PENNSYLVANIA.

INDUSTRIES IN GENERAL.

General character of the state.—Pennsylvania, with a gross area of 45,126 square miles, of which 294 represent water surface, ranks thirty-second in size among the states of the Union. Its population in 1910 was 7,665,111, as compared with 6,302,115 in 1900 and 5,258,113 in 1890. In 1910 the density of population for the state was 171 per square mile, the corresponding figure for 1900 being 140.6. It ranked second among the states as regards population in each of the census years named and at all prior censuses since the first in 1790, except two, those of 1810 and 1820, when it was third. Sixty and four-tenths per cent of the entire population of the state in 1910 resided in incorporated places having a population of 2,500 or over, as against 54.7 per cent in 1900.

In 1910, 10 cities in the state had a population of over 50,000, as follows: Philadelphia, 1,549,008, ranking third among the cities of the country; Pittsburgh, 533,905, ranking eighth; Scranton, 129,867; Reading, 96,071; Wilkes-Barre, 67,105; Erie, 66,525; Harrisburg, 64,186; Johnstown, 55,482; Altoona, 52,127; and Allentown, 51,913. There were also 53 cities and boroughs having a population of over 10,000 but less than 50,000. (See table on p. 1051.) These 63 cities and boroughs contained 47.7 per cent of the total population of the state and were credited in 1909 with 63.3 per cent of the total value of its manufactures. Apart from these places, only 12.7 per cent of the population resided in places of 2,500 inhabitants or over.

The transportation facilities of the state, both by rail and by water, are excellent. The state is traversed by numerous lines of railway, some of which are the main lines of the most important systems in the United States. The total trackage within its borders in 1909 was 11,206 miles,[1] an amount which was exceeded by only two states, Texas and Illinois. Philadelphia is one of the most important ports of the country, Erie has one of the best harbors on the Great Lakes, and Pittsburgh has the advantages of river transportation via the Monongahela, Allegheny, and Ohio to the Mississippi River.

The natural resources of the state, which are varied and of great importance, have had a marked influence in the establishment and growth of many industries in the state. Some of the materials used in manufacture, such as petroleum, natural gas, bituminous coal, anthracite coal, iron ore, limestone, clay, glass sand, timber, and tobacco, are produced in large quantities. The accessibility and supply of these raw materials determine, in a large measure, the location of many manufacturing establishments, especially in the iron, coke, lumber, wood pulp, and glass industries.

Importance and growth of manufactures.—From the colonial period until the present time Pennsylvania has been among the leading states in manufactures, holding third place as measured by gross value of manufactured products in 1849, when the first authoritative census of manufactures was taken, but advancing to second place in 1859, a position which it has since retained. During the census year 1849 an average of 146,766 wage earners, representing 6.3 per cent of the total population, were employed in manufactures, while in 1909 an average of 877,543, or 11.4 per cent of the total population, were so engaged. During this period the gross value of products per capita of the total population of the state increased from $67 to $343. With the rapid development of manufactures in other sections, however, Pennsylvania's proportion of the total value of manufactures in the country declined from 15.2 per cent in 1849 to 12.7 per cent in 1909.

The first table on page 1040 gives the most important figures relative to all classes of manufactures combined for 1909, 1904, and 1899, together with the percentages of increase from census to census.

In 1909 the state of Pennsylvania had 27,563 manufacturing establishments, which gave employment to an average of 1,002,171 persons during the year and paid out $566,524,000 in salaries and wages. Of the persons employed, 877,543 were wage earners. These establishments turned out products to the value of $2,626,742,000, to produce which materials costing $1,582,560,000 were utilized. The value added by manufacture was thus $1,044,182,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

In general, this table brings out the fact that the manufacturing industries of Pennsylvania, as a whole, showed a greater development during the more recent five-year period, 1904–1909, than during the preceding five-year period, 1899–1904. During the five years

[1] Statistics of Railways in the United States, Interstate Commerce Commission, 1909.

from 1904 to 1909 the number of establishments increased 17.3 per cent and the average number of wage earners 15 per cent, while the value of products increased 34.3 per cent and the value added by manufacture 28.5 per cent. As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume to the full extent indicated by these figures relating to values, since the increase shown is certainly due, in part, to the increase which has taken place in the prices of commodities.

	Number or amount.			Per cent of increase.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments	27,563	23,495	23,462	17.3	0.1
Persons engaged in manufactures	1,002,171	855,392	(1)	17.2	.....
Proprietors and firm members	29,743	26,029	(1)	14.3	.....
Salaried employees	94,885	66,081	43,935	43.6	50.4
Wage earners (average number)	877,543	763,282	663,960	15.0	15.0
Primary horsepower	2,921,547	2,302,398	1,716,694	26.9	34.1
Capital	$2,749,006,000	$1,995,837,000	$1,449,815,000	37.7	37.7
Expenses	2,355,385,000	1,751,440,000	1,412,796,000	34.5	24.0
Services	566,524,000	441,230,000	343,021,000	28.4	28.6
Salaries	110,897,000	73,269,000	46,145,000	51.4	58.8
Wages	455,627,000	367,961,000	296,876,000	23.8	23.9
Materials	1,582,560,000	1,142,943,000	958,301,000	38.5	19.3
Miscellaneous	206,301,000	167,267,000	111,474,000	23.3	50.1
Value of products	2,626,742,000	1,955,551,000	1,649,882,000	34.3	18.5
Value added by manufacture (value of products less cost of materials)	1,044,182,000	812,608,000	691,581,000	28.5	17.5

[1] Figures not available.

The relative importance and growth of the leading manufacturing industries of the state are shown in the following table.

It should be borne in mind, in considering this table, that the value of products in some of the industries involves a certain amount of duplication, due to the use of the product of one establishment in the industry as material for another establishment.

This table specifies 94 industries or industry groups which had in 1909 a product in excess of $700,000 in value. Of the industries listed in the table there are 3 whose product exceeds $100,000,000 in value; 10, with a product between $50,000,000 and $100,000,000 in value; 11, with a product between $25,000,000 and $50,000,000 in value; and 19, with a product between $10,000,000 and $25,000,000 in value, making an aggregate of 43 industries which had a value of products in excess of $10,000,000 each. Mention is also made of 14 other industries, with a product between $5,000,000 and $10,000,000 in value; 36, with a product of $1,000,000 to $5,000,000 in value; and 1, with a product less than $1,000,000 in value.

Industry.	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Per cent of increase.[1]			
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Value of products.		Value added by manufacture.	
								1904-1909	1899-1904	1904-1909	1899-1904
All industries	27,563	877,543	100.0	$2,626,742,000	100.0	$1,044,182,000	100.0	34.3	18.5	28.5	17.5
Iron and steel, steel works and rolling mills	189	126,911	14.5	500,344,000	19.0	171,331,000	16.4	37.5	9.3	36.1	10.6
Foundry and machine-shop products	1,695	86,821	9.9	210,746,000	8.0	109,735,000	10.5	37.4	.....	30.1	.....
Iron and steel, blast furnaces	66	14,521	1.7	168,578,000	6.4	26,504,000	2.5	56.9	5.8	25.4	-43.6
Leather, tanned, curried, and finished	163	14,008	1.6	77,926,000	3.0	18,813,000	1.8	12.2	24.8	34.2	6.1
Woolen, worsted, and felt goods, and wool hats	217	27,409	3.1	77,447,000	2.9	22,813,000	2.2	38.5	14.7	22.1	7.4
Cars and general shop construction and repairs by steam-railroad companies	132	46,645	5.3	76,035,000	2.9	34,634,000	3.3	24.6	41.7	20.8	43.9
Printing and publishing	2,461	24,696	2.8	70,584,000	2.7	47,831,000	4.6	28.2	36.4	22.7	33.7
Silk and silk goods, including throwsters	226	36,469	4.2	62,061,000	2.4	26,895,000	2.6	57.8	26.6	78.5	34.7
Lumber and timber products	2,667	26,873	3.1	57,454,000	2.2	30,140,000	2.9	1.3	5.2	-7.1	12.1
Petroleum, refining	41	2,900	0.3	53,088,000	2.0	5,648,000	0.5	11.9	35.7	33.8	14.4
Slaughtering and meat packing	180	3,050	0.3	51,851,000	2.0	7,006,000	0.7	56.6	29.6	47.2	27.6
Coke	146	15,331	1.7	51,816,000	2.0	18,054,000	1.7	79.1	29.8	29.5	31.5
Tobacco manufactures	2,432	33,188	3.8	50,161,000	1.9	29,448,000	2.8	22.7	24.9	18.0	20.4
Hosiery and knit goods	464	38,206	4.4	49,658,000	1.9	22,440,000	2.1	61.2	40.5	51.9	34.4
Liquors, malt	237	7,234	0.8	47,713,000	1.8	35,103,000	3.4	36.9	19.5	37.2	13.5
Bread and other bakery products	3,185	12,221	1.4	45,850,000	1.7	18,520,000	1.8	37.4	60.6	31.6	44.6
Flour-mill and gristmill products	1,450	2,432	0.3	44,788,000	1.7	6,613,000	0.6	16.3	30.3	24.4	12.9
Clothing, men's, including shirts	696	23,623	2.7	39,682,000	1.5	19,819,000	1.9	25.1	5.5	31.3	3.1
Cotton goods, including cotton small wares	175	16,293	1.9	33,917,000	1.3	15,160,000	1.4	29.0	3.3	26.6	2.4
Clothing, women's	401	15,701	1.8	32,837,000	1.3	14,681,000	1.4	117.7	29.0	104.4	32.4
Glass	112	23,710	2.7	32,818,000	1.2	20,184,000	1.9	18.6	25.7	10.0	17.8
Electrical machinery, apparatus, and supplies	84	11,025	1.3	31,351,000	1.2	17,816,000	1.7	19.4	37.4	19.6	92.4
Cars, steam-railroad, not including operations of railroad companies	13	7,766	0.9	27,510,000	1.0	8,508,000	0.8	41.6	0.9	51.7	-20.7
Tin plate and terneplate	17	2,346	0.3	25,234,000	1.0	2,336,000	0.2	30.5	54.4	33.3	-19.2
Carpets and rugs, other than rag	93	11,510	1.3	24,879,000	0.9	10,231,000	1.0	-8.3	17.3	-1.8	11.5

[1] Percentages are based on figures in Table I; a minus sign (—) denotes decrease. Where the percentages are omitted, comparable figures can not be given.

INDUSTRY.	Number of establishments.	WAGE EARNERS. Average number.	WAGE EARNERS. Per cent distribution.	VALUE OF PRODUCTS. Amount.	VALUE OF PRODUCTS. Per cent distribution.	VALUE ADDED BY MANUFACTURE. Amount.	VALUE ADDED BY MANUFACTURE. Per cent distribution.	PER CENT OF INCREASE.[1] Value of products. 1904-1909	Value of products. 1899-1904	Value added by manufacture. 1904-1909	Value added by manufacture. 1899-1904
Boots and shoes, including cut stock and findings	140	10,822	1.2	20,219,000	0.8	8,155,000	0.8	35.8	7.6	36.4	16.1
Paper and wood pulp	62	6,656	0.8	19,873,000	0.8	8,475,000	0.8	29.0	25.6	22.8	17.1
Furniture and refrigerators	304	9,924	1.1	18,952,000	0.7	9,913,000	0.9	48.3	26.9	35.1	32.3
Cement	27	8,080	0.9	18,855,000	0.7	8,747,000	0.8	84.2	.....	48.9	.....
Iron and steel pipe, wrought	11	3,873	0.4	18,291,000	0.7	4,209,000	0.4	90.1	−37.5	74.3	−35.5
Copper, tin, and sheet-iron products	339	6,815	0.8	17,197,000	0.7	8,346,000	0.8	77.5	35.6	76.2	35.3
Chemicals	37	3,185	0.4	15,978,000	0.6	5,778,000	0.6	35.7	.....	28.1	.....
Gas, illuminating and heating	99	3,119	0.4	15,840,000	0.6	11,741,000	1.1	46.5	37.3	53.2	62.4
Liquors, distilled	88	724	0.1	14,367,000	0.5	11,255,000	1.1	193.1	−8.5	330.6	−31.0
Paint and varnish	114	1,992	0.2	14,020,000	0.5	4,819,000	0.5	20.5	3.0	34.9	−24.1
Butter, cheese, and condensed milk	536	1,177	0.1	13,544,000	0.5	1,870,000	0.2	17.0	12.5	−2.9	22.0
Confectionery	251	5,408	0.6	13,542,000	0.5	5,339,000	0.5	34.4	34.6	27.4	31.5
Pottery, terra-cotta, and fire-clay products	139	9,003	1.0	13,072,000	0.5	8,963,000	0.9	21.5	32.4	14.2	38.3
Hats, fur-felt	38	7,220	0.8	13,023,000	0.5	8,010,000	0.8	77.2	73.2	73.3	94.5
Carriages and wagons and materials	655	7,498	0.9	12,748,000	0.5	7,041,000	0.7	10.9	9.9	6.8	6.2
Patent medicines and compounds and druggists' preparations	367	2,761	0.3	12,656,000	0.5	7,346,000	0.7	33.8	5.8	36.7	3.9
Dyeing and finishing textiles	135	6,086	0.7	12,059,000	0.5	6,728,000	0.6	77.7	−3.6	64.7	5.7
Marble and stone work	596	9,264	1.1	11,570,000	0.4	7,850,000	0.7	72.4	24.9	67.8	45.3
Canning and preserving	83	2,753	0.3	9,484,000	0.4	4,819,000	0.5	17.6	33.5	19.5	29.6
Brick and tile	326	8,058	0.9	9,225,000	0.4	6,772,000	0.6	26.7	22.3	19.2	18.0
Soap	59	1,197	0.1	9,124,000	0.3	3,177,000	0.3	31.1	92.6	9.4	91.1
Brass and bronze products	104	2,080	0.2	8,455,000	0.3	2,850,000	0.3	.....	.....	.....	.....
Cutlery and tools, not elsewhere specified	129	4,250	0.5	8,022,000	0.3	4,591,000	0.4	37.9	55.5	23.2	67.9
Stoves and furnaces, including gas and oil stoves	74	4,198	0.5	7,409,000	0.3	4,037,000	0.5	−3.7	.....	−8.5	.....
Millinery and lace goods	105	4,235	0.5	6,770,000	0.3	3,016,000	0.3	145.4	76.4	136.4	65.3
Fertilizers	48	1,224	0.1	6,543,000	0.3	1,930,000	0.2	59.8	12.4	60.3	13.6
Automobiles, including bodies and parts	44	3,199	0.4	6,532,000	0.3	2,481,000	0.2	432.8	1,138.4	297.0	819.1
Explosives	27	1,033	0.1	6,388,000	0.2	2,300,000	0.2	59.2	54.6	53.6	36.7
Shipbuilding, including boat building	31	3,558	0.4	6,178,000	0.2	3,408,000	0.3	−40.2	−28.7	−32.6	−29.7
Leather goods	156	2,524	0.3	5,824,000	0.2	2,671,000	0.3	13.0	28.9	6.4	18.4
Boxes, fancy and paper	118	4,604	0.5	5,184,000	0.2	2,894,000	0.3	32.7	30.8	29.8	29.2
Umbrellas and canes	45	2,315	0.3	5,060,000	0.2	1,912,000	0.2	−1.4	−12.6	5.4	−25.2
Steam packing	31	1,677	0.2	4,987,000	0.2	2,006,000	0.2	22.9	119.0	−15.7	132.6
Ice, manufactured	170	1,606	0.2	4,823,000	0.2	3,598,000	0.3	64.3	44.0	61.7	35.1
Chocolate and cocoa products	6	863	0.1	4,811,000	0.2	1,856,000	0.2	125.4	105.4	149.5	340.2
Cordage and twine and jute and linen goods	18	2,119	0.2	4,805,000	0.2	1,804,000	0.2	−6.5	−29.2	21.1	−17.6
Agricultural implements	36	2,401	0.3	4,805,000	0.2	2,723,000	0.3	−4.2	56.9	−7.4	49.6
Cooperage and wooden goods, not elsewhere specified	133	1,630	0.2	4,630,000	0.2	1,641,000	0.2	16.5	23.7	5.6	31.4
Saws	15	1,876	0.2	3,794,000	0.1	2,388,000	0.2	14.2	32.9	22.1	30.1
Paper goods, not elsewhere specified	34	1,357	0.2	3,719,000	0.1	1,494,000	0.1	.....	.....	.....	.....
Wall paper	11	1,056	0.1	3,695,000	0.1	1,386,000	0.1	22.2	4.5	11.2	19.1
Smelting and refining, not from the ore	24	206	(2)	3,577,000	0.1	599,000	0.1	29.8	9.3	26.1	4.2
Lime	348	3,258	0.4	3,342,000	0.1	2,304,000	0.2	32.9	.....	31.6	.....
Cork, cutting	10	1,727	0.2	2,965,000	0.1	1,296,000	0.1	−6.6	45.2	−5.7	28.7
Gas and electric fixtures and lamps and reflectors	75	1,482	0.2	2,962,000	0.1	1,723,000	0.2	16.5	1.2	0.9	17.2
Wood distillation, not including turpentine and rosin	50	933	0.1	2,960,000	0.1	1,276,000	0.1	−4.3	.....	−7.8	.....
Clocks and watches, including cases and materials	8	1,395	0.2	2,873,000	0.1	1,701,000	0.2	.....	.....	.....	.....
Coffins, burial cases, and undertakers' goods	36	1,103	0.1	2,757,000	0.1	1,182,000	0.1	38.6	63.8	20.1	56.4
Cars and general shop construction and repairs by street-railroad companies	65	2,442	0.3	2,747,000	0.1	1,653,000	0.2	118.2	1.1	113.0	19.6
Dentists' materials	23	1,072	0.1	2,745,000	0.1	1,420,000	0.1	17.5	27.8	53.2	9.3
Musical instruments, pianos and organs and materials	30	1,182	0.1	2,382,000	0.1	1,134,000	0.1	35.6	18.1	2.1	27.0
Boxes, cigar	77	1,801	0.2	2,328,000	0.1	1,076,000	0.1	23.9	21.0	25.7	33.1
Brooms and brushes	139	860	0.1	2,304,000	0.1	1,049,000	0.1	34.9	−3.4	17.2	8.1
Mattresses and spring beds	83	745	0.1	2,223,000	0.1	890,000	0.1	11.0	6.7	−0.2	21.9
Shoddy	20	450	(2)	2,051,000	0.1	588,000	0.1	−6.9	52.1	19.8	29.6
Buttons	24	1,123	0.1	1,565,000	0.1	819,000	0.1	73.9	−9.9	51.7	−9.4
Files	7	1,217	0.1	1,540,000	0.1	1,113,000	0.1	36.6	−8.8	52.0	−5.9
Fancy articles, not elsewhere specified	52	828	0.1	1,385,000	0.1	793,000	0.1	54.9	0.9	50.2	11.9
Belting and hose, leather	17	156	(2)	1,379,000	0.1	368,000	(2)	59.4	29.9	13.6	65.3
Safes and vaults	7	695	0.1	1,338,000	0.1	695,000	0.1	0.4	86.4	13.3	63.3
Artificial flowers and feathers and plumes	30	805	0.1	1,319,000	0.1	644,000	0.1	.....	.....	.....	.....
Jewelry	75	456	(2)	1,275,000	0.1	678,000	0.1	22.6	50.1	21.7	26.6
Fur goods	58	227	(2)	1,217,000	(2)	673,000	0.1	69.5	−8.5	95.1	−17.3
Photo-engraving	31	489	0.1	1,132,000	(2)	901,000	0.1	41.1	111.6	33.7	110.6
Hats and caps, other than felt, straw, and wool	53	744	0.1	1,097,000	(2)	554,000	0.1	3.2	.....	3.2	.....
Optical goods	24	579	0.1	1,063,000	(2)	602,000	0.1	125.7	−8.0	90.5	−0.3
Ink, printing	8	165	(2)	1,050,000	(2)	427,000	(2)	53.5	67.6	52.0	37.7
Typewriters and supplies	8	555	0.1	1,017,000	(2)	828,000	0.1	403.5	−54.4	483.1	−61.4
Crucibles	5	106	(2)	728,000	(2)	298,000	(2)	−7.1	−31.6	19.2	2.0
All other industries	2,893	56,433	6.4	211,025,000	8.0	75,276,000	7.2	.....	.....	.....	.....

[1] Percentages are based on figures in Table I; a minus sign (−) denotes decrease. Where the percentages are omitted, comparable figures can not be given.
[2] Less than one-tenth of 1 per cent.

In addition to the industries presented separately in the above table, there were 42 other industries in the state which reported products in 1909 to the value of $1,000,000 or over, distributed as follows: 35, with products valued at $1,000,000 but less than $5,000,000; 4, with products valued at $5,000,000 but less than $10,000,000; 2, with products valued at $10,000,000 but less than $25,000,000; and 1, with products valued at $25,000,000 and over. These industries are included under the head of "All other industries" in the table in some instances, because the operations of individual establishments would be disclosed if they

were shown separately; in others, because the returns do not present properly the true condition of the industry, for the reason that it is more or less interwoven with one or more other industries of similar character; and in still others, because comparative statistics can not be presented for either 1904 or 1899, on account of changes in classification or because such figures would disclose the operations of individual establishments.[1] The 1909 statistics, however, for 9 of these industries, namely, the manufacture of babbitt metal and solder; belting and hose, woven and rubber; dairymen's, poulterers', and apiarists' supplies; men's furnishing goods; haircloth; models and patterns, not including paper patterns; rubber goods, "not elsewhere specified;" sand and emery paper and cloth; and signs and advertising novelties are presented separately in Table II, page 1096.

While a few industries predominate in the state, there are, as already noted, a very large number which are of considerable importance. Furthermore, it will be seen from Table II, that there is a wide diversity in the manufacturing activities of the state, since 245 of the 264 classifications used in compiling the 1909 statistics for manufactures in the United States were represented in Pennsylvania. The leading products of the state are from steel works and rolling mills, textile mills, foundries and machine shops, blast furnaces, and tanneries, which, with other important industries, call for special consideration.

Iron and steel.—Steel works and rolling mills, and blast furnaces ranked, respectively, first and third among the industries of the state. For convenience these two industries, together with the manufacture of tin plate and terneplate, may be considered as one group. The three allied industries gave employment in 1909 to an average of 143,778 wage earners, and turned out products valued at $694,156,000, or 16.4 per cent and 26.4 per cent of the respective totals for all manufactures. These figures also represent an increase in number of wage earners over 1904 of 16,586, or 13 per cent, and in the value of products of $203,585,000, or 41.5 per cent. The classification "Steel works and rolling mills," includes establishments engaged in the manufacture of steel and the hot rolling of iron and steel. It also includes the making of forgings and castings and the manufacture of rolled iron and steel into more highly finished forms, when conducted as a part of the rolling-mill operations. The blast furnaces include the establishments engaged in the manufacture of pig iron from the ore. The plating of sheet metal with tin or with terne (a mixture of lead and tin) is treated as a separate industry, notwithstanding the fact that nearly all of the establishments so engaged roll all or a portion of the plates dipped. The tin-plate and terneplate departments of the steel works and rolling mills, however, have been treated as separate establishments. Measured by value of products, Pennsylvania not only led all other states in the Union in the combined industries but also in each of the three branches, contributing $500,344,000, or 50.8 per cent, of the total value of products reported in 1909 for all steel works and rolling mills in the United States; $168,578,000, or 43.1 per cent, of the total value of products for all blast furnaces; and $25,234,000, or 52.6 per cent, of the total value of products for all tin-plate and terneplate mills. Each of the three industries shows substantial gains in the value of products from 1904 to 1909, the largest percentage of increase, 56.9 per cent, being shown for blast furnaces.

Textiles.—Several of the industries listed separately in the table belong to the textile group and may be considered together. They are the manufacture of woolen, worsted, and felt goods, and wool hats; silk and silk goods, including throwsters; hosiery and knit goods; cotton goods, including cotton small wares; carpets and rugs, other than rag; fur-felt hats; cordage and twine and jute and linen goods; and shoddy. The eight allied industries gave employment in 1909 to an average of 139,676 wage earners, and turned out products valued at $267,841,000. These figures represent an increase over 1904 of 24,149, or 20.9 per cent, in number of wage earners and $73,649,000, or 37.9 per cent, in value of products. It is noteworthy that although in the iron and steel group of industries, considered in the preceding paragraph, the value of the product is more than double that for the textile group, the former employs only 4,102 more wage earners than the latter group. Of the totals reported for all manufacturing industries in the state in 1909, the textile industries employed 15.9 per cent of the wage earners and contributed 10.2 per cent of the value of products. The corresponding proportions for 1904 were 15.1 per cent and 9.9 per cent, respectively. Pennsylvania is not only the second state in the Union in the production of all textiles combined, but is second in four of the important branches—woolen, worsted, and felt goods, and wool hats; silk

[1] These industries are:

Babbitt metal and solder.
Bags, other than paper.
Belting and hose, woven and rubber.
Boots and shoes, rubber.
Cars, street-railroad, not including operations of railroad companies.
Coffee and spice, roasting and grinding.
Dairymen's, poulterers', and apiarists' supplies.
Dyestuffs and extracts.
Food preparations.
Furnishing goods, men's.
Glass, cutting, staining, and ornamenting.
Glue.
Grease and tallow.
Haircloth.
House-furnishing goods, not elsewhere specified.
Instruments, professional and scientific.
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.
Iron and steel forgings.
Locomotives, not made by railroad companies.
Mineral and soda waters.
Models and patterns, not including paper patterns.
Oil, linseed.
Oil, not elsewhere specified.
Oilcloth and linoleum.
Roofing materials.
Rubber goods, not elsewhere specified.
Sand and emery paper and cloth.
Signs and advertising novelties.
Smelting and refining, lead.
Smelting and refining, zinc.
Sporting and athletic goods.
Springs, steel, car and carriage.
Stationery goods, not elsewhere specified.
Sugar, refining, not including beet sugar.
Surgical appliances and artificial limbs.
Upholstering materials.
Washing machines and clothes wringers.
Waste.
Window shades and fixtures.
Wire.
Wirework, including wire rope and cable.
Wood, turned and carved.

and silk goods, including throwsters; hosiery and knit goods; and carpets and rugs, other than rag. It ranks sixth in the production of cotton goods, including cotton small wares; fifth in that of cordage and twine and jute and linen goods; and first in that of fur-felt hats and of shoddy. With the exception of a slight decrease in carpets and rugs, in cordage and twine, and in shoddy, each of these eight textile industries show decided development during the five-year period 1904–1909, the percentages of increase in the value of products being especially high in the manufacture of fur-felt hats and of hosiery and knit goods.

Foundry and machine-shop products.—This classification covers in Pennsylvania products of great diversity, embracing not only the output of general foundries and machine shops, but also that of establishments engaged in the manufacture of bells, gas and water meters, hardware, plumbers' supplies, steam fittings and heating apparatus, structural ironwork, and cast-iron and cast-steel pipe. The foundry and machine-shop industry in its broadest sense is of greater importance than is indicated by the statistics reported under this specific title, for the reason that some machine shops manufacture special products, such as locomotives, electrical machinery, adding machines, cash registers, and sewing machines, which are assigned to other classifications. A number of the most important establishments included under this head were engaged in the manufacture of air brakes and friction draft gear, interlocking and signaling appliances, frogs, switches, crossings, and other specialties for steam and street railroads, structural steel, enameled iron plumbing supplies, apparatus for handling coal and for rolling steel, and other power machinery. Foundries and machine shops gave employment to an average of 86,821 wage earners in 1909, which was 9.9 per cent of the total reported for all manufactures in the state. The total value of their products, $210,746,000, in 1909, was $57,353,000, or 37.4 per cent, more than that reported in 1904. In this class of products Pennsylvania led all other states of the Union at each of the last three censuses.

Leather, tanned, curried, and finished.—The statistics of leather include not only establishments which were engaged primarily in the manufacture of leather, but also those which treated hides or skins for others. Neither the cost of materials nor the value of products stated, however, include the value of the hides or skins treated under contract. In 1849 Pennsylvania was the second state of the Union in this industry with respect to value of products, reporting 1,134 establishments, which employed 4,146 wage earners and turned out products valued at $7,575,000. The state ranked first in 1909, in which year, although the establishments engaged in the industry numbered only 163, there were 14,008 wage earners employed, while the value of products was $77,926,000, the wage earners being over three times as numerous, and the value of the product over ten times as great as in 1849.

Cars and general shop construction and repairs by steam-railroad companies.—The statistics for this industry represent the work done in car shops by steam-railroad companies and exclude minor repairs in roundhouses. The operations consist almost exclusively of repairs to rolling stock and equipment. The number of establishments decreased from 144 in 1899 to 132 in 1909, chiefly through the elimination of a number of roundhouses which were included in the prior census, but the value of the work performed increased from $43,065,000 to $76,035,000. Employment was given to 46,645 wage earners in 1909, which was the third largest number reported by any of the industries specified in the table. This number represents an increase over that reported in 1899 of 18,091, or 63.4 per cent.

Clothing.—The manufacture of men's clothing ranks eighteenth among the industries specified in the table and that of women's clothing twentieth. The two industries considered together had a combined output for 1909 valued at $72,519,000. The increase in the value of products from 1904 to 1909 was $25,719,000, or 55 per cent, and that from 1899 to 1904 was $5,050,000, or 12.1 per cent. In 1849 Pennsylvania was the third state in the Union in the manufacture of clothing, with products valued at $6,988,000. This figure included the value of the output for custom tailoring and repairing establishments. At the census of 1889, when the first attempt was made to segregate the statistics in order to show separately those for establishments manufacturing clothing under the factory system, Pennsylvania, with an output valued at $34,020,000, was the third state in the combined industries, and has retained this position at each subsequent census. The proportions which this state contributed of the total value of products for the industries in the United States were small because New York, the first state, manufactured a product so large as to dwarf by comparison all others in the industry. The proportion which Pennsylvania furnished dropped from 9.6 per cent in 1889 to 7.6 per cent in 1909. The value of men's clothing has represented the major part of the total value shown for the combined industries at each census. This branch decreased in value of products from $30,116,000 in 1889 to $30,055,000 in 1899, but increased to $39,682,000 in 1909. In the manufacture of women's clothing, the total value increased from $3,904,000 in 1889 to $11,695,000 in 1899 and $32,837,000 in 1909.

Printing and publishing.—Under "Printing and publishing" are included job-printing establishments, the printing and publishing of books, of newspapers and periodicals, and of music, bookbinding, and blank-book making, steel engraving, and lithographing. Pennsylvania was the third state in the industry as a whole,

with combined products valued at $70,584,000 in 1909, this amount representing 9.6 per cent of the total value of products for the industry in the United States. In value of products the industry shows an increase from 1904 to 1909 of $15,521,000, or 28.2 per cent, compared with a gain from 1899 to 1904 of $14,709,000, or 36.4 per cent.

Lumber and timber products.—This industry includes the logging plants whose chief products are logs and bolts; the sawmills, shingle mills, and planing mills, which produce rough and dressed lumber, shingles, lath, cooperage stock, sash, doors, blinds, interior finish, and other millwork; and also wooden packing-box factories. In 1909 this industry in the state was represented by 1,924 sawmills and logging plants, 668 independent planing mills, and 75 packing-box factories, which reported, respectively, 50.5, 41.1, and 8.4 per cent of the total value of products for the industry. The corresponding percentages of the total value of lumber and timber products in 1899 contributed by these three branches were 65, 31.1, and 3.9, respectively. Although the industry as a whole shows only a slight increase during the decade, there was a loss in the value of the output of sawmills and logging plants, which was more than offset, however, by the growth in that of the planing mills and box factories. With $57,454,000 as the total value of products for all branches in 1909, Pennsylvania ranked sixth among the states of the Union in this industry; in 1904, with $56,713,000, it held the same position; and in 1899, with $53,886,000, it held the fourth place.

Petroleum, refining.—Although the production of crude oil in Pennsylvania decreased gradually from 1891 to 1909, in the refining of petroleum the state retained a high place among the states, being third in 1889, first in 1899 and 1904, and second in 1909. The value of products for the industry in the state was $53,088,000, which represented 22.4 per cent of the total for the entire industry in 1909, compared with $47,460,000, or 27.1 per cent, in 1904, and $34,978,000, or 28.2 per cent, in 1899. This falling off in the proportion from 1904 to 1909 despite the increase in value was due to the remarkable increase during the five-year period in the production of crude oil in Oklahoma and California and the sudden development of the Illinois fields.

Slaughtering and meat packing.—This classification includes establishments doing wholesale slaughtering and meat packing and those engaged in the manufacture of sausage only. It does not include the numerous slaughterhouses killing for the retail trade which in the aggregate slaughter a large number of animals. The value of products for this industry in Pennsylvania increased from $25,537,000 in 1899 to $33,101,000 in 1904 and $51,851,000 in 1909, a gain of $26,314,000, or 103 per cent, for the decade. The percentage of increase during the five-year period 1904–1909 in value of products was nearly twice as great as during the preceding five-year period, 1899–1904. Of the 180 establishments reported for the industry as a whole in 1909, 80 were engaged in both wholesale slaughtering and wholesale meat packing, 75 were engaged in wholesale slaughtering only, and 25 in the manufacture of sausage only, the value of the products of these three branches representing 75.8 per cent, 22.7 per cent, and 1.4 per cent, respectively, of the total for the combined industry. The industry as a whole is centered largely in Philadelphia, the value of the output of such establishments in that city representing 42.6 per cent of the total for the state in 1909, 39 per cent in 1904, and 47.4 per cent in 1899. For the last two censuses Pennsylvania has ranked seventh among the states in this industry, having risen from ninth place in 1899.

Coke.—The abundant supply of coal, which is easily accessible and suitable for coking, as well as the demand for coke for fuel in the manufacture of iron and steel, has made Pennsylvania the leading state of the Union in the coke industry, a position which it has held in this class of manufacture for a number of decades. The $51,816,000 reported as the value of products in 1909 represents an increase of $22,892,000 over 1904 and was 54.1 per cent of the total for the industry in all states combined. The absolute increase from 1899 to 1904 in the value of coke manufactured in the state was less than one-third as great as for the following five-year period.

Tobacco manufactures.—This industry includes establishments engaged in the manufacture of chewing and smoking tobacco and of snuff, and cigar and cigarette factories. The industry in the state is confined largely to the latter class of establishments, as they numbered 2,379 of the 2,432 reported for the entire industry in 1909, and had an output valued at $46,124,000, or 92 per cent of the total. Pennsylvania ranked second among the states in 1909 in the value of tobacco manufactures, its product being valued at $50,161,000, which represented nearly one-eighth of the total for the industry in the United States.

Liquors, malt.—The statistics for establishments in which such beverages as lager beer, porter, ale, and weiss beer are brewed are included under this head. Since 1849, when 102 establishments, with products valued at $1,173,000, were reported, the brewery industry has developed rapidly. Pennsylvania ranked second in importance among the states in 1849 and has retained the same position at each succeeding census. In 1899 the value of products was $29,163,000, and in 1909 it was $47,713,000, an increase for the decade of $18,550,000, or 63.6 per cent. The state's proportion of the total value of malt liquors brewed in the United States was in 1849, 20.5 per cent, but in 1909 it was only 12.7 per cent.

Flour-mill and gristmill products.—The statistics for merchant mills grinding wheat, rye, buckwheat, corn, or other grains are included in this classification. It does not, however, include the factories making fancy cereals or other food preparations as a chief product, or small mills doing custom grinding exclusively, the statistics for the latter mills being presented separately on page 1079. This is one of the oldest industries in the state and as early as 1849 there were 2,512 flour mills and gristmills in Pennsylvania, which reported an output for that year valued at $24,116,000. In 1899 the value of such products reached $29,571,000, an increase for the 50 years of only $5,455,000, or 22.6 per cent. In 1909, however, it was $44,783,000, an increase for the decade 1899–1909 of $15,212,000, or 51.4 per cent. Measured by value of products Pennsylvania ranked sixth among the states of the Union in this industry at each of the last two censuses, having dropped from fourth place in 1899.

Glass.—Pennsylvania ranks first among the states in the manufacture of glass and owes this position largely to the great supply of fuel, of glass sand, and of fire clay suitable for furnaces. As early as 1849 there were 28 establishments in the state, which reported glass products amounting to $1,179,000, or nearly one-fourth of the total for all states, and in 1909, 112 plants were in operation with an output valued at $32,818,000, which was over one-third of the total for the entire country.

Electrical machinery, apparatus, and supplies.—The exceptionally rapid extension, during recent years, of the uses of electricity in science and industry has created an increasing demand for electrical appliances of all sorts. It was to be expected, therefore, that this industry would show remarkable development during the last decade, especially in Pennsylvania, where all the materials required are immediately available, and where there is a demand for the most modern types of electrical appliances. Measured by value of products, Pennsylvania, with $19,113,000 in 1899 and $31,351,000 in 1909, held second place among the states of the Union at both censuses. The increase in the value of products for the decade was $12,238,000, or 64 per cent.

Cars, steam-railroad, not including operations of railroad companies.—The products of these plants in Pennsylvania include mail, express, and baggage cars, and refrigerator cars, as well as passenger coaches and many kinds of freight cars. While the number of establishments increased from 11 in 1899 to only 13 in 1909, the average number of wage earners showed a gain from 5,840 to 7,766, or 33 per cent, and the value of products a gain from $19,261,000 to $27,510,000, or 42.8 per cent, during the decade. Practically all of this increase was during the later five-year period, 1904–1909. In 1909 the largest establishments were located at Berwick and at Butler and in Stowe township. In 1899 and 1904 Pennsylvania held second place in value of products for this industry in the United States, but in 1909 it became first, having displaced Illinois. The proportion which this state contributed of the total value of products for the industry in the United States decreased from 21.3 per cent in 1899 to 17.5 per cent in 1904, but increased 22.2 per cent in 1909.

In addition to the statistics given for this industry, several thousand pressed-steel freight and industrial cars were manufactured in the state in 1909 as a secondary product of a steel works and rolling mill. The exact number and value of these cars, however, can not be given without disclosing the operations of this establishment.

Boots and shoes, including cut stock and findings.—Under this head are included factories making boots and shoes and those whose chief products are cut stock and findings, as well as shops especially engaged in stitching, crimping, fitting, and bottoming or performing special operations in connection with the manufacture of boots and shoes. Footwear not coming strictly under the head of boots and shoes, such as overgaiters, moccasins, and leggings, is also covered by this designation. The industry was carried on in the state as early as 1698, the workers being known as cordwainers.[1] In 1849 there were 2,136 establishments in the state, which gave employment to 10,785 wage earners and reported products valued at $5,637,000. With products valued at $13,830,000 in 1899, Pennsylvania held fifth place among the states in this respect, and sixth place in 1904 and 1909, with products valued at $14,884,000 and $20,219,000, respectively. The state's proportion of the total value of products for the industry in the United States was less at each of these censuses, being 4.8 per cent, 4.2 per cent, and 3.9 per cent, respectively. From 1904 to 1909 there was an increase of 1,832, or 20.4 per cent, in the average number of wage earners and of $5,335,000, or 35.8 per cent, in the value of products, whereas from 1899 to 1904 there was a decrease in the average number of wage earners of 257, or 2.8 per cent, but an increase in value of products of $1,054,000, or 7.6 per cent.

Paper and wood pulp.—Mills which manufacture paper exclusively, pulp exclusively, or both paper and pulp are included in this classification. The mills engaged in the production of paper largely predominated in Pennsylvania in 1909. The first paper mill in the United States was established in Germantown in 1693. In 1816 the first steam paper mill in the United States began operations in Pittsburgh, with an engine of 16 horsepower, and 40 employees. In 1849 there were 61 establishments reported for the state, which employed an average of 625 wage earners and manufactured products valued at $1,037,000. The growth of the industry since that time has been rapid, and during the decade 1899–1909 it was particularly

[1] Eighth Census of the United States, 1860, Manufactures, Introduction, pp. lxix, lxx, and lxxii.

noteworthy, the value of products having increased from $12,268,000 to $19,873,000, a gain of $7,605,000, or 62 per cent. The percentage of increase in value of products for the decade was about the same for both five-year periods. Pennsylvania ranked third in the industry in both 1879 and 1889, fourth in 1899, and fifth in both 1904 and 1909. The principal products in 1909 were book and cover paper, valued at $6,442,043; wrapping paper, valued at $3,954,578; and writing and other fine paper, valued at $3,508,067. Practically all of the news paper used in the state is manufactured beyond its borders, the pulp produced being almost entirely chemical.

Furniture and refrigerators.—This industry embraces the manufacture of wood and metal furniture of all kinds, refrigerators and ice boxes, and store and office fixtures with the exception of products, such as show cases, which are provided for by a distinct classification. This industry ranked twenty-first among those shown separately in the preceding table in average number of wage earners, twenty-third in value added by manufacture, and twenty-eighth in value of products. The value of the output of the furniture and refrigerator factories in Pennsylvania increased from $10,069,000 in 1899 to $12,776,000 in 1904 and $18,952,000 in 1909; these figures representing 7.7 per cent, 7.2 per cent, and 7.9 per cent of the respective totals for the United States.

There are 10 industries presented separately in the table on pages 1040 and 1041 which are not among the leading ones in the state as measured by value of products, in which Pennsylvania leads all other states of the Union. In five of these industries the state contributed 30 per cent or more of the total value of products for the United States in 1909, as follows: The manufacture of wrought-iron pipe, 59.2 per cent; steam packing, 41 per cent; saws, 32.9 per cent; cork cutting, 49.9 per cent; and crucibles, 39.4 per cent. The remainder of these industries are the manufacture of cement, ice, lime, cigar boxes, and files.

The rank of industries or groups of industries when measured by the value added by manufacture differs considerably from the rank by value of products, which is the order of presentation in the table. Of all the industries listed in this table, nine only hold the same position when ranked according to value added by manufacture. Noticeable changes in rank are found in the case of the tin-plate and terneplate industry, which drops from twenty-fourth place in gross value to the fifty-sixth place in value added by manufacture; in refining petroleum, which falls from tenth to thirty-ninth place; in the manufacture of butter, cheese, and condensed milk, which drops from thirty-sixth to sixty-second place; and in slaughtering and meat packing, which falls from eleventh to thirty-fourth place. On the other hand, the manufacture of pottery, terra-cotta, and fire-clay products advances from thirty-eighth to twenty-fourth place; the gas industry, from thirty-third to twentieth; the distilled-liquor industry, from thirty-fourth to twenty-first; marble and stone work, from forty-third to thirty-first; and the malt-liquor industry, from fifteenth to fourth.

The table on pages 1040 and 1041 also shows the percentages of increase or decrease for these industries in respect to value of products and value added by manufacture in all cases where comparative figures are presented in Table I, page 1080. Exceptionally large relative increases are shown for several of the industries during each of the five-year periods, while others show marked relative decreases. From 1904 to 1909 large increases in both items are shown by the manufacture of automobiles, the manufacture of typewriters and supplies, the distillation of liquors, the manufacture of millinery and lace goods, that of chocolate and cocoa products, the operations of street-railroad repair shops, and the manufacture of women's clothing. From 1899 to 1904 large gains in both items are shown by the manufacture of automobiles, for photo-engraving, the manufacture of steam packing and that of chocolate and cocoa products. Women's clothing is the only one of the industries just mentioned, however, which is among the first 27 industries shown in the table. For the more important industries the percentages in both items are generally larger for the five-year period 1904–1909 than for the preceding five-year period.

In value of products 10 of the 94 industries presented separately in the table showed a decrease from 1904 to 1909, and 13 a decrease from 1899 to 1904, while in value added by manufacture decreases were reported for 10 industries from 1904 to 1909 and 14 industries from 1899 to 1904. The largest percentage of decrease in the value of products from 1904 to 1909 was in the shipbuilding industry (40.2 per cent), but 9 other industries showed a decrease of less than 10 per cent in the value of products during the same period.

Persons engaged in manufacturing industries.—The following table shows, for 1909, the distribution of the number of persons engaged in manufactures, the average number of wage earners being distributed by sex and age. It should be borne in mind, however, that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes	**1,002,171**	**802,548**	**199,623**
Proprietors and officials	54,696	52,951	1,745
Proprietors and firm members	29,743	28,550	1,193
Salaried officers of corporations	8,410	8,286	124
Superintendents and managers	16,543	16,115	428
Clerks	69,932	55,703	14,229
Wage earners (average number)	877,543	693,894	183,649
16 years of age and over	848,436	679,831	168,605
Under 16 years of age	29,107	14,063	15,044

The average number of persons engaged in manufactures during 1909 was 1,002,171, of whom 877,543 were wage earners. Of the remainder, 54,696 were proprietors and officials and 69,932 were clerks. Corresponding figures for individual industries will be found in Table II, page 1096.

The following table shows, for 1909, the percentage of proprietors and officials, clerks, and wage earners, respectively, among the total number of persons employed in manufactures. It covers all industries combined and 43 important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total. number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries	**1,002,171**	**5.5**	**7.0**	**87.6**
Boots and shoes, including cut stock and findings	11,829	3.4	5.1	91.5
Bread and other bakery products	17,838	20.2	11.3	68.5
Butter, cheese, and condensed milk	2,093	37.9	5.9	56.2
Carpets and rugs, other than rag	12,078	2.1	2.6	95.3
Carriages and wagons and materials	8,757	11.1	3.3	85.6
Cars and general shop construction and repairs by steam-railroad companies	50,545	3.8	3.9	92.3
Cars, steam-railroad, not including operations of railroad companies	8,799	2.7	9.0	88.3
Cement	8,902	1.2	8.1	90.8
Chemicals	3,573	2.9	8.0	89.1
Clothing, men's, including shirts	26,405	5.4	5.2	89.5
Clothing, women's	18,080	5.1	8.1	86.8
Coke	16,219	2.8	2.7	94.5
Confectionery	6,436	6.4	9.6	84.0
Copper, tin, and sheet-iron products	7,992	7.8	6.9	85.3
Cotton goods, including cotton small wares	17,386	2.9	3.4	93.7
Dyeing and finishing textiles	6,688	4.6	4.4	91.0
Electrical machinery, apparatus, and supplies	14,641	3.8	20.9	75.3
Flour-mill and gristmill products	4,696	43.2	5.0	51.8
Foundry and machine-shop products	100,505	4.5	9.1	86.4
Furniture and refrigerators	11,338	6.5	5.9	87.5
Gas, illuminating and heating	4,584	4.8	27.1	68.0
Glass	24,924	1.8	3.0	95.1
Hats, fur-felt	7,537	1.5	2.7	95.8
Hosiery and knit goods	40,248	2.9	2.2	94.9
Iron and steel, blast furnaces	16,215	2.4	8.0	89.6
Iron and steel, steel works and rolling mills	137,433	1.5	6.2	92.3
Iron and steel pipe, wrought	4,143	2.2	4.3	93.5
Leather, tanned, curried, and finished	14,970	3.3	3.1	93.6
Liquors, distilled	1,144	22.0	14.7	63.3
Liquors, malt	9,007	7.1	12.6	80.3
Lumber and timber products	32,073	13.3	3.0	83.8
Marble and stone work	10,639	10.2	2.8	87.1
Paint and varnish	2,747	10.2	17.3	72.5
Paper and wood pulp	7,196	2.8	4.7	92.5
Patent medicines and compounds and druggists' preparations	4,299	12.6	23.1	64.2
Petroleum, refining	3,423	4.6	10.6	84.7
Pottery, terra-cotta, and fire-clay products	9,784	4.1	3.9	92.0
Printing and publishing	36,783	11.8	21.1	67.1
Silk and silk goods, including throwsters	38,178	1.7	2.8	95.5
Slaughtering and meat packing	3,957	8.6	14.4	77.1
Tin plate and terneplate	2,548	1.8	6.1	92.1
Tobacco manufactures	37,580	8.4	3.3	88.3
Woolen, worsted, and felt goods, and wool hats	28,692	2.3	2.1	95.5
All other industries	169,267	7.0	8.5	84.5

Of the total number of persons engaged in all manufacturing industries, 5.5 per cent were proprietors and officials, 7 per cent clerks, and 87.6 per cent wage earners. In some industries, such as flour mills and gristmills; butter, cheese, and condensed-milk factories; and bakeries, a majority of the establishments are small and the work is done to a large extent by the proprietors or their immediate representatives. Hence proprietors and officials form in such industries a much larger proportion of the total number of persons engaged in the industry than in most other industries or in all industries combined. Similar conditions are also found in the following industries: The manufacture of carriages and wagons, distilled liquors, and lumber and timber products; marble and stone work; the manufacture of paint and varnish and of patent medicines; and printing and publishing. Certain industries require the employment of large numbers of wage earners and show, as a consequence, a small proportion of proprietors and officials. Among these are the textile, cement, glass, coke, and iron and steel industries.

The following table shows, in percentages, for 1909, for all industries combined, the distribution of the average number of wage earners by age periods, and for those 16 years of age and over by sex, calculated in the manner described in the Introduction. It also shows for some of the important industries separately a similar distribution of wage earners as reported for December 15, or the nearest representative day. As a means of judging the importance of the several industries, the average number employed for the year is also given in each case.

INDUSTRY.	WAGE EARNERS.			
	Average number.[1]	Per cent of total.		
		16 years of age and over.		Under 16 years of age.
		Male.	Female.	
All industries	**877,543**	**77.5**	**19.2**	**3.3**
Boots and shoes, including cut stock and findings	10,822	58.5	34.4	7.1
Bread and other bakery products	12,221	81.6	14.6	3.8
Butter, cheese, and condensed milk	1,177	93.5	5.8	0.7
Carpets and rugs, other than rag	11,510	59.9	35.0	5.1
Carriages and wagons and materials	7,498	98.4	0.4	1.1
Cars and general shop construction and repairs by steam-railroad companies	46,645	99.8	0.2	0.1
Cars, steam-railroad, not including operations of railroad companies	7,766	99.9	0.1	0.1
Cement	8,080	99.6	(2)	0.4
Chemicals	3,185	96.6	3.4	0.1
Clothing, men's, including shirts	23,623	33.1	62.5	4.4
Clothing, women's	15,701	30.1	68.2	1.7
Coke	15,331	100.0	(2)	(2)
Confectionery	5,408	34.3	57.9	7.8
Copper, tin, and sheet-iron products	6,815	89.7	7.1	3.1
Cotton goods, including cotton small wares	16,293	43.9	49.3	6.8
Dyeing and finishing textiles	6,086	84.1	12.1	3.8
Electrical machinery, apparatus, and supplies	11,025	84.9	14.5	0.6
Flour-mill and gristmill products	2,432	99.5	0.1	0.4
Foundry and machine-shop products	86,821	97.9	1.1	1.0
Furniture and refrigerators	9,924	96.0	2.1	1.9
Gas, illuminating and heating	3,119	99.6	0.4	.....
Glass	23,710	88.2	5.3	6.5
Hats, fur-felt	7,220	69.5	25.3	5.2
Hosiery and knit goods	38,206	19.3	69.5	11.2
Iron and steel, blast furnaces	14,521	99.9	.....	0.1
Iron and steel, steel works and rolling mills	126,911	98.9	0.2	0.8
Iron and steel pipe, wrought	3,873	99.8	.....	0.2
Leather, tanned, curried, and finished	14,008	94.0	4.6	1.4
Liquors, distilled	724	76.8	23.2	.....
Liquors, malt	7,234	99.7	0.2	0.1
Lumber and timber products	26,873	98.5	0.4	1.1
Marble and stone work	9,264	99.2	0.1	0.7
Paint and varnish	1,992	96.3	3.1	0.6
Paper and wood pulp	6,656	88.6	10.9	0.5
Patent medicines and compounds and druggists' preparations	2,761	43.9	53.7	2.3
Petroleum, refining	2,900	99.0	0.4	0.6
Pottery, terra-cotta, and fire-clay products	9,003	91.2	5.8	3.0
Printing and publishing	24,696	73.7	22.8	3.6
Silk and silk goods, including throwsters	36,469	26.2	60.0	13.8
Slaughtering and meat packing	3,050	99.1	0.7	0.2
Tin plate and terneplate	2,346	89.0	10.1	0.9
Tobacco manufactures	33,188	45.0	52.4	2.6
Woolen, worsted, and felt goods, and wool hats	27,409	44.3	46.2	9.5
All other industries	143,047	77.8	18.6	3.6

[1] For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see Introduction.
[2] Less than one-tenth of 1 per cent.

