,379
Other, including water-wheel driven—		
Number.....	4,345	9,369
Kilowatts.....	485,266	206,305
Value.....	\$3,937,080	\$2,569,086
Small dynamos (under 10 kw.), starting motors, and automotive generators, not including control equipment, value.....	\$36,662,797	\$5,933,273
Self-contained lighting outfits (as farm-lighting outfits):		
Number.....	61,357	(²)
Value.....	\$24,078,536	(²)
Parts and supplies, value.....	\$6,217,046	\$1,527,359

¹ Value included with that of generators of 2,000 kva. or over, to avoid disclosure of individual operations.

² No segregation reported in 1914.

Transformers.—Table 14 shows in comparative form for 1919, 1914, and 1909, the number, capacity, and value of the transformers and regulators manufactured in the industry. During the period 1914 to 1919, the manufacture of transformers increased 230.6 per cent in number, 447.6 per cent in capacity, and 94.8 per cent in value. To avoid a disclosure of individual operations, statistics for reactances and regulators were merged with those for rheostats, resistances, controllers, etc.

TABLE 14.—TRANSFORMERS AND FEEDER POTENTIAL REGULATORS: 1919, 1914, AND 1909.

	1919	1914	1909
Total value.....	\$53,495,570	\$28,276,338	\$14,630,715
Transformers:			
Number.....	382,929	115,843	76,729
Kilowatts.....	14,484,179	2,644,704	1,635,429
Value.....	\$25,560,901	\$13,120,065	\$8,801,019
Under 50 kilowatts—			
Number.....	331,099	110,177	72,776
Value.....	\$10,613,234	\$7,316,615	\$4,184,832
50 to 500 kilowatts—			
Number.....	50,661	4,857	3,953
Value.....	\$9,199,782	\$2,625,414	\$3,616,187
500 kilowatts or over—			
Number.....	1,169	809	
Value.....	\$5,747,905	\$3,178,036	
Rheostats, resistances, controllers, motor starters, speed-controlling devices, reactances, regulators, etc.....	\$23,083,265	\$9,788,378	\$2,674,963
Converting apparatus—synchronous condensers, motor-generator sets, double-current generators, dynamotors, frequency changers, and rotary-phase converters...	\$4,851,404	\$5,367,895	\$3,154,733

¹ Rheostats and resistances only.

Motors.—Table 15 shows the number, capacity, and value of the electrical motors manufactured in 1919 and 1914. The value of the motors, including parts and supplies, 1919, is an increase of \$72,717,403, or 164.6 per cent, over the corresponding figure for 1914. Railway motors were included with those for vehicles to avoid a disclosure of individual operations.

TABLE 15.—MOTORS, PARTS, AND SUPPLIES: 1919 AND 1914.

	1919	1914
Total value.....	\$116,893,638	\$44,176,231
Stationary motors:		
Number.....	1,533,407	1,417,992
Horsepower.....	3,791,062	1,2,882,795
Value.....	\$76,171,558	\$32,288,149
Direct current—		
Number.....	380,182	133,492
Horsepower.....	734,691	980,820
Value.....	\$20,200,313	\$13,316,459
Alternating current—		
Under 200 horsepower—		
Number.....	1,151,286	284,500
Horsepower.....	2,550,526	1,901,975
Value.....	\$52,430,381	\$18,969,660
200 horsepower or over—		
Number.....	1,939	
Horsepower.....	496,845	
Value.....	\$3,540,864	
Marine motors:		
Number.....	2,630	(³)
Horsepower.....	8,428	(³)
Value.....	\$316,371	(³)
For vehicles and railways:		
Number.....	49,256	211,580
Horsepower.....	351,286	236,858
Value.....	\$6,355,102	\$1,351,442
For fans:		
Number.....	709,350	(⁴)
Horsepower.....	66,915	(⁴)
Value.....	\$9,908,001	\$4,835,850
For miscellaneous uses:		
Number.....	198,305	(⁴)
Horsepower.....	141,610	(⁴)
Value.....	\$4,920,311	\$1,190,564
Parts and supplies, value.....	\$18,722,295	\$4,512,230

¹ Includes railway motors.

² Vehicle motors only.

³ Not reported separately.

⁴ Figures not available.

Batteries.—Table 16 shows the production of storage and primary batteries, parts, and supplies for 1919, 1914, and 1909. The value of this group of products in 1919 exceeds that of 1914 by \$69,060,740, an increase of 295.1 per cent. Storage batteries increased in value 433.7 per cent, and in weight of plates, 237 per cent, during the last census period.

TABLE 16.—BATTERIES, PARTS, AND SUPPLIES: 1919, 1914, AND 1909.

	1919	1914	1909
Total value.....	\$92,403,195	\$23,402,455	\$10,612,470
Storage:			
Batteries, value.....	\$56,048,347	\$10,615,150	\$4,243,984
Weight of plates, pounds.....	138,438,540	41,079,047	23,119,331
Parts and supplies, value.....	\$3,887,805	\$2,405,814	\$434,225
Primary:			
Dry—			
Number.....	79,300,082	71,092,438	33,988,881
Value.....	\$17,805,611	\$8,719,164	\$4,589,082
Dry, small, for flash lights—			
Number.....	94,483,894		
Value.....	\$7,514,833		
Liquid, including testing—			
Number.....	2,050,940	306,351	344,650
Value.....	\$3,508,024	\$802,525	\$720,513
Parts and supplies, value.....	\$3,597,075	\$799,802	\$321,666

Ohio led all states in the production of storage batteries, followed by Pennsylvania, New York, New Jersey, and Indiana, in the order named. The value of battery supplies and parts—storage and primary—increased from \$3,265,616 in 1914 to \$6,985,780 in 1919, equivalent to 113.9 per cent.

Incandescent lamps.—Statistics for incandescent lamps are given in Table 17 for 1919, 1914, and 1909. Statistics for 1919 show an increase in value over that for 1914 of \$40,296,515, or 232.3 per cent. The tungsten type formed 80.9 per cent of the value of all incandescent lamps manufactured in 1919 and 68.5 per cent in 1914. The gem type was included with vacuum and vapor lamps to avoid a disclosure of individual operations.

TABLE 17.—INCANDESCENT LAMPS: 1919, 1914, AND 1909.

	1919	1914	1909
Total value.....	\$57,646,900	\$17,350,385	\$15,714,809
Tungsten:			
Number.....	211,383,193	74,434,059	11,738,619
Value.....	\$46,628,343	\$11,886,354	\$6,241,133
Carbon filament:			
Number.....	13,330,273	14,092,055	55,038,378
Value.....	\$1,830,644	\$1,397,572	\$6,157,066
Decorative and miniature lamps, X-ray bulbs, vacuum tubes, etc., value.....	\$5,892,211	\$1,702,720	\$600,619
Gem and vacuum and vapor lamps, value.....	\$2,512,435		
Other types, value.....	\$783,267	\$2,303,730	\$2,715,991

Telegraph apparatus.—Table 18 shows the production of telegraph instruments and apparatus in 1919, 1914, and 1909. The first and third groups show, for the period 1914 to 1919, increases in value of 1,211.9 per cent and 1,064.9 per cent, respectively. The figures for radio and wireless do not represent the magnitude of the installations, as they cover only the instruments and appliances turned out by the factories during the census years.

TABLE 18.—TELEGRAPH APPARATUS: 1919, 1914, AND 1909.

	1919	1914	1909
Total value.....	\$12,816,341	\$2,248,375	\$1,957,432
Intelligence (key, sounder, etc.), all kinds.....	2,649,365	201,956	197,669
Police, fire, district, and miscellaneous.....	2,092,340	1,253,954	1,126,658
Radio and wireless.....	7,834,698	672,675	448,262
Switchboards, parts, and supplies.....	239,938	119,890	184,843

Telephone apparatus.—Table 19 shows the statistics for telephone apparatus for 1919, 1914, and 1909. The aggregate value of all telephone apparatus, parts, and supplies produced in 1919 shows an increase of \$23,398,702, or 102.6 per cent, over that reported for 1914. Private branch exchange switchboards, in 1919, show a value of \$2,287,122, as compared with \$448,203 in 1914, an increase of 410.3 per cent. For the same period the value of automatic switchboards increased 331.6 per cent.

TABLE 19.—TELEPHONE APPARATUS: 1919, 1914, AND 1909.

	1919	1914	1909
Total value.....	\$46,214,342	\$22,815,640	\$14,259,357
Central switchboards:			
Manual:			
Central battery—			
Number.....	1,330		
Value.....	\$6,500,560	\$10,701,764	
Magnet—			
Number.....	4,594		
Value.....	\$1,344,404	\$374,851	
Automatic, value.....	\$4,327,516	\$1,002,722	
Substation instruments:			
Central battery—			
Number.....	642,093	641,082	\$10,137,534
Value.....	\$3,839,978	\$3,916,869	
Magnet—			
Number.....	280,502	216,879	
Value.....	\$3,276,604	\$1,799,834	
Interior systems:			
Number.....	173,799	62,258	
Value.....	\$1,578,778	\$510,509	
Private branch exchange switchboards:			
Number.....	6,880	3,693	2,252
Value.....	\$2,287,122	\$448,203	\$369,915
Parts and supplies, value.....	\$23,059,380	\$4,060,888	\$3,751,908

Household and industrial apparatus.—The most remarkable development in the entire industry appears in household and industrial apparatus and devices. Table 20 shows an increase in value for 1919 over 1914 of 1,253.3 per cent.

TABLE 20.—HOUSEHOLD AND INDUSTRIAL APPARATUS AND DEVICES: 1919, 1914, AND 1909.

	1919	1914	1909
Total value.....	\$54,793,195	\$4,048,915	\$1,954,112
Welding apparatus (not including motor-generator sets).....	2,701,378	231,062	83,505
Electric furnaces (for iron and steel and brass industries).....	1,040,337	(¹)	(¹)
Heaters (industrial heaters; air heaters, including those for cars; water heaters).....	2,889,734	352,617	
Stoves and ranges.....	3,444,170	671,413	
Miscellaneous cooking devices (griddles, grills, toasters, percolators, etc.).....	7,815,212	1,327,183	919,533
Flatirons.....	5,646,421	1,466,620	951,074
Vacuum cleaners, vibrators, clippers, cutters, etc.....	21,842,439	(¹)	(¹)
Other portable motor-driven devices (motor built in).....	6,985,809	(¹)	(¹)
Other stationary motor-driven apparatus (motor built in).....	2,427,685	(¹)	(¹)

¹ Not reported separately.

Electric measuring instruments.—Table 21 gives the value of electric measuring instruments of various kinds for 1919, 1914, and 1909. The statistics show an increase of 119.9 per cent as compared with 1914. Of the total production for 1919, meters for consumers circuits comprised 46.1 per cent; station meters and apparatus, 36.7 per cent; and instruments for testing and scientific purposes, 17.3 per cent.

TABLE 21.—ELECTRIC MEASURING INSTRUMENTS: 1919, 1914, AND 1909.

	1919	1914	1909
Total value.....	\$19,322,164	\$8,786,506	\$7,800,010
Station meters and apparatus.....	7,084,953	1,585,500	1,639,202
Testing and scientific instruments.....	3,336,172	1,073,060	546,970
Meters for consumers' circuits.....	8,901,009	6,127,946	5,613,838

Magnetoignition apparatus.—Table 22 shows the production of magnetoignition apparatus, spark plugs, coils, etc., by states, for 1919, 1914, and 1909. The states are ranked in the table according to the value of products, Ohio leading with 22 per cent of the total value, New Jersey following with 15.2 per cent.

TABLE 22.—MAGNETOIGNITION APPARATUS—GENERATORS, SPARK PLUGS, AND COILS: 1919, 1914, AND 1909.

	1919	1914	1909
United States.....	\$51,286,793	\$22,200,847	\$6,092,343
Ohio.....	11,262,431	7,472,268	131,055
New Jersey.....	7,780,531	2,922,684	469,952
New York.....	6,000,612	1,205,494	1,483,735
Pennsylvania.....	3,509,392	1,538,762	(1)
Indiana.....	2,404,530	2,950,792	2,223,221
Illinois.....	1,842,045	413,986	253,451
Wisconsin.....	1,330,480	202,130	63,606
Minnesota.....	56,678		
All other states.....	17,100,094	6,554,731	1,467,323

¹ Included in "All other states."

Switchboards.—Each system of centralized electrical supply depends upon a switchboard for the manipulation of its circuits and to connect the sources of supply with the consumer. Table 23 shows the value of the switchboards, panel boards, and cut-out cabinets manufactured during 1919 in 11 of the leading states, for 9 of which comparative figures are available for 1914 and 1909. New York contributed 42.2 per cent of the entire output in 1919, Pennsylvania following with 29.3 per cent.

TABLE 23.—SWITCHBOARDS, PANEL BOARDS, AND CUT-OUT CABINETS FOR LIGHT AND POWER: 1919, 1914, AND 1909.

	1919	1914	1909
United States.....	\$17,735,780	\$8,989,111	\$5,071,804
New York.....	7,483,100	5,505,685	2,789,297
Pennsylvania.....	5,197,725	1,566,433	1,243,356
Ohio.....	772,683	237,916	236,930
Illinois.....	444,605	419,931	448,185
Massachusetts.....	375,699	157,961	304,502
Connecticut.....	356,104	224,481	151,385
Wisconsin.....	317,097	(1)	(2)
Indiana.....	248,784	229,089	117,877
California.....	183,541	130,162	90,594
Washington.....	169,928	(1)	(2)
Minnesota.....	158,454	71,971	48,385
All other states.....	2,028,054	444,582	541,293

¹ Included in "All other states."

² Figures not available.

Insulated wire and cables.—Table 24 gives the value of insulated wire and cables produced not only by establishments primarily engaged in the manufacture of electrical machinery, apparatus, and supplies but likewise by those assigned to other industries. A marked increase, amounting to \$56,375,274, or 81.1 per cent, is shown between the censuses of 1914 and 1919. Of the \$125,880,847 representing the total value of insulated wire and cables, \$84,216,921, or 66.9 per cent, was contributed by the industry "electrical machinery, apparatus, and supplies," and \$41,663,926, or 33.1 per cent by wire-drawing mills and wire departments of steel, and brass, bronze, and copper rolling mills. In the production for 1919, New York occupies first place, followed by New Jersey and Illinois, all of which retain the relative rank they had in 1914.

TABLE 24.—INSULATED WIRE AND CABLES: 1919, 1914, AND 1909.

	1919	1914	1909
United States.....	\$125,880,847	\$69,505,573	\$51,624,737
Industry:			
Electrical machinery, apparatus, and supplies.....	84,216,921	51,321,609	40,250,572
Wire—wire-drawing mills—wire departments of steel, and brass, bronze, and copper rolling mills.....	41,663,926	18,183,964	11,374,165
Insulated wire:			
Tons (2,000 pounds).....	111,070	(1)	(1)
Value.....	\$66,570,958	(1)	(1)
Insulated cables:			
Rubber insulation—			
Tons (2,000 pounds).....	50,776	(1)	(1)
Value.....	\$32,520,587	(1)	(1)
Paper insulation—			
Tons (2,000 pounds).....	59,268	(1)	(1)
Value.....	\$26,780,302	(1)	(1)
New York.....	\$26,197,659	\$19,178,327	\$9,485,282
New Jersey.....	25,526,037	15,038,971	13,945,425
Illinois.....	19,577,122	9,626,775	9,487,006
Connecticut.....	17,092,437	6,206,803	4,205,509
Massachusetts.....	15,643,318	6,709,411	2,194,474
Rhode Island.....	12,586,795	6,045,876	7,741,411
Pennsylvania.....	3,336,031	3,289,485	2,766,825
Michigan.....	3,160,516	(2)	(2)
All other states.....	2,760,332	3,309,025	1,768,805

¹ Figures not available.

² Included in "All other states."

GENERAL TABLES.

Table 25 gives for 1919, 1914, and 1909, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for the electrical machinery, apparatus, and supplies industry.

Table 26 presents, for 1919, statistics in detail for the industry as a whole, and for each state that can be shown separately without the possibility of disclosing the operations of individual establishments.

TABLE 25.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

INDUSTRY.	Cen- sus year.	Num- ber of estab- lish- ments	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	INDUSTRY.	Cen- sus year.	Num- ber of estab- lish- ments	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
United States.....	1919	1,404	212,374	438,839	\$238,189	\$425,098	\$997,968	Missouri.....	1919	35	6,367	6,128	\$5,684	\$8,162	\$22,008
	1914	1,030	118,078	227,731	73,806	154,728	335,170		1914	19	2,560	1,918	1,536	2,416	6,643
	1909	1,009	87,256	158,768	49,381	108,566	221,309		1909	20	1,060	1,180	627	1,104	3,251
California.....	1919	73	2,008	3,864	1,894	5,030	11,368	New Hampshire.....	1919	7	425	571	360	643	1,464
	1914	29	780	1,116	472	1,500	2,862		1914	6	228	392	122	165	352
	1909	27	435	442	240	928	1,613		1909	6	193	422	87	155	388
Colorado.....	1919	8	38	85	34	57	139	New Jersey.....	1919	105	26,135	51,664	27,306	58,983	120,341
	1914	8	79	84	42	53	138		1914	76	14,405	22,880	7,867	20,549	40,741
	1909								1909	69	11,099	11,326	5,615	14,426	28,365
Connecticut.....	1919	54	11,403	15,368	12,454	23,442	51,911	New York.....	1919	255	37,598	136,321	45,722	73,839	179,973
	1914	43	5,059	6,459	2,630	7,436	14,330		1914	215	23,738	71,453	16,187	38,025	73,945
	1909	41	3,505	4,457	1,003	5,211	9,824		1909	217	18,972	53,813	12,479	27,483	49,290
Illinois.....	1919	161	27,290	32,660	30,571	51,626	119,528	North Carolina.....	1919	7	270	296	131	355	663
	1914	142	16,483	21,140	12,366	19,379	45,667		1914	4	78	89	31	106	177
	1909	143	9,641	11,636	6,413	13,628	26,826		1909	3	120	38	31	97	150
Indiana.....	1919	47	11,756	32,611	11,160	20,810	41,594	Ohio.....	1919	189	26,672	42,753	30,652	72,297	156,924
	1914	41	4,075	6,426	2,423	3,931	8,879		1914	119	12,695	17,771	7,409	17,482	36,121
	1909	42	3,073	5,285	1,361	3,693	7,718		1909	115	8,073	11,959	3,847	7,226	18,777
Iowa.....	1919	7	82	90	79	140	280	Pennsylvania.....	1919	129	24,228	58,366	30,031	51,358	132,674
	1914	5	94	88	58	87	235		1914	105	14,866	36,537	8,737	17,240	44,396
	1909	9	64	84	31	74	200		1909	84	11,025	33,829	6,237	13,535	31,351
Maryland.....	1919	13	137	188	145	157	523	Rhode Island.....	1919	13	1,513	3,087	1,346	3,127	7,567
	1914	6	66	80	35	40	121		1914	13	1,581	3,638	734	3,793	5,468
	1909	7	121	266	41	54	147		1909	12	1,601	2,837	678	4,595	6,410
Massachusetts.....	1919	110	23,889	36,367	27,650	31,837	91,939	Wisconsin.....	1919	43	5,875	7,470	6,028	9,368	23,636
	1914	91	17,125	29,846	10,651	17,697	49,869		1914	29	2,115	3,616	1,340	2,064	5,397
	1909	83	14,507	14,835	8,209	12,735	28,143		1909	30	1,409	2,333	820	1,451	3,836
Michigan.....	1919	54	4,190	5,659	4,685	9,035	25,026	All other states.....	1919	74	1,556	4,410	1,504	2,799	6,056
	1914	35	1,144	1,584	656	1,740	3,416		1914	27	671	2,241	349	617	1,664
	1909	40	1,218	1,355	494	1,030	2,327		1909	48	953	2,466	467	921	2,167
Minnesota.....	1919	20	942	881	753	2,033	4,354								
	1914	17	236	393	161	348	749								
	1909	13	187	205	101	220	526								

MANUFACTURES.

TABLE 26.—DETAILED STATEMENT FOR THE INDUSTRY, BY STATES: 1919.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						EXPENSES.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		Capital.	Salaries and wages.			
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.		Officials.	Clerks, etc.		
								Maximum month.	Minimum month.										
Total.....	1,404	271,912	473	10,701	29,233	19,131	212,374	De 241,640	My 196,418	245,324	180,152	62,920	1,557	695	\$857,855,496	\$35,982,611	\$62,247,523		
California.....	72	2,714	57	113	325	211	2,008	No 2,328	My 1,803	2,322	1,478	840	4	.....	7,090,738	342,698	602,697	
Colorado.....	8	48	2	5	1	2	38	Ja 61	Au 28	40	28	12	.....	.....	124,787	7,403	3,227
Connecticut.....	54	13,344	15	472	784	670	11,403	De 13,828	Ap 9,648	13,872	8,713	4,930	120	109	44,910,080	1,857,336	1,690,873		
Illinois.....	161	36,515	46	1,319	5,094	2,766	27,290	De 30,965	Mh 25,650	30,952	21,568	8,711	536	137	97,811,473	4,805,813	11,347,195		
Indiana.....	47	14,160	6	329	1,188	881	11,756	No 13,521	Ja 9,859	13,003	9,122	3,703	61	57	35,430,365	1,036,050	2,379,568		
Iowa.....	7	118	4	17	6	9	82	De 96	Fe 72	96	81	15	.....	.....	325,058	24,861	16,940
Kentucky.....	9	310	.....	21	17	17	255	De 327	Au 162	327	277	50	.....	.....	1,112,553	88,271	29,045
Louisiana.....	5	50	1	11	2	4	32	Se 41	No 25	40	22	18	.....	.....	115,403	22,813	4,198
Maryland.....	13	177	8	16	8	8	137	No 143	Ja 134	144	129	15	.....	.....	238,919	49,598	15,810
Massachusetts.....	110	29,472	32	1,201	2,287	2,063	23,889	De 28,024	Ap 21,582	28,008	20,884	6,909	151	73	90,953,845	3,855,415	5,158,647		
Michigan.....	54	5,165	19	230	377	349	4,190	No 4,908	Ap 3,775	4,657	2,876	1,776	2	3	15,967,288	1,062,059	949,048		
Minnesota.....	20	1,230	7	54	151	76	942	De 1,005	Ja 916	982	635	334	13	.....	2,372,860	255,655	290,234	
Missouri.....	35	7,891	3	331	693	497	6,307	De 7,694	Fe 5,357	7,507	5,335	2,091	33	48	21,323,709	1,191,116	1,238,784		
Nebraska.....	6	116	3	9	7	9	88	No 100	Ja 58	96	60	30	.....	.....	272,230	22,200	23,238
New Hampshire.....	7	461	1	25	2	8	425	De 530	Fe 384	530	290	240	.....	.....	920,294	93,912	22,624
New Jersey.....	105	32,603	24	1,463	2,653	2,328	26,135	Ja 28,285	Jy 24,299	27,684	18,452	8,905	207	120	114,813,488	4,793,270	5,907,280		
New York.....	255	51,009	91	2,296	7,298	3,726	37,598	De 41,333	Je 35,539	41,441	32,820	8,392	174	55	162,681,033	7,205,821	14,518,605		
North Carolina.....	7	311	5	23	10	3	270	Jy 280	Oc 254	267	144	123	.....	.....	378,962	54,870	17,900
Ohio.....	159	32,591	53	925	2,817	2,034	26,672	De 31,551	My 22,900	35,633	27,377	8,226	24	6	103,340,897	3,690,316	5,779,063		
Oregon.....	3	31	2	4	3	2	20	Se 23	Ap 17	21	18	3	.....	.....	50,256	6,916	9,285
Pennsylvania.....	129	32,601	60	1,291	4,366	2,656	24,228	De 27,817	My 21,791	27,860	23,101	4,625	86	48	126,115,738	3,826,361	10,095,492		
Rhode Island.....	13	1,842	7	74	139	109	1,513	Ja 1,695	Jy 1,348	1,566	732	818	9	7	5,049,062	188,716	247,346		
Tennessee.....	4	63	2	6	2	1	52	Ja 64	Au 46	47	41	6	.....	.....	131,518	18,328	3,510
Texas.....	6	44	3	5	1	2	33	No 39	Jo 28	37	37	.....	.....	.....	149,146	13,500	3,668
Washington.....	12	268	2	32	21	23	190	Ja 274	Fe 134	226	178	48	.....	.....	1,031,181	73,704	40,293
Wisconsin.....	43	7,757	9	378	877	618	5,875	De 7,119	Je 4,915	7,117	5,042	1,909	135	31	21,861,429	1,230,513	1,605,244		
All other states.....	29	1,111	11	51	104	59	886	.....	.....	849	706	140	2	1	2,777,175	109,126	219,014

¹ Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).

² Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).

³ Same number reported for one or more other months.

TABLE 26.—DETAILED STATEMENT FOR THE INDUSTRY, BY STATES: 1919—Continued.

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.							
	Salaries and wages—Con.		Rent and taxes.		For materials.				Primary horsepower.						Electric horsepower generated in establishments reporting.	
	Wage earners.	For contract work.	Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.	Owned.	Owned.	Owned.	Rent. ²		
Total.....	\$238,188,852	\$1,218,203	\$2,553,802	\$43,803,385	\$411,350,101	\$13,739,110	\$997,968,119	\$572,809,908	438,839	62,000	131,231	7,446	1,800	236,362	243,761	
California.....	1,894,004	16,090	67,314	334,118	4,898,427	131,484	11,368,196	6,338,285	3,864	.....	.....	.....	.....	3,804	.....	.....
Colorado.....	33,624	5,320	4,545	2,044	55,056	2,082	138,849	81,711	85	.....	.....	.....	.....	85	.....	.....
Connecticut.....	12,453,872	3,480	45,054	1,974,862	22,702,830	648,968	51,911,332	28,469,534	15,368	0,805	500	8	195	7,860	5,111	.....
Illinois.....	30,571,419	618,802	549,727	3,199,171	50,258,394	1,367,905	119,528,022	67,901,723	32,600	1,995	19,000	83	.....	11,582	18,286	.....
Indiana.....	11,160,493	500	35,064	784,024	20,262,035	547,042	41,594,125	20,784,448	32,611	4,350	850	233	.....	27,178	623	.....
Iowa.....	78,735	.....	2,258	2,246	135,625	3,880	280,306	140,801	90	.....	.....	10	.....	80	.....	.....
Kentucky.....	243,039	12,436	2,975	100,469	546,573	7,253	1,137,031	583,205	439	65	.....	.....	.....	374	178	.....
Louisiana.....	27,901	.....	2,912	4,700	55,292	852	154,003	97,859	36	.....	.....	.....	.....	36	.....	.....
Maryland.....	144,903	4,723	7,696	30,707	152,150	4,757	522,865	365,958	188	.....	.....	.....	.....	188	.....	.....
Massachusetts.....	27,649,607	28,160	195,130	4,127,531	30,545,217	1,291,859	91,938,738	60,101,662	36,367	3,925	24,718	75	180	7,469	58,460	.....
Michigan.....	4,685,470	7,565	100,420	1,597,010	8,812,160	222,896	25,025,523	15,990,472	5,659	205	.....	37	.....	5,357	85	.....
Minnesota.....	753,004	8,343	17,378	160,213	1,976,575	50,773	4,353,919	2,320,001	881	.....	.....	.....	.....	881	.....	.....
Missouri.....	5,083,802	4,471	105,832	1,022,828	7,904,570	197,683	22,007,658	13,845,405	6,128	350	1,000	.....	.....	4,778	2,410	.....
Nebraska.....	91,589	.....	4,573	10,823	210,348	2,075	419,655	207,232	77	.....	.....	.....	.....	77	.....	.....
New Hampshire.....	359,801	.....	3,305	20,481	634,667	8,036	1,463,679	820,976	571	45	15	38	240	233	.....	.....
New Jersey.....	27,305,532	257,015	203,794	4,045,864	57,088,248	1,894,374	120,341,356	61,358,734	51,664	22,157	6,200	1,482	100	21,725	23,029	.....
New York.....	45,721,978	109,328	546,960	6,638,405	70,726,707	3,112,543	179,972,580	106,133,330	136,321	10,046	45,010	135	75	81,055	53,124	.....
North Carolina.....	131,004	.....	3,083	3,469	332,228	23,077	663,207	307,902	296	161	.....	6	25	104	20	.....
Ohio.....	30,652,032	38,738	373,050	8,177,807	70,633,187	1,664,020	156,924,143	84,626,936	42,753	4,533	8	2,068	.....	36,144	14,150	.....
Oregon.....	20,998	.....	2,782	816	37,241	1,067	103,127	64,819	35	.....	.....	.....	.....	35	.....	.....
Pennsylvania.....	30,031,285	85,531	176,416	10,011,888	49,485,481	1,872,161	132,673,856	81,816,214	58,366	4,202	33,630	1,257	.....	18,977	62,108	.....
Rhode Island.....	1,349,361	.....	5,471	480,325	2,951,553	175,211	7,565,790	4,440,025	3,087	705	.....	800	.....	1,582	464	.....
Tennessee.....	44,275	.....	215	8,770	66,555	3,715	184,829	114,559	123	75	.....	.....	.....	48	.....	.....
Texas.....	45,763	.....	2,520	1,271	90,457	1,709	174,877	82,711	98	.....	.....	.....	.....	98	.....	.....
Washington.....	201,899	.....	8,608	27,982	640,064	5,638	1,066,512	420,810	632	.....	.....	.....	.....	632	.....	.....
Wisconsin.....	6,028,437	1,896	68,875	990,026	9,001,101	366,961	23,636,473	14,268,411	7,470	2,110	.....	.....	.....	5,360	3,787	.....
All other states.....	827,946	15,805	10,789	32,629	1,006,360	124,489	2,816,433	1,085,584	2,970	211	.....	2,014	185	560	1,946	.....

¹ All other states embrace: Alabama, 1 establishment; Arkansas, 1; District of Columbia, 1; Florida, 1; Georgia, 2; Idaho, 1; Kansas, 2; Maine, 1; Montana, 1; North Dakota, 1; South Carolina, 2; South Dakota, 1; Utah, 2; Vermont, 1; Virginia, 5; West Virginia, 6.

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES
MANUFACTURES: 1919

ENGINES, LOCOMOTIVES
AND AIRCRAFT

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures

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1922

EXPLANATION OF TERMS.

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 statistics for these purposes it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or for which products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1919, 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 factory, 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, county, or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, 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 different from those covered by the class designation, and, on the other hand, may not represent the total product covered by this designation, because some products of this class may be made in establishments in which it is not the product of chief value.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1919 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.—The following general classes of persons engaged in the 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.

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. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date did not portray such conditions, an earlier date was requested.

In the case of employees other than wage earners the number thus reported for the representative date 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 has been 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 the representative date, a report was obtained of the number employed on the 15th of each month, by sex, without distinction of 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 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 number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is not believed to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In order to determine as nearly as possible the age distribution of the average number of wage earners for an industry, the per cent distribution by age of the wage earners for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year to determine the average numbers 16 years and over, and under 16, employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calcu-

late accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners 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 few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital (amount actually invested).—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."

These instructions were identical with those employed at the census of 1914 and 1900. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

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" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include certain Federal taxes and state, county, and local taxes. Under "Federal taxes" there are included the internal revenue tax on manufactures (tobacco, beverages, etc.), excise taxes when included in values reported for products, corporation capital stock tax, and corporation income tax, but not the income tax for individuals and partners.

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.

Value added by manufacture.—The value of products is not always 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 process carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated 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.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power equipment of the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, fuel oils, gasoline and other volatile oils, and gas, and represent the quantity used during the year. As only the principal kinds of fuel are shown, comparison as to the total cost of all fuel is impracticable.

ENGINES, STEAM, GAS, AND WATER.

GENERAL STATISTICS.

General character of the industry.—The engines manufactured by establishments here considered may be subdivided into four classes: (1) Steam engines, (2) internal combustion engines, (3) traction engines, not locomotive, and (4) water wheels, motors, turbines, etc. In many establishments, however, minor or subsidiary products are manufactured which can not properly be assigned to any of these groups, but the value of which is necessarily included in the total value of the products of the factory reporting. In 1919 the total value of these subsidiary or minor products was \$126,910,209, such products including engine parts, automobiles and trailers, agricultural implements, electrical machinery, general machinery, pumps, condensers, and other miscellaneous items.

Engines were also made by establishments engaged primarily in the manufacture of other products to the value of \$115,259,101 in 1919, and \$39,421,230 in 1914.

Importance and growth of the industry.—Table 1 summarizes the statistics for 1919 and 1914; prior to 1914 separate statistics were not obtained for this industry. With the exception of the number of establishments, and proprietors and firm members, a large increase is shown in every item. The increases, however, in salaries and wages, cost of materials, and value of products are due largely to a general rise of prices and wages following the World War, and do not, therefore, fairly measure the growth of the industry for the period. A truer index of the conditions is found in the increase in the average number of wage earners and primary horsepower. The addition of the Federal income tax since 1914 will account for the increase in "Rent and taxes." "Contract work," or work performed by employees other than those in the plant reporting, has little significance, since it represents merely the methods of manufacture used by establishments, which vary from year to year.

Principal states, ranked by value of products.—Michigan, as shown by Table 2, was in 1919 the leading state in the manufacture of engines. This state reported 18.4 per cent of the total number of wage earners, and 21.9 per cent of the total value of products. Wisconsin, second in importance, contributed 22.9 per cent and 19.6 per cent, respectively, of these two items. Although engines were manufactured in 33 different states, the industry has become centralized in Michigan, Wisconsin, Pennsylvania, Illinois, Ohio, and New York, named in the order of their rank by value of products. Combined, the 6 states produced 78.2 per cent of the total

value of products for the industry in 1919, and employed 78.7 per cent of the total number of wage earners.

Persons engaged in the industry.—The classification, by sex, for 1919 was reported separately, but for 1914 was obtained in the same manner as the distribution by age. The age classification of the average number of wage earners in Table 3 is an estimate obtained by the method described in the "Explanation of terms." Figures in detail will be found in Table 16.

Wage earners, by months.—The statistics for wage earners in Table 4 show the regularity of employment, or the reverse, in accordance with the existing industrial conditions during the census years reported. In 1919 the number employed in the industry month by month ranged from a maximum of 90,102 in January to a minimum of 70,193 in May, the minimum number being equivalent to 77.9 per cent of the maximum. This table presents the number of males and females separately for the United States for 1919, and combined figures for the United States for 1914 and for the principal states for 1919.

Prevailing hours of labor.—Table 5 shows a marked shortening of the working-day for the industry since 1914. In that year only 10.3 per cent were reported as employed fewer than 54 hours per week, as against 67.3 per cent in 1919. In 1914 the "60" and "Over 60" groups constituted 9.9 per cent of the total wage earners, as compared with 2.3 per cent in 1919.

Size of establishments, by average number of wage earners.—Analysis of Table 6 discloses the significant fact that 66 establishments, or 17.8 per cent of the total number for the industry, employed less than 6 wage earners each, while only 185, or one-fifth of 1 per cent of the total number of wage earners, were employed therein, evidencing the predominance of the small establishments based upon the average number of wage earners. On the other hand, the classes "501 to 1,000" and "Over 1,000" wage earners, comprising 39 establishments, employed 53,064 wage earners, or 68.4 per cent of the total average number, illustrating the extent of manufacturing operations in a few large establishments.

Size of establishments, by value of products.—At the census of 1914 establishments with products valued at "\$100,000 to \$1,000,000" constituted one group, but at the census of 1919 this group was subdivided into "\$100,000 to \$500,000," and "\$500,000 to \$1,000,000." Separate figures for the number of establishments and value of products have been compiled, however, from the returns for 1914. Table 7,

therefore, gives combined figures for these two groups in the case of average number of wage earners and value added by manufacture, in 1914. The statistics in the table show the degree of concentration of production in large establishments. In 1919 the groups "\$500,000 to \$1,000,000" and "\$1,000,000 and over" included 123 establishments, or 33.2 per cent of the total number for the industry; employed 70,374 wage earners, or 90.6 per cent of the total average number; and reported products to the value of \$434,346,867, or 93.4 per cent of the total value of products.

Character of ownership.—Table 8 emphasises the predominance of the corporate form of ownership. Corporations owned 82.7 per cent of the total number of establishments for the industry in 1919; employed 98.8 per cent of the total average number of wage earners; and reported 99 per cent of the total

value of products. During the five-year period 1914 to 1919, the average number of wage earners employed by corporations increased by 48,952, or 176.4 per cent, and the value of products by \$392,561,748, or 579.2 per cent.

Number and horsepower of types of prime movers.—From 1914 to 1919, as shown by Table 9, there was an increase in the total horsepower for the industry of 126,974 horsepower, or 201.4 per cent. Owned power showed an increase of 46,784 horsepower, or 117.2 per cent, and rented power increased 80,190 horsepower, or 346.5 per cent.

Fuel consumed.—Table 10 shows the principal kinds of fuel used for the industry in 1919 and 1914, and also gives separately the amounts consumed in states requiring considerable quantities of fuel for manufacturing purposes.

TABLE 1.—COMPARATIVE SUMMARY: 1919 AND 1914.

	1919	1914	Per cent of increase, ¹ 1914-1919.		1919	1914	Per cent of increase, ¹ 1914-1919.
Number of establishments.....	370	446	-17.0	Salaries and wages.....	\$136,347,494	\$28,586,083	377.0
Persons engaged.....	96,286	36,303	165.2	Salaries.....	30,912,039	7,165,346	331.4
Proprietors and firm members.....	93	197	-52.8	Wages.....	105,435,455	21,420,737	392.2
Salaried employees.....	18,576	6,449	188.0	Paid for contract work.....	936,389	145,921	541.7
Wage earners (average number).....	77,617	29,657	161.7	Rent and taxes.....	21,599,073	969,916	2,126.9
Primary horsepower.....	190,021	63,047	201.4	Cost of materials.....	217,550,771	31,460,227	591.5
Capital.....	\$454,124,733	\$131,080,145	246.4	Value of products.....	464,774,735	72,121,112	544.4
				Value added by manufacture ²	247,223,964	40,660,885	508.0

¹ A minus sign (-) denotes decrease.² Value of products less cost of materials.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States..	370	77,617	100.0	...	\$464,775	100.0	...	\$247,224	100.0	...	Iowa.....	17	2,739	3.5	8	\$17,611	3.8	8	\$8,716	3.5	8
Michigan.....	35	14,258	18.4	2	101,989	21.9	1	44,939	18.2	2	Indiana.....	16	2,853	3.7	7	14,473	3.1	9	6,784	2.7	11
Wisconsin.....	36	17,782	22.9	1	90,953	19.6	2	45,886	18.6	1	Minnesota.....	14	1,529	2.0	12	12,946	2.8	10	8,366	3.4	9
Pennsylvania.....	34	9,711	12.5	3	52,574	11.3	3	33,738	13.6	3	California.....	22	2,231	2.9	10	12,687	2.7	11	7,041	2.8	10
Illinois.....	25	8,645	11.1	4	45,741	9.8	4	22,097	8.9	5	Connecticut.....	16	1,764	2.3	11	7,309	1.6	12	4,015	1.6	12
Ohio.....	44	6,218	8.0	5	42,851	9.2	5	22,507	9.1	4	Missouri.....	10	782	1.0	13	4,166	0.9	13	2,665	1.1	13
New York.....	31	4,528	5.8	6	29,822	6.4	6	19,720	8.0	6	Washington.....	13	546	0.7	14	2,527	0.5	15	1,402	0.6	15
New Jersey.....	15	2,392	3.1	9	19,387	4.2	7	13,971	5.7	7	All other states....	42	1,639	2.1	...	9,739	2.1	...	5,377	2.2	...

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919 AND 1914.

CLASS.	Cen-sus year.	Total.	Male.	Fe-male.	PER CENT OF TOTAL.		CLASS.	Cen-sus year.	Total.	Male.	Fe-male.	PER CENT OF TOTAL.	
					Male.	Fe-male.						Male.	Fe-male.
All classes.....	1919	96,286	90,210	6,076	93.7	6.3	Clerks and other subordinate salaried employees.....	1919	14,784	10,593	4,191	71.7	28.3
	1914	36,303	34,144	2,159	94.1	5.9		1914	5,240	3,149	2,091	60.1	39.9
Proprietors and officials.....	1919	3,885	3,844	41	98.9	1.1	Wage earners (average number).....	1919	77,617	75,773	1,844	97.6	2.4
	1914	1,406	1,401	5	99.6	0.4		1914	29,657	29,594	63	99.8	0.2
Proprietors and firm members.....	1919	93	86	7	92.5	7.5	16 years of age and over.....	1919	77,509	75,674	1,835	97.6	2.4
	1914	197	186	1	99.5	0.5		1914	29,622	29,559	63	99.8	0.2
Salaried officers of corporations....	1919	599	591	8	98.7	1.3	Under 16 years of age.....	1919	108	99	9	91.7	8.3
	1914	478	475	3	99.4	0.6		1914	35	35	.....	100.0	.....
Superintendents and managers....	1919	3,193	3,167	26	99.2	0.8							
	1914	731	730	1	99.9	0.1							

ENGINES, STEAM, GAS, AND WATER.

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TABLE 4.—WAGE EARNERS, BY MONTHS, FOR SELECTED STATES: 1919.

[The month of maximum employment for each state is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States:														
1919.....	77,617	90,102	85,232	83,076	74,983	<i>70,183</i>	70,452	72,749	73,265	74,811	76,852	78,240	81,449	77.9
Males.....	75,773	87,177	83,151	81,164	73,293	<i>68,663</i>	68,833	71,175	71,760	73,190	75,092	76,418	79,460	78.6
Females.....	1,844	2,925	2,081	1,912	1,690	<i>1,630</i>	1,619	1,574	<i>1,605</i>	1,621	1,760	1,822	1,989	51.5
1914.....	29,657	30,183	30,885	31,343	32,033	31,643	30,886	30,114	30,010	28,024	26,946	<i>26,669</i>	27,148	83.3
California.....	2,231	2,715	2,150	1,697	2,424	2,366	2,418	2,437	2,613	2,624	<i>1,691</i>	1,784	1,853	62.3
Connecticut.....	1,704	2,136	2,118	1,927	1,838	1,789	1,729	1,652	1,654	1,600	<i>1,547</i>	1,604	1,574	72.4
Illinois.....	8,645	9,821	9,583	9,325	8,455	8,382	7,955	<i>7,785</i>	8,061	8,519	8,518	8,497	8,839	79.3
Indiana.....	2,853	3,268	3,009	2,997	2,767	2,648	2,711	<i>2,550</i>	2,704	2,860	2,937	2,826	2,979	77.4
Iowa.....	2,739	3,063	3,390	3,536	3,165	3,030	3,066	3,003	<i>1,489</i>	1,619	2,116	2,485	2,906	42.1
Michigan.....	14,258	16,691	13,638	13,755	<i>10,460</i>	10,782	13,216	14,413	15,213	15,305	15,531	15,746	16,346	62.7
Minnesota.....	1,529	1,750	1,834	1,893	1,709	1,567	1,454	1,489	1,420	1,389	1,378	1,320	<i>1,154</i>	61.0
Missouri.....	782	693	676	<i>671</i>	74	784	780	778	815	826	835	913	909	73.5
New Jersey.....	2,392	5,057	5,054	4,438	2,959	1,616	1,543	1,457	1,366	1,293	1,283	<i>1,287</i>	1,346	25.4
New York.....	4,528	6,338	6,513	6,533	5,490	4,504	<i>5,372</i>	3,642	3,434	3,442	3,450	3,532	3,780	49.5
Ohio.....	6,218	6,351	6,041	6,175	5,969	<i>5,673</i>	5,988	6,629	6,667	6,231	6,202	6,213	6,477	85.1
Pennsylvania.....	9,711	10,551	10,190	9,825	9,412	<i>8,989</i>	9,323	9,399	9,237	9,265	9,630	10,140	10,571	85.0
Washington.....	546	568	<i>233</i>	435	530	636	680	712	661	662	563	480	392	32.7
Wisconsin.....	17,782	19,386	18,711	18,148	17,434	15,820	<i>14,626</i>	15,256	16,349	17,586	19,581	19,794	20,693	70.7

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED STATES: 1919 AND 1914.

STATE.	Census year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44 and under.	Between 44 and 48.	48. ¹	Between 48 and 54.	54.	Between 54 and 60.	60.	Over 60.
United States.....	1919	77,617	9,289	4,619	22,899	15,410	6,662	16,949	1,786	3
	1914	29,657	(²)	(²)	1,982	1,075	8,862	14,789	2,917	32
California.....	1919	2,231	1,271	.....	839	9	112	.....	.....	.....
	1914	813	(²)	(²)	663	.....	150	.....	.....	.....
Connecticut.....	1919	1,764	930	.....	375	262	197	.....	.....	.....
	1914	1,075	(²)	(²)	369	191	196	319	.....	.....
Illinois.....	1919	8,645	.....	.....	2,870	3,323	1,372	918	159	3
	1914	1,860	.....	.....	.....	70	515	1,190	85	.....
Indiana.....	1919	2,853	1,170	.....	.....	308	8	1,335	32	.....
	1914	1,311	(²)	(²)	69	207	210	608	217	.....
Iowa.....	1919	2,739	.....	4	584	.....	1,005	383	763	.....
	1914	1,197	(²)	(²)	456	.....	602	59	80	.....
Michigan.....	1919	14,258	390	.....	3,208	4,013	917	5,716	14	.....
	1914	4,427	.....	.....	.....	97	1,547	2,267	516	.....
Minnesota.....	1919	1,529	.....	32	763	81	86	418	149	.....
	1914	508	.....	.....	.....	20	96	196	196	.....
Missouri.....	1919	782	320	75	19	.....	12	356	.....	.....
	1914	307	.....	.....	.....	14	126	167	.....	.....
New Jersey.....	1919	2,392	881	135	123	521	43	689	.....	.....
	1914	677	(²)	(²)	2	.....	589	83	3	.....
New York.....	1919	4,528	1,801	.....	735	1,686	39	238	29	.....
	1914	1,973	(²)	(²)	5	23	1,076	604	265	.....
Ohio.....	1919	6,218	633	308	1,207	327	110	3,582	51	.....
	1914	2,962	(²)	(²)	100	179	59	2,400	224	.....
Pennsylvania.....	1919	9,711	203	.....	7,055	1,150	354	693	256	.....
	1914	5,222	(²)	(²)	213	217	2,562	1,410	788	32
Washington.....	1919	546	527	.....	19	.....	.....	.....	.....	.....
	1914	21	(²)	(²)	4	10	5	.....	2	.....
Wisconsin.....	1919	17,782	924	4,065	4,821	3,472	2,005	2,454	41	.....
	1914	6,010	(²)	(²)	91	4	216	5,400	299	.....

¹ Includes 48 and under for 1914.

² Corresponding figures not available.

MANUFACTURES.

TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—																
	Establishments.	Wage earners (average number).	No wage earners.	1 to 5 wage earners, inclusive.	6 to 20 wage earners, inclusive.	21 to 50 wage earners, inclusive.	51 to 100 wage earners, inclusive.	101 to 250 wage earners, inclusive.	251 to 500 wage earners, inclusive.	501 to 1,000 wage earners, inclusive.	Over 1,000 wage earners.								
			Establishments.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.				
United States.....1919.	370	77,617	4	62	185	74	879	55	1,828	50	3,617	64	10,212	22	7,832	23	16,990	16	36,074
.....1914.	446	29,657	23	120	340	107	1,350	79	2,853	48	3,492	49	7,048	12	4,299	4	2,815	4	6,860
California.....	22	2,231	.....	6	10	4	51	3	114	1	66	0	863	1	420	1	701	.....	.....
Connecticut.....	16	1,764	.....	3	6	1	12	5	146	2	130	4	572	.....	.....	1	808	.....	.....
Illinois.....	25	8,645	.....	3	9	4	47	4	154	4	233	4	617	.....	.....	2	1,524	4	6,961
Indiana.....	16	2,853	.....	2	6	5	75	.....	.....	4	301	2	376	1	321	1	604	1	1,170
Iowa.....	17	2,739	.....	4	13	4	38	2	53	1	63	3	496	1	366	2	1,710	.....	.....
Michigan.....	35	14,258	1	5	18	3	46	6	215	6	483	7	1,315	2	854	1	700	4	10,627
Minnesota.....	14	1,529	.....	2	8	2	27	4	140	3	241	1	138	1	273	1	702	.....	.....
Missouri.....	10	782	.....	2	9	3	35	.....	.....	2	141	2	277	1	320	.....	.....	.....	.....
New Jersey.....	15	2,392	.....	2	5	2	28	3	104	2	160	2	238	1	278	2	1,570	.....	.....
New York.....	31	4,528	1	3	15	10	108	3	98	1	74	9	1,659	1	461	3	2,113	.....	.....
Ohio.....	44	6,218	.....	9	27	6	59	7	215	8	553	5	742	5	1,560	3	1,866	1	1,196
Pennsylvania.....	34	9,711	.....	5	16	6	66	5	176	5	357	5	773	4	1,439	1	645	3	6,229
Washington.....	13	540	1	2	6	4	62	1	36	4	314	1	128	.....	.....	.....	.....	.....	.....
Wisconsin.....	36	17,782	.....	2	6	6	61	6	197	4	261	6	985	4	1,534	5	3,957	3	10,781

TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919 AND 1914.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.		AVERAGE NUMBER OF WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
	1919	1914	1919	1914	1919	1914	1919	1914
All classes.....	370	440	77,617	29,657	\$464,774,735	\$72,121,112	\$247,223,964	\$40,660,885
Less than \$5,000.....	22	71	21	89	58,542	183,305	38,237	121,335
\$5,000 to \$20,000.....	37	101	157	590	460,083	1,148,386	259,204	681,350
\$20,000 to \$100,000.....	88	135	1,277	3,033	4,468,157	6,888,195	2,447,079	3,578,498
\$100,000 to \$500,000.....	100	109	5,788	14,751	25,441,086	25,236,816	13,237,168	21,183,717
\$500,000 to \$1,000,000.....	46	18	6,776	11,164	33,155,061	11,836,296	18,519,049	14,796,955
\$1,000,000 and over.....	77	12	63,598	11,164	401,191,806	26,828,084	212,723,227	14,796,955
PER CENT DISTRIBUTION.								
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	5.9	15.9	(1)	0.3	(1)	0.3	(1)	0.3
\$5,000 to \$20,000.....	10.0	22.6	0.2	2.0	0.1	0.2	0.1	1.7
\$20,000 to \$100,000.....	23.8	30.3	1.6	10.3	1.0	9.7	1.0	9.5
\$100,000 to \$500,000.....	27.0	24.4	7.5	49.7	5.5	35.5	5.4	52.1
\$500,000 to \$1,000,000.....	12.4	4.0	8.7	37.6	7.1	16.6	7.5	36.4
\$1,000,000 and over.....	20.8	2.7	81.9	37.6	80.3	37.7	86.0	36.4

¹ Less than one-tenth of 1 per cent.

TABLE 8.—CHARACTER OF OWNERSHIP, BY SELECTED STATES: 1919 AND 1914.

STATE.	Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
					Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Corpora- tions.	All oth- ers.				
United States.....	1919	47	306	17	77,617	665	76,693	259	0.9	98.8	0.3	\$464,774,735	\$3,262,902	\$460,334,108	\$1,177,725	0.7	99.0	0.3				
	1914	94	305	47	29,657	914	27,741	1,002	3.1	98.5	3.4	72,121,112	2,061,126	67,772,360	2,287,626	2.9	94.0	3.2				
California.....	1919	5	15	2	2,231	126	2,205	.....	1.2	98.8	.....	12,687,250	172,515	12,514,735	.....	1.4	98.6	.....			
	1914	3	20	1	813	113	800	.....	1.6	98.4	.....	2,709,907	43,251	2,666,656	.....	1.6	98.4	.....			
Connecticut.....	1919	2	12	2	1,764	181	1,683	.....	4.6	95.4	.....	7,309,474	486,966	6,822,508	.....	6.7	93.3	.....			
	1914	4	13	1	1,075	1217	858	.....	20.2	79.8	.....	2,551,787	583,002	1,968,705	.....	22.8	77.1	.....			
Illinois.....	1919	2	22	1	8,645	.....	8,583	62	.....	99.3	0.7	45,741,267	.....	45,572,299	168,968	.....	99.6	0.4
	1914	3	22	5	1,860	7	1,774	79	0.4	95.4	4.2	3,948,730	.....	3,799,726	139,452	0.2	96.2	3.5			
Indiana.....	1919	3	12	1	2,853	133	2,820	.....	1.2	98.8	.....	14,472,788	68,728	14,404,060	.....	0.5	99.5	.....			
	1914	5	14	2	1,311	144	1,267	.....	3.4	96.6	.....	2,808,386	64,874	2,743,512	.....	2.3	97.7	.....			

¹ Includes the group "All others."² Includes the group "Individuals."

TABLE 8.—CHARACTER OF OWNERSHIP, BY SELECTED STATES: 1919 AND 1914—Continued.

STATE.	Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.						VALUE OF PRODUCTS.							
		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.		
						Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Corpora- tions.	All oth- ers.
Iowa.....	1919	2	15	.....	2,739	.....	1	2,739	.....	100.0	.....	\$17,610,778	.....	1	\$17,610,778	.....	100.0	.....
	1914	5	12	3	1,197	9	1,131	57	0.8	94.5	4.8	3,585,946	\$22,892	3,436,477	\$126,577	0.6	95.8	3.5
Michigan.....	1919	2	32	1	14,258	.....	14,251	17	100.0	(?)	.....	101,989,440	.....	101,958,580	130,860	100.0	(?)	.....
	1914	10	35	3	4,427	35	4,261	131	0.8	96.2	3.0	12,369,172	74,470	12,074,084	220,618	0.6	97.6	1.8
Minnesota.....	1919	1	13	.....	1,529	.....	1,529	.....	100.0	.....	.....	12,946,297	.....	12,946,297	.....	100.0	.....	.....
	1914	2	14	1	508	22	486	.....	4.3	95.7	.....	1,950,239	38,417	1,911,822	.....	2.0	98.0	.....
Missouri.....	1919	2	8	.....	782	.....	782	.....	100.0	.....	.....	4,166,336	.....	4,166,336	.....	100.0	.....	.....
	1914	.....	6	.....	307	.....	307	.....	100.0	.....	.....	1,171,929	.....	1,171,929	.....	100.0	.....	.....
New Jersey.....	1919	4	11	.....	2,392	74	2,318	.....	3.1	96.9	.....	19,387,212	383,024	19,004,188	.....	2.0	98.0	.....
	1914	5	8	1	677	119	558	.....	17.6	82.4	.....	1,756,278	297,770	1,458,508	.....	17.0	83.0	.....
New York.....	1919	3	27	1	4,528	21	4,507	.....	0.5	99.5	.....	29,822,286	83,418	29,738,868	.....	0.3	99.7	.....
	1914	10	31	7	1,973	152	1,775	46	7.7	90.0	2.3	4,598,902	333,494	4,173,597	91,811	7.3	90.7	2.0
Ohio.....	1919	6	37	1	6,218	347	5,871	.....	5.6	94.4	.....	42,850,677	1,998,551	40,852,126	.....	4.7	95.3	.....
	1914	8	35	4	2,962	168	2,688	106	5.7	90.7	3.6	6,861,351	413,948	6,052,461	394,442	6.0	88.2	5.8
Pennsylvania.....	1919	3	28	3	9,711	10	9,662	39	0.1	99.5	0.4	52,574,026	52,050	52,407,206	114,770	0.1	99.7	0.2
	1914	13	37	6	5,222	139	5,063	20	2.7	97.0	0.4	11,391,872	243,205	11,119,227	29,440	2.1	97.6	0.3
Washington.....	1919	3	9	1	546	33	513	.....	6.0	94.0	.....	2,527,275	127,473	2,399,802	.....	5.0	95.0	.....
	1914	4	1	3	21	5	.....	16	23.8	.....	76.2	84,991	38,865	46,126	45.7	54.3	.....
Wisconsin.....	1919	1	34	1	17,782	.....	17,782	423	100.0	.....	.....	90,953,496	.....	90,953,496	.....	100.0	.....	.....
	1914	7	29	4	6,010	12	5,575	.....	0.2	92.8	7.0	13,063,336	24,860	12,157,884	880,592	0.3	93.1	6.7

¹ Includes the group "Individuals."
² Less than one-tenth of 1 per cent.