For all industries combined, 77.5 per cent of the average number of wage earners were males 16 years of age and over; 19.2 per cent, females 16 years of age and over; and 3.3 per cent, children under the age of 16. The larger part of the total number of female wage earners was made up of those employed in the textile, clothing, and boot and shoe industries and in tobacco manufactures. In the manufacture of hosiery and knit goods and of women's clothing over two-thirds of the employees were women 16 years of age and over; in the silk goods and men's clothing industries the proportion was three-fifths; in tobacco manufactures and in the cotton goods and woolen and worsted goods industries, about one-half; and in the boot and shoe and the carpet industries, over one-third. The confectionery and the patent-medicine industries also showed a large proportion of female wage earners, 57.9 per cent and 53.7 per cent, respectively.

The four leading textile industries—silk goods, hosiery and knit goods, woolen and worsted goods, and cotton goods—and the manufacture of glass and of men's clothing include the larger part of the total number of wage earners under 16 years of age. The proportion of such wage earners engaged in each industry was as follows: Silk goods, 13.8 per cent; hosiery and knit goods, 11.2 per cent; woolen and worsted goods, 9.5 per cent; cotton goods, 6.8 per cent; glass, 6.5 per cent; and men's clothing, 4.4 per cent. The boot and shoe and the confectionery industries also showed a large proportion of children among the wage earners, 7.1 per cent and 7.8 per cent, respectively.

In order to compare the distribution of persons engaged in manufactures in 1909 with that shown at the census of 1904 it is necessary to use the classification employed at the earlier census. (See Introduction.) The following table makes this comparison according to occupational status:

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				
	1909		1904		Per cent of increase, 1904–1909.
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total	1,002,171	100.0	855,392	100.0	17.2
Proprietors and firm members	29,743	3.0	26,029	3.0	14.3
Salaried employees	94,885	9.5	66,081	7.7	43.6
Wage earners (average number)	877,543	87.6	763,282	89.2	15.0

Comparable figures are not obtainable for 1899. The table shows a greater percentage of gain for the five years in the number of salaried employees than for either of the other classes of persons engaged.

The next table shows the average number of wage earners, distributed according to age periods, and for those 16 years of age and over according to sex, for 1909, 1904, and 1899. The averages for 1909 are estimated on the basis of the actual number reported for a single representative day. (See Introduction.)

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	877,543	100.0	763,282	100.0	663,960	100.0
16 years of age and over	848,436	96.7	728,831	95.5	631,658	95.1
Male	679,831	77.5	594,487	77.9	516,101	77.7
Female	168,605	19.2	134,344	17.6	115,557	17.4
Under 16 years of age	29,107	3.3	34,451	4.5	32,302	4.9

This table indicates that for all industries combined there has been little variation from census to census in the proportions of men, women, and children employed. The number of children under 16 years of age and the proportion which they formed of the total number of wage earners employed was less in 1909 than in 1899, although from 1899 to 1904 the absolute number of such employees increased. The falling off in the proportion of children was more than made up by a larger proportion of women. In 1909 males 16 years of age and over formed 77.5 per cent of all wage earners, as compared with 77.9 per cent in 1904 and 77.7 per cent in 1899.

Wage earners employed, by months.—The following table gives the number of wage earners employed on the 15th of each month during the year 1909, for all industries combined. It gives also the percentage which the number reported for each month is of the greatest number reported for any month. In Table II, page 1096, is shown, for practically all of the important industries of the state, the largest number and the smallest number of wage earners reported for any month. The figures are for the 15th day, or the nearest representative day, of the month.

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January	819,927	85.3	July	860,435	89.6
February	825,082	85.9	August	873,308	90.9
March	835,617	87.0	September	911,802	94.9
April	844,230	87.9	October	933,852	97.2
May	850,373	88.5	November	947,698	98.6
June	867,526	90.3	December	960,666	100.0

There were no seasonal industries of importance in Pennsylvania, nor did any of the more important industries show very great fluctuations from month to month in the number of wage earners employed. Of the more important industries, the greatest variation is in the glass industry, in which the minimum number, 16,242, was employed in July, and the maximum number, 26,711, in December, the minimum figure being 60.8 per cent of the maximum. In the foundry and machine-shop industry the difference between the maximum and minimum months was a larger number, but on account of the larger average number em-

ployed the proportion of minimum to maximum was 78.8 per cent. For all industries combined the smallest number, 819,927, were employed in the month of January. The number increased steadily month by month, with the exception of a slight decrease from June to July, until in December 960,666 wage earners were employed, the largest number reported for any month. The difference between the months of greatest and least employment was thus 140,739, or 14.6 per cent of the maximum.

Prevailing hours of labor.—In the table following wage earners have been classified according to the hours of labor prevailing in the establishments in which they are employed. In making this classification the average number of wage earners employed during the year is used, and the number employed in each establishment is classified as a total according to the hours prevailing in that establishment, even though a few employees work a greater or less number of hours.

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries	**877,543**	**61,599**	**46,263**	**109,826**	**301,893**	**258,257**	**45,703**	**27,203**	**26,799**
Agricultural implements	2,401	1		452	850	1,097		1	
Artificial flowers and feathers and plumes	805	135	501	160	9				
Automobiles, including bodies and parts	3,199	1		746	2,257	195			
Belting and hose, leather	156		2	16	110	28			
Boots and shoes, including cut stock and findings	10,822	21	462	514	8,568	1,140	117		
Boxes, cigar	1,801	25	239	114	1,074	349			
Boxes, fancy and paper	4,604	56	456	286	2,952	854			
Brass and bronze products	2,080	36	44	493	1,396	111			
Bread and other bakery products	12,221	577	207	813	2,812	5,423	1,188	553	648
Brick and tile	8,058	562	383	791	1,206	5,084		32	
Brooms and brushes	860	47	80	124	502	107			
Butter, cheese, and condensed milk	1,177	131	49	75	156	337	411	13	5
Buttons	1,123	4		110	915	94			
Canning and preserving	2,753	9	7	23	832	1,806	73	3	
Carpets and rugs, other than rag	11,510	129		615	3,267	7,499			
Carriages and wagons and materials	7,498	44	165	826	3,686	2,752	19	1	5
Cars and general shop construction and repairs by steam-railroad companies	46,645	5,209	2,581	1,200	27,629	8,002	1,511		423
Cars and general shop construction and repairs by street-railroad companies	2,442			42	553	1,576	209	32	30
Cars, steam-railroad, not including operations of railroad companies	7,766		60	286	5,504	500	1,416		
Cement	8,080					2,276	2,788		3,016
Chemicals	3,185	5	98		68	2,130	177	13	694
Chocolate and cocoa products	863	1			748	114			
Clocks and watches, including cases and materials	1,395		36	3	1,356				
Clothing, men's, including shirts	23,623	570	2,204	6,823	11,508	2,440	67	4	7
Clothing, women's	15,701	689	6,631	3,439	4,401	451			
Coffins, burial cases, and undertakers' goods	1,103	22	14	108	353	606			
Coke	15,331	1,508		7,397	100	4,575	658		1,093
Confectionery	5,408	122	362	290	2,692	1,919	16	5	2
Cooperage and wooden goods, not elsewhere specified	1,630	245	132	432	352	469			
Copper, tin, and sheet-iron products	6,815	1,327	345	1,034	2,752	1,357			
Cordage and twine and jute and linen goods	2,119	49	111		1,110	849			
Cork, cutting	1,727		11	21	1,496	8	191		
Cotton goods, including cotton small wares	16,293		1,112		8,294	6,887			
Crucibles	106		10		10	86			
Cutlery and tools, not elsewhere specified	4,250	1,156	245	205	1,369	1,205	70		
Dentists' materials	1,072	17	130	50	875				
Dyeing and finishing textiles	6,086	10	39	33	2,078	3,874	52		
Electrical machinery, apparatus, and supplies	11,025	12	705	7,853	1,772	683			
Explosives	1,033	39		57	72	865			
Fancy articles, not elsewhere specified	828	32	83	60	544	109			
Fertilizers	1,224	6	8		197	425	169	419	
Files	1,217		1		1,216				
Flour-mill and gristmill products	2,432	273	49	147	211	1,088	377	263	24
Foundry and machine-shop products	86,821	2,636	1,442	22,360	31,874	26,079	2,157	87	186
Fur goods	227	12	82	111	9	13			
Furniture and refrigerators	9,924	175	560	563	3,742	4,884			
Gas and electric fixtures and lamps and reflectors	1,482	43	98	151	1,125	65			
Gas, illuminating and heating	3,119	16	3		24	1,780	705	15	576
Glass	23,710	3,049	4,406	1,645	6,235	5,468	1,257		1,650
Hats and caps, other than felt, straw, and wool	744	17	78	47	462	137	3		
Hats, fur-felt	7,220	65	370	4,919	1,533	333			
Hosiery and knit goods	38,206	275	381	496	24,508	12,472	74		
Ice, manufactured	1,606	38		69	19	229	138	271	842
Ink, printing	165	11		6	148				
Iron and steel, blast furnaces	14,521				117	601	166	467	13,170
Iron and steel, steel works and rolling mills	126,911	12,245	3,237	11,014	12,292	45,527	17,921	21,849	2,826
Iron and steel pipe, wrought	3,873	6				3,777	90		
Jewelry	456	20	110	170	89	67			
Leather goods	2,524	22	199	392	1,123	780	8		
Leather, tanned, curried, and finished	14,008	65	139	708	5,187	7,904		5	
Lime	3,258	5	75	135	515	2,010	425		93
Liquors, distilled	724	88	43	141	52	386		10	4
Liquors, malt	7,234	2,645	306	2,513	336	1,118	203	109	4
Lumber and timber products	26,873	790	995	4,105	3,984	12,975	3,822	41	161
Marble and stone work	9,264	1,896	2,032	1,870	2,188	1,252	26		
Mattresses and spring beds	745	52	63	70	442	118			
Millinery and lace goods	4,235	209	747	1,190	2,057	32			
Musical instruments, pianos and organs and materials	1,182		32	395	492	263			
Optical goods	579	28	43	30	475	3			

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
Paint and varnish	1,992	49	90	326	1,127	345	38	17	.....
Paper and wood pulp	6,656	122	.....	100	168	3,643	91	2,532	.....
Paper goods, not elsewhere specified	1,357	28	749	48	514	18	.....	.....	.....
Patent medicines and compounds and druggists' preparations	2,761	288	460	1,603	291	110	.....	6	3
Petroleum, refining	2,900	.....	.....	1,596	.....	418	270	68	548
Photo-engraving	489	479	.....	9	1	.....	.....	.....	.....
Pottery, terra-cotta, and fire-clay products	9,003	579	404	1,739	1,464	4,389	66	156	206
Printing and publishing	24,696	14,412	3,297	4,267	1,965	730	25	.....	.....
Safes and vaults	695	30	26	69	185	385	.....	.....	.....
Saws	1,876	7	41	95	1,728	5	.....	.....	.....
Shipbuilding, including boat building	3,558	378	156	143	2,842	39	.....	.....	.....
Shoddy	450	.....	.....	3	88	359	.....	.....	.....
Silk and silk goods, including throwsters	36,469	31	490	490	27,859	7,599	.....	.....	.....
Slaughtering and meat packing	3,050	63	125	44	271	2,331	160	56	.....
Smelting and refining, not from the ore	206	22	7	7	100	54	.....	16	.....
Soap	1,197	520	16	19	396	235	11	.....	.....
Steam packing	1,677	8	18	52	936	663	.....	.....	.....
Stoves and furnaces, including gas and oil stoves	4,198	187	226	773	1,303	1,709	.....	.....	.....
Tin plate and terneplate	2,346	206	.....	1,539	400	201	.....	.....	.....
Tobacco manufactures	33,188	3,954	3,497	2,614	18,295	4,721	102	5	.....
Typewriters and supplies	555	5	18	.....	532	.....	.....	.....	.....
Umbrellas and canes	2,315	122	6	54	807	1,326	.....	.....	.....
Wall paper	1,056	.....	.....	.....	.....	1,056	.....	.....	.....
Wood distillation, not including turpentine and rosin	933	51	.....	39	.....	444	237	83	79
Woolen, worsted, and felt goods, and wool hats	27,409	2	.....	77	14,819	12,511	.....	.....	.....
All other industries	56,433	2,573	3,634	5,292	18,832	17,323	8,199	71	504

It is evident from these figures that for the great majority of wage earners employed in the manufacturing industries of Pennsylvania the prevailing hours of labor ranged from 54 to 60 a week, only 12.3 per cent of the total being employed in establishments where less than 54 hours per week were the prevailing hours, and only 11.4 per cent being employed in establishments where the hours of labor were more than 60 per week. The largest single group shown in the table is that "between 54 and 60" with 301,893, or 34.4 per cent of the total number of wage earners of the state.

Of the 99,705 wage earners who worked in establishments where over 60 hours per week were the prevailing hours of labor, 56,399, or 56.6 per cent, were employed in the blast furnaces and steel works and rolling mills. This number represents 39.9 per cent of the total average number employed in these two industries combined. In three industries shown in the table—cement, ice, and blast furnaces—the greater proportion of wage earners worked more than 60 hours per week. While there were 108,120 wage earners in establishments where less than 54 hours per week were the prevailing hours, in only four industries presented in the table—the manufacture of artificial flowers and feathers and plumes, that of paper goods, photo-engraving, and printing and publishing—was the greater proportion of the total for the industry employed by such establishments.

Location of establishments.—The following table shows the extent to which the manufactures of Pennsylvania are centralized in cities and boroughs of 10,000 population or over. (See Introduction.)

ITEM.	Year.	Aggregate.	INCORPORATED PLACES HAVING A POPULATION OF 10,000 AND OVER.								DISTRICTS OUTSIDE OF INCORPORATED PLACES HAVING A POPULATION OF 10,000 AND OVER.	
			Total.		10,000 to 25,000.		25,000 to 100,000.		100,000 and over.			
			Number or amount.	Percent of total.	Number or amount.	Percent of total.	Number or amount.	Percent of total.	Number or amount.	Percent of total.	Number or amount.	Percent of total.
Population	1910	7,665,111	3,653,461	47.7	638,300	8.3	802,381	10.5	2,212,780	28.9	4,011,650	52.3
	1900	6,302,115	2,767,261	43.9	350,403	5.6	569,623	9.0	1,847,235	29.3	3,534,854	56.1
Number of establishments	1909	27,563	15,036	54.6	1,738	6.3	2,967	10.8	10,331	37.5	12,527	45.4
	1899	23,462	12,388	52.8	990	4.2	2,347	10.0	9,051	38.6	11,074	47.2
Average number of wage earners.	1909	877,543	552,134	62.9	83,433	9.5	136,492	15.6	332,209	37.9	325,409	37.1
	1899	663,960	431,181	64.9	36,845	5.5	96,628	14.6	297,708	44.8	232,779	35.1
Value of products	1909	$2,626,742,034	$1,662,897,973	63.3	$276,462,645	10.5	$370,521,221	14.1	$1,015,914,107	38.7	$963,844,061	36.7
	1899	1,649,882,380	1,074,530,373	65.1	81,717,638	5.0	229,891,021	13.9	762,921,714	46.2	575,352,007	34.9
Value added by manufacture	1909	1,044,182,046	666,386,130	63.8	95,711,824	9.2	146,681,104	14.0	423,993,202	40.6	377,795,916	36.2
	1899	691,581,108	451,733,907	65.3	32,318,824	4.7	97,346,042	14.1	322,069,041	46.6	239,847,201	34.7

In 1909, 63.3 per cent of the total value of products for all manufacturing industries was reported from cities and boroughs having over 10,000 inhabitants, and 62.9 per cent of the average number of wage earners were employed in such places. The figures indicate that on the whole the manufactures of the districts outside the cities and boroughs have gained slightly on the totals for the places having 10,000 inhabitants or over during the last decade. This is due in part to the size and rapid growth of the three classes of iron

and steel mills, the foundries and machine shops, and the glass works located outside the cities. The fact that 21 boroughs (see the next table) were parts of the outside territory in 1899 and became a part of the group of cities and boroughs having 10,000 inhabitants or more in 1909 makes the gain in the outside districts more conspicuous. The value of products reported in 1909 for all these places combined was $140,470,215, and 35,885 wage earners were employed there. These figures represent 5.3 per cent and 4.1 per cent of the respective totals for the state. The increase in the population of different places has also affected the grouping of cities and boroughs in the table. In 1900 Norristown, Shenandoah, and Hazleton were in the first group, 10,000 to 25,000; but during the following decade the population of each increased so that all advanced to the second group, 25,000 to 100,000.

Although a decided absolute gain is shown for all items of the three groups of cities and boroughs, the cities included in the group 100,000 and over show substantial decreases in relative importance. The largest gains in the proportions are shown for the first group, due mainly to the shifting of the 21 boroughs above referred to. There was scarcely any change during the decade in the proportions of the totals for the cities and boroughs of 25,000 to 100,000 inhabitants. Of the total value of products reported for the state in 1909, 10.5 per cent was reported from the 43 places having from 10,000 to 25,000 inhabitants, 14.1 per cent from the 17 places having from 25,000 to 100,000 inhabitants, and 38.7 per cent from the 3 cities having 100,000 inhabitants and over.

The population for 1910 and 1900 of the 63 places which had 10,000 inhabitants or over in 1910 is given in the following statement:

CITY OR BOROUGH.	1910	1900	CITY OR BOROUGH.	1910	1900
Philadelphia	1,549,008	1,293,697	Mount Carmel	17,532	13,179
Pittsburgh	533,905	[1] 451,512	Carbondale	17,040	13,536
Scranton	129,867	102,026	Plymouth	16,996	13,649
Reading	96,071	78,961	Pittston	16,267	12,556
Wilkes-Barre	67,105	51,721	Mahanoy City	15,936	13,504
Erie	66,525	52,733	Duquesne	15,727	9,036
Harrisburg	64,186	50,167	Oil City	15,657	13,264
Johnstown	55,482	35,936	Pottstown	15,599	13,696
Altoona	52,127	38,973	Sharon	15,270	8,916
Allentown	51,913	35,416	McKees Rocks	14,702	6,352
Lancaster	47,227	41,459	Bradford	14,544	15,029
York	44,750	33,708	Steelton	14,246	12,086
McKeesport	42,694	34,227	Sunbury	13,770	9,810
Chester	38,537	33,988	Uniontown	13,344	7,344
New Castle	36,280	28,339	Greensburg	13,012	6,508
Williamsport	31,860	28,757	Connellsville	12,846	7,160
Easton	28,523	25,238	Bethlehem	12,837	[2] 10,758
Norristown	27,875	22,265	Meadville	12,780	10,291
Shenandoah	25,774	20,321	Dubois	12,623	9,375
Hazleton	25,452	14,230	Beaver Falls	12,191	10,054
Butler	20,728	10,853	North Braddock	11,824	6,535
Pottsville	20,236	15,710	Chambersburg	11,800	8,864
South Bethlehem	19,973	13,241	Monessen	11,775	2,197
Shamokin	19,588	18,202	West Chester	11,767	9,524
Braddock	19,357	15,654	Columbia	11,454	12,316
Lebanon	19,240	17,628	Old Forge	11,324	5,630
Wilkinsburg	18,924	11,886	Coatesville	11,084	5,721
Nanticoke	18,877	12,116	Warren	11,080	8,043
Washington	18,778	7,670	Phoenixville	10,743	9,196
Homestead	18,713	12,554	Carlisle	10,303	9,626
Dunmore	17,615	12,583	South Sharon	10,190	[3]
			Carnegie	10,009	7,330

[1] Includes population of Allegheny, which was annexed in 1907.
[2] Includes population of West Bethlehem, which was annexed in 1904.
[3] Not incorporated in 1900.

The relative importance in manufactures of 56 of these cities and boroughs is shown in the following table, in which they are presented according to value of products in 1909. Both the value of products and the average number of wage earners for these places are shown separately for 1909, 1904, and 1899 so far as comparative figures can be given. The other 7 boroughs having a population of 10,000 or over in 1910—Coatesville, Duquesne, Monessen, North Braddock, Old Forge, South Sharon, and Steelton—are not shown separately but grouped under the heading of "All other boroughs," to avoid the disclosure of individual establishments.

CITY OR BOROUGH.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Philadelphia	251,884	228,899	214,775	$746,075,659	$591,388,078	$519,981,812
Pittsburgh [1]	67,474	71,618	71,794	243,453,693	211,259,153	218,198,065
Reading [2]	24,145	18,053	16,892	51,134,967	30,490,942	32,682,061
Johnstown	10,574	6,914	5,600	48,105,775	28,891,806	21,364,745
McKeesport	8,246	8,848	7,213	42,494,567	23,054,412	36,058,447
New Castle [2]	5,339	5,433	4,529	38,037,522	28,923,234	20,015,798
South Bethlehem	7,985	5,754	4,645	26,417,103	15,275,411	9,964,054
Scranton	12,851	10,912	11,139	26,384,755	20,453,285	24,741,837
Allentown [2]	11,481	8,984	7,355	26,203,327	16,841,043	14,990,437
Erie [2]	9,796	8,415	8,032	24,225,633	18,639,161	16,492,886
Harrisburg [2]	9,743	7,955	6,439	22,725,328	16,570,715	14,995,827
Chester	6,986	7,061	6,972	19,373,314	16,644,842	14,940,165
York [2]	10,492	7,952	6,851	18,622,400	13,333,359	10,559,780
Altoona	8,409	9,540	6,573	16,762,738	14,349,963	11,273,287
Lancaster	7,957	8,693	7,504	15,978,666	14,647,681	12,750,429
Wilkes-Barre [2]	7,553	5,920	4,749	13,525,957	10,999,754	8,616,765
Williamsport [2]	5,641	5,296	4,717	13,347,943	11,366,569	9,725,726
Pottstown	3,650	3,457	2,681	12,505,196	8,144,723	7,357,503
Lebanon	5,591	4,387	4,475	11,429,063	6,978,458	7,658,296
Butler	2,823	2,093	792	11,058,353	6,832,007	1,403,026
Sharon [2]	3,316	1,812	1,827	9,880,672	5,670,924	3,764,983
McKees Rocks	3,591	[3]	[3]	9,786,828	[3]	[3]
Pottsville	2,872	1,904	1,699	9,138,122	5,805,788	4,829,806
Norristown	3,818	3,517	2,944	7,413,211	5,925,243	4,106,834
Easton [2]	3,388	2,720	3,202	6,915,345	5,059,064	5,424,068
Beaver Falls	2,180	2,232	2,174	6,400,338	4,907,536	6,228,808
Phoenixville	2,599	2,888	2,249	5,876,154	5,499,891	3,321,599
Warren [2]	1,489	1,174	1,050	5,744,321	4,065,594	3,681,264
Braddock [2]	1,040	1,225	815	5,094,382	4,125,479	4,090,748
Washington	2,126	[3]	[3]	4,837,055	[3]	[3]
Columbia	2,773	3,034	2,519	4,807,068	3,887,087	4,213,887
Hazleton	2,682	1,406	822	4,707,025	2,185,876	998,823
Sunbury	2,069	1,457	968	4,450,159	2,592,829	1,868,157
Oil City [2]	1,338	1,557	1,683	4,121,892	3,082,208	5,164,059
Bradford	1,318	1,490	1,200	3,886,538	3,191,894	3,125,007
Bethlehem	1,583	[3]	[3]	3,711,602	[3]	[3]
Meadville	2,048	1,300	1,201	3,558,925	2,074,600	1,667,954
Shamokin	1,623	897	762	3,544,095	1,443,915	1,147,450
Carnegie	422	[3]	[3]	3,099,445	[3]	[3]
Carbondale	1,503	1,475	1,023	2,523,387	2,315,695	1,146,181
Carlisle	1,334	1,340	1,121	2,495,710	1,985,743	1,708,009
Chambersburg	1,364	843	612	2,456,035	1,085,185	814,856
West Chester	916	849	497	2,145,843	2,121,185	859,424
Connellsville	1,035	[3]	[3]	1,970,936	[3]	[3]
Pittston	792	830	357	1,969,452	1,474,928	997,789
Dubois [2]	1,015	900	817	1,890,168	1,709,360	1,767,699
Dunmore	1,308	1,133	614	1,850,654	1,460,445	1,132,322
Uniontown	335	[3]	[3]	1,346,865	[3]	[3]
Plymouth [2]	908	827	756	1,178,606	859,542	532,835
Shenandoah	242	170	107	887,503	594,637	301,646
Mahanoy City	590	238	301	867,576	431,526	401,103
Mount Carmel [2]	600	197	109	785,391	620,396	393,373
Greensburg	310	[3]	[3]	726,268	[3]	[3]
Homestead	171	307	164	659,196	712,830	265,654
Wilkinsburg	185	184	100	538,217	471,960	246,148
Nanticoke	348	229	140	423,093	358,091	309,990
All other boroughs [4]	18,283	.....	.....	103,287,937	.....	.....

[1] Includes statistics for Allegheny, annexed in 1907.
[2] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.
[3] Figures not available.
[4] "All other boroughs," for which figures can not be shown without disclosing individual operations, embrace Coatesville, Duquesne, Monessen, North Braddock, Old Forge, South Sharon, and Steelton in 1909.

From 1904 to 1909 the value of products shows an increase for each place for which comparative figures are given except Homestead, and from 1899 to 1904 for all but Pittsburgh, Reading, McKeesport, Scranton, Lebanon, Easton, Beaver Falls, Columbia, Oil City, and Dubois. The rate of increase, however, was

generally greater from 1904 to 1909. The highest rate from 1904 to 1909, 145.4 per cent, was in Shamokin, due in a large measure to the increase in the production of silk goods and hosiery and knit goods, and the next highest, 126.3, in Chambersburg, on account of a general increase in the important manufacturing industries.

In the discussion of the larger cities—those having over 50,000 inhabitants—some important industries will be mentioned, for which the statistics are not shown separately in Table I, page 1080. They are included in the group of "All other industries" for that city, for reasons similar to those which required a like treatment of certain industries in the state figures on pages 1040 and 1041.

Philadelphia, the largest and most important city in the state, occupies a prominent position among the cities of the country as regards the variety and magnitude of its manufacturing operations. At the census of 1809, it was the only city reported separately and then showed a value of manufactured products of nearly $10,000,000. At the census of 1879 it ranked second, being surpassed by New York only, and held this rank until 1899, when it dropped to third place, being displaced by Chicago. The total value of products reported for the city in 1909 was $746,075,659, which represents an increase over 1904 of $154,687,581, or 26.2 per cent, while the increase for the preceding five-year period was $71,406,266, or 13.7 per cent. The remarkable growth of manufactures in the newer sections of the country, however, has caused most of the older manufacturing centers to show a decrease in their proportion of the total production for the United States. Accordingly, Philadelphia, while reporting 4.6 per cent of the total value of products in 1899 and 4 per cent in 1904, shows only 3.6 per cent for 1909. The leading industries in the city, measured by value of products, together with the value of the products reported in 1909, were as follows: the woolen and worsted goods industry, $54,922,000; printing and publishing, $45,807,000; foundries and machine shops, $38,685,000; and the manufacture of women's clothing, $30,133,000. The refining of cane sugar had also a value of product large enough to include it in this group of industries, but the statistics can not be presented separately without disclosing the operations of individual establishments.

Among the cities of the United States, Philadelphia is preeminent in the production of all textiles combined and in each of four prominent branches, and so far outranked all other cities in 1909 that its combined value of such products was more than double that of its nearest competitor.

Of the total values for the United States, Philadelphia reported 12 per cent of the entire output of hosiery and knit goods, 31.8 per cent of the carpets and rugs, 12.6 per cent of the woolen and worsted goods, 3.6 per cent of the cotton goods, 21.7 per cent of the fur-felt hats, and 24.8 per cent of the shoddy. Other leading industries in which the city holds high rank are the making of men's clothing, petroleum refining, the manufacture of leather (tanned, curried, and finished), and slaughtering and meat packing. The fact that the 8,379 establishments reported for Philadelphia in 1909 represented 211 of the 264 industry classifications used at that census indicates a great diversity in manufactures.

The importance of Philadelphia in manufactures as compared with the state as a whole is indicated by the fact that it turned out 28.4 per cent of the total value of manufactured products and employed 28.7 per cent of the total number of wage earners. Furthermore, the city in 1909 manufactured all of the files and printing ink reported for the state; at least 90 per cent of the output of artificial flowers, carpets and rugs, women's clothing, fancy articles, "not elsewhere specified," paper goods, "not elsewhere specified," and shoddy; from 70 to 90 per cent of leather belting and hose, fancy and paper boxes, buttons, men's clothing, gas and electric fixtures and lamps and reflectors, fur-felt hats, millinery and lace goods, patent medicines and compounds and druggists' preparations, soap, and woolen, worsted, and felt goods, and wool hats; from 60 to 70 per cent of the chemicals, clocks and watches, including cases and materials, cordage and twine and jute and linen goods, cotton goods, fertilizers, jewelry, leather goods, printing and publishing, and signs and advertising novelties; and from 50 to 60 per cent of the confectionery, independent dyeing and finishing, optical goods, and paint and varnish.

In addition to the 71 industries presented separately for Philadelphia in Table I, page 1086, there are 140 others which, for various reasons, are included in the group of "All other industries." Some of these were among the most important in the city, 34[1] of them having a product valued in 1909 in excess of $1,000,000, distributed as follows: Twenty-nine, with products valued at $1,000,000 but less than $5,000,000; 1, with products valued at $5,000,000 but less than $10,000,000; and 4, with products valued at $10,000,000 and over.

The totals presented for Philadelphia, or for the state as a whole, do not include the statistics for three establishments located in that city and operated by the Federal Government, namely, the Frankford Arsenal, with an average of 1,920 wage earners and products valued at $4,257,939 in 1909, the United

[1] These industries are:

Agricultural implements.
Babbitt metal and solder.
Bags, other than paper.
Belting and hose, woven and rubber.
Cars and general shop construction and repairs by street-railroad companies.
Cars, street-railroad, not including operations of railroad companies.
Chocolate and cocoa products.
Coffee and spice, roasting and grinding.
Dentists' materials.
Food preparations.
Furnishing goods, men's.
Gas, illuminating and heating.
Glass, cutting, staining, and ornamenting.
Glue.
Grease and tallow.
Haircloth.
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.
Locomotives, not made by railroad companies.
Mineral and soda waters.
Oil, linseed.
Oil, not elsewhere specified.
Oilcloth and linoleum.
Petroleum, refining.
Roofing materials.
Rubber goods, not elsewhere specified.
Sand and emery paper and cloth.
Saws.
Shipbuilding, including boat building.
Signs and advertising novelties.
Sporting and athletic goods.
Sugar, refining, not including beet sugar.
Tin plate and terneplate.
Upholstering materials.
Waste.

States navy yard, with 1,564 wage earners and products valued at $2,402,850, and the Philadelphia depot of the Quartermaster's Department, U. S. Army, with 168 wage earners and products valued at $1,349,278. The three establishments combined reported 3,652 wage earners and $8,010,067 as the value of products.

Pittsburgh is the second city in the state in population and in value of manufactured products. In population it ranked eleventh in 1900 and eighth in 1910 among the cities of the United States, but in value of manufactured products was fourth in 1899 and seventh in 1909. This loss in relative standing is more apparent than real, for in the Pittsburgh district there has been for years a steady drift of important enterprises from the city proper to the surrounding boroughs and townships, some of which showed extraordinary gains during the decade 1899–1909. In value of products the manufactures of this city decreased from $218,198,065 in 1899 to $211,259,153 in 1904, a loss of 3.2 per cent, but increased to $243,453,693 in 1909, making a gain for the decade of $25,255,628, or 11.6 per cent. The leading industries in Pittsburgh are those which use ore and metal as the principal materials, such as blast furnaces, steel works and rolling mills, and foundries and machine shops; the combined output of these three industries in 1909 formed more than 50 per cent of the total value of all manufactured products for the city. Other important industries in the city are slaughtering and meat packing, with a product of $13,107,000 in value; printing and publishing, with a product of $9,071,000 in value; cars and general shop construction and repairs by steam-railroad companies, with a product of $8,556,000 in value; bread and other bakery products, with a product of $8,054,000 in value; canning and preserving, with a product of $6,202,000 in value; the manufacture of malt liquors, with a product of $5,420,000 in value; and tobacco manufactures, with a product of $3,615,000 in value. In addition to the 41 industries presented separately for Pittsburgh in Table I, page 1089, there were 9 others included in the group of "All other industries" each of which show products valued at more than $1,000,000, namely, coke; cork, cutting; iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills; iron and steel pipe, wrought; distilled liquors; locomotives; petroleum refining; smelting and refining, not from the ore; and steel springs, car and carriage.

Reading, with $51,134,967 in 1909, ranked third in value of products among the cities of the state. There was an increase in the value of products of the city in 1909 over 1904 of $20,644,025, or 67.7 per cent. Among the industries for which separate statistics for the city can be presented for Reading in Table I, page 1091, steel works and rolling mills, with products valued at $8,190,000 and giving employment to 3,011 wage earners, constitutes the leading industry in 1909, and steam-railroad repair shops, with products valued at $5,661,000 and employing 2,628 wage earners, came next in importance from the standpoint of value of products. The hosiery and knit-goods industry was third in value of products, with $4,551,000, followed by foundries and machine shops, with $3,889,000. Other industries showing a value of products exceeding $1,000,000 were: Boots and shoes; confectionery; fur-felt hats; iron and steel pipe, wrought; malt liquors; slaughtering and meat packing; tobacco manufactures; and woolen, worsted, and felt goods, and wool hats. This city has long been one of the important wool-felt hat manufacturing centers in the United States. In 1909 Reading and its suburb, Mohnton, returned nearly 94.6 per cent of the total value reported for wool-felt hats in the state and 30.9 per cent of the total value for the United States.

Johnstown, the fourth city in the state in value of its manufactures, showed an increase in 1909 over 1904 of $19,213,969, or 66.5 per cent. The manufacturing activities are confined largely to a single group of industries, as in 1909 the establishments engaged in metal working, which include, among others, blast furnaces, steel works and rolling mills, and foundries and machine shops, returned about 85 per cent of the total number of wage earners and almost 90 per cent of the total value of products for all manufacturing industries in the city. Detailed statistics, however, are not shown for these industries in Table I, page 1086, because a large proportion of the total output was controlled by two corporations. Other industries are coke; flour-mill and gristmill products; malt liquors; pottery, terra-cotta, and fire-clay products; and slaughtering and meat packing.

McKeesport, the fifth city of the state in 1909 in the value of manufactures, reported in 1899 manufactured products valued at $36,058,447. In 1904 the total reported was only $23,054,412, a decrease of $13,004,035, or 36.1 per cent, for the five-year period, but in 1909 the total had advanced to $42,494,567, making a net gain for the decade of $6,436,120, or 17.8 per cent. Practically the entire manufacturing activity of the city is in the iron and steel manufactures, five steel works and rolling mills and one blast furnace being located in the city in 1909. The most important product consists of pipe and tubes, in the output of which this city outranks all others in the United States. Other industries in the city are comparatively unimportant.

New Castle was in 1909 sixth in importance among the cities and boroughs of the state as measured by value of manufactured products. The city shows an increase of $9,114,288, or 31.5 per cent, from 1904 to 1909, and $8,907,436, or 44.5 per cent, from 1899 to 1904. The industrial importance of New Castle is dependent upon the metal-working industries, the most important of which were steel works and rolling mills, blast furnaces, tin-plate and terneplate mills, and also on the steam-railroad car construction shops.

These four classes of establishments reported more than 90 per cent of the total value of products and gave employment to over 70 per cent of the average number of wage earners shown for the city in 1909.

South Bethlehem was the seventh city of the state in manufactures in 1909, having advanced from twelfth place in 1904 and fifteenth place in 1899. This city has shown decided gains in recent years in the value of products, the increase being $5,311,357, or 53.3 per cent, from 1899 to 1904 and $11,141,692, or 72.9 per cent, from 1904 to 1909. The one steel works and rolling mill represents by far the leading industry in the city, although the two blast furnaces and one zinc smelter contribute considerably to its manufacturing activity. The six establishments engaged in the manufacture of tobacco products, the four knitting mills, and one foundry and machine shop also reported a large output of manufactured products in 1909. The exact value of these different classes of products can not be presented separately without disclosing the operations of individual establishments.

Scranton, although the third city of the state in population in 1910, held only eighth place in 1909 when ranked by value of products. This discrepancy, in a great measure, may be accounted for by the fact that a considerable portion of the population of the city were employed in the coal mines in the city and its immediate vicinity, the statistics for which are not embraced with those for manufactures. The value of products decreased from $24,741,837 in 1899 to $20,453,285 in 1904, but increased to $26,384,755 in 1909, making a net gain for the decade of $1,642,918, or 6.6 per cent. The rank of this city in manufactures was fifth in 1899 and seventh in 1904. The manufacture of silk goods was the leading industry. With 15 mills in operation in 1909, this industry turned out products valued at $6,631,000, which represented 25.1 per cent of the total for all industries in the city and 10.7 per cent of the total for the silk industry in the state. Other important industries are steam-railroad repair shops, foundry and machine-shop products, malt liquors, hosiery and knit goods, printing and publishing, and slaughtering and meat packing.

Allentown ranked as the ninth city in the state in 1909 and 1904 and tenth in 1899 in the value of its manufactured products, and showed an increase of $9,422,284, or 55.9 per cent, during the period from 1904 to 1909, and $1,850,606, or 12.3 per cent, for the preceding five-year period. After Philadelphia, Allentown is the most important city of the state in the manufacture of textiles. The textile industries, including the dyeing and finishing of textiles, are the most important in the city, having a combined output valued at $9,838,000, or 37.5 per cent of the total for all industries of the city in 1909. The manufacture of silk and silk goods is the leading branch of the textile industry in this city and increased in value of product from $3,468,000 in 1889 to $7,456,000 in 1909. The metal-working industries reported products valued at nearly $7,000,000; the boot and shoe industry, products valued at $1,302,000; and tobacco manufactures, products valued at $1,446,000. The manufacture of automobiles, bread and other bakery products, furniture and refrigerators, and malt liquors, together with slaughtering and meat packing, are also important.

Erie shows an increase in value of products from 1904 to 1909 of $5,586,472, or 30 per cent, and from 1899 to 1904 of $2,146,275, or 13 per cent. The leading industry in the city is foundry and machine-shop products, which were valued at $8,715,000 in 1909 and formed 36 per cent of the total value of manufactures in the city. Other important industries are: Flour mills and gristmills; iron and steel, blast furnaces; lumber and timber products; the brewing of malt liquors; the paper and wood-pulp industry; printing and publishing; the manufacture of rubber goods; slaughtering and meat packing; the manufacture of stoves and furnaces; and of washing machines and clothes wringers.

Harrisburg shows an increase in value of products of $6,154,613, or 37.1 per cent, from 1904 to 1909, which is nearly four times as great as that shown from 1899 to 1904. The steel works and rolling mills form the leading industry in the city. There are a number of other important industries, but the statistics for the most of them can not be presented separately without disclosing the operations of individual establishments. These industries are: Boots and shoes, bread and other bakery products, steam-railroad repair shops, foundry and machine-shop products, blast furnaces, printing and publishing, silk and silk goods, slaughtering and meat packing, tin plate and terne-plate, tobacco manufactures, typewriters and supplies, and women's clothing.

In Chester the metal-working industries are the most important, as combined they reported more than one-third of the $19,373,314 shown as the total value of products for the city. Next in importance are the textile industries, particularly cotton, and woolen and worsted goods, the combined output for the two classes of goods being more than one-fourth of the total value of all manufactured products reported for the city. The slaughtering and meat-packing; pottery, terra-cotta, and fire-clay; and leather (tanned, curried, and finished) industries rank in the order named.

York, the thirteenth city in the state in value of manufactured products, owes its industrial prominence to a number of industries, the most important being foundries and machine shops. In 1909 they employed 1,967 wage earners, and turned out products valued at $3,985,000, representing 18.7 per cent and 21.4 per cent of the respective totals for the city. Five other industries in the city reported products valued at more than $1,000,000, as follows: Agricultural implements, carriages and wagons, tex-

tiles (hosiery and knit goods, and silk and silk goods), tobacco manufactures, and wall paper.

Altoona, with products valued at $16,762,738 in 1909, shows an increase, compared with 1904, of $2,412,775, or 16.8 per cent. The leading industry is steam-railroad repair shops, but the statistics can not be shown separately for Altoona in Table I, page 1084, without disclosing the operations of individual establishments. No other industry in the city is of special importance, with the exception of silk and silk goods, which is represented by one establishment.

Lancaster dropped in rank among the cities and boroughs of the state as measured by value of products from twelfth in 1899 to thirteenth in 1904 and to fifteenth in 1909. In the manufacture of umbrellas and canes, which is the leading industry in the city, employing an average of 1,012 wage earners and turning out products valued at $2,840,000, Lancaster ranks second among the cities of the United States. The next industry in importance is tobacco manufactures, which employed 1,453 wage earners and reported products valued at $1,970,000 in 1909. Foundries and machine shops is another industry which reported manufactured products valued at more than $1,000,000.

Wilkes-Barre, with manufactured products valued at $13,525,957 in 1909, shows an increase over 1904 of $2,526,203, or 23 per cent. The largest industry in the city for which figures are shown separately for Wilkes-Barre in Table I, page 1093, is the manufacture of silk and silk goods. The manufacture of carriages and wagons, cotton goods, malt liquors, locomotives, and wire are also important.

In Williamsport the lumber industry was the most important in the city for many years. With the depletion of the forests in northern Pennsylvania, the annual production of lumber decreased; and the importance of this industry in the manufacturing activities of the city has fallen off, until in 1909 the value of products amounted to less than $2,000,000. The manufacture of silk and silk goods was the most important industry in 1909, followed by foundry and machine shops, lumber and timber products, the manufacture of rubber boots and shoes, the furniture and refrigerator industry, and printing and publishing. The tanning industry, which is of importance in this city, has decreased considerably during the five-year period from 1904 to 1909, but in the latter year showed products in excess of three-quarters of a million in value.

The remaining 46 cities and boroughs in the state, each of which had more than 10,000 inhabitants but less than 30,000, owe their importance in manufactures, as a rule, to a single industry. The iron and steel industries, including foundries and machine shops, predominate in the following places: Pottstown, Lebanon, Sharon, McKees Rocks, Pottsville, Beaver Falls, Phoenixville, Braddock, Columbia, Oil City, Bradford, Homestead, Chambersburg, Coatesville, Duquesne, Monessen, South Sharon, and Steelton; silk and silk goods, in Easton, Hazleton, Sunbury, Bethlehem, Shamokin, and Old Forge; steam-railroad repair shops, in Meadville, Carbondale, Connellsville, Dubois, and Dunmore; malt liquors, in Pittston, Uniontown, Shenandoah, and Nanticoke; hosiery and knit goods, in Norristown and Plymouth; petroleum refining, in Warren; steam-railroad cars, in Butler; lead smelting and refining, in Carnegie; glass, in Washington; boots and shoes, in Carlisle; dairymen's, poulterers', and apiarists' supplies, in West Chester; shirts, in Mahanoy City; slaughtering and meat packing, in Mount Carmel; printing and publishing, in Greensburg; planing-mill products, in Wilkinsburg; and brick and tile, in North Braddock.

Character of ownership.—The table on the following page has for its purpose the presentation of conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the cenuses of 1909 and 1904. Comparative data for 1899 are not available. Figures for 1909 only are presented for several important industries individually. In order to avoid disclosing the operations of individual concerns it is necessary to omit several important industries from this table and the one following.

The most important distinction shown is that between corporate and all other forms of ownership. Of the total number of establishments in all industries combined, 21.3 per cent were under corporate ownership in 1909, as against 78.7 per cent under all other forms. The corresponding figures for 1904 were 19.3 per cent and 80.7 per cent, respectively. In respect to value of products the corresponding proportions are reversed, but the differences are not so pronounced. In 1909 the establishments operated by corporations reported 78.2 per cent of the total value, as against 21.8 per cent for those under all other forms of ownership, while in 1904 the corresponding figures were 71.7 per cent and 28.3 per cent, respectively. The greatest relative decreases are for establishments operated by firms, which represented only 19.6 per cent of the total number of establishments and 11.5 per cent of the total value of products in 1909, as compared with 21.9 per cent and 16.5 per cent for the respective totals in 1904.