³ Includes the group "All others."
⁴ Includes the group "Corporations."

⁵ Includes the groups "Individuals" and "All others."

TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919 AND 1914.

POWER.	NUMBER OF ENGINES OR MOTORS.		HORSEPOWER.				POWER.	NUMBER OF ENGINES OR MOTORS.		HORSEPOWER.				
			Amount.		Per cent distribution.					Amount.		Per cent distribution.		
	1919	1914	1919	1914	1919	1914		1919	1914	1919	1914	1919	1914	
Primary power, total.....	10,477	2,495	190,021	63,047	100.0	100.0	Primary power—Continued.							
Owned.....	469	516	86,690	30,806	45.6	63.3	Rented.....	10,008	1,979	103,331	23,141	54.4	36.7	
Steam.....	247	183	70,582	25,333	37.1	40.3	Electric.....	10,008	1,979	103,315	22,200	54.3	35.2	
Engines.....	198	(1)	42,737	(1)	22.5	....	Other.....			16	941	0.1	1.5	
Turbines.....	49	(1)	27,845	(1)	14.6	....	Electric.....	17,496	4,472	213,727	58,780	100.0	100.0	
Internal-combustion engines.....	216	316	16,773	13,835	8.8	21.9	Rented.....	10,008	1,979	103,315	22,200	48.3	37.8	
Water wheels, turbines, and motors..	6	17	335	688	0.2	1.1	Generated by establishments reporting...	7,488	2,493	110,412	36,580	51.7	62.2	

¹ Not reported separately.

TABLE 10.—FUEL CONSUMED, BY SELECTED STATES: 1919.

STATE.	COAL.		Coke (tons 2,000 lbs.).	Fuel oils (barrels).	Gasoline and other volatile oils (bar- rels).	Gas (1,000 cubic feet).	STATE.	COAL.		Coke (tons 2,000 lbs.).	Fuel oils (barrels).	Gasoline and other volatile oils (bar- rels).	Gas (1,000 cubic feet).
	Anthra- cite (tons 2,240 lbs.).	Bitu- minous (tons 2,000 lbs.).						Anthra- cite (tons 2,240 lbs.).	Bitu- minous (tons 2,000 lbs.).				
United States..1919..	6,399	658,919	94,940	264,655	65,106	807,064	Michigan.....	208	74,910	10,625	52,752	15,475	40,788
.....1914..	28,547	239,359	42,341	63,796	(1)	2,022,742	Minnesota.....	102	6,690	1,639	1,572	2,284	1,475
California.....	...	38	485	24,770	741	2,236	Missouri.....	...	2,074	1,350	7,683	605	6,350
Connecticut.....	377	5,292	1,050	7,747	199	244	New Jersey.....	1,252	18,707	321	2,015	1,197	8,829
Illinois.....	66	66,740	11,388	33,035	12,111	143,515	New York.....	1,270	23,871	5,425	13,827	1,445	17,696
Indiana.....	...	9,493	1,365	11,619	1,736	11,367	Ohio.....	339	34,467	6,778	3,498	2,725	282,852
Iowa.....	...	16,098	7,630	12,366	3,861	2,960	Pennsylvania.....	2,427	211,736	6,834	3,740	1,646	186,282
							Washington.....	50	346	230	2,805	13	8,672
							Wisconsin.....	98	183,169	38,215	86,791	19,131	83,861

¹ Included with figures for fuel oils

SPECIAL STATISTICS.

Certain additional detailed information concerning the quantity and value of products for the industry is collected by means of supplemental schedules. In the foregoing tables statistics were presented for only those establishments engaged primarily in the manufacture of engines. There is, however, a considerable production of engines by establishments engaged primarily in other lines of manufacture. The general statistics for these subsidiary products are included with the statistics of the industry reporting them. In order to present in detail the number, type, and horsepower of the engines built in these establishments, the data in the following tables of production include the subsidiary engine products of establishments classed under other industries.

Classes of engines, grouped according to horsepower capacity.—Table 11 shows in comparative form for 1919 and 1914 the various types of engines manufactured, divided into horsepower groupings. Of the total value of products in 1919, \$453,123,627, or 78.1 per cent, was the value of completed engines. Of the total number of engines built, 37.4 per cent were stationary and portable internal-combustion engines, 26.7 per cent automobile engines, and 25.7 per cent traction engines. That there was a tendency to build larger units is shown by the fact that in 1914 the average horsepower per engine was slightly less than 16, but in 1919 the average rose to nearly 29 horsepower per engine.

TABLE 11.—NUMBER OF EACH CLASS OF ENGINES, GROUPED ACCORDING TO INDICATED HORSEPOWER CAPACITY, AND TOTAL HORSEPOWER AND VALUE: 1919 AND 1914.

CLASS.	Cen- sus year.	Total number of engines.	NUMBER, BY INDICATED HORSEPOWER CAPACITY.										Total indicated horsepower rating.	Value.
			Under 10.	10 to 49.	50 to 99.	100 to 499.	500 to 999.	1,000 to 1,999.	2,000 to 4,999.	5,000 to 9,999.	10,000 and over.			
Products: Aggregate.....	1919	836,251	324,456	488,385	9,439	11,034	503	1,780	331	158	159	23,949,804	\$580,033,836	
	1914	418,526	293,250	111,156	10,877	2,576	359	95	104	39	61	6,553,956	111,538,676	
Manufactured by establishments engaged primarily in the engine industry.	1919	742,611	290,274	435,444	8,294	6,034	435	1,692	200	88	99	19,341,851	4,477,735	
	1914	346,394	253,610	83,513	7,220	1,724	200	51	40	16	20	4,258,297	72,117,445	
Manufactured by establishments engaged primarily in other industries.	1919	83,640	34,192	52,941	1,145	5,000	67	94	71	70	60	4,607,953	115,239,101	
	1914	72,132	39,649	27,043	3,657	852	159	44	64	23	41	2,295,659	39,421,230	
Steam engines:														
Stationary and portable (not turbine or automobile)...	1919	12,373	1,921	7,053	2,447	809	91	19	2	29	2	780,930	14,491,373	
	1914	12,404	2,449	5,335	2,961	1,426	191	13	29	.....	.....	805,682	11,821,964
Stationary turbines.....	1919	2,419	149	857	619	624	48	22	19	16	65	1,083,971	10,073,324	
	1914	1,307	125	283	280	389	54	45	54	20	43	1,312,718	8,662,174	
Marine (not turbines).....	1919	679	.....	.....	3	59	145	273	191	.....	8	1,203,530	27,951,238
	1914	953	447	392	40	63	21	18	2	.....	.....	73,679	1,299,971
Marine turbines ¹	1919	2,142	10	182	194	43	.....	1,438	102	100	73	3,993,205	40,101,653
	1914	1,814	770	368	84	498	76	11	.....	7	.....	182,701	3,335,089
Other steam engines ¹	1919	1,814	770	368	84	498	76	11	.....	7	.....	182,701	3,335,089
Internal-combustion engines:														
Automobile.....	1919	223,385	4,840	217,676	830	39	.....	.....	.....	.....	.....	6,382,975	60,988,532
	1914	71,745	4,004	64,706	3,035	.....	.....	.....	.....	.....	.....	1,916,293	11,622,951
Aviation ²	1919	6,747	.....	0	.....	6,738	.....	.....	.....	.....	.....	1,716,245	33,814,333
Marine.....	1919	31,530	22,559	7,717	556	612	82	3	1	.....	.....	500,243	20,578,132
	1914	44,157	35,952	7,657	417	112	17	2	.....	.....	.....	339,638	7,570,245
Stationary and portable (not automobile, aviation, or marine).	1919	312,916	271,172	39,772	1,050	885	28	1	3	5	.....	1,748,638	55,941,323
	1914	250,722	228,937	20,424	925	369	24	11	2	.....	.....	1,144,991	25,606,905
Other internal-combustion engines.....	1919	14,758	14,273	343	23	119	.....	.....	.....	.....	.....	163,110	3,045,552
	1914	2,849	2,700	18	124	7	.....	.....	.....	.....	.....	28,300	513,623
Traction, not locomotives.....	1919	214,958	8,343	203,082	3,092	441	.....	.....	.....	.....	.....	5,556,480	172,667,080
	1914	15,150	181	12,200	2,739	29	1	.....	.....	.....	.....	424,264	17,651,216
Water wheels, motors, and turbines.....	1919	12,530	419	11,326	541	167	33	19	6	8	11	637,776	4,135,959	
	1914	19,239	18,434	106	356	181	51	6	17	10	18	508,391	3,633,008	
Other engines and parts.....	1919	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	52,294,174
	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,453,654
Other foundry and machine-shop products.....	1919	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50,596,481
	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,421,982
All other products.....	1919	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24,019,554
	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,281,573

¹ Includes 11 marine steam turbines of 121,000 horsepower.

² Figures not available for 1914.

Summary, by states.—Table 12 summarizes by states, ranked by their importance as shown by value of products, the total number, horsepower, and value of the various types of engines manufactured. The data are divided into four groups—steam, internal-combustion, traction, and water-driven. In 1919 internal-combustion engines was the leading group, forming

38.5 per cent of the total value and 70.5 per cent of the total number of engines built. Traction engines followed with 38.1 per cent and 25.7 per cent of these items. Steam engines claimed 22.5 per cent of the total value and 2.3 per cent of the total number, while water-driven units formed only nine-tenths of 1 per cent of value and 1.5 per cent of number.

TABLE 12.—NUMBER, HORSEPOWER, AND VALUE OF EACH CLASS OF ENGINES, BY STATES: 1919 AND 1914.

CLASS AND STATE.	NUMBER.		HORSEPOWER (RATED OR INDICATED).		VALUE.		PER CENT DISTRIBUTION.				PER CENT OF INCREASE, ¹ 1914-1919.	
	1919	1914	1919	1914	1919	1914	Horsepower.		Value.		Horse- power.	Value.
							1919	1914	1919	1914		
United States.....	836,251	418,526	23,949,804	6,553,956	\$453,123,627	\$88,382,067	100.0	100.0	100.0	100.0	265.4	412.7
Total for the industry.....	742,811	346,394	19,341,851	4,258,297	341,608,825	53,160,906	80.8	65.0	75.4	60.1	354.2	542.6
Subsidiary products from other industries.....	93,640	72,132	4,607,953	2,295,659	111,514,802	35,221,161	19.2	35.0	24.6	39.9	100.7	216.6
Steam engines.....	19,427	14,664	7,244,337	2,192,079	101,952,707	21,784,109	100.0	100.0	100.0	100.0	230.5	368.0
Pennsylvania.....	9,545	5,440	2,330,255	932,224	44,287,051	9,632,015	32.2	42.5	43.4	44.2	150.0	359.8
Ohio.....	1,244	412	403,188	84,902	12,759,735	1,199,169	5.6	3.9	12.5	5.5	374.9	964.0
Wisconsin.....	2,066	684	1,222,940	202,804	11,889,907	2,155,133	16.9	9.3	11.7	9.9	503.0	451.7
Indiana.....	88	264	104,050	19,279	6,287,768	172,429	2.7	0.9	6.2	0.8	906.5	3,546.6
New Jersey.....	900	705	233,596	43,768	5,634,776	1,152,957	3.2	2.0	5.5	5.3	433.7	388.7
New York.....	929	1,459	763,187	592,576	3,982,885	3,288,753	10.5	27.0	3.9	15.1	28.8	21.1
Michigan.....	1,795	2,214	148,694	33,451	3,976,451	457,272	2.1	1.5	3.9	2.1	344.5	769.6
California.....	110	34	168,225	2,191	2,939,878	56,142	2.3	0.1	2.9	0.3	5,524.3	5,136.5
Washington.....	64	60	90,650	5,065	2,125,678	123,263	1.3	0.2	2.1	0.6	1,689.7	1,624.4
Illinois.....	732	655	34,466	35,500	970,793	328,935	0.5	1.6	1.0	1.5	-3.5	195.1
All other states.....	1,954	2,757	1,655,286	239,519	7,097,784	3,218,035	22.8	10.9	7.0	14.8	591.1	120.6
Internal-combustion engines.....	589,336	369,473	10,511,211	3,429,222	174,367,872	45,313,734	100.0	100.0	100.0	100.0	206.5	284.8
Michigan.....	197,829	96,509	5,544,380	1,602,081	62,378,949	11,243,023	52.7	46.7	35.8	24.8	246.1	454.8
Wisconsin.....	176,633	99,120	1,607,859	443,995	26,324,601	8,813,350	15.3	13.0	15.1	19.5	262.1	198.7
Pennsylvania.....	29,351	11,984	807,516	179,517	18,146,744	3,437,403	7.7	5.2	10.4	7.6	349.8	427.9
New York.....	9,490	9,382	534,289	181,763	15,990,967	3,812,800	5.1	5.3	9.2	8.4	193.9	319.4
Illinois.....	48,546	35,034	483,255	204,457	8,946,770	3,030,634	4.6	6.0	5.1	6.7	136.3	195.2
Ohio.....	12,986	14,900	332,004	202,284	7,528,724	3,224,263	3.2	5.9	4.3	7.1	64.4	133.5
Indiana.....	50,058	17,864	473,920	191,803	6,470,371	2,130,003	4.5	5.6	3.7	4.7	147.1	203.8
Iowa.....	27,367	50,207	121,044	158,017	6,111,358	3,245,322	1.2	4.6	3.5	7.2	-23.4	88.3
New Jersey.....	1,481	296	184,965	5,019	5,340,895	194,402	1.5	0.1	3.1	0.4	3,585.3	2,647.3
Connecticut.....	5,820	6,829	116,792	79,749	5,303,758	2,013,168	1.1	2.3	3.0	4.4	46.4	163.5
California.....	1,773	1,772	72,224	34,340	3,793,416	1,288,553	0.7	1.0	2.2	2.8	110.3	194.4
Missouri.....	9,754	7,913	58,177	41,596	3,467,091	927,979	0.6	1.2	2.0	2.0	39.9	273.6
Minnesota.....	4,232	3,743	34,621	28,163	948,068	547,131	0.3	0.8	0.5	1.2	22.9	73.3
All other states.....	14,016	13,920	139,565	76,408	3,616,160	1,405,698	1.3	2.2	2.1	3.1	82.7	157.3
Traction engines (not locomotives).....	214,958	15,150	5,556,480	424,264	172,667,039	17,651,216	100.0	100.0	100.0	100.0	1,209.7	878.2
Wisconsin.....	60,654	3,178	1,487,023	133,002	48,084,871	3,787,207	26.8	31.3	27.8	21.5	1,018.0	1,169.7
Michigan.....	68,017	2,061	1,694,555	45,812	42,225,330	2,550,379	30.5	10.8	24.5	14.4	3,598.9	1,555.6
Illinois.....	34,648	1,378	907,624	33,430	34,554,193	2,048,828	16.3	7.9	20.0	11.6	2,615.0	1,586.5
Ohio.....	23,630	1,261	748,071	63,081	15,351,101	2,114,953	13.5	14.9	8.9	12.0	1,085.9	625.8
Minnesota.....	9,905	5,052	164,302	84,124	10,388,184	3,094,307	3.0	19.8	6.0	17.5	95.3	235.7
Iowa.....	10,027	226	285,363	5,298	6,984,315	257,983	5.1	1.2	4.0	1.5	5,286.2	2,607.3
Indiana.....	3,828	850	115,092	17,015	6,694,675	1,625,432	2.1	4.0	3.9	9.2	576.4	311.9
California.....	1,484	360	53,352	18,693	5,289,598	1,149,694	1.0	4.4	3.1	6.5	185.4	360.5
All other states.....	2,765	784	101,098	23,809	3,094,852	1,023,435	1.8	5.6	1.8	5.8	324.6	202.4
Water wheels, motors, turbines, etc.....	12,530	10,239	637,776	508,391	4,135,959	3,633,008	100.0	100.0	100.0	100.0	25.4	13.8
Pennsylvania.....	442	397	249,265	262,170	2,244,718	2,138,912	39.1	51.6	54.3	53.9	-4.9	4.9
Ohio.....	11,217	17,604	167,151	118,163	713,834	832,029	26.2	23.2	17.3	22.9	41.5	-14.2
All other states.....	871	1,148	221,360	128,058	1,177,407	662,067	34.7	25.2	28.5	18.2	72.9	77.8

¹ A minus sign (—) denotes decrease.

² In addition, establishments engaged in the industry reported engine parts and other products valued at \$126,910,209 in 1919 and \$23,156,609 in 1914.

Steam engines.—Table 13 shows in comparative form the number, horsepower, and value, for 1919 and 1914, of the several kinds of steam engines manufactured. Wherever possible, each class is shown by states, which are ranked in the order of their importance as shown by value of products.

In 1919 marine engines predominated in value of all steam engines, marine turbines claiming 45.2 per cent and marine engines not turbines 27.4 per cent of the total. Stationary and portable engines and stationary turbines formed 14.2 and 9.9 per cent, respectively.

MANUFACTURES.

TABLE 13.—SEGREGATION OF TYPES OF STEAM ENGINES, BY STATES: 1919 AND 1914.

CLASS AND STATE.	1919			1914			CLASS AND STATE.	1919			1914		
	Number of engines.	Indicated horse-power.	Value.	Number of engines.	Indicated horse-power.	Value.		Number of engines.	Indicated horse-power.	Value.	Number of engines.	Indicated horse-power.	Value.
Stationary and portable (not turbine or automobile).....	12,373	780,930	\$14,491,373	12,404	805,682	\$11,821,964	Marine (not turbines)—Continued.						
Pennsylvania.....	6,110	337,412	6,430,142	4,976	319,467	4,150,461	Washington.....	35	69,400	\$1,532,220	(1)	(1)	(1)
Ohio.....	987	89,053	2,720,693	394	84,037	1,183,327	New York.....	50	179,470	841,906	130	18,060	\$240,360
Michigan.....	1,469	37,867	1,639,444	1,987	22,765	326,780	New Jersey.....	19	29,750	493,291	114	3,856	159,397
Wisconsin.....	1,514	72,070	847,815	583	79,765	1,578,617	All other states.....	144	320,630	6,841,054	451	35,413	458,979
Illinois.....	731	28,546	685,848	628	31,370	288,545	Stationary turbines:						
New Jersey.....	147	9,230	382,696	444	19,892	637,909	All states.....	2,419	1,083,971	10,073,324	21,307	1,312,718	8,662,174
New York.....	354	8,681	314,064	1,060	81,682	1,158,623	Marine turbines:						
All other states.....	1,061	178,071	1,410,671	2,332	166,704	2,491,702	Pennsylvania.....	2,142	3,993,205	46,101,653			
Marine (not turbines).....	679	1,203,530	27,951,268	953	73,679	1,299,971	New Jersey.....	1,841	2,080,535	28,924,051			
Ohio.....	134	312,050	9,931,000	(1)	(1)	(1)	All other states.....	33	104,050	3,027,640			
Pennsylvania.....	81	98,430	3,529,718	31	5,664	310,743		263	1,808,620	14,140,962			
Wisconsin.....	149	122,150	2,991,258	(1)	(1)	(1)	Other steam engines:						
Michigan.....	67	71,650	1,690,821	227	10,686	130,492	All states.....	1,814	182,701	3,335,089			

¹ Included in "All other states" to avoid disclosure of individual operations.² Includes 11 marine steam turbines of 121,000 horsepower.

Internal-combustion engines. — Statistics regarding the various types of internal-combustion engines are shown in Table 14. An effort was made to secure data on the various kinds of fuel used, such as gas, gasoline, kerosene, etc., but reliable figures on this subject can not be shown on account of the paucity of the replies to this inquiry. Automobile engines formed the leading class, constituting 35 per cent of

the total value; stationary and portable followed closely, with 32.1 per cent. Aviation engines, for which separate statistics were obtained for the first time at this census, reported 19.4 per cent; and marine engines, which consisted chiefly of motor-boat engines and the small detachable engines built for the propulsion of rowboats, formed 11.8 per cent, the balance being unspecified engines.

TABLE 14.—SEGREGATION OF TYPES OF INTERNAL-COMBUSTION ENGINES, BY STATES: 1919 AND 1914.

CLASS AND STATE.	1919			1914			CLASS AND STATE.	1919			1914		
	Number of engines.	Indicated horse-power.	Value.	Number of engines.	Indicated horse-power.	Value.		Number of engines.	Indicated horse-power.	Value.	Number of engines.	Indicated horse-power.	Value.
Stationary and portable (not automobile, aviation, or marine).....	312,916	1,748,638	\$55,941,323	250,722	1,144,991	\$25,606,905	Marine.....	31,530	500,243	\$20,678,132	44,157	339,638	\$7,570,245
Wisconsin.....	119,844	474,875	14,752,241	83,017	310,700	7,236,506	Connecticut.....	5,635	111,095	5,089,231	6,596	77,192	1,956,139
Pennsylvania.....	12,706	242,387	7,704,127	9,474	124,989	2,932,098	New York.....	1,966	90,650	3,959,305	2,362	48,569	1,029,863
Iowa.....	27,350	129,993	6,109,871	49,842	145,642	2,769,569	Michigan.....	8,377	95,241	2,640,974	15,707	97,937	1,458,468
Michigan.....	51,082	179,172	4,840,024	31,079	117,193	1,983,831	Wisconsin.....	11,597	28,828	1,969,093	12,380	31,575	825,946
New York.....	778	72,778	4,837,000	2,715	37,479	2,055,207	California.....	698	28,580	1,880,171	807	17,010	739,027
Ohio.....	5,480	116,377	4,801,541	9,324	108,502	2,480,394	New Jersey.....	550	35,995	1,709,724	161	3,731	164,981
Indiana.....	45,459	310,907	4,107,982	11,416	45,982	820,140	Missouri.....	74	6,768	1,101,882	(1)	(1)	(1)
Illinois.....	27,232	84,627	2,491,490	26,806	108,317	2,149,170	Minnesota.....	821	9,462	363,221	65	1,192	28,199
Missouri.....	9,680	51,409	2,365,209	7,875	41,075	911,979	Pennsylvania.....	141	4,395	278,874	592	9,294	181,892
California.....	949	27,964	1,365,900	953	16,247	536,326	Washington.....	346	6,093	226,206	45	859	31,615
Minnesota.....	209	7,894	185,424	3,653	25,771	506,432	Ohio.....	504	5,800	209,219	3,560	26,177	534,747
New Jersey.....	112	1,610	88,799	133	1,228	26,646	Illinois.....	184	2,427	61,902	654	5,966	153,331
Washington.....	24	526	29,110	96	1,195	28,400	Indiana.....	65	656	24,656	57	871	15,376
Connecticut.....	75	630	25,787	148	1,667	46,759	All other states.....	772	74,187	1,082,584	1,171	19,265	450,661
All other states.....	11,986	56,459	2,236,898	14,191	59,004	1,123,528	Aviation.....	6,747	1,716,245	33,814,333	(2)	(2)	(1)
Automobile.....	223,385	6,382,975	60,988,532	71,745	1,916,293	11,622,961	New York.....	607	175,300	5,028,633	(2)	(2)	(2)
Michigan.....	133,719	4,047,707	35,193,951	49,723	1,386,951	7,800,724	All other states.....	6,140	1,540,945	28,785,700	(2)	(2)	(2)
Wisconsin.....	37,819	1,087,204	8,788,341	3,123	96,720	703,617	Other internal-combustion engines:						
Illinois.....	21,130	396,201	6,393,288	5,279	88,492	661,203	Wisconsin.....	14,758	163,110	3,045,552	2,849	28,300	513,623
Pennsylvania.....	15,392	401,125	3,043,156	1,918	45,234	323,413	All other states.....	7,373	16,952	814,926	(1)	(1)	(1)
Indiana.....	4,534	162,356	2,337,763	5,070	131,740	1,105,727		7,385	146,158	2,230,626	2,849	28,300	513,623
New York.....	6,139	195,555	2,175,029	4,185	86,515	405,080							
All other states.....	4,652	92,827	1,157,004	2,447	80,641	623,197							

¹ Included in "All other states" to avoid disclosure of individual operations.² Figures not available for 1914.

GENERAL TABLES.

Table 15 gives, for 1919 and 1914, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for the engine industry.

Table 16 presents, for 1919, statistics in detail for the industry as a whole, and for each state that can be shown separately without the possibility of disclosing the operations of individual establishments.

TABLE 15.—COMPARATIVE SUMMARY, BY STATES: 1919 AND 1914.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
United States.....	1919 1914	370 446	77,617 29,657	190,021 63,047	\$105,435 21,421	\$217,551 31,460	\$464,775 72,121	Missouri.....	1919 1914	10 6	782 307	1,934 1,119	\$947 231	\$1,501 590	\$4,166 1,172
California.....	1919 1914	22 24	2,231 813	10,526 1,721	3,275 733	5,646 1,429	12,687 2,710	New Jersey.....	1919 1914	15 14	2,392 677	7,812 2,772	3,592 514	5,416 682	19,387 1,756
Connecticut.....	1919 1914	16 18	1,764 1,075	4,882 1,783	2,104 809	3,294 1,029	7,309 2,552	New York.....	1919 1914	31 48	4,528 1,973	17,196 5,132	6,624 1,384	10,102 1,909	29,822 4,599
Illinois.....	1919 1914	25 30	8,645 1,860	16,152 2,891	11,756 1,412	23,644 1,842	45,741 3,949	Ohio.....	1919 1914	44 47	6,218 2,962	12,901 9,617	8,033 1,983	20,344 2,837	42,851 6,861
Indiana.....	1919 1914	16 21	2,853 1,311	3,853 2,050	3,596 782	7,689 1,201	14,473 2,808	Pennsylvania.....	1919 1914	34 56	9,711 5,222	30,179 12,375	12,933 3,521	18,836 4,728	52,574 11,392
Iowa.....	1919 1914	17 20	2,739 1,197	7,799 1,881	3,646 925	8,894 1,320	17,611 3,586	Washington.....	1919 1914	13 8	546 21	1,519 50	774 22	1,125 32	2,527 85
Michigan.....	1919 1914	35 48	14,258 4,427	30,488 9,032	21,363 3,387	57,051 5,962	101,989 12,309	Wisconsin.....	1919 1914	36 40	17,782 6,010	39,168 7,596	22,716 4,517	45,067 5,875	90,953 13,063
Minnesota.....	1919 1914	14 17	1,529 508	2,235 1,603	1,908 334	4,580 658	12,946 1,950	All other states.....	1919 1914	42 49	1,639 1,294	3,317 3,395	2,168 867	4,362 1,276	9,739 3,269

MANUFACTURES.