The form of ownership prevailing in the different industries presented separately in the table varied greatly. In number of establishments, those owned by individuals ranged from 14.1 per cent in silk and silk goods to 91.3 per cent in bakery products, while those owned by corporations ranged from two-tenths of 1 per cent in the latter industry to 65.5 per cent in the former. The variation in the proportions owned by firms in the different industries was considerable, but not so pronounced as in the other two principal forms.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	27,563	877,543	$2,626,742,034	$1,044,182,046
1904	23,495	763,282	1,955,551,332	812,608,625
Individual:				
1909	16,051	111,437	267,060,904	121,134,145
1904	13,615	106,547	226,900,537	106,702,943
Firm:				
1909	5,408	122,625	301,405,058	131,028,704
1904	5,144	145,445	322,330,429	143,632,042
Corporation:				
1909	5,880	642,866	2,053,458,538	789,991,257
1904	4,540	510,711	1,403,081,857	561,519,993
Other:				
1909	224	615	4,817,534	2,027,940
1904	196	579	3,238,509	753,647
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Individual:				
1909	58.2	12.7	10.2	11.6
1904	57.9	14.0	11.6	13.1
Firm:				
1909	19.6	14.0	11.5	12.5
1904	21.9	19.1	16.5	17.7
Corporation:				
1909	21.3	73.3	78.2	75.7
1904	19.3	66.9	71.7	69.1
Other:				
1909	0.8	0.1	0.2	0.2
1904	0.8	0.1	0.2	0.1
Bread and other bakery products, 1909	3,185	12,221	$45,850,070	$18,520,454
Individual	2,907	6,991	25,107,663	10,124,431
Firm	206	906	3,293,151	1,325,184
Corporation [1]	72	4,324	17,449,256	7,070,939
Per cent of total	100.0	100.0	100.0	100.0
Individual	91.3	57.2	54.8	54.7
Firm	6.5	7.4	7.2	7.2
Corporation [1]	2.2	35.4	38.1	38.2
Clothing, men's, including shirts, 1909	696	23,623	$39,681,760	$19,818,626
Individual	407	7,545	9,244,332	5,511,082
Firm	261	13,650	26,185,628	12,367,622
Corporation [1]	28	2,428	4,251,800	1,939,922
Per cent of total	100.0	100.0	100.0	100.0
Individual	58.5	31.9	23.3	27.8
Firm	37.5	57.8	66.0	62.4
Corporation [1]	4.0	10.3	10.7	9.8
Clothing, women's, 1909	401	15,701	$32,837,424	$14,681,191
Individual	175	5,309	10,300,487	4,518,025
Firm	201	8,496	18,622,636	8,491,592
Corporation	25	1,896	3,914,301	1,671,574
Per cent of total	100.0	100.0	100.0	100.0
Individual	43.6	33.8	31.4	30.8
Firm	50.1	54.1	56.7	57.8
Corporation	6.2	12.1	11.9	11.4
Cotton goods, including cotton small wares, 1909	175	16,293	$33,917,033	$15,160,008
Individual	48	2,424	5,355,654	2,609,366
Firm	43	3,540	6,602,563	2,672,054
Corporation	84	10,329	21,958,816	9,878,588
Per cent of total	100.0	100.0	100.0	100.0
Individual	27.4	14.9	15.8	17.2
Firm	24.6	21.7	19.5	17.6
Corporation	48.0	63.4	64.7	65.2
Flour-mill and gristmill products, 1909	1,450	2,432	$44,782,558	$6,612,430
Individual	1,034	1,254	19,789,007	3,156,422
Firm	358	686	12,723,446	1,984,217
Corporation [1]	58	492	12,270,105	1,471,791
Per cent of total	100.0	100.0	100.0	100.0
Individual	71.3	51.6	44.2	47.7
Firm	24.7	28.2	28.4	30.0
Corporation [1]	4.0	20.2	27.4	22.3
Foundry and machine-shop products, 1909	1,695	86,821	$210,746,257	$109,735,517
Individual	646	5,923	11,666,806	6,629,411
Firm	292	4,083	8,578,983	5,042,513
Corporation	757	76,815	190,500,468	98,063,593
Per cent of total	100.0	100.0	100.0	100.0
Individual	38.1	6.8	5.5	6.0
Firm	17.2	4.7	4.1	4.6
Corporation	44.7	88.5	90.4	89.4
Hosiery and knit goods, 1909	464	38,206	$49,657,506	$22,439,555
Individual	185	9,363	12,160,619	5,059,341
Firm	130	7,714	10,952,157	4,868,638
Corporation	149	21,129	26,544,730	12,511,576
Per cent of total	100.0	100.0	100.0	100.0
Individual	39.9	24.5	24.5	22.5
Firm	28.0	20.2	22.1	21.7
Corporation	32.1	55.3	53.5	55.8
Leather, tanned, curried, and finished, 1909	163	14,008	$77,926,321	$18,813,197
Individual	39	779	2,882,720	820,670
Firm	36	2,272	13,992,835	3,080,233
Corporation	88	10,957	61,050,766	14,912,294
Per cent of total	100.0	100.0	100.0	100.0
Individual	23.9	5.6	3.7	4.4
Firm	22.1	16.2	18.0	16.4
Corporation	54.0	78.2	78.3	79.3
Liquors, malt, 1909	237	7,234	$47,712,570	$35,102,473
Individual	52	813	4,639,838	3,132,904
Firm	31	809	4,922,083	3,561,337
Corporation	154	5,612	38,150,649	28,408,232
Per cent of total	100.0	100.0	100.0	100.0
Individual	21.9	11.2	9.7	8.9
Firm	13.1	11.2	10.3	10.1
Corporation	65.0	77.6	80.0	80.9
Lumber and timber products, 1909	2,667	26,873	$57,453,583	$30,139,347
Individual	1,640	9,445	17,547,215	9,849,176
Firm	757	6,620	13,718,916	7,275,119
Corporation	270	10,808	26,187,452	13,015,052
Per cent of total	100.0	100.0	100.0	100.0
Individual	61.5	35.1	30.5	32.7
Firm	28.4	24.6	23.9	24.1
Corporation	10.1	40.2	45.6	43.2
Printing and publishing, 1909	2,461	24,696	$70,584,179	$47,831,430
Individual	1,445	6,029	14,130,129	10,199,621
Firm	435	4,101	8,453,297	6,064,175
Corporation	471	14,257	45,791,442	29,879,644
Other	110	309	2,200,311	1,687,990
Per cent of total	100.0	100.0	100.0	100.0
Individual	58.7	24.4	20.0	21.3
Firm	17.7	16.6	12.0	12.7
Corporation	19.1	57.7	64.9	62.5
Other	4.5	1.3	3.1	3.5
Silk and silk goods, including throwsters, 1909	226	36,469	$62,061,302	$26,895,731
Individual	32	3,097	5,766,036	2,949,572
Firm	46	7,231	12,370,475	5,729,753
Corporation	148	26,141	43,924,791	18,216,406
Per cent of total	100.0	100.0	100.0	100.0
Individual	14.1	8.5	9.3	11.0
Firm	20.4	19.8	19.9	21.3
Corporation	65.5	71.7	70.8	67.7
Slaughtering and meat packing, 1909	180	3,050	$51,850,936	$7,005,889
Individual	92	693	9,406,946	1,079,096
Firm	44	388	6,985,578	979,826
Corporation	44	1,969	35,458,412	4,946,967
Per cent of total	100.0	100.0	100.0	100.0
Individual	51.1	22.7	18.1	15.4
Firm	24.4	12.7	13.5	14.0
Corporation	24.4	64.6	68.4	70.6
Tobacco manufactures, 1909	2,432	33,188	$50,161,387	$29,447,964
Individual	2,091	10,010	14,018,961	8,404,675
Firm	253	10,332	16,172,156	9,116,610
Corporation [1]	88	12,846	19,970,270	11,926,679
Per cent of total	100.0	100.0	100.0	100.0
Individual	86.0	30.2	27.9	28.5
Firm	10.4	31.1	32.2	31.0
Corporation [1]	3.6	38.7	39.8	40.5
Woolen, worsted, and felt goods, and wool hats, 1909	217	27,409	$77,446,998	$22,812,911
Individual	59	4,340	12,195,424	3,576,306
Firm	73	7,942	22,867,665	7,006,445
Corporation	85	15,127	42,383,907	12,230,160
Per cent of total	100.0	100.0	100.0	100.0
Individual	27.2	15.8	15.7	15.7
Firm	33.6	29.0	29.5	30.7
Corporation	39.2	55.2	54.7	53.6

[1] Includes the group "Other," to avoid disclosure of individual operations.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it, the following table groups the establishments according to the value of their products. The table also shows the average size of establishments for all industries combined and for important industries separately, as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries are shown for the last two censuses, while for the individual industries figures are given for 1909 only.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	**27,563**	**877,543**	**$2,626,742,034**	**$1,044,182,046**
1904	**23,495**	**763,282**	**1,955,551,332**	**812,608,625**
Less than $5,000:				
1909	9,493	12,392	22,574,998	13,719,359
1904	7,567	11,307	18,788,800	11,558,864
$5,000 and less than $20,000:				
1909	8,764	46,720	90,897,695	48,251,171
1904	7,876	46,076	80,441,200	43,384,120
$20,000 and less than $100,000:				
1909	5,802	131,163	258,998,545	128,772,576
1904	5,184	127,130	231,119,163	119,478,521
$100,000 and less than $1,000,000:				
1909	3,104	370,082	923,159,484	412,461,925
1904	2,584	325,475	723,662,644	326,666,667
$1,000,000 and over:				
1909	400	317,186	1,331,111,312	440,977,015
1904	284	253,294	901,539,525	311,520,453
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Less than $5,000:				
1909	34.4	1.4	0.9	1.3
1904	32.2	1.5	1.0	1.4
$5,000 and less than $20,000:				
1909	31.8	5.3	3.5	4.6
1904	33.5	6.0	4.1	5.3
$20,000 and less than $100,000:				
1909	21.0	14.9	9.9	12.3
1904	22.1	16.7	11.8	14.7
$100,000 and less than $1,000,000:				
1909	11.3	42.2	35.1	39.5
1904	11.0	42.6	37.0	40.2
$1,000,000 and over:				
1909	1.5	36.1	50.7	42.2
1904	1.2	33.2	46.1	38.3
Average per establishment:				
1909	.....	32	$95,300	$37,883
1904	.....	32	83,233	34,586
Bread and other bakery products, 1909	**3,185**	**12,221**	**$45,850,070**	**$18,520,454**
Less than $5,000	1,306	970	3,897,535	1,620,376
$5,000 and less than $20,000	1,576	4,137	14,569,504	6,003,773
$20,000 and less than $100,000	258	2,660	9,127,709	3,543,456
$100,000 and less than $1,000,000	40	2,576	9,397,437	3,443,676
$1,000,000 and over	5	1,878	8,857,885	3,909,173
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	41.0	7.9	8.5	8.7
$5,000 and less than $20,000	49.5	33.9	31.8	32.4
$20,000 and less than $100,000	8.1	21.8	19.9	19.1
$100,000 and less than $1,000,000	1.3	21.1	20.5	18.6
$1,000,000 and over	0.2	15.4	19.2	21.1
Average per establishment	.....	4	$14,396	$5,815
Clothing, men's, including shirts, 1909	**696**	**23,623**	**$39,681,760**	**$19,818,626**
Less than $5,000	155	722	401,328	354,214
$5,000 and less than $20,000	244	4,486	2,633,941	2,134,782
$20,000 and less than $100,000	219	8,112	9,628,375	5,403,446
$100,000 and less than $1,000,000	75	8,799	20,783,386	8,926,569
$1,000,000 and over	3	1,504	6,234,730	2,999,615
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	22.3	3.1	1.0	1.8
$5,000 and less than $20,000	35.1	19.0	6.6	10.8
$20,000 and less than $100,000	31.5	34.3	24.3	27.3
$100,000 and less than $1,000,000	10.8	37.2	52.4	45.0
$1,000,000 and over	0.4	6.4	15.7	15.1
Average per establishment	.....	34	$57,014	$28,475
Clothing, women's, 1909	**401**	**15,701**	**$32,837,424**	**$14,681,191**
Less than $5,000	39	108	102,155	66,343
$5,000 and less than $20,000	102	1,067	1,106,493	715,037
$20,000 and less than $100,000	161	4,462	8,130,503	3,802,253
$100,000 and less than $1,000,000 [1]	99	10,064	23,498,273	10,097,558
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	9.7	0.7	0.3	0.5
$5,000 and less than $20,000	25.4	6.8	3.4	4.9
$20,000 and less than $100,000	40.1	28.4	24.8	25.9
$100,000 and less than $1,000,000 [1]	24.7	64.1	71.6	68.8
Average per establishment	.....	39	$81,889	$36,611
Cotton goods, including cotton small wares, 1909	**175**	**16,293**	**$33,917,033**	**$15,160,008**
Less than $5,000	5	8	14,434	6,891
$5,000 and less than $20,000	22	183	264,388	147,059
$20,000 and less than $100,000	64	1,925	3,732,505	1,567,490
$100,000 and less than $1,000,000	78	10,799	21,901,149	9,550,979
$1,000,000 and over	6	3,378	8,004,557	3,887,589
Cotton goods, including cotton small wares, 1909—Continued.				
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	2.9	(2)	(2)	(2)
$5,000 and less than $20,000	12.6	1.1	0.8	1.0
$20,000 and less than $100,000	36.6	11.8	11.0	10.3
$100,000 and less than $1,000,000	44.6	66.3	64.6	63.0
$1,000,000 and over	3.4	20.7	23.6	25.6
Average per establishment	.....	93	$193,812	$86,629
Flour-mill and gristmill products, 1909	**1,450**	**2,432**	**$44,782,558**	**$6,612,430**
Less than $5,000	234	94	731,508	134,552
$5,000 and less than $20,000	676	589	7,657,933	1,358,659
$20,000 and less than $100,000	474	1,028	18,381,215	2,899,387
$100,000 and less than $1,000,000	61	469	10,303,209	1,412,363
$1,000,000 and over	5	252	7,708,693	806,869
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	16.1	3.9	1.6	2.0
$5,000 and less than $20,000	46.6	24.2	17.1	20.5
$20,000 and less than $100,000	32.7	42.3	41.0	43.9
$100,000 and less than $1,000,000	4.2	19.3	23.0	21.4
$1,000,000 and over	0.3	10.4	17.2	12.2
Average per establishment	.....	2	$30,885	$4,560
Foundry and machine-shop products, 1909	**1,695**	**86,821**	**$210,746,257**	**$109,735,517**
Less than $5,000	397	546	988,408	681,614
$5,000 and less than $20,000	459	2,618	4,782,893	3,013,043
$20,000 and less than $100,000	465	11,799	22,363,155	12,593,764
$100,000 and less than $1,000,000	344	46,441	107,648,955	56,358,299
$1,000,000 and over	30	25,417	74,962,846	37,088,797
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	23.4	0.6	0.5	0.6
$5,000 and less than $20,000	27.1	3.0	2.3	2.7
$20,000 and less than $100,000	27.4	13.6	10.6	11.5
$100,000 and less than $1,000,000	20.3	53.5	51.1	51.4
$1,000,000 and over	1.8	29.3	35.6	33.8
Average per establishment	.....	51	$124,334	$64,741
Hosiery and knit goods, 1909	**464**	**38,206**	**$49,657,506**	**$22,439,555**
Less than $5,000	35	102	82,631	42,893
$5,000 and less than $20,000	84	1,175	1,030,114	539,428
$20,000 and less than $100,000	204	8,981	9,991,390	4,640,244
$100,000 and less than $1,000,000 [1]	141	27,948	38,553,371	17,216,990
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	7.5	0.3	0.2	0.2
$5,000 and less than $20,000	18.1	3.1	2.1	2.4
$20,000 and less than $100,000	44.0	23.5	20.1	20.7
$100,000 and less than $1,000,000 [1]	30.4	73.2	77.6	76.7
Average per establishment	.....	82	$107,020	$48,361
Leather, tanned, curried, and finished, 1909	**163**	**14,008**	**$77,926,321**	**$18,813,197**
Less than $5,000	10	3	25,205	7,357
$5,000 and less than $20,000	18	72	196,089	83,996
$20,000 and less than $100,000	21	196	1,005,393	273,414
$100,000 and less than $1,000,000	91	6,505	37,931,745	8,657,290
$1,000,000 and over	23	7,232	38,767,889	9,791,140
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	6.1	(2)	(2)	(2)
$5,000 and less than $20,000	11.0	0.5	0.3	0.4
$20,000 and less than $100,000	12.9	1.4	1.3	1.5
$100,000 and less than $1,000,000	55.8	46.4	48.7	46.0
$1,000,000 and over	14.1	51.6	49.7	52.0
Average per establishment	.....	86	$478,076	$115,418
Liquors, malt, 1909	**237**	**7,234**	**$47,712,570**	**$35,102,473**
$5,000 and less than $20,000	15	61	175,422	105,462
$20,000 and less than $100,000	68	836	3,711,359	2,488,432
$100,000 and less than $1,000,000	146	5,030	33,119,290	24,476,615
$1,000,000 and over	8	1,308	10,706,499	8,031,964
Per cent of total	100.0	100.0	100.0	100.0
$5,000 and less than $20,000	6.3	0.8	0.4	0.3
$20,000 and less than $100,000	28.7	11.5	7.8	7.1
$100,000 and less than $1,000,000	61.6	69.5	69.4	69.7
$1,000,000 and over	3.4	18.1	22.4	22.9
Average per establishment	.....	31	$201,319	$148,112
Lumber and timber products, 1909	**2,667**	**26,873**	**$57,453,583**	**$30,139,347**
Less than $5,000	1,281	2,427	2,961,331	1,983,415
$5,000 and less than $20,000	850	5,288	8,580,334	5,153,976
$20,000 and less than $100,000	438	8,368	18,480,505	9,116,893
$100,000 and less than $1,000,000	93	8,491	21,376,012	10,541,809
$1,000,000 and over	5	2,299	5,555,401	3,343,254

[1] Includes the group "$1,000,000 and over."

[2] Less than one-tenth of 1 per cent.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Lumber and timber products, 1909—Continued.				
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	48.0	9.0	5.2	6.6
$5,000 and less than $20,000	31.9	19.7	14.9	17.1
$20,000 and less than $100,000	16.4	31.1	32.2	30.2
$100,000 and less than $1,000,000	3.5	31.6	38.1	35.0
$1,000,000 and over	0.2	8.6	9.7	11.1
Average per establishment	.....	10	$21,542	$11,301
Printing and publishing, 1909	2,461	24,696	$70,584,179	$47,831,430
Less than $5,000	1,171	1,466	2,864,836	2,192,369
$5,000 and less than $20,000	829	4,286	8,146,507	6,128,908
$20,000 and less than $100,000	353	6,806	14,394,899	10,438,229
$100,000 and less than $1,000,000	101	9,975	28,944,970	19,080,054
$1,000,000 and over	7	2,163	16,232,967	9,991,870
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	47.6	5.9	4.1	4.6
$5,000 and less than $20,000	33.7	17.4	11.5	12.8
$20,000 and less than $100,000	14.3	27.6	20.4	21.8
$100,000 and less than $1,000,000	4.1	40.4	41.0	39.9
$1,000,000 and over	0.3	8.8	23.0	20.9
Average per establishment	.....	10	$28,681	$19,436
Silk and silk goods, including throwsters, 1909	226	36,469	$62,061,302	$26,895,731
Less than $5,000	9	96	22,456	1,500
$5,000 and less than $20,000	23	378	271,109	174,328
$20,000 and less than $100,000	84	6,941	4,518,202	3,049,315
$100,000 and less than $1,000,000	97	18,250	33,362,541	15,191,962
$1,000,000 and over	13	10,804	23,886,994	8,478,626
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	4.0	0.3	(1)	(1)
$5,000 and less than $20,000	10.2	1.0	0.4	0.6
$20,000 and less than $100,000	37.2	19.0	7.3	11.3
$100,000 and less than $1,000,000	42.9	50.0	53.8	56.5
$1,000,000 and over	5.8	29.6	38.5	31.5
Average per establishment	.....	161	$274,608	$119,008
Slaughtering and meat packing, 1909	180	3,050	$51,850,936	$7,005,889
Less than $5,000	10	8	27,407	12,777
$5,000 and less than $20,000	30	53	374,709	77,318
$20,000 and less than $100,000	60	240	2,996,666	453,074
$100,000 and less than $1,000,000	68	1,190	20,962,480	3,144,826
$1,000,000 and over	12	1,559	27,489,674	3,317,894
Slaughtering and meat packing, 1909—Continued.				
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	5.6	0.3	0.1	0.2
$5,000 and less than $20,000	16.7	1.7	0.7	1.1
$20,000 and less than $100,000	33.3	7.9	5.8	6.5
$100,000 and less than $1,000,000	37.8	39.0	40.4	44.9
$1,000,000 and over	6.7	51.1	53.0	47.4
Average per establishment	.....	17	$288,061	$38,922
Tobacco manufactures, 1909	2,432	33,188	$50,161,387	$29,447,964
Less than $5,000	1,650	1,511	2,846,418	1,827,835
$5,000 and less than $20,000	471	3,753	4,629,579	2,935,571
$20,000 and less than $100,000	212	7,122	9,081,905	5,260,243
$100,000 and less than $1,000,000	96	18,930	28,679,959	16,277,457
$1,000,000 and over	3	1,872	4,923,526	3,146,858
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	67.8	4.6	5.7	6.2
$5,000 and less than $20,000	19.4	11.3	9.2	10.0
$20,000 and less than $100,000	8.7	21.5	18.1	17.9
$100,000 and less than $1,000,000	3.9	57.0	57.2	55.3
$1,000,000 and over	0.1	5.6	9.8	10.7
Average per establishment	.....	14	$20,626	$12,109
Woolen, worsted, and felt goods, and wool hats, 1909	217	27,409	$77,446,996	$22,812,911
Less than $5,000	14	19	26,604	11,954
$5,000 and less than $20,000	16	188	187,268	121,387
$20,000 and less than $100,000	60	2,092	3,323,855	1,468,391
$100,000 and less than $1,000,000	109	13,172	36,911,874	11,867,947
$1,000,000 and over	18	11,938	36,997,395	9,343,232
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	6.5	0.1	(1)	0.1
$5,000 and less than $20,000	7.4	0.7	0.2	0.5
$20,000 and less than $100,000	27.6	7.6	4.3	6.4
$100,000 and less than $1,000,000	50.2	48.1	47.7	52.0
$1,000,000 and over	8.3	43.6	47.8	41.0
Average per establishment	.....	126	$356,899	$105,129

[1] Less than one-tenth of 1 per cent.

This table shows that, in 1909, of the 27,563 establishments, only 400, or 1.5 per cent, had a value of products exceeding $1,000,000. These establishments, however, employed an average of 317,186 wage earners, or 36.1 per cent of the total number in all establishments, and reported 50.7 per cent of the total value of products and 42.2 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having a value of products of less than $5,000—constituted a considerable proportion (34.4 per cent) of the total number of establishments, but the value of their products amounted to only nine-tenths of 1 per cent of the total. The great bulk of the manufacturing was reported by establishments having products valued at not less than $100,000.

The above table shows that during the five years from 1904 to 1909 there was a considerable increase, as measured by value of products, in the relative importance of the largest establishments—those reporting products of not less than $1,000,000 in value—and a decrease in that of all other classes.

The fact that the average value of products per establishment increased from $83,233 to $95,300 and the average value added by manufacture from $34,586 to $37,883 can not be taken as in itself indicating a tendency toward concentration. The increased values shown may be, and probably are, due in part to the increase that has taken place in the prices of commodities. The average number of wage earners, 32, was the same at both censuses.

The average value of products per establishment is high in the leather, woolen and worsted goods, slaughtering and meat-packing, and silk-goods industries, while the average is low in the bakery and lumber industries and tobacco manufactures. The average value of products in the tanneries was $478,076, and in the bakeries was $14,396.

The largest establishments in the state, however, as measured by average value of products per establishment, were the steel works and rolling mills, with an average of $2,647,323; the blast furnaces, with $2,554,218; and the steam-railroad car construction shops, with $2,116,134; but none of these industries are shown separately in the above table.

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed. The next table shows, for 1909, such a classification for all industries combined and for 43 important industries individually, and gives not only the number of establishments falling into each group but also the average number of wage earners employed.

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING— No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
	NUMBER OF ESTABLISHMENTS.									
All industries	**27,563**	**3,539**	**13,040**	**5,313**	**2,610**	**1,356**	**1,051**	**387**	**178**	**89**
Boots and shoes, including cut stock and findings	140	1	23	33	28	24	21	8	2	.....
Bread and other bakery products	3,185	542	2,299	279	40	15	6	3	1	.....
Butter, cheese, and condensed milk	536	79	425	25	5	2	.....	.....	.....	.....
Carpets and rugs, other than rag	93	6	4	18	23	19	12	6	3	2
Carriages and wagons and materials	655	56	343	203	31	14	6	1	.....	1
Cars and general shop construction and repairs by steam-railroad companies	132	.....	11	15	20	17	29	12	15	13
Cars, steam-railroad, not including operations of railroad companies	13	.....	.....	1	2	3	3	1	.....	3
Cement	27	.....	.....	2	2	1	12	7	2	1
Chemicals	37	.....	9	10	10	2	3	.....	3	.....
Clothing, men's, including shirts	696	21	183	206	180	59	37	7	2	1
Clothing, women's	401	10	62	133	116	44	33	2	1	.....
Coke	146	.....	24	43	18	26	25	9	.....	1
Confectionery	251	30	118	57	17	11	16	2	.....	.....
Copper, tin, and sheet-iron products	339	13	178	93	31	10	9	3	2	.....
Cotton goods, including cotton small wares	175	1	15	35	48	26	36	11	2	1
Dyeing and finishing textiles	135	.....	29	46	32	15	9	3	1	.....
Electrical machinery, apparatus, and supplies	84	4	20	24	14	10	8	2	1	1
Flour-mill and gristmill products	1,450	359	1,033	53	4	1	.....	.....	.....	.....
Foundry and machine-shop products	1,695	83	617	392	253	148	130	43	10	10
Furniture and refrigerators	304	14	101	79	58	25	21	6	.....	.....
Gas, illuminating and heating	99	7	50	22	12	4	2	.....	1	1
Glass	112	.....	1	5	11	25	37	22	9	2
Hats, fur-felt	38	2	7	13	6	1	3	5	.....	1
Hosiery and knit goods	464	7	39	90	137	95	62	25	8	1
Iron and steel, blast furnaces	66	.....	1	5	6	15	22	11	5	1
Iron and steel, steel works and rolling mills	189	.....	1	5	12	25	34	40	42	30
Iron and steel pipe, wrought	11	.....	1	2	1	2	2	1	.....	2
Leather, tanned, curried, and finished	163	7	25	22	24	50	22	10	3	.....
Liquors, distilled	88	7	55	17	7	1	1	.....	.....	.....
Liquors, malt	237	1	18	100	88	21	8	1	.....	.....
Lumber and timber products	2,667	129	1,612	681	164	51	23	3	4	.....
Marble and stone work	596	29	333	119	75	29	9	1	1	.....
Paint and varnish	114	8	54	31	9	9	2	1	.....	.....
Paper and wood pulp	62	.....	9	15	10	8	13	5	2	.....
Patent medicines and compounds and druggists' preparations	367	121	190	42	7	1	3	2	1	.....
Petroleum, refining	41	.....	3	13	18	2	3	1	.....	1
Pottery, terra-cotta, and fire-clay products	139	4	19	25	33	29	25	4	.....	.....
Printing and publishing	2,461	548	1,211	474	137	48	36	6	1	.....
Silk and silk goods, including throwsters	226	.....	11	25	45	44	57	31	10	3
Slaughtering and meat packing	180	15	88	41	20	10	5	1	.....	.....
Tin plate and terneplate	17	.....	.....	2	1	5	5	4	.....	.....
Tobacco manufactures	2,432	832	990	352	121	63	49	18	6	1
Woolen, worsted, and felt goods, and wool hats	217	3	16	31	48	49	47	10	10	3
All other industries	6,083	600	2,812	1,434	686	297	165	59	21	9
	AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**877,543**	.....	**29,230**	**59,872**	**86,704**	**97,089**	**165,376**	**135,522**	**120,456**	**183,294**
Boots and shoes, including cut stock and findings	10,822	.....	56	409	1,036	1,733	3,329	2,803	1,396	.....
Bread and other bakery products	12,221	.....	4,638	2,561	1,171	1,151	1,036	1,092	572	.....
Butter, cheese, and condensed milk	1,177	.....	645	247	137	148	.....	.....	.....	.....
Carpets and rugs, other than rag	11,510	.....	10	247	763	1,449	1,735	2,088	1,708	3,510
Carriages and wagons and materials	7,498	.....	953	2,038	975	953	982	255	.....	1,342
Cars and general shop construction and repairs by steam-railroad companies	46,645	.....	30	188	648	1,156	4,869	4,394	11,565	23,795
Cars, steam-railroad, not including operations of railroad companies	7,766	.....	.....	14	57	236	521	286	.....	6,652
Cement	8,080	.....	.....	29	64	92	1,951	2,334	1,097	2,513
Chemicals	3,185	.....	28	137	374	128	496	.....	2,022	.....
Clothing, men's, including shirts	23,623	.....	490	2,513	6,084	4,211	5,262	2,566	1,331	1,166
Clothing, women's	15,701	.....	192	1,631	4,066	3,233	5,113	714	752	.....
Coke	15,331	.....	89	556	607	1,769	3,799	3,297	.....	5,214
Confectionery	5,408	.....	284	635	510	756	2,516	707	.....	.....
Copper, tin, and sheet-iron products	6,815	.....	457	1,039	1,019	621	1,501	898	1,280	.....
Cotton goods, including cotton small wares	16,293	.....	51	457	1,758	1,717	5,777	3,912	1,464	1,157
Dyeing and finishing textiles	6,086	.....	98	630	1,019	948	1,236	1,261	894	.....
Electrical machinery, apparatus, and supplies	11,025	.....	59	293	444	678	1,294	637	537	7,083
Flour-mill and gristmill products	2,432	.....	1,709	470	168	85	.....	.....	.....	.....
Foundry and machine-shop products	86,821	.....	1,561	4,598	8,260	10,779	20,408	14,928	12,589	13,698
Furniture and refrigerators	9,924	.....	272	997	2,097	1,734	3,009	1,815	.....	.....
Gas, illuminating and heating	3,119	.....	124	238	455	243	310	.....	688	1,061
Glass	23,710	.....	3	62	442	1,938	5,805	7,811	5,295	2,354
Hats, fur-felt	7,220	.....	12	145	191	81	449	1,944	.....	4,398
Hosiery and knit goods	38,206	.....	108	1,181	4,738	6,796	9,584	9,299	4,798	1,702
Iron and steel, blast furnaces	14,521	.....	5	55	251	1,137	3,938	3,705	3,903	1,527
Iron and steel, steel works and rolling mills	126,911	.....	4	65	438	1,894	5,772	13,847	28,855	76,036
Iron and steel pipe, wrought	3,873	.....	5	27	24	142	410	430	.....	2,835
Leather, tanned, curried, and finished	14,008	.....	57	281	849	3,565	3,119	3,574	2,563	.....
Liquors, distilled	724	.....	83	211	226	86	118	.....	.....	.....
Liquors, malt	7,234	.....	70	1,440	2,803	1,425	1,193	303	.....	.....
Lumber and timber products	26,873	.....	3,780	7,222	5,191	3,474	3,654	979	2,573	.....
Marble and stone work	9,264	.....	795	1,444	2,577	2,067	1,434	278	669	.....
Paint and varnish	1,992	.....	133	335	207	544	316	457	.....	.....
Paper and wood pulp	6,656	.....	25	201	359	580	2,374	1,802	1,315	.....
Patent medicines and compounds and druggists' preparations	2,761	.....	352	522	247	52	384	663	541	.....
Petroleum, refining	2,900	.....	12	183	578	115	559	289	.....	1,164
Pottery, terra-cotta, and fire-clay products	9,003	.....	53	353	1,137	2,123	4,061	1,276	.....	.....
Printing and publishing	24,696	.....	3,066	5,012	4,411	3,467	5,663	2,256	821	.....
Silk and silk goods, including throwsters	36,469	.....	37	334	1,649	3,395	9,688	10,515	6,861	3,990
Slaughtering and meat packing	3,050	.....	222	443	585	678	766	356	.....	.....
Tin plate and terneplate	2,346	.....	.....	24	50	391	662	1,219	.....	.....
Tobacco manufactures	33,188	.....	2,093	3,813	3,872	4,466	7,656	6,295	3,782	1,211
Woolen, worsted, and felt goods, and wool hats	27,409	.....	35	408	1,659	3,595	7,481	3,575	7,299	3,357
All other industries	143,047	.....	6,534	16,184	22,508	21,258	25,146	20,602	13,286	17,529

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING— No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
	PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.									
All industries	100.0	.....	3.3	6.8	9.9	11.1	18.8	15.4	13.7	20.9
Boots and shoes, including cut stock and findings	100.0	.....	0.5	3.8	9.6	16.0	30.8	26.5	12.9	.....
Bread and other bakery products	100.0	.....	38.0	21.0	9.6	9.4	8.5	8.9	4.7	.....
Butter, cheese, and condensed milk	100.0	.....	54.8	21.0	11.6	12.6	.....	.....	.....	.....
Carpets and rugs, other than rag	100.0	.....	0.1	2.1	6.6	12.6	15.1	18.1	14.8	30.5
Carriages and wagons and materials	100.0	.....	12.7	27.2	13.0	12.7	13.1	3.4	.....	17.9
Cars and general shop construction and repairs by steam-railroad companies	100.0	.....	0.1	0.4	1.4	2.5	10.4	9.4	24.8	51.0
Cars, steam-railroad, not including operations of railroad companies	100.0	.....	.....	0.2	0.7	3.0	6.7	3.7	.....	85.7
Cement	100.0	.....	.....	0.4	0.8	1.1	24.1	28.9	13.6	31.1
Chemicals	100.0	.....	0.9	4.3	11.7	4.0	15.6	.....	63.5	.....
Clothing, men's, including shirts	100.0	.....	2.1	10.6	25.8	17.8	22.3	10.9	5.6	4.9
Clothing, women's	100.0	.....	1.2	10.4	25.9	20.6	32.6	4.5	4.8	.....
Coke	100.0	.....	0.6	3.6	4.0	11.5	24.8	21.5	.....	34.0
Confectionery	100.0	.....	5.3	11.7	9.4	14.0	46.5	13.1	.....	.....
Copper, tin, and sheet-iron products	100.0	.....	6.7	15.2	15.0	9.1	22.0	13.2	18.8	.....
Cotton goods, including cotton small wares	100.0	.....	0.3	2.8	10.8	10.5	35.5	24.0	9.0	7.1
Dyeing and finishing textiles	100.0	.....	1.6	10.4	16.7	15.6	20.3	20.7	14.7	.....
Electrical machinery, apparatus, and supplies	100.0	.....	0.5	2.7	4.0	6.2	11.7	5.8	4.9	64.2
Flour-mill and gristmill products	100.0	.....	70.3	19.3	6.9	3.5	.....	.....	.....	.....
Foundry and machine-shop products	100.0	.....	1.8	5.3	9.5	12.4	23.5	17.2	14.5	15.8
Furniture and refrigerators	100.0	.....	2.7	10.0	21.1	17.5	30.3	18.3	.....	.....
Gas, illuminating and heating	100.0	.....	4.0	7.6	14.6	7.8	9.9	.....	22.1	34.0
Glass	100.0	.....	(1)	0.3	1.9	8.2	24.5	32.9	22.3	9.9
Hats, fur-felt	100.0	.....	0.2	2.0	2.6	1.1	6.2	26.9	.....	60.9
Hosiery and knit goods	100.0	.....	0.3	3.1	12.4	17.8	25.1	24.3	12.6	4.5
Iron and steel, blast furnaces	100.0	.....	(1)	0.4	1.7	7.8	27.1	25.5	26.9	10.5
Iron and steel, steel works and rolling mills	100.0	.....	(1)	0.1	0.3	1.5	4.5	10.9	22.7	59.9
Iron and steel pipe, wrought	100.0	.....	0.1	0.7	0.6	3.7	10.6	11.1	.....	73.2
Leather, tanned, curried, and finished	100.0	.....	0.4	2.0	6.1	25.4	22.3	25.5	18.3	.....
Liquors, distilled	100.0	.....	11.5	29.1	31.2	11.9	16.3	.....	.....	.....
Liquors, malt	100.0	.....	1.0	19.9	38.7	19.7	16.5	4.2	.....	.....
Lumber and timber products	100.0	.....	14.1	26.9	19.3	12.9	13.6	3.6	9.6	.....
Marble and stone work	100.0	.....	8.6	15.6	27.8	22.3	15.5	3.0	7.2	.....
Paint and varnish	100.0	.....	6.7	16.8	10.4	27.3	15.9	22.9	.....	.....
Paper and wood pulp	100.0	.....	0.4	3.0	5.4	8.7	35.7	27.1	19.8	.....
Patent medicines and compounds and druggists' preparations	100.0	.....	12.7	18.9	8.9	1.9	13.9	24.0	19.6	.....
Petroleum, refining	100.0	.....	0.4	6.3	19.9	4.0	19.3	10.0	.....	40.1
Pottery, terra-cotta, and fire-clay products	100.0	.....	0.6	3.9	12.6	23.6	45.1	14.2	.....	.....
Printing and publishing	100.0	.....	12.4	20.3	17.9	14.0	22.9	9.1	3.3	.....
Silk and silk goods, including throwsters	100.0	.....	0.1	0.9	4.5	9.3	26.6	28.8	18.8	10.9
Slaughtering and meat packing	100.0	.....	7.3	14.5	19.2	22.2	25.1	11.7	.....	.....
Tin plate and terneplate	100.0	.....	.....	1.0	2.1	16.7	28.2	52.0	.....	.....
Tobacco manufactures	100.0	.....	6.3	11.5	11.7	13.5	23.1	19.0	11.4	3.6
Woolen, worsted, and felt goods, and wool hats	100.0	.....	0.1	1.5	6.1	13.1	27.3	13.0	26.6	12.2
All other industries	100.0	.....	4.6	11.3	15.7	14.9	17.6	14.4	9.3	12.3

[1] Less than one-tenth of 1 per cent.

Of the 27,563 establishments reported for all industries, 12.8 per cent employed no wage earners; 47.3 per cent, from 1 to 5; 19.3 per cent, 6 to 20; and 9.5 per cent, 21 to 50. The most numerous single group consists of the 13,040 establishments employing from 1 to 5 wage earners, and the next, of the 5,313 establishments employing from 6 to 20. There were 267 establishments that employed over 500 wage earners, and of these, 89 employed over 1,000, of which 30 were steel works and rolling mills, 13 steam-railroad repair shops, and 10 foundries and machine shops.

Of the total number of wage earners, 50.1 per cent were in establishments employing over 250 wage earners. The single group having the largest number of employees was the group comprising the establishments employing over 1,000 wage earners. This group employed 183,294 wage earners, or 20.9 per cent of the total. The average per establishment in this group was 2,059. More than one-half of the total wage earners employed in the following industries were in this class of establishments: Steam-railroad repair shops; steam-railroad car construction shops; electrical machinery, apparatus, and supplies; fur-felt hats; steel works and rolling mills; and wrought iron and steel pipe.

All the individual industries listed in this table but not in the preceding one, with the exception of butter, cheese, and condensed milk; the carriage and wagon, and the distilled-liquor industries, and marble and stone work are industries in which comparatively large establishments do most of the business, as appears from the classification according to the number of wage earners.

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses which make up the total.

The next table shows, in percentages, for 1909, the distribution of expenses among the classes indicated for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II, page 1096.

The table shows that for all industries combined 67.2 per cent of the total expenses was incurred for materials, 24 per cent for services—that is, salaries and wages—and but 8.8 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. The large proportions shown for miscellaneous expenses for the distilled and malt liquor and tobacco industries are due to the inclusion of internal-revenue taxes. The highest percentage

shown for materials, 93.8, and the lowest percentage shown for salaries and wages, 3.8, are for flour mills and gristmills, proportions which are due to the comparative simplicity of the mill operations.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	**4.7**	**19.3**	**67.2**	**8.8**
Boots and shoes, including cut stock and findings	6.3	23.1	65.4	5.1
Bread and other bakery products	4.6	16.8	70.2	8.4
Butter, cheese, and condensed milk	1.2	4.4	92.0	2.4
Carpets and rugs, other than rag	3.4	22.8	64.7	9.1
Carriages and wagons and materials	4.6	35.5	52.4	7.5
Cars and general shop construction and repairs by steam-railroad companies	3.9	39.7	54.5	1.8
Cars, steam-railroad, not including operations of railroad companies	4.6	17.9	70.4	7.2
Cement	6.0	22.2	57.8	14.1
Chemicals	4.1	14.0	75.5	6.3
Clothing, men's, including shirts	4.8	25.5	56.2	13.5
Clothing, women's	5.8	24.9	63.3	5.9
Coke	2.1	19.0	75.8	3.1
Confectionery	6.8	14.8	69.0	9.3
Copper, tin, and sheet-iron products	6.2	24.1	62.0	7.6
Cotton goods, including cotton small wares	5.4	23.5	62.7	8.4
Dyeing and finishing textiles	5.9	29.6	52.9	11.5
Electrical machinery, apparatus, and supplies	14.6	22.4	48.7	14.3
Flour-mill and gristmill products	0.9	2.9	93.8	2.4
Foundry and machine-shop products	8.1	27.8	54.7	9.4
Furniture and refrigerators	7.3	28.8	53.8	10.1
Gas, illuminating and heating	13.5	16.3	44.6	25.6
Glass	5.6	43.2	40.6	10.6
Hats, fur-felt	4.3	37.7	50.7	7.3
Hosiery and knit goods	3.8	26.8	62.0	7.4
Iron and steel, blast furnaces	1.5	6.0	89.6	2.9
Iron and steel, steel works and rolling mills	3.0	18.8	72.8	5.4
Iron and steel pipe, wrought	2.0	12.9	82.8	2.3
Leather, tanned, curried, and finished	1.8	9.2	80.3	8.6
Liquors, distilled	2.7	3.1	23.2	71.0
Liquors, malt	8.6	14.4	33.4	43.5
Lumber and timber products	3.7	28.2	56.8	11.4
Marble and stone work	5.9	48.9	37.4	7.8
Paint and varnish	7.5	8.7	73.0	10.7
Paper and wood pulp	4.7	18.9	65.2	11.3
Patent medicines and compounds and druggists' preparations	12.5	10.6	49.3	27.5
Petroleum, refining	1.5	3.6	92.2	2.7
Pottery, terra-cotta, and fire-clay products	7.9	40.3	38.0	13.8
Printing and publishing	15.1	24.6	39.0	21.3
Silk and silk goods, including throwsters	3.8	20.6	63.2	12.4
Slaughtering and meat packing	1.8	4.0	91.2	3.0
Tin plate and terneplate	1.1	5.4	92.2	1.3
Tobacco manufactures	4.1	26.4	47.0	22.6
Woolen, worsted, and felt goods, and wool hats	2.5	15.4	76.8	5.4
All other industries	6.3	19.1	65.4	9.1

Engines and power.—The following table shows, for all industries combined, the number of engines or other motors, according to their character, employed in generating power (including electric motors operated by purchased current), and their total horsepower at the censuses of 1909, 1904, and 1899. It also shows separately the number and horsepower of electric motors, including those operated by current generated in the manufacturing establishments.

The table indicates that the total primary horsepower increased 585,704, or 34.1 per cent, from 1899 to 1904, and 619,149, or 26.9 per cent, from 1904 to 1909. The greater part of the increase was in owned steam and rented electric power. In 1909, as in 1904, steam power formed the major part of the total power reported, but notwithstanding an increase during the five-year period of 452,344 horsepower, the proportion which this kind of power formed of the total primary power decreased from 90.7 per cent in 1904 to 87 per cent in 1909. The more general use of gas engines in recent years is shown, there being 4,415 such engines, with an indicated capacity of 153,508 horsepower, reported in 1909, as against 2,890 engines with 68,209 horsepower in 1904, and 1,620 engines with 26,246 horsepower in 1899. The figures also show that the practice of renting electric power is increasing rapidly, 145,621 horsepower, or 5 per cent of the total, being of this character in 1909, as compared with 35,701 horsepower, or 1.6 per cent, in 1904, and 22,362 horsepower, or 1.3 per cent, in 1899.

The use of electric motors for the purpose of applying the power generated within the establishments is also shown to be rapidly becoming more common, the horsepower of such motors having increased from 85,384 in 1899 to 311,096 in 1904 and 719,164 in 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899 [1]	1909	1904	1899 [1]	1909	1904	1899
Primary power, total	**44,204**	**24,355**	**23,646**	**2,921,547**	**2,302,398**	**1,716,694**	**100.0**	**100.0**	**100.0**
Owned	27,213	24,355	23,646	2,757,792	2,243,331	1,678,485	94.4	97.4	97.8
Steam	20,764	19,478	19,911	2,541,117	2,088,773	1,587,706	87.0	90.7	92.5
Gas	4,415	2,890	1,620	153,508	68,209	26,246	5.3	3.0	1.5
Water wheels	1,917	1,872	2,115	53,762	50,220	54,601	1.8	2.2	3.2
Water motors	117	115	(2)	1,432	400	(2)	(3)	(3)	(2)
Other				7,973	35,729	9,932	0.3	1.6	0.6
Rented	16,991	(2)	(2)	163,755	59,067	38,209	5.6	2.6	2.2
Electric	16,991	(2)	(2)	145,621	35,701	22,362	5.0	1.6	1.3
Other				18,134	23,366	15,847	0.6	1.0	0.9
Electric motors	**59,089**	**19,800**	**4,547**	**864,785**	**346,797**	**107,746**	**100.0**	**100.0**	**100.0**
Run by current generated by establishment	42,098	19,800	4,547	719,164	311,096	85,384	83.2	89.7	79.2
Run by rented power	16,991	(2)	(2)	145,621	35,701	22,362	16.8	10.3	20.8

[1] Includes the neighborhood industries and hand trades, omitted in 1904 and 1909. [2] Not reported. [3] Less than one-tenth of 1 per cent.

Fuel.—Closely related to the question of kind of power employed is that of the fuel consumed in generating this power, or otherwise used as material in the manufacturing processes. The following table shows the quantity of each kind of fuel used in 1909 for all industries combined and for certain selected industries:

INDUSTRY.	Anthracite coal (tons).	Bituminous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gasoline (barrels).	Gas (1,000 feet).
All industries	4,201,180	57,524,128	14,060,292	448,641	2,037,735	239,745,386
Boots and shoes, including cut stock and findings	9,675	8,428	.....	12	325	3,123
Bread and other bakery products	77,981	20,424	21,837	10,887	602	876,758
Butter, cheese, and condensed milk	15,384	31,957	.....	4,914	248	12,870
Carpets and rugs, other than rag	34,750	52,421	.....	4	5	1,790
Carriages and wagons and materials	36,240	30,824	1,291	200	1,852	107,446
Cars and general shop construction and repairs by steam-railroad companies	255,490	643,881	6,962	7,576	75,081	134,868
Cars, steam-railroad, not including operations of railroad companies	34,516	169,365	9,763	.....	47,966	458,862
Cement	155,886	1,660,750	168	.....	11,891	.....
Chemicals	57,575	298,534	6,008	126	27,378	35,723
Clothing, men's, including shirts	15,940	5,037	.....	13	1,505	131,776
Clothing, women's	3,135	1,592	.....	.....	26	18,125
Coke	.....	36,886,592	13,668	50	.....	348,958
Confectionery	16,412	11,618	312	123	6	92,300
Copper, tin, and sheet-iron products	11,376	19,276	2,010	212	424	606,245
Cotton goods, including cotton small wares	64,645	71,658	.....	.....	82	4,080
Dyeing and finishing textiles	69,512	166,532	228	.....	22	5,756
Electrical machinery, apparatus, and supplies	3,876	116,955	946	.....	10,223	131,782
Flour-mill and gristmill products	34,760	63,485	214	1,722	3,539	125,595
Foundry and machine-shop products	201,535	770,178	270,798	9,974	116,179	4,136,380
Furniture and refrigerators	13,168	66,582	1,295	244	101	23,952
Gas, illuminating and heating	99,297	348,241	79,675	4	948,620	44,268
Glass	6,788	453,613	4,093	2,079	34,966	22,605,773
Hats, fur-felt	27,526	13,608	.....	.....	85	7,624
Hosiery and knit goods	72,667	49,824	.....	41	433	3,521
Iron and steel, blast furnaces	267,478	445,716	13,248,651	2,906	14	940,558
Iron and steel, steel works and rolling mills	650,587	9,447,159	238,459	25,204	520,604	189,133,915
Iron and steel pipe, wrought	64,974	155,665	4,995	75	.....	129,960
Leather, tanned, curried, and finished	26,089	279,191	187	6,733	26	393,031
Liquors, distilled	5,281	56,430	95	453	1	176,589
Liquors, malt	194,562	250,475	576	5	114	1,345,457
Lumber and timber products	25,267	99,059	99	1,310	1,766	112,383
Marble and stone work	15,465	105,316	39	26	1,386	28,355
Paint and varnish	9,821	70,635	1,948	667	447	181,924
Paper and wood pulp	98,456	733,072	.....	15,855	2,188	58,259
Patent medicines and compounds and druggists' preparations	8,164	4,111	7	96	90	29,276
Petroleum, refining	316,138	453,106	.....	.....	64,017	4,527,475
Pottery, terra-cotta, and fire-clay products	8,643	711,840	415	701	142	1,432,335
Printing and publishing	36,151	11,718	17	93	1,026	408,160
Silk and silk goods, including throwsters	148,313	41,746	.....	43	637	5,508
Slaughtering and meat packing	25,795	68,697	.....	3,396	265	35,744
Tin plate and terneplate	.....	23,537	.....	.....	.....	516,071
Tobacco manufactures	14,605	6,356	6	397	112	86,234
Woolen, worsted, and felt goods, and wool hats	53,238	210,160	.....	25	1,448	63,302
All other industries	914,019	2,388,764	145,530	352,475	161,893	10,223,210

NOTE.—In addition, there were 18,250 tons of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries and custom sawmills and gristmills.)

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and cost of materials and the quantity and value of products and other information for securing which no provision is made on the general schedule. Certain data for some of the important industries in Pennsylvania are here presented.

Iron and steel.—Although iron was made in several of the colonies before its manufacture was attempted in Pennsylvania, the industry had a comparatively early beginning there under the encouragement of William Penn, the founder of the colony, and as early as 1692 a small amount of iron had been made in the colony. The first successful works were established in Berks County in 1716, and in 1728–29 the colony exported 274 tons of pig iron to England. In 1756 Pennsylvania was spoken of as "the most advanced of all the American colonies in regard to its iron works," and since that time it has been preeminent among the states in the iron and steel industry.

At the present time a great variety of products are made of iron and steel and in a census of manufactures the establishments producing them have to be divided into many classes according to the nature of their products. Among the more important classes established for purposes of the census are: Steel works and rolling mills; blast furnaces; foundries and machine shops; and establishments manufacturing locomotives; horseshoes; wrought iron and steel pipe; forgings; bolts, nuts, washers, and rivets; steel car and carriage springs; cutlery and tools; doors and shutters; nails and spikes; and tin plate and terneplate. A given establishment may manufacture products which fall into two or more of these classes, but as the establishment itself can be placed in only one, it is classified according to its principal product. This method necessarily occasions a certain lack of precision in the figures for any class. An establishment classified as manufacturing forgings, because forgings are its principal product, may also make cutlery and tools or some other product of a different class, and hence the totals for establishments classified under the heading "Iron and steel forgings" include certain amounts which would be credited to some other class if the system was ideal; on the other hand, certain forgings made in establishments engaged primarily in some other line of manufacture are omitted from the totals for the forging industry because manufactured as secondary products by establishments engaged primarily in the manufacture

of a product of another class. In none of the classes mentioned, therefore, do the statistics deal exclusively with the manufacture of the products indicated by the industry designation nor do the data relate to the entire production of such products, owing to the overlapping of the several branches of the industry in so many particulars. Some of the establishments operating blast furnaces, or steel works and rolling mills, engaged also in further processes of manufacture and produce many of the articles made by establishments otherwise classified, and no well-defined line of demarcation exists by which any branch of the industry can be separated from the others. Detailed information regarding materials, products, and equipment is here presented for three of the industries, namely, steel works and rolling mills, blast furnaces, and tin-plate and terneplate dipping establishments.

Steel works and rolling mills.—The manufacture of steel was attempted in Pennsylvania about 1750, but the development of the industry was slow. In 1805 there were only two steel plants in the state, with a combined annual output of about 150 tons. In 1809 the number of furnaces had grown to five, and they produced 531 of the 917 tons of steel manufactured in the United States during that year. Three years later the first steel plant in Pittsburgh was erected, and from that time the quantity of steel manufactured increased rapidly, but the kind made varied considerably until 1859, when crucible cast steel was made in Pittsburgh as a regular product. This really marked the beginning of a new industry. Bessemer steel was first made in Pennsylvania in 1867 at Steelton (the third furnace of the kind in the United States). In the same year the first steel rails ever made in this country were manufactured at Johnstown, Pa.

The first rolling mill in the United States for the production of bar iron was built at Plumsock, Pa., in 1817, and in the same year the first puddling in this country was done at that mill. In 1879 the number of steel works and rolling mills was 158 and the value of their products was 48.4 per cent of the total for the United States. At each census since 1879 the mills of Pennsylvania have reported more than half of the total value of products, the proportion in 1909 being 50.8 per cent. To turn out these products the 189 establishments reported in 1909 employed an average of 126,911 wage earners, which was 52.9 per cent of the total number employed by the 446 steel works and rolling mills in the country as a whole.

The next table gives, for 1909, 1904, and 1899, the quantity and cost of the various materials used by steel works and rolling mills in Pennsylvania; the quantity and value of their different products; the principal equipment of the steel works; and the total daily capacity of the plants. The total quantity of steel is classified according to the form of the products and again according to process of manufacture. The ton of 2,240 pounds is used to show quantities.

MATERIAL, PRODUCT, OR EQUIPMENT.	1909	1904	1899
Materials used, total cost	$329,013,421	$237,875,025	$219,047,508
Iron and steel:[1]			
For furnaces and hot rolls:			
Pig iron and ferroalloys—			
Tons	9,317,903	6,559,417	5,915,321
Cost	$147,125,383	$94,997,864	$87,720,436
Pig iron—			
Tons	9,158,260	(2)	(2)
Cost	$139,208,875	(2)	(2)
Ferroalloys, spiegeleisen, ferromanganese, etc.—			
Tons	159,643	(2)	(2)
Cost	$7,926,508	(2)	(2)
Scrap, including old rails not intended for rerolling—			
Tons	2,669,773	2,871,819	2,157,468
Cost	$41,572,010	$38,574,391	$32,927,014
Ingots, blooms, billets, slabs, muck and scrap bar, rerolling rails, and sheet and tin-plate bars—			
Tons	3,013,148	2,734,746	2,328,979
Cost	$68,274,443	$60,353,171	$59,421,973
Rolled forms for further manufacture:			
Skelp—			
Tons	119,365	249,278	(2)
Cost	$3,959,918	$7,005,688	(2)
Wire rods—			
Tons	43,799	27,530	32,170
Cost	$1,244,260	$800,252	$1,273,635
Iron ore:			
Tons	568,716	423,188	243,688
Cost	$3,169,203	$1,883,959	$970,028
All other materials	$63,658,204	$34,259,700	$36,734,422
Products, total value	[3] $500,343,995	$363,773,577	$332,869,713
Rails:			
Tons	848,924	812,691	1,218,289
Value	$24,077,184	$20,204,210	$24,597,034
Structural shapes, not including plates used for making girders:			
Tons	1,597,946	824,727	766,995
Value	$49,512,361	$27,449,667	$25,578,658
Bars and rods, not including wire rods, sheet and tin-plate bars, splice bars, and bars for reenforced concrete:			
Tons	1,749,220	1,106,234	1,036,759
Value	$56,717,882	$40,425,460	$43,453,494
Bars for reenforced concrete:			
Tons	36,886		
Value	$1,084,652		
Wire rods:			
Tons	861,261	596,892	276,395
Value	$23,190,920	$16,926,665	$11,240,537
Plates and sheets, not including black plates or sheets for tinning, nail and tack plates, tie-plates, fish-plates, or armor plates:			
Tons	2,057,176	1,563,154	1,245,843
Value	$78,938,359	$65,988,409	$56,984,914
Black plates, or sheets, for tinning:			
Tons	308,738		
Value	$15,400,384		
Skelp flue and pipe:			
Tons	1,087,592	1,259,049	828,050
Value	$34,273,085	$39,576,046	$35,398,558
Hoops, bands, and cotton ties:			
Tons	279,172		
Value	$8,305,448		
Nail and tack plates:			
Tons	37,802	41,931	42,217
Value	$1,469,504	$1,156,789	$1,087,103
Axles, car, locomotive, automobile, wagon, carriage, etc., rolled or forged:			
Tons	97,333	73,388	81,383
Value	$3,603,095	$2,415,226	$3,569,888
Armor plates, gun forgings, and ordnance:			
Tons	22,558	22,648	15,302
Value	$8,833,335	$9,492,082	$7,526,479
Blooms, billets, and slabs, produced for sale or for transfer to other works of the same company:			
Tons	2,099,296	2,582,848	2,277,133
Value	$47,413,864	$58,205,781	$51,948,174
Rolled forging blooms and billets produced for sale or for transfer to other works of the same company:			
Tons	37,977		
Value	$1,128,594		
Sheet and tin-plate bars produced for sale or for transfer to other works of the same company:			
Tons	778,260		
Value	$17,430,702		
Muck and scrap bar produced for sale or for transfer to other works of the same company:			
Tons	118,759	111,992	167,165
Value	$3,505,236	$2,791,435	$4,901,446

[1] Includes material purchased or transferred to the establishment reporting from other works of the same company.

[2] Not reported separately.