TABLE 16.—DETAILED STATEMENT FOR THE INDUSTRY, BY STATES: 1919.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						EXPENSES.			
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		Capital.	Salaries and wages.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.		Officials.	Clerks etc.	
								Maximum month.	Minimum month.									
United States.....	370	96,296	93	3,792	10,593	4,191	77,617	Ja 90,102	My 70,193	85,053	83,063	1,872	100	9	Dollars. 454,124,733	Dollars. 12,895,475	Dollars. 18,016,564	
California.....	22	2,664	9	105	234	85	2,231	Ja 2,715	Oct 1,001	2,059	2,625	32	2	.....	13,267,811	619,784	394,252
Colorado.....	3	12	.....	3	.....	.....	.....	Ja 1	Ja 5	6	6	.....	.....	.....	145,932	3,645	3,900
Connecticut.....	16	2,090	6	115	124	81	1,764	Ja 2,136	Oct 1,547	1,575	1,524	48	3	.....	8,900,784	412,493	265,015
Illinois.....	25	10,335	6	526	803	355	8,645	Ja 9,821	Jy 7,785	8,784	8,603	180	1	.....	47,852,565	1,255,311	1,996,567
Indiana.....	16	3,547	5	111	469	109	2,853	Ja 3,268	Jy 2,530	3,088	2,970	118	.....	.....	16,892,903	279,933	600,654
Iowa.....	17	3,482	2	208	302	231	2,739	Mh 3,536	Aug 1,489	2,929	2,905	22	2	.....	13,427,407	578,385	511,213
Kansas.....	5	254	1	15	9	43	186	Mh 219	Nov 151	189	181	8	.....	.....	702,212	34,005	32,502
Michigan.....	35	16,050	4	402	777	519	14,258	Ja 16,601	Apr 10,460	16,328	15,736	587	5	.....	62,506,869	1,870,965	2,039,218
Minnesota.....	14	2,377	1	118	578	153	1,529	Mh 1,893	Dec 1,154	1,623	1,618	5	.....	.....	21,052,066	346,530	994,926
Missouri.....	10	1,042	2	107	85	66	782	Nov 913	Mh 671	937	937	.....	.....	.....	4,419,235	338,265	130,536
New Jersey.....	15	4,932	4	155	2,310	71	2,392	Ja 5,057	Nov 1,287	2,622	2,609	11	2	.....	24,962,440	817,208	1,640,197
New York.....	31	5,677	5	312	496	336	4,528	Fe 6,819	Dec 3,372	6,053	6,012	38	3	.....	33,011,539	1,024,768	845,955
Ohio.....	44	7,554	9	265	782	200	6,218	Au 6,667	My 5,673	6,341	6,301	40	.....	.....	37,221,036	1,012,009	1,377,534
Pennsylvania.....	34	12,358	19	318	1,612	798	9,711	Dec 10,571	My 8,989	10,625	10,423	188	14	.....	58,544,641	1,262,931	3,629,299
Texas.....	3	32	.....	2	3	.....	27	Se 31	Fe 24	27	27	.....	.....	.....	242,707	5,096	3,370
Washington.....	13	639	6	47	31	9	546	Jy 712	Fe 233	552	551	.....	.....	.....	2,609,331	175,562	67,817
Wisconsin.....	36	21,497	3	772	1,971	969	17,782	Le 20,693	Je 14,628	19,321	18,662	578	72	9	98,079,203	2,425,532	3,269,328
All other states.....	31	1,744	11	121	106	86	1,420	.....	.....	1,394	1,373	17	4	.....	9,234,452	432,873	269,328

STATE.	EXPENSES—continued.							POWER.							
	Salaries and wages—Con.	Wage earners.	For contract work.	Rent and taxes.		For materials.		Value of products.	Value added by manufacture.	Primary horsepower.					Electric horsepower generated in establishments reporting.
				Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.			Rent- ed. ¹	
											Steam engines (not turbines).	Steam turbines.	Internal combustion engines.			Water power.^{2}
United States.....	Dollars. 105,435,455	Dollars. 836,389	Dollars. 277,061	Dollars. 21,322,012	Dollars. 211,556,910	Dollars. 5,993,861	Dollars. 464,774,735	Dollars. 247,223,964	190,021	42,737	27,845	15,773	335	103,331	110,412
California.....	3,274,637	301,625	21,920	589,993	5,525,159	120,676	12,687,250	7,041,415	10,526	.....	.....	129	.....	10,307	.....
Colorado.....	6,314	536	360	630	10,576	350	26,525	15,599	32	.....	.....	.....	.....	32	.....
Connecticut.....	2,104,281	15,115	13,117	193,785	3,194,692	99,203	7,309,474	4,015,579	4,882	50	400	1,670	.....	2,762	5,867
Illinois.....	11,755,850	234	22,695	1,056,644	22,959,101	685,054	45,741,267	22,097,112	16,152	3,465	200	727	50	11,710	1,587
Indiana.....	3,595,827	.....	4,031	233,290	7,555,313	133,331	14,472,788	6,784,144	3,853	553	.....	1,740	.....	1,560	1,304
Iowa.....	3,645,977	3,925	16,823	451,623	8,601,234	293,264	17,610,778	8,716,280	7,799	2,085	.....	52	.....	5,662	878
Kansas.....	188,655	3,448	5	5,866	426,132	19,813	1,022,135	576,190	239	.....	.....	57	.....	182	20
Michigan.....	21,362,743	500	43,014	5,103,583	56,214,185	836,508	101,989,440	44,938,747	30,488	3,350	50	79	.....	27,009	8,026
Minnesota.....	1,907,956	318,729	9,411	331,288	4,481,878	97,907	12,946,297	8,366,512	2,235	50	.....	16	.....	2,109	.....
Missouri.....	947,143	35,029	6,369	311,059	1,457,737	43,165	4,166,336	2,665,434	1,934	150	.....	1,624	.....	260	2,225
New Jersey.....	3,592,362	28,262	9,334	1,211,733	5,255,907	159,676	19,387,212	13,971,629	7,812	2,083	1,944	62	.....	3,723	3,079
New York.....	6,623,685	86,014	47,294	929,457	9,773,876	328,219	29,822,286	19,720,191	17,196	1,136	870	1,642	180	13,398	4,409
Ohio.....	8,032,602	1,246	31,053	1,960,944	19,988,093	355,638	42,850,877	22,506,896	12,961	4,455	81	2,762	.....	5,663	8,954
Pennsylvania.....	12,933,325	14,256	3,987	4,028,108	17,931,400	904,359	52,574,026	33,738,267	30,179	2,913	15,100	2,565	.....	9,601	25,340
Texas.....	28,985	.....	.....	1,890	33,968	2,020	99,904	63,916	97	.....	.....	69	.....	28	.....
Washington.....	774,258	5,090	13,228	49,832	1,095,500	29,966	2,527,275	1,401,809	1,519	.....	.....	.....	.....	1,510	.....
Wisconsin.....	22,716,483	17,342	19,941	4,527,420	43,281,260	1,785,924	90,953,496	45,886,312	39,168	21,568	9,200	2,426	.....	5,974	48,161
All other states.....	1,944,372	108,376	11,036	334,847	3,770,899	98,738	8,587,569	4,717,932	2,949	879	.....	253	135	1,682	472

¹ Same number reported for one or more other months.

¹ All other states embrace: Alabama, 1 establishment; Arkansas, 1; Delaware, 1; Florida, 1; Kentucky, 2; Louisiana, 1; Maine, 3; Maryland, 3; Massachusetts, 4; Nebraska, 2; New Hampshire, 2; North Dakota, 1; Oklahoma, 1; Oregon, 3; South Carolina, 1; South Dakota, 1.

* Includes water wheels and turbines (irrespective of ownership of water supply) and water motors (as motors).

⁴ Chiefly electric motors operated by rented (or purchased) current; electric power included (chiefly shaft-belt or transmitted power from neighboring power plants).

LOCOMOTIVES.

General character of the industry.—The statistics for the industry represent the establishments devoted exclusively to the manufacture of locomotives or those in which locomotives constituted the predominating product. In many establishments, however, minor or subsidiary products are manufactured, the value of which is necessarily included in the total value of the products of the factory reporting. In 1919 the total value of these products was \$23,967,199, including locomotive and engine parts, steam and gas stationary engines, other foundry and machine-shop products, and repair work.

This classification includes the manufacture of steam locomotives of all varieties, both standard and narrow gauge. Some electric locomotives are also made by plants covered in this classification, but the majority are made by those in the electrical machinery and electric railway car industries. The manufacture of tractors for farm and road use is not included, but is

shown in connection with "Engines, steam, gas, and water" in Table 11.

Comparative summary.—Table 17 summarizes the statistics for each census since 1904, with percentages of increase for each five-year period. With few exceptions, increases are noted at each succeeding census. The large increases, however, from 1914 to 1919, in salaries and wages, cost of materials, and value of products are due largely to a general rise of prices and wages following the World War, and do not, therefore, fairly measure the growth of the industry for that period. A truer index of the conditions is found in the average number of wage earners and primary horsepower. The addition of the Federal income tax since 1914 will account for the increase in "Rent and taxes."

Detailed statement.—Table 18 gives, for 1919 and for 1914, statistics in detail for the industry as a whole.

TABLE 17.—COMPARATIVE SUMMARY: 1919, 1914, 1909, AND 1904.

	1919	1914	1909	1904	PER CENT OF INCREASE. ¹		
					1914-1919	1909-1914	1904-1909
Number of establishments.....	17	19	16	15			
Persons engaged.....	28,742	19,047	16,945	25,979	50.9	12.4	34.8
Proprietors and firm members.....	1		7	9			
Salaried employees.....	2,026	1,656	2,029	1,164	22.3	-18.4	74.3
Wage earners (average number).....	6,715	17,391	14,909	24,806	53.6	16.6	-39.9
Primary horsepower.....	187	50,373	35,102	29,806	92.9	43.5	17.8
Capital.....	\$138,275,823	\$86,413,199	\$52,059,567	\$38,421,048	60.0	66.0	35.5
Salaries and wages.....	43,576,957	13,802,134	11,211,385	17,458,274	214.4	23.6	-35.8
Salaries.....	4,778,316	2,770,739	2,297,119	1,675,289	72.1	20.9	37.1
Wages.....	38,798,641	11,031,395	8,914,266	15,782,985	250.0	24.4	-43.5
Paid for contract work.....				999			
Rent and taxes.....	5,425,737	417,425	169,315	\$ 152,644	1,199.8	115.9	26.6
Cost of materials.....	72,375,950	23,546,118	15,059,933	27,702,830	207.4	58.3	-45.6
Value of products.....	156,269,730	43,374,141	31,582,302	59,552,092	260.3	37.3	-47.0
Value added by manufacture.....	83,893,780	19,828,023	16,522,319	31,849,162	323.1	20.0	-48.1

¹ A minus sign (-) denotes decrease; percentages are omitted where base is less than 100. ² Exclusive of internal revenue. ³ Value of products less cost of materials.

TABLE 18.—DETAILED STATEMENT FOR THE INDUSTRY: 1919 AND 1914.

	1919	1914		1919	1914
Number of establishments.....	17	19	Salaries and wages.....	\$43,576,957	\$13,802,134
Persons engaged.....	28,742	19,047	Officials.....	1,675,164	1,453,255
Proprietors and firm members.....	1		Clerks, etc.....	3,103,152	1,323,504
Salaried officers, superintendents, and managers.....	325	525	Wage earners.....	38,798,641	11,085,375
Clerks and other subordinate salaried employees.....	1,701	1,131	Rent and taxes.....	5,425,737	417,425
Male.....	1,449	1,035	Rent of factory.....	554	600
Female.....	252	96	Taxes (including Federal, state, county, and local).....	5,425,183	416,825
Wage earners—			Cost of materials.....	72,375,950	23,546,118
Average number.....	26,715	17,391	Principal materials.....	69,268,472	22,355,528
Number, 15th day of the month—			Fuel and rent of power.....	3,107,478	1,190,590
Maximum month and number.....	Jan 35,659	Jan 22,364	Value of products.....	156,269,730	43,374,141
Minimum month and number.....	Dec 19,837	Nov 12,535	Value added by manufacture.....	83,893,780	19,828,023
Wage earners Dec. 15, or nearest representative day.....	19,877	16,548	Primary horsepower.....	97,187	50,373
16 years of age and over.....	19,836	16,547	Locomotives, steam ¹ —		
Male.....	19,734	16,539	Number.....	3,411	(²)
Female.....	102	8	Value.....	139,226,420	39,043,359
Under 16 years of age.....	41	1			
Male.....	41	1			
Female.....					
Capital.....	\$138,275,823	\$86,413,199			

¹ Includes in 1919, 108 steam locomotives valued at \$5,825,096, manufactured by steam-railroad repair shops, and 54 valued at \$2,508,674, produced as subsidiary products by establishments engaged primarily in other industries. In addition to steam locomotives there were 251 electric locomotives of all types reported, the value for which can not be given without disclosure of the operations of individual establishments.

² No figures available.

AIRCRAFT.

General character of the industry.—Establishments included in this classification manufacture mono-planes, biplanes, and triplanes (both airplanes and seaplanes), and free and captive balloons. Figures for this industry, which has been developed during the past two decades, were not shown separately prior to 1914. The data for any establishments that were in operation at the census of 1909 were included with those for "motorcycles, bicycles, and parts." This classification covers only the establishments that produce the complete machine.

Statistics for the manufacture of airplane tires, engines, and other equipment, when made by establish-

ments not manufacturing the complete machine, are included in other classifications, such as "rubber tires, tubes, and rubber goods, not elsewhere specified," "engines, steam, gas, and water," etc.

Comparative summary.—The growth in this industry since 1914 is evidenced in Table 19. While a certain proportion of the increases from 1914 to 1919, in salaries and wages, cost of materials, and value of products, is due to a general rise of prices and wages following the World War, a truer index of the conditions is found in the increases in the average number of wage earners and primary horsepower.

TABLE 19.—COMPARATIVE SUMMARY: 1919 AND 1914.

	1919	1914	Per cent of increase, ¹ 1914-1919.		1919	1914	Per cent of increase, ¹ 1914-1919.
Number of establishments.....	31	16	.....	Salaries and wages.....	\$6,907,430	\$196,261	3,419.5
Persons engaged.....	4,202	222	1,792.8	Salaries.....	2,000,090	61,434	3,156.6
Proprietors and firm members.....	14	9	.....	Wages.....	4,906,740	134,827	3,539.3
Salaried employees.....	645	45	.....	Paid for contract work.....	13,645	12,428	9.8
Wage earners (average number).....	3,543	168	2,008.9	Rent and taxes.....	687,700	25,831	2,550.6
Primary horsepower.....	12,512	195	6,316.4	Cost of materials.....	7,126,965	133,939	5,221.1
Capital.....	\$17,753,875	\$401,301	4,324.1	Value of products.....	14,372,643	789,872	1,719.6
				Value added by manufacture ²	7,245,678	655,933	1,094.6

¹ Percentages are omitted where base is less than 100.

² Value of products less cost of materials.

Special statistics.—Table 20 shows for 1919 the number and value of airplanes and seaplanes built and under construction, and value of engines, aircraft parts, subsidiary products, and amount received for repair work. The number of establishments reported

for this industry in 1914 was 16; the production of airplanes, seaplanes, and parts for that year was valued at \$481,022; the receipts for repair work amounted to \$209,481; and the value of "All other products" was reported as \$99,369.

TABLE 20.—DETAILED STATISTICS OF NUMBER AND VALUE: 1919.

PRODUCT.	Number.	Value.	PRODUCT.	Number.	Value.
Total.....	.....	\$14,372,643	Under construction.....	341	\$1,658,670
Airplanes.....	432	3,466,452	Engines.....	.....	253,244
Seaplanes.....	290	4,580,016	Parts.....	.....	2,601,095
			All other products including repair work.....	.....	1,812,266

Detailed statement.—Table 21 presents, for 1919 and 1914, statistics in detail for the industry as a whole. States can not be shown separately without the possibility of disclosing the operations of individual estab-

lishments. The greater part of this production was the completing of contracts made for the construction of airplanes for use in the World War.

TABLE 21.—DETAILED STATEMENT FOR THE INDUSTRY: 1919 AND 1914.

	1919		1914			1919		1914	
Number of establishments.....		31		16	Capital.....	\$17,753,875		\$401,301	
Persons engaged.....		4,202		222	Salaries and wages.....	\$6,907,430		\$196,261	
Proprietors and firm members.....		14		9	Officials.....	\$825,357		\$41,149	
Salaried officers, superintendents, and managers.....		153		21	Clerks, etc.....	\$1,175,333		\$20,285	
Clerks and other subordinate salaried employees.....		492		24	Wage earners.....	\$4,906,740		\$134,827	
Male.....		312		16	Contract work.....	\$13,645		\$12,428	
Female.....		180		8	Rent and taxes.....	\$687,700		\$25,886	
Wage earners—					Rent of factory.....	\$64,805		\$13,850	
Average number.....		3,543		168	Taxes (including Federal, state, county, and local).....	\$622,895		\$12,036	
Number, 15th day of the month—					Cost of materials.....	\$7,126,965		\$133,939	
Maximum month and number.....	Jan.	5,403	Nov.	211	Principal materials.....	\$6,858,271		\$130,258	
Minimum month and number.....	Oct.	2,799	June	144	Fuel and rent of power.....	\$268,694		\$3,681	
Wage earners Dec. 15, or nearest representative day.....		3,474		211	Value of products.....	\$14,372,643		\$789,872	
16 years of age and over.....		3,468		209	Value added by manufacture.....	\$7,245,678		\$655,933	
Male.....		3,256		208	Primary horsepower.....	\$12,512		\$195	
Female.....		212		1					
Under 16 years of age.....		6		2					
Male.....		6		2					
Female.....		6		2					

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES
MANUFACTURES: 1919

ESSENTIAL OILS

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures

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EXPLANATION OF TERMS.

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 statistics for these purposes it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or for which products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1919, 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 factory, 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, county, or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, 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 different from those covered by the class designation, and, on the other hand, may not represent the total product covered by this designation, because some products of this class may be made in establishments in which it is not the product of chief value.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1919 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.—The following general classes of persons engaged in the 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.

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. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date did not portray such conditions, an earlier date was requested.

In the case of employees other than wage earners the number thus reported for the representative date 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 has been 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 the representative date, a report was obtained of the number employed on the 15th of each month, by sex, without distinction of 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 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 number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is not believed to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In order to determine as nearly as possible the age distribution of the average number of wage earners for an industry, the per cent distribution by age of the wage earners for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year to determine the average numbers 16 years and over, and under 16, employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calcu-

late accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners 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 few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital (amount actually invested).—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."

These instructions were identical with those employed at the censuses of 1914 and 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

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" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include certain Federal taxes and state, county, and local taxes. Under "Federal taxes" there are included the internal revenue tax on manufactures (tobacco, beverages, etc.), excise taxes when included in values reported for products, corporation capital stock tax, and corporation income tax, but not the income tax for individuals and partners.

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.

Value added by manufacture.—The value of products is not always 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, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated 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.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power equipment of the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, fuel oils, gasoline and other volatile oils, and gas, and represent the quantity used during the year. As only the principal kinds of fuel are shown, comparison as to the total cost of all fuel is impracticable.

ESSENTIAL OILS.

GENERAL STATISTICS.

General character of the industry.—The industry includes establishments engaged primarily in the manufacture of the natural essential oils, both crude and refined (except turpentine), and of witch-hazel extract.

Essential oils, volatile oils, or essences are distinguished by the possession of strong and characteristic odors and by being vaporizable without decomposition, and usually with little or no residue. The list of essential oils met with in commerce is quite extensive, but the bulk of the production is represented by comparatively few. There is considerable production of synthetic oils and perfumery bases, but these are classed as chemicals and are included in the chemical report.

Comparative summary.—Table 1 presents comparative statistics for the industry for the census years 1879 to 1919, inclusive, with percentages of increase for each census period. Statistics for the industry were first obtained at the census of 1859 when it was represented by 45 establishments with products valued at \$124,317. In 1869 there were 118 establishments and products valued at \$631,445, but it is probable that the production of essential oils on farms was included in the manufacturing statistics.

Principal states, ranked by value of products.—Table 2 shows the number of establishments, wage earners, value of products, and value added by manufacture, by states, ranked according to value of products in 1919.

Persons engaged in the industry.—The age classification of the average number of wage earners in Table 3 is an estimate obtained by the method described in the "Explanation of terms." Figures for states will be found in Table 13.

Wage earners, by months.—The statistics for wage earners, Table 4, are intended to show the steadiness of employment, or the reverse, in accordance with industrial conditions existing during the year. The females employed as wage earners constituted 6 per cent of the total number. The industry is to a considerable extent seasonal.

Prevailing hours of labor.—The statistics presented in Table 5 show a material reduction in the average number of hours of labor per week. In 1919, 25.9 per cent of the wage earners were employed in establishments where the prevailing hours of labor per week were 60 or over, as compared with 66.7 per cent in 1914 and 74 per cent in 1909.

Size of establishment, by average number of wage earners.—The industry is one of small units, as shown by Table 6. In 1919, 69 establishments, or 88.5 per cent of the total, employed fewer than 6 wage earners each.

Size of establishment, by value of products.—The grouping by value of products in Table 7 reflects the general increase in values. The average value of products per establishment was \$25,500 in 1909, \$22,000 in 1914, and increased to \$73,000 in 1919; but the increase is essentially due to high prices, for on a quantity basis the production for the various products was in general materially less in 1919 than in 1914. The increase in values accounts for the changes from lower to higher groups.

Character of ownership.—Table 8 presents the statistics for establishments classified according to form of ownership. The majority of the establishments are owned by individuals, though the establishments owned by corporations, with 69.5 per cent of the wage earners and 83.3 per cent of the value of products in 1919, represent the bulk of the industry.

Number and horsepower of types of prime movers.—Table 9 presents the power statistics for 1919, 1914, and 1909. Electric power is a growing factor. In 1919 this class comprised electric motor equipment operated with purchased current, specified as rented, and secondary electric, or that generated by the establishment reporting, formed 26.8 per cent of the total primary power as compared with 7.8 per cent in 1914 and 8.5 per cent in 1909.

Fuel consumed.—Table 10 presents the statistics for fuel consumption, by kinds and by states.

MANUFACTURE.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, 1889, AND 1879.

	1919	1914	1909	1904	1899	1889	1879	PER CENT OF INCREASE. ¹					
								1914-1919	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889
Number of establishments.....	78	105	68	52	47	67	124	-25.7	.....	.....	.....	.....	.....
Persons engaged.....	493	435	408	237	(²)	(²)	(²)	13.3	6.6	72.2	.....	.....	.....
Proprietors and firm members.....	74	116	73	68	(²)	(²)	(²)	-30.2	.....	.....	.....	.....	.....
Salaried employees.....	98	70	45	37	39	(²)	(²)	.....	.....	.....	.....	.....	.....
Wage earners (average number).....	321	249	290	132	108	197	278	28.9	-14.1	119.7	-21.4	(²)	(²)
Primary horsepower.....	1,833	2,309	1,218	849	1,048	465	(²)	-20.6	89.6	43.5	-19.0	125.4	.....
Capital.....	\$9,379,910	\$1,616,682	\$1,365,438	\$723,004	\$576,280	\$102,223	\$97,755	294.6	18.4	88.9	25.5	463.8	50.9
Salaries and wages.....	620,003	238,607	184,495	109,713	86,148	37,492	24,030	159.8	20.3	68.2	27.4	129.8	56.0
Salaries.....	228,790	105,335	61,505	40,002	24,733	(²)	(²)	117.2	71.3	53.8	61.7	.....	.....
Wages.....	391,213	133,272	122,990	69,711	61,415	(²)	(²)	193.5	8.4	76.4	13.5	.....	.....
Paid for contract work.....	2,000	1,500	20	(²)	(²)	(²)	(²)	33.3	.....	.....	.....	.....	.....
Rent and taxes.....	148,658	14,106	9,295	4,539	(²)	(²)	(²)	953.9	51.8	.....	.....	.....	.....
Cost of materials.....	3,903,417	1,564,835	1,255,478	1,110,470	588,594	129,735	125,167	149.4	24.6	13.1	88.7	353.7	3.6
Value of products.....	5,698,403	2,313,606	1,737,234	1,464,662	813,495	255,847	248,898	140.3	33.2	18.6	80.0	218.0	2.8
Value added by manufacture.....	1,794,986	748,771	481,756	354,192	224,901	126,112	123,691	139.7	55.4	36.0	57.5	78.3	2.0

¹ A minus sign (-) denotes decrease; percentages are omitted when base is less than 100.² Figures not available.³ Figures not strictly comparable.⁴ Exclusive of internal revenue.⁵ Value of products less cost of materials.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States.....	78	321	100.0	....	\$5,698	100.0	....	\$1,795	100.0	....	Connecticut.....	9	26	8.1	3	473	8.3	3	222	12.4	3
New Jersey.....	4	157	48.9	1	3,088	54.2	1	860	47.9	1	Indiana.....	22	13	4.1	6	179	3.1	6	154	8.6	4
Michigan.....	29	62	19.3	2	951	16.7	2	282	15.7	2	All other states.....	14	63	19.6	....	1,007	17.7	....	277	15.4	....

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.		CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.	
					Male.	Female.						Male.	Female.
All classes.....	1919	493	451	42	91.5	8.5	Clerks and other subordinate salaried employees.....	1919	49	28	21	57.1	42.9
	1914	435	399	36	91.7	8.3		1914	39	25	14	64.1	35.9
	1909	408	390	18	95.6	4.4		1909	27	22	5	81.5	18.5
Proprietors and officials.....	1919	123	122	1	99.2	0.8	Wage earners (average number).....	1919	321	301	20	93.8	6.2
	1914	147	145	2	98.6	1.4		1914	249	229	20	92.0	8.0
	1909	91	91	.....	100.0	.....		1909	290	277	13	95.5	4.5
Proprietors and firm members.....	1919	74	74	.....	100.0	.....	16 years of age and over.....	1919	318	298	20	93.7	6.3
	1914	116	115	1	99.1	0.9		1914	249	229	20	92.0	8.0
	1909	73	73	.....	100.0	.....		1909	290	277	13	95.5	4.5
Salaried officers of corporations.....	1919	15	15	.....	100.0	.....	Under 16 years of age.....	1919	3	3	.....	100.0	.....
	1914	18	17	1	94.4	5.6							
	1909	8	8	.....	100.0	.....						
Superintendents and managers.....	1919	34	33	1	97.1	2.9							
	1914	13	13	.....	100.0	.....						
	1909	10	10	.....	100.0	.....						

¹ Less than one-tenth of 1 per cent.

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON THE 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States:														
1919	321	299	290	295	278	<i>274</i>	292	360	396	370	340	320	329	69.2
Males.....	301	284	284	279	263	<i>254</i>	272	337	373	346	316	297	307	68.1
Females.....	20	15	15	16	15	<i>20</i>	20	23	23	24	24	23	22	62.5
1914	249	202	199	215	218	223	288	287	359	307	253	231	206	55.4
1909	290	211	215	310	395	380	317	<i>206</i>	234	303	338	336	233	52.2
Connecticut.....	26	46	46	46	21	16	13	9	9	9	31	28	38	19.6
Indiana.....	13	.....	.....	.....	.....	1	6	33	40	47	29	.....	.....	2.1
Michigan.....	62	47	47	47	47	47	66	97	118	86	48	48	48	40.5
New Jersey.....	157	141	143	158	149	160	151	158	163	161	168	178	184	75.0

ESSENTIAL OILS.

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TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR STATES: 1919 AND 1914.

STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—						
		44 and under.	Between 44 and 48.	48. ¹	Between 48 and 54.	54.	Between 54 and 60.	60.			44 and under.	Between 44 and 48.	48. ¹	Between 48 and 54.	54.	Between 54 and 60.	60.
United States. 1919..	321	5	2	19	140	51	21	83	Connecticut.....	26	2				4	17	3
1914..	249	(2)	(2)	2	26	54	1	132	Indiana.....	13							13
1909..	290	(2)	(2)	12	13	41	9	172	Michigan.....	62		11			2		49
									New Jersey.....	157	1		111	45			

¹ Includes 48 and under for 1914 and 1909.

² Corresponding figures not available.

TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR STATES: 1919.

STATE.	TOTAL.	ESTABLISHMENTS EMPLOYING—							
		No wage earners.		1 to 5 wage earners, inclusive.		6 to 20 wage earners, inclusive.		21 to 50 wage earners, inclusive.	
		Establishments.	Wage earners (average number).	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
United States.....	1919.. 78	321	32	37	54	5	66	3	115
	1914.. 105	249	6	92	115	4	39	3	95
Connecticut.....	9	26		8	9	1	17		
Indiana.....	22	13	9	13	13				
Michigan.....	29	62	20	7	11	1	6	1	45
New Jersey.....	4	157		1	1			2	70

TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
All classes.....	78	105	68	321	249	290	\$5,098,403	\$2,313,606	\$1,737,234	\$1,794,986	\$748,771	\$481,756
Less than \$5,000.....	32	71	44	19	61	64	90,544	146,100	70,594	51,109	83,365	44,573
\$5,000 to \$20,000.....	27	20	12	16	62	40	257,369	195,040	120,316	184,275	92,092	62,579
\$20,000 to \$100,000.....	9	10	7	17	29	108	319,701	432,808	249,908	139,855	72,089	111,107
\$100,000 to \$500,000.....	6	3		112		78	1,415,124		1,296,416	525,732		263,497
\$500,000 to \$1,000,000.....	14	1		157			1,615,655			1,894,015		
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	41.0	67.6	64.7	5.9	24.5	22.1	1.6	6.3	4.1	2.8	11.5	9.3
\$5,000 to \$20,000.....	34.6	19.0	17.6	5.0	24.9	13.8	4.5	8.4	6.9	10.3	12.3	13.0
\$20,000 to \$100,000.....	11.5	9.5	10.3	5.3	11.6	37.2	5.6	18.7	14.4	7.8	9.6	23.0
\$100,000 to \$500,000.....	7.7	2.9		34.9		26.9	24.8		74.6	29.3		54.7
\$500,000 to \$1,000,000.....	5.2	1.0		48.9			63.5			49.		

¹ Includes the group "\$1,000,000 and over."

TABLE 8.—CHARACTER OF OWNERSHIP: 1919, 1914, AND 1909.

CHARACTER OF OWNERSHIP.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	CHARACTER OF OWNERSHIP.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.
All classes.....	1919	78	321	\$5,098,403	Per cent of total:				
	1914	105	249	2,313,606	Individual.....	1919	65.4	14.3	13.6
	1909	68	290	1,737,234		1914	61.9	27.7	8.8
Individual.....	1919	51	46	777,691		1909	64.7	59.3	28.2
	1914	65	69	202,974	Corporation.....	1919	21.8	69.5	83.3
	1909	44	172	490,642		1914	15.2	51.8	79.9
Corporation.....	1919	17	223	4,744,092		1909	16.2	32.8	68.0
	1914	16	129	1,848,654	All other.....	1919	12.8	16.2	3.1
	1909	11	95	1,181,309		1914	22.9	20.5	11.3
All other.....	1919	10	52	176,620		1909	19.1	7.9	3.8
	1914	24	51	261,978					
	1909	13	23	65,283					

MANUFACTURE.

TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909
Primary power, total.....	70	74	57	1,833	2,309	1,218	100.0	100.0	100.0
Owned.....	52	74	52	1,691	1,959	1,089	92.3	84.8	89.4
Steam engines.....	37	147	141	1,512	1,608	1,979	82.5	69.6	80.4
Internal-combustion engines.....	13	24	7	129	251	39	7.1	10.9	3.2
Water wheels, turbines, and motors.....	2	3	4	50	100	71	2.7	4.3	5.8
Rented.....	18		5	142	350	129	7.7	15.2	10.6
Electric.....	18		5	142		104	7.7		8.5
Other.....					350	25		15.2	2.1
Electric.....	65	16	5	492	181	104	100.0	100.0	100.0
Rented.....	18		5	142		104	28.9		100.0
Generated by establishments reporting.....	47	16		350	181		71.1	100.0	

¹ Includes turbines.

TABLE 10.—FUEL CONSUMED, BY STATES: 1919.

STATE.	COAL		Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).	STATE.	COAL		Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Gas (1,000 cubic feet).
	Anthra- cite (tons, 2,240 lbs.)	Bitu- minous (tons, 2,000 lbs.)					Anthra- cite (tons, 2,240 lbs.)	Bitu- minous (tons, 2,000 lbs.)			
United States.....1919..	8,943	5,384	4,001	184	7,296	Indiana.....	12	549	1		
1914..	3,959	5,568	159	(¹)	343	Michigan.....		668		21	
Connecticut.....	303	500				New Jersey.....	8,450	599		103	1,236
						All other states.....	178	3,077	4,000		6,000

¹ Included in figures for fuel oils.

SPECIAL STATISTICS.

Products.—Table 11 presents comparative statistics for products for 1919, 1914, and 1909. Refined oil of peppermint as reported for 1919 shows an average unit value of \$7.97 per pound as compared with \$2.28 in 1914 and \$1.86 in 1909. In like manner, oil of spearmint, crude, carries an average unit value of \$4.86 per

pound for 1919, as compared with \$2.52 for 1914 and \$2.49 for 1909; black birch an average value of \$3.44 for 1919; \$1.64 for 1914, and \$1.52 for 1909; and witch-hazel extract shows an increase from \$0.61 per gallon 1909 to \$0.63 in 1914 and to \$0.92 in 1919.

TABLE 11.—PRODUCTS; DETAILED STATISTICS OF QUANTITY AND VALUE: 1919, 1914, AND 1909.

	1919	1914	1909		1919	1914	1909
Number of establishments.....	187	107	74	Oil of sassafras:			
The classified industry.....	78	105	68	Number of establishments.....	6		
Establishments reporting subsidiary prod- ucts (other industries).....	9	2	6	Pounds.....	194,417		
Total value of products.....	\$5,897,469	\$2,565,361	\$1,773,304	Value.....	\$158,314	(²)	(¹)
The classified industry, all products.....	5,698,403	2,313,606	1,773,304	Oil of cedar:			
Subsidiary products of other industries.....	199,066	251,755		Pounds.....	9,629		
Oil of peppermint:				Value.....	\$29,148	(²)	(²)
Crude (for sale as such)—				Oil of cloves:			
Number of establishments.....	51			Pounds.....	220,977		
Pounds.....	138,042	254,793	269,081	Value.....	\$680,218	(²)	(¹)
Value.....	\$493,157	\$353,076	\$450,981	Oil of lemon:			
Refined—				Pounds.....	33,608		
Number of establishments.....	3			Value.....	\$61,687	(²)	(²)
Pounds.....	98,191	109,198	38,700	Oil of nutmeg:			
Value.....	\$782,979	\$248,541	\$68,098	Pounds.....	48,114		
Oil of spearmint (crude):				Value.....	\$98,472	(²)	(¹)
Number of establishments.....	8			Oil of sandalwood:			
Pounds.....	29,990	94,209	33,400	Pounds.....	21,326		
Value.....	\$145,749	\$238,074	\$83,283	Value.....	\$207,759	(²)	(²)
Oil of black birch:				Other essential oils: ³	\$1,098,861	\$382,100	\$407,398
Number of establishments.....	9			Witch-hazel extract:			
Pounds.....	21,568	41,178	67,053	Gallons.....	675,345	917,690	691,823
Value.....	\$74,290	\$67,691	\$102,045	Value.....	\$620,075	\$575,938	\$419,793
				All other products, values.....	\$876,660	\$699,941	\$241,706

¹ Distributed by states (87)—Michigan, 29; Indiana, 22; Connecticut, 10; Tennessee, 6; New York, 5; New Jersey, 4; California, 3; Pennsylvania, 3; Virginia, 2; Kentucky, 1; New Hampshire, 1; and Ohio, 1.

² Included with "Other essential oils."

³ Includes, 1919, oil of apricot, bay, belladonna, bitter almond, camphor, copaiba, celery, coreander, cubeb, erigeron, mare's tail, henbane, mustard, orange, iris root, parsley, patchouly, peach, pimento, tansy, vetiver, wintergreen, wormwood, etc.

GENERAL TABLES.

Table 12 gives the comparative statistics for the number of establishments, average number of wage earners, primary horsepower, cost of materials, and

value of products, for the census years 1919, 1914, and 1909.

Table 13 is a detailed statement, by states, for the census of 1919.

TABLE 12.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Census year.	Number of establishments.	Wage earners (average number).	Primary horsepower.	Expressed in thousands.			STATE.	Census year.	Number of establishments.	Wage earners (average number).	Primary horsepower.	Expressed in thousands.		
					Wages.	Cost of materials.	Value of products.						Wages.	Cost of materials.	Value of products.
United States.....	1919	78	321	1,833	\$391	\$3,903	\$5,698	Michigan.....	1919	29	62	715	\$57	\$669	\$951
	1914	105	240	2,309	133	1,565	2,314		1914	53	38	619	17	226	492
	1909	68	290	1,218	123	1,255	1,737		1909	23	54	365	17	415	486
Indiana.....	1919	22	13	39	15	25	179	All other states.....	1919	27	246	1,679	319	3,209	4,568
	1914	29	61	43	30	18	102		1914	23	150	1,647	86	1,321	1,720
	1909	8	15	60	5	2	21		1909	37	221	793	101	838	1,230

TABLE 13.—DETAILED STATEMENT FOR THE INDUSTRY, BY STATES: 1919.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				EXPENSES.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.			Capital.	Salaries and wages.		
					Male.	Female.	Average number.	Number, 15th day of—		Male.		Female.	Under 16, male.	Officials.		Clerks, etc.		
								Maximum month.	Minimum month.									
United States...	78	493	74	49	28	21	321	Aug	396	My	274	469	441	25	3	\$6,379,910	\$151,144	\$77,646
Connecticut.....	9	48	10	4	3	5	26	Jan ¹	46	July ¹	9	51	49	2	.....	544,305	12,600	14,423
Indiana.....	22	41	27	1	.....	.....	13	Sept	47	Dec ²	0	49	49	.....	.....	57,035	1,000	.....
Michigan.....	29	115	31	12	7	3	62	Aug	116	Jan ¹	47	117	114	3	.....	974,755	55,451	13,683
New Jersey.....	4	192	.....	13	15	7	157	Dec	184	Mar	138	184	161	20	3	4,436,823	43,681	35,631
All other states ³	14	97	6	19	3	6	63	.....	.....	.....	.....	68	68	.....	.....	336,932	38,409	10,909

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.					
	Salaries and wages—Continued.	For contract work.	Rent and taxes.		For materials.				Primary horsepower.					
			Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.			Electric horsepower generated in establishments reporting.	
										Steam engines (not turbines).	Internal-combustion engines.	Water power. ⁴		
United States...	\$391,213	\$2,000	\$25,885	\$122,773	\$3,808,067	\$95,350	\$5,698,403	\$1,794,986	1,833	1,512	129	50	142	350
Connecticut.....	19,791	.....	25	1,572	244,383	6,035	472,315	221,897	345	185	60	50	50	.....
Indiana.....	15,535	.....	252	5,431	20,623	4,729	179,288	153,936	39	10	4	.....	25	.....
Michigan.....	59,849	2,000	79	11,857	659,599	9,291	951,250	282,360	715	690	25	.....	.....	5
New Jersey.....	214,214	.....	16,000	87,361	2,183,691	44,439	3,088,225	860,095	411	406	.....	.....	5	340
All other states ³	84,824	.....	9,529	16,552	699,771	30,856	1,007,325	276,698	323	221	40	.....	62	.....

¹ Same number reported for one or more other months.

² None reported for one or more other months.

³ All other states embrace: California, 1 establishment; Kentucky, 1; New York, 5; Ohio, 1; Pennsylvania, 3; Tennessee, 1; Virginia, 2.

⁴ Includes water wheels and turbines (irrespective of ownership of water supply).

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES
MANUFACTURES: 1919

EXPLOSIVES

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures

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EXPLANATION OF TERMS.

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 statistics for these purposes it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or for which products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1919, 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 factory, 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, county, or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, 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 different from those covered by the class designation, and, on the other hand, may not represent the total product covered by this designation, because some products of this class may be made in establishments in which it is not the product of chief value.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1919 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.—The following general classes of persons engaged in the 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.

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. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date did not portray such conditions, an earlier date was requested.

In the case of employees other than wage earners the number thus reported for the representative date 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 has been 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 the representative date, a report was obtained of the number employed on the 15th of each month, by sex, without distinction of 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 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 number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is not believed to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In order to determine as nearly as possible the age distribution of the average number of wage earners for an industry, the per cent distribution by age of the wage earners for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year to determine the average numbers 16 years and over, and under 16, employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calcu-

late accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners 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 few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital (amount actually invested).—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."

These instructions were identical with those employed at the censuses of 1914 and 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

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" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include certain Federal taxes and state, county, and local taxes. Under "Federal taxes" there are included the internal revenue tax on manufactures (tobacco, beverages, etc.), excise taxes when included in values reported for products, corporation capital stock tax, and corporation income tax, but not the income tax for individuals and partners.

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.

Value added by manufacture.—The value of products is not always 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, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated 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.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power equipment of the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, fuel oils, gasoline and other volatile oils, and gas, and represent the quantity used during the year. As only the principal kinds of fuel are shown, comparison as to the total cost of all fuel is impracticable.

EXPLOSIVES.

GENERAL STATISTICS.

General character of the industry.—This report covers the commercial manufacture of the various explosives. Establishments engaged primarily in the manufacture of cartridges, detonators, fuses, etc., are included under "Ammunition," and those making colored fires, rockets, and similar products under "Fireworks." The general statistics do not include establishments operated by the Federal Government, but the statistics for the Federal establishments will be found in Table 11.

Comparative summary.—Table 1 presents the general statistics for the industry for the census years 1879 to 1919, inclusive.

Principal states, ranked by value of products.—Table 2 gives certain general statistics, namely, number of establishments, average number of wage earners, value of products, and value added by manufacture for states, ranked according to value of products. In this and other tables New Jersey ranking first, Missouri third, and several other important states can not be shown separately, and are therefore included in the group "All other states."

Persons engaged in the industry.—The age classification of the average number of wage earners in Table 3 is estimated by the method described in the "Explanation of terms." Figures for states will be found in Table 13.

Wage earners, by months, for states.—The statistics for wage earners, Table 4, are intended to show the steadiness of employment, or the reverse, in accordance with the industrial conditions existing during the year. Females constituted but 2.1 per cent of the average number employed in 1919.

Prevailing hours of labor.—The figures in Table 5, show a very material decrease in the average hours of labor per week for the industry. In 1919, 87.6 per

cent were employed in establishments where the prevailing hours of labor per week were 48 or less, whereas in 1914 but 10.1 per cent were in establishments of this character, and in 1909, 3.4 per cent. On the other hand, in 1909, 87.3 per cent of all wage earners were in establishments where the hours of labor were 60 or more per week, this percentage decreasing to 27.1 per cent in 1914 and to 6.7 per cent in 1919.

Size of establishments, by average number of wage earners.—Comparative figures are not available for the prior census years. Table 6 shows the group employing "1 to 5 wage earners, inclusive," is the largest in number of establishments.

Size of establishments, by value of products.—The average value of products per establishment as shown in Table 7, increased from \$373,000 in 1914 to \$784,000 in 1919, though this increase is largely due to enhanced values, and this factor accounts in the main for the changes from lower to higher groups.

Character of ownership.—The establishments are essentially under corporate ownership. In 1919 only two were owned by individuals and three by firms. The corporations reported 99.8 per cent of the wage earners and 99.9 per cent of the products. The conditions at prior censuses were substantially the same.

Number and horsepower of types of prime movers.—Table 8 presents the statistics concerning power. Of the total primary power, 76.1 per cent were utilized in the form of electric power in 1919, either purchased or generated, as compared with 55.8 per cent in 1914 and 51.9 per cent in 1909.

Fuel consumed.—Table 9 shows the principal kinds of fuel used for the industry in 1919 and 1914, and gives separately the amount consumed in states requiring considerable quantities of fuel for manufacturing explosives.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, 1889 AND 1879.

	1919	1914	1909	1904	1899	1889	1879	PER CENT OF INCREASE. ¹					
								1914-1919	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889
Number of establishments.....	2 118	2 111	2 86	124	97	09	54	0.6	—	—30.7	—	—	—
Persons engaged.....	15,429	8,425	7,058	7,113	5,293	(3)	(3)	83.1	19.4	—0.8	34.4	—	—
Props. and firm members.....	28	20	21	24	23	(3)	(3)	40.0	—4.8	—12.5	4.3	—	—
Salaries employees.....	6,152	2,099	763	1,289	768	(3)	(3)	193.1	175.1	—40.8	67.8	—	—
Wage earners (av. number).....	9,249	6,306	6,274	5,800	4,502	2,353	1,340	46.7	0.5	8.2	28.8	(9)	(9)
Primary horsepower.....	51,635	45,778	28,601	29,665	19,195	10,674	(3)	12.8	60.1	—3.6	54.5	79.8	—
Capital.....	\$133,247,684	\$71,351,414	\$50,167,976	\$42,307,163	\$19,465,846	\$13,539,478	\$0,585,185	86.7	42.2	18.6	117.3	43.8	105.6
Salaries and wages.....	25,740,210	7,795,623	5,437,976	5,105,824	3,295,203	1,549,510	675,414	230.3	43.4	6.5	54.8	112.9	129.4
Salaries.....	13,244,224	3,307,335	1,133,608	1,797,050	914,447	(3)	(3)	300.5	191.8	—36.9	96.5	—	—
Wages.....	12,504,986	4,488,288	4,304,370	3,308,774	2,380,756	(3)	(3)	178.6	4.3	30.1	38.8	—	—
Paid for contract work.....	30,542	7,645	3,065	2,450	7,658	(3)	(3)	299.5	149.4	25.1	—68.0	—	—
Rent and taxes (in. luding internal revenue).....	2,737,975	322,132	146,662	\$ 81,075	\$ 70,511	(3)	(3)	750.0	119.6	—	—	—	—
Cost of materials.....	45,911,049	25,626,539	22,811,548	17,203,697	10,334,974	5,481,723	3,271,549	79.2	12.3	32.6	66.5	88.5	67.6
Value of products.....	92,474,813	41,432,970	40,139,661	29,602,884	17,125,418	11,352,615	5,802,029	123.2	3.2	35.6	72.9	50.8	95.7
Value added by manufacture.....	46,563,794	15,806,431	17,328,113	12,399,217	6,790,444	5,870,892	2,520,450	194.6	—8.8	39.8	82.6	15.7	132.0

¹ A minus sign (—) denotes decrease. Percentages are omitted, where base is less than 100.

² Represents 122 plants in 1919, 116 in 1914, and 124 in 1909.

³ Figures not available.

⁴ Figures not strictly comparable.

⁵ Exclusive of internal revenue.

⁶ Value of products, less cost of materials.

MANUFACTURES.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments.	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands.)	Per cent distribution.	Rank.	Amount (expressed in thousands.)	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands.)	Per cent distribution.	Rank.	Amount (expressed in thousands.)	Per cent distribution.	Rank.
United States....	118	9,249	100.0	...	\$92,475	100.0	...	\$40,564	100.0	...	Illinois.....	9	454	4.9	5	\$3,780	4.1	6	\$1,514	3.3	6
Pennsylvania.....	26	1,217	13.2	2	11,446	12.4	2	5,344	11.5	2	Ohio.....	12	304	3.3	6	2,790	3.0	8	1,317	2.8	8
California.....	3	611	6.6	3	6,408	6.9	4	3,555	7.6	4	All other states.....	68	6,663	72.0	...	68,051	73.6	...	34,834	74.8	...

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.		CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.	
					Male.	Female.						Male.	Female.
All classes.....	1919	15,429	13,493	1,946	87.4	12.6	Clerks and others subordinates salaried employees.	1919	4,631	2,903	1,728	62.7	37.3
	1914	8,425	7,948	477	94.3	5.7		1914	1,769	1,379	390	78.0	22.0
	1909	7,058	6,787	271	96.2	3.8		1909	542	488	54	90.0	10.0
Proprietors and officials.....	1919	1,549	1,521	28	98.2	1.8	Wage earners (average number).....	1919	9,249	9,059	190	97.9	2.1
	1914	350	342	8	97.7	2.3		1914	6,306	6,227	79	98.7	1.3
	1909	242	232	10	95.9	4.1		1909	6,274	6,067	207	96.7	3.3
Proprietors and firm members....	1919	28	14	14	50.0	50.0	16 years of age and over.....	1919	9,249	9,059	190	97.9	2.1
	1914	20	15	5	75.0	25.0		1914	6,298	6,219	79	98.7	1.3
	1909	21	13	8	61.9	38.1		1909	6,267	6,060	207	96.7	3.3
Salaried officers of corporations....	1919	131	126	5	96.2	3.8	Under 16 years of age.....	1919	...	...	...	100.0	...
	1914	92	90	2	97.8	2.2		1914	8	8	...	100.0	...
	1909	66	64	2	97.0	3.0		1909	7	7	...	100.0	...
Superintendents and managers....	1919	1,390	1,381	9	99.4	0.6							
	1914	238	237	1	99.6	0.4							
	1909	155	155	...	100.0	...							

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States:														
1919.....	9,249	11,809	9,903	9,509	8,922	8,721	8,005	8,706	8,937	8,994	8,946	8,984	8,952	72.9
Males.....	9,059	11,362	9,654	9,239	8,776	8,578	8,469	8,585	8,820	8,854	8,788	8,804	8,779	74.5
Females.....	190	447	249	270	146	143	136	121	117	140	158	180	173	26.2
1914.....	6,306	6,398	6,168	6,218	6,154	5,917	5,910	5,877	5,947	5,990	6,129	7,014	7,950	73.9
1909.....	6,274	5,813	5,737	5,771	5,504	5,893	6,138	6,407	6,548	6,680	6,799	6,899	7,106	77.5
California.....	611	1,011	779	692	574	575	509	558	567	518	531	521	497	49.2
Illinois.....	454	491	469	474	476	429	446	433	463	472	439	444	412	83.9
Ohio.....	304	355	297	279	278	259	251	284	316	334	354	323	318	70.7
Pennsylvania.....	1,217	1,490	1,192	1,114	1,094	1,117	1,101	1,126	1,219	1,275	1,269	1,317	1,290	73.4

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR STATES: 1919.

STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—						STATE.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—					
		44 and under.	Between 44 and 48.	48.1	Between 48 and 54.	54.	Between 54 and 60.			44 and under.	Between 44 and 48.	48.1	Between 48 and 54.	54.	Between 54 and 60.
United States.....	9,249	62	...	8,048	192	216	107	624	...	454	4	...	270	...	180
1919.....	9,249	(2)	(2)	8,048	192	216	107	624	...	454	4	...	270	...	180
1914.....	6,306	(2)	(2)	635	1,399	1,288	1,272	1,624	...	304	41	...	98	...	54
1909.....	6,274	(2)	(2)	216	...	373	205	5,344	...	1,217	2	...	614	...	270
California.....	611	...	...	611	...	...	...	...	...	...	...	...	...	...	...

1 Includes 43 and under for 1914 and 1909.

2 Corresponding figures not available.

EXPLOSIVES.

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TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—																
	Establishments.	Wage earners (average number).	No wage earn- ers.	1 to 5 wage earn- ers, inclusive.		6 to 20 wage earn- ers, inclusive.		21 to 50 wage earn- ers, inclusive.		51 to 100 wage earn- ers, inclusive.		101 to 250 wage earn- ers, inclusive.		251 to 500 wage earn- ers, inclusive.		501 to 1,000 wage earn- ers, inclusive.		Over 1,000 wage earn- ers.	
			Estab- lish- ments.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.
United States.....	118	9,249	1	38	90	15	201	25	910	15	1,047	17	2,729	4	1,393	2	1,582	1	1,297
California.....	3	611								1	55	1	134	1	422				
Illinois.....	9	454		3	6			4	182	1	86	1	180						
Ohio.....	12	304	1	4	12	2	21	2	58	2	112	1	101						
Pennsylvania.....	26	1,217		10	28	3	40	7	293	3	221	2	341	1	294				

TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919 AND 1914.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.		AVERAGE NUMBER OF WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.	
	1919	1914	1919	1914	1919	1914	1919	1914
All classes.....	118	111	9,249	6,308	\$92,474,813	\$41,432,970	\$46,563,764	\$15,806,431
Less than \$5,000.....	1	6	.....	8	.....	12,626	.....	2,184
\$5,000 to \$20,000.....	10	11	19	18	155,231	136,049	52,612	33,518
\$20,000 to \$100,000.....	27	26	163	255	1,411,163	1,587,499	710,301	571,918
\$100,000 to \$500,000.....	44	49	1,266	2,850	11,607,887	11,841,183	5,117,216	5,855,290
\$500,000 to \$1,000,000.....	14	7	1,229	.....	8,971,989	5,548,931	3,748,800	.....
\$1,000,000 and over.....	22	12	6,572	3,175	70,328,543	22,306,677	36,928,834	9,343,521
PER CENT DISTRIBUTION.								
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	0.8	5.4	.....	0.1	.....	(²)	.....	(²)
\$5,000 to \$20,000.....	8.5	9.9	0.2	0.3	0.2	0.3	0.1	0.2
\$20,000 to \$100,000.....	22.9	23.4	1.8	4.0	1.5	3.8	1.5	3.6
\$100,000 to \$500,000.....	37.3	44.2	13.7	45.2	12.6	28.6	11.0	37.0
\$500,000 to \$1,000,000.....	11.9	6.3	13.3	.....	9.7	13.4	8.1	.....
\$1,000,000 and over.....	18.0	10.8	71.0	50.3	76.0	53.8	79.3	59.1

¹ Includes the group "Less than \$5,000."² Less than one-tenth of 1 per cent.