[3] In addition, steel castings and rolled steel valued at $2,175,339 were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

MATERIAL, PRODUCT, OR EQUIPMENT.	1909	1904	1899
Products—Continued.			
Rail fastenings, splice bars, tie-plates, fishplates, etc.:			
Tons	124,049	900,220	356,761
Value	$4,669,802	$22,156,436	$11,201,989
All other rolled steel or iron:			
Tons	470,679		
Value	$31,391,361		
Ingots for sale or for transfer to other works of the same company:			
Tons	32,144	94,059	84,498
Value	$1,525,021	$1,850,146	$2,459,693
Direct steel castings:			
Tons	197,405	114,411	69,711
Value	$14,087,422	$8,041,419	$5,798,302
All other products, including value added to steel or iron rolling-mill products by further manufacture	$73,785,784	$47,093,806	$47,123,444
Steel production, tons.			
Total production	[1] 12,189,953	7,733,640	6,431,297
Ingots	11,992,548	7,618,833	6,361,586
Castings	197,405	114,807	69,711
Classified according to process:			
Open-hearth	9,281,936	4,230,657	2,437,918
Basic	8,536,726	3,638,986	1,746,522
Acid	745,210	591,671	691,396
Bessemer	2,846,360	3,442,312	3,911,127
Crucible and miscellaneous	61,657	60,671	82,252
Equipment:			
Steel plants:			
Steel furnaces and converters, daily capacity, double turn, tons	55,278	40,672	31,131
Open-hearth furnaces—			
Number	428	305	199
Daily capacity, tons of steel, double turn	38,030	23,115	12,745
Basic—			
Number	332	205	106
Daily capacity, tons of steel, double turn	33,300	17,597	8,404
Acid—			
Number	96	100	93
Daily capacity, tons of steel, double turn	4,730	5,518	4,341
Converters, Bessemer or modified Bessemer—			
Number	31	28	33
Daily capacity, tons of steel, double turn	16,615	16,909	17,977
Crucible furnaces—			
Number	91	96	65
Number of pots that can be used at a heat	2,268	1,978	1,856
Daily capacity, tons of steel, double turn	561	585	409
All other steel furnaces—			
Number	14	18	(2)
Daily capacity, tons of steel, double turn	72	63	(2)
Metal mixers—			
Number	26	(2)	(2)
Capacity, tons	5,660	(2)	(2)
Rolling mills:			
Daily capacity of rolled steel and iron, double turn, tons	72,977	52,466	48,364

[1] In addition, 16,655 tons of steel castings were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.
[2] Not reported.

Under steel production is included the total product of steel works, whether cast in ingots or in direct castings. All ingots are included, whether consumed in the works where produced, transferred to other works of the producing company, or sold.

Establishments which are classified as steel works and rolling mills make four classes of products—(1) unrolled steel; (2) those which must be subjected to further rolling before they can be regarded as finished rolling-mill products; (3) those which have passed through all the contemplated rolling processes and may be termed finished rolling-mill products; and (4) those which have been subjected to processes beyond the rolling-mill stage. In the above table products of the last class, namely, those which have been subjected to processes beyond the rolling-mill stage, are not shown separately, but those finished rolling-mill products that were made in the establishment and were there converted into these higher forms have been included with the other finished products of the industry, and the enhanced value which they have acquired through their manufacture beyond the rolling-mill product stage has been included with "All other products."

The existence of the second and third classes of products in the industry, namely, the finished rolled products and the unfinished rolled products, results in a certain amount of duplication in the figures for cost of materials and value of products. When crude iron or steel is worked up into partially rolled products in one steel-making and rolling-mill plant and the products are then sold or transferred to a second, where they are made into finished rolling-mill products, they appear twice in the cost of materials and twice in the value of products. This duplication does not exist where one establishment makes the ingots or other similar products and then rolls them into finished rolling-mill products. In this connection it should be noted that two branches of the same company frequently constitute different establishments according to the practice of the census, and hence duplication results when the products of one branch are used as the materials of the other.

In considering the comparative figures presented in the table it should be borne in mind that 1904 was a year of partial depression in the iron and steel industry, and that neither the small increases shown in quantity and value for 1904 as compared with 1899, nor the large increases shown for 1909 as compared with 1904, are representative of the normal rate of growth for the industry.

The total cost of materials used in this industry in 1909 was $329,013,421, which was 38.3 per cent more than the cost of materials in 1904 and 50.2 per cent more than the cost in 1899. The cost of pig and scrap iron, ore, and the partially manufactured forms of iron combined constituted 80.6 per cent of the total cost of materials in 1909, as compared with 85.6 per cent in 1904 and 83.2 per cent in 1899.

The total value of products increased from $332,869,713 in 1899 to $500,343,995 in 1909, or 50.3 per cent. The general business depression beginning in 1903 affected this industry also for the greater part of 1904. Consequently, a gain of only 9.3 per cent in total value of products is shown for that year as compared with 1899. Comparing the finished rolled products of 1909 with those of 1899, rails show a decrease in both quantity and value, and nail and tack plates a decrease in quantity but an increase in value. All other finished rolled products show an increase in both quantity and value.

The decrease in the production of rails in Pennsylvania for the decade was 369,365 tons, or 30.3 per cent, while the industry in the country at large shows an increase of 607,262 tons, or 27 per cent. Bars and rods, including wire rods, with an increase of 1,334,213

tons, or 101.6 per cent, made the largest absolute gain in quantity from 1899 to 1909, while plates and sheets, with an increase of $37,353,829, or 65.6 per cent, made the largest absolute gain in value. Muck and scrap bar produced for sale or transfer decreased 29 per cent in quantity and 28.5 per cent in value. Ingots produced for sale or transfer show a decrease of 62 per cent in quantity and 38 per cent in value, while direct steel castings show large relative increases, 183.2 per cent in quantity and 143 per cent in value.

The increase for the decade of $26,662,340, or 56.6 per cent, in the value of all other products, which includes the value added to rolling-mill products by further manufacture, indicates an extension of the practice of carrying the processes of manufacture beyond the rolling-mill stage. Included in this item was the value added to skelp in the manufacture of 654,042 tons of pipe and tubes. The value of such pipe and tubes was $36,929,123, and the assigned value of skelp used in their production was $20,179,114, making approximately $16,750,000 added by further manufacture of skelp alone.

The total production of steel in the state of Pennsylvania in 1909 was 12,189,953 tons, an increase over 1899 of 5,758,656 tons, or 89.5 per cent. Of the total production in 1909, 11,992,548 tons, or 98.4 per cent, were in the form of ingots and 197,405 tons, or 1.6 per cent, in the form of direct castings. The figures classifying the steel according to process of manufacture show that open-hearth steel formed 76.1 per cent of the total; Bessemer, 23.4 per cent; and crucible and miscellaneous, five-tenths of 1 per cent. Of the open-hearth steel 92 per cent was basic and 8 per cent acid. The proportion of open-hearth steel was 54.7 per cent in 1904 and 37.9 per cent in 1899. In 1909 the quantity of Bessemer steel was 17.3 per cent less than in 1904, in which year the production was 12 per cent less than in 1899. Crucible and miscellaneous steel, although showing a slight increase in 1909 over 1904, show a considerable decrease from 1899 to 1909. The figures thus indicate a growing use of the open-hearth process.

The daily capacity of the steel plants of Pennsylvania increased from 31,131 tons in 1899 to 40,672 tons in 1904, and to 55,278 tons in 1909, an increase of 77.6 per cent for the decade. Of the total daily capacity of the steel plants in 1909, open-hearth furnaces contributed 68.8 per cent; Bessemer and modified Bessemer converters, 30 per cent; and crucible and all other furnaces, 1.1 per cent. Corresponding figures for 1899 were: Open-hearth, 40.9 per cent; Bessemer, 57.7 per cent, and crucible, 1.3 per cent. At the census of 1909, metal mixers were first reported and the number returned was 26, with an aggregate capacity of 5,660 tons. During the decade the daily capacity of the rolling mills, on double turn, increased from 48,364 tons to 72,977 tons, or 50.9 per cent.

Blast furnaces.—In 1791 there were 16 blast furnaces in Pennsylvania. By 1849 the number had increased to 298, of which 230 were charcoal furnaces, 57 anthracite, and 11 bituminous coal or coke. Since 1849 the manufacture of charcoal iron has declined. In 1909 the active furnaces included but 4 small charcoal furnaces, 24 anthracite furnaces, and 115 coke furnaces. In 1879, 137 establishments were reported as operating blast furnaces in Pennsylvania and they produced 1,723,492 of the 3,375,912 long tons of pig iron made in the United States. The proportion which the state contributed to the total was therefore a little more than 51 per cent. A decreasing proportion has since been shown at each census period, although up to and including the last census its output has been more than double that of its nearest competitor. During this period the total annual output for the country has increased over 650 per cent.

In the next table are shown, for 1909, 1904, and 1899, the quantity and cost of the various materials used, the quantity and value of the different products, and the principal equipment of the establishments engaged in this branch of the iron and steel industry. The total quantity of pig iron manufactured is classified in four ways—(1) according to the fuel used in its production; (2) according to the disposition made of it; (3) according to grade; and (4) according to method of delivery or of casting. The ton of 2,240 pounds is used to show quantities.

In 1909 there were charged into the blast furnaces of Pennsylvania 20,822,023 tons of iron ore, mill cinder, scrap, etc., and 5,819,912 tons of flux. To convert this material, 12,095,186 tons of fuel were consumed. The principal product was 10,911,676 tons of pig iron, valued at $167,588,407, but other products to the value of $990,006 were reported. This work was accomplished by 143 active furnaces, with an aggregate daily capacity of 41,557 tons.

The figures for the pig iron classified according to fuel used in the production, show that coke pig iron constituted 94 per cent of the total, anthracite 6 per cent, and charcoal less than three-hundredths of 1 per cent. This is particularly striking when it is remembered that in the beginning of the industry charcoal was used exclusively. The figures concerning method of disposition show that 69.9 per cent of the iron was used in works of the company producing it, and 30.1 per cent was made for sale. Bessemer iron constituted 34.6 per cent of the total amount produced; basic, 44.1 per cent; foundry, 14.1 per cent; and all other, 7.1 per cent. Fifty-four per cent of the total was delivered in molten condition; 26 per cent was machine cast; 17.5 per cent was sand cast; 2.5 per cent was chill cast; and less than one-tenth of 1 per cent was in the form of direct castings.

MATERIAL, PRODUCT, OR EQUIPMENT.	1909	1904	1899
Materials used, total cost	$142,074,028	$86,321,875	$64,095,277
Iron ore:			
Tons	19,698,996	12,919,590	11,056,833
Cost	$90,171,795	$54,381,825	$35,042,178
Domestic—			
Tons	18,421,398	12,537,891	10,641,035
Cost	$82,790,018	$51,563,986	$32,294,561
Foreign—			
Tons	1,277,598	381,699	415,798
Cost	$7,381,777	$2,817,839	$2,747,617
Mill cinder, scrap, etc.:			
Tons	1,123,027	1,161,063	1,108,607
Cost	$3,332,335	$2,169,422	$2,686,743
Flux:			
Tons	5,819,912	3,842,184	3,371,405
Cost	$5,298,591	$3,356,725	$2,264,666
Fuel [1]	$39,506,062	$24,822,005	$17,792,294
Coke—			
Tons (2,000 pounds)	13,245,622	8,713,116	6,254,301
Cost	$38,556,786	$22,728,319	$15,576,340
Anthracite coal—			
Tons	264,481	498,731	765,707
Cost	$900,607	$1,599,655	$1,913,385
Charcoal—			
Bushels	476,790	410,610	787,606
Cost	$48,669	$27,225	$47,256
Bituminous coal—			
Tons	.....	300,043	257,194
Cost	.....	$466,806	$255,313
All other materials	$3,765,245	$1,591,898	$6,309,396
Products, total value	$168,578,413	$107,455,267	$101,575,487
Pig iron:			
Tons	10,911,676	7,729,278	6,778,584
Value	$167,588,407	$107,395,757	$101,555,787
All other products	$990,006	$59,510	$19,700
Pig iron, classified according to fuel used:			
Coke—			
Tons	10,259,155	7,729,278	6,778,584
Value	$156,834,660	$107,395,757	$101,555,787
All other—			
Tons	652,521		
Value	$10,753,747		
Pig iron, classified according to disposition:			
Produced for consumption in works of company producing—			
Tons	7,628,653	5,573,898	(2)
Value	$115,422,575	$77,087,537	(2)
Produced for sale—			
Tons	3,283,023	2,155,380	(2)
Value	$52,165,832	$30,308,220	(2)
Pig iron, classified by grades (tons):			
Bessemer (0.04 to 0.10 per cent in phosphorus)	3,775,728	4,457,613	4,617,969
Low phosphorus (below 0.04 per cent in phosphorus)	137,521	139,703	.....
Basic	4,815,840	1,827,121	666,589
Foundry	1,542,722	796,740	856,472
Forge or mill	366,808	313,301	446,328
Malleable Bessemer	37,642	12,497	(2)
White, mottled, and miscellaneous	51,916	12,121	50,077
Direct castings	4,563	2,941	4,350
Spiegeleisen, ferromanganese, and ferrosilicon, including Bessemer ferrosilicon (7 per cent and over in silicon)	178,936	167,181	136,799
Pig iron, classified by method of delivery or casting (tons):			
Delivered in molten condition	5,887,507	3,579,501	(2)
Machine cast	2,837,576	2,376,870	(2)
Sand cast	1,907,514	1,490,312	(2)
Chill cast	274,516	279,654	(2)
Direct castings	4,563	2,941	.....
Equipment:			
Furnaces in active establishments:			
Completed stacks at end of year—			
Number	145	131	136
Daily capacity, tons	41,707	34,200	23,497
Active during the year—			
Number	143	120	127
Daily capacity, tons	41,557	(2)	(2)
In course of construction at end of year—			
Number	5	11	5
Daily capacity, tons	2,200	1,950	2,700
Pig casting machines, number	56	(2)	(2)
Granulated slag pits:			
Number	39	15	(2)
Annual capacity, tons	2,703,000	(2)	(2)
Gas engines operated with blast-furnace gas:			
Number	13	(2)	(2)
Horsepower	32,100	(2)	(2)

[1] In 1909 includes fuel for smelting only; in 1904 and 1899 includes coal for steam raising.
[2] Not reported.

The growth of the industry for the decade covered by the table was marked, the quantity of ore used increasing 78.2 per cent; the total quantity of iron produced, 61 per cent; and the total value of products, 66 per cent. During the decade 1899–1909 the number of furnaces in active establishments increased from 136 to 145, or 6.6 per cent, and the daily capacity of the furnaces from 23,497 tons to 41,707, or 77.5 per cent, indicating the building of furnaces of much greater capacity. An interesting point to be noted in the report of equipment for 1909 is that 13 gas engines, operated with blast-furnace gas, and developing a total of 32,100 horsepower, were in use.

Tin plate and terneplate.—Closely allied to the operation of steel works and rolling mills is the plating of iron and steel sheets with tin or alloys of tin and lead, inasmuch as practically all the concerns engaged in this industry also roll the greater portion of the iron or steel sheets used. Prior to 1889 the industry was of minor importance, but by 1899 it had assumed such proportions that in the Twelfth Census reports it was for the first time classed as a separate industry. In the manufacture of these products Pennsylvania ranks first among the states, reporting more than 50 per cent of the total product of the United States in 1909. In the following table are given for 1909, 1904, and 1899 the quantity and cost of the various materials used and the quantity and value of the different products:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	$22,898,352	$17,590,077	$10,364,084
Black plates or sheets:			
Pounds	705,748,494	566,744,792	323,985,402
Cost	$15,801,297	$12,934,377	$7,881,339
Coating metals:			
Pounds	20,269,205	16,809,196	12,158,400
Cost	$5,305,175	$3,933,091	$2,025,532
Tin, including tin contents of terne mixture purchased, lbs	17,348,711	13,796,949	8,154,969
Lead, including lead contents of terne mixture purchased, lbs	2,920,494	3,012,247	4,003,431
In condition purchased:			
Pig tin—			
Pounds	16,858,292		
Cost	$5,032,023		
Pig lead—			
Pounds	1,421,219	(1)	(1)
Cost	$62,338		
Terne mixture—			
Pounds	1,989,694		
Cost	$210,814		
All other materials	$1,791,880	$722,609	$457,213
Products, total value	[2] $25,234,066	$19,341,961	$12,530,991
Tin plate and terneplate:			
Pounds	695,377,287	583,599,140	334,008,980
Value	$23,750,750	$18,928,397	$12,401,252
Tin plate—			
Pounds	648,502,133	524,905,922	256,879,332
Value	$21,687,492	$16,547,120	$9,137,483
Terneplate—			
Pounds	46,875,154	58,693,218	77,129,648
Value	$2,063,258	$2,381,277	$3,263,769
Other sheet iron or sheet steel, tinned or terneplated, taggers' tin, etc.:			
Pounds	18,067,567	6,555,855	200,473
Value	$484,211	$217,476	$6,492
All other products	$999,105	$196,088	$123,247

[1] Figures not available.
[2] Excluding the product of one establishment engaged primarily in the manufacture of products other than those of the industry designation.

The industry shows a large gain during the 10-year period covered by the table, the total cost of materials

and the total value of products practically doubling. The basic material, black plates or sheets, shows a large increase for both five-year periods, while of the coating metals, tin shows a large increase and lead a large decrease. The changes in the proportions of these two plating materials are reflected in the quantities of tin plate and of terneplate produced, the former showing a large increase and the latter a large decrease for each half of the decade. In 1899, 285 tin and terne sets were reported, with a daily capacity, on single turn, of 1,198,001 pounds, while in 1909 the number was 311 and the capacity 1,533,872 pounds. The daily capacity of the sets, as they were operated—that is, on single, double, or triple turn, as the case might be—was 3,618,308 pounds in 1909.

Textiles.—The relative importance of the different textile industries in Pennsylvania, as measured by value of products, is shown in the following table, which presents the total value of their products at the last three censuses.

INDUSTRY.	1909	1904	1899
Total	**$267,840,579**	**$194,214,389**	**$163,286,938**
Woolen, worsted, and felt goods, and wool hats	77,446,996	55,934,250	48,765,445
Silk and silk goods, including throwsters	62,061,302	39,333,520	31,072,926
Hosiery and knit goods	49,657,506	30,812,211	21,929,426
Cotton goods, including cotton small wares	33,917,033	26,299,853	25,447,607
Carpets and rugs, other than rag	24,879,232	27,120,311	23,113,058
Hats, fur-felt	13,022,617	7,350,311	4,243,352
Cordage and twine and jute and linen goods	4,804,775	5,159,654	7,266,148
Shoddy	2,051,118	2,204,279	1,448,886

The progress of the textile industries in the state is reflected, to a large extent, by the increases or decreases in the number of spindles, looms, knitting machines, and other equipment. The following table shows the number of the principal machines used in the combined industries and in each of the five main branches for 1909, 1904, and 1899:

MACHINE.	Census.	Total.	Woolen, worsted, and felt goods, and wool hats.	Silk and silk goods, including throwsters.	Hosiery and knit goods.	Cotton goods, including cotton small wares.	Carpets and rugs, other than rag.
Producing spindles	1909	1,971,907	642,430	1,017,992	33,648	252,671	25,166
	1904	1,707,116	590,916	785,113	25,122	266,347	39,618
	1899	1,532,521	521,726	638,851	30,624	306,637	34,683
Looms	1909	63,038	11,420	26,249	.....	19,404	5,965
	1904	53,165	9,848	19,336	.....	17,250	6,731
	1899	47,838	10,681	12,949	133	17,499	6,576
Knitting machines	1909	44,960	.....	.....	44,960	.....	.....
	1904	33,816	.....	.....	33,816	.....	.....
	1899	26,120	.....	.....	26,120	.....	.....
Woolen cards (sets)	1909	947	840	.....	35	.....	72
	1904	971	856	.....	39	.....	76
	1899	1,293	1,170	.....	31	.....	92
Wool-combing machines.	1909	354	342	.....	.....	.....	12
	1904	377	349	.....	.....	.....	28
	1899	357	340	.....	.....	.....	17

The total number of producing spindles increased from 1,532,521 in 1899 to 1,707,116 in 1904 and 1,971,907 in 1909, an increase during the decade of 439,386 spindles, or 28.7 per cent. The largest gain, 379,141, was in the silk mills, and the next largest, 120,704, was in the woolen and worsted mills. The number of producing spindles in the knitting mills increased only slightly, while that in the cotton mills actually decreased 53,966, and that in the carpet and rug mills, 9,517. In addition to the spindles shown in the table, 16,788 were in active use during 1909 in establishments manufacturing cordage and twine and jute and linen goods, and 425 in establishments engaged primarily in the manufacture of shoddy. In this connection attention is called to the fact that the spindle capacity of the mills in Pennsylvania is small in comparison with that in some other states, and small in comparison with the magnitude of the industry there, because in that state the establishments are engaged principally in the final processes of manufacture. To such an extent is this the fact that the state furnishes the largest market in this country for the sale of cotton yarns.

The increase in the number of looms during the decade was 15,200, or 31.8 per cent, the major part of which (13,300) occurred in the silk mills. The number of looms in cotton mills increased 1,905, while that in woolen and worsted mills increased 739. This latter increase, however, was due entirely to an increase of 2,224 looms on worsted goods, as the number on woolen goods decreased 1,485. The number of looms engaged in the manufacture of carpets and rugs increased during the five-year period 1899–1904, but shows a decrease of 611 for the decade. The increase in the number of knitting machines from 26,120 in 1899 to 44,960 in 1909, or 72.1 per cent, corresponds with the increase in the production of hosiery and knit goods. The number of woolen cards decreased, owing to the decline in the manufacture of woolen goods. The number of combing machines increased during the five-year period 1899–1904, but a loss is shown for the following five-year period, making a slight decrease for the decade.

Woolen, worsted, and felt goods, and wool hats.—The woolen industry in Pennsylvania was established by the English settlers in Philadelphia soon after the founding of the colony. It was characterized for many years by the number of small independent factories and the extent of hand-loom weaving. The state, and especially that part embraced by the present limits of the city of Philadelphia, has always ranked high in this industry. The next table shows the quantity and cost of the principal materials used during 1909, 1904, and 1899.

The total cost of the materials used in this industry in 1909 was $54,634,085, an increase over the amount reported for 1899 of $23,270,224, or 74.2 per cent. In 1909 the cost of wool constituted 49.9 per cent of the total cost of materials used, which was practically the same as the proportion in 1899 (49.7 per cent). The total quantity of wool in condition purchased increased from 61,594,080 pounds in 1899 to 101,256,902 pounds in 1909, or 64.4 per cent, and the cost from $15,596,216

to $27,262,676, or 74.8 per cent. Domestic wool represented 52.9 per cent of the total quantity in 1899 and 56 per cent in 1909. The quantity of animal hair used shows a decrease of 4.7 per cent in 1909 as compared with 1899 and of 28.7 per cent in 1909 as compared with 1904. A large portion of the animal hair reported for this industry is used in the production of yarns for the carpet and rug mills, and hence the decrease may be accounted for, at least in part, by the decline in the production of ingrain carpets. The quantity of tailor's clippings and rags and of shoddy purchased decreased, owing to the decline in the woolen branch of the industry, where the main part of these materials are used. The quantities of raw cotton and of cotton yarn purchased by the woolen branch of the industry also decreased for the same reason. The consumption of cotton yarn in the worsted branch, however, increased substantially, rising from 2,685,332 pounds in 1899 to 6,973,960 pounds in 1909. Worsted yarn purchased increased in quantity 7,191,407 pounds, or 129.9 per cent, and in value $7,970,466, or 204.5 per cent, while tops increased in quantity about 350 per cent and in value about 420 per cent. These large increases from 1899 to 1909 in tops and in worsted yarn purchased indicate not only a growth in the manufacture of worsted goods, but also an extension of the practice of conducting the different processes of this branch of the industry in separate establishments.

MATERIAL.	1909	1904	1899
Total cost	**$54,634,085**	**$37,246,755**	**$31,363,861**
Wool:			
Foreign (in condition purchased)—			
Pounds	44,575,257	37,637,091	28,994,095
Cost	$11,627,768	$8,180,738	$5,779,205
Domestic (in condition purchased)—			
Pounds	56,681,645	52,543,138	32,599,985
Cost	$15,634,908	$12,686,241	$9,817,011
Equivalent in scoured condition, pounds	65,555,136	55,790,525	48,302,782
Tailors' clippings, rags, etc.:			
Pounds	7,794,521	14,781,589	(1)
Cost	$239,012	$613,067	$459,586
Shoddy:			
Pounds	4,645,405	5,070,444	6,136,770
Cost	$499,133	$705,280	$704,050
Waste and noils:			
Pounds	5,716,904	4,360,585	5,721,017
Cost	$1,448,961	$669,216	$1,180,286
Tops:			
Pounds	2,445,813	1,163,036	547,353
Cost	$1,530,899	$566,501	$293,014
Animal hair:			
Pounds	18,776,578	26,329,507	19,698,817
Cost	$900,431	$1,529,873	$1,108,649
Cotton:			
Pounds	5,017,601	5,659,285	12,322,020
Cost	$536,262	$625,052	$869,452
Yarns, purchased:			
Woolen—			
Pounds	143,884	1,303,215	2,289,016
Cost	$106,540	$587,904	$932,498
Worsted—			
Pounds	12,728,111	6,605,049	5,536,704
Cost	$11,868,802	$5,012,439	$3,898,336
Merino—			
Pounds	1,658,124	1,779,805	3,272,029
Cost	$223,853	$349,975	$560,000
Cotton—			
Pounds	11,969,645	7,191,952	12,102,914
Cost	$2,801,570	$1,514,349	$2,273,305
Silk and spun-silk—			
Pounds	50,698	50,132	49,974
Cost	$278,289	$268,495	$215,609
All other—			
Pounds	998,600	335,186	1,055,824
Cost	$20,729	$6,615	$51,100
Chemicals and dyestuffs	$868,053	$723,397	$815,047
Fuel and rent of power	$78,043	$660,263	$482,380
All other materials	$5,970,832	$2,547,350	$1,924,333

[1] Not reported.

The quantity and value of the principal products returned for 1909, 1904, and 1899 are given in the following table:

PRODUCT.	1909	1904	1899
Total value	**$77,446,996**	**$55,934,250**	**$48,765,445**
All-wool woven goods:			
Square yards	33,149,873	26,622,510	19,498,412
Value	$22,653,317	$16,102,796	$10,776,645
Woolen suitings and overcoatings—			
Square yards	1,735,118	2,341,754	3,064,746
Value	$1,266,236	$2,058,448	$2,303,841
Worsted suitings and overcoatings—			
Square yards	9,191,981	7,864,728	5,092,303
Value	$7,692,570	$5,652,400	$3,346,842
Worsted dress goods—			
Square yards	18,492,858	11,662,226	5,812,516
Value	$11,247,377	$6,305,829	$2,745,199
Flannels for underwear—			
Square yards	796,097	436,723	633,091
Value	$430,876	$120,696	$238,201
Blankets—			
Square yards	1,424,062	1,395,707	1,463,544
Value	$1,153,048	$566,609	$554,913
All other—			
Square yards	1,509,757	2,921,372	3,432,212
Value	$863,210	$1,398,814	$1,527,649
Cotton-mixed woven goods:			
Square yards	5,104,428	14,026,477	17,389,245
Value	$2,070,669	$5,797,114	$3,895,384
Unions, tweeds, cassimeres, etc.—			
Square yards	3,344,826	8,058,592	12,049,057
Value	$1,255,914	$2,782,678	$3,875,522
All other—			
Square yards	1,759,602	5,967,885	5,340,188
Value	$814,755	$3,014,436	$2,019,862
Cotton-warp woven goods:			
Square yards	30,735,963	19,452,881	31,460,590
Value	$10,570,357	$4,958,927	$7,921,126
Wool-filling cassimeres, tweeds, suitings, etc.—			
Square yards	10,080,033	4,813,757	8,162,477
Value	$3,562,508	$1,457,164	$2,285,377
Worsted-filling cassimeres, tweeds, suitings, etc.—			
Square yards	8,347,362	3,859,898	631,131
Value	$3,996,018	$913,490	$331,010
Cotton-warp blankets—			
Square yards	3,398,778	2,993,200	6,665,804
Value	$633,948	$359,682	$991,634
All other—			
Square yards	8,909,790	7,786,026	16,001,178
Value	$2,377,883	$2,228,591	$4,313,105
Felt cloths, endless belts, hair felting, and other felts	$611,088	$367,198	$160,633
Hats, wool-felt:			
Dozens	303,398	158,585	279,768
Value	$1,431,342	$647,064	$1,003,565
Partly manufactured products for sale:			
Woolen yarn—			
Pounds	25,211,815	37,044,638	29,161,975
Value	$5,965,431	$7,102,619	$5,270,205
Worsted yarn—			
Pounds	28,656,142	23,371,803	16,813,647
Value	$23,978,942	$16,228,170	$11,881,113
Merino yarn—			
Pounds	11,710,956	5,663,160	12,294,674
Value	$4,180,974	$1,292,028	$2,691,468
Worsted tops and slubbing—			
Pounds	2,252,927	550,525	(1)
Value	$1,401,562	$330,798	(1)
Noils—			
Pounds	6,006,239	3,888,629	2,984,381
Value	$1,895,601	$1,186,447	$793,279
Waste—			
Pounds	5,236,102	4,759,554	725,532
Value	$590,466	$329,565	$109,466
Amount received for contract work	$748,822	$366,808	$465,175
All other products	$1,347,825	$1,224,116	$1,797,326

[1] Included in worsted yarn.

The total value of all products for the combined industry was $77,446,996 in 1909, as compared with $48,765,445 in 1899, representing a gain of $28,681,551, or 58.8 per cent, during the decade. The value of products of the woolen branch of the industry, however, decreased about one-third, from $25,389,344 in 1899 to $16,033,077 in 1909, while the value of products of the worsted branch increased from $22,109,392 in 1899 to $59,416,106 in 1909. These figures show very forcibly the decline in the woolen branch of the industry and the marked growth in the worsted branch. The disparity between these two main branches of the industry would be greater were it not for the manufac-

ture of carpet yarns, the value of which forms a considerable portion of the total value of products of the woolen branch.

One of the striking features of the table is the steady increase from census to census in the production of all-wool woven goods. The output of such goods increased from 19,498,412 square yards, valued at $10,776,645, in 1899, to 33,149,873 square yards, valued at $22,653,317, in 1909, a gain of 70 per cent in quantity and of 110.2 per cent in value. The largest part of this gain was in worsted dress goods, although worsted suitings and overcoatings increased substantially. The production of cotton-mixed goods, which are more generally manufactured in the woolen branch of the industry, decreased from 17,389,245 square yards in 1899 to 5,104,428 square yards in 1909, a loss of 70.6 per cent for the decade. Cotton-warp woven goods show a small decrease in quantity between 1899 and 1909, but their value increased from $7,921,126 to $10,570,357. Worsted-filling cassimeres, tweeds, suitings, etc., show a very large increase, from 631,131 square yards in 1899 to 8,347,362 square yards in 1909. There was also a gain in wool-filling cassimeres, tweeds, suitings, etc., but a marked decrease in all other kinds of cotton-warp goods.

During the decade there was a decline in the quantity of woolen yarn and merino yarn manufactured for sale, and a large increase in the quantity of worsted yarn, the amount of this class of products being 16,813,647 pounds in 1899 and 28,656,142 pounds in 1909. Noils and waste sold as such show great increases, due almost entirely to the growth in the manufacture of worsted goods. The manufacture of wool-felt hats in the state shows some gain during the 10-year period, but the rate of increase was greater in the value than in the quantity of the output.

Silk and silk goods, including throwsters.—The silk industry was established in Pennsylvania in 1793, the products manufactured being fringes, coach laces, and tassels. For many years the products were limited to these goods and to ribbons and various trimmings. In recent years, however, the manufacture of broad silks has been taken up and the industry has developed rapidly. The state leads in the throwing of silk. It should be noted that much of the throwing is done on contract for establishments engaged in weaving and only the amount of the commission is included in the value of products of the establishments in such instances. If allowance were made for the value of the silk thrown on commission, Pennsylvania would take first place in the silk industry as a whole.

The next table shows the quantity and cost of materials used and the quantity and value of products manufactured for 1909, 1904, and 1899.

Raw silk purchased was the most important material in cost, contributing about three-fifths of the total for all materials used during each year, and shows a gain of $7,672,585, or 56.7 per cent, during the decade. Spun silk and organzine and tram also made gains. The total value of products practically doubled during the 10-year period. Broad silks, of which plain and fancy silks formed almost two-thirds in 1909, increased in quantity from 26,853,449 yards to 65,569,386 yards, or 144.2 per cent. The increase in ribbons is notable, as the value more than doubled. In 1899, $1,070,133 were received for contract work, but in 1909 the amount was $4,416,978, nearly all of which represented receipts for the throwing of silk on commission. In 1909, 7,733,016 pounds of silk were thrown on commission in the state, representing 60.6 per cent of the total quantity of silk thrown on contract in the United States. Of this amount, 4,150,688 pounds were thrown into organzine and 3,582,328 pounds into tram.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	**$35,165,571**	**$24,267,122**	**$19,884,869**
Silk:			
Raw—			
Pounds	5,532,973	3,970,044	3,238,285
Cost	$21,206,972	$15,419,221	$13,534,387
Spun—			
Pounds	695,067	454,074	477,543
Cost	$1,566,914	$876,485	$979,506
Artificial—			
Pounds	127,486	127,192	526
Cost	$273,646	$394,126	$3,115
Organzine and tram—			
Pounds	1,719,952	1,202,805	871,235
Cost	$7,531,045	$5,390,466	$3,701,840
Yarns, other than silk:			
Cotton—			
Pounds	2,869,000	2,591,135	1,759,759
Cost	$1,077,157	$665,915	$465,812
Mercerized cotton—			
Pounds	309,063	227,944	30,070
Cost	$224,029	$168,025	$23,121
Wool—			
Pounds	83,075	48,870	8,717
Cost	$98,340	$47,969	$5,743
Other:			
Pounds	186,170	53,453	78,923
Cost	$157,214	$74,292	$59,742
Chemicals and dyestuffs	$53,089	$26,363	(1)
Fuel and rent of power	$495,850	$317,231	$174,388
All other materials	$2,481,315	$887,029	$937,215
Products, total value	**$62,061,302**	**$39,333,520**	**$31,072,926**
Organzine and tram, for sale:			
Pounds	1,642,004	1,396,424	1,723,791
Value	$7,475,327	$6,124,717	$8,011,155
Machine twist, sewing, embroidery, and wash silks, and fringe and floss:			
Pounds	174,468	183,776	246,213
Value	$824,643	$837,466	$1,279,218
Broad silks (all silk and silk mixed):			
Plain and fancy—			
Yards	43,389,969	26,465,296	18,556,855
Value	$26,367,799	$15,572,901	$10,312,848
Jacquard—			
Yards	2,019,365	1,300,968	959,422
Value	$1,123,523	$821,834	$529,545
Piece-dyed—			
Yards	20,160,052	15,786,660	7,337,352
Value	$8,280,870	$4,427,795	$2,149,806
Ribbons	$10,008,146	$5,573,799	$4,368,399
Laces, embroideries, fringes, and braids	$780,047	$773,847	$293,068
Trimmings	$1,498,148	$1,326,307	$1,010,145
All other products	$1,285,821	$1,880,535	$2,048,609
Amount received for contract work	$4,416,978	$1,994,319	$1,070,133
Silk thrown on commission, total pounds	7,733,016	4,116,299	2,259,673
Into organzine, pounds	4,150,688	2,288,174	1,332,758
Into tram, pounds	3,582,328	1,828,125	926,915

[1] Not reported separately.

Hosiery and knit goods.—The manufacture of hosiery was introduced into the United States at Germantown, now a part of the city of Philadelphia, about 1698, and this city has always been the center of this branch of the textile industry in America. The next table shows the quantity and cost of materials used and the quantity and value of products manufactured for 1909, 1904, and 1899.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	**$27,217,951**	**$16,037,698**	**$10,935,763**
Cotton:			
Pounds	2,506,120	1,874,685	2,218,426
Cost	$302,702	$226,907	$189,491
Wool (in condition purchased):			
Pounds	467,877	1,168,283	1,347,914
Cost	$205,403	$432,669	$474,260
Equivalent in scoured condition, pounds	435,848	1,056,052	1,069,994
Shoddy and wool waste and noils:			
Pounds	960,929	777,995	593,985
Cost	$303,217	$232,754	$163,309
Yarns, purchased:			
Cotton—			
Pounds	59,035,958	46,895,164	38,323,301
Cost	$16,283,401	$10,305,172	$7,183,052
Woolen—			
Pounds	618,809	661,645	409,163
Cost	$399,134	$360,533	$219,025
Worsted—			
Pounds	1,684,786	1,584,717	1,115,863
Cost	$1,616,975	$1,350,076	$861,068
Merino—			
Pounds	389,296	178,619	350,011
Cost	$202,453	$104,827	$92,478
Silk and spun-silk—			
Pounds	250,467	73,606	30,397
Cost	$978,071	$204,872	$103,169
Linen, jute, and other vegetable fiber—			
Pounds	15,975	6,827	500
Cost	$17,507	$6,259	$100
Chemicals and dyestuffs	$804,026	$431,492	$271,662
Fuel and rent of power	$421,700	$284,194	$177,388
All other materials	$5,683,362	$2,097,943	$1,200,761
Products, total value	**$49,657,506**	**$30,812,211**	**$21,929,426**
Hose and half hose:			
Total dozen pairs	27,832,601	20,327,710	15,232,324
Total value	$30,847,344	$19,182,697	$13,189,964
Cotton—			
Dozen pairs	27,139,582	19,707,227	14,858,506
Value	$28,697,548	$17,794,113	$12,466,182
Hose—			
Dozen pairs	13,876,893	11,769,534	7,863,561
Value	$16,058,169	$11,317,802	$7,655,360
Half hose—			
Dozen pairs	13,262,689	7,937,693	6,994,945
Value	$12,639,379	$6,476,311	$4,810,822
Woolen or worsted and merino—			
Dozen pairs	547,522	599,448	367,818
Value	$959,391	$1,106,325	$633,782
Hose—			
Dozen pairs	295,023	354,240	187,871
Value	$501,105	$648,933	$379,075
Half hose—			
Dozen pairs	252,499	245,208	179,947
Value	$458,286	$457,392	$254,707
Silk—			
Dozen pairs	145,497	21,035	6,000
Value	$1,190,405	$282,259	$90,000
Shirts and drawers:			
Cotton—			
Dozens	6,552,364	3,852,513	2,670,341
Value	$8,833,761	$4,956,879	$3,456,695
Merino—			
Dozens	161,883	150,519	114,183
Value	$921,319	$710,547	$647,285
All other—			
Dozens	7,322	26,459	90,513
Value	$59,974	$279,142	$443,201
Combination suits:			
Cotton—			
Dozens	412,567	271,069	374,057
Value	$1,155,327	$657,824	$702,523
Merino—			
Dozens	23,268	9,858	29,366
Value	$234,855	$76,211	$208,844
All other—			
Dozens	440	(1)	1,115
Value	$4,100	(1)	$15,120
Gloves and mittens:			
Dozen pairs	284,931	152,714	82,163
Value	$1,037,894	$442,552	$167,545
Hoods, scarfs, nubias, etc.:			
Dozens	138,427	70,460	42,760
Value	$581,208	$202,450	$127,785
Cardigan jackets, sweaters, etc.:			
Dozens	221,700	145,503	86,191
Value	$2,986,061	$1,858,182	$536,707
All other products	$2,995,663	$2,445,727	$2,433,757

[1] Included in "All other products."

During the decade the cost of materials increased $16,282,188, or 148.9 per cent. Cotton yarns purchased increased in quantity from 38,323,301 pounds in 1899 to 59,035,958 pounds in 1909, a gain of 54 per cent. The quantity of wool purchased declined, while there was an increase in the quantity of raw cotton, of shoddy and wool waste and noils, and of the different kinds of yarn purchased.

The total value of products was $21,929,426 in 1899 and $49,657,506 in 1909, an increase of 126.4 per cent during the 10-year period. Nearly two-thirds of the total represents the value of hosiery, which increased 82.7 per cent in quantity and 133.9 per cent in value from 1899 to 1909. Almost all the hosiery produced was cotton. There was a gain of 48.9 per cent in the output of hosiery in which wool was the chief material and a large gain in silk hosiery. The production of shirts and drawers, gloves and mittens, hoods, scarfs, nubias, etc., and cardigan jackets, sweaters, etc., more than doubled during the decade, while the production of combination suits showed comparatively little increase.

Cotton goods, including cotton small wares.—As early as 1775 a spinning jenny, with 24 spindles, was operated in Philadelphia and in 1810, 611,481 yards of cotton goods were manufactured in the state. In the manufacture of certain kinds of cotton goods, such as lace and lace curtains and cotton tapestries, the state ranks first.

The following table shows the quantity and cost of the principal materials used and the quantity and value of the leading products for 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	**$18,757,025**	**$14,321,577**	**$13,176,718**
Cotton:			
Domestic—			
Pounds	23,607,952	24,810,154	35,083,214
Cost	$2,540,885	$2,743,506	$2,521,768
Foreign—			
Pounds	2,080,645	1,063,566	1,466,319
Cost	$336,765	$175,574	$168,764
Cotton yarn:			
Pounds	46,787,905	41,262,481	39,937,206
Cost	$10,852,298	$8,786,109	$7,337,382
Silk and spun-silk yarn:			
Pounds	144,128	143,471	230,634
Cost	$469,370	$420,457	$637,681
Other yarns:			
Pounds	1,709,440	1,032,762	1,715,626
Cost	$965,106	$359,136	$694,219
Cotton waste:			
Pounds	1,310,239	2,140,344	2,266,614
Cost	$80,421	$122,785	$108,942
Starch	$52,359	$60,072	$43,184
Chemicals	$480,367	$417,171	$455,106
Fuel and rent of power	$450,989	$375,112	$368,398
All other materials	$2,528,465	$861,655	$841,274
Products, total value	**$33,917,033**	**$26,299,853**	**$25,447,697**
Fancy woven fabrics:			
Square yards	32,806,629	30,398,352	30,981,363
Value	$5,119,822	$3,983,355	$3,906,347
Cottonades:			
Square yards	4,530,286	8,127,997	7,004,759
Value	$1,150,291	$1,471,292	$1,134,039
Corduroy, cotton velvet, and plush:			
Square yards	3,038,945	2,944,944	3,945,504
Value	$1,515,405	$1,182,671	$1,419,574
Upholstery goods:			
Tapestries (piece goods and curtains)—			
Square yards	8,783,867	8,691,354	9,586,606
Value	$4,163,683	$4,070,948	$4,048,784
Lace and lace curtains—			
Square yards	66,867,709	41,374,259	30,925,198
Value	$7,238,321	$5,569,180	$3,028,615
All other, including covers—			
Square yards	2,502,062	1,448,741	2,400,425
Value	$1,072,348	$601,133	$827,302
Cotton towels and toweling:			
Square yards	10,501,557	5,408,582	(1)
Value	$1,749,813	$1,100,601	(1)
All other woven goods:			
Square yards	31,671,270	23,511,283	41,221,811
Value	$3,347,791	$2,344,249	$3,323,556
Tape and webbing	$2,141,821	$1,742,185	$984,516
Yarns manufactured, for sale:			
Pounds	11,448,343	14,303,093	18,718,490
Value	$2,591,458	$2,812,445	$2,811,123
Cotton waste not used for further manufacture:			
Pounds	3,038,771	2,277,242	5,664,528
Value	$96,340	$79,970	$115,247
All other products	$3,729,940	$1,341,824	$3,848,594

[1] Not reported separately.

One of the striking changes in the industry in the state has been the decline in recent years in the spinning of cotton, which has been accompanied by an increased dependence upon yarns manufactured elsewhere. This is evidenced by the figures in the table, which show that the quantity of cotton used decreased from 36,549,533 pounds in 1899 to 25,688,597 pounds in 1909, while that of cotton yarn purchased increased from 39,937,206 pounds in 1899 to 46,787,905 pounds in 1909.

The most important single product manufactured was lace and lace curtains, which increased in value during the decade from $3,028,615 to $7,238,321, or 139 per cent. Of the total quantity of lace and lace curtains manufactured in the United States in 1909, 82.5 per cent was reported from Pennsylvania.

Carpets and rugs, other than rag.—In the manufacture of carpets and rugs, Pennsylvania has always held an important position among the states. As early as 1791 there was a factory in Philadelphia engaged in the manufacture of Turkey and Axminster carpets. At the census of 1849 Massachusetts led in the industry, but, at each census from 1859 to 1904, inclusive, Pennsylvania ranked first in value of products; New York took first place in 1909, but with a product only slightly greater in value than that reported for Pennsylvania. The industry in Pennsylvania is confined almost entirely to the city of Philadelphia, where the manufacture of ingrains is strongly established. With an output of 18,722,998 square yards in 1909, or 78.2 per cent of the total for the country, Philadelphia led all other cities in the production of ingrain carpets and rugs.

The next table shows the quantity and cost of the principal materials used and the quantity and value of the important products in 1909, 1904, and 1899.

The cost of materials and the value of products increased slightly during the 10-year period covered by the table, although there was a decrease in each between 1904 and 1909. The quantity of both wool and animal hair used decreased more than one-half. Tailors' clippings, rags, and shoddy increased markedly in quantity between 1899 and 1904, but from 1904 to 1909 they decreased more than one-half. Comparatively little change took place in the quantities of the other materials used.

The total output of carpet decreased from 38,373,245 square yards in 1899 to 36,953,509 square yards in 1904 and to 26,305,322 square yards in 1909, a loss for the decade of 12,067,923 square yards, or 31.4 per cent. This decrease is accounted for by the decline in the production of ingrain carpets. Axminster and Moquette, Wilton, and Brussels carpets all show marked increases in quantity, especially for the later period, 1904–1909. Velvet and tapestry Brussels, although showing a slight increase in quantity for the decade as a whole, decreased slightly between 1904 and 1909. The output of rugs woven whole more than doubled during the decade, but practically all of this increase came in the earlier five-year period.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	**$14,648,298**	**$16,706,431**	**$13,773,788**
Wool (in condition purchased):			
Pounds	5,787,409	9,126,230	11,568,721
Cost	$1,047,177	$1,722,097	$1,713,164
Equivalent in scoured condition, pounds	4,309,413	4,818,741	8,189,811
Animal hair:			
Pounds	1,795,124	4,253,081	4,307,897
Cost	$131,765	$277,186	$389,831
Tailors' clippings, rags, and shoddy:			
Pounds	1,267,642	2,645,628	737,580
Cost	$71,050	$213,130	$43,145
Yarns, purchased:			
Woolen—			
Pounds	22,320,073	26,077,669	28,020,087
Cost	$4,306,006	$5,144,231	$4,218,605
Worsted—			
Pounds	5,360,220	6,292,815	6,504,583
Cost	$2,592,410	$2,945,955	$2,481,729
Cotton—			
Pounds	14,385,059	17,296,402	13,215,750
Cost	$2,674,819	$2,937,387	$1,939,047
Linen—			
Pounds	1,483,096	1,232,433	1,699,108
Cost	$285,481	$220,601	$252,310
Jute, ramie, or other yarns of vegetable fiber—			
Pounds	16,646,563	17,990,828	15,784,309
Cost	$1,213,413	$1,331,559	$1,101,507
All other—			
Pounds	779,528	1,112,138	418,114
Cost	$404,521	$339,285	$331,525
Chemicals and dyestuffs	$861,323	$681,247	$550,542
Fuel and rent of power	$276,388	$245,092	$235,763
All other materials	$783,945	$648,661	$510,620
Products, total value	**$24,879,232**	**$27,120,311**	**$23,113,058**
Carpets and rugs of all kinds:			
Square yards	36,222,080	45,763,852	43,046,297
Value	$21,570,318	$23,650,927	$19,179,041
Carpets, including rugs made by sewing strips of carpet—			
Square yards	26,305,322	36,953,509	38,373,245
Value	$15,373,145	$18,289,962	$15,948,034
Axminster and Moquette—			
Square yards	1,249,311	226,500	.....
Value	$1,375,832	$231,510	.....
Wilton—			
Square yards	1,840,125	400,188	358,972
Value	$2,710,739	$682,825	$509,637
Brussels—			
Square yards	1,121,788	564,095	567,261
Value	$1,344,429	$724,129	$613,633
Velvet—			
Square yards	3,241,155	3,343,512	2,229,401
Value	$2,041,704	$2,850,000	$1,880,137
Tapestry Brussels—			
Square yards	2,713,187	3,666,808	2,149,966
Value	$1,927,853	$2,650,686	$1,340,978
Ingrain—			
Square yards	16,139,756	28,752,406	33,067,645
Value	$5,972,588	$11,150,812	$11,603,649
Rugs woven whole—			
Square yards	9,916,758	8,810,343	4,673,052
Value	$6,197,173	$5,360,965	$3,231,007
Wilton—			
Square yards	490,800	558,118	96,869
Value	$762,534	$1,052,671	$138,842
Tapestry Brussels—			
Square yards	1,467,919	(1)	(1)
Value	$1,104,682	(1)	(1)
Ingrain art squares—			
Square yards	5,439,266	5,747,587	2,380,126
Value	$2,018,846	$2,016,159	$999,360
All other—			
Square yards	2,518,773	2,504,638	2,196,057
Value	$2,311,111	$2,292,135	$2,092,805
All other products	$3,308,914	$3,469,384	$3,934,017

[1] Included in "All other rugs."

Fur-felt hats.—Pennsylvania held first place among the states in the manufacture of fur-felt hats in 1909 and the city of Philadelphia reported about 80 per cent of the total value of these products for the state. The next table gives detailed statistics of materials and products for 1909, 1904, and 1899.

The industry shows a large increase for each of the five-year periods. During the decade the total cost of materials increased $3,145,904, or 168.5 per cent. Hatters' fur increased in quantity from 817,311 pounds, costing $933,748, to 1,976,118 pounds, costing $2,420,635, thus more than doubling in both quantity and cost. During the same period the value of products more than trebled, increasing from $4,243,352 to $13,022,617, and the number of fur-felt hats produced

increased from 280,880 dozens to 668,696 dozens, or 138.1 per cent.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	**$5,012,770**	**$2,728,895**	**$1,866,866**
Hatters' fur:			
Pounds	1,976,118	1,227,951	817,311
Cost	$2,420,635	$1,307,816	$933,748
Fur-felt hat bodies and hats in the rough:			
Dozens	26,984	23,512	5,045
Cost	$175,642	$156,420	$42,341
Chemicals and dyestuffs	$164,843	$72,931	$77,317
All other materials	$2,251,650	$1,191,728	$813,460
Products, total value	**$13,022,617**	**$7,350,311**	**$4,243,352**
Fur-felt hats:			
Dozens	668,696	413,506	280,880
Value	$12,943,334	$7,270,067	$4,203,169
All other products	$79,283	$80,244	$40,183

Leather, tanned, curried, and finished.—The following table gives for the tanning, currying, and finishing of leather the quantity and cost of the various materials and the quantity and value of the different products for 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	**$59,113,124**	**$55,411,927**	**$42,403,503**
Hides (all kinds):			
Number	5,449,826	5,447,947	4,848,759
Cost	$30,118,025	$26,416,581	$22,955,326
Skins:			
Number	25,785,601	28,149,914	24,300,676
Cost	$14,490,256	$16,712,667	$11,504,911
Calf and kip—			
Number	142,464	292,500	388,205
Cost	$212,316	$501,930	$394,981
Goat—			
Number	23,117,712	24,220,530	21,854,197
Cost	$12,909,125	$13,646,179	$10,566,749
Sheep—			
Number	2,445,024	2,402,204	1,949,730
Cost	$1,160,130	$715,166	$492,520
All other—			
Number	80,401	1,234,680	108,544
Cost	$208,685	$1,849,392	$50,661
Purchased rough leather used	$2,692,729	$1,573,689	$891,999
Whole sides—			
Number	555,403	306,680	184,654
Cost	$1,440,104	$1,464,027	$662,687
All other	$1,252,625	$109,662	$229,412
All other materials	$11,812,114	$10,708,990	$7,051,267
Products, total value	**$77,926,321**	**$69,427,852**	**$55,615,009**
Leather	$73,255,418	$66,292,074	$53,857,074
Sole	$39,904,180	$33,553,676	$28,691,603
Hemlock—			
Sides	4,752,308	5,672,327	5,481,306
Value	$17,194,852	$17,829,564	$16,779,341
Oak and chrome—			
Sides	779,242	331,766	335,894
Value	$4,735,428	$1,867,731	$1,854,243
Union—			
Sides	3,675,802	3,472,046	2,366,322
Value	$17,973,900	$13,856,381	$10,058,019
Upper, other than calf or kip skins	$1,821,432	$642,193	$2,032,111
Grain, satin, pebble, etc. (side leather)—			
Sides	315,210	70,461	632,789
Value	$1,049,815	$158,721	$1,400,727
Finished splits—			
Number	588,730	64,413	635,960
Value	$303,409	$83,472	$626,134
Patent and enameled shoe—			
Sides	127,952	392,000	2,500
Value	$468,208	$400,000	$5,250
Horsehides and coltskins—			
Number	626,556	1,234,119	6,263
Value	$2,413,861	$3,450,950	$25,677
Calf and kip skins, tanned and finished—			
Number	145,139	243,956	419,593
Value	$334,602	$621,863	$641,955
Goatskins, tanned and finished—			
Number	23,822,008	22,909,407	21,602,961
Value	$19,975,045	$19,156,181	$15,796,782
Black—			
Number	22,415,255	20,923,993	19,828,129
Value	$18,691,232	$17,133,227	$14,182,422
Colored—			
Number	1,406,753	1,985,414	1,774,832
Value	$1,283,813	$2,022,954	$1,614,360
Sheepskins, tanned and finished—			
Number	1,772,091	1,090,180	1,090,822
Value	$1,267,974	$567,879	$600,423
Products—Continued.			
Leather—Continued.			
Harness—			
Sides	257,044	518,178	450,352
Value	$1,960,659	$2,989,450	$2,491,722
Carriage, automobile, and furniture—			
Hides	83,836	47,418	42,000
Value	$591,980	$307,278	$479,256
Trunk, bag, and pocketbook	$1,698,576	$751,772	$475,939
Leather, sold in the rough	$1,182,142	$2,298,589	$1,318,801
All other	$2,104,967	$1,952,243	$1,302,805
All other products	$1,412,742	$1,166,686	$592,954
Work on materials for others	$3,258,161	$1,969,092	$1,164,981

The cost of materials was $42,403,503 in 1899, $55,411,927 in 1904, and $59,113,124 in 1909, representing an increase of 30.7 per cent in the earlier five-year period and of 6.7 per cent in the later. The number of hides and skins treated increased 15.3 per cent from 1899 to 1904 and decreased 7 per cent from 1904 to 1909. Included in the cost of "All other materials" is that of bark and extracts. In 1909, 310,279 tons of tan bark were reported, costing $2,997,026, and 124,742,847 pounds of tanning extract, costing $3,665,942.