TABLE 8.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	1,431	872	433	51,635	45,778	28,601	100.0	100.0	100.0
Owned.....	373	435	428	35,149	37,854	28,468	68.1	82.8	99.5
Steam.....	324	396	346	33,678	36,304	25,558	65.2	79.3	89.4
Engines.....	293	396	346	23,304	36,304	25,558	45.1	.....	.....
Turbines.....	31	10	17	10,372	40	221	20.1	.....	.....
Internal-combustion engines.....	5	.....	.....	40	62	.....	0.1	0.1	0.8
Water wheels, turbines, and motors.....	44	29	63	1,433	1,518	2,689	2.8	3.3	9.4
Rented, electric.....	1,058	437	7	16,486	7,894	133	31.9	17.2	0.5
Electric.....	2,679	1,567	885	39,305	25,560	14,836	100.0	100.0	100.0
Rented.....	1,058	437	7	16,486	7,894	133	41.9	30.9	0.9
Generated by establishments reporting.....	1,621	1,130	878	22,819	17,666	14,703	58.1	69.1	99.1

¹ Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.

MANUFACTURES.

TABLE 9.—FUEL CONSUMED, BY STATES: 1919.

STATE.	COAL.		Coke (tons, 2,000 lbs.).	Fuel oils (barrels).	Gasoline and other volatile oils (bar- rels).	Gas (1,000 cubic feet).	STATE.	COAL.		Coke (tons, 2,000 lbs.).	Fuel oils (barrels).	Gasoline and other volatile oils (bar- rels).	Gas (1,000 cubic feet).
	Anthra- cite (tons, 2,240 lbs.). ¹	Bitumi- nous (tons, 2,000 lbs.).						Anthra- cite (tons, 2,240 lbs.). ¹	Bitumi- nous (tons, 2,000 lbs.).				
United States... 1919..	40,489	440,931	4,190	181,253	173	65,357	Ohio.....	10	14,601	.....	8	50	.....
..... 1914..	68,746	269,563	510	103,679	(?)	22,100	Pennsylvania.....	29,477	35,800	85	.....	113	1,295
California.....	.....	.....	.....	92,515	.....	.....	All other states.....	11,002	365,979	4,105	88,730	10	64,062
Illinois.....	.....	24,551	.....	.....	.....	.....			

¹ Includes some semianthracite.² Included in figures for fuel oils.

SPECIAL STATISTICS.

Detailed statistics of materials and products.—Table 10 gives the statistics for materials purchased and used in the manufacture of explosives, acids produced and consumed in the same establishment, and products by kind, quantity, and value for the census years 1919,

1914, 1909, and 1904. The table includes information in regard to average unit values and the number and distribution of the establishments reporting the several classes of explosives.

TABLE 10.—DETAILED STATISTICS OF QUANTITY, COST, AND VALUE: 1919, 1914, 1909, AND 1904.

[Ton, 2,000 pounds.]

	1919	1914	1909	1904		1919	1914	1909	1904
Number of establishments.....	118	111	86	124	PRODUCTS—continued.				
Number of plants represented....	122	116	124	124	Explosives—(continued.)				
MATERIALS.					Dynamite—				
Total cost.....	\$45,911,049	\$25,626,539	\$22,811,548	\$17,203,667	Number of establishments ⁴	27	26	26	(1)
Sulphur or brimstone:					Pounds.....	212,529,733	223,667,630	220,145,791	130,920,829
Tons.....	25,797	15,832	17,389	19,574	Value.....	\$37,230,704	\$20,553,653	\$20,998,820	\$12,900,193
Cost.....	\$359,219	\$372,763	\$387,866	\$507,469	Unit value, pound.....	\$0.175	\$0.092	\$0.095	\$0.10
Pyrites:					Permissible explosives—				
Tons.....	6,812	25,885	36,544	12,256	Number of establishments ⁴	15	20	13	(1)
Cost.....	\$46,147	\$139,496	\$183,509	\$57,261	Pounds.....	30,622,923	18,113,601	9,607,448	(1)
Nitrate of soda:					Value.....	\$5,499,177	\$1,604,072	\$863,209	(1)
Tons.....	174,742	190,960	188,889	133,034	Unit value, pound.....	\$0.18	\$0.09	\$0.09	.....
Cost.....	\$13,154,333	\$3,979,877	\$7,892,336	\$5,608,557	Nitroglycerin—				
Glycerin:					Number of establishments ⁴	70	58	49	(1)
Tons.....	11,535	14,501	(1)	(1)	For sale as such.....	11	32	23	(1)
Cost.....	\$5,755,319	\$5,439,405	(1)	(1)	For consumption.....	6	27	26	(1)
Sulphuric acid:					Production, pounds.....	56,361,210	65,302,883	74,212,980	52,013,764
Consumption, tons.....	105,256	83,605	65,056	49,292	Sold as such—				
Purchased—					Pounds.....	714,084	3,785,474	3,923,313	7,935,936
Tons.....	62,069	52,398	22,501	18,298	Value.....	\$301,893	\$950,611	\$863,360	\$1,620,117
Cost.....	\$376,295	\$723,795	\$406,204	\$247,301	Unit value, pounds.....	\$0.42	\$0.25	\$0.22	\$0.20
Produced in works where consumed, tons.....	43,187	31,207	42,555	30,994	Consumed in shooting wells, pounds.....	7,621,915	(e)	(e)	(e)
Recovered and used, tons.....	41,583	.....	.....	.....	Consumed in works where produced, lbs.....	48,024,611	61,517,409	70,289,667	44,077,823
Nitric acid:					Blasting powder—				
Consumption, tons.....	47,112	51,460	35,280	20,338	Number of establishments ⁴	44	48	38	(1)
Purchased—					Kegs (25 pounds).....	7,408,991	8,296,947	9,339,087	8,217,448
Tons.....	1,537	4,347	3,796	1,350	Value.....	\$12,168,473	\$5,459,113	\$9,608,265	\$7,377,977
Cost.....	\$200,267	\$476,404	\$541,314	\$122,047	Unit value, keg.....	\$1.64	\$1.02	\$1.03	\$0.90
Produced in works where consumed, tons.....	45,575	47,113	31,484	18,988	Gunpowder, black—				
Mixed acid:					Number of establishments ⁴	7	8	8	(1)
Consumption, tons.....	77,982	88,653	.....	.....	Pounds.....	11,730,094	7,685,036	12,862,700	10,383,944
Purchased—					Value.....	\$2,096,579	\$977,455	\$1,736,427	\$1,541,453
Tons.....	16,637	19,255	25,882	52,776	Unit value, pound.....	\$0.18	\$0.13	\$0.135	\$0.15
Cost.....	\$1,567,691	\$1,047,377	\$1,512,626	\$3,093,429	Other explosives, named in order of value, with number of establishments (1919)—smokeless powder (7), guncotton (2), nitrogelatin (3), nitrostarch (3), fuse powder (4), trinitrotoluol (3), ammonium nitrate (3), and fulminating mercury (1)—				
Produced in works where consumed, tons.....	61,345	69,398	.....	.....	Pounds.....	57,744,670	21,076,624	7,464,725	6,303,825
All other materials, cost.....	\$23,551,778	\$5,447,422	\$11,907,693	\$7,557,603	Value.....	\$24,936,595	\$7,100,478	\$3,913,787	\$4,256,193
Produced in works where consumed.					Amount received for contract work, shooting wells.....	\$3,434,835	(1)	(1)	(1)
Nitrate of ammonia, pounds.....	43,254,887	29,891,837	10,904,319	2,863,857	All other products, value.....	\$6,806,587	\$1,787,588	\$2,155,793	\$1,906,921
PRODUCTS.									
Total value.....	\$92,474,813	\$41,432,970	\$40,139,661	\$29,602,884					
Explosives, total:									
Pounds.....	554,163,405	481,752,040	487,481,152	360,980,734					
Value.....	\$82,233,391	\$39,645,382	\$37,983,868	\$27,695,963					

¹ Figures not available.² Strength 66°; varying strength in prior years.³ In addition, explosives (guncotton and fulminating mercury) to the value of \$129,514 were produced by establishments not engaged primarily in the manufacture of explosives.⁴ Distribution by states, 1919:

Dynamite, 27: Pennsylvania, 7; Missouri, 4; New Jersey, 3; California, 2; Illinois, 2; Michigan, 2; Washington, 2; and 1 each in Alabama, Colorado, Montana, Utah, and Wisconsin.

Permissible explosives, 15: Missouri, 3; Pennsylvania, 3; California, 2; New Jersey, 2; and 1 each in Colorado, Illinois, Montana, Utah, and Washington.

Nitroglycerin, 70: Pennsylvania, 13; Oklahoma, 8; Ohio, 7; West Virginia, 6; Illinois, 5; Kentucky, 4; Missouri, 4; New Jersey, 4; Texas, 4; 2 each in California, Kansas, Michigan and Washington; and 1 each in Alabama, Colorado, Montana, New York, Utah, Wisconsin, and Wyoming.

Blasting powder, 44: Pennsylvania, 12; Illinois, 4; Ohio, 4; 2 each in Alabama, Indiana, Kansas, New Jersey, Tennessee, and West Virginia; and 1 each in Arkansas, California, Colorado, Delaware, Iowa, Minnesota, Missouri, New York, Oklahoma, Utah, Washington, and Wisconsin.

Gunpowder, black, 7: Ohio, 2; and 1 each in Delaware, Illinois, Massachusetts, New Jersey, and New York.

⁵ Number manufacturing nitroglycerin for consumption, 67; for consumption in the manufacture of dynamite, 27; for shooting wells, 40 (Kansas, 2; Kentucky, 4; New York, 1; Ohio, 6; Oklahoma, 7; Texas, 4; Illinois, 3; Pennsylvania, 6; West Virginia, 6; and Wyoming, 1).⁶ Included above with "Sold as such."

The figures show an increase of 15 per cent in the total quantity of explosives for 1919 as compared with 1914, the output in 1914 being slightly less in quantity than that reported in 1909. Including the production of Federal establishments, figures for which are given in Table 11, the total production in 1919 was 558,847,332 pounds. The aggregate production of dynamite and permissible explosives was 243,152,656 pounds, valued at \$42,729,881, as compared with 241,781,231 pounds, valued at \$22,157,725, in 1914. The so-called permissible explosives are those which are approved by the United States Bureau of Mines as suitable for use in mines where dust or gas explosions are likely to occur. They were first reported at the census of 1909.

The principal states in the manufacture of dynamite were New Jersey, Missouri, Pennsylvania, California, Wisconsin, Washington, and Michigan, in the order named, these states producing 87.3 per cent of the total production, the first three named states producing more than one-half of the total. The leading states reporting permissible explosives were New Jersey, Pennsylvania, and Missouri, in the order named, these states producing a little more than four-fifths of the total.

Nitroglycerin.—The bulk of the nitroglycerin manufactured is consumed by the producing establishments in the manufacture of dynamite and similar explosives; 85.2 per cent of the total production was so used in 1919; 93.4 in 1914; 94.7 in 1909; and 84.7 in 1904. The table shows a consumption of nitroglycerin in well shooting, the companies engaged in shooting wells, 40. in number, manufacturing the nitroglycerin. Over 95 per cent of the nitroglycerin sold as such was reported by establishments located in Oklahoma, Kentucky, Missouri, and Pennsylvania, in the order named.

The leading states reporting blasting powder in 1919 were Pennsylvania, Ohio, Iowa, Illinois, Indiana, and Kansas, in the order named, these states producing 75.3 per cent of the total production. Practically all of the black gunpowder was reported by Ohio, New York, Delaware, and Massachusetts, in the order named, these states reporting 92 per cent of the total. Manufactured guncotton was confined to two establishments.

The total production of smokeless powder by all establishments in 1919, including those operated by the Federal Government, was 47,683,193 pounds, as compared with 12,684,072 pounds in 1914 and 6,315,067 pounds in 1909.

Federal establishments.—Table 11 presents the statistics bearing upon the principal materials and products for the Federal establishments in 1919 with production figures for prior censuses.

TABLE 11.—FEDERAL ESTABLISHMENTS.

	Quantity.	Cost.
PRINCIPAL MATERIALS—1919.		
Sulphur.....tons..	2,582	\$70,130
Nitrate of soda.....tons..	4,400	286,998
Cotton.....pounds..	2,412,000	195,162
Diphenylamin.....pounds..	18,490	11,098
Nitrocellulose.....pounds..	25,045	7,648
Phenol.....pounds..	138,500	61,724
Grain alcohol.....gallons..	484,953	374,389
MADE AND CONSUMED.		
Sulphuric acid, 100°.....tons..	6,440	-----
Nitric acid, 100°.....tons..	2,600	-----
Ether.....pounds..	1,088,380	-----
Cellulose nitrate.....pounds..	3,530,500	-----
PRODUCTS.		
Explosives:		<i>Value.</i>
1919.....pounds..	4,683,927	\$2,223,614
1914.....pounds..	5,072,387	1,632,335
1909.....pounds..	1,471,042	656,969
1904.....pounds..	1,105,082	567,804
Smokeless powder—		
1919.....pounds..	4,486,777	2,082,470
1914.....pounds..	4,998,537	-----
Other—		
1919 ammonium picrate.....pounds..	197,150	141,144
1914.....pounds..	73,850	-----

GENERAL TABLES.

Table 12 gives comparative statistics for 1919, 1914, and 1909, by states, for the principal items; number of establishments, average number of wage earners, primary horsepower, cost of materials, and value of products.

Table 13 presents, for 1919, statistics in detail for the industry as a whole, and for each state that can be shown without disclosing the operations of individual establishments.

TABLE 12.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Census year.	Number of establishments.	Wage earners (average number).	Primary horsepower.	Expressed in thousands.		
					Wages.	Cost of materials.	Value of products.
United States.....	1919	118	9,249	51,635	\$12,505	\$45,911	\$92,475
	1914	111	8,306	45,778	4,488	25,627	41,433
	1909	86	6,274	28,601	4,304	22,812	40,140
Illinois.....	1919	9	454	1,716	393	2,265	3,780
	1914	9	366	2,083	194	1,655	2,582
	1909	8	290	1,828	190	935	1,469
Ohio.....	1919	12	304	4,086	417	1,474	2,790
	1914	11	311	5,846	188	972	1,439
	1909	11	358	2,692	204	1,104	1,719
Pennsylvania.....	1919	26	1,217	6,897	\$1,584	\$6,103	\$11,447
	1914	33	1,037	5,831	716	4,107	6,003
	1909	27	1,033	4,594	629	4,088	6,388
All other states.....	1919	71	7,274	38,936	10,111	36,069	74,458
	1914	58	4,592	32,218	3,390	18,893	31,400
	1909	40	4,593	19,457	3,281	16,685	30,564

MANUFACTURES.

TABLE 13.—DETAILED STATEMENT, BY STATES: 1919.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.			Capital.	EXPENSES.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Salaries and wages.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.		Female.	Officials.	Clerks, etc.
								Maximum month.	Minimum month.						
United States.....	1 118	15,429	28	1,521	2,903	1,728	9,249	Ja 11,809	Je 8,605	9,020	8,845	175	\$133,247,684	\$6,286,185	\$6,958,039
California.....	3	972	.....	79	207	75	611	Ja 1,011	De 497	497	485	12	12,612,729	367,032	567,496
Illinois.....	9	627	.....	39	99	35	454	Ja 491	De 412	446	426	20	4,294,438	149,360	168,665
Kansas.....	4	115	.....	30	14	5	66	Mh 86	Oc 41	54	54	.....	1,402,974	81,599	37,420
Ohio.....	12	427	.....	45	58	19	304	Ja 355	Je 251	317	316	1	4,349,334	191,002	116,191
Oklahoma.....	9	129	.....	37	13	3	76	Se 90	Fe 67	74	74	.....	1,292,118	83,056	18,373
Pennsylvania.....	26	1,755	.....	113	331	67	1,217	Ja 1,490	Ap 1,094	1,200	1,188	102	15,037,033	486,387	764,366
All other states ¹	55	11,404	.....	1,178	2,181	1,524	6,521	.....	.....	6,342	6,302	40	94,259,058	4,927,749	5,285,558

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.						
	Salaries and wages—Continued.	For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.	
			Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.					
										Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. ²	Rented (electric).	
United States.....	\$12,504,986	\$30,542	\$15,714	\$2,722,261	\$43,191,669	\$2,716,380	\$92,474,813	\$46,563,764	51,635	23,304	10,372	40	1,433	16,485	22,819
California.....	947,109	.....	.....	327,872	2,670,924	181,457	6,407,547	3,555,166	7,209	875	1,400	.....	125	4,809	669
Illinois.....	393,133	2,451	435	37,036	2,181,021	84,315	3,779,743	1,514,407	1,716	1,595	.....	6	.....	115	1,720
Kansas.....	88,533	.....	.....	45,332	490,303	15,771	955,150	449,016	616	616	.....	.....	.....	.....	905
Ohio.....	417,024	.....	2,905	170,728	1,387,511	86,151	2,790,301	1,316,639	4,086	2,077	500	.....	.....	1,509	1,676
Oklahoma.....	149,013	.....	5,454	41,616	537,048	11,477	1,063,310	514,785	439	439	.....	.....	.....	.....	405
Pennsylvania.....	1,583,890	.....	2,370	352,640	5,821,596	281,385	11,446,493	5,343,512	6,897	3,957	38	14	405	2,483	1,179
All other states ²	8,926,284	28,091	4,550	1,747,037	30,106,206	2,055,824	66,032,269	33,870,239	30,672	13,745	8,434	20	903	7,570	16,265

¹ Represents 122 plants.² All other states embrace Alabama, 2 establishments; Arkansas, 1; Colorado, 2; Delaware, 1; Indiana, 2; Iowa, 1; Kentucky, 4; Massachusetts 1 (4 plants); Michigan, 2; Minnesota, 1; Missouri, 5; Montana, 1; New Jersey, 10; New York, 2; Tennessee, 2; Texas, 4; Utah, 1; Washington, 2; West Virginia, 8 (9 plants); Wisconsin, 2; and Wyoming, 1.³ Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES
MANUFACTURES: 1919

FERTILIZERS

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures

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EXPLANATION OF TERMS.

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 statistics for these purposes it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or for which products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1919, 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 factory, 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, county, or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city, county, 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 different from those covered by the class designation, and, on the other hand, may not represent the total product covered by this designation, because some products of this class may be made in establishments in which it is not the product of chief value.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1919 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.—The following general classes of persons engaged in the 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.

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. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date did not portray such conditions, an earlier date was requested.

In the case of employees other than wage earners the number thus reported for the representative date 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 has been 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 the representative date, a report was obtained of the number employed on the 15th of each month, by sex, without distinction of 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 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 number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is not believed to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In order to determine as nearly as possible the age distribution of the average number of wage earners for an industry, the per cent distribution by age of the wage earners for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year to determine the average numbers 16 years and over, and under 16, employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calcu-

late accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners 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 few wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital (amount actually invested).—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."

These instructions were identical with those employed at the censuses of 1914 and 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

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" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include certain Federal taxes and state, county, and local taxes. Under "Federal taxes" there are included the internal revenue tax on manufactures (tobacco, beverages, etc.), excise taxes when included in values reported for products, corporation capital stock tax, and corporation income tax, but not the income tax for individuals and partners.

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.

Value added by manufacture.—The value of products is not always 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, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated 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.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power equipment of the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, fuel oils, gasoline and other volatile oils, and gas, and represent the quantity used during the year. As only the principal kinds of fuel are shown, comparison as to the total cost of all fuel is impracticable.

FERTILIZERS.

GENERAL STATISTICS.

General character of the industry.—This report covers the manufacture of commercial fertilizers. It does not include fertilizer materials used without special manufacture, such as phosphate rock, farm manures, etc., neither does it include crude cottonseed, the products of cottonseed-oil mills, nor tankage from slaughtering and meat-packing establishments, when used direct. Large quantities of these products, however, are used as material by the fertilizer factories, and as such are included in this report.

Comparative summary.—Table 1 summarizes the statistics for the censuses from 1879 to 1919, inclusive, with percentages of increase.

Principal states, ranked by value of products.—Table 2 presents the more important statistics for the industry, by states, ranked according to value of products. Some of these states, namely, Massachusetts, Michigan, Kansas, Arkansas, Missouri, and Washington, included with "All other states," ranked higher than some states shown in the table.

Persons engaged in the industry.—The age classification of the average number of wage earners in Table 3 is an estimate obtained by the method described in the "Explanation of terms." Figures for states will be found in Table 15.

Wage earners, by months.—Statistics shown in Table 4 are designed to show the steadiness of employment, or the reverse, in accordance with the industrial conditions existing during the year. Figures are given separately for all states reporting over 800 wage earners. Comparatively few females are employed as wage earners, only 1.6 per cent of the average number.

Prevailing hours of labor.—The figures presented in Table 5 emphasize the tendency toward the shortening of the hours of labor. Of the total number of wage earners employed, only three-tenths of 1 per cent were in establishments where the prevailing hours per week were 48 or less in 1909, and 1.2 per cent in 1914, while in 1919

this proportion was 9.1 per cent. On the other hand, in 1909, 93.4 per cent were in the 60 hours per week and over groups, and in 1914, 71.5 per cent; whereas in 1919 these groups carried but 34.7 per cent.

Size of establishments, by average number of wage earners.—The figures in Table 6 show a drift toward larger establishments. Although there were fewer establishments than in 1914, the figures showing a decrease of 23.5 per cent in number, yet the wage earners in 1919 exceeded those in 1914 by 15.3 per cent. In 1914, 4.1 per cent of the wage earners were in establishments employing fewer than 6 wage earners, and 11.7 per cent were in establishments employing over 250 wage earners; whereas in 1919 but 2.2 per cent of all wage earners were employed in the lower groups, and 19.3 per cent in the groups of over 250 wage earners.

Size of establishments, by value of products.—Table 7 shows that this classification was materially influenced by the advance in values for 1919 as compared with the prewar censuses. The average value of products per establishment for all classes for 1919 was approximately \$468,000, as compared with \$195,000 in 1914, and \$189,000 in 1909.

Character of ownership.—Table 8 presents statistics based upon the character of ownership, or the legal organization, of establishments in the industry for 1919, 1914, and 1909, and for the principal states. Of the 600 establishments, 482, or 80.3 per cent, were owned by corporations in 1919, and these employed 96.2 per cent of the wage earners and reported 96.1 per cent of the products.

Number and horsepower of types of prime movers.—Table 9 presents the statistics concerning power. Electric power is a growing factor; purchased electric power constituted 63.4 per cent of the total primary power in 1919, as compared with 41.5 per cent in 1914 and 19.4 per cent in 1909.

Fuel consumed.—Table 10 presents the statistics for fuel consumed, by kinds and by states, for 1919 and 1914.

MANUFACTURES.

TABLE 1.—COMPARATIVE SUMMARY: 1919, 1914, 1909, 1904, 1899, 1889, AND 1879.

	1919	1914	1909	1904	1899	1889	1879	PER CENT OF INCREASE. ¹					
								1914-1919	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889
Number of establishments.....	600	784	550	390	422	390	364	-23.5	42.5	37.8	-5.5	8.2	7.1
Persons engaged.....	32,522	28,301	21,950	16,091	13,654	(²)	(²)	14.9	28.9	36.4	17.8	.....	.....
Proprietors and firm members.....	6,007	5,113	3,317	1,613	1,712	(²)	(²)	-41.3	15.5	9.9	-18.6	.....	.....
Salaried employees.....	26,296	22,815	18,310	14,184	11,581	9,026	8,598	17.5	54.1	105.6	-5.8	.....	.....
Wage earners (average number).....	125,939	114,281	64,711	47,989	38,680	28,240	(²)	10.2	76.6	34.8	24.1	37.0	.....
Primary horsepower.....	\$311,633,279	\$217,064,890	\$121,537,451	\$68,917,264	\$60,685,753	\$40,594,168	\$17,913,660	43.0	78.6	76.4	13.6	49.5	126.6
Capital.....	36,934,732	17,774,447	11,882,815	7,061,139	6,310,261	4,671,831	2,648,422	107.8	49.6	68.3	11.9	35.1	76.4
Salaries and wages.....	11,571,600	7,242,442	4,405,636	1,933,992	2,124,972	(²)	(²)	59.8	64.4	127.8	-9.0	.....	.....
Salaries.....	25,363,132	10,532,005	7,477,179	5,127,147	4,185,289	(²)	(²)	140.8	40.9	45.8	22.5	.....	.....
Wages.....	171,318	192,859	36,935	43,632	23,493	(²)	(²)	-11.2	422.2	-15.3	85.7	.....	.....
Paid for contract work.....	8,475,314	1,271,417	816,242	432,617	434,611	(²)	(²)	566.6	55.8	.....	.....	.....	.....
Rent and taxes.....	185,040,522	107,954,644	69,521,920	39,287,914	28,958,473	25,113,874	15,595,078	71.4	55.3	76.9	35.7	15.3	61.0
Cost of materials.....	281,143,587	153,196,152	103,960,213	56,541,253	44,637,385	39,180,844	23,650,795	83.5	47.4	83.9	26.6	14.0	65.7
Value of products.....	90,103,065	45,241,508	34,438,293	17,253,339	15,698,912	14,066,970	8,055,717	112.4	31.4	99.6	9.9	11.0	74.6
Value added by manufacture ²													

¹ A minus sign (-) denotes decrease.² Figures not available.³ Figures not strictly comparable.⁴ Exclusive of internal revenue.⁵ Value of products less cost of materials.

TABLE 2.—PRINCIPAL STATES, RANKED BY VALUE OF PRODUCTS: 1919.

STATE.	Number of establishments	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.			STATE.	Number of establishments	WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
		Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.			Average number.	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.	Amount (expressed in thousands).	Per cent distribution.	Rank.
United States	600	26,296	100.0	....	\$281,144	100.0	....	\$96,103	100.0	....	Indiana.....	13	328	1.2	16	4,713	1.7	14	1,980	2.1	14
Georgia.....	144	4,152	15.8	1	47,480	16.9	1	16,713	17.4	1	Louisiana.....	6	584	2.2	13	4,197	1.5	15	1,563	1.6	15
Maryland.....	45	3,102	11.8	2	37,014	13.2	2	12,319	12.8	2	Maine.....	10	174	0.7	22	4,055	1.4	16	978	1.0	19
South Carolina.....	50	2,765	10.5	3	30,412	10.8	3	10,983	11.4	3	Mississippi.....	9	370	1.4	15	3,627	1.3	18	959	1.0	20
North Carolina.....	45	2,077	7.9	5	27,551	9.8	4	8,945	9.3	4	California.....	17	284	1.1	19	3,610	1.3	19	1,077	1.1	17
Virginia.....	43	2,354	9.0	4	22,891	8.1	5	8,693	9.0	5	Connecticut.....	6	188	0.7	21	3,599	1.3	20	1,042	1.1	18
New Jersey.....	19	1,740	6.6	6	15,768	5.6	6	3,947	4.1	6	Texas.....	9	190	0.7	20	1,593	0.6	22	492	0.5	22
Ohio.....	23	1,197	4.6	8	14,042	5.0	7	5,971	6.2	6	Kentucky.....	4	81	0.3	24	1,000	0.4	25	265	0.3	25
Alabama.....	40	1,135	4.3	9	11,625	4.1	8	4,040	4.2	7	Delaware.....	7	41	0.2	26	630	0.2	26	120	0.1	26
Florida.....	24	1,390	5.3	7	10,680	3.8	9	3,528	3.7	10	All other states..	33	1,348	5.1	.....	14,928	5.3	.....	4,326	4.5	...
Pennsylvania.....	31	1,021	3.9	10	8,731	3.1	10	2,886	3.0	11											
Tennessee.....	10	821	3.1	12	6,842	2.4	11	2,830	3.0	12											
Illinois.....	12	953	3.6	11	6,160	2.2	12	2,437	2.5	13											

TABLE 3.—PERSONS ENGAGED IN THE INDUSTRY: 1919, 1914, AND 1909.

CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.		CLASS.	Census year.	Total.	Male.	Female.	PER CENT OF TOTAL.	
					Male.	Female.						Male.	Female.
All classes.....	1919	32,522	31,292	1,230	96.2	3.8	Clerks and other subordinate salaried employees.....	1919	4,093	3,318	775	81.1	18.9
	1914	28,301	27,713	588	97.9	2.1		1914	3,556	3,090	466	86.9	13.1
	1909	21,950	21,547	403	98.2	1.8		1909	2,042	2,042	0	88.1	11.9
Proprietors and officials.....	1919	2,133	2,086	47	97.8	2.2							
	1914	1,930	1,906	24	98.8	1.2							
	1909	1,323	1,313	10	99.2	0.8							
Proprietors and firm members.....	1919	219	209	10	95.4	4.6	Wage earners (average number).....	1919	26,296	25,888	408	98.4	1.6
	1914	373	357	16	95.7	4.3		1914	22,815	22,717	98	99.6	0.4
	1909	323	316	7	97.8	2.2		1909	18,310	18,192	118	99.4	0.6
Salaried officers of corporations.....	1919	623	592	31	95.0	5.0	16 years of age and over.....	1919	26,228	25,820	408	98.4	1.6
	1914	642	635	7	98.9	1.1		1914	22,785	22,687	98	99.6	0.4
	1909	406	404	2	99.5	0.5		1909	18,243	18,125	118	99.4	0.6
Superintendents and managers.....	1919	1,291	1,285	6	99.5	0.5	Under 16 years of age.....	1919	68	68	0	100.0	.....
	1914	915	914	1	99.9	0.1		1914	30	30	0	100.0	.....
	1909	594	593	1	99.8	0.2		1909	67	67	0	100.0	.....

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR STATES: 1919.

[The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States:														
1919.....	26,296	27,808	31,043	38,357	36,465	23,856	<i>21,071</i>	21,731	22,500	25,205	22,028	21,897	23,591	54.9
1914.....	25,888	27,289	30,530	37,881	36,038	23,521	<i>20,791</i>	21,459	22,230	24,813	21,552	21,408	23,144	54.9
Males.....	408	519	613	476	427	335	280	272	<i>270</i>	392	476	489	447	52.0
Females.....	22,815	22,571	30,417	38,332	32,977	21,793	18,286	17,603	18,041	20,863	18,249	17,564	16,854	44.0
1909.....	18,810	17,076	24,196	29,310	23,198	16,737	14,600	<i>14,234</i>	15,514	18,163	16,232	15,095	15,425	48.7
Alabama.....	1,136	1,130	1,519	2,212	1,998	1,018	<i>737</i>	774	816	789	827	872	940	33.3
Florida.....	1,390	1,281	1,390	1,663	1,566	1,467	1,478	1,229	<i>1,070</i>	1,239	1,292	1,387	1,618	64.3
Georgia.....	4,152	4,639	6,059	8,512	7,561	3,125	2,562	2,550	<i>2,535</i>	2,589	2,627	3,074	3,991	29.8
Illinois.....	953	940	929	1,005	937	839	833	1,133	1,138	1,246	863	787	786	63.1
Maryland.....	3,102	3,032	3,176	3,701	3,647	3,243	2,924	2,817	3,087	3,218	2,863	<i>2,668</i>	2,848	72.1
New Jersey.....	1,740	1,824	2,136	2,222	1,923	1,719	1,600	1,566	<i>1,495</i>	1,632	1,586	1,609	1,598	65.9
North Carolina.....	2,077	2,106	2,292	3,115	3,487	1,913	<i>1,428</i>	1,595	1,584	1,978	1,956	1,733	1,748	41.0
Ohio.....	1,197	1,085	1,313	1,465	1,206	997	964	1,015	1,373	2,185	1,001	890	870	39.8
Pennsylvania.....	1,021	1,359	1,324	1,251	1,148	829	777	872	960	1,022	897	894	919	57.2
South Carolina.....	2,765	3,457	3,865	4,763	4,364	2,326	1,994	1,923	1,954	2,079	1,787	2,025	2,643	37.5
Tennessee.....	821	786	858	1,232	1,334	762	<i>512</i>	592	844	1,113	681	557	591	38.4
Virginia.....	2,354	1,936	1,969	2,600	3,029	2,113	2,386	2,527	2,362	2,502	2,566	2,357	1,841	60.8

TABLE 5.—AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR STATES: 1919 AND 1914.

STATE.	Cen- sus year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—								STATE.	Cen- sus year.	Total.	IN ESTABLISHMENTS WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
			44and under	Be- tween 44and 48.	48.1	Be- tween 48and 54.	54.	Be- tween 54and 60.	60.	Over 60.				44and under	Be- tween 44and 48.	48.1	Be- tween 48and 54.	54.	Be- tween 54and 60.	60.	Over 60.
United States.....	1919	26,296	574	211	1,608	921	3,624	10,238	8,395	725	New Jersey.....	1919	1,740	2	7	356	1,074	197	104	.....
	1914	22,815	(2)	(2)	281	500	2,656	3,061	14,282	2,035		1914	1,530	(2)	(2)	13	26	66	46	1,236	143
	1909	18,310	(2)	(2)	51	22	332	806	14,502	2,597											
Alabama.....	1919	1,136	.....	.....	.....	.....	150	508	303	175	North Carolina.....	1919	2,077	63	68	88	.....	1,408	397	53
	1914	1,416	(2)	(2)	3	10	31	102	1,020	250		1914	1,690	(2)	(2)	5	9	66	501	953	126
Florida.....	1919	1,390	3	.....	126	3	181	427	650	.....	Ohio.....	1919	1,197	76	.....	116	95	616	203	61
	1914	781	(2)	(2)	4	271	100	399	7		1914	1,005	(2)	(2)	49	66	66	114	536	174
Georgia.....	1919	4,152	140	174	178	56	32	2,068	1,298	206	Pennsylvania.....	1919	1,021	.....	1	32	37	315	635	1
	1914	3,833	(2)	(2)	41	121	542	837	2,163	129		1914	1,110	(2)	(2)	3	18	38	12	1,024	15
Illinois.....	1919	953	18	.....	670	.....	2	221	42	42	South Carolina.....	1919	2,765	.....	5	204	39	1,704	792	21
	1914	996	(2)	(2)	10	.....	422	67	167	30		1914	2,050	(2)	(2)	20	76	395	1,507	82
Louisiana.....	1919	584	.....	.....	.....	.....	146	334	.....	104	Tennessee.....	1919	821	167	18	.....	.....	395	241	.....
	1914	408	.....	.....	.....	97	102	209	.....	.....		1914	706	.....	.....	160	.....	383	163	.....
Maryland.....	1919	3,102	21	.....	42	28	635	1,130	1,246	.....	Virginia.....	1919	2,354	13	20	12	356	772	1,151	.....
	1914	1,991	(2)	(2)	73	40	109	121	1,633	15		1914	2,470	(2)	(2)	33	2	88	124	1,527	696

1 Includes 48 and under for 1914 and 1909.

2 Corresponding figures not available.

TABLE 6.—SIZE OF ESTABLISHMENTS, BY AVERAGE NUMBER OF WAGE EARNERS, FOR STATES: 1919.

STATE.	TOTAL.		ESTABLISHMENTS EMPLOYING—															
	Estab- lish- ments.	Wage earners (average number).	No wage earn- ers.	1 to 5 wage earn- ers, inclusive.	6 to 20 wage earn- ers, inclusive.	21 to 50 wage earn- ers, inclusive.	51 to 100 wage earn- ers, inclusive.	101 to 250 wage earn- ers, inclusive.	251 to 500 wage earn- ers, inclusive.	Over 500 wage earn- ers.								
			Estab- lish- ments.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.			
United States.....	1919.....	600	26,296	5	196	584	134	1,576	1,111	3,946	79	5,705	61	9,420	12	3,860	2	1,205
	1914.....	784	22,815	7	330	928	200	2,172	1,101	3,385	89	6,448	50	7,205	7	2,676		
Alabama.....		40	1,136		21	71	1	10	10	382	7	524	1	149				
Florida.....		24	1,390		8	21	4	54	4	167	1	76	7	1,072				
Georgia.....		144	4,152	2	56	154	38	408	21	754	16	1,154	11	1,682				
Illinois.....		12	953	1	2	8	3	35	2	67	2	149	1	112			1	583
Louisiana.....		6	584						2	68	1	72	3	444				
Maryland.....		45	3,102		16	37	10	128	5	173	6	438	3	498	4	1,205	1	623
New Jersey.....		19	1,740		6	19	4	41	1	36	3	248	2	207	3	1,086		
North Carolina.....		45	2,077		6	22	11	137	13	444	10	681	5	793				
Ohio.....		23	1,197		4	10	3	43	5	198	8	591	3	355				
Pennsylvania.....		31	1,021		16	38	9	97	3	104			2	340	1	442		
South Carolina.....		50	2,765		9	34	12	141	14	473	6	439	7	1,094	2	584		
Tennessee.....		10	821		2	7	1	18	2	57	2	142	2	343	1	254		
Virginia.....		43	2,354		9	40	9	119	8	313	9	626	8	1,256				

MANUFACTURES.

TABLE 7.—SIZE OF ESTABLISHMENTS, BY VALUE OF PRODUCTS: 1919, 1914, AND 1909.

VALUE OF PRODUCT.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE.		
	1919	1914	1909	1919	1914	1909	1919	1914	1909	1919	1914	1909
All classes.....	600	784	550	26,296	22,815	18,310	\$281,143,587	\$153,196,152	\$103,960,213	\$96,103,065	\$45,241,508	\$34,438,263
Less than \$5,000.....	16	50	51	18	73	67	47,881	139,909	134,901	21,324	63,587	65,962
\$5,000 to \$20,000.....	59	130	95	172	430	295	748,054	1,499,136	1,103,092	294,571	497,622	402,193
\$20,000 to \$100,000.....	143	296	180	957	2,497	1,828	7,986,830	15,329,941	8,668,288	2,324,991	3,799,132	2,762,362
\$100,000 to \$500,000.....	202	225	211	4,816	14,308	13,330	50,761,280	55,559,037	76,746,170	16,082,679	28,697,899	25,909,343
\$500,000 to \$1,000,000.....	94	59	10	6,237	5,507	2,790	69,281,192	42,904,832	36,763,207	26,243,213	12,183,268	5,407,453
\$1,000,000 and over.....	86	24	10	24,096	5,507	2,790	152,318,350	36,763,207	17,307,762	51,130,287	12,183,268	5,407,453
PER CENT DISTRIBUTION.												
All classes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....	2.7	6.4	9.8	(1)	0.3	0.4	(1)	0.1	0.1	(1)	0.1	0.2
\$5,000 to \$20,000.....	9.8	16.6	17.3	0.5	1.9	1.6	0.3	1.0	1.1	0.3	1.1	1.2
\$20,000 to \$100,000.....	23.8	37.8	32.7	2.6	10.9	10.0	2.8	10.0	8.3	2.4	8.4	8.0
\$100,000 to \$500,000.....	33.7	28.7	33.4	13.3	62.7	72.8	18.1	36.9	73.8	16.7	63.4	74.9
\$500,000 to \$1,000,000.....	15.7	7.5	1.8	17.2	24.1	15.2	24.6	28.0	16.6	53.2	26.9	15.7
\$1,000,000 and over.....	14.3	3.1	1.8	66.4	24.1	15.2	54.2	24.0	16.6	53.2	26.9	15.7

¹ Less than one-tenth of 1 per cent.

TABLE 8.—CHARACTER OF OWNERSHIP, BY STATES: 1919 AND 1914.

STATE.	Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
		Indi- vid- uals.	Corpo- rations.	All oth- ers.	Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
						Indi- vid- uals.	Corpo- rations.	All oth- ers.	Indi- vid- uals.	Corpo- rations.	All oth- ers.		Indi- vid- uals.	Corpo- rations.	All oth- ers.	Indi- vid- uals.	Corpo- rations.	All oth- ers.				
United States.	1919	55	482	63	26,296	377	25,291	628	1.4	96.2	2.4	\$281,143,587	\$4,412,170	\$270,173,402	\$6,558,015	1.6	96.1	2.3				
	1914	94	582	108	22,815	447	21,537	831	2.0	94.4	3.6	153,196,152	2,477,012	144,912,161	5,806,979	1.6	94.6	3.8				
	1909	95	369	86	18,310	354	17,167	790	1.9	93.8	4.3	103,960,213	1,907,199	98,066,672	4,046,342	1.8	94.3	3.9				
Alabama.....	1919	2	36	2	1,136	15	1,099	137	1.1	96.7	3.3	11,624,913	11,173,238	10,231,495	1,451,675	1.1	96.1	2.9				
	1914	5	68	7	1,416	15	1,366	35	1.1	96.5	2.5	10,869,679	119,650	10,750,029	518,534	1.1	94.1	4.8				
California.....	1919	2	14	1	284	16	268	1	5.6	94.4	0.0	3,609,704	3,356,794	3,252,910	103,884	9.9	90.1	0.0				
	1914	1	14	1	196	16	180	10	100.0	0.0	0.0	2,330,761	2,330,761	2,330,761	0	100.0	0.0	0.0				
Florida.....	1919	22	2	2	1,390	18	1,390	763	2.3	97.7	0.0	10,685,819	10,685,819	10,685,819	0	100.0	0.0	0.0				
	1914	2	19	1	781	18	763	1	2.3	97.7	0.0	6,995,051	63,095	6,931,956	0	0.9	99.1	0.0				
Georgia.....	1919	13	112	19	4,152	41	3,829	282	1.0	92.2	6.8	47,479,842	522,780	44,705,560	2,251,502	1.1	94.2	4.7				
	1914	22	168	40	3,833	50	3,502	281	1.3	91.4	7.3	29,045,903	461,049	26,225,456	2,359,398	1.6	90.3	8.1				
Illinois.....	1919	1	10	1	953	1	953	118	100.0	0.0	0.0	6,159,817	6,159,817	6,159,817	0	100.0	0.0	0.0				
	1914	1	9	2	696	1	678	118	97.4	2.6	0.0	3,775,287	3,742,619	3,742,619	32,668	99.1	0.9	0.0				
Indiana.....	1919	3	10	3	328	16	312	18	4.9	95.1	0.0	4,713,067	142,560	4,570,507	10,876	3.0	97.0	0.0				
	1914	4	7	3	193	18	167	8	9.3	88.5	4.1	1,135,794	62,409	1,062,509	10,876	5.5	93.5	1.0				
Louisiana.....	1919	6	6	0	584	6	584	0	100.0	0.0	0.0	4,197,285	4,197,285	4,197,285	0	100.0	0.0	0.0				
	1914	6	6	0	408	6	408	0	100.0	0.0	0.0	2,818,455	2,818,455	2,818,455	0	100.0	0.0	0.0				
Maine.....	1919	1	6	3	174	1	131	143	75.3	24.7	0.0	4,054,698	3,741,687	3,741,687	313,011	92.3	7.7	0.0				
	1914	1	5	2	155	1	103	152	66.5	33.5	0.0	1,583,481	1,316,998	1,316,998	266,483	83.2	16.8	0.0				
Maryland.....	1919	6	32	7	3,102	50	3,008	44	1.6	97.0	1.4	37,014,097	480,472	36,104,218	429,407	1.3	97.5	1.2				
	1914	9	29	10	1,991	83	1,847	61	4.2	92.8	3.1	13,986,704	409,025	13,162,182	415,497	2.9	94.1	3.0				
Mississippi.....	1919	9	9	0	370	9	370	0	100.0	0.0	0.0	3,626,674	3,626,674	3,626,674	0	100.0	0.0	0.0				
	1914	2	9	0	379	2	379	0	100.0	0.0	0.0	2,059,786	2,059,786	2,059,786	0	100.0	0.0	0.0				
New Jersey.....	1919	2	13	4	1,740	78	1,701	139	4.5	97.8	2.2	15,758,105	15,091,537	14,091,537	1,666,568	1.5	95.8	4.2				
	1914	4	14	5	1,530	78	1,415	37	5.1	92.5	2.4	11,197,690	171,174	10,792,490	234,026	1.5	96.4	2.1				
North Carolina.....	1919	3	39	3	2,077	41	2,002	34	2.0	96.4	1.6	27,551,316	726,637	26,471,882	352,797	2.6	96.1	1.3				
	1914	4	33	4	1,690	52	1,611	27	3.1	95.3	1.6	10,307,856	384,074	9,823,332	41,450	3.7	95.9	0.4				
Ohio.....	1919	1	22	1	1,197	1	1,197	999	0.6	99.4	0.0	14,042,055	14,042,055	14,042,055	0	100.0	0.0	0.0				
	1914	3	20	1	1,005	6	999	0	0.6	99.4	0.0	7,245,998	7,245,998	7,245,998	0	100.0	0.0	0.0				
Pennsylvania.....	1919	8	16	7	1,021	39	962	20	3.8	94.2	2.0	8,731,281	432,283	8,032,642	266,356	5.0	92.0	3.1				
	1914	15	16	16	1,110	44	1,001	65	4.0	90.2	5.9	6,177,610	226,342	5,658,021	293,247	3.7	91.6	4.7				
South Carolina.....	1919	3	46	1	2,765	53	2,712	0	1.9	98.1	0.0	30,411,575	512,062	29,899,513	0	1.7	98.3	0.0				
	1914	2	52	1	2,050	6	2,044	0	0.3	99.7	0.0	13,824,659	81,586	13,743,073	0	0.6	99.4	0.0				
Tennessee.....	1919	2	8	0	821	2	821	0	100.0	0.0	0.0	6,841,797	6,841,797	6,841,797	0	100.0	0.0	0.0				
	1914	1	12	2	706	1	595	111	84.3	15.7	0.0	4,372,427	4,121,727	4,121,727	250,700	94.3	5.7	0.0				
Virginia.....	1919	1	40	2	2,354	103	2,324	130	4.2	98.7	1.3	22,891,353	22,482,233	22,482,233	1,409,120	6.8	98.2	1.8				
	1914	4	51	2	2,470	103	2,367	0	4.2	95.8	0.0	11,350,120	776,373	10,573,747	0	6.8	93.2	0.0				

¹ Includes the group "Individuals."² Includes the group "All others."³ Includes the groups "Individuals" and "All others."

FERTILIZERS.

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TABLE 9.—NUMBER AND HORSEPOWER OF TYPES OF PRIME MOVERS: 1919, 1914, AND 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1919	1914	1909	Amount.			Per cent distribution.		
				1919	1914	1909	1919	1914	1909
Primary power, total.....	4,556	3,022	1,338	125,939	114,281	64,711	100.0	100.0	100.0
Owned.....	798	1,117	900	46,053	66,476	51,967	36.6	58.2	80.3
Steam.....	555	843	804	40,482	60,353	49,777	32.1	52.8	76.9
Engines.....	549	(2)	(2)	39,274	(2)	(2)	31.2	.....	.....
Turbines.....	6	(2)	(2)	1,208	(2)	(2)	0.9	.....	.....
Internal-combustion engines.....	219	258	83	4,862	5,786	1,825	3.9	5.1	2.8
Water wheels, turbines, and motors.....	24	16	13	709	337	365	0.6	0.3	0.6
Rented.....	3,758	1,905	438	79,885	47,805	12,744	63.4	41.8	19.7
Electric.....	3,758	1,905	438	79,886	47,450	12,579	63.4	41.5	19.4
Other.....	.....	.....	.....	.....	355	165	.....	0.3	0.3
Electric.....	4,535	2,795	761	93,111	65,206	19,238	100.0	100.0	100.0
Rented.....	3,758	1,905	438	79,886	47,450	12,579	85.8	72.7	65.4
Generated by establishments reporting.....	777	890	323	13,225	17,816	6,659	14.2	27.3	34.6

¹ Figures for horsepower include for 1909 the amount reported under the head of "Other" owned power.

² Not reported separately.

TABLE 10.—FUEL CONSUMED, BY STATES: 1919 AND 1914.

STATE.	Cen- sus year.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (bar- rels).	Gas- oline and other volatile oils (bar- rels).	Gas (1,000 cubic feet).	STATE.	Cen- sus year.	COAL.		Coke (tons, 2,000 pounds).	Fuel oils (bar- rels).	Gas- oline and other volatile oils (bar- rels).	Gas (1,000 cubic feet).
		Anthra- cite ¹ (tons, 2,240 pounds).	Bitu- minous (tons, 2,000 pounds).							Anthra- cite ¹ (tons, 2,240 pounds).	Bitu- minous (tons, 2,000 pounds).				
United States.....	1919	12,749	349,612	1,306	64,442	6,933	54,397	Maryland.....	1919	199	27,204	75	3,151	157	.....
Per cent of in- crease. ³	1914	13,451	433,359	2,033	27,851	(2)	49,631	1914	80	25,314	.....	170	(2)	.....	21
Alabama.....	1919	.....	29,981	57	1,903	131	.....	Mississippi.....	1919	.....	3,537	.....	25	20	.....
1914	1914	15	31,893	30	674	(2)	.....	1914	.....	6,245	.....	.....	(2)	.....	.....
California.....	1919	.....	.....	.....	11,610	195	12,203	New Jersey.....	1919	5,545	47,276	527	987	195	.....
1914	1914	.....	33	.....	13,588	(2)	.....	1914	8,279	39,290	.....	103	(2)	.....	.....
Connecticut.....	1919	125	1,217	.....	.....	.....	.....	North Carolina.....	1919	951	20,285	139	230	1,323	.....
Delaware.....	1919	26	282	.....	.....	20	.....	1914	.....	26,466	.....	1,217	(2)	.....	.....
Florida.....	1919	127	8,526	.....	19,435	2,623	.....	Ohio.....	1919	.....	25,826	.....	.....	(2)	8,681
1914	1914	.....	7,250	.....	2,216	(2)	.....	1914	.....	34,519	.....	46	(2)	11,153	.....
Georgia.....	1919	.....	14,498	6	1,429	956	140	Pennsylvania.....	1919	304	32,726	200	.....	13	414
1914	1914	.....	22,807	20	1,564	(2)	334	1914	2,391	50,267	1,383	107	(2)	19,050	.....
Illinois.....	1919	.....	25,756	.....	3,980	.....	.....	South Carolina.....	1919	250	20,162	.....	60	532	.....
1914	1914	.....	18,458	.....	3,973	.....	.....	1914	.....	25,017	.....	154	(2)	.....	.....
Indiana.....	1919	.....	5,403	.....	.....	72	.....	Tennessee.....	1919	.....	13,530	.....	2,987	.....	.....
1914	1914	150	4,175	.....	26	(2)	.....	1914	.....	27,333	.....	2	.....	.....	.....
Kentucky.....	1919	.....	1,671	.....	.....	.....	125	Texas.....	1919	.....	22	.....	10,193	360	.....
Louisiana.....	1919	.....	7,242	.....	.....	.....	31,500	1914	.....	94	.....	20	(2)	400	.....
1914	1914	.....	2,788	.....	.....	.....	18,373	Virginia.....	1919	1,209	28,656	.....	2,418	158	.....
Maine.....	1919	11	320	.....	.....	10	.....	1914	.....	954	56,284	.....	305	(2)	.....
1914	1914	.....	775	.....	225	(2)	.....	All other states.....	1919	3,912	35,494	302	6,059	138	1,334
									1914	1,582	54,351	.....	3,436	300	300

¹ Includes some semianthracite coal.

² Included in figures for fuel oils.

³ A minus sign (—) denotes decrease.

SPECIAL STATISTICS.

Certain additional information concerning the quantity and value of materials and products for the industry is collected, by means of supplemental schedules, data for which are presented in Tables 11 to 13.

Materials and products.—Table 11 presents comparative statistics for materials and products, and number of establishments involved, for the census years 1919, 1909, and 1904. Prior to the World War, the con-

sumption of potash salts in the manufacture of fertilizers had increased rapidly, but the consumption in 1919 was but little more than one-half of that in 1914. The average unit cost, however, was \$67.80 in 1919 as compared with \$24.10 in 1914, and \$28.50 in 1909. The imports of potash of all kinds and for all purposes in 1919 was 45,112 net tons, valued at \$3,616,100 as compared with 242,909 net tons, valued at \$8,743,973 in 1914.

TABLE 11.—DETAILED STATISTICS OF QUANTITY AND VALUE: 1919, 1914, 1909, AND 1904.

[Ton, 2,000 pounds.]

	1919	1914	1909	1904		1919	1914	1909	1904
Number of establishments.....	809	1,238	843	552	Kainit:				
Fertilizer industry.....	600	784	550	399	Tons.....	31,145	448,885	347,104	190,493
Manufacturing fertilizers as subsidiary products.....	1209	454	293	153	Cost.....	\$920,614	\$3,939,263	\$3,008,183	\$1,891,073
MATERIALS.					Potash salts:				
Total cost.....	\$193,034,389	\$119,222,003	\$73,165,544		Tons.....	274,092	529,973	270,459	122,107
The fertilizer industry.....	\$185,040,522	\$107,954,644	\$69,521,920	\$39,287,914	Cost.....	\$18,653,390	\$12,774,113	\$7,714,367	\$3,695,701
Other industries producing fertilizers as subsidiary products.....	\$7,993,867	\$11,267,359	\$3,643,624	(?)	Muriate of potash—				
Cottonseed meal:					Tons.....	32,900	177,372	(?)	(?)
Tons.....	230,526	325,234		(?)	Cost.....	\$3,905,784	\$6,497,364	(?)	(?)
Cost.....	\$12,539,636	\$8,419,353		\$2,376,448	Sulphate of potash—				
Tankage and ammoniates not elsewhere specified:			842,557		Tons.....	79,482	39,232	(?)	(?)
Tons.....	689,733	887,934	\$17,200,611	(?)	Cost.....	\$2,765,126	\$1,684,998	(?)	(?)
Cost.....	\$23,949,569	\$20,131,141		\$7,539,200	Double manure salts—				
Fish:					Tons.....	17,560	108,580	(?)	(?)
Tons.....	273,252	250,110	242,045	(?)	Cost.....	\$902,843	\$1,740,241	(?)	(?)
Cost.....	\$5,575,634	\$3,111,991	\$3,066,613	\$847,142	Nitrate of potash or saltpeter—				
Ammonium sulphate:					Tons.....	11,751	507	(?)	(?)
Tons.....	135,882	149,924	65,592	10,510	Cost.....	\$1,199,814	\$28,287	(?)	(?)
Cost.....	\$12,659,005	\$9,015,163	\$3,732,112	\$600,856	Other potash salts—				
Cyanamid or lime nitrogen:					Tons.....	133,299	204,282	(?)	(?)
Tons.....	16,926	25,911	(?)	(?)	Cost.....	\$9,891,823	\$2,823,223	(?)	(?)
Cost.....	\$1,323,149	\$1,176,119	(?)	(?)	Hardwood ashes:				
Nitrate of soda:					Tons.....	9,085	4,437	(?)	(?)
For acid manufacture—					Cost.....	\$96,580	\$54,171	(?)	2,050
Tons.....	21,732	15,134			All other materials.....	\$39,667,532	\$20,543,915	\$14,161,497	\$10,310,151
Cost.....	\$1,692,614	\$704,581	\$3,846	42,213	PRODUCTS.				
For mixed fertilizer—					Total value.....	\$306,523,899	\$169,017,550	\$111,871,481	\$63,005,593
Tons.....	130,683	147,050	\$3,916,320	\$1,760,432	Fertilizer industry.....	\$251,143,587	\$153,190,152	\$103,960,213	\$56,541,253
Cost.....	\$10,091,790	\$6,807,228			Fertilizers, subsidiary products of other industries.....	\$25,380,312	\$15,821,398	\$7,911,268	\$6,467,340
Phosphate rock:					Fertilizers:				
Tons.....	2,247,325	2,080,961	1,549,497	888,571	Tons.....	8,237,011	8,432,200	5,618,234	3,591,771
Cost.....	\$17,926,097	\$11,222,992	\$8,828,834	\$4,244,554	Value.....	\$284,544,523	\$153,260,212	\$100,089,971	\$56,928,034
Bone discard:					Average unit value, ton.....	\$34.50	\$18.20	\$17.80	\$15.80
Tons.....	12,769	3,395	(?)	(?)	Complete and ammoniated fertilizers—				
Cost.....	\$252,726	\$35,007	(?)	(?)	Tons.....	4,756,440	5,012,421	3,523,759	2,335,201
Raw bones:					Value.....	\$200,106,419	\$121,676,386	\$74,109,307	\$44,325,882
Tons.....	81,304	64,590	(?)	(?)	Superphosphates—				
Cost.....	\$3,093,364	\$1,603,353	(?)	(?)	Production, tons.....	5,712,158	14,416,022	3,062,834	1,670,975
Steamed bones:					For sale—				
Tons.....	59,227	55,067	(?)	(?)	Tons.....	2,395,672	1,692,705	1,223,909	788,787
Cost.....	\$1,815,554	\$1,178,959	(?)	(?)	Value.....	\$46,221,930	\$14,778,654	\$13,744,831	\$7,821,096
Ground bone, raw:					Made and consumed, tons.....	3,316,486	2,723,317	1,838,895	884,211
Tons.....	16,471	25,139	(?)	(?)	Concentrated phosphates—				
Cost.....	\$707,034	\$593,226	(?)	(?)	Tons.....	119,609	67,583	270,128	(?)
Pyrites:					Value.....	\$3,828,417	\$1,367,005	\$2,713,618	(?)
Tons.....	338,602	613,842	456,574	342,902	Other fertilizers—				
Cost.....	\$3,919,050	\$3,590,235	\$2,831,994	\$2,020,759	Tons.....	965,290	1,059,495	600,378	419,803
Sulphur:					Value.....	\$34,387,757	\$15,433,167	\$9,622,320	\$4,781,056
Tons.....	221,558	2,041	4,236	4,210	Sulphuric acid (basis of 50° Baumé):				
Cost.....	\$5,669,331	\$42,716	\$68,924	\$92,234	Production, tons.....	1,877,394	1,405,768	995,381	717,406
Sulphuric acid:					For sale—				
Purchased—					Tons.....	308,817	129,053	153,449	24,502
Tons.....	635,632	728,889	620,708	197,865	Value.....	\$3,639,010	\$768,873	\$928,582	\$194,575
Cost.....	\$6,683,061	\$4,387,317	\$3,460,132	\$1,034,304	Made and consumed, tons.....	1,568,577	1,276,715	841,835	692,904
Made and consumed, tons.....	1,568,577	1,276,715	841,935	692,904	Fish scrap:				
Superphosphate:					Tons.....	47,542	62,930	78,484	(?)
Purchased—					Value.....	\$3,170,691	\$1,945,530	\$2,006,724	(?)
Tons.....	1,200,182	1,096,178	532,886	320,559	Pyrite cinder:				
Cost.....	\$18,485,969	\$9,801,501	\$5,175,957	\$2,012,010	Tons.....	5,116,444	5,245,082	5,201,653	(?)
Made and consumed (acid phosphate), tons.....	3,316,486	2,723,317	1,838,865	884,211	Value.....	\$169,420	\$231,899	\$143,607	(?)
Basic slag or Thomas phosphate powder:					Oil:				
Tons.....	11,394	16,190	(?)	(?)	Gallons.....	2,118,092	2,445,026	3,218,393	(?)
Cost.....	\$18,768	\$144,213	(?)	(?)	Value.....	\$1,831,194	\$778,337	\$810,983	(?)
Guano:					Bone black:				
Tons.....	33,053	120,128	(?)	(?)	Pounds.....	44,597,838	41,054,769	(?)	(?)
Cost.....	\$893,923	\$445,416	(?)	(?)	Value.....	\$2,227,113	\$1,413,166	(?)	(?)
					Glue.....	\$2,171,055	\$1,131,243	(?)	(?)
					Grease.....	\$2,015,033	\$1,209,334	(?)	(?)
					All other products.....	\$6,755,860	\$8,308,986	\$7,891,659	\$5,885,951

¹ Includes 94 cottonseed-oil mills, 32 grease and tallow rendering establishments, 51 slaughtering and meat-packing plants, and 32 establishments distributed among 13 other industries that produce wastes of fertilizer value.

² Figures not available.

³ Includes 17,439 tons reported as "potash salts."

⁴ Includes fertilizers reported as ammoniated fertilizers but containing both superphosphates and potash, viz: In 1919, 1,271,215 tons; 1914, 1,519,156 tons; 1909, 522,339 tons; and 1904, 775,987 tons.

⁵ Not including 116,987 tons in 1919; 153,634 tons in 1914, and 72,402 tons in 1909, of no value.

⁶ Includes fish oil, 2,118,092 gallons, \$1,831,194; neat's-foot oil, 314,550 gallons, \$182,228; cottonseed oil, 193,723 gallons, \$257,467.

⁷ Includes chemicals (soda products, acids, etc.) to the value of \$1,039,063 in 1919, and \$400,597 in 1914.

Sulphuric acid.—The industry is a large consumer of sulphuric acid, and of the total production by all establishments, totaling 5,491,528 tons on the basis of 50° acid, 2,168,825 tons, or approximately 40 per cent, were used in the manufacture of fertilizers, and the bulk of this was manufactured by the consuming establishment.

Table 12 shows, by states, the quantity of sulphuric acid made and consumed by establishments in the industry, together with the quantity purchased, by states. Of the total quantity consumed, 72.3 per

cent were manufactured within the industry, and 27.7 per cent were purchased in 1919 as compared with 63.7 per cent manufactured and 36.3 per cent purchased in 1914. In addition to the sulphuric acid made and consumed within the industry, 308,817 tons were manufactured and sold. Assuming this to have been sold to fertilizer plants within the industry and included in the quantity of sulphuric acid purchased, the industry would appear to have produced more than seven-tenths of the sulphuric acid consumed in the manufacture of fertilizers.

TABLE 12.—CONSUMPTION OF SULPHURIC ACID, BY STATES: 1919 AND 1914.

STATE.	Cen- sus year.	Total (tons).	MADE AND CONSUMED.		Pur- chased (tons).	STATE.	Cen- sus year.	Total (tons).	MADE AND CONSUMED.		Pur- chased (tons).
			Num- ber of estab- lish- ments.	Tons.					Num- ber of estab- lish- ments.	Tons.	
United States.....	1919	2,168,825	119	1,568,577	600,248	New Jer-sey.....	1919	83,420	4	73,239	10,181
	1914	2,005,604	128	1,270,715	728,889		1914	127,712	6	88,041	39,671
Alabama.....	1919	113,189	12	96,611	16,578	North Carolina.....	1919	167,503	11	110,590	56,913
	1914	156,462	9	72,242	84,210		1914	160,143	12	129,307	30,836
Florida.....	1919	47,231	5	47,231	.....	Ohio.....	1919	187,072	8	88,360	98,712
	1914	46,615	4	45,506	1,109		1914	107,963	6	73,242	34,751
Georgia.....	1919	322,806	27	252,899	69,907	South Carolina.....	1919	218,594	14	164,835	53,759
	1914	386,818	34	282,176	104,642		1914	190,715	13	160,327	30,388
Louisiana.....	1919	81,362	4	62,845	18,517	Tennessee.....	1919	96,981	4	82,374	14,607
	1914	66,331	4	31,016	35,318		1914	89,775	4	70,750	19,025
Maryland.....	1919	442,411	6	330,928	111,483	Virginia.....	1919	112,462	8	95,236	17,226
	1914	304,509	6	110,568	193,941		1914	116,683	8	93,071	23,612
Mississippi.....	1919	61,250	5	43,352	17,898	All other states.....	1919	234,544	11	120,077	114,467
	1914	51,570	5	42,406	9,170		1914	200,279	17	78,063	122,216

Products, by principal states.—Table 13 gives detailed statistics of fertilizer products, by kinds and by states, for 1919 and 1914, the states being ranked according to tonnage in 1919. The figures

show a slight decrease in total tonnage for the census interval, with an increase in value and average unit value for all classes of fertilizers, increasing from \$18.20 in 1914 to \$34.50 in 1919.

MANUFACTURES.

TABLE 13.—PRODUCTS, BY PRINCIPAL STATES: 1919 AND 1914.

PRODUCT AND STATE.	1919		1914		PRODUCT AND STATE.	1919		1914	
	Tons.	Value.	Tons.	Value.		Tons.	Value.	Tons.	Value.
FERTILIZERS, total.	8,237,011	\$284,544,523	8,432,206	\$153,230,212	Superphosphates and concentrated phosphates.	2,515,281	\$50,050,347	1,760,290	\$16,145,659
Georgia.....	1,423,712	49,219,786	1,749,495	30,408,787	Maryland.....	635,856	10,661,824	228,045	2,006,640
Maryland.....	1,209,676	35,005,810	875,990	13,488,984	Georgia.....	341,515	6,228,256	459,783	4,138,243
South Carolina.....	845,802	31,367,837	733,753	14,065,858	South Carolina.....	249,145	4,899,295	182,407	1,642,797
North Carolina.....	794,135	31,902,546	635,230	11,702,757	North Carolina.....	206,231	5,210,407	147,694	1,285,580
Virginia.....	532,837	20,358,826	541,690	9,524,113	Ohio.....	187,164	4,719,899	69,927	983,933
Ohio.....	498,376	13,594,341	339,353	6,313,075	Virginia.....	152,305	3,416,931	76,130	699,654
New Jersey.....	405,552	15,225,445	475,821	10,281,447	Alabama.....	146,677	2,947,952	230,494	1,945,594
Alabama.....	381,021	11,677,053	687,043	10,983,528	Tennessee.....	121,122	2,572,765	47,327	444,694
Illinois.....	275,326	9,067,939	294,802	4,565,435	New Jersey.....	93,350	1,827,494	82,674	941,733
Florida.....	254,556	9,964,055	246,506	6,290,967	Florida.....	68,902	1,127,428	36,701	307,372
Tennessee.....	243,498	6,721,564	329,457	4,408,922	Louisiana.....	59,850	1,309,030	52,713	469,070
Pennsylvania.....	224,152	7,193,126	276,088	5,296,917	Mississippi.....	51,159	995,700	62,518	477,518
Louisiana.....	162,926	5,228,313	221,434	3,696,424	Illinois.....	43,003	835,494	(1)	(1)
Indiana.....	142,762	4,385,106	56,889	1,049,526	Indiana.....	41,467	1,019,089	(1)	(1)
Mississippi.....	122,726	3,909,981	159,263	2,383,019	Pennsylvania.....	12,054	310,611	23,890	242,655
California.....	74,224	3,835,358	69,977	2,094,371	All other states.....	105,475	1,968,172	59,978	601,642
Connecticut.....	57,610	3,578,737	59,156	1,589,194					
Maine.....	54,784	4,041,271	51,465	1,590,756	Average unit value, ton.....		19.90		9.17
Kentucky.....	29,820	926,192	67,379	959,366	Maximum.....	Pa.....	25.77	Ohio.....	13.87
Texas.....	29,784	1,217,490	35,685	845,375	Minimum.....	Florida.....	16.36	Miss.....	7.64
Delaware.....	16,551	585,925	25,201	505,918					
All other states.....	154,181	15,537,892	500,553	10,917,373					
	State.		State.						
Average unit value, ton.....		34.50		18.20					
Maximum.....	Maine.....	73.77	Conn.....	32.93					
Minimum.....	New York	25.21	Tenn.....	13.38					
Complete and ammoniated fertilizers.	4,756,440	\$290,103,419	5,612,421	\$121,676,356	Other fertilizers.	965,290	\$34,387,757	1,059,495	\$15,438,167
Georgia.....	1,004,717	39,855,409	1,155,559	24,387,229	North Carolina.....	124,743	5,595,856	29,241	417,643
South Carolina.....	545,642	24,218,733	491,076	11,199,158	Ohio.....	105,128	2,377,681	50,825	846,831
Maryland.....	486,104	20,937,554	516,958	10,013,331	Maryland.....	87,716	3,406,432	130,993	1,469,613
North Carolina.....	463,161	21,066,283	458,205	9,909,225	Georgia.....	77,480	3,136,121	134,123	1,883,315
Virginia.....	361,802	16,329,418	375,256	7,576,028	Illinois.....	70,266	3,059,099	32,901	402,360
New Jersey.....	256,403	11,990,054	353,310	8,723,747	Pennsylvania.....	59,569	1,655,734	80,728	1,235,063
Alabama.....	208,872	7,704,149	403,135	8,111,405	New Jersey.....	55,799	1,407,897	39,837	615,962
Ohio.....	206,084	6,496,781	218,601	4,496,321	South Carolina.....	51,015	2,249,809	60,270	1,165,903
Florida.....	175,746	8,618,976	200,663	5,720,326	Tennessee.....	46,918	1,332,012	118,021	1,092,603
Illinois.....	156,057	5,173,346	251,654	4,095,958	Alabama.....	28,472	1,024,952	53,414	923,329
Pennsylvania.....	152,529	5,226,781	171,461	3,818,919	Kentucky.....	25,726	784,965	52,453	642,580
Louisiana.....	94,359	3,556,830	132,287	2,558,982	Mississippi.....	19,069	793,900	(1)	(1)
Indiana.....	87,065	2,707,669	41,318	787,466	Virginia.....	18,730	612,477	90,304	1,278,431
Tennessee.....	75,458	2,816,787	164,109	2,871,655	California.....	15,403	1,042,519	9,749	312,584
Connecticut.....	55,445	3,471,617	49,533	1,661,626	Indiana.....	14,230	658,348	10,094	186,036
Maine.....	52,980	3,034,620	50,554	1,574,590	Florida.....	9,908	217,651	9,142	262,469
Mississippi.....	51,898	2,120,381	95,359	1,867,251	Louisiana.....	8,711	362,453	36,434	668,372
California.....	46,433	2,600,055	44,456	1,639,886	Connecticut.....	1,732	94,794	9,503	284,888
Texas.....	12,848	507,612	32,807	794,488	All other states.....	138,075	4,575,057	111,403	1,751,965
Delaware.....	12,175	465,965	21,888	471,093					
Kentucky.....	3,794	135,227	14,926	316,786					
All other states.....	247,868	10,142,172	369,216	8,591,116					
	State.		State.						
Average unit value, ton.....		42.07		21.68					
Maximum.....	Maine.....	74.27	Calif.....	36.88					
Minimum.....	Indiana.....	31.10	Illinois.....	16.28					

1 Included in "All other states."

GENERAL TABLES.

Table 14 gives for 1919, 1914, and 1909 a comparative summary, by states, for number of establishments, aggregate number of wage earners, primary horsepower, cost of materials, and value of products.

Table 15 presents for 1919 the detailed statistics for the industry for such states as can be shown without disclosing the operations of individual establishments.

TABLE 14.—COMPARATIVE SUMMARY, BY STATES: 1919, 1914, AND 1909.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Expressed in thousands.		
					Wages.	Cost of mate- rials.	Value of prod- ucts.
United States.....	1919	600	26,206	125,939	\$25,363	\$185,041	\$281,144
	1914	784	22,815	114,281	10,532	107,955	153,196
	1909	550	18,310	64,711	7,477	69,522	103,960
Alabama.....	1919	40	1,136	5,908	1,044	7,576	11,625
	1914	80	1,416	7,112	546	8,077	10,870
	1909	42	1,233	4,484	392	4,264	6,423
California.....	1919	17	284	2,423	317	2,532	3,610
	1914	16	196	1,586	158	1,860	2,331
	1909	15	226	1,579	155	1,796	2,313
Connecticut.....	1919	6	188	753	204	2,556	3,599
	1914	10	329	1,689	185	1,477	1,972
	1909	12	295	1,273	137	1,091	1,573
Delaware.....	1919	7	41	225	28	510	630
	1914	9	64	295	28	382	510
	1909	10	134	805	52	452	860
Florida.....	1919	24	1,390	4,368	1,103	7,158	10,686
	1914	22	781	3,070	367	4,656	6,995
	1909	12	589	1,710	218	2,875	3,878
Georgia.....	1919	144	4,152	20,561	3,336	30,767	47,480
	1914	230	3,833	19,097	1,406	21,220	29,016
	1909	110	2,770	10,488	921	10,944	16,800
Illinois.....	1919	12	953	3,090	755	3,723	6,160
	1914	12	696	3,739	398	2,350	3,775
	1909	11	444	2,145	225	1,425	2,386
Indiana.....	1919	13	328	2,123	306	2,733	4,713
	1914	14	193	1,293	95	747	1,136
	1909	15	123	1,012	62	254	456
Louisiana.....	1919	6	584	2,317	452	2,634 ^a	4,197
	1914	6	408	1,948	171	1,932	2,818
	1909	6	295	1,178	127	1,324	1,757
Maine.....	1919	10	174	616	150	3,077	4,055
	1914	8	155	973	68	1,195	1,583
	1909	5	95	323	36	431	597
Maryland.....	1919	45	3,102	16,490	\$3,561	\$24,695	\$37,014
	1914	43	1,991	7,242	1,052	9,968	13,957
	1909	41	1,439	5,324	617	6,963	9,673
Mississippi.....	1919	9	370	2,316	285	2,668	3,627
	1914	11	379	2,509	155	1,605	2,060
	1909	10	449	1,823	141	1,355	2,125
New Jersey.....	1919	19	1,740	6,639	2,093	11,811	15,758
	1914	23	1,530	5,829	814	7,587	11,198
	1909	22	1,208	2,459	541	5,685	7,672
North Carolina.....	1919	45	2,077	9,592	1,850	18,606	27,551
	1914	41	1,690	8,155	734	7,704	10,308
	1909	34	933	3,132	393	4,183	6,316
Ohio.....	1919	23	1,197	7,179	1,501	8,071	14,042
	1914	24	1,005	4,739	590	4,627	7,246
	1909	27	841	3,059	368	2,535	4,435
Pennsylvania.....	1919	31	1,021	5,077	1,150	5,845	8,731
	1914	47	1,110	4,647	608	4,170	6,178
	1909	48	1,224	5,174	575	4,613	6,543
South Carolina.....	1919	50	2,765	10,197	2,124	19,429	30,412
	1914	55	2,050	7,570	803	10,316	13,825
	1909	26	1,851	4,766	671	5,629	9,025
Tennessee.....	1919	10	821	3,646	713	4,012	6,842
	1914	15	706	3,752	329	2,592	4,372
	1909	12	559	2,152	204	2,122	3,249
Texas.....	1919	9	190	1,404	190	1,101	1,593
	1914	8	101	522	63	386	638
	1909	3	9	53	3	49	57
Virginia.....	1919	43	2,354	13,260	2,456	14,198	22,891
	1914	57	2,470	19,577	1,051	7,996	11,359
	1909	45	1,956	5,560	760	5,389	8,035
All other states.....	1919	37	1,429	7,845	1,745	11,339	15,928
	1914	48	1,712	8,631	911	7,128	10,998
	1909	44	1,637	6,212	879	6,113	9,787

MANUFACTURES.

TABLE 15.—DETAILED STATEMENT, BY STATES: 1919.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				EXPENSES.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.			Capital.	Salaries and wages.			
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Under 16, male.		Officials.	Clerks, etc.		
								Maximum month.	Minimum month.									
United States.....	600	32,522	219	1,014	3,318	775	26,296	Mh 38,357	Je 21,071	30,071	29,565	428	78	\$311,633,259	\$5,870,938	\$5,790,662		
Alabama.....	40	1,402	7	110	120	29	1,136	Mh 2,212	Je 737	1,326	1,306	17	3	12,224,284	267,540	208,769		
California.....	17	469	3	32	129	21	284	No 315	Se 257	299	290	9		3,543,351	95,761	151,369		
Connecticut.....	6	266	4	25	39	10	188	Ap 308	Oc 132	172	172			3,804,994	88,988	69,094		
Delaware.....	7	68	9	12	4	2	41	Mh 60	Ja 18	51	51			452,810	23,585	3,267		
Florida.....	24	1,718	2	99	174	53	1,390	Mh 1,663	Au 1,070	1,578	1,532	45	1	15,938,567	269,376	306,467		
Georgia.....	144	5,342	77	380	633	100	4,152	Mh 8,512	Au 2,535	4,555	4,464	20	71	59,482,762	1,065,761	1,051,854		
Illinois.....	12	1,120	3	39	104	21	953	Se 1,246	De 786	861	861			6,430,846	160,862	172,492		
Indiana.....	13	435	3	32	50	22	328	Se 628	Fe 258	300	296	3	1	3,268,585	116,686	87,647		
Kentucky.....	4	116	2	10	14	9	81	Se 149	Fe 66	69	69			728,757	27,980	26,058		
Louisiana.....	6	677		27	51	15	584	Mh 1,124	Je 299	749	657	92		4,215,019	80,679	84,406		
Maine.....	10	243	7	18	28	16	174	Ja 261	No 121	170	167	3		3,347,807	49,134	48,851		
Maryland.....	45	3,805	26	217	392	128	3,102	Mh 3,701	No 2,068	3,119	3,087	32		35,236,201	784,276	670,652		
Mississippi.....	9	431		31	25	5	370	Mh 592	Je 241	346	346			4,738,555	86,880	36,568		
New Jersey.....	19	2,076	6	88	205	37	1,740	Mh 2,222	Au 1,465	1,663	1,644	19		20,052,967	255,244	287,894		
North Carolina.....	45	2,509	12	139	234	47	2,077	Ap 3,487	Je 1,418	3,468	3,457	11		29,963,822	499,044	421,621		
Ohio.....	23	1,539	1	99	190	52	1,197	Se 2,185	Se 870	1,312	1,302	10		11,649,854	299,365	318,067		
Oregon.....	3	9	1	2			6	Ap 7	Je 5	7	7			10,950	1,800			
Pennsylvania.....	31	1,315	26	82	137	49	1,021	Ja 1,359	Je 777	901	894	7		8,657,049	253,448	250,481		
South Carolina.....	50	3,279	5	198	267	44	2,765	Mh 4,763	Oc 1,787	3,587	3,567	20		33,221,052	573,187	502,917		
Tennessee.....	10	957	2	33	86	15	821	Ap 1,334	Oc 512	625	621	4		9,189,393	104,789	162,554		
Texas.....	9	222	3	21	6	2	190	Jy 277	Se 119	351	351			963,528	41,735	7,849		
Virginia.....	43	2,768	7	140	219	48	2,354	Ap 3,029	De 1,841	3,279	3,221	58		25,710,704	480,229	455,051		
All other states ¹	30	1,696	13	80	211	50	1,342			1,283	1,203	78	2	18,801,402	244,589	376,734		

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.						
	Salaries and wages—Con.	For contract work.	Rent and taxes.		For materials.				Primary horsepower.						
			Rent of factory.	Taxes, Federal, state, county, and local.	Principal materials.	Fuel and rent of power.			Total.	Owned.				Electric horsepower generated in establishments reporting.	
										Steam engines (not turbines).	Steam turbines.	Internal-combustion engines.	Water power. ²		Rent. ³
United States.....	\$25,364,132	\$171,318	\$345,582	\$8,129,732	\$181,599,677	\$3,440,845	\$281,143,587	\$96,103,065	125,939	39,274	1,208	4,862	709	79,886	13,225
Alabama.....	1,043,507	822	614	366,852	7,427,033	149,377	11,624,913	4,048,503	5,908	2,499		158		3,251	40
California.....	317,350	11,899	27,385	41,233	2,482,550	49,731	3,609,704	1,077,423	2,423	285		20		2,118	
Connecticut.....	203,521			73,183	2,537,882	18,516	3,598,886	1,042,488	753	215				538	
Delaware.....	28,233		231	1,643	506,692	3,371	630,405	120,342	225	145		10		70	
Florida.....	1,102,556		2,922	182,259	7,005,422	152,483	10,685,819	3,527,914	4,368	2,130		812		1,426	1,258
Georgia.....	3,336,110	72,208	36,567	1,552,768	30,448,840	317,810	47,479,842	16,713,192	20,561	2,701		961		16,899	198
Illinois.....	754,899	60	82,514	73,501	3,582,444	140,242	6,159,817	2,437,131	3,090	580	175			2,335	
Indiana.....	396,255		967	111,855	2,698,571	34,890	4,713,067	1,979,606	2,123	440		56		1,627	
Kentucky.....	67,247	941	2,062	16,967	728,867	6,564	999,946	264,515	370	157				213	
Louisiana.....	451,672			104,199	2,572,364	61,972	4,197,285	1,562,949	2,317	455				1,862	44
Maine.....	150,405	500	2,421	36,368	3,068,019	8,957	4,054,698	977,722	616	70		5		541	
Maryland.....	3,561,181	2,994	42,600	781,275	24,271,436	423,282	37,014,097	12,319,379	16,400	2,257	733	112		13,295	1,382
Mississippi.....	284,818		4,800	159,357	2,612,394	55,654	3,626,674	958,626	2,316	588				1,728	47
New Jersey.....	2,092,764	2,000	3,108	277,276	11,487,483	323,553	15,758,105	3,947,069	6,639	4,45		395		1,794	5,684
North Carolina.....	1,850,265	2,635	43,459	961,205	18,331,083	274,737	27,551,316	8,945,496	9,592	3,060	150	962		5,420	877
Ohio.....	1,590,991	6,910	7,859	489,137	7,909,525	161,718	14,042,055	5,970,812	7,179	3,399		132	386	3,262	747
Oregon.....	7,192		300	16	13,551	865	31,170	16,754	58	40		3		15	
Pennsylvania.....	1,149,672	7,079	14,561	121,587	5,577,840	267,207	8,731,281	2,886,234	5,077	2,464	150	48	7	2,342	1,462
South Carolina.....	2,124,157	191	19,294	1,209,272	19,170,399	249,669	30,411,575	10,982,507	10,197	1,990		163		8,044	10
Tennessee.....	712,941		700	187,212	3,875,261	136,296	6,841,797	2,830,240	3,646	1,320				2,326	18
Texas.....	189,676	1,205	10,749	6,242	1,070,001	30,775	1,592,718	491,942	1,404	405				999	
Virginia.....	2,456,294	42,292	5,064	1,089,945	13,915,303	282,886	22,891,353	8,693,159	13,260	7,576		785		4,919	458
All other states ¹	1,671,516	19,582	37,405	289,380	10,297,712	290,290	14,897,064	4,809,062	7,417	2,048		260	250	4,859	1,050

¹ Includes Arkansas, 2 establishments; Colorado, 2; Iowa, 1; Kansas, 4; Massachusetts, 2; Michigan, 1; Missouri, 3; Montana, 1; Nebraska, 1; Nevada, 1; New Mexico, 1; New York, 6; Rhode Island, 1; Washington, 3; West Virginia, 1.

² Includes water wheels and turbines (irrespective of ownership of water supply), and water motors (operated by water from city mains).

³ Chiefly electric motors operated by rented (or purchased) current; other power included (chiefly shaft-belt or transmitted power from neighboring power plants).