Of the total value of leather tanned, curried, and finished in the United States, this state reported 23.8 per cent in 1909, 27.5 per cent in 1904, and 27.3 per cent in 1899. It is especially prominent in the manufacture of sole leather and goatskins, producing in 1909 nearly one-half of the total output of each for the United States. The value of "All other products" and the amount received for work on materials for others also show large increases for both census periods. Practically all the leather was finished in the establishment tanning it, as comparatively little rough leather for currying is shown under materials or products.

Printing and publishing.—The following tabular statement shows, by period of issue, the number of publications and their aggregate average circulation for 1909, 1904, and 1899:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	**1,520**	**1,474**	**1,386**	**19,674,336**	**17,867,795**	**11,280,367**
Daily	223	220	196	2,924,306	2,520,587	1,917,426
Sunday	27	27	21	1,481,282	1,299,160	(1)
Semiweekly and triweekly	52	52	52	243,089	467,339	290,348
Weekly	847	887	883	5,319,021	5,282,691	3,691,954
Monthly	253	212	178	6,107,571	4,385,686	3,246,779
Quarterly	97	60	42	3,516,933	3,758,107	1,991,819
All other classes	21	16	14	82,134	154,225	142,041

[1] Included in circulation of dailies.

The total number of publications increased from 1,386 in 1899 to 1,520 in 1909, and the aggregate average circulation increased from 11,280,367 to 19,674,336. The largest increase in circulation, 2,860,792, is shown for monthlies, while dailies also show a large gain. The aggregate average circulation of weeklies increased 44.1 per cent and of quarterlies 76.6 per cent, while semiweeklies and triweeklies and "All other classes" show decreases.

The following statement shows for 1909 and 1904 the number and circulation of the various classes of pub-

lications, classified as printed in English or printed in a foreign language. Papers printed partly in English and partly in a foreign language are classified in the foreign group.

PERIOD OF ISSUE.	TOTAL.		IN ENGLISH.		IN FOREIGN LANGUAGES.[1]	
	Number.	Aggregate circulation per issue.	Number.	Aggregate circulation per issue.	Number.	Aggregate circulation per issue.
Total	**1,520**	**19,674,336**	**1,424**	**19,265,581**	**96**	**408,755**
Daily	223	2,924,306	215	2,848,657	8	75,649
Sunday	27	1,481,282	22	1,424,350	5	56,932
Weekly	847	5,319,021	778	5,132,782	69	186,239
Monthly	253	6,107,571	244	6,050,536	9	57,035
All other classes	170	3,842,156	165	3,809,256	5	32,900

[1] Includes those printed in English and a foreign language.

Ninety-three and seven-tenths per cent of the total number of publications, with 97.9 per cent of the total circulation, were printed in English. Of the 8 dailies printed in foreign languages, 5 were published in German and 2 in Italian, while 1 was reported as Slovak. The 69 weeklies were made up of 33 published in German, 20 in Letto-Slavic languages, 11 in Italian, 2 in Hungarian, and 1 each in French, Hebrew, and Swedish. Of the 9 monthlies, 4 each were published in German and in Letto-Slavic, and 1 in Swedish; and of the 5 publications included under the head of "All other classes," 4 were published in German and 1 in Lithuanian.

Lumber.—Although Pennsylvania is not specially prominent in the production of rough lumber, standing fourteenth among the states in this respect at the census of 1909, it ranked fourth in 1899 and was the leading state in this branch of the industry at the census of 1859. In the following tabular statement is shown the production of rough lumber, lath, and shingles in 1909 and 1899:

PRODUCT.		QUANTITY.	
		1909	1899
Lumber	M feet b. m.	1,462,771	2,333,278
Lath	thousands	143,059	266,949
Shingles	thousands	79,336	369,858

From 1899 to 1909 there was a decrease of 37.3 per cent in the production of rough lumber, of 46.4 per cent in the production of lath, and of 78.5 per cent in the production of shingles. The decline, during recent years, in the production of lumber in this state is due, in the main, to the rapidly diminishing supply of merchantable timber. As a result of this condition the annual output was not only substantially smaller at the end than at the beginning of the decade covered, but the composition of the total was materially changed. Whereas the conifers, particularly hemlock, white pine, and spruce, were drawn upon chiefly for many decades as a source of lumber, the diminished supply of this class of timber has brought into greater relative prominence the hardwoods. In 1909 only 56.1 per cent of the total quantity of lumber produced was softwood, whereas in 1899 the proportion was 77.2 per cent. The output of oak lumber in 1909 formed more than one-fifth of the total, and relatively large quantities were also cut from chestnut, maple, beech, birch, hickory, yellow poplar, basswood, and ash, ranking in order named. In 1909 there were 15 mills which cut from 10,000 to 25,000 M feet board measure, 4 that cut from 25,000 to 50,000 M feet, and 3 that cut over 50,000 M feet.

Petroleum refining.—The high rank of Pennsylvania in petroleum refining is due largely to the fact that petroleum was first produced on a commercial basis in this state and that the refineries were built near the source of supply. In the following table figures are presented showing the cost of materials, the quantity and value of the principal products, and details as to the main equipment reported for 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	**$47,440,316**	**$38,921,919**	**$27,513,735**
Crude petroleum:			
Barrels of 42 gallons	21,893,871	17,977,686	14,500,461
Cost	$38,914,307	$31,957,135	$23,172,609
Containers	$4,481,540	$3,184,412	$1,892,460
All other materials	$4,044,469	$3,780,372	$2,448,666
Products, total value	**$53,088,199**	**$47,459,502**	**$34,977,706**
Illuminating oil:			
Barrels of 50 gallons	8,659,488	8,328,883	7,276,712
Value	$24,319,743	$25,849,501	$20,390,666
Fuel oils (including gas oils):			
Barrels of 50 gallons	2,712,073	1,648,535	1,161,435
Value	$3,207,308	$2,563,439	$1,644,044
Lubricating oils:			
Barrels of 50 gallons	3,124,921	1,870,437	1,271,372
Value	$12,965,591	$7,177,818	$4,497,470
Naphtha and gasoline (including gas naphtha):			
Barrels of 50 gallons	2,051,118	1,774,626	1,582,262
Value	$8,063,575	$6,402,492	$4,687,560
Paraffin wax:			
Barrels of 50 gallons	326,809	279,511	255,327
Value	$2,456,178	$3,017,004	$2,244,836
Residuum, tar, greases, oil asphaltum, coke, and black naphtha	$534,180	$809,252	$433,981
All other products	$1,541,624	$1,639,996	$1,079,149
Equipment:			
Stills, number	579	516	528
Heated by steam—			
Number	102	112	106
Capacity (barrels, 42 gallons)	170,966	(1)	(1)
Heated by superheated steam—			
Number	6	4	8
Capacity (barrels, 42 gallons)	1,750	(1)	(1)
Heated by fire—			
Number	471	400	414
Capacity (barrels, 42 gallons)	571,234	(1)	(1)
Agitators, number	143	120	113
Chilling houses for paraffin, number	43	48	21
Hydraulic or other presses, number	124	124	208
Storage tanks:			
For crude petroleum—			
Number	118	131	152
Capacity, gallons	64,429,951	42,683,656	(1)
For refined petroleum—			
Number	2,138	1,191	1,198
Capacity, gallons	224,531,444	110,111,758	(1)
Cooper shops, number	20	30	25
Tinshops, number	3	3	2

[1] Not reported.

From 1899 to 1909 the cost of materials increased 72.4 per cent and the value of products 51.8 per cent. The quantity of crude petroleum used as material increased from 14,500,461 barrels of 42 gallons to 21,893,871 barrels of 42 gallons, or 51 per cent, and the quantity of oils produced, including naphtha and gasoline, increased from 11,291,781 barrels of 50 gallons to 16,547,600 barrels of 50 gallons, or 46.5 per cent. The value of illuminating oil constituted 45.8 per cent of the total value of products in 1909, as compared with

54.5 per cent in 1904 and 58.3 per cent in 1899. Lubricating oils, the product second in importance, show the largest absolute and relative increase in quantity from 1904 to 1909. Comparative figures for the quantities of the other products, except paraffin wax, are not available, but the value of all such products increased 20.6 per cent during the decade.

The development of the industry is also reflected in the figures for the equipment, such as stills, storage tanks, and agitators.

Slaughtering and meat packing.—The following table shows the quantity and cost of the principal materials used and the quantity and value of the leading products reported for 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	$44,845,047	$28,339,983	$21,805,858
Beeves slaughtered:			
Number	252,897	197,581	130,073
Cost	$14,997,080	$10,068,306	$6,497,257
Calves slaughtered:			
Number	152,851	112,867	51,510
Cost	$1,764,473	$1,025,377	$445,811
Sheep slaughtered:			
Number	445,471	363,494	231,556
Cost	$2,332,533	$1,570,071	$971,583
Hogs slaughtered:			
Number	1,222,880	1,085,634	831,821
Cost	$16,934,874	$10,156,069	$6,977,465
Dressed meat purchased	$4,898,467	$3,363,793	$5,518,048
Fuel and rent of power	$239,663	$150,750	$94,769
All other materials	$3,677,957	$2,005,617	$1,300,925
Products, total value	$51,850,936	$33,100,878	$25,537,390
Beef, fresh:			
Pounds	136,838,202	117,319,123	84,181,747
Value	$13,072,530	$9,436,666	$7,059,719
Beef, salted or cured:			
Pounds	2,765,672	924,173	2,515,208
Value	$448,471	$88,394	$191,168
Veal:			
Pounds	13,405,455	9,097,823	4,371,144
Value	$1,671,022	$987,297	$465,386
Mutton:			
Pounds	17,316,377	15,035,808	9,604,293
Value	$2,149,700	$1,440,490	$979,064
Pork, fresh:			
Pounds	50,210,292	37,333,942	45,896,941
Value	$6,072,517	$3,295,575	$3,488,370
Pork, salted or cured:			
Pounds	78,559,883	78,070,062	93,425,184
Value	$11,116,844	$7,679,349	$7,906,670
Sausage, fresh or cured	$5,421,307	$2,805,029	$1,532,434
All other fresh meat:			
Pounds	3,189,364	13,498,980	1,634,720
Value	$195,490	$939,079	$128,603
Lard:			
Pounds	36,121,032	34,129,473	26,811,272
Value	$4,522,249	$2,534,618	$1,733,824
Tallow and oleo stock:			
Pounds	6,594,450	(1)	(1)
Value	$379,411	(1)	(1)
Stearin:			
Pounds	2,371,256	(1)	(1)
Value	$303,015	(1)	(1)
Fertilizers and fertilizer materials:			
Tons	9,973	8,415	3,108
Value	$190,762	$140,642	$88,099
Hides:			
Number	397,448	296,259	181,533
Pounds	19,170,659	14,619,934	8,303,766
Value	$2,426,372	$1,469,705	$725,637
Pelts:			
Number	444,480	363,494	(1)
Value	$455,030	$336,037	(1)
All other products, including custom or contract work	$3,426,216	$1,947,997	$1,238,416

[1] Not reported separately.

The total cost of materials and the total value of products more than doubled during the period covered by the table. An increase in the number slaughtered is shown for each class of animals. The largest absolute increase was in the number of hogs, while the largest relative increase was in the number of calves.

Fresh meat sold as such increased 75,270,845 pounds, or 51.6 per cent, in quantity, and $11,040,117, or 91.1 per cent, in value between 1899 and 1909, while cured meats decreased 15.2 per cent in quantity and increased 42.8 per cent in value. In this connection attention is called to the fact that in 1904 a considerable quantity of fresh pork was reported under "All other fresh meats." During the decade lard increased 34.7 per cent in quantity and 160.8 per cent in value, and fertilizers and fertilizer materials, 220.9 per cent in quantity and 116.5 per cent in value.

Coke.—The manufacture of coke in the United States was begun in 1841 near Connellsville, Pa. For many years the industry was confined almost entirely to the western part of Pennsylvania, because coal suited to its manufacture was abundant there and because the iron mills of the Pittsburgh district which consumed it were near. While coke is now manufactured in a number of other states, Pennsylvania still leads in its production and supplies about two-thirds of the total for the country.

The following table presents the statistics for the principal items of materials used and of products manufactured, together with the kind and number of ovens used, for 1909, 1904, 1899:

MATERIAL, PRODUCT, OR EQUIPMENT.	1909	1904	1899
Materials used, total cost	$33,762,453	$14,978,581	$11,678,079
Coal charged into ovens, tons	36,983,568	23,083,044	19,490,030
Run of mine—			
Unwashed	31,712,482	20,595,557	(1)
Washed	2,278,927	505,527	(1)
Slack—			
Unwashed	1,016,576	1,079,682	(1)
Washed	1,975,583	902,278	(1)
Cost	$32,065,729	$14,423,048	$10,899,832
All other materials	$1,696,724	$555,533	$778,247
Products, total value	$51,816,449	$28,924,229	$22,282,358
Coke:			
Tons	24,905,525	16,273,046	13,245,594
Value	$50,377,035	$28,593,136	$22,039,151
Made in beehive ovens—			
Tons	22,966,105	15,767,652	(1)
Value	$45,315,189	$27,542,495	(1)
Made in retort or by-product ovens—			
Tons	1,939,420	505,394	(1)
Value	$5,061,846	$1,050,641	(1)
By-products obtained from retort or by-product ovens:			
Gas made, cubic feet (thousands)	22,255,825	4,772,401	(1)
Used in process or wasted, cubic feet (thousands)	21,526,611	4,638,367	(1)
Sold—			
Cubic feet (thousands)	729,214	134,034	153,201
Value	$16,988	$11,569	$32,669
Tar—			
Gallons	14,248 161	3,815,240	3,504,428
Value	$299,600	$84,812	$64,429
Ammonia sulphate—			
Pounds	12,483,510	1,467,317	3,046,683
Value	$327,554	$38,733	$78,999
Ammonia liquor—			
Gallons	5,898,883	1,334,775	890,184
Value	$504,378	$190,164	$61,073
All other	$290,899	$5,815	$6,037
Equipment:			
Ovens, number at end of year	54,506	37,205	26,920
Beehive ovens	53,210	36,675	26,565
Retort or by-product ovens	1,296	530	355

[1] Figures not available.

During the period covered by the table the quantity of coke produced almost doubled, while its value considerably more than doubled. Although still of minor importance, coke manufactured in retort, or by-product, ovens almost quadrupled in quantity from 1904 to 1909. The value of by-products in 1909 shows a large increase over former years. The growth in the use of by-product ovens promises an important saving through the utilization of a former waste.

Flour-mill and gristmill products.—The following table gives the quantity and value of the several products of the flour mills and gristmills for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	$44,782,558	$38,518,702	$29,570,943
Wheat flour:			
White—			
Barrels	3,738,812	3,952,446	4,450,832
Value	$20,094,935	$19,764,264	$15,935,768
Graham—			
Barrels	11,030	16,783	
Value	$56,043	$79,805	
Corn meal and corn flour:			
Barrels	767,462	1,097,993	864,007
Value	$2,369,701	$2,691,670	$1,684,721
Rye flour:			
Barrels	154,679	128,506	124,878
Value	$628,999	$536,576	$385,834
Buckwheat flour:			
Pounds	50,760,006	45,117,852	46,144,362
Value	$1,289,949	$1,075,989	$968,470
Barley meal:			
Pounds	196,800	331,600	42,240
Value	$2,776	$4,106	$1,018
Hominy and grits:			
Pounds	52,105,637	33,938,974	16,308,420
Value	$796,433	$411,579	$167,793
Feed:			
Tons	458,007	413,246	426,431
Value	$13,296,931	$9,990,426	$7,985,943
Offal:			
Tons	191,629	185,642	162,548
Value	$4,774,378	$3,774,327	$2,399,662
All other products	$1,472,413	$189,960	$41,734

The value of products of the industry increased from $29,570,943 in 1899 to $44,782,558 in 1909, an increase which is due, to a large extent, to the advance in the prices of these commodities. The quantity of wheat flour and of corn meal and corn flour manufactured decreased during the decade, while the quantity of rye flour, buckwheat flour, hominy and grits, feed, and offal increased. Barley meal, although showing a considerable increase for the decade, decreased markedly in quantity in the five-year period 1904–1909.

Glass.—In 1909 Pennsylvania reported 35.6 per cent of the total value of glass products manufactured in the United States, as against 34.8 per cent in 1904 and 38.9 per cent in 1899. The next table gives detailed statistics of materials and products in 1909, 1904, and 1899.

Large increases are shown for both five-year periods covered by the table in the total cost of all materials and in the quantities of practically all the principal materials used. The increase in the total cost of materials was 44.9 per cent from 1899 to 1904 and 35.5 per cent from 1904 to 1909. During the last-named five-year period the quantity of window glass increased 50.8 per cent, while the value per 50-foot box decreased 35.6 per cent. Plate glass, both rough and polished, also increased in quantity and decreased in value per square foot. The reductions in the value per unit of these products are due largely to the more extensive use of improved machinery. The total value of pressed and blown glass increased from $8,453,550 in 1899 to $9,847,228 in 1909, or 16.5 per cent, and that of bottles and jars from $4,162,990 to $7,778,787, or 86.9 per cent. Of the 112 establishments engaged in the manufacture of glass in Pennsylvania in 1909, 44 produced building glass; 32, pressed and blown glass; and 41, bottles, jars, etc.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	$12,633,913	$9,325,184	$6,435,463
Glass sand, tons	341,319	219,958	101,859
Soda ash, tons	85,697	56,742	46,398
Salt cake, tons	40,444	28,749	34,297
Nitrate of soda, tons	3,616	3,451	4,330
Limestone, tons	72,958	45,974	38,309
Lime, bushels	337,726	331,816	184,970
Arsenic, pounds	1,540,208	996,496	896,074
Carbon, tons	2,701	1,598	1,926
Manganese, pounds	706,621	648,926	457,581
Litharge and red lead, pounds	4,709,539	4,030,785	3,143,727
Potash and pearlash, pounds	2,176,837	1,921,380	1,938,334
Grinding sand, tons	485,363	273,428	182,117
Rouge, pounds	955,525	717,071	532,524
Products, total value	$32,817,936	$27,671,693	$22,011,130
Building glass	$14,958,649	$12,169,013	$9,213,545
Window glass:			
50-foot boxes	3,635,449	2,410,400	2,068,340
Value	$5,786,591	$5,963,874	$5,301,131
Plate glass:			
Sold rough—			
Square feet	151,609	8,652	579,905
Value	$26,717	$2,045	68,032
Polished—			
Square feet	31,841,174	17,686,694	10,877,250
Value	$8,219,104	$5,138,509	$3,441,734
Skylight glass:			
Square feet	10,792,914	7,745,349	3,636,536
Value	$543,019	$357,587	$161,203
All other	$383,218	$706,998	$241,445
Pressed and blown glass	$9,847,228	$9,406,183	$8,453,550
Bottles and jars	$7,778,787	$5,951,144	$4,162,990
All other products	$233,272	$145,353	$181,045

Boots and shoes, including cut stock and findings.—The following table shows the total number of pairs of the various kinds of footwear turned out by the boot and shoe factories of Pennsylvania in 1909, 1904, and 1899:

KIND.	NUMBER OF PAIRS.		
	1909	1904	1899
Boots and shoes	11,631,329	9,998,589	10,978,367
Men's, boys', and youths'	2,048,307	2,151,742	2,082,210
Women's, misses', and children's	9,583,022	7,846,847	8,896,157
Slippers, all kinds	1,165,117	328,741	275,666
All other kinds	4,792,028	3,009,090	1,224,023

The total number of pairs of footwear produced in the state in 1909 was 17,588,474, a gain of 4,252,054 pairs, or 31.9 per cent, over 1904, and of 5,110,418 pairs, or 41 per cent, over 1899. Of the 11,631,329 pairs of boots and shoes made in 1909, men's, boys', and youths' formed 17.6 per cent and women's, misses', and children's 82.4 per cent. The corresponding proportions for 1904 were 21.5 per cent and 78.5 per cent, respectively.

The following table shows the distribution of the various kinds of footwear produced in 1909 according to the methods employed in their manufacture:

KIND.	NUMBER OF PAIRS, BY METHOD OF MANUFACTURE.				
	Total.	Machine or hand welt.	Turned.	McKay.	All other methods.[1]
Boots and shoes	11,631,329	2,764,754	4,170,122	4,187,893	508,560
Men's, boys', and youths'	2,048,307	673,025	(2)	889,977	485,305
Women's, misses', and children's	9,583,022	2,091,729	4,170,122	3,297,916	23,255
Slippers, all kinds	1,165,117	91,739	583,741	489,637	(2)
All other kinds	4,792,028	579,602	3,861,268	222,783	128,375

[1] Includes "wooden-pegged" and "wire-screw or metal-fastened."
[2] Not reported.

The greater part of the footwear manufactured in Pennsylvania, in 1909, was McKay and turned sewed, over 4,500,000 pairs of the former class and over 8,500,000 of the latter class being reported while slightly less than 3,500,000 pairs were made by the machine or hand welt method.

Paper and wood pulp.—Paper was manufactured in Pennsylvania as early as 1690 by William Rittenhouse at Roxboro, now a part of the city of Philadelphia. In the development of the industry, both in the use of new paper-making materials and in the improvement of machinery, the manufacturers of the state have taken a prominent part. Since the use of wood fiber in the manufacture of many kinds of paper has become general several of the states having an abundant supply of timber suited to the manufacture of pulp have outranked Pennsylvania in this industry. The state ranked first in 1810, second in 1840, fourth in 1849, third from 1859 to 1889, fourth in 1899, and fifth in 1904 and 1909.

The next table shows the quantity and cost of the principal materials used in the industry, the quantity and value of the principal products, and the principal equipment for the census years 1909, 1904, and 1899.

The total cost of the materials used, including fuel and rent of power, amounted to $6,374,315 in 1899, $8,509,546 in 1904, and $11,398,311 in 1909, a gain of 78.8 per cent during the decade. The cost of pulp wood consumed almost trebled during this period, increasing from $711,450 to $2,111,025. The total quantity of wood used in the manufacture of pulp was 181,850 cords in 1899 and 243,420 cords in 1904. The schedule used in collecting the data regarding the operations of pulp mills for 1909 did not call for the quantity of pulp wood used, because this bureau, in collaboration with the Forest Service, now obtains information on this subject in connection with its annual compilation of statistics of forest products. These reports show that in 1909, 295,038 cords of pulp wood were used, representing an increase of 62.2 per cent for the decade. Of the wood pulp manufactured, 120,261 tons were for use in the establishments making it. Of this amount, 2,760 tons consisted of ground wood; 64,187 tons, of soda fiber; and 53,314 tons, of sulphite fiber. In addition, 41,062 tons of wood pulp were purchased, of which 30,712 tons, or nearly 75 per cent, were sulphite fiber. Thus the total quantity of wood pulp used during the year in the manufacture of paper was 161,323 tons, as compared with 96,022 tons in 1904 and 98,907 tons in 1899, making an increase of 63.1 per cent for the decade.

In this connection it should be explained that separate reports were secured for paper mills and pulp mills operating under the same ownership if they were located at different points; in such instances, pulp transferred from one plant to another and not actually sold was treated, for statistical purposes, as sold by the pulp mill and as purchased by the paper mill.

MATERIAL PRODUCT OR MACHINE.	1909	1904	1899
Materials used, total cost	$11,398,311	$8,509,546	$6,374,315
Pulp wood	$2,111,025	$1,222,491	$711,450
Wood pulp, purchased:			
Tons	41,062	30,945	30,303
Cost	$1,773,494	$1,181,511	$929,066
Ground—			
Tons	6,942	6,747	5,340
Cost	$163,187	$125,463	$116,993
Soda fiber—			
Tons	3,408	4,451	9,513
Cost	$151,337	$189,892	$284,449
Sulphite fiber—			
Tons	30,712	19,747	15,450
Cost	$1,458,970	$866,156	$527,624
Rags, including cotton and flax waste and sweepings:			
Tons	64,654	56,207	34,969
Cost	$1,226,978	$866,616	$626,705
Old or waste paper:			
Tons	106,150	65,726	46,697
Cost	$1,208,765	$719,574	$465,872
Manila stock, including jute bagging, rope, waste, and thread:			
Tons	9,544	11,971	7,851
Cost	$327,212	$290,469	$270,405
Fuel and rent of power	$1,544,116	$1,196,885	$627,366
All other materials	$3,206,721	$3,023,000	$2,743,390
Products, total value	$19,872,717	$15,411,032	$12,267,900
Book and cover paper:			
Tons	80,439	66,256	61,136
Value	$6,442,043	$4,905,068	$4,720,921
Writing and other fine paper:			
Tons	39,251	22,095	19,944
Value	$3,508,067	$2,322,427	$1,749,511
Wrapping paper:			
Tons	63,995	58,192	36,110
Value	$3,954,578	$3,154,038	$2,024,486
Manila (rope, jute, tag, etc.)—			
Tons	5,702	5,964	6,930
Value	$670,071	$582,976	$585,224
Heavy (mill wrappers, etc.)—			
Tons	30,619	31,043	5,921
Value	$1,777,450	$1,366,455	$265,034
Bogus or wood manila—			
Tons	6,167	1,571	11,457
Value	$278,993	$72,898	$557,003
All other—			
Tons	15,507	19,614	11,802
Value	$1,228,064	$1,131,709	$617,225
Boards:			
Tons	53,963	26,398	20,488
Value	$1,406,309	$688,358	$595,414
Building, roofing, asbestos, and sheathing paper:			
Tons	60,168	67,797	45,923
Value	$1,937,000	$1,847,762	$1,313,436
All other products	$2,624,720	$2,493,379	$1,855,132
Wood pulp produced (including that used in mills where manufactured), total tons	136,850	83,114	85,433
Ground, tons	2,760	19,000	4,505
Soda fiber, tons	80,776	53,682	61,662
Sulphite fiber, tons	53,314	10,432	19,266
Machinery:			
Paper machines:			
Total number	126	134	122
Capacity, yearly, tons	419,207	327,505	237,434
Fourdrinier—			
Number	68	65	59
Capacity per 24 hours, tons	736	580	(1)
Cylinder—			
Number	58	69	63
Capacity per 24 hours, tons	706	543	(1)
Pulp equipment:			
Grinders, number	5	5	20
Digesters, number	105	89	76
Soda fiber	83	73	(1)
Sulphite fiber	22	16	(1)
Capacity, yearly, tons of pulp	169,961	130,547	94,525
Ground, tons	16,908	4,400	(1)
Soda, tons	87,903	73,873	(1)
Sulphite, tons	65,150	52,274	(1)

[1] Not reported separately.

During 1909 the industry used 64,654 tons of rags, including cotton and flax waste and sweepings, costing $1,226,978, and 106,150 tons of old and waste paper, costing $1,208,765. The increases in both items for the 10-year period 1899–1909 were large, being especially true of waste paper, the increased use of which reflects the scarcity of paper-making materials.

The total value of paper manufactured and of pulp manufactured for sale increased from $12,267,900 in 1899 to $15,411,032 in 1904, and $19,872,717 in 1909, an increase of 62 per cent during the 10-year

period. Book and cover paper was the principal product in value and contributed about one-third of the total for all products in 1909. The product ranking next in value was wrapping paper, which had a value somewhat greater than that of writing and other fine paper.

The total amount of wood pulp produced, including 120,261 tons used in the establishments in which it was manufactured, increased from 85,433 tons in 1899 to 136,850 tons in 1909, a gain of 51,417 tons, or 60.2 per cent. Of the total production in 1909, 80,776 tons, or 59 per cent, consisted of soda fiber and 53,314 tons, or 39 per cent, of sulphite fiber.

Chemicals.—In the following table are shown the quantity and value of the principal products or groups of products reported for this industry, which does not include sulphuric, nitric, and mixed acids, in 1909 and 1904:

PRODUCT.	1909	1904
Total value	$15,978,162	$11,773,719
Acids:		
Muriatic—		
Pounds	16,753,080	.....
Value	$176,318	(1)
Citric, oxalic, lactic, and hydrofluoric	$322,503	(1)
All other	$1,427,442	$1,986,023
Sodas:		
Tons	25,690	(2)
Value	$614,985	$1,066,134
Alums:		
Pounds	84,273,500	100,832,827
Value	$1,139,000	$1,249,856
Coal-tar distillery products	$318,946	$15,120
Cyanides:		
Pounds	2,806,326	3,137,776
Value	$337,567	$435,770
Bleaching materials	$8,839	$35,644
Electrochemicals	$903,196	(2)
Compressed or liquefied gases	$930,873	$382,330
Fine chemicals:		
Gold salts—		
Ounces	3,059	6,435
Value	$35,630	$65,249
Silver salts—		
Ounces	863,128	521,161
Value	$299,414	$211,812
All other, including alkaloids, platinum salts, and ether	$4,004,389	$2,842,634
Copperas:		
Pounds	21,531,000	6,932,050
Value	$48,062	$18,200
Epsom salts, tin salts, and zinc salts	$499,756	$416,380
All other general chemicals	$4,795,557	$1,879,840
All other products	$115,685	$1,168,727

[1] Included in other acids. [2] Figures not available.

In the chemical industry proper the cost of materials increased $2,934,676, or 40.4 per cent, from 1904 to 1909. In value of products the increase was $4,204,443, or 35.7 per cent, during the same five-year period. In addition to the products shown in the table, chemicals valued at $1,999,718 were manufactured by establishments included under other classifications.

Paint and varnish.—The next table shows the quantity and value of the paints and varnishes reported at the censuses of 1909, 1904, and 1899.

The largest gain reported for any product was that for white lead, both dry and in oil, which increased from 32,478,546 pounds, valued at $1,516,121, in 1899, to 50,819,314 pounds, valued at $2,885,786, in 1909. Paints mixed ready for use, pulp color sold moist, pyroxylin varnishes, and japans, dryers, and lacquers also show conspicuous increases.

PRODUCT.	1909	1904	1899
Total value	$14,019,744	$11,637,038	11,299,465
Pigments:			
White lead, dry—			
Pounds	18,418,107	3,562,796	[1] 32,478,546
Value	$890,607	633,620	[1] $1,516,121
Oxides of lead—			
Pounds	21,496,303	19,602,384	27,893,478
Value	$1,183,696	$1,039,468	$1,338,959
Iron oxides and other earth and dry colors—			
Pounds	78,874,244	54,337,906	70,266,323
Value	$772,332	$768,675	$933,425
Pulp colors sold moist—			
Pounds	6,158,396	3,343,289	594,379
Value	$209,206	$47,772	$12,842
Paints in oil:			
White lead in oil—			
Pounds	32,401,207	35,780,225	(2)
Value	$1,995,179	$1,898,758	(2)
Paste—			
Pounds	29,741,101	22,061,202	[3] 59,071,523
Value	$1,609,481	$1,398,355	[3] $3,050,976
Already mixed for use—			
Gallons	3,083,523	2,190,972	2,163,259
Value	$2,708,202	$1,846,999	$1,505,049
Varnishes and japans:			
Oleoresinous varnishes—			
Gallons	397,010		
Value	$356,105		
Damar and similar turpentine and benzine varnishes—		1,174,352	1,408,656
Gallons	502,987	$1,082,384	$1,236,672
Value	$309,029		
Spirit varnishes, not turpentine—			
Gallons	72,567	83,536	45,130
Value	$93,945	$136,980	$77,653
Pyroxylin varnishes—			
Gallons	56,808	39,073	.....
Value	$85,269	$16,585	.....
Dryers, japans, and lacquers—			
Gallons	2,199,656	(4)	(4)
Value	$800,082	$257,502	$458,936
All other	$170,121	$374,489	$92,455
Fillers, putty, and water paints	$498,517	$360,439	(2)
All other products	$2,338,073	$1,775,012	$1,076,377

[1] Includes "White lead in oil." [2] Included in "White lead, dry." [3] Includes paste fillers. [4] Not reported.

Butter, cheese, and condensed milk.—In 1909 Pennsylvania ranked sixth among the states in the factory production of butter, fifth in cheese, and seventh in condensed milk. The following table shows the quantity and value of the several products for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	$13,544,065	$11,581,115	$10,290,006
Butter:			
Packed solid—			
Pounds	9,283,220	10,660,820	13,458,287
Value	$2,741,957	$2,278,140	$2,767,190
Prints or rolls—			
Pounds	21,200,997	25,094,021	23,678,874
Value	$6,871,342	$6,413,222	$5,536,722
Cheese:			
Full cream—			
Pounds	9,423,849		
Value	$1,314,704		
Part cream—		11,453,424	10,267,443
Pounds	490,685	$1,007,815	$888,733
Value	$42,921		
Other kinds—			
Pounds	1,319,503		
Value	$57,265		
Condensed milk:			
Sweetened—			
Pounds	10,777,613	19,160,432	2,862,000
Value	$738,399	$1,177,969	$255,835
Unsweetened—			
Pounds	15,683,771	1,204,268	
Value	$743,014	$51,633	
Cream sold:			
Pounds	4,754,954	1,778,703	686,316
Value	$531,432	$161,913	$396,108
All other products	$503,031	$490,423	$445,418

This table shows an increase in 1909, as compared with 1899, of $3,254,059, or 31.6 per cent, in the total value of products. Butter contributed 71 per cent of the total value of products in 1909. The quantity produced decreased between 1899 and 1904 and again

between 1904 and 1909, but the value increased a little at each census. Cheese, which contributed 10.4 per cent of the total value of products of the industry in 1909, showed no very marked change in either quantity or value, while condensed milk, which contributed 10.9 per cent of the total value of products, shows enormous increases in both quantity and value. Cream sold as such also shows a very large increase during the decade.

Brick and tile, and pottery, terra-cotta, and fire-clay products.—Statistics for these two allied industries for 1909 were collected and compiled by the Bureau of the Census in cooperation with the Geological Survey. The quantities given for that year include the entire output of these products, whether manufactured by establishments covered by the industry designation or by establishments primarily engaged in some other industry, while the amounts for 1904 and 1899 include only the products of establishments engaged chiefly in manufacturing such products. The value of the table for comparative purposes is not appreciably affected, however, because the quantities reported by establishments not covered by the industry designation were relatively very small.

The following table presents statistics for this industry, as above described, for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	**$22,297,310**	**$18,039,187**	**$14,081,844**
Brick and tile, terra-cotta, and fire-clay products	$19,463,479	$16,516,697	$12,917,327
Brick	$17,246,388	$13,709,969	$11,156,544
Common—			
Thousands	872,658	809,154	780,387
Value	$5,607,490	$4,993,194	$4,519,324
Fire—			
Thousands	[1] 417,836	356,666	558,016
Value	$8,107,807	$6,289,231	$4,921,339
Vitrified paving, etc.—			
Thousands	116,735	91,646	89,017
Value	$1,329,317	$941,588	$702,782
Front, including fancy colored—			
Thousands	194,695	121,798	88,784
Value	$2,111,556	$1,281,558	$959,000
Fancy or ornamental	$27,963	$134,854	$54,099
Sand lime—			
Thousands	10,691	7,792	.....
Value	$62,255	$69,544	.....
Drain tile	$14,668	$14,099	$26,519
Other tile	$441,243	$215,688	$61,036
Sewer pipe	$445,594	$809,374	$204,400
Architectural terra cotta	$428,522	$341,077	$139,100
Fireproofing, terra-cotta lumber, and hollow building tile or blocks	$324,860	$198,437	$110,210
Stove lining	$97,270	([2])	$106,851
All other	$464,934	$1,228,053	$1,112,667
Pottery	$1,624,335	$1,325,581	$1,164,517
White ware, including C. C. ware, white granite, semiporcelain ware, and semivitreous porcelain ware	$812,338	$547,798	$200,757
Sanitary ware	$252,951	$86,058	$41,727
Stoneware and yellow and Rockingham ware	$297,020	$386,423	$174,450
China, bone china, delft, and belleek ware	$91,757	$30,000	.....
Red earthenware	$159,796	$136,532	$99,786
All other	$10,464	$138,770	$647,797
All other products	$1,209,496	$196,909	.....

[1] Includes refractory block or tile, boiler and locomotive tile, and tank blocks and other refractory products (9-inch equivalent).
[2] Not reported separately.

Measured by value of products the industries as a whole and practically all the several branches individually show a steady increase. In 1909 products to the value of $22,297,310 were manufactured, an increase of $4,258,123, or 23.6 per cent, over 1904 and of $8,215,466, or 58.3 per cent, over 1899. Of the total value of products in 1909, brick of all kinds contributed 77.3 per cent, as compared with 76 per cent in 1904 and 79.2 per cent in 1899. Common brick increased 92,271 thousand, or 11.8 per cent, in quantity and $1,088,166, or 24.1 per cent, in value during the decade, while fire brick shows an increase of 64.7 per cent in value. All the other kinds of brick for which quantities are given show increases in both quantity and value. Sewer pipe shows a large decrease in 1909 as compared with 1904 but an increase over 1899. Architectural terra-cotta, and fire-proofing and other miscellaneous building materials, show large increases for both 1904 and 1909.

Pottery products, as a whole, which in 1909 contributed 7.3 per cent of the total value of products for the combined industries, show considerable growth. The most important single item, white ware, etc., representing, in 1909, 50 per cent of the total value of all pottery products, shows a rapid increase in the value of the output. The value of stoneware, while showing an increase for the decade, decreased considerably from 1904 to 1909. Chinaware and the other finer grades of ware combined are relatively unimportant but show a large growth, more than trebling in value. Red earthenware also shows a steady increase in value.

Carriages and wagons.—The following table shows the number and value of the several products of this industry for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	**$12,748,383**	**$11,493,128**	**$10,455,016**
Carriages, family and pleasure:			
Number	23,395	33,467	41,490
Value	$1,738,125	$2,355,043	$2,816,780
Wagons:			
Number	33,634	35,395	27,138
Value	$2,996,485	$2,839,372	$2,161,435
Business—			
Number	21,414	21,722	([1])
Value	$2,143,007	([1])	([1])
Farm—			
Number	11,964	13,321	([1])
Value	$766,499	([1])	([1])
Government, municipal, etc.—			
Number	256	352	([1])
Value	$86,979	([1])	([1])
Public conveyances:			
Number	432	333	141
Value	$133,811	$117,093	$27,645
Sleighs and sleds:			
Number	3,210	5,551	5,509
Value	$90,619	$150,461	$118,449
All other products, including parts and repair work	$7,789,343	$6,031,159	$5,330,707

[1] Not reported.

The increase of $2,293,367 shown in the total value of products for the decade is more than covered by the advance in the one item "All other products, including parts and repair work," the gain in the value of which was $2,458,636. Wagons and public conveyances combined show an increase in value of $941,216. A decided decrease is shown in the number and value of family and pleasure carriages and sleighs and sleds.

Laundries.—Statistics for steam laundries are not included in the general tables or in the tables for manufacturing industries. There were 385 such establishments in Pennsylvania, 92 of which were in Phila-

delphia, 26 in Pittsburgh, 9 in Harrisburg, 8 in Reading, and 7 each in Erie, Wilkes-Barre, Williamsport, and York. No other city or borough having more than 10,000 inhabitants reported as many as 7 laundries. The following statement summarizes the statistics:

Number of establishments	385
Persons engaged in the industry	10,915
Proprietors and firm members	436
Salaried employees	840
Wage earners (average number)	9,639
Primary horsepower	10,730
Capital	$6,685,132
Expenses	6,821,427
Services	4,167,836
Materials	1,449,517
Miscellaneous	1,204,074
Amount received for work done	8,331,834

The most common form of ownership was the individual, with 218 establishments. Partnership or firm ownership was represented by 100 establishments and corporate ownership by 67. Ninety-eight establishments had receipts for the year's business of less than $5,000; 174, receipts of $5,000 but less than $20,000; 98, receipts of $20,000 but less than $100,000; and 15, receipts of $100,000 but less than $1,000,000.

The number of wage earners employed each month and the percentage which this number represented of the greatest number employed in any month were as follows:

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January	9,331	94.7	July	9,756	99.1
February	9,357	95.0	August	9,716	98.6
March	9,380	95.2	September	9,820	99.7
April	9,474	96.1	October	9,849	100.0
May	9,630	97.8	November	9,802	99.5
June	9,771	99.2	December	9,782	99.3

The different kinds of primary power, the number of engines or motors, and the horsepower used in 1909 are shown in the following tabular statement:

KIND.	Number of engines or motors.	Horsepower.
Primary power, total		**10,730**
Owned:		
Steam	345	9,124
Gas	52	987
Rented:		
Electric	136	549
Other		70

The kind and amount of fuel used are shown in the following table:

KIND.	Unit.	Quantity.
Anthracite coal	Tons	48,720
Bituminous coal	Tons	42,139
Coke	Tons	444
Wood	Cords	71
Oil	Barrels	166
Gas	1,000 feet	433,028

Custom sawmills and gristmills.—Statistics for custom sawmills and gristmills are not included in the general tables, or in the totals for manufacturing industries, but are presented in the following summary:

	Custom sawmills.	Custom gristmills.
Number of establishments	267	539
Persons engaged in the industry	675	773
Proprietors and firm members	342	611
Salaried employees	1	.....
Wage earners (average number)	332	162
Primary horsepower	5,541	13,893
Capital	$383,261	$1,570,025
Expenses	127,663	2,678,065
Services	103,648	47,804
Materials	5,025	[1] 2,578,513
Miscellaneous	18,990	51,748
Value of products	284,056	[1] 3,070,504

[1] Includes estimate of all grain ground. A similar estimate of the value of the lumber sawed by custom sawmills is impracticable.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY.	Census.	Number of establishments.	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
STATE—All industries	1909	27,563	1,002,171	29,743	94,885	877,543	2,921,547	$2,749,006	$110,897	$455,627	$1,582,560	$2,626,742	$1,044,182
	1904	23,495	855,392	26,029	66,081	763,282	2,302,398	1,995,837	73,269	367,961	1,142,943	1,955,551	812,608
	1899	23,462	.....	.....	43,935	663,960	1,716,694	1,449,815	46,145	296,876	958,301	1,649,882	691,581
Agricultural implements	1909	36	2,671	37	233	2,401	3,842	6,491	257	1,223	2,082	4,805	2,723
	1904	43	2,668	54	220	2,394	3,230	5,460	227	1,103	2,075	5,017	2,942
	1899	50	1,825	64	197	1,564	2,240	4,102	184	688	1,232	3,198	1,966
Artificial flowers and feathers and plumes.	1909	30	917	35	77	805	75	943	72	262	675	1,319	644
	1904	19	627	27	47	553	52	409	38	170	367	722	355
	1899	25	950	35	42	873	30	545	53	209	467	950	483
Automobiles, including bodies and parts.	1909	44	3,566	29	338	3,199	2,746	6,971	384	1,808	4,051	6,532	2,481
	1904	6	631	.....	65	566	423	1,453	79	352	601	1,226	625
	1899	8	.....	.....	16	60	.....	297	18	43	31	99	68
Belting and hose, leather	1909	17	243	16	71	156	363	973	74	105	1,011	1,379	368
	1904	14	182	17	38	127	205	709	35	84	541	865	324
	1899	9	125	13	25	87	.....	488	15	53	470	666	196
Boots and shoes, including cut stock findings.	1909	140	11,829	167	840	10,822	4,337	11,661	1,161	4,266	12,064	20,219	8,155
	1904	[1] 133	9,685	195	500	8,990	3,221	7,394	485	3,263	8,907	14,884	5,977
	1899	169	10,162	241	674	9,247	.....	7,051	588	3,148	8,682	13,830	5,148
Boxes, cigar	1909	77	1,970	96	73	1,801	1,818	1,626	67	580	1,252	2,328	1,076
	1904	88	1,779	115	79	1,585	1,754	1,194	48	428	1,023	1,879	856
	1899	101	1,334	128	36	1,170	.....	993	22	319	910	1,553	643
Boxes, fancy and paper	1909	118	5,050	133	313	4,604	2,121	3,422	308	1,472	2,290	5,184	2,894
	1904	98	4,516	118	219	4,179	1,569	2,388	199	1,213	1,676	3,906	2,230
	1899	87	3,670	101	126	3,443	.....	1,978	110	878	1,260	2,986	1,726
Brass and bronze products	1909	104	2,524	94	350	2,080	4,996	8,392	456	1,234	5,605	8,455	2,850
	1904	[2] 98	2,029	100	234	1,695	5,261	5,261	273	949	3,271	5,443	2,172
	1899	[2] 85	2,106	92	233	1,781	.....	4,348	251	830	3,929	5,989	2,060
Bread and other bakery products	1909	3,185	17,838	3,375	2,242	12,221	10,806	30,888	1,807	6,528	27,330	45,850	18,520
	1904	2,817	15,011	3,009	1,038	10,964	6,044	19,100	861	5,392	19,300	33,370	14,070
	1899	2,443	10,981	2,552	1,031	7,398	.....	10,986	721	3,255	11,055	20,784	9,729
Brick and tile	1909	326	8,943	349	536	8,058	38,247	20,150	546	3,881	2,453	9,225	6,772
	1904	370	8,430	445	424	7,561	31,235	13,887	355	3,213	1,599	7,280	5,681
	1899	385	7,509	507	269	6,733	20,921	10,507	248	2,626	1,138	5,954	4,816
Brooms and brushes	1909	139	1,139	162	117	860	811	1,552	97	410	1,255	2,304	1,049
	1904	152	1,109	173	88	848	467	961	83	365	813	1,708	895
	1899	167	1,219	206	88	925	.....	1,026	62	348	941	1,769	828
Butter, cheese, and condensed milk	1909	536	2,093	635	281	1,177	7,613	4,291	155	556	11,674	13,544	1,870
	1904	645	2,152	623	311	1,218	9,483	3,649	89	556	9,656	11,581	1,925
	1899	749	1,795	692	127	976	8,858	3,033	46	446	8,712	10,290	1,578
Buttons	1909	24	1,219	25	71	1,123	858	977	95	404	746	1,565	819
	1904	21	1,087	20	58	1,009	796	719	54	305	360	900	540
	1899	21	1,212	30	42	1,140	471	557	39	321	403	999	596
Canning and preserving	1909	83	4,379	97	1,529	2,753	3,474	8,867	1,518	947	4,665	9,484	4,819
	1904	[2] 89	3,405	97	1,093	2,215	2,894	6,156	1,123	762	4,033	8,065	4,032
	1899	[2] 77	.....	.....	797	2,197	.....	3,499	730	637	2,927	6,039	3,112
Carpets and rugs, other than rag	1909	93	12,078	108	460	11,510	13,073	24,721	762	5,169	14,648	24,879	10,231
	1904	102	14,356	136	504	13,716	11,871	22,284	652	5,829	16,706	27,120	10,414
	1899	93	13,358	103	336	12,919	10,537	17,958	375	5,331	13,774	23,113	9,339
Carriages and wagons and materials	1909	655	8,757	781	478	7,498	11,544	14,365	500	3,861	5,707	12,748	7,041
	1904	656	8,689	825	403	7,461	9,197	12,368	397	3,647	4,902	11,493	6,591
	1899	797	.....	.....	318	6,399	.....	10,684	296	3,070	4,246	10,455	6,209
Cars and general shop construction and repairs by steam-railroad companies.	1909	132	50,545	.....	3,900	46,645	56,774	45,341	2,989	30,157	41,401	76,035	34,634
	1904	128	44,109	.....	2,271	41,838	32,157	30,418	1,853	25,517	32,361	61,021	28,660
	1899	144	29,619	.....	1,065	28,554	12,386	19,182	811	15,826	23,148	43,065	19,917
Cars and general shop construction and repairs by street-railroad companies.	1909	65	2,568	.....	126	2,442	4,370	2,464	110	1,477	1,094	2,747	1,653
	1904	9	1,220	.....	44	1,176	40	1,164	45	687	483	1,259	776
	1899	10	1,027	.....	22	1,005	.....	766	13	574	596	1,245	649
Cars, steam-railroad, not including operations of railroad companies.	1909	13	8,799	.....	1,033	7,766	31,732	31,282	1,242	4,819	19,002	27,510	8,508
	1904	9	6,007	.....	546	5,461	13,842	31,524	842	3,061	13,821	19,428	5,607
	1899	11	6,260	6	414	5,840	4,426	33,829	426	3,112	12,189	19,261	7,072
Cement	1909	27	8,902	.....	822	8,080	102,904	50,856	1,047	3,875	10,108	18,855	8,747
	1904	22	6,891	3	379	6,509	39,174	28,165	484	2,988	4,360	10,234	5,874
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chemicals	1909	37	3,573	19	369	3,185	9,771	23,535	559	1,892	10,200	15,978	5,778
	1904	41	3,692	29	290	3,373	10,662	20,657	456	1,892	7,265	11,774	4,509
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chocolate and cocoa products	1909	6	1,033	.....	170	863	2,885	3,484	286	324	2,955	4,811	1,856
	1904	4	407	3	53	351	865	1,124	83	121	1,390	2,134	744
	1899	3	174	3	48	123	.....	800	35	40	870	1,039	169
Clocks and watches, including cases and materials.	1909	8	1,587	3	189	1,395	1,033	4,051	183	728	1,172	2,873	1,701
	1904	[1] 6	906	5	103	798	596	2,774	107	373	814	1,549	735
	1899	6	.....	.....	74	1,180	.....	3,387	75	549	801	1,751	950

[1] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[2] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[3] Not reported separately.
[4] Comparable figures not available.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
STATE—Continued.													
Clothing, men's, including shirts	1909	696	26,405	1,099	1,683	23,623	5,288	$20,790	$1,692	$8,992	$19,863	$39,682	$19,819
	1904	451	19,570	706	1,290	17,574	4,198	16,644	1,015	5,853	16,617	31,714	15,097
	1899	621	.....	.....	1,166	17,198	.....	13,443	1,097	6,088	15,405	30,055	14,650
Clothing, women's	1909	401	18,080	646	1,733	15,701	2,514	12,255	1,667	7,140	18,156	32,837	14,681
	1904	223	9,879	330	859	8,690	1,585	5,992	616	3,427	7,903	15,086	7,183
	1899	230	9,253	346	596	8,311	862	5,197	525	2,606	6,270	11,695	5,425
Coffins, burial cases, and undertakers' goods.	1909	36	1,309	36	170	1,103	1,447	2,877	186	514	1,575	2,757	1,182
	1904	24	985	23	94	868	1,137	1,733	94	427	1,005	1,989	984
	1899	22	767	27	74	666	.....	2,017	71	281	585	1,214	629
Coke	1909	146	16,219	83	805	15,331	26,001	68,023	943	8,436	33,762	51,816	18,054
	1904	110	10,975	72	749	10,154	44,478	56,839	734	5,173	14,979	28,924	13,945
	1899	89	9,841	40	518	9,283	24,525	20,213	481	4,517	11,678	22,282	10,604
Confectionery	1909	251	6,436	255	773	5,408	3,869	8,204	813	1,760	8,203	13,542	5,339
	1904	150	5,543	162	652	4,729	3,603	6,979	536	1,400	5,881	10,073	4,192
	1899	135	.....	.....	616	4,249	.....	4,367	490	1,101	4,294	7,483	3,189
Cooperage and wooden goods, not elsewhere specified.	1909	133	1,903	155	118	1,630	3,681	3,631	132	756	2,989	4,630	1,641
	1904	129	1,745	139	110	1,496	2,970	2,503	108	720	2,419	3,973	1,554
	1899	110	.....	.....	66	1,326	.....	2,091	48	565	2,030	3,213	1,183
Copper, tin, and sheet-iron products	1909	339	7,992	382	795	6,815	8,245	17,683	889	3,444	8,851	17,197	8,346
	1904	205	5,731	260	450	5,021	2,535	9,192	475	2,523	4,949	9,687	4,738
	1899	179	.....	.....	349	3,677	.....	5,591	324	1,652	3,643	7,144	3,501
Cordage and twine and jute and linen goods.	1909	18	2,228	12	97	2,119	4,630	5,161	185	685	3,001	4,805	1,804
	1904	[1] 20	2,323	16	80	2,232	4,344	4,798	156	666	3,648	5,138	1,490
	1899	[1] 21	2,798	25	90	2,683	.....	6,163	104	762	5,448	7,257	1,809
Cork, cutting	1909	10	1,789	9	53	1,727	2,045	3,362	104	535	1,669	2,965	1,296
	1904	13	2,097	10	61	2,026	1,989	3,114	116	620	1,802	3,176	1,374
	1899	10	1,590	9	43	1,538	.....	1,483	73	402	1,120	2,188	1,068
Cotton goods, including cotton small wares.	1909	175	17,386	156	937	16,293	24,589	33,692	1,612	7,034	18,757	33,917	15,160
	1904	165	16,099	209	627	15,263	22,611	27,174	918	5,943	14,322	26,300	11,978
	1899	178	17,817	241	565	17,011	23,403	24,332	742	6,057	13,177	25,448	12,271
Crucibles	1909	5	135	4	25	106	336	910	59	60	430	728	298
	1904	5	124	1	34	89	360	959	63	53	534	784	250
	1899	5	87	11	7	69	.....	617	12	40	902	1,147	245
Cutlery and tools, not elsewhere specified.	1909	129	4,832	114	468	4,250	11,311	12,406	549	2,280	3,431	8,022	4,591
	1904	102	4,096	96	265	3,735	13,416	8,311	307	1,735	2,094	5,819	3,725
	1899	82	2,377	101	149	2,127	.....	4,201	183	1,046	1,523	3,741	2,218
Dentists' materials	1909	23	1,218	27	119	1,072	427	2,799	254	464	1,325	2,745	1,420
	1904	20	1,010	21	102	887	339	2,079	108	368	1,410	2,337	927
	1899	18	720	20	70	630	.....	1,288	79	327	981	1,829	848
Dyeing and finishing textiles	1909	135	6,688	155	447	6,086	13,560	13,242	598	2,988	5,331	12,059	6,728
	1904	123	5,070	161	324	4,585	9,712	9,923	445	2,076	2,701	6,786	4,085
	1899	105	5,087	155	216	4,716	10,100	7,680	260	2,066	3,175	7,038	3,863
Electrical machinery, apparatus, and supplies.	1909	84	14,641	42	3,574	11,025	33,829	59,974	4,058	6,237	13,535	31,351	17,816
	1904	80	12,206	56	2,746	9,404	29,238	58,393	3,090	5,300	11,365	26,258	14,893
	1899	63	8,511	48	646	7,817	8,137	20,968	837	4,003	11,373	19,113	7,740
Explosives	1909	27	1,225	20	172	1,033	4,594	6,313	231	630	4,088	6,388	2,300
	1904	40	1,079	19	163	897	5,699	5,320	233	527	2,516	4,013	1,497
	1899	36	748	17	102	629	3,673	2,819	130	320	1,500	2,595	1,095
Fancy articles, not elsewhere specified	1909	52	951	55	68	828	498	990	57	322	592	1,385	793
	1904	44	783	54	54	675	358	480	46	206	366	894	528
	1899	48	823	64	47	712	.....	479	25	210	414	886	472
Fertilizers	1909	48	1,517	52	241	1,224	5,174	6,532	293	575	4,613	6,543	1,930
	1904	43	1,135	48	129	958	4,551	5,386	170	447	2,891	4,095	1,204
	1899	51	975	43	167	765	3,835	3,803	201	352	2,584	3,644	1,060
Files	1909	7	1,298	4	77	1,217	1,313	2,686	91	528	427	1,540	1,113
	1904	8	993	8	32	953	1,082	1,368	53	390	395	1,127	732
	1899	14	1,205	17	39	1,149	.....	1,650	58	445	458	1,236	778
Flour-mill and gristmill products	1909	1,450	4,696	1,896	368	2,432	69,212	21,277	372	1,188	38,170	44,783	6,613
	1904	1,195	4,496	1,558	306	2,632	61,538	18,766	237	1,247	33,205	38,519	5,314
	1899	1,073	.....	.....	265	1,966	.....	14,986	202	946	24,865	29,571	4,706
Foundry and machine-shop products	1909	1,695	100,505	1,389	12,295	86,821	162,414	283,556	15,034	51,366	101,011	210,746	109,735
	1904	1,415	85,974	1,371	9,022	75,581	127,846	216,023	10,712	40,664	69,036	153,393	84,357
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fur goods	1909	58	349	72	50	227	14	1,086	37	160	544	1,217	673
	1904	27	255	36	29	190	5	424	20	110	373	718	345
	1899	26	.....	.....	48	219	.....	607	27	122	368	785	417
Furniture and refrigerators	1909	304	11,338	376	1,038	9,924	17,211	18,542	1,232	4,829	9,039	18,952	9,913
	1904	229	8,944	250	647	8,047	12,202	11,163	640	3,608	5,430	12,776	7,337
	1899	197	7,410	301	520	6,589	.....	7,961	483	2,827	4,524	10,069	5,545
Gas and electric fixtures and lamps and reflectors.	1909	75	1,876	73	321	1,482	1,249	2,863	333	765	1,239	2,962	1,723
	1904	60	1,628	56	224	1,348	783	2,130	255	703	835	2,543	1,708
	1899	48	1,562	53	157	1,352	.....	2,261	181	677	1,055	2,512	1,457

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Comparable figures not available.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
STATE—Continued.													
Gas, illuminating and heating	1909	99	4,584	13	1,452	3,119	9,374	$61,857	$1,239	$1,501	$4,099	$15,840	$11,741
	1904	90	3,953	3	1,068	2,882	6,582	57,064	846	1,478	3,143	10,809	7,666
	1899	89	3,721	.....	577	3,144	3,091	47,313	457	1,506	3,151	7,871	4,720
Glass	1909	112	24,924	34	1,180	23,710	55,182	58,632	1,730	13,436	12,634	32,818	20,184
	1904	122	21,993	32	1,167	20,794	47,750	40,612	1,597	12,518	9,325	27,672	18,347
	1899	119	20,343	81	842	19,420	29,595	28,287	1,110	10,287	6,435	22,011	15,576
Hats and caps, other than felt, straw, and wool.	1909	53	877	71	62	744	163	652	70	273	543	1,097	554
	1904	43	773	60	29	684	149	453	43	264	526	1,063	537
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hats, fur-felt	1909	38	7,537	46	271	7,220	5,335	14,439	423	3,725	5,013	13,023	8,010
	1904	25	4,931	29	283	4,619	2,745	8,778	346	2,122	2,729	7,350	4,621
	1899	20	3,092	22	180	2,890	1,737	5,726	270	1,187	1,867	4,243	2,376
Hosiery and knit goods	1909	464	40,248	509	1,533	38,206	21,797	38,989	1,658	11,750	27,218	49,658	22,440
	1904	377	30,054	506	1,377	28,171	14,749	23,933	1,067	7,961	16,038	30,812	14,774
	1899	327	22,648	376	688	21,584	9,478	15,760	638	5,834	10,936	21,929	10,993
Ice, manufactured	1909	170	2,086	116	364	1,606	35,890	14,404	338	1,023	1,225	4,823	3,598
	1904	109	1,577	57	284	1,236	23,576	9,712	262	732	711	2,936	2,225
	1899	73	1,227	51	246	930	16,646	8,260	170	538	392	2,039	1,647
Ink, printing	1909	8	246	6	75	165	483	742	94	105	623	1,050	427
	1904	8	178	6	73	99	443	590	86	73	403	684	281
	1899	7	114	7	29	78	.....	471	61	48	204	408	204
Iron and steel, blast furnaces	1909	66	16,215	34	1,660	14,521	476,680	194,708	2,400	9,457	142,074	168,578	26,504
	1904	65	14,782	24	891	13,867	304,154	107,742	1,114	7,764	86,322	107,455	21,133
	1899	77	16,712	28	609	16,075	217,326	72,513	787	8,038	64,095	101,575	37,480
Iron and steel, steel works and rolling mills.	1909	189	137,433	34	10,488	126,911	896,440	522,898	13,394	85,113	329,013	500,344	171,331
	1904	186	119,082	49	8,129	110,904	820,823	355,592	10,058	65,306	237,875	363,774	125,899
	1899	214	99,350	102	4,459	94,789	575,030	237,216	5,398	53,870	219,048	332,870	113,822
Iron and steel pipe, wrought	1909	11	4,143	5	265	3,873	12,472	15,325	337	2,177	14,022	18,291	4,269
	1904	11	3,201	3	150	3,048	8,277	8,506	219	1,340	7,172	9,621	2,449
	1899	10	3,797	1	121	3,675	.....	11,698	151	1,679	11,586	15,384	3,798
Jewelry	1909	75	624	96	72	456	160	912	54	292	597	1,275	678
	1904	43	603	60	51	492	164	762	43	296	483	1,040	557
	1899	22	522	28	60	434	.....	685	39	201	253	693	440
Leather goods	1909	156	3,124	210	390	2,524	1,107	4,527	470	1,137	3,153	5,824	2,671
	1904	[2] 134	3,012	170	320	2,522	900	3,553	286	1,061	2,643	5,153	2,510
	1899	134	.....	.....	202	2,396	.....	2,464	182	852	1,878	3,998	2,120
Leather, tanned, curried, and finished	1909	163	14,970	151	811	14,008	37,440	80,989	1,344	6,801	59,113	77,926	18,813
	1904	205	15,383	216	754	14,413	31,075	72,972	927	6,418	55,412	69,428	14,016
	1899	254	14,162	260	506	13,396	23,750	57,320	644	5,458	42,404	55,615	13,211
Lime	1909	348	3,791	393	140	3,258	8,682	6,930	137	1,259	1,038	3,342	2,304
	1904	124	2,601	143	92	2,366	4,996	3,979	96	892	764	2,515	1,751
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquors, distilled	1909	88	1,144	148	272	724	7,578	16,217	360	411	3,112	14,367	11,255
	1904	85	807	111	149	547	5,585	8,748	231	294	2,288	4,902	2,614
	1899	73	667	99	97	471	3,409	5,840	123	250	1,569	5,358	3,789
Liquors, malt	1909	237	9,007	131	1,642	7,234	54,360	94,135	3,261	5,453	12,610	47,713	35,103
	1904	225	7,076	153	1,059	5,864	40,519	68,884	2,253	4,072	9,277	34,864	25,587
	1899	208	5,492	171	816	4,505	29,472	63,684	1,474	2,884	6,610	29,163	22,553
Lumber and timber products	1909	2,667	32,073	3,473	1,727	26,873	113,412	54,638	1,758	13,558	27,314	57,454	30,140
	1904	1,866	31,262	2,527	1,595	27,140	93,228	44,336	1,507	13,520	24,286	56,713	32,427
	1899	2,273	.....	.....	1,160	31,008	109,876	43,852	979	13,017	24,964	53,886	28,922
Marble and stone work	1909	596	10,639	764	611	9,264	29,037	13,964	585	4,860	3,720	11,570	7,850
	1904	255	5,215	340	261	4,614	11,171	6,260	285	2,611	2,032	6,710	4,678
	1899	280	.....	.....	162	3,241	.....	4,912	144	1,793	2,153	5,373	3,220
Mattresses and spring beds	1909	83	961	84	132	745	1,102	1,655	118	361	1,333	2,223	890
	1904	65	906	73	83	750	1,143	1,241	94	345	1,110	2,002	892
	1899	68	.....	.....	93	782	.....	965	69	298	1,144	1,876	732
Millinery and lace goods	1909	105	4,697	141	321	4,235	841	3,552	288	1,327	3,754	6,770	3,016
	1904	53	2,315	83	143	2,089	1,135	1,272	100	645	1,483	2,759	1,276
	1899	41	1,071	50	75	946	.....	670	57	305	792	1,564	772
Musical instruments, pianos and organs and materials.	1909	30	1,331	21	128	1,182	1,260	3,158	165	505	1,248	2,382	1,134
	1904	[4] 28	1,110	20	82	1,008	877	2,286	104	525	646	1,757	1,111
	1899	31	807	36	64	707	737	1,389	91	415	613	1,488	875
Optical goods	1909	24	744	24	141	579	292	926	117	219	461	1,063	602
	1904	18	421	20	49	352	184	629	55	120	155	471	316
	1899	17	.....	.....	54	424	.....	497	35	128	195	512	317
Paint and varnish	1909	114	2,747	105	650	1,992	9,862	14,834	947	1,102	9,201	14,020	4,819
	1904	98	2,432	96	517	1,819	7,714	12,319	613	928	8,065	11,637	3,572
	1899	93	2,405	64	525	1,816	6,925	12,080	625	856	6,595	11,299	4,704
Paper and wood pulp	1909	62	7,196	32	508	6,656	66,910	27,747	820	3,303	11,398	19,873	8,475
	1904	65	6,283	53	324	5,906	54,837	21,469	518	2,839	8,510	15,411	6,901
	1899	73	5,195	74	281	4,840	41,849	16,424	385	1,989	6,374	12,268	5,894

[1] Comparable figures not available.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[3] Not reported separately.
[4] Excluding statistics for one establishment, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
STATE—Continued.													
Paper goods, not elsewhere specified	1909	34	1,700	32	311	1,357	1,348	$3,304	$320	$538	$2,225	$3,719	$1,494
	1904	[1] 28	771	39	105	627	549	790	119	240	985	1,662	677
	1899	[1] 20	494	25	47	422	.....	749	44	154	651	1,194	543
Patent medicines and compounds and druggists' preparations.	1909	367	4,299	334	1,204	2,761	2,619	12,409	1,342	1,145	5,310	12,656	7,346
	1904	243	3,420	235	860	2,325	1,402	7,899	721	824	4,087	9,460	5,373
	1899	195	3,276	212	747	2,317	.....	7,775	677	831	3,775	8,945	5,170
Petroleum, refining	1909	41	3,423	36	487	2,900	35,212	38,990	768	1,861	47,440	53,088	5,648
	1904	43	4,657	22	408	4,227	11,609	32,847	557	2,371	38,922	47,460	8,538
	1899	38	3,616	40	277	3,299	13,328	26,581	403	1,682	27,514	34,978	7,464
Photo-engraving	1909	31	682	33	160	489	197	660	175	446	231	1,132	901
	1904	23	623	32	148	443	168	585	110	301	128	802	674
	1899	17	335	22	43	270	.....	295	35	169	59	379	320
Pottery, terra-cotta, and fire-clay products.	1909	139	9,784	99	682	9,003	23,142	27,225	856	4,357	4,109	13,072	8,963
	1904	158	9,375	87	619	8,669	23,475	25,707	738	3,979	2,909	10,759	7,850
	1899	143	9,512	172	468	8,872	16,057	11,309	451	3,007	2,452	8,127	5,675
Printing and publishing	1909	2,461	36,783	2,557	9,530	24,696	25,839	71,453	8,836	14,335	22,753	70,584	47,831
	1904	2,162	31,079	2,354	6,397	22,328	20,029	51,094	6,218	12,093	16,074	55,063	38,989
	1899	1,969	26,464	2,271	4,292	19,901	.....	41,772	3,969	9,785	11,196	40,354	29,158
Safes and vaults	1909	7	777	1	81	695	1,163	1,827	96	391	643	1,338	695
	1904	7	841	3	76	762	891	1,282	82	414	542	1,344	802
	1899	6	425	3	52	370	.....	753	55	164	230	721	491
Saws	1909	15	2,087	18	193	1,876	3,399	5,961	205	1,158	1,406	3,794	2,388
	1904	10	1,909	11	61	1,837	2,574	4,747	117	1,025	1,367	3,323	1,956
	1899	12	1,513	15	87	1,411	.....	4,602	93	735	996	2,500	1,504
Shipbuilding, including boat building	1909	31	3,833	34	241	3,558	7,771	15,203	415	2,120	2,710	6,178	3,468
	1904	33	6,860	28	321	6,511	8,583	18,007	482	3,473	5,180	10,327	5,147
	1899	38	7,279	41	161	7,077	19,366	14,141	254	3,545	7,173	14,493	7,320
Shoddy	1909	20	518	32	36	450	2,170	1,627	47	186	1,463	2,051	588
	1904	23	429	35	34	360	1,960	1,216	43	142	1,713	2,204	491
	1899	26	421	19	34	368	1,632	972	25	148	1,070	1,449	379
Silk and silk goods, including throwsters	1909	226	38,178	143	1,566	36,469	41,962	49,679	2,132	11,443	35,166	62,061	26,895
	1904	168	28,240	133	1,192	26,915	28,890	31,312	1,300	6,973	24,267	39,334	15,067
	1899	121	21,904	131	745	21,028	23,210	20,894	719	4,630	19,885	31,073	11,188
Slaughtering and meat packing	1909	180	3,957	198	709	3,050	12,139	13,504	862	1,987	44,845	51,851	7,006
	1904	177	3,074	205	341	2,528	7,366	8,338	367	1,518	28,340	33,101	4,761
	1899	131	2,283	183	377	1,723	.....	6,636	318	945	21,806	25,537	3,731
Smelting and refining, not from the ore	1909	24	278	17	55	206	566	1,605	89	143	2,978	3,577	599
	1904	18	307	17	50	240	419	1,161	77	150	2,280	2,755	475
	1899	16	303	18	72	213	.....	864	50	110	2,064	2,520	456
Soap	1909	59	1,746	74	475	1,197	2,598	5,428	344	556	5,947	9,124	3,177
	1904	60	1,460	71	205	1,184	2,152	4,411	253	499	4,054	6,959	2,905
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Steam packing	1909	31	2,231	18	536	1,677	5,817	7,022	471	814	2,981	4,987	2,006
	1904	24	1,383	11	175	1,197	4,794	4,689	252	533	1,680	4,059	2,379
	1899	22	822	31	136	655	.....	1,823	184	278	830	1,853	1,023
Stoves and furnaces, including gas and oil stoves.	1909	74	4,721	42	481	4,198	4,675	10,643	635	2,465	2,472	7,409	4,937
	1904	78	5,198	62	455	4,681	3,953	10,884	487	2,723	2,302	7,696	5,394
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tin plate and terneplate	1909	17	2,548	3	199	2,346	1,565	5,520	275	1,339	22,898	25,234	2,336
	1904	19	2,613	1	191	2,421	5,805	4,692	219	1,207	17,590	19,342	1,752
	1899	25	1,778	11	189	1,578	1,426	3,027	147	814	10,364	12,531	2,167
Tobacco manufactures	1909	2,432	37,580	2,699	1,693	33,188	2,638	27,604	1,785	11,620	20,713	50,161	29,448
	1904	2,808	35,265	3,139	1,378	30,748	1,714	23,371	1,117	10,438	15,937	40,897	24,960
	1899	2,684	29,177	2,954	921	25,302	1,724	15,602	860	8,507	11,994	32,731	20,737
Typewriters and supplies	1909	8	872	5	312	555	264	1,152	329	269	189	1,017	828
	1904	5	204	2	20	182	182	430	22	84	60	202	142
	1899	4	406	4	74	328	202	416	68	179	75	443	368
Umbrellas and canes	1909	45	2,551	44	192	2,315	1,570	5,119	325	906	3,148	5,060	1,912
	1904	37	2,883	37	110	2,736	1,501	6,081	131	842	3,319	5,133	1,814
	1899	44	.....	.....	184	2,830	.....	1,898	199	884	3,444	5,870	2,426
Wall paper	1909	11	1,196	.....	140	1,056	1,371	3,511	249	520	2,309	3,695	1,386
	1904	12	1,060	8	89	963	1,044	2,712	139	454	1,777	3,023	1,246
	1899	13	1,025	8	96	921	.....	2,194	184	432	1,848	2,894	1,046
Wood distillation, not including turpentine and rosin.	1909	50	1,093	36	124	933	1,749	5,111	133	522	1,684	2,960	1,276
	1904	63	1,426	42	135	1,249	2,297	5,009	111	598	1,709	3,093	1,384
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woolen, worsted, and felt goods, and wool hats.	1909	217	28,692	245	1,038	27,409	50,405	75,170	1,746	10,947	54,634	77,447	22,813
	1904	232	25,367	291	825	24,251	39,682	45,193	1,151	8,791	37,247	55,934	18,687
	1899	260	25,496	301	564	24,631	36,013	39,739	692	8,715	31,364	48,765	17,401
All other industries	1909	2,893	68,062	3,129	8,500	56,433	125,775	195,692	10,259	28,745	135,749	211,025	75,276
	1904	2,313	64,665	2,674	4,900	57,091	107,376	146,717	5,691	27,709	106,067	175,101	69,034
	1899	4,374	.....	.....	10,027	124,597	.....	319,514	11,078	60,014	171,100	303,922	132,822

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Not reported separately.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
ALLENTOWN—All industries	1909	274	12,628	314	833	11,481	19,101	$21,569	$874	$5,061	$15,581	$26,263	$10,682
	[1] 1904	257	9,859	312	563	8,984	.....	13,455	524	3,312	9,873	16,841	6,968
	1899	216	.....	.....	356	7,355	.....	11,343	310	2,634	8,977	14,990	6,013
Boots and shoes, including cut stock and findings.	1909	9	770	10	36	724	365	669	40	297	762	1,302	540
	1904	10	778	16	46	716	.....	569	39	251	691	1,126	435
	1899	[2] 9	715	14	38	663	.....	649	25	210	586	901	315
Bread and other bakery products	1909	32	183	31	6	146	82	295	4	77	276	475	199
	1904	28	170	35	5	130	.....	134	2	62	192	348	156
	1899	24	148	29	17	102	.....	149	8	39	119	232	113
Brick and tile	1909	6	158	11	6	141	335	260	6	56	37	175	138
	1904	5	111	3	6	102	.....	228	5	37	21	101	80
	1899	5	106	9	2	95	.....	118	1	29	15	76	61
Brooms and brushes	1909	4	21	5	.....	16	5	11	.....	5	10	21	11
	1904	4	22	4	.....	18	.....	12	.....	7	9	22	13
	1899	4	27	4	1	22	.....	10	(3)	8	8	24	16
Carriages and wagons and materials	1909	4	38	8	.....	30	33	99	.....	18	26	61	35
	1904	[2] 5	40	9	.....	31	.....	75	.....	18	14	52	38
	1899	5	.....	.....	.....	24	.....	51	.....	12	13	42	29
Clothing, men's, including shirts	1909	5	183	8	6	169	14	275	6	64	130	252	122
	1904	6	242	13	2	227	.....	168	3	85	247	429	182
	1899	[2] 6	239	12	20	207	.....	204	10	78	270	456	186
Copper, tin, and sheet-iron products	1909	3	53	6	1	46	23	53	1	25	40	83	43
	1904	3	78	8	5	65	.....	96	3	27	59	118	59
	1899	3	.....	.....	6	33	.....	60	4	16	27	72	45
Foundry and machine-shop products	1909	23	1,011	30	130	851	1,286	1,777	111	400	769	1,632	863
	1904	20	900	32	63	805	.....	1,163	55	356	451	1,202	751
	1899	[4] 13	667	22	29	616	.....	879	25	328	631	1,243	612
Furniture and refrigerators	1909	7	593	10	54	529	646	712	78	252	205	733	528
	1904	9	497	13	42	442	.....	513	46	182	149	481	332
	1899	6	440	7	35	398	.....	402	33	157	147	399	252
Hosiery and knit goods	1909	8	614	7	35	572	423	678	29	147	457	717	260
	1904	7	422	7	15	400	.....	368	15	108	285	465	180
	1899	5	275	8	12	255	.....	103	15	57	189	326	137
Leather goods	1909	3	23	4	1	18	1	51	1	10	18	44	26
	1904	3	29	4	.....	25	.....	129	.....	13	24	63	39
	[5] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquors, malt	1909	4	129	8	18	103	501	1,632	29	63	193	657	464
	1904	4	65	7	12	46	.....	938	12	36	110	434	324
	1899	4	62	5	10	47	.....	633	21	33	87	311	224
Lumber and timber products	1909	10	171	20	14	137	629	413	8	80	157	319	162
	1904	7	133	13	6	114	.....	258	4	59	107	211	104
	1899	7	118	12	4	102	.....	157	2	46	92	189	97
Marble and stone work	1909	4	23	5	1	17	18	22	(3)	10	13	32	19
	1904	3	15	4	.....	11	.....	13	.....	7	6	19	13
	[5] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing	1909	28	255	31	34	190	147	496	26	93	101	339	238
	1904	[4] 26	196	34	23	139	.....	380	16	62	61	230	169
	1899	[4] 17	140	24	5	111	.....	317	3	52	44	174	130
Silk and silk goods, including throwsters.	1909	15	3,937	9	150	3,778	2,808	6,405	171	1,484	4,299	7,456	3,157
	1904	9	2,806	3	92	2,711	.....	3,142	108	826	2,230	3,901	1,671
	1899	7	2,449	4	65	2,380	.....	2,149	68	607	2,008	3,468	1,460
Tobacco manufactures	1909	47	1,190	47	39	1,104	152	439	34	439	682	1,446	764
	1904	[2] 56	1,122	58	72	992	.....	328	54	305	593	1,290	697
	1899	48	375	47	20	308	.....	196	15	96	234	464	230
All other industries	1909	62	3,276	64	302	2,910	11,633	7,282	330	1,541	7,406	10,519	3,113
	1904	52	2,233	49	174	2,010	.....	4,941	162	871	4,624	6,349	1,725
	1899	53	.....	.....	92	1,992	.....	5,266	80	866	4,507	6,613	2,106
ALTOONA—All industries	1909	44	9,100	41	650	8,409	9,158	$16,094	$649	$5,750	$9,134	$16,763	$7,629
	1904	73	10,069	81	448	9,540	.....	11,238	369	5,564	7,248	14,350	7,102
	1899	57	.....	.....	303	6,573	.....	6,380	210	3,717	6,883	11,273	4,390
Bread and other bakery products	1909	11	64	12	7	45	55	138	3	22	68	122	54
	1904	15	60	17	4	39	.....	30	1	17	67	115	48
	1899	11	58	12	6	40	.....	20	2	17	49	98	49
Liquors, malt	1909	3	118	5	17	96	730	1,061	26	42	238	526	288
	1904	3	394	5	6	59	.....	762	7	45	87	323	236
	1899	3	42	5	6	31	.....	288	5	17	57	186	129
Lumber and timber products	1909	3	104	4	12	88	186	267	14	44	113	250	137
	1904	[2] 5	214	7	20	187	.....	172	16	102	298	476	178
	1899	7	110	7	5	98	.....	158	3	52	139	234	95
Printing and publishing	1909	10	209	7	48	154	177	406	34	87	81	260	179
	1904	9	125	7	26	92	.....	186	20	51	46	159	113
	1899	6	155	7	12	136	.....	133	11	58	33	144	111
All other industries	1909	17	8,605	13	566	8,026	8,010	14,222	572	5,555	8,634	15,605	6,971
	1904	41	9,276	45	392	9,163	.....	10,088	315	5,349	6,750	13,277	6,527
	1899	30	.....	.....	274	6,268	.....	5,781	189	3,573	6,605	10,611	4,006

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[2] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[3] Less than $500.
[4] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[5] Figures can not be shown without disclosing individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
ERIE—All industries	1909	391	11,142	364	982	9,796	22,038	$30,620	$1,289	$5,101	$12,064	$24,226	$12,162
	[1] 1904	261	9,337	233	689	8,415	.....	22,963	819	4,363	9,427	18,639	9,212
	1899	260	.....	.....	617	8,032	.....	19,063	655	3,925	8,208	16,493	8,285
Brass and bronze products	1909	4	55	4	6	45	80	117	7	25	72	127	55
	1904	5	64	7	5	52	.....	85	4	33	58	107	49
	1899	3	31	4	.....	27	.....	63	.....	13	30	60	30
Bread and other bakery products	1909	48	210	48	12	150	117	264	5	91	364	561	197
	1904	28	150	27	2	121	.....	160	3	53	190	311	121
	1899	28	143	27	13	103	.....	188	12	43	143	288	145
Carriages and wagons and materials	1909	4	35	7	2	26	41	64	1	15	21	51	30
	1904	3	26	6	1	19	.....	38	1	9	16	37	21
	1899	[2] 3	29	6	1	22	.....	36	1	12	11	32	21
Confectionery	1909	8	52	8	7	37	34	42	9	16	116	171	55
	1904	3	46	2	2	42	.....	16	3	14	56	94	38
	1899	4	.....	.....	7	15	.....	13	3	7	9	30	21
Cooperage and wooden goods, not elsewhere specified.	1909	5	51	4	6	41	80	90	6	23	63	105	42
	1904	[2] 3	12	2	.....	10	.....	7	.....	7	31	46	15
	1899	5	123	4	7	112	.....	108	9	34	82	192	110
Copper, tin, and sheet-iron products	1909	10	143	10	9	124	103	216	8	65	111	216	105
	1904	[2] 6	80	9	3	68	.....	84	2	35	55	126	71
	1899	3	.....	.....	.....	17	.....	15	.....	8	11	31	20
Cutlery and tools, not elsewhere specified	1909	4	137	2	22	113	168	493	24	67	65	197	132
	1904	3	94	1	7	86	.....	171	10	40	39	105	66
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products	1909	4	54	2	20	32	540	341	24	18	764	843	79
	1904	3	61	3	16	42	.....	316	22	13	1,359	1,444	85
	1899	5	.....	.....	9	37	.....	226	12	20	595	673	78
Foundry and machine-shop products	1909	69	4,982	40	370	4,572	8,626	13,517	516	2,499	3,516	8,715	5,199
	1904	43	4,320	15	269	4,036	.....	10,819	346	2,180	3,085	7,319	4,234
	1899	45	.....	.....	282	4,118	.....	9,562	314	2,148	3,142	7,177	4,035
Liquors, malt	1909	3	153	.....	30	123	373	2,449	46	90	212	926	714
	1904	4	101	.....	30	131	.....	1,847	44	94	167	882	715
	1899	5	145	.....	30	115	.....	1,100	46	90	138	697	559
Lumber and timber products	1909	16	368	12	44	312	896	1,179	54	175	610	964	354
	1904	11	331	13	20	298	.....	571	22	148	442	731	289
	1899	[4] 11	348	19	32	297	.....	727	31	121	430	769	339
Marble and stone work	1909	6	22	9	.....	13	24	51	.....	12	55	99	44
	1904	[4] 5	27	7	.....	20	.....	31	.....	16	34	65	31
	1899	[2] 6	40	7	5	28	.....	66	2	27	56	110	54
Musical instruments, pianos and organs and materials.	1909	4	123	2	21	100	190	258	26	64	104	237	133
	1904	3	128	3	12	113	.....	173	11	77	52	210	158
	1899	4	.....	.....	5	158	.....	299	8	103	78	250	172
Patent medicines and compounds and druggists' preparations.	1909	27	56	28	6	22	2	95	5	8	57	132	75
	1904	6	28	6	6	16	.....	60	4	7	12	46	34
	1899	7	30	6	7	17	.....	55	4	5	21	48	27
Printing and publishing	1909	23	518	20	89	409	610	1,247	90	182	250	829	579
	1904	[2] 20	508	13	72	423	.....	932	63	230	250	694	444
	1899	22	.....	.....	32	308	.....	474	26	159	140	462	322
Slaughtering and meat packing	1909	6	75	10	11	54	159	207	10	31	740	957	217
	1904	3	23	5	1	17	.....	35	1	10	339	433	94
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stoves and furnaces, including gas and oil stoves.	1909	8	575	3	41	531	468	1,013	63	324	249	843	594
	1904	6	502	3	42	457	.....	844	58	264	270	774	504
	[5] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures	1909	23	95	26	1	68	.....	90	1	41	63	157	94
	1904	29	133	39	2	92	.....	105	3	45	63	168	105
	1899	26	124	32	2	90	.....	82	1	45	62	156	94
All other industries	1909	119	3,438	129	285	3,024	9,467	8,887	394	1,355	4,632	8,096	3,464
	1904	77	2,643	72	199	2,372	.....	6,669	222	1,088	2,909	5,047	2,138
	1899	83	.....	.....	185	2,508	.....	6,049	186	1,090	3,260	5,518	2,258
HARRISBURG—All industries.	1909	199	11,024	190	1,091	9,743	22,355	$22,925	$1,068	$4,541	$14,083	$22,725	$8,642
	[1] 1904	175	8,601	169	477	7,955	.....	15,921	500	3,673	10,327	16,571	6,244
	1899	175	.....	.....	377	6,439	.....	7,997	382	2,528	9,005	14,996	5,991
Bread and other bakery products	1909	39	237	40	12	185	143	301	11	91	362	601	239
	1904	40	178	45	4	129	.....	156	1	60	226	372	146
	1899	44	125	48	2	75	.....	92	1	36	116	226	110
Carriages and wagons and materials	1909	7	61	7	4	50	67	85	2	29	37	92	55
	1904	5	60	4	2	54	.....	104	2	29	23	75	52
	1899	7	.....	.....	5	43	.....	81	5	21	23	59	36

[1] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[3] Figures can not be shown without disclosing individual operations.
[4] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[5] Not reported separately.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
HARRISBURG—Continued.													
Foundry and machine-shop products	1909	8	449	10	45	394	529	$1,757	$70	$205	$209	$610	$401
	1904	4	621	3	53	565	.....	1,315	64	283	316	954	638
	1899	6	625	4	42	579	.....	1,271	56	261	374	841	467
Iron and steel, steel works and rolling mills.	1909	5	2,214	.....	78	2,136	15,937	7,660	147	964	6,157	7,621	1,464
	1904	4	2,122	.....	73	2,049	.....	5,777	128	871	3,562	4,529	967
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquors, malt	1909	3	67	2	8	57	347	398	18	37	105	361	256
	1904	3	51	4	6	41	.....	356	7	25	64	248	184
	1899	3	39	3	4	32	.....	261	2	21	42	186	144
Lumber and timber products	1909	3	132	4	13	115	325	284	13	46	214	350	136
	1904	5	160	6	20	134	.....	315	13	59	287	400	113
	1899	4	91	3	6	82	.....	129	5	42	84	151	67
Patent medicines and compounds and druggists' preparations.	1909	11	37	11	12	14	2	53	3	5	25	57	32
	1904	5	10	5	2	3	.....	19	2	(2)	15	25	10
	1899	5	11	5	1	5	.....	23	1	2	9	20	11
Printing and publishing	1909	30	658	28	147	483	460	1,119	124	267	264	954	690
	1904	28	582	26	119	437	.....	888	86	229	152	846	694
	1899	[3] 19	394	17	34	343	.....	619	36	160	113	446	333
Tobacco manufactures	1909	20	1,630	19	31	1,580	73	1,210	38	497	682	1,762	1,080
	1904	[4] 23	916	24	18	874	.....	943	29	308	494	1,258	764
	1899	25	646	28	9	609	.....	89	4	132	269	536	267
All other industries	1909	73	5,539	69	741	4,729	4,472	10,058	642	2,400	6,028	10,317	4,289
	1904	58	3,901	52	180	3,669	.....	6,048	168	1,809	5,188	7,864	2,676
	1899	62	.....	.....	274	4,671	.....	5,432	272	1,853	7,975	12,531	4,556
JOHNSTOWN—All industries	1909	97	11,671	121	976	10,574	119,508	$47,242	$1,003	$6,304	$32,348	$48,106	$15,758
	1904	82	7,716	99	703	6,914	.....	59,589	729	3,865	19,755	28,892	9,137
	1899	66	.....	.....	367	5,600	.....	16,437	433	2,965	13,908	21,365	7,457
Bread and other bakery products	1909	11	83	10	12	61	84	156	6	35	146	219	73
	1904	9	55	9	4	42	.....	119	2	25	75	127	52
	1899	11	48	13	.....	35	.....	32	.....	17	40	79	39
Copper, tin, and sheet-iron products	1909	5	77	5	8	64	90	133	8	34	57	138	81
	1904	3	25	4	1	20	.....	35	1	14	22	47	25
	[5] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquors, malt	1909	4	176	5	32	139	1,020	1,670	42	91	186	808	622
	1904	3	125	3	22	100	.....	734	30	64	110	508	398
	1899	4	64	3	12	69	.....	525	12	42	88	395	307
Lumber and timber products	1909	8	85	9	17	59	510	177	15	43	99	195	96
	1904	[4] 5	55	9	6	40	.....	80	6	33	83	142	59
	[5] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing	1909	11	181	12	37	132	121	379	35	87	74	281	207
	1904	8	124	10	32	82	.....	198	31	56	45	188	143
	1899	10	87	12	1	74	.....	146	1	30	17	94	77
All other industries	1909	58	11,069	80	870	10,119	117,683	44,727	897	6,014	31,786	46,465	14,679
	1904	54	7,332	64	638	6,630	.....	58,423	659	3,673	19,420	27,880	8,460
	1899	41	.....	.....	354	5,422	.....	15,734	420	2,876	13,763	20,797	7,034
PHILADELPHIA—All industries.	1909	8,379	294,498	9,162	33,452	251,884	365,950	$691,397	$39,446	$126,381	$429,092	$746,076	$316,984
	1904	7,087	259,878	8,140	22,839	228,899	.....	520,179	25,396	107,640	333,352	591,388	258,036
	1899	7,503	.....	.....	17,498	214,775	.....	445,725	18,931	94,737	295,175	519,982	224,807
Artificial flowers and feathers and plumes.	1909	29	915	35	76	804	70	934	72	262	675	1,314	639
	1904	19	627	27	47	553	.....	400	38	170	367	722	355
	1899	24	949	34	42	873	.....	544	53	209	467	949	482
Belting and hose, leather	1909	13	188	13	56	119	286	637	63	81	809	1,104	295
	1904	10	135	10	29	96	.....	495	27	63	424	642	218
	1899	5	83	8	15	60	.....	340	9	35	299	428	129
Boots and shoes, including cut stock and findings.	1909	58	3,820	74	280	3,466	872	3,968	375	1,594	3,703	6,517	2,814
	1904	[3] 53	3,282	82	166	3,034	.....	2,498	172	1,321	2,943	5,386	2,443
	1899	80	4,170	118	224	3,828	.....	2,804	224	1,595	3,760	6,395	2,635
Boxes, cigar	1909	7	346	9	17	320	362	364	26	125	323	543	220
	1904	7	311	12	8	291	.....	318	12	90	203	394	191
	1899	10	225	14	9	202	.....	190	6	66	195	339	144
Boxes, fancy and paper	1909	65	3,682	67	236	3,379	1,382	2,457	238	1,113	1,631	3,822	2,191
	1904	54	3,435	65	170	3,200	.....	1,790	165	959	1,268	3,037	1,769
	1899	50	2,874	55	110	2,709	.....	1,598	99	709	1,006	2,413	1,407
Brass and bronze products	1909	49	1,263	42	179	1,042	1,651	3,214	248	625	2,518	4,057	1,539
	1904	[5] 45	831	55	79	697	.....	1,504	97	394	1,396	2,428	1,032
	1899	[4] 53	1,414	63	142	1,209	.....	2,551	157	537	2,186	3,515	1,329
Bread and other bakery products	1909	1,208	6,936	1,225	1,113	4,598	4,159	14,890	951	2,592	11,650	19,018	7,368
	1904	1,198	6,216	1,217	372	4,627	.....	9,162	354	2,386	8,344	14,440	6,096
	1899	1,299	5,051	1,320	458	3,273	.....	4,992	350	1,569	5,709	10,465	4,756

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[2] Less than $500.
[3] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[4] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[5] Figures can not be shown without disclosing individual operations.
[6] Excluding statistics for three establishments, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
PHILADELPHIA—Continued.													
Brick and tile	1909	31	1,468	51	48	1,369	2,715	$3,038	$56	$786	$456	$1,885	$1,429
	1904	31	1,443	45	39	1,359	.....	2,196	45	697	347	1,566	1,219
	1899	37	1,547	49	47	1,451	.....	2,449	54	678	283	1,497	1,214
Brooms and brushes	1909	59	530	70	51	409	255	662	51	223	614	1,132	518
	1904	65	501	72	40	389	.....	396	36	184	403	782	379
	1899	69	597	80	45	472	.....	466	40	200	477	938	461
Buttons	1909	21	740	23	49	668	393	551	67	285	586	1,159	573
	1904	15	530	18	33	479	.....	288	32	158	212	481	269
	1899	17	677	26	25	626	.....	377	27	216	331	729	398
Canning and preserving	1909	23	804	26	150	628	723	1,528	166	226	1,772	2,538	766
	1904	[1] 14	363	13	51	299	.....	615	50	123	553	887	334
	1899	20	.....	.....	77	330	.....	554	48	128	551	926	375
Carpets and rugs, other than rag	1909	84	10,863	96	404	10,363	11,435	22,803	684	4,722	13,375	22,629	9,254
	1904	91	13,202	126	458	12,618	.....	20,558	579	5,426	15,560	25,233	9,673
	1899	88	12,588	102	296	12,190	.....	16,867	330	5,092	13,223	21,986	8,763
Carriages and wagons and materials	1909	90	1,511	96	99	1,316	1,100	2,392	125	839	901	2,458	1,557
	1904	102	1,646	131	89	1,426	.....	1,988	87	832	775	2,183	1,408
	1899	113	.....	.....	68	1,411	.....	2,301	78	754	692	2,035	1,343
Cars and general shop construction and repairs by steam-railroad companies.	1909	10	3,963	.....	294	3,669	2,256	4,471	232	2,527	2,416	5,318	2,902
	1904	8	3,652	.....	283	3,369	.....	3,452	195	2,164	2,207	4,673	2,466
	1899	10	2,861	.....	81	2,780	.....	1,434	72	1,609	1,946	3,651	1,705
Chemicals	1909	16	1,972	17	202	1,753	4,875	12,997	346	1,046	6,519	9,643	3,124
	1904	23	2,101	21	210	1,870	.....	14,635	329	1,109	5,484	8,452	2,968
	1899	24	2,169	4	248	1,917	.....	13,400	391	1,026	4,334	7,810	3,476
Clocks and watches, including cases and materials.	1909	5	937	3	160	774	793	2,737	162	399	978	1,965	987
	1904	[2] 3	847	2	102	743	.....	2,724	106	346	783	1,466	683
	1899	3	.....	.....	65	930	.....	2,862	62	434	699	1,455	756
Clothing, men's, including shirts	1909	456	14,075	716	1,144	12,215	2,472	14,871	1,256	5,962	14,488	29,001	14,513
	1904	256	9,869	394	898	8,577	.....	12,661	745	3,773	12,293	23,642	11,349
	1899	445	.....	.....	799	9,215	.....	10,242	855	4,190	11,542	22,699	11,157
Clothing, women's	1909	351	15,627	576	1,551	13,500	1,955	10,590	1,531	6,574	16,666	30,133	13,467
	1904	183	8,019	274	727	7,018	.....	4,715	508	2,964	6,933	12,871	5,938
	1899	191	7,026	283	510	6,233	.....	3,385	428	2,122	5,040	9,452	4,412
Confectionery	1909	129	3,371	128	352	2,891	1,699	4,264	446	1,008	4,340	7,315	2,975
	1904	76	3,140	88	383	2,669	.....	3,852	301	832	3,356	5,557	2,201
	1899	79	.....	.....	354	2,092	.....	2,325	307	615	2,572	4,355	1,783
Cooperage and wooden goods, not elsewhere specified.	1909	44	814	47	34	733	729	1,501	57	344	1,449	2,214	765
	1904	41	514	47	29	438	.....	888	30	242	1,038	1,673	635
	1899	41	.....	.....	22	377	.....	1,076	20	186	1,011	1,503	492
Copper, tin, and sheet-iron products	1909	134	3,490	159	392	2,939	2,074	6,511	414	1,559	4,331	7,493	3,162
	1904	85	3,471	106	261	3,104	.....	5,591	275	1,494	2,714	5,470	2,756
	1899	84	.....	.....	144	1,912	.....	2,152	141	808	1,632	3,300	1,668
Cordage and twine and jute and linen goods.	1909	8	1,214	8	43	1,163	2,250	3,816	105	429	2,135	3,325	1,190
	1904	12	1,335	12	39	1,284	.....	3,766	114	434	2,048	4,121	1,073
	1899	[1] 13	1,871	16	68	1,787	.....	4,833	81	567	4,734	6,162	1,428
Cork, cutting	1909	6	75	8	7	60	49	74	8	24	49	106	57
	1904	8	106	10	11	85	.....	178	13	33	79	173	94
	1899	6	178	8	9	161	.....	161	11	35	103	196	93
Cotton goods, including cotton small wares.	1909	136	10,527	135	658	9,734	14,160	20,868	1,185	4,411	12,327	22,538	10,211
	1904	129	10,093	175	473	9,445	.....	17,076	726	3,712	9,168	17,463	8,295
	1899	143	11,301	206	400	10,695	.....	14,380	513	4,009	9,112	17,620	8,508
Cutlery and tools, not elsewhere specified.	1909	33	1,036	39	114	883	2,086	2,619	137	536	605	1,686	1,081
	1904	30	852	36	72	744	.....	1,367	78	376	495	1,301	806
	1899	26	434	29	39	366	.....	698	43	195	331	840	509
Dyeing and finishing textiles	1909	104	3,991	133	283	3,575	7,037	6,179	358	1,829	2,413	6,327	3,914
	1904	97	3,241	134	225	2,882	.....	5,098	261	1,366	1,671	4,371	2,700
	1899	91	3,762	143	164	3,455	.....	4,981	172	1,578	2,441	5,562	3,121
Electrical machinery, apparatus, and supplies.	1909	45	2,317	23	535	1,759	2,093	6,739	570	923	3,241	7,065	3,824
	1904	40	1,949	32	381	1,536	.....	3,748	417	773	2,878	5,066	2,188
	1899	40	1,429	33	143	1,253	.....	3,663	196	491	2,198	4,231	2,033
Fancy articles, not elsewhere specified	1909	42	827	47	61	719	341	883	53	296	545	1,281	736
	1904	33	688	40	48	600	.....	416	40	181	324	772	448
	1899	36	672	45	38	589	.....	431	20	177	342	760	418
Fertilizers	1909	6	896	4	128	764	3,020	4,346	202	375	3,054	4,268	1,214
	1904	5	645	2	63	580	.....	3,535	104	279	1,972	2,597	625
	1899	6	542	3	96	443	.....	2,331	137	219	1,755	2,376	621
Files	1909	7	1,298	4	77	1,217	1,313	2,686	91	528	427	1,540	1,113
	1904	5	979	3	32	944	.....	1,356	53	385	392	1,114	722
	1899	8	961	10	33	918	.....	1,202	51	350	373	1,014	641
Flour-mill and gristmill products	1909	28	154	36	29	89	1,116	886	35	53	2,624	2,877	253
	1904	14	132	18	19	95	.....	534	19	66	1,666	1,905	239
	1899	15	.....	.....	15	70	.....	336	16	40	1,208	1,369	161

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
PHILADELPHIA—Continued.													
Foundry and machine-shop products	1909	545	20,641	508	2,992	17,141	23,629	$56,029	$3,672	$10,135	$16,245	$38,685	$22,440
	1904	440	19,060	459	2,291	16,310	.....	50,849	2,775	9,291	12,853	32,955	20,102
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fur goods	1909	47	284	59	44	181	10	872	31	129	462	1,032	570
	1904	25	244	34	29	181	.....	392	20	105	360	677	317
	1899	23	.....	.....	41	194	.....	489	24	114	290	676	386
Furniture and refrigerators	1909	147	4,042	165	484	3,393	3,870	7,451	604	1,940	3,731	8,052	4,321
	1904	[2] 89	3,288	110	268	2,910	.....	4,352	271	1,577	2,187	5,452	3,265
	1899	80	2,715	106	163	2,446	.....	3,130	202	1,281	1,949	4,517	2,568
Gas and electric fixtures and lamps and reflectors.	1909	41	1,376	38	242	1,096	879	2,083	254	604	813	2,177	1,364
	1904	39	1,375	36	193	1,146	.....	1,808	221	621	623	2,135	1,512
	1899	31	1,250	34	125	1,091	.....	1,749	138	543	892	2,023	1,131
Glass	1909	4	1,185	1	72	1,112	419	1,252	89	559	498	1,367	869
	1904	5	1,376	1	62	1,313	.....	1,259	79	656	352	1,294	942
	1899	8	1,603	8	66	1,529	.....	1,258	85	618	388	1,347	959
Hats and caps, other than felt, straw, and wool.	1909	42	562	55	43	464	51	426	54	188	413	803	390
	1904	30	490	40	18	432	.....	249	33	173	296	637	341
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hats, fur-felt	1909	27	6,080	34	221	5,825	4,163	13,337	341	3,101	3,563	10,402	6,839
	1904	16	3,807	14	233	3,560	.....	7,760	305	1,754	1,885	5,848	3,963
	1899	12	2,286	11	159	2,116	.....	5,051	249	893	1,090	3,075	1,985
Hosiery and knit goods	1909	177	17,027	195	833	15,999	7,962	18,782	888	5,753	12,870	23,971	11,101
	1904	151	14,263	213	764	13,286	.....	12,585	615	4,291	7,817	15,825	8,008
	1899	150	12,532	180	364	11,988	.....	10,040	388	3,575	6,182	13,074	6,892
Ice, manufactured	1909	31	645	12	98	535	11,703	5,258	88	375	524	1,663	1,139
	1904	32	495	11	77	407	.....	3,635	66	250	353	1,188	835
	1899	20	465	3	117	345	.....	3,159	71	191	204	895	691
Ink, printing	1909	8	246	6	75	165	483	742	94	105	623	1,050	427
	1904	8	178	6	73	99	.....	590	86	73	403	684	281
	1899	7	114	7	29	78	.....	471	61	48	204	408	204
Iron and steel, steel works and rolling mills.	1909	8	5,248	6	421	4,821	27,009	18,016	742	2,774	5,588	11,789	6,201
	1904	6	4,060	6	308	3,746	.....	6,452	429	2,003	3,742	7,095	3,353
	1899	8	3,034	6	213	2,815	.....	6,070	299	1,867	3,565	7,209	3,644
Jewelry	1909	52	411	69	47	295	110	664	38	186	427	884	457
	1904	35	487	48	45	394	.....	681	38	241	398	854	456
	1899	19	485	25	58	402	.....	679	37	183	244	648	404
Leather goods	1909	84	2,092	108	277	1,707	430	2,696	371	781	2,141	3,994	1,853
	1904	[3] 70	2,055	88	224	1,743	.....	2,181	206	727	1,937	3,671	1,734
	1899	67	.....	.....	137	1,648	.....	1,414	134	581	1,205	2,708	1,503
Leather, tanned, curried, and finished	1909	41	6,400	36	392	5,972	8,664	16,523	619	3,009	17,140	23,526	6,386
	1904	43	6,555	56	391	6,108	.....	13,078	411	2,800	17,732	23,903	6,171
	1899	44	6,015	65	169	5,781	.....	9,106	185	2,529	13,429	18,187	4,758
Liquors, malt	1909	48	2,290	31	402	1,857	13,368	28,676	1,028	1,443	3,933	14,257	10,324
	1904	51	2,008	43	313	1,652	.....	28,628	887	1,351	3,441	12,315	8,874
	1899	59	2,144	50	303	1,791	.....	27,636	652	1,229	2,877	12,607	9,730
Lumber and timber products	1909	98	3,609	103	258	3,248	7,872	5,972	319	1,812	4,453	7,703	3,250
	1904	75	2,694	102	176	2,416	.....	3,574	202	1,255	2,906	5,243	2,337
	1899	69	.....	.....	157	2,286	.....	3,603	155	1,106	2,953	5,155	2,202
Marble and stone work	1909	98	1,869	127	123	1,619	2,662	2,991	142	1,089	1,432	3,464	2,032
	1904	71	1,409	97	84	1,228	.....	2,264	110	852	880	2,476	1,596
	1899	76	.....	.....	55	1,020	.....	2,235	55	680	874	2,057	1,183
Mattresses and spring beds	1909	38	403	37	62	309	471	603	50	138	657	1,069	412
	1904	33	433	31	54	348	.....	507	64	170	522	982	460
	1899	35	.....	.....	43	339	.....	321	26	139	515	880	365
Millinery and lace goods	1909	90	3,164	124	270	2,770	370	2,205	222	956	2,773	5,052	2,279
	1904	42	1,614	66	97	1,451	.....	858	69	491	1,134	2,132	998
	1899	37	859	48	52	759	.....	607	45	275	743	1,446	703
Musical instruments, pianos and organs and materials.	1909	14	501	13	30	458	361	563	42	155	400	775	375
	1904	10	342	11	18	313	.....	384	23	160	110	459	349
	1899	13	280	16	28	236	.....	416	35	154	157	521	364
Optical goods	1909	14	[3] 419	12	116	291	110	455	90	123	273	621	348
	1904	10	240	11	19	210	.....	243	23	75	90	249	159
	1899	11	.....	.....	18	255	.....	148	14	79	82	269	187
Paint and varnish	1909	50	1,612	46	369	1,197	4,027	8,193	552	689	5,194	8,045	2,851
	1904	47	1,388	53	281	1,054	.....	7,288	351	557	4,778	6,949	2,171
	1899	46	1,583	27	356	1,200	.....	9,058	412	594	4,208	7,447	3,239
Paper and wood pulp	1909	7	1,395	2	92	1,301	10,645	4,923	183	629	2,352	4,122	1,770
	1904	6	1,158	3	66	1,089	.....	3,856	115	506	1,640	2,921	1,281
	1899	7	983	5	45	933	.....	2,671	61	389	1,511	2,636	1,125
Paper goods, not elsewhere specified	1909	31	1,600	31	258	1,311	1,213	3,169	309	518	2,161	3,597	1,436
	1904	[4] 25	760	35	105	620	.....	777	119	238	976	1,651	675
	1899	[4] 19	488	24	46	418	.....	744	44	153	649	1,188	539

[1] Comparable figures not available.
[2] Excluding statistics for six establishments, to avoid disclosure of individual operations.
[3] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[4] Excluding statistics for one establishment, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
PHILADELPHIA—Continued.													
Patent medicines and compounds and druggists' preparations.	1909	174	3,175	153	882	2,140	2,012	$9,752	$1,074	$897	$4,087	$9,423	$5,336
	1904	108	2,760	107	730	1,923	.....	5,996	613	660	3,258	7,371	4,113
	1899	114	2,702	124	585	1,993	.....	6,927	583	711	3,228	7,445	4,217
Photo-engraving	1909	16	546	15	134	397	105	523	141	381	185	917	732
	1904	12	383	12	84	287	.....	320	66	224	85	547	462
	1899	9	263	8	37	218	.....	258	32	141	44	296	252
Pottery, terra-cotta, and fire-clay products.	1909	13	640	9	46	585	803	1,244	60	345	233	823	590
	1904	14	622	11	34	577	.....	1,079	50	394	152	781	629
	1899	16	549	18	37	494	.....	987	41	229	132	557	425
Printing and publishing	1909	931	20,912	885	6,346	13,681	12,267	42,591	5,905	8,249	15,387	45,807	30,420
	1904	756	17,288	788	4,167	12,333	.....	27,430	4,288	6,821	10,772	35,205	24,433
	1899	740	15,262	817	3,068	11,377	.....	25,545	2,996	5,769	7,702	26,749	19,047
Safes and vaults	1909	3	278	.....	33	245	418	506	33	160	288	493	205
	1904	3	335	2	23	310	.....	425	29	186	193	491	298
	1899	4	247	3	33	211	.....	479	43	111	165	565	400
Shoddy	1909	15	442	20	29	393	1,718	1,504	39	166	1,363	1,846	483
	1904	20	370	28	31	311	.....	1,070	40	121	1,562	2,002	440
	1899	21	368	12	32	324	.....	823	23	132	966	1,285	319
Silk and silk goods, including throwsters.	1909	32	3,348	29	263	3,056	2,156	6,091	315	1,235	3,472	6,502	3,030
	1904	31	2,924	32	211	2,681	.....	5,125	288	959	2,852	5,079	2,227
	1899	28	2,739	49	184	2,506	.....	3,814	179	826	2,292	4,532	2,240
Slaughtering and meat packing	1909	81	1,430	110	211	1,109	3,004	4,605	285	793	19,781	22,079	2,298
	1904	95	990	115	80	795	.....	2,634	90	510	11,295	12,922	1,627
	1899	69	879	99	142	638	.....	1,914	113	383	10,368	12,096	1,728
Smelting and refining, not from the ore	1909	15	160	14	25	121	208	597	35	80	908	1,226	318
	1904	12	162	12	23	127	.....	479	26	80	817	1,051	234
	1899	7	163	9	56	98	.....	382	27	48	912	1,092	180
Soap	1909	32	1,059	40	220	799	1,520	3,651	199	388	5,071	7,319	2,248
	1904	31	997	35	149	813	.....	2,619	195	350	3,349	5,770	2,421
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Steam packing	1909	15	351	12	146	193	413	760	132	100	566	1,136	570
	1904	11	137	9	35	93	.....	477	25	45	215	407	192
	1899	17	326	20	68	238	.....	387	79	96	386	769	383
Stoves and furnaces, including gas and oil stoves.	1909	20	984	18	120	846	891	2,393	174	550	786	2,070	1,284
	1904	17	1,022	16	88	918	.....	2,175	117	551	752	1,955	1,203
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures	1909	496	7,634	528	561	6,545	891	7,820	686	2,650	5,390	13,429	8,039
	1904	617	6,710	662	402	5,646	.....	7,726	366	2,296	3,279	8,655	5,376
	1899	556	6,960	607	273	6,080	.....	4,895	329	2,593	3,424	8,991	5,567
Umbrellas and canes	1909	31	1,297	31	100	1,166	1,342	3,413	102	505	1,060	2,075	1,015
	1904	24	1,484	23	67	1,394	.....	4,515	86	495	1,321	2,288	967
	1899	34	.....	.....	135	1,626	.....	1,244	158	550	1,879	3,143	1,264
Wall paper	1909	4	504	.....	50	454	525	1,368	117	196	1,047	1,732	685
	1904	6	510	6	33	471	.....	1,057	60	219	741	1,415	674
	1899	11	741	8	70	663	.....	1,472	103	316	1,424	2,062	638
Woolen, worsted, and felt goods, and wool hats.	1909	131	20,073	150	746	19,177	33,428	54,914	1,311	7,996	37,869	54,922	17,053
	1904	[2] 130	17,581	173	586	16,822	.....	30,357	836	6,160	25,574	39,258	13,684
	1899	[3] 129	17,348	149	354	16,845	.....	26,954	454	6,052	22,270	34,582	12,312
All other industries	1909	1,331	48,909	1,420	6,497	40,992	97,447	183,308	7,706	22,203	125,313	183,906	58,593
	1904	1,089	51,669	1,268	4,070	46,331	.....	144,636	4,695	24,020	110,424	167,728	57,304
	1899	1,782	.....	.....	4,894	57,958	.....	173,664	5,408	29,060	115,220	179,875	64,655
PITTSBURGH—All industries	1909	1,659	79,625	1,553	10,598	67,474	307,666	$283,139	$12,683	$39,973	$148,527	$243,454	$94,927
	1904	1,562	81,407	1,516	8,273	71,618	.....	260,765	9,753	39,805	124,581	211,259	86,678
	1899	1,301	.....	.....	5,850	71,794	.....	211,774	6,351	37,635	128,458	218,198	89,740
Boxes, fancy and paper	1909	7	237	7	16	214	165	109	16	62	86	215	129
	1904	[2] 5	181	6	6	169	.....	69	5	46	68	140	72
	1899	[3] 4	144	6	1	137	.....	49	(4)	32	46	102	56
Brass and bronze products	1909	12	740	14	97	629	2,756	4,026	136	379	2,373	3,188	815
	1904	15	625	7	91	527	.....	2,965	112	287	1,783	2,462	679
	1899	9	.....	.....	50	231	.....	1,122	50	138	1,286	1,701	415
Bread and other bakery products	1909	248	2,791	264	518	2,009	2,222	5,873	506	1,048	4,472	8,054	3,582
	1904	208	2,538	232	434	1,872	.....	4,237	371	933	3,525	6,302	2,777
	1899	125	1,701	132	254	1,315	.....	2,465	222	510	1,647	3,211	1,564
Brick and tile	1909	17	457	17	33	407	2,614	947	36	198	173	555	382
	1904	22	535	32	28	475	.....	989	32	221	125	546	421
	1899	[2] 21	735	33	31	671	.....	1,232	28	301	149	730	581
Brooms and brushes	1909	9	131	10	21	100	165	308	22	57	162	325	163
	1904	11	148	10	29	109	.....	255	30	58	143	374	231
	1899	8	199	14	5	180	.....	321	5	57	221	348	127

[1] Not reported separately.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[3] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[4] Less than $500.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
PITTSBURGH—Continued.													
Canning and preserving	1909	11	3,073	14	1,349	1,710	1,811	$6,823	$1,338	$615	$2,392	$6,202	$3,810
	1904	[1] 6	2,405	8	991	1,406	.....	4,678	1,050	496	2,882	6,217	3,335
	1899	[2] 5	2,119	6	669	1,444	.....	2,473	672	409	1,932	4,429	2,497
Carriages and wagons and materials	1909	28	358	30	30	298	726	928	28	216	227	582	355
	1904	[2] 37	499	49	18	432	.....	735	16	321	241	763	522
	1899	37	.....	.....	18	347	.....	513	15	207	186	573	387
Cars and general shop construction and repairs by steam-railroad companies.	1909	7	4,827	.....	514	4,313	9,898	4,379	391	3,052	4,967	8,556	3,589
	1904	8	4,880	.....	295	4,585	.....	2,378	243	2,895	2,884	6,107	3,223
	1899	8	2,234	.....	111	2,123	.....	1,384	95	1,119	625	1,887	1,262
Chemicals	1909	3	62	.....	14	48	260	446	25	32	392	531	139
	1904	[1] 3	37	2	27	58	.....	301	28	30	270	351	81
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clothing, men's, including shirts	1909	24	1,011	43	102	866	340	1,237	88	342	1,122	1,950	828
	1904	18	925	34	104	787	.....	983	64	291	859	1,428	569
	1899	16	.....	.....	73	856	.....	968	50	277	861	1,381	520
Clothing, women's	1909	5	72	6	6	60	13	104	6	24	80	134	54
	1904	11	212	16	22	174	.....	322	41	97	208	430	222
	1899	[1] 9	370	17	28	325	.....	1,011	35	133	388	691	303
Confectionery	1909	16	713	7	93	613	549	1,127	86	210	1,282	1,853	571
	1904	[1] 10	408	6	77	325	.....	554	52	118	601	1,048	447
	1899	11	.....	.....	144	517	.....	538	72	133	507	1,021	514
Cooperage and wooden goods, not elsewhere specified.	1909	12	202	13	21	168	144	439	23	94	349	567	218
	1904	[1] 15	201	17	12	172	.....	314	15	94	300	493	193
	1899	[1] 10	268	13	3	252	.....	214	3	131	424	606	182
Copper, tin, and sheet-iron products	1909	48	608	51	86	471	349	1,002	91	297	495	1,121	626
	1904	35	839	44	98	697	.....	1,512	100	404	896	1,618	722
	1899	30	.....	.....	74	662	.....	854	63	282	641	1,263	622
Cutlery and tools, not elsewhere specified.	1909	16	743	20	59	664	1,238	1,258	78	346	927	1,654	727
	1904	[2] 10	439	13	24	402	.....	562	35	218	361	757	396
	1899	9	.....	.....	36	346	.....	567	44	208	332	726	394
Electrical machinery, apparatus, and supplies.	1909	13	1,012	8	142	862	1,640	3,321	182	433	1,843	3,324	1,481
	1904	[1] 12	807	14	256	537	.....	3,105	235	261	1,074	1,797	723
	1899	[1] 7	.....	.....	34	379	.....	2,142	60	196	1,705	2,304	599
Foundry and machine-shop products	1909	155	9,742	81	1,446	8,215	18,311	31,927	1,963	5,773	9,943	21,691	11,748
	1904	151	11,024	109	1,182	9,733	.....	30,076	1,569	5,728	9,382	20,757	11,375
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furniture and refrigerators	1909	11	373	12	46	315	629	826	54	188	440	900	460
	1904	11	317	13	34	270	.....	511	54	176	192	587	395
	1899	[2] 9	160	21	29	110	.....	92	8	64	105	244	139
Gas and electric fixtures and lamps and reflectors.	1909	16	302	16	53	233	212	435	48	95	262	467	205
	1904	[1] 4	120	2	11	107	.....	84	17	37	143	246	103
	1899	9	.....	.....	30	232	.....	495	41	119	150	443	293
Glass	1909	9	1,263	6	86	1,171	915	2,483	134	608	449	1,443	994
	1904	11	2,055	6	141	1,908	.....	3,134	204	987	748	2,131	1,383
	1899	[2] 16	2,216	5	107	2,104	.....	3,588	137	1,133	742	2,430	1,688
Ice, manufactured	1909	15	268	2	70	196	6,384	2,965	91	131	199	958	759
	1904	10	465	3	79	383	.....	2,283	97	227	146	815	669
	1899	[1] 4	83	5	8	70	.....	547	10	44	15	111	96
Iron and steel, blast furnaces	1909	6	1,749	.....	366	1,383	50,768	30,134	619	1,053	16,038	20,668	4,630
	1904	[2] 4	1,593	.....	154	1,439	.....	12,960	182	836	12,581	15,500	2,919
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iron and steel, steel works and rolling mills.	1909	25	25,341	.....	1,781	23,560	156,512	105,053	2,344	14,455	55,887	82,307	26,420
	1904	25	27,334	.....	1,589	25,745	.....	101,217	2,045	14,910	50,667	77,440	26,773
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jewelry	1909	6	96	9	10	77	19	89	7	55	88	183	95
	1904	4	76	6	2	68	.....	38	2	42	63	128	65
Leather goods	1909	12	154	13	17	124	79	318	10	64	136	260	124
	1904	9	130	9	18	103	.....	200	15	60	120	243	123
	1899	14	.....	.....	11	116	.....	129	8	60	83	221	138
Leather, tanned, curried, and finished	1909	6	273	2	27	244	846	1,553	46	139	914	1,162	248
	1904	6	452	3	41	408	.....	2,009	64	224	1,189	1,640	451
	1899	9	471	8	33	430	.....	2,190	52	186	1,138	1,582	444
Liquo s, malt	1909	12	994	.....	121	873	6,591	14,628	299	686	1,267	5,420	4,153
	1904	11	851	.....	109	742	.....	11,246	288	560	1,222	4,083	2,861
	1899	11	633	.....	100	533	.....	16,832	208	404	1,014	4,840	3,826
Lumber and timber products	1909	40	730	46	89	645	2,836	2,019	100	433	960	1,694	734
	1904	42	943	51	104	788	.....	2,108	108	543	1,165	2,231	1,066
	1899	29	.....	.....	55	633	.....	1,555	50	331	1,051	1,858	807

[1] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[2] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[3] Comparable figures not available.
[4] Not reported separately.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
PITTSBURGH—Continued.													
Marble and stone work	1909	25	348	30	33	285	709	$563	$44	$194	$248	$598	$350
	1904	16	266	23	24	219	.....	342	24	156	146	443	297
	1899	23	.....	.....	25	612	.....	633	27	316	339	886	547
Mattresses and spring beds	1909	6	256	5	28	223	261	574	38	124	337	590	253
	1904	[1] 4	132	3	5	124	.....	218	6	60	183	335	152
	1899	7	230	8	24	198	.....	271	23	75	331	500	169
Paint and varnish	1909	16	362	12	98	252	1,760	2,361	137	138	1,740	2,419	679
	1904	15	394	10	93	291	.....	1,942	129	143	1,514	2,127	613
	1899	[1] 12	334	9	82	243	.....	1,412	109	101	1,210	2,029	819
Patent medicines and compounds and druggists' preparations.	1909	31	214	25	75	114	263	685	96	51	313	898	585
	1904	31	209	25	48	136	.....	492	49	63	475	1,019	544
	1899	14	.....	.....	86	131	.....	270	51	49	343	804	461
Photo-engraving	1909	6	109	6	26	77	71	108	34	55	41	187	146
	1904	8	91	16	16	59	.....	79	17	52	13	127	114
	1899	6	67	11	6	50	.....	34	4	28	14	79	65
Pottery, terra-cotta, and fire-clay products.	1909	3	337	.....	17	320	850	1,173	26	155	195	507	312
	1904	[1] 5	398	.....	44	354	.....	3,454	66	132	218	568	350
	1899	[1] 7	.....	.....	78	662	.....	1,550	77	262	462	1,046	584
Printing and publishing	1909	254	4,216	255	1,156	2,805	4,173	9,600	1,314	1,960	2,669	9,071	6,402
	1904	211	3,832	212	847	2,773	.....	9,074	928	1,877	2,156	7,789	5,633
	1899	147	.....	.....	552	2,359	.....	5,184	483	1,509	1,435	4,958	3,523
Shipbuilding, including boat building	1909	4	169	4	21	144	580	533	42	96	107	268	161
	1904	4	133	7	13	113	.....	474	22	63	64	220	156
	1899	4	.....	.....	8	58	.....	123	4	22	32	71	39
Slaughtering and meat packing	1909	14	1,063	7	215	841	3,391	3,510	276	553	11,466	13,107	1,641
	1904	[1] 21	1,036	22	128	886	.....	2,784	145	575	8,345	9,995	1,650
	1899	[1] 13	706	19	99	588	.....	2,284	101	327	5,118	6,051	933
Soap	1909	7	469	12	214	243	488	1,185	106	104	458	1,207	749
	1904	[2] 6	199	9	27	163	.....	738	35	72	347	527	180
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stoves and furnaces, including gas and oil stoves.	1909	9	285	8	44	233	256	1,226	49	133	161	416	255
	1904	[2] 9	145	5	25	115	.....	221	28	53	103	243	140
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Surgical appliances and artificial limbs	1909	9	66	13	11	42	31	36	12	37	20	111	91
	1904	[1] 6	64	4	18	42	.....	31	10	28	7	71	64
	1899	[1] 3	48	4	11	33	.....	20	4	14	11	56	45
Tobacco manufactures	1909	215	3,456	223	168	3,065	213	1,878	144	844	1,172	3,615	2,443
	1904	248	3,520	257	119	3,144	.....	2,324	113	944	1,084	3,986	2,902
	1899	[2] 201	2,391	213	79	2,099	.....	1,048	59	617	539	2,448	1,909
All other industries	1909	271	9,903	262	1,279	8,362	25,628	34,950	1,598	4,444	21,675	34,496	12,821
	1904	269	9,899	231	890	8,778	.....	48,767	1,107	4,487	16,088	27,175	11,087
	1899	454	.....	.....	2,896	50,748	.....	157,664	3,481	27,841	103,376	166,568	63,192
READING—All industries	1909	482	26,407	517	1,745	24,145	43,193	$41,053	$1,810	$11,011	$29,848	$51,135	$21,287
	[4] 1904	402	19,763	441	1,269	18,053	.....	27,123	1,098	7,265	16,709	30,491	13,782
	1899	403	.....	.....	941	16,892	.....	25,934	855	6,583	16,996	32,682	15,686
Automobiles, including bodies and parts	1909	5	398	2	41	355	235	572	34	187	314	666	352
	1904	3	183	.....	19	164	.....	368	12	91	133	269	136
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boxes, cigars	1909	4	119	4	7	108	99	118	5	39	62	128	66
	1904	4	116	6	19	91	.....	70	8	27	55	114	59
	1899	3	80	5	1	74	.....	67	(5)	20	71	104	33
Boxes, fancy and paper	1909	6	164	10	9	145	115	127	7	50	79	164	85
	1904	4	154	4	11	139	.....	88	7	35	47	105	58
	1899	5	122	9	2	111	.....	66	2	27	39	100	61
Brass and bronze products	1909	8	79	9	13	57	72	116	10	30	91	149	58
	1904	5	209	3	20	186	.....	616	12	73	138	273	135
	1899	[1] 3	24	4	5	15	.....	32	3	9	15	35	20
Bread and other bakery products	1909	55	447	68	37	342	282	517	16	191	536	950	414
	1904	53	387	64	29	294	.....	332	18	137	373	676	303
	1899	51	307	59	31	217	.....	285	19	104	234	501	267
Brooms and brushes	1909	6	61	8	6	47	26	82	(5)	16	88	159	71
	1904	5	48	7	.....	41	.....	40	.....	16	39	72	33
	1899	7	59	11	5	43	.....	28	1	13	45	74	29
Carriages and wagons and materials	1909	8	314	11	13	290	224	292	11	145	163	413	250
	1904	[1] 5	276	8	18	250	.....	600	15	105	205	394	189
	1899	[1] 8	.....	.....	15	190	.....	398	8	78	94	284	190
Cars and general shop construction and repairs by steam-railroad companies.	1909	6	2,765	.....	137	2,628	5,752	3,985	82	1,681	3,767	5,661	1,894
	1904	5	2,648	.....	76	2,572	.....	3,264	66	1,476	2,719	4,275	1,556
	1899	4	2,008	.....	46	1,962	.....	2,069	46	1,046	2,255	6,315	4,060

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[3] Not reported separately.
[4] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.
[5] Less than $500.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
READING—Continued.													
Clothing, men's, including shirts	1909	10	608	20	54	534	118	$508	$56	$167	$567	$938	$371
	1904	8	320	10	20	281	.....	223	18	81	377	561	184
	1899	9	283	18	19	246	.....	227	24	69	281	436	155
Clothing, women's	1909	7	161	9	2	150	46	63	1	36	71	130	59
	1904	4	50	6	1	43	.....	18	2	10	19	46	27
	1899	5	58	9	.....	49	.....	18	.....	12	30	55	25
Confectionery	1909	10	507	13	109	385	388	515	72	96	600	1,047	447
	1904	5	422	4	39	379	.....	377	45	84	427	781	354
	1899	3	.....	.....	34	293	.....	128	31	58	200	325	125
Copper, tin, and sheet-iron products	1909	3	15	2	.....	13	3	21	.....	9	15	33	18
	1904	[1] 4	37	3	3	31	.....	39	2	18	18	47	29
	1899	7	.....	.....	5	25	.....	89	2	12	43	79	36
Dyeing and finishing textiles	1909	4	298	1	25	272	625	290	21	84	134	294	160
	1904	3	150	4	11	135	.....	131	13	51	70	180	110
	1899	4	31	5	3	23	.....	37	1	9	16	33	17
Foundry and machine-shop products	1909	37	3,079	26	221	2,832	3,389	4,293	227	1,384	1,716	3,889	2,173
	1904	36	2,994	35	149	2,810	.....	3,135	138	969	1,200	2,991	1,791
	1899	34	.....	.....	216	3,166	.....	4,335	186	1,282	1,696	3,892	2,196
Hats, fur-felt	1909	5	870	6	28	836	87	589	68	367	885	1,571	686
	1904	3	641	6	18	617	.....	537	23	230	532	947	415
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hosiery and knit goods	1909	38	4,521	30	95	4,396	2,097	4,025	114	1,323	2,132	4,551	2,419
	1904	27	2,966	23	130	2,813	.....	2,098	81	721	1,164	2,540	1,376
	1899	21	1,741	24	50	1,667	.....	710	38	391	697	1,326	629
Iron and steel, steel works and rolling mills.	1909	6	3,218	.....	207	3,011	11,209	6,824	268	1,670	5,350	8,190	2,840
	1904	6	2,209	.....	125	2,084	.....	3,835	129	1,081	3,437	4,818	1,381
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leather goods	1909	5	89	6	9	74	84	63	5	24	63	128	65
	1904	3	29	2	4	23	.....	20	2	8	24	43	19
	1899	3	.....	.....	.....	10	.....	11	.....	4	6	16	10
Liquors, malt	1909	4	153	4	44	105	1,555	2,546	87	73	349	1,417	1,068
	1904	4	118	1	25	92	.....	984	64	68	267	1,168	901
	1899	5	.....	.....	18	109	.....	996	25	62	170	834	655
Lumber and timber products	1909	6	246	1	23	222	722	427	21	106	306	547	241
	1904	[4] 6	196	3	22	171	.....	212	15	88	253	401	148
	1899	[1] 5	159	7	6	146	.....	179	5	69	185	302	117
Marble and stone work	1909	9	110	16	3	91	179	131	4	53	47	156	109
	1904	[1] 5	62	5	1	56	.....	90	1	38	40	103	63
	1899	10	.....	.....	5	86	.....	159	3	44	39	117	78
Optical goods	1909	3	288	2	13	273	170	392	18	86	139	339	200
	1904	3	167	3	29	135	.....	374	31	41	52	191	139
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Patent medicines and compounds and druggists' preparations.	1909	13	32	16	1	15	10	31	1	6	33	67	34
	1904	8	26	12	2	12	.....	24	1	5	9	41	32
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing	1909	37	452	42	134	276	355	571	80	199	162	743	581
	1904	34	410	42	128	240	.....	416	72	122	110	564	454
	1899	30	339	34	33	272	.....	540	22	127	92	435	343
Tobacco manufactures	1909	81	1,589	107	79	1,403	49	1,250	95	563	1,282	2,574	1,292
	1904	81	1,734	101	105	1,528	.....	1,078	100	595	1,056	2,484	1,428
	1899	[4] 76	1,260	91	62	1,107	.....	750	53	422	784	1,683	899
Woolen, worsted, and felt goods, and wool hats.	1909	5	543	12	37	494	628	793	37	237	740	1,315	575
	1904	[1] 3	318	8	13	297	.....	372	13	116	302	484	182
	1899	[4] 4	304	8	1	295	.....	450	1	127	294	528	234
All other industries	1909	101	5,281	92	398	4,791	14,674	11,912	470	2,189	10,157	14,916	4,759
	1904	75	2,893	81	243	2,569	.....	7,773	210	979	3,643	5,923	2,280
	1899	106	.....	.....	384	6,786	.....	14,360	385	2,598	9,701	15,208	5,507
SCRANTON—All industries	1909	293	14,242	270	1,121	12,851	20,564	$22,494	$1,337	$5,146	$14,302	$26,385	$12,083
	1904	258	11,901	243	746	10,912	.....	19,161	840	4,428	11,253	20,453	9,200
	1899	247	.....	.....	550	11,139	.....	18,984	710	4,388	17,220	24,742	7,522
Bread and other bakery products	1909	38	322	36	42	244	200	412	31	118	479	759	280
	1904	25	250	26	32	192	.....	204	29	88	331	572	241
	1899	27	190	30	28	132	.....	192	18	55	208	358	150
Brick and tile	1909	3	74	1	8	65	525	166	6	26	15	59	44
	1904	4	128	4	7	117	.....	102	5	45	17	88	71
	1899	3	80	11	2	67	.....	60	2	23	4	42	38
Carriages and wagons and materials	1909	13	230	18	15	197	294	534	15	103	150	331	181
	1904	[1] 10	158	14	15	129	.....	259	10	63	74	200	126
	1899	[4] 8	.....	.....	8	127	.....	344	4	65	81	217	136

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Figures can not be shown without disclosing individual operations.
[3] Not reported separately.
[4] Excluding statistics for two establishments, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
SCRANTON—Continued.													
Clothing, women's	1909	7	446	9	16	421	103	$270	$15	$128	$285	$550	$265
	1904	4	167	6	12	149	.....	187	9	55	68	169	101
	1899	3	332	4	6	322	.....	36	3	60	50	133	83
Copper, tin, and sheet-iron products	1909	8	60	8	4	48	5	40	2	22	31	75	44
	1904	3	35	4	.....	31	.....	18	.....	24	21	63	42
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products	1909	4	35	5	11	19	268	127	6	6	189	227	38
	1904	6	65	4	20	41	.....	343	17	20	828	948	120
	1899	4	46	3	8	35	.....	335	12	18	395	462	67
Foundry and machine-shop products	1909	20	1,286	16	187	1,083	2,467	5,463	228	567	853	2,218	1,365
	1904	[2] 13	1,200	7	153	1,040	.....	5,759	180	540	704	1,902	1,198
	1899	[3] 13	1,443	10	52	1,381	.....	3,954	91	707	820	1,756	936
Gas and electric fixtures and lamps and reflectors.	1909	3	27	2	2	23	19	50	3	10	16	33	17
	1904	3	31	2	3	26	.....	32	3	10	13	32	19
	1899	3	.....	.....	2	13	.....	6	2	7	8	23	15
Liquors, malt	1909	5	341	.....	60	281	1,172	2,130	164	214	509	1,947	1,438
	1904	4	185	.....	36	149	.....	1,342	91	110	264	1,227	963
	1899	6	210	.....	29	181	.....	1,431	92	117	220	1,196	976
Lumber and timber products	1909	9	432	9	34	389	737	1,095	40	212	603	933	330
	1904	10	382	5	35	342	.....	683	35	199	490	860	370
	1899	11	.....	.....	21	277	.....	593	20	120	379	610	231
Patent medicines and compounds and druggists' preparations.	1909	10	96	8	28	60	1	72	18	17	37	197	160
	1904	[2] 9	24	8	1	15	.....	20	([4])	5	16	46	30
	1899	[2] 6	14	7	1	6	.....	4	([4])	2	4	11	7
Printing and publishing	1909	48	800	50	162	588	700	1,452	163	354	445	1,309	864
	1904	43	647	40	78	529	.....	1,078	51	338	292	1,098	806
	1899	[3] 36	.....	.....	77	369	.....	994	53	179	196	882	686
Silk and silkgoods, including throwsters.	1909	15	3,908	9	85	3,814	4,738	2,087	121	976	4,640	6,631	1,991
	1904	10	3,125	8	56	3,061	.....	2,389	70	607	3,287	4,427	1,140
	1899	6	.....	.....	59	2,517	.....	1,878	85	400	2,978	3,819	841
Tobacco manufactures	1909	28	339	32	43	264	135	549	40	88	288	638	350
	1904	[2] 32	173	36	4	133	.....	64	2	52	64	178	114
	1899	27	271	34	27	210	.....	274	22	79	210	506	296
All other industries	1909	82	5,846	67	424	5,355	9,200	7,147	485	2,305	5,762	10,478	4,716
	1904	82	5,331	79	294	4,958	.....	6,081	338	2,272	4,784	8,643	3,859
	1899	94	.....	.....	230	5,502	.....	8,883	306	2,556	11,667	14,727	3,060
WILKES-BARRE—All industries.	1909	176	8,329	177	599	7,553	12,109	$16,011	$743	$3,323	$6,433	$13,526	$7,093
	[5] 1904	129	6,495	152	423	5,920	.....	11,716	481	2,496	5,265	11,000	5,735
	1899	138	.....	.....	302	4,749	.....	9,702	381	1,745	4,309	8,617	4,308
Bread and other bakery products	1909	28	254	31	27	196	126	278	27	109	418	660	242
	1904	13	161	14	18	129	.....	197	13	67	287	446	159
	1899	15	165	18	9	138	.....	146	6	51	123	247	124
Brick and tile	1909	3	85	3	7	75	190	37	4	30	11	63	52
	1904	3	63	5	2	56	.....	21	1	22	5	36	31
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clothing, women's	1909	3	322	2	21	299	46	333	33	76	213	383	170
	1904	3	473	5	32	436	.....	298	17	92	255	503	248
	1899	3	667	7	24	636	.....	512	44	137	317	627	310
Flour-mill and gristmill products	1909	4	27	3	6	18	270	147	4	10	293	332	39
	1904	4	31	3	4	24	.....	191	4	15	273	315	42
	1899	4	29	3	11	15	.....	122	8	7	120	148	28
Furniture and refrigerators	1909	4	84	5	9	70	56	100	7	26	33	80	47
	1904	3	76	5	2	69	.....	62	3	17	16	46	30
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing	1909	31	462	36	99	327	320	597	94	206	206	766	560
	1904	22	371	24	69	278	.....	526	56	158	137	570	433
	1899	[2] 26	335	26	50	259	.....	370	37	118	84	411	327
Silk and silk goods, including throwsters.	1909	6	1,113	.....	30	1,083	1,866	1,390	27	247	407	1,066	659
	1904	3	953	4	31	918	.....	743	39	195	649	1,055	406
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures	1909	13	36	14	.....	22	.....	36	.....	11	16	40	24
	1904	17	67	18	3	46	.....	39	2	24	23	72	49
	1899	16	59	20	1	38	.....	33	1	16	29	67	38
All other industries	1909	84	5,946	83	400	5,463	9,235	13,093	547	2,608	4,836	10,136	5,300
	1904	61	4,300	74	262	3,964	.....	9,639	346	1,906	3,620	7,957	4,337
	1899	74	.....	.....	207	3,663	.....	8,519	285	1,416	3,636	7,117	3,481

[1] Figures can not be shown without disclosing individual operations.
[2] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[3] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[4] Less than $500.
[5] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

City or borough.	Census.	Number of establishments.	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
Beaver Falls	1909	44	2,456	34	242	2,180	5,141	$7,503	$287	$1,218	$3,015	$6,400	$3,385
	1904	42	2,492	26	234	2,232	.....	6,518	280	1,123	2,242	4,908	2,666
	1899	47	.....	.....	142	2,174	.....	6,521	174	971	3,859	6,229	2,370
Bethlehem	1909	49	1,727	54	90	1,583	3,086	3,300	105	593	2,330	3,712	1,382
	[1] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Braddock	1909	41	1,218	36	142	1,040	7,332	5,369	160	785	3,347	5,094	1,747
	[2] 1904	38	1,365	34	106	1,225	.....	3,283	118	756	2,738	4,125	1,387
	1899	30	.....	.....	64	815	.....	2,472	55	526	2,565	4,091	1,526
Bradford	1909	82	1,650	104	228	1,318	3,856	4,226	229	655	2,442	3,887	1,445
	1904	80	1,734	91	153	1,490	.....	3,276	161	841	1,593	3,192	1,599
	1899	65	.....	.....	74	1,200	.....	2,122	80	697	1,635	3,125	1,490
Butler	1909	61	3,344	102	419	2,823	10,405	16,769	457	1,571	7,594	11,058	3,464
	1904	48	2,489	74	322	2,093	.....	9,910	374	1,114	4,660	6,832	2,172
	1899	41	.....	.....	33	792	.....	1,419	44	416	520	1,403	883
Carbondale	1909	34	1,636	29	104	1,503	1,407	2,307	123	636	1,253	2,523	1,270
	1904	32	1,631	22	134	1,475	.....	2,679	171	606	1,113	2,316	1,203
	1899	26	.....	.....	67	1,023	.....	1,452	68	340	470	1,146	676
Carlisle	1909	50	1,590	148	108	1,334	1,735	2,054	144	511	1,431	2,496	1,065
	1904	48	1,496	53	103	1,340	.....	1,474	101	411	1,129	1,986	857
	1899	39	.....	.....	74	1,121	.....	923	90	328	1,047	1,708	661
Carnegie	1909	19	509	17	70	422	1,245	2,371	94	275	2,441	3,099	658
	[1] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chambersburg	1909	57	1,631	56	211	1,364	3,126	3,484	177	599	1,170	2,456	1,286
	1904	47	981	52	86	843	.....	1,033	58	312	569	1,085	516
	1899	44	.....	.....	34	612	.....	722	25	222	478	815	337
Chester	1909	128	7,867	102	779	6,986	17,131	23,928	965	3,392	11,576	19,373	7,797
	1904	131	7,612	120	431	7,061	.....	22,070	607	3,417	10,422	16,645	6,223
	1899	121	.....	.....	307	6,972	.....	17,672	486	3,131	8,571	14,940	6,369
Columbia	1909	47	2,944	45	126	2,773	6,589	3,590	130	1,107	2,671	4,807	2,136
	1904	44	3,187	38	115	3,034	.....	2,994	105	943	2,453	3,887	1,434
	1899	53	.....	.....	83	2,519	.....	2,256	61	881	2,572	4,214	1,642
Connellsville	1909	39	1,269	28	206	1,035	4,526	3,275	194	576	817	1,971	1,154
	[1] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dubois	1909	37	1,210	37	158	1,015	3,199	2,394	133	507	926	1,890	964
	[2] 1904	32	1,041	32	109	900	.....	2,598	85	459	961	1,709	748
	1899	24	.....	.....	33	817	.....	1,411	32	329	1,153	1,768	615
Dunmore	1909	18	1,423	16	99	1,308	1,266	938	133	603	670	1,851	1,181
	1904	15	1,219	9	77	1,133	.....	1,041	114	464	550	1,460	910
	1899	18	.....	.....	50	614	.....	1,021	47	276	490	1,132	642
Easton	1909	126	3,769	138	243	3,388	5,965	7,687	246	1,524	3,424	6,915	3,491
	[2] 1904	97	3,047	106	221	2,720	.....	4,336	190	1,180	2,684	5,059	2,375
	1899	106	.....	.....	147	3,202	.....	4,346	129	1,200	3,193	5,425	2,232
Greensburg	1909	47	393	50	33	310	738	938	32	163	330	726	396
	[1] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hazleton	1909	77	2,998	84	232	2,682	3,112	5,209	250	940	2,702	4,707	2,005
	1904	62	1,575	65	104	1,406	.....	2,575	107	434	1,130	2,186	1,056
	1899	45	.....	.....	72	822	.....	1,320	50	234	293	999	706
Homestead	1909	26	248	17	60	171	890	1,273	49	111	322	659	337
	1904	27	369	27	35	307	.....	733	45	171	265	713	448
	1899	15	.....	.....	12	164	.....	173	10	93	101	266	165
Lancaster	1909	306	8,981	317	707	7,957	10,037	17,443	813	3,236	8,841	15,979	7,138
	1904	300	9,432	324	415	8,693	.....	12,395	415	3,089	7,598	14,648	7,050
	1899	284	.....	.....	362	7,504	.....	9,470	356	2,569	6,453	12,750	6,297
Lebanon	1909	109	6,077	105	381	5,591	21,717	12,276	409	2,441	6,778	11,429	4,651
	1904	103	4,841	111	343	4,387	.....	7,831	304	1,791	3,279	6,978	3,699
	1899	97	.....	.....	177	4,475	.....	5,675	175	1,779	4,745	7,658	2,913
McKees Rocks	1909	31	3,903	21	291	3,591	8,872	10,328	335	2,309	5,407	9,787	4,380
	[1] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McKeesport	1909	68	9,093	58	789	8,246	49,935	43,433	891	6,031	27,296	42,495	15,199
	1904	75	9,618	74	696	8,848	.....	16,286	778	5,521	12,310	23,054	10,744
	1899	67	.....	.....	473	7,213	.....	15,088	445	4,147	21,835	36,058	14,223
Mahanoy City	1909	33	666	44	32	590	753	994	20	166	383	868	485
	1904	29	293	33	22	238	.....	467	41	93	133	431	298
	1899	29	.....	.....	23	301	.....	511	15	74	113	401	288
Meadville	1909	62	2,506	54	404	2,048	2,539	2,725	337	974	1,716	3,559	1,843
	1899	52	1,520	63	157	1,300	.....	1,761	115	602	964	2,075	1,111
	1904	46	.....	.....	95	1,201	.....	1,168	74	535	889	1,668	779

[1] Figures not available.
[2] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED—Continued.

City or borough.	Census.	Number of establishments.	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
Mount Carmel	1909	20	651	28	23	600	322	$435	$19	$144	$416	$785	$369
	[1] 1904	19	238	29	12	197	.....	317	11	79	427	620	193
	1899	9	.....	.....	11	109	.....	334	7	39	260	393	133
Nanticoke	1909	17	378	15	15	348	447	420	24	120	180	423	243
	1904	12	263	13	21	229	.....	314	16	65	160	358	198
	1899	17	.....	.....	29	140	.....	291	6	44	182	310	128
New Castle	1909	82	6,063	73	651	5,339	64,697	27,028	753	3,870	30,974	38,038	7,064
	[1] 1904	71	6,050	69	548	5,433	.....	18,490	611	3,430	21,212	28,923	7,711
	1899	71	.....	.....	184	4,529	.....	12,953	239	2,988	13,146	20,016	6,870
Norristown	1909	111	4,223	104	301	3,818	5,713	6,984	378	1,553	3,274	7,413	4,139
	1904	84	3,781	66	198	3,517	.....	5,307	226	1,315	2,867	5,925	3,058
	1899	77	.....	.....	154	2,044	.....	3,674	126	977	2,159	4,107	1,948
Oil City	1909	34	1,593	44	211	1,338	2,467	3,847	227	903	2,300	4,122	1,822
	[1] 1904	36	1,755	31	167	1,557	.....	4,387	171	928	1,334	3,082	1,748
	1899	42	.....	.....	105	1,683	.....	3,804	138	878	3,688	5,164	1,476
Phoenixville	1909	31	2,822	37	186	2,599	15,152	8,765	235	1,180	3,717	5,876	2,159
	1904	31	3,027	43	96	2,888	.....	7,461	140	1,314	3,023	5,500	2,477
	1899	32	.....	.....	111	2,249	.....	5,820	107	910	1,847	3,322	1,475
Pittston	1909	40	942	39	111	792	2,133	2,337	92	316	1,067	1,969	902
	1904	40	937	44	63	830	.....	1,614	72	307	728	1,475	747
	1899	27	.....	.....	41	357	.....	902	39	158	623	998	375
Plymouth	1909	23	986	21	57	908	1,412	2,544	49	281	704	1,179	475
	[1] 1904	23	906	23	56	827	.....	669	34	210	447	860	413
	1899	24	.....	.....	37	756	.....	470	20	139	241	533	292
Pottstown	1909	78	4,123	84	389	3,650	17,415	9,961	494	1,722	8,999	12,505	3,506
	1904	77	3,825	97	271	3,457	.....	6,420	295	1,516	5,438	8,145	2,707
	1899	65	.....	.....	159	2,681	.....	4,683	135	1,166	4,845	7,357	2,512
Pottsville	1909	91	3,342	100	370	2,872	15,262	13,982	341	1,326	5,927	9,138	3,211
	1904	79	2,127	87	136	1,904	.....	3,304	150	759	4,025	5,806	1,781
	1899	77	.....	.....	139	1,699	.....	3,107	105	561	3,430	4,830	1,400
Shamokin	1909	39	1,744	34	87	1,623	1,862	3,227	121	499	2,129	3,544	1,415
	1904	48	980	61	22	897	.....	1,115	27	260	1,026	1,444	418
	1899	46	.....	.....	34	762	.....	685	29	197	700	1,147	447
Sharon	1909	45	3,795	51	428	3,316	27,462	14,649	455	2,000	6,683	9,881	3,198
	[1] 1904	37	2,029	34	183	1,812	.....	6,564	198	997	3,791	5,671	1,880
	1899	35	.....	.....	62	1,827	.....	4,134	77	898	2,264	3,765	1,501
Shenandoah	1909	29	301	24	35	242	1,382	1,051	37	134	336	887	551
	1904	30	219	30	19	170	.....	740	18	100	181	595	414
	1899	22	.....	.....	9	107	.....	313	11	47	94	302	208
South Bethlehem	1909	49	8,469	65	419	7,985	31,562	41,121	604	4,973	15,967	26,417	10,450
	1904	46	6,104	45	305	5,754	.....	18,059	395	2,753	7,261	15,275	8,014
	1899	38	.....	.....	254	4,645	.....	8,047	321	2,113	4,862	9,964	5,102
Sunbury	1909	39	2,339	42	228	2,069	2,835	4,768	297	1,118	2,228	4,450	2,222
	1904	32	1,551	38	56	1,457	.....	1,138	57	678	1,702	2,593	891
	1899	29	.....	.....	72	968	.....	1,863	51	358	1,158	1,868	710
Uniontown	1909	41	492	38	119	335	1,620	1,686	163	225	379	1,347	968
	[2] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warren	1909	72	1,767	70	208	1,489	3,960	5,796	266	836	3,676	5,744	2,068
	[1] 1904	63	1,412	66	172	1,174	.....	4,982	186	645	2,719	4,666	1,947
	1899	43	.....	.....	69	1,050	.....	2,724	71	486	2,154	3,681	1,527
Washington	1909	75	2,387	68	193	2,126	4,216	3,983	264	1,119	2,447	4,837	2,390
	[2] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Chester	1909	35	1,113	35	162	916	934	2,489	182	478	667	2,146	1,479
	1904	35	993	33	111	849	.....	1,671	102	412	674	2,121	1,447
	1899	35	.....	.....	63	497	.....	1,051	48	234	316	859	543
Wilkinsburg	1909	24	231	21	25	185	1,016	535	21	129	262	538	276
	1904	30	230	24	22	184	.....	427	23	127	235	472	237
	1899	16	.....	.....	8	100	.....	216	4	62	126	246	120
Williamsport	1909	159	6,534	139	754	5,641	11,713	14,070	768	2,527	7,060	13,348	6,288
	[1] 1904	115	5,880	133	451	5,296	.....	12,004	485	2,026	6,016	11,367	5,351
	1899	142	.....	.....	358	4,717	.....	8,661	320	1,767	5,601	9,726	4,125
York	1909	218	11,530	221	817	10,492	15,344	22,419	1,133	4,438	8,866	18,622	9,756
	[1] 1904	228	8,838	266	620	7,952	.....	14,292	634	3,039	6,480	13,333	6,853
	1899	241	.....	.....	348	6,851	.....	8,794	416	2,346	5,460	10,560	5,100
All other cities or boroughs [3]	1909	99	20,296	78	1,935	18,283	165,503	106,264	2,445	12,977	77,960	103,288	25,328

[1] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.
[2] Figures not available.
[3] Includes Coatesville, Duquesne, Monessen, North Braddock, Old Forge, South Sharon, and Steelton.

TABLE II.—DETAIL STATEMENT FOR

	INDUSTRY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, supts. and managers.	Clerks. Male.	Clerks. Female.	Wage earners. Average number.	Wage earners. Number. Maximum month.	Wage earners. Number. Minimum month.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
1	**All industries**	27,563	1,002,171	29,743	24,953	55,703	14,229	877,543	De 960,666	Ja 819,927	(1)	(1)	(1)	(1)	(1)	2,921,547
2	Agricultural implements	36	2,671	37	51	149	33	2,401	Ap 2,445	Oc 2,337	2,374	2,355	4	15	.....	3,842
3	Artificial flowers and feathers and plumes.	30	917	35	17	40	20	805	Ja 985	Je 560	949	101	748	6	94	75
4	Artificial stone	127	671	159	30	11	5	466	Jy 573	Fe 291	605	604	.....	1	.....	602
5	Automobiles, including bodies and parts.	44	3,566	29	113	175	50	3,199	De 3,953	Ja 2,349	3,938	3,907	18	13	.....	2,746
6	Babbitt metal and solder	17	275	10	24	50	10	181	Oc 230	Ja 2 137	223	205	16	2	.....	271
7	Bags, paper	19	329	20	13	26	9	261	Ja 283	Jy 248	257	124	117	5	11	220
8	Baking powders and yeast	5	27	4	1	7	1	14	Ja 2 15	Je 2 12	15	11	4	.....	.....	9
9	Baskets, and rattan and willow ware	44	246	44	3	4	7	188	Se 205	Ja 141	197	144	38	15	.....	119
10	Belting and hose, leather	17	243	16	16	46	9	156	Oc 163	Fe 2 149	157	157	.....	.....	.....	363
11	Belting and hose, woven and rubber	3	393	1	14	46	11	321	Ap 419	Se 282	304	246	56	2	.....	927
12	Bicycles, motorcycles, and parts	11	385	10	7	20	7	341	Je 428	Ja 186	355	352	.....	3	.....	205
13	Billiard tables and materials	5	41	5	2	6	1	27	Ap 2 29	Se 24	29	28	.....	1	.....	12
14	Blacking and cleansing and polishing preparations.	44	304	43	27	55	21	158	Je 165	De 150	156	76	78	2	.....	388
15	Bluing	12	64	12	5	1	4	42	My 47	No 38	46	20	24	1	1	34
16	Boots and shoes, including cut stock and findings.	140	11,829	167	232	435	173	10,822	De 11,093	Ap 10,669	11,281	6,598	3,877	451	355	4,337
17	Boxes, cigar	77	1,970	96	37	21	15	1,801	De 1,908	Mh 1,750	1,911	850	927	60	74	1,818
18	Boxes, fancy and paper	118	5,050	133	139	103	71	4,604	De 5,063	Jy 4,382	5,084	1,394	3,032	124	534	2,121
19	Brass and bronze products	104	2,524	94	120	176	54	2,080	De 2,470	Ja 1,793	2,479	2,379	62	30	8	4,996
20	Bread and other bakery products	3,185	17,838	3,375	235	1,499	508	12,221	Oc 12,465	Fe 11,920	12,643	10,314	1,851	231	247	10,806
21	Brick and tile	326	8,943	349	322	165	49	8,058	Jy 9,927	Fe 4,658	9,271	9,105	21	145	.....	38,247
22	Brooms	84	598	103	19	26	6	444	De 478	Au 408	510	477	21	12	.....	451
23	Brushes	55	541	59	16	38	12	416	Fe 2 424	Jy 405	420	325	76	11	8	360
24	Butter, cheese, and condensed milk	536	2,093	635	158	82	41	1,177	Jy 1,336	Fe 1,024	1,234	1,154	71	8	1	7,613
25	Buttons	24	1,219	25	30	27	14	1,123	De 1,256	Ja 864	1,265	601	518	57	89	858
26	Canning and preserving	83	4,379	97	96	1,200	233	2,753	Se 4,092	Ja 1,847	3,329	1,717	1,490	60	62	3,474
27	Carpets and rugs, other than rag	93	12,078	108	151	246	63	11,510	Fe 11,875	Oc 11,189	12,454	7,461	4,354	342	297	13,073
28	Carpets, rag	67	469	91	7	17	5	349	De 389	Je 324	394	307	71	10	6	290
29	Carriages and wagons and materials	655	8,757	781	193	226	59	7,498	Je 7,932	Ja 7,188	7,455	7,338	33	84	.....	11,544
30	Cars and general shop construction and repairs by steam-railroad companies.	132	50,545	.....	1,942	1,915	43	46,645	De 50,665	Ap 43,721	50,660	50,539	93	28	.....	56,774
31	Cars and general shop construction and repairs by street-railroad companies.	65	2,568	.....	67	54	5	2,442	Se 2,520	Mh 2,357	2,499	2,476	20	3	.....	4,370
32	Cars, steam-railroad, not including operations of railroad companies.	13	8,799	.....	238	734	61	7,766	De 12,632	Fe 4,582	12,632	12,614	9	9	.....	31,732
33	Cement	27	8,902	.....	103	645	74	8,080	No 9,721	Ja 6,421	9,370	9,330	4	36	.....	102,904
34	Chemicals	37	3,573	19	83	242	44	3,185	Je 3,311	Mh 3,072	3,286	3,174	110	.....	2	9,771
35	Chocolate and cocoa products	6	1,033	.....	23	127	20	863	No 983	Jy 694	966	476	400	79	11	2,855
36	Clocks and watches, including cases and materials.	8	1,587	3	34	71	84	1,395	No 1,470	Mh 1,330	1,390	860	494	22	14	1,033
37	Cloth, sponging and refinishing	8	136	9	3	2	3	119	Se 2 126	Ja 113	121	119	.....	2	.....	161
38	Clothing, men's, including shirts	696	26,405	1,099	321	1,055	307	23,623	De 24,997	Au 22,724	25,805	8,548	16,130	239	888	5,288
39	Clothing, women's	401	18,080	646	271	1,028	434	15,701	De 16,727	Jy 13,971	16,995	5,112	11,590	31	262	2,514
40	Coffins, burial cases, and undertakers' goods.	36	1,309	36	60	92	18	1,103	De 1,128	Jy 1,083	1,129	875	246	5	3	1,447
41	Coke	146	16,219	83	364	406	35	15,331	De 17,521	Ap 13,296	17,562	17,558	3	1	.....	26,091
42	Confectionery	251	6,436	255	158	429	186	5,408	No 6,683	Jy 4,758	6,631	2,274	3,839	118	400	3,869
43	Cooperage and wooden goods, not elsewhere specified.	133	1,903	155	55	38	25	1,630	Je 1,677	Fe 1,560	1,752	1,608	52	92	.....	3,681
44	Copper, tin, and sheet-iron products	339	7,992	382	240	428	127	6,815	No 7,522	Fe 6,052	7,481	6,713	535	177	56	8,245
45	Cordage and twine and jute and linen goods.	18	2,228	12	37	52	8	2,119	No 2,196	My 2,000	2,193	1,048	906	134	105	4,630
46	Cork, cutting	10	1,789	9	14	27	12	1,727	Se 1,859	Ja 1,541	1,788	831	796	105	56	2,045
47	Corsets	6	626	4	15	52	122	433	Je 486	Ja 384	416	67	347	.....	2	85
48	Cotton goods, including cotton small wares.	175	17,386	156	348	449	140	16,293	No 2 16,709	Fe 15,817	16,866	7,405	8,318	424	719	24,589
49	Crucibles	5	135	4	12	11	2	106	De 119	Ap 84	119	119	.....	.....	.....	336
50	Cutlery and tools, not elsewhere specified.	129	4,832	114	163	229	76	4,250	De 4,561	Jy 3,985	4,625	4,411	141	66	7	11,311
51	Dairymen's, poulterers', and apiarists' supplies.	13	789	5	20	69	45	650	Mh 730	Se 539	649	635	12	2	.....	465
52	Dentists' materials	23	1,218	27	33	60	26	1,072	De 1,124	Au 1,036	1,124	686	372	4	62	427
53	Dyeing and finishing textiles	135	6,688	155	156	216	75	6,086	De 6,376	Jy 5,954	6,222	5,230	753	202	37	13,560
54	Electrical machinery, apparatus, and supplies.	84	14,641	42	520	2,530	524	11,025	De 13,940	Fe 9,692	14,145	12,006	2,055	70	14	33,829
55	Electroplating	35	211	49	7	5	4	146	De 159	Jy 136	161	146	5	10	.....	309
56	Emery and other abrasive wheels	6	117	2	12	17	2	84	De 96	Ja 75	96	96	.....	.....	.....	452
57	Enameling and japanning	14	300	10	16	27	5	242	No 310	Ja 2 203	318	237	71	10	.....	492
58	Explosives	27	1,225	20	59	97	16	1,033	Se 1,159	Mh 906	1,111	1,002	101	8	.....	4,594
59	Fancy articles, not elsewhere specified	52	951	55	16	30	22	828	De 928	Ja 707	922	451	426	28	17	498
60	Fertilizers	48	1,517	52	60	147	34	1,224	Ap 1,473	Je 1,109	1,162	1,159	.....	3	.....	5,174
61	Files	7	1,298	4	16	44	17	1,217	De 1,239	Oc 1,200	1,239	900	237	88	14	1,313
62	Firearms and ammunition	14	406	14	15	8	4	365	Oc 436	Jy 262	470	172	270	16	12	82

[1] No figures given for reasons explained in the Introduction.

THE STATE, BY INDUSTRIES: 1909.

	Capital.	EXPENSES. Total.	Services. Officials.	Services. Clerks.	Services. Wage earners.	Materials. Fuel and rent of power.	Materials. Other.	Miscellaneous. Rent of factory.	Miscellaneous. Taxes, including internal revenue.	Miscellaneous. Contract work.	Miscellaneous. Other.	Value of products.	Value added by manufacture.
1	$2,749,005,975	$2,355,385,390	$51,307,848	$59,589,394	$455,626,790	$137,332,192	$1,445,227,796	$11,186,157	$30,365,929	$14,582,289	$150,166,995	$2,626,742,034	$1,044,182,046
2	6,491,212	4,019,921	108,611	148,402	1,222,897	70,027	2,012,195	454	21,208	220	435,907	4,804,521	2,722,299
3	943,344	1,121,466	33,912	38,257	262,487	6,316	669,049	20,583	1,418	7,010	82,434	1,318,651	643,286
4	838,641	557,889	29,624	9,670	212,485	7,062	251,182	7,043	2,550	358	37,915	784,248	526,004
5	6,971,377	6,821,594	210,540	173,918	1,807,802	71,286	3,979,567	45,107	10,157	.....	523,217	6,531,733	2,480,880
6	965,839	2,006,491	47,996	44,556	107,409	18,112	1,698,852	6,063	3,114	.....	80,389	2,117,445	400,481
7	589,097	787,319	16,538	16,681	88,510	6,861	605,331	9,841	524	.....	43,033	937,101	324,909
8	72,531	66,309	1,820	6,030	10,594	220	38,243	2,581	.....	.....	6,821	79,024	40,561
9	197,359	271,505	5,453	4,687	75,845	1,463	158,007	8,134	656	.....	17,260	317,556	158,086
10	973,101	1,250,818	29,360	44,606	104,898	10,330	1,000,824	10,258	2,960	.....	47,582	1,378,720	367,566
11	919,940	1,018,741	38,107	50,019	147,793	14,268	676,486	850	1,349	.....	89,869	1,074,843	384,089
12	635,429	629,594	16,830	17,560	193,353	6,003	332,873	986	975	.....	61,014	597,071	258,195
13	106,184	72,622	3,900	1,498	16,778	678	33,397	1,518	288	2,700	11,865	95,725	61,650
14	695,441	666,260	46,097	59,460	68,018	8,077	378,715	12,719	2,443	3,745	86,986	754,966	368,174
15	67,170	106,110	6,694	2,514	13,641	893	64,975	2,635	208	92	14,458	122,299	56,431
16	11,660,633	18,432,282	619,589	541,891	4,266,300	77,151	11,986,631	79,581	14,419	5,955	840,765	20,218,784	8,155,002
17	1,625,734	2,004,469	45,389	21,803	579,850	21,930	1,230,473	9,122	4,692	826	90,384	2,327,739	1,075,336
18	3,421,711	4,461,560	198,441	109,582	1,471,772	56,487	2,233,281	120,452	6,931	1,194	263,420	5,183,847	2,894,079
19	8,392,044	7,727,766	247,693	207,911	1,233,701	129,473	5,475,302	30,944	28,011	11,323	363,408	8,454,620	2,849,845
20	30,887,986	38,917,608	438,629	1,368,053	6,528,296	865,454	26,464,162	526,638	215,648	19,998	2,490,730	45,850,070	18,520,454
21	20,150,106	8,029,554	406,631	139,210	3,881,202	1,626,288	826,751	89,447	68,210	18,317	973,498	9,225,204	6,772,165
22	729,005	1,037,940	11,226	22,985	214,235	6,295	730,594	7,997	984	2,043	41,581	1,261,302	524,413
23	823,070	863,798	30,560	32,489	195,471	6,712	511,043	28,456	586	18,000	40,481	1,042,312	524,557
24	4,290,786	12,695,937	88,896	66,578	556,365	166,098	11,508,292	19,935	15,952	3,738	270,083	13,544,065	1,869,675
25	977,125	1,320,767	63,210	32,035	403,717	15,513	730,617	14,400	4,728	.....	56,547	1,565,397	819,267
26	8,866,817	8,588,518	252,268	1,265,804	947,171	59,570	4,604,963	21,501	42,785	3,626	1,390,830	9,484,026	4,819,493
27	24,720,792	22,632,265	450,043	312,227	5,169,275	276,388	14,371,910	95,528	38,627	125,712	1,792,555	24,879,232	10,230,934
28	374,875	470,031	5,554	11,219	135,439	5,461	285,902	8,409	1,380	319	16,348	559,565	268,202
29	14,364,549	10,889,903	283,212	217,105	3,861,336	181,008	5,526,017	88,121	53,045	14,957	665,102	12,748,383	7,041,358
30	45,341,024	75,941,781	1,496,150	1,492,623	30,156,602	1,265,787	40,135,038	10,665	120,053	2,674	1,261,589	76,035,180	34,633,755
31	2,463,970	2,747,597	67,178	43,283	1,477,337	37,208	1,050,965	1,035	21,683	2,594	40,314	2,747,468	1,653,295
32	31,281,576	26,995,527	556,345	685,759	4,819,137	484,486	18,517,739	6,000	106,134	.....	1,819,927	27,509,748	8,507,523
33	50,855,869	17,495,226	359,569	687,498	3,875,262	3,900,170	6,207,815	70,869	140,611	42,615	2,210,817	18,855,237	8,747,252
34	23,534,639	13,503,136	304,829	254,228	1,892,313	509,580	9,690,341	10,990	42,142	269	798,444	15,978,162	5,778,241
35	3,483,691	3,822,728	70,370	215,992	323,901	57,757	2,897,445	12,500	9,858	.....	234,905	4,810,961	1,855,759
36	4,651,284	2,395,602	103,271	79,673	728,027	15,409	1,156,694	3,168	3,035	.....	306,325	2,873,435	1,701,332
37	76,785	116,406	8,080	2,576	73,599	4,433	9,070	7,163	225	6,131	5,129	142,054	128,551
38	20,790,249	35,319,054	501,113	1,190,904	8,991,735	232,925	19,630,209	451,661	9,022	2,501,394	1,810,091	39,681,760	19,818,626
39	12,254,847	28,666,819	437,791	1,229,567	7,140,306	142,951	18,013,282	422,110	10,403	239,467	1,030,942	32,837,424	14,681,191
40	2,876,673	2,484,156	85,248	100,876	514,467	22,915	1,551,593	19,813	7,753	.....	181,491	2,757,301	1,182,793
41	68,023,289	44,512,169	594,358	348,150	8,435,604	32,485,287	1,277,166	105,353	310,705	17,929	937,617	51,816,449	18,053,996
42	8,204,256	11,882,054	325,864	487,243	1,760,220	152,396	8,050,129	154,673	41,215	23,413	886,901	13,541,759	5,339,234
43	3,630,759	4,072,998	93,500	38,753	755,661	25,214	2,964,170	32,439	9,974	500	152,787	4,629,893	1,640,509
44	17,683,445	14,270,538	469,048	420,285	3,443,550	173,170	8,677,660	116,373	40,055	16,823	913,574	17,197,057	8,346,227
45	5,161,095	3,997,428	119,660	65,801	685,170	41,932	2,959,484	1,050	8,850	200	115,281	4,804,775	1,803,359
46	3,362,489	2,532,629	71,000	32,691	535,220	30,847	1,638,560	2,940	10,663	.....	210,708	2,965,453	1,296,046
47	351,077	646,757	31,213	96,618	135,793	1,862	275,308	3,746	53	9,400	92,764	724,173	447,003
48	33,692,380	29,927,595	937,664	674,348	7,034,407	450,989	18,306,036	243,547	71,857	220,998	1,987,749	33,917,033	15,160,008
49	910,401	611,118	45,202	14,280	59,691	11,411	419,067	.....	3,693	.....	57,774	727,593	297,115
50	12,405,867	6,888,607	301,549	247,131	2,279,780	199,817	3,231,524	30,498	27,572	1,613	569,123	8,022,402	4,591,061
51	1,994,237	1,737,503	32,709	128,769	344,736	10,580	428,970	1,520	3,022	.....	787,197	1,712,290	1,272,740
52	2,799,175	2,226,770	163,800	89,712	464,301	26,101	1,299,376	56,157	5,790	272	121,261	2,745,223	1,419,746
53	13,241,764	10,079,920	356,531	241,374	2,988,496	650,393	4,680,204	70,035	51,199	2,741	1,038,857	12,059,297	6,728,610
54	59,973,875	27,802,380	1,286,971	2,770,794	6,237,040	253,946	13,280,952	98,742	151,533	16,605	3,705,797	31,351,312	17,816,414
55	135,145	191,065	10,150	5,503	90,942	7,982	54,836	13,735	121	100	7,696	256,270	193,452
56	512,793	209,819	26,900	10,692	51,292	6,188	74,572	536	632	1,500	37,537	273,362	192,602
57	803,762	588,420	22,270	19,728	96,063	6,829	402,212	4,048	748	.....	36,522	652,089	243,048
58	6,313,397	5,479,440	119,973	111,357	629,643	84,786	4,002,780	2,485	21,008	127	507,281	6,387,869	2,300,303
59	989,683	1,106,062	26,589	30,265	322,240	17,530	574,129	22,946	1,601	15,583	95,179	1,385,052	793,393
60	6,531,843	5,956,189	140,531	152,512	575,099	128,781	4,484,089	40,523	25,051	.....	409,603	6,542,844	1,929,974
61	2,686,218	1,157,012	51,543	39,902	527,845	43,240	383,605	8,937	4,022	.....	97,918	1,539,566	1,112,721
62	530,013	423,167	31,230	11,585	127,091	7,054	202,533	1,158	1,367	50	41,099	515,204	305,617

[2] Same number reported for one or more other months.

TABLE II.—DETAIL STATEMENT FOR THE

	INDUSTRY.	Number of establishments	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried officers, supts. and managers.	Clerks. Male.	Clerks. Female.	Wage earners. Average number.	Wage earners. Number. Maximum month.	Wage earners. Number. Minimum month.	Wage earners—Number Dec. 15, or nearest representative day. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
1	Fire extinguishers, chemical	4	25	2	2	5	1	15	Ja[1] 16	Mh[1] 13	15	15	.....	.....	.....	20
2	Fireworks	4	32	3	4	.....	1	24	Je 33	Jy[1] 4	33	8	15	5	5	7
3	Flags, banners, regalia, society badges, and emblems.	33	286	41	5	13	6	221	Se 257	Ja 184	227	84	133	9	1	55
4	Flour-mill and gristmill products	1,450	4,696	1,896	133	159	76	2,432	No 2,544	Jy 2,305	2,544	2,532	3	9	.....	69,212
5	Foundry and machine-shop products	1,695	100,505	1,389	3,176	7,748	1,371	86,821	De 100,444	Ja 79,132	101,530	99,412	1,086	894	138	162,414
6	Fur goods	58	349	72	7	15	28	227	De 341	Ap 125	339	156	180	3	.....	14
7	Furnishing goods, men's	72	1,923	91	41	219	85	1,487	No 1,621	Ja 1,417	1,577	325	1,199	16	37	254
8	Furniture and refrigerators	304	11,338	376	364	539	135	9,924	De 10,558	Ja 9,220	10,644	10,224	222	195	3	17,211
9	Gas and electric fixtures and lamps and reflectors.	75	1,876	73	117	160	44	1,482	No[1] 1,780	Jy 1,337	1,788	1,492	233	58	5	1,249
10	Gas, illuminating and heating	99	4,584	13	208	1,146	98	3,119	Jy 3,406	Fe 2,784	3,136	3,125	11	.....	.....	9,374
11	Glass	112	24,924	34	424	543	213	23,710	De 26,711	Jy 16,242	27,857	24,571	1,485	1,516	285	55,182
12	Gloves and mittens, leather	3	50	3	.....	4	1	42	Ja[1] 47	No 37	44	15	29	.....	.....	7
13	Gold and silver, leaf and foil	6	318	7	3	5	6	297	No 308	Ja 289	307	134	159	6	8	55
14	Gold and silver, reducing and refining, not from the ore.	5	18	5	4	2	.....	7	Ja[1] 8	My 2	8	7	.....	1	.....	25
15	Graphite and graphite refining	4	71	2	6	6	.....	57	No 70	Ja 35	59	59	.....	.....	.....	420
16	Haircloth	9	406	10	11	31	14	340	Au 358	Ja 302	344	138	198	4	4	551
17	Hand stamps and stencils and brands	35	256	33	15	32	13	163	De 182	Je 145	183	148	27	8	.....	74
18	Hats and caps, other than felt, straw, and wool.	53	877	71	18	31	13	744	No 785	Jy 709	774	424	342	7	1	163
19	Hats, fur-felt	38	7,537	46	67	183	21	7,220	De 7,599	Fe 6,936	7,643	5,313	1,934	203	193	5,335
20	Hats, straw	9	531	7	20	30	14	460	Ap 605	Au 286	533	137	392	1	3	85
21	Hosiery and knit goods	464	40,248	509	651	583	299	38,206	No 39,911	Fe 36,957	40,326	7,766	28,045	1,124	3,391	21,797
22	Ice, manufactured	170	2,086	116	199	120	45	1,606	Jy 2,197	Ja 1,044	1,492	1,489	1	2	.....	35,890
23	Ink, printing	8	246	6	18	50	7	165	Au 175	Mh[1] 160	162	162	.....	.....	.....	483
24	Ink, writing	6	28	7	1	2	1	17	Se[1] 19	No 15	19	8	5	6	.....	21
25	Iron and steel, blast furnaces	66	16,215	34	359	1,182	119	14,521	De 17,407	Mh 12,559	17,556	17,532	.....	24	.....	476,680
26	Iron and steel, steel works and rolling mills.	189	137,433	34	1,969	7,546	973	126,911	De 148,591	Mh 111,954	148,550	146,985	372	1,120	73	896,440
27	Iron and steel pipe, wrought	11	4,143	5	87	164	14	3,873	Oc 4,651	Mh 3,209	4,601	4,591	.....	10	.....	12,472
28	Jewelry	75	624	96	16	26	30	456	De 473	Je 441	464	385	52	22	5	160
29	Kaolin and ground earths	16	670	7	27	17	7	612	Jy 651	Mh[1] 543	641	641	.....	.....	.....	2,310
30	Lapidary work	3	10	3	.....	1	.....	6	Ja[2] 6	Jy[2] 6	6	5	.....	1	.....	1
31	Lasts	4	82	6	2	1	.....	73	De 76	Je[1] 71	76	75	.....	1	.....	91
32	Lead, bar, pipe, and sheet	4	72	4	7	11	4	46	No 58	Mh 39	49	49	.....	.....	.....	326
33	Leather goods	156	3,124	210	85	239	66	2,524	Oc 2,655	Ja 2,292	2,571	1,763	585	72	151	1,107
34	Leather, tanned, curried, and finished	163	14,970	151	343	388	80	14,008	De 14,890	My 13,587	14,973	14,079	682	151	61	37,440
35	Lime	348	3,791	393	72	56	12	3,258	No 3,489	Fe 2,844	3,565	3,562	.....	3	.....	8,682
36	Liquors, distilled	88	1,144	148	104	139	29	724	De 890	Se 535	968	743	225	.....	.....	7,578
37	Liquors, malt	237	9,007	131	511	1,079	52	7,234	Jy 7,581	Fe 6,988	7,239	7,215	18	6	.....	54,360
38	Liquors, vinous	3	7	4	.....	1	.....	2	Je[1] 6	Ja[3] 0	7	6	.....	1	.....	15
39	Lumber and timber products	2,667	32,073	3,473	777	722	228	26,873	De 28,690	Ja 24,194	32,915	32,429	123	356	7	113,412
40	Marble and stone work	596	10,639	764	318	234	59	9,264	Jy 10,060	Ja 7,652	9,917	9,839	11	67	.....	29,037
41	Matches	4	180	5	6	11	3	155	De 209	Se 126	209	134	73	.....	2	300
42	Mattresses and spring beds	83	961	84	36	66	30	745	No 810	Ja 661	808	605	183	20	.....	1,162
43	Millinery and lace goods	105	4,697	141	63	158	100	4,235	Mh 4,744	Jy 3,825	4,294	617	3,359	53	265	841
44	Mirrors	13	272	14	6	11	9	232	Oc 256	Fe 214	258	234	15	9	.....	302
45	Models and patterns, not including paper patterns.	86	797	112	33	10	7	635	De 815	Jy 519	821	816	2	3	.....	1,114
46	Musical instruments and materials, not specified.	19	87	18	6	4	5	54	Oc 61	Ja 34	57	55	.....	2	.....	43
47	Musical instruments, pianos and organs and materials.	30	1,331	21	53	59	16	1,182	De 1,264	Jy 1,080	1,262	1,206	16	40	.....	1,260
48	Oil, essential	5	97	3	2	2	1	89	Oc 164	Jy[1] 20	40	40	.....	.....	.....	102
49	Optical goods	24	744	24	20	79	42	579	Jy 587	Au 570	580	293	227	20	40	292
50	Paint and varnish	114	2,747	105	176	362	112	1,992	De 2,072	Ja 1,888	2,089	2,012	65	10	2	9,862
51	Paper and wood pulp	62	7,196	32	167	250	91	6,656	No 6,916	Fe 6,481	6,842	6,064	744	17	17	66,910
52	Paper goods, not elsewhere specified	34	1,700	32	51	184	76	1,357	Oc[1] 1,438	Je 1,287	1,416	673	670	30	43	1,348
53	Patent medicines and compounds and druggists' preparations.	367	4,299	334	209	675	320	2,761	No 2,983	Jy 2,527	2,902	1,275	1,560	31	36	2,619
54	Petroleum, refining	41	3,423	36	123	323	41	2,900	Oc 3,381	Mh 2,535	3,310	3,278	13	19	.....	35,212
55	Phonographs and graphophones	3	96	1	4	3	7	81	Fe[1] 203	Jy 7	113	113	.....	.....	.....	72
56	Photographic apparatus and materials.	7	192	6	5	17	17	147	De 163	Ja 120	163	116	39	8	.....	114
57	Photo-engraving	31	682	33	40	88	32	489	Fe 498	Mh 479	493	471	17	5	.....	197
58	Pottery, terra-cotta, and fire-clay products.	139	9,784	99	301	304	77	9,003	De 9,638	Ja 8,090	10,290	9,387	599	267	37	23,142
59	Printing and publishing	2,461	36,783	2,557	1,781	5,132	2,617	24,696	De 25,938	Au 23,855	26,236	19,323	5,972	747	194	25,839
60	Pumps, not including steam pumps	5	269	5	3	35	5	221	De 328	Ap 127	328	327	.....	1	.....	1,190
61	Rubber goods, not elsewhere specified.	13	1,407	3	68	106	25	1,205	My 1,314	Au 1,103	1,310	1,052	213	33	12	5,300
62	Safes and vaults	7	777	1	41	38	2	695	Ap 721	Ja 673	723	721	.....	2	.....	1,163
63	Sand and emery paper and cloth	3	305	3	6	12	2	282	Ja[1] 370	Se 223	316	308	3	2	3	2,210
64	Saws	15	2,087	18	19	161	13	1,876	No 1,882	Au 1,809	1,875	1,669	69	122	15	3,399
65	Scales and balances	5	308	4	16	42	8	238	No 256	Ja[1] 231	251	251	.....	.....	.....	329
66	Screws, machine	5	73	7	5	3	.....	58	No 66	Ja[1] 51	65	62	.....	3	.....	74
67	Shipbuilding, including boat building	31	3,833	34	59	178	4	3,558	No 4,148	Fe 3,144	4,097	4,036	7	54	.....	7,771
68	Shoddy	20	518	32	14	15	7	450	De 462	Ja 432	466	353	113	.....	.....	2,170
69	Show cases	5	55	4	4	3	1	43	Ap[1] 44	Ja[1] 42	43	43	.....	.....	.....	76
70	Signs and advertising novelties	26	621	28	22	63	21	487	De 648	Je 418	647	435	196	14	2	608

[1] Same number reported for one or more other months.

[2] Same number reported throughout the year.

STATE, BY INDUSTRIES: 1909—Continued.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	$71,200	$32,555	$3,700	$3,324	$8,252	$342	$9,790	$1,120	$72	.....	$5,955	$38,800	$28,668
2	37,185	31,237	3,160	300	5,217	390	17,829	720	22	.....	3,599	39,684	21,465
3	375,613	384,258	4,716	10,750	90,064	3,544	247,092	7,941	1,033	$1,401	17,717	489,623	238,987
4	21,276,534	40,696,279	209,187	162,873	1,187,505	278,706	37,891,422	119,408	85,734	21,913	739,531	44,782,558	6,612,430
5	283,556,032	184,759,599	7,068,012	7,965,981	51,366,002	3,750,892	97,259,848	787,821	761,788	210,992	15,588,263	210,746,257	109,735,517
6	1,086,035	854,254	11,616	25,438	159,569	4,748	539,096	52,187	3,082	1,141	57,377	1,217,221	673,377
7	1,717,253	4,059,048	93,388	300,952	555,972	13,902	2,860,445	45,773	609	705	187,302	4,565,314	1,690,967
8	18,542,143	16,789,969	681,194	550,463	4,829,154	190,309	8,848,398	149,536	45,840	19,838	1,475,237	18,951,784	9,913,077
9	2,863,064	2,762,552	189,630	143,297	764,623	34,418	1,204,155	65,047	5,975	1,676	353,731	2,961,770	1,723,197
10	61,856,506	9,188,766	264,796	974,689	1,500,850	2,997,543	1,101,051	1,287,642	62,836	3,276	996,083	15,839,612	11,741,018
11	58,632,212	31,102,894	1,029,465	700,491	13,436,405	2,898,532	9,735,381	19,833	144,455	11,267	3,127,065	32,817,936	20,184,023
12	28,964	48,904	.....	2,536	11,744	210	32,700	330	58	.....	1,326	54,041	21,131
13	332,741	387,854	2,700	9,020	125,594	2,163	241,491	756	1,994	.....	4,136	418,421	174,767
14	39,558	215,609	8,392	1,560	6,274	657	189,647	3,696	118	.....	5,265	224,891	34,587
15	239,914	208,428	4,791	4,500	31,602	2,243	158,318	325	341	.....	6,308	221,854	61,293
16	1,385,689	1,354,740	20,318	31,618	172,111	11,285	1,031,830	26,797	604	3,500	56,677	1,444,695	401,580
17	298,896	271,727	26,654	21,906	90,686	3,847	101,401	12,887	372	515	13,459	329,865	224,617
18	652,304	953,890	37,481	32,590	273,201	8,115	535,276	21,860	833	10	44,524	1,096,823	553,432
19	14,438,611	9,877,996	204,902	217,814	3,724,699	150,930	4,861,840	18,233	30,492	15,753	653,333	13,022,617	8,009,847
20	498,430	782,199	73,675	42,893	213,979	5,705	397,295	21,003	495	.....	27,154	872,135	469,135
21	38,989,088	43,892,123	992,064	665,889	11,750,386	421,700	26,796,251	276,882	72,816	687,872	2,228,263	49,657,506	22,439,555
22	14,404,140	3,362,417	223,032	115,075	1,022,959	743,951	481,309	41,117	87,930	.....	647,044	4,822,884	3,597,624
23	742,447	993,366	49,812	44,550	104,581	14,925	607,657	6,752	968	18,023	146,098	1,050,113	427,531
24	493,047	43,850	1,300	2,336	6,882	443	28,042	1,170	390	.....	3,287	55,980	27,495
25	194,708,463	158,531,392	990,977	1,408,840	9,456,714	40,480,064	101,593,964	271,970	568,769	9,445	3,750,649	168,578,413	26,504,385
26	522,897,623	451,828,919	5,355,442	8,038,306	85,113,237	23,615,586	305,397,835	243,746	1,566,867	19,558	22,478,342	500,343,995	171,330,574
27	15,325,007	16,924,921	199,686	137,475	2,176,686	460,544	13,561,322	1,200	44,156	.....	343,852	18,291,167	4,269,301
28	911,591	1,039,767	20,740	32,931	291,769	11,012	585,819	34,295	860	6,880	55,461	1,274,875	678,044
29	2,512,897	633,081	43,066	19,026	208,494	55,478	231,779	4,105	5,043	350	65,740	759,113	471,856
30	5,900	10,513	.....	720	5,700	176	2,480	875	7	.....	555	14,000	11,344
31	104,228	99,215	3,120	650	42,310	3,063	24,754	1,200	641	.....	23,477	114,254	86,437
32	682,546	787,553	14,939	11,955	30,859	6,139	700,059	200	3,573	.....	19,829	845,168	138,970
33	4,527,491	5,075,239	153,723	316,221	1,136,737	33,888	3,119,349	86,917	8,052	7,823	212,529	5,823,548	2,670,311
34	80,988,961	73,594,120	927,927	415,640	6,801,370	726,432	58,386,692	157,324	193,283	25,030	5,960,422	77,926,321	18,813,197
35	6,930,395	2,593,048	91,641	45,348	1,259,171	609,250	428,490	24,887	18,653	19,879	95,729	3,342,048	2,304,308
36	16,216,804	13,395,847	176,532	182,996	410,569	134,129	2,978,114	57,668	9,007,973	12,538	435,328	14,366,527	11,254,284
37	94,134,562	37,734,004	1,949,657	1,311,355	5,452,794	1,016,793	11,593,304	203,172	8,097,683	63,754	8,045,492	47,712,570	35,102,473
38	86,294	18,365	.....	720	935	373	14,672	.....	341	.....	1,324	23,055	8,010
39	54,638,401	48,102,628	1,085,846	671,864	13,557,761	329,610	26,984,626	146,313	257,572	2,422,055	2,646,981	57,453,583	30,139,347
40	13,963,755	9,943,502	392,568	192,771	4,859,671	296,201	3,423,553	75,443	44,090	67,507	591,698	11,569,603	7,849,849
41	343,255	303,624	4,010	38,837	39,966	3,122	179,463	.....	743	.....	37,483	323,337	140,752
42	1,655,480	1,994,583	58,465	59,754	360,639	17,205	1,316,042	40,758	7,260	.....	134,460	2,223,197	889,950
43	3,552,020	5,812,997	103,611	184,072	1,327,299	30,958	3,723,447	110,621	2,528	34,083	296,378	6,769,523	3,015,118
44	501,422	550,374	13,840	15,391	104,309	5,535	366,632	5,015	2,173	2,000	35,479	636,094	263,927
45	1,679,535	1,929,481	55,348	10,183	410,987	27,728	1,329,054	22,766	3,130	3,075	67,210	2,085,230	728,448
46	201,057	92,861	8,616	3,689	32,464	1,922	24,086	5,742	394	2,790	13,158	115,118	89,110
47	3,157,965	2,117,165	104,161	61,249	505,343	21,104	1,227,241	17,827	3,293	1,151	175,796	2,381,849	1,133,504
48	46,006	85,919	2,356	1,220	28,002	674	45,579	15	821	.....	7,252	111,065	64,812
49	926,029	908,328	47,184	69,876	218,898	8,578	452,791	23,307	3,212	250	84,232	1,062,905	601,536
50	14,833,702	12,598,754	416,052	531,026	1,101,969	252,923	8,948,071	59,740	43,359	2,060	1,243,554	14,019,744	4,818,750
51	27,746,888	17,494,422	538,035	282,227	3,303,034	1,544,116	9,854,195	2,485	59,591	130	1,910,609	19,872,717	8,474,406
52	3,304,119	3,476,025	145,406	174,449	538,365	25,817	2,199,120	57,513	6,627	8,434	320,294	3,718,956	1,494,019
53	12,409,187	10,759,254	486,962	855,222	1,144,982	66,050	5,243,530	113,168	25,407	2,783	2,821,150	12,656,086	7,346,506
54	38,989,633	51,476,176	418,130	350,226	1,861,405	1,803,713	45,636,603	12,323	55,520	5,767	1,332,489	53,088,199	5,647,883
55	180,005	133,873	7,560	4,051	46,003	2,610	32,691	3,995	5	259	36,699	134,659	99,358
56	456,259	624,143	21,622	24,969	104,137	7,878	408,245	14,390	498	.....	42,404	672,908	256,785
57	660,496	1,003,032	98,475	76,329	446,387	13,211	217,415	30,036	498	13,608	107,013	1,132,189	901,563
58	27,225,268	10,811,423	535,732	320,614	4,357,336	1,149,042	2,960,326	39,406	84,916	15,897	1,348,154	13,072,106	8,962,738
59	71,452,879	58,379,844	3,658,525	5,177,830	14,335,047	657,657	22,095,092	1,161,589	172,017	2,280,491	8,841,596	70,584,179	47,831,430
60	851,780	365,817	10,650	26,265	136,078	17,960	155,369	192	719	.....	18,584	398,021	224,692
61	5,426,636	4,623,380	141,266	157,459	565,995	71,800	3,169,932	2,230	8,203	.....	506,495	4,686,330	1,444,598
62	1,826,623	1,244,298	53,640	42,780	391,292	23,907	618,682	840	5,594	7,329	100,234	1,338,305	695,716
63	2,022,836	1,736,361	20,500	21,687	172,862	27,466	1,261,512	3,500	2,944	.....	225,890	2,136,805	847,827
64	5,961,421	3,025,015	66,060	138,844	1,158,261	70,735	1,334,910	3,318	4,761	.....	248,126	3,793,806	2,388,161
65	1,081,125	675,564	35,200	59,344	136,596	3,942	371,122	288	2,764	.....	66,308	732,135	357,071
66	141,100	73,576	8,615	3,400	30,264	2,120	22,477	3,579	166	.....	2,955	84,788	60,191
67	15,203,209	6,001,185	231,688	183,114	2,120,424	108,622	2,600,932	50,520	32,594	24,150	649,141	6,178,145	3,468,591
68	1,627,096	1,770,058	26,626	20,413	185,740	30,633	1,432,585	6,868	6,086	2,912	58,195	2,051,118	587,900
69	80,190	90,900	5,120	3,768	27,794	3,219	44,159	2,869	151	.....	3,880	90,355	42,977
70	1,238,789	1,348,417	36,640	123,889	201,175	15,897	766,279	22,368	53,875	5,737	122,557	1,525,122	742,946

* None reported for one or more other months.

TABLE II.—DETAIL STATEMENT FOR THE

	INDUSTRY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, supts. and managers.	Clerks. Male.	Clerks. Female.	Wage earners. Average number.	Number. Maximum month.		Number. Minimum month.		WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horse-power.
1	Silk and silk goods, including throwsters.	226	38,178	143	498	817	251	36,469	Ap	37,031	Ja	35,775	37,290	9,772	22,378	1,578	3,562	41,962
2	Silverware and plated ware	9	321	6	16	32	7	260	No	290	Jy	215	332	287	32	10	3	187
3	Slaughtering and meat packing	180	3,957	198	141	484	84	3,050	De	3,184	Au	2,940	3,183	3,154	22	7	.....	12,139
4	Smelting and refining, not from the ore.	24	278	17	22	26	7	206	De	236	Fe	171	239	238	1	.....	.....	536
5	Soap	59	1,746	74	27	252	196	1,197	Se	1,226	Ja	1,172	1,174	821	312	27	14	2,598
6	Steam packing	31	2,231	18	88	325	123	1,677	De	2,018	Je	1,544	2,025	1,854	122	39	10	5,817
7	Stereotyping and electrotyping	21	414	18	28	25	4	339	My	349	Ja	330	339	320	6	13	.....	339
8	Stoves and furnaces, including gas and oil stoves.	74	4,721	42	155	260	66	4,198	No	4,488	Ja	3,385	4,535	4,463	29	42	1	4,675
9	Sulphuric, nitric, and mixed acids	6	172	.....	11	22	7	132	Mh	149	Au	121	155	151	1	3	.....	286
10	Tin plate and terneplate	17	2,548	3	43	109	47	2,346	No	2,795	Mh	1,963	2,751	2,448	278	25	.....	1,565
11	Tobacco manufactures	2,432	37,580	2,699	471	1,025	197	33,188	De	35,099	Ap	32,097	35,552	16,006	18,615	174	757	2,638
12	Type founding and printing materials.	8	402	6	17	61	25	293	Ja	310	Au	275	298	214	59	16	9	273
13	Typewriters and supplies	8	872	5	15	252	45	555	De	610	Ja	491	610	596	14	.....	.....	264
14	Umbrellas and canes	45	2,551	44	45	115	32	2,315	No	2,570	Jy	2,078	2,413	1,070	1,190	88	65	1,570
15	Wall paper	11	1,196	.....	35	94	11	1,056	De	1,289	Au	777	1,324	1,016	169	99	40	1,371
16	Wall plaster	23	306	15	28	22	9	232	Ap	303	Ja	194	232	230	2	.....	.....	1,413
17	Whips	4	135	44	7	22	4	58	De	69	Ja	43	69	51	18	.....	.....	105
18	Wood distillation, not including turpentine and rosin.	50	1,093	36	85	28	11	933	Ja	1,058	Au	837	1,052	1,052	.....	.....	.....	1,749
19	Woolen, worsted, and felt goods, and wool hats.	217	28,692	245	422	475	141	27,409	No	28,383	Ja	25,796	28,226	12,494	13,053	1,187	1,492	50,405
20	All other industries [1]	1,953	50,979	2,100	1,730	3,198	1,015	42,936	.....	.....	.....	.....	.....	.....	.....	.....	.....	101,898

[1] All other industries embrace—

Artists' materials	7
Awnings, tents, and sails	36
Axle grease	3
Bags, other than paper	4
Bone, carbon, and lamp black	5
Boots and shoes, rubber	1
Calcium lights	1
Card cutting and designing	17
Carriages and sleds, children's	5
Cars, street-railroad, not including operations of railroad companies	1
Cash registers and calculating machines	3
Charcoal	3
China decorating	2
Clothing, horse	12
Clothing, men's, buttonholes	10
Coffee and spice, roasting and grinding	84
Cordials and sirups	6
Drug grinding	2
Dyestuffs and extracts	14
Engravers' materials	1
Engraving and diesinking	27
Engraving, wood	9
Flavoring extracts	37
Food preparations	128
Foundry supplies	10
Fuel, manufactured	1
Furs, dressed	1
Galvanizing	8
Glass, cutting, staining, and ornamenting	106
Glucose and starch	2
Glue	6
Grease and tallow	51
Grindstones	1
Hair work	11
Hammocks	3
Hat and cap materials	6
Hones and whetstones	1
Horseshoes, not made in steel works or rolling mills.	3
House-furnishing goods, not elsewhere specified	24
Instruments, professional and scientific	39
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills	22
Iron and steel, doors and shutters	2
Iron and steel forgings	38
Iron and steel, nails and spikes, cut and wrought, including wire nails, not made in steel works or rolling mills	7
Jewelry and instrument cases	11
Labels and tags	16
Locomotives, not made by railroad companies	7

STATE, BY INDUSTRIES: 1909—Continued.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	$49,679,061	$55,614,244	$1,173,305	$958,637	$11,442,878	$495,850	$34,669,721	$178,854	$94,043	$3,851,881	$2,749,075	$62,061,302	$26,895,731
2	781,251	485,130	34,700	26,575	190,330	4,242	198,200	8,430	525	.....	22,128	601,831	399,389
3	13,504,379	49,153,605	348,881	513,279	1,986,965	239,663	44,605,384	112,672	63,602	29,005	1,254,154	51,850,936	7,005,889
4	1,605,387	3,325,573	64,732	24,576	143,182	37,534	2,940,698	3,497	3,363	5,000	102,991	3,577,433	599,201
5	5,427,998	8,397,048	55,988	287,566	555,829	64,977	5,881,826	13,858	14,266	.....	1,522,738	9,124,356	3,177,553
6	7,021,710	5,006,308	218,044	253,025	814,272	149,465	2,831,102	20,899	12,057	10,069	697,375	4,987,171	2,006,604
7	411,367	503,618	48,720	19,715	231,666	14,378	131,450	21,175	156	934	35,424	644,686	498,858
8	10,643,111	6,348,431	310,277	324,325	2,464,775	115,758	2,355,860	63,333	32,007	37,361	644,735	7,408,933	4,937,315
9	1,142,636	506,459	17,060	27,848	87,240	29,196	298,797	.....	5,353	.....	40,965	624,473	296,480
10	5,520,066	24,844,283	110,560	164,838	1,338,637	113,270	22,785,082	1,900	24,366	.....	305,630	25,234,066	2,335,714
11	27,603,854	44,054,733	730,523	1,054,946	11,619,512	119,516	20,593,907	364,344	6,079,825	140,989	3,351,171	50,161,387	29,447,964
12	1,021,826	573,696	33,840	58,210	159,308	10,887	194,466	19,006	1,677	.....	96,302	606,351	400,998
13	1,151,930	1,076,152	42,060	286,782	269,087	4,107	185,067	3,555	3,063	.....	282,431	1,016,543	827,369
14	5,119,023	4,678,745	93,680	231,028	906,020	28,439	3,119,614	33,180	5,903	38,731	222,150	5,059,846	1,911,793
15	3,511,107	3,402,482	114,921	133,816	519,670	45,383	2,263,305	38,502	4,784	.....	282,101	3,695,211	1,386,523
16	1,004,114	660,766	46,935	23,247	111,054	31,964	370,118	3,050	2,685	1,620	70,093	725,494	323,412
17	267,394	123,604	7,900	21,202	14,929	1,641	66,832	612	206	.....	10,282	161,647	93,174
18	5,111,070	2,490,091	112,517	20,515	521,643	1,463,326	220,623	790	22,948	2,200	125,529	[1] 2,960,162	1,276,213
19	75,170,431	71,177,842	1,091,736	654,062	10,947,225	789,043	53,845,042	255,773	99,864	802,120	2,692,977	77,446,996	22,812,911
20	158,033,658	154,832,334	3,696,503	3,678,170	22,317,217	3,033,791	110,508,867	650,590	373,469	233,581	10,340,146	171,703,451	58,160,793

[1] All other industries embrace—Continued.

Looking-glass and picture frames	55
Malt	3
Mats and matting	1
Mineral and soda waters	485
Moving pictures	2
Mucilage and paste	17
Needles, pins, and hooks and eyes	9
Oil, castor	1
Oil, linseed	1
Oil, not elsewhere specified	37
Oilcloth and linoleum	3
Ordnance and accessories	1
Paving materials	5
Peanuts, grading, roasting, cleaning, and shelling	5
Pencils, lead	2
Pens, fountain, stylographic, and gold	2
Pens, steel	1
Pipes, tobacco	4
Pulp, from fiber other than wood	2
Roofing materials	17
Salt	1
Screws, wood	1
Sewing machines, cases, and attachments	2
Smelting and refining, lead	1
Smelting and refining, zinc	2
Soda-water apparatus	4
Sporting and athletic goods	15
Springs, steel, car and carriage	13
Stationery goods, not elsewhere specified	12
Statuary and art goods	13
Sugar, refining, not including beet sugar	2
Surgical appliances and artificial limbs	46
Tin-foil	2
Toys and games	23
Upholstering materials	23
Vault lights and ventilators	7
Vinegar and cider	102
Washing machines and clothes wringers	10
Waste	23
Wheelbarrows	4
Window shades and fixtures	15
Wire	8
Wirework, including wire rope and cable	64
Wood carpet	2
Wood preserving	1
Wood, turned and carved	94
Wool pulling	9
Wool scouring	2

TABLE III.—DETAIL STATEMENT FOR CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES.

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES.

ALLENTOWN.

	INDUSTRY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners (average number). Total.	Wage earners. 16 and over. Male.	Wage earners. 16 and over. Female.	Wage earners. Under 16.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
1	**All industries**	**274**	**12,628**	**314**	**240**	**500**	**93**	**11,481**	**6,520**	**4,386**	**575**	**11,837**	**6,731**	**4,520**	**287**	**299**	**19,101**
2	Boots and shoes, including cut stock and findings.	9	770	10	19	14	3	724	449	219	56	765	474	231	30	21	365
3	Bread and other bakery products	32	183	31	3	1	2	146	132	11	3	151	137	11	2	1	82
4	Brick and tile	6	158	11	6	.....	.....	141	140	.....	1	145	144	.....	1	.....	335
5	Brushes [1]	4	21	5	.....	.....	.....	16	15	.....	1	15	14	.....	1	.....	5
6	Carriages and wagons and materials	4	38	8	.....	.....	.....	30	30	.....	.....	28	28	.....	.....	.....	33
7	Clothing, men's, including shirts	5	183	8	.....	5	1	169	67	92	10	173	69	94	2	8	14
8	Copper, tin, and sheet-iron products	3	53	6	.....	.....	1	46	46	.....	.....	51	51	.....	.....	.....	23
9	Foundry and machine-shop products	23	1,011	30	28	74	28	851	819	15	17	895	861	16	18	.....	1,286
10	Furniture and refrigerators	7	593	10	25	28	1	529	506	3	20	564	540	3	21	.....	646
11	Hosiery and knit goods	8	614	7	14	12	9	572	67	479	26	668	78	559	2	29	423
12	Leather goods	3	23	4	.....	1	.....	18	18	.....	.....	18	18	.....	.....	.....	1
13	Liquors, malt	4	129	8	6	11	1	103	102	1	.....	102	101	1	.....	.....	501
14	Lumber and timber products	10	171	20	5	7	2	137	137	.....	.....	145	145	.....	.....	.....	629
15	Marble and stone work	4	23	5	.....	.....	1	17	17	.....	.....	15	15	.....	.....	.....	18
16	Printing and publishing	28	255	31	14	18	2	190	161	18	11	192	163	18	9	2	147
17	Silk and silk goods, including throwsters	15	3,937	9	38	102	10	3,778	1,330	2,169	279	3,665	1,289	2,103	114	159	2,808
18	Tobacco manufactures	47	1,190	47	12	18	9	1,104	130	972	2	1,202	142	1,058	.....	2	152
19	All other industries [2]	62	3,276	64	70	209	23	2,910	2,354	407	149	3,043	2,462	426	78	77	11,633

[1] Includes 1 establishment engaged in the manufacture of brooms.
[2] All other industries embrace: Artificial stone, 1; automobiles, including bodies and parts, 1; baskets, and rattan and willow ware, 1; blacking and cleansing and polishing preparations, 1; boxes, cigar, 2; boxes, fancy and paper, 1; brass and bronze products, 2; cars and general shop construction and repairs by steam-railroad companies, 1; cars and general shop construction and repairs by street-railroad companies, 1; cement, 1; chemicals, 2; clothing, women's, 1; coffins, burial cases, and undertakers' goods, 1; confectionery, 3; cooperage and wooden goods, not elsewhere specified, 2; cordage and twine and jute and linen goods, 1; dyeing and finishing textiles, 4;

ALTOONA.

1	**All industries**	**44**	**9,100**	**41**	**255**	**345**	**50**	**8,409**	**7,797**	**478**	**134**	**9,281**	**8,605**	**532**	**69**	**75**	**9,158**
2	Bread and other bakery products	11	64	12	2	.....	5	45	41	3	1	48	44	3	1	.....	55
3	Liquors, malt	3	118	5	6	9	2	96	96	.....	.....	94	94	.....	.....	.....	730
4	Lumber and timber products	3	104	4	8	1	3	88	88	.....	.....	54	54	.....	.....	.....	186
5	Printing and publishing	10	209	7	12	24	12	154	124	25	5	154	124	25	5	.....	177
6	All other industries [1]	17	8,605	13	227	311	28	8,026	7,448	450	128	8,931	8,289	504	63	75	8,010

[1] All other industries embrace: Artificial stone, 1; cars and general shop construction and repairs by steam-railroad companies, 2; clothing, men's, including shirts, 1; coke, 1; foundry and machine-shop products, 1; gas, illuminating and heating, 2; ice, manufactured, 2; leather goods, 1; mattresses and spring beds, 1; mineral and soda waters, 2; patent medicines and compounds and druggists' preparations, 1; silk and silk goods, including throwsters, 1; tobacco manufactures, 1.

ERIE.

1	**All industries**	**391**	**11,142**	**364**	**338**	**471**	**173**	**9,796**	**8,592**	**933**	**271**	**10,594**	**9,288**	**1,012**	**193**	**101**	**22,038**
2	Brass and bronze products	4	55	4	4	.....	2	45	45	.....	.....	50	50	.....	.....	.....	80
3	Bread and other bakery products	48	210	48	2	2	8	150	128	18	4	157	134	19	2	2	117
4	Carriages and wagons and materials	4	35	7	.....	1	1	26	26	.....	.....	26	26	.....	.....	.....	41
5	Confectionery	8	52	8	4	2	1	37	20	17	.....	37	20	17	.....	.....	34
6	Cooperage and wooden goods, not elsewhere specified.	5	51	4	3	1	2	41	39	2	.....	39	37	2	.....	.....	80
7	Copper, tin, and sheet-iron products	10	143	10	5	1	3	124	124	.....	.....	129	129	.....	.....	.....	163
8	Cutlery and tools, not elsewhere specified	4	137	2	7	10	5	113	110	.....	3	142	138	.....	3	1	168
9	Flour-mill and gristmill products	4	54	2	9	10	1	32	32	.....	.....	35	35	.....	.....	.....	540
10	Foundry and machine-shop products	69	4,982	40	136	188	46	4,572	4,380	101	91	5,002	4,797	107	73	25	8,626
11	Liquors, malt	3	153	.....	11	19	.....	123	123	.....	.....	120	120	.....	.....	.....	373
12	Lumber and timber products	16	368	12	18	20	6	312	310	2	.....	299	297	2	.....	.....	896
13	Marble and stone work	6	22	9	.....	.....	.....	13	13	.....	.....	13	13	.....	.....	.....	24
14	Musical instruments, pianos and organs and materials.	4	123	2	14	3	4	100	95	3	2	103	98	3	2	.....	190
15	Patent medicines and compounds and druggists' preparations.	27	56	28	3	2	1	22	7	14	1	23	7	15	1	.....	2
16	Printing and publishing	23	518	20	24	35	30	409	268	139	2	437	286	149	2	.....	610
17	Slaughtering and meat packing	6	75	10	3	6	2	54	54	.....	.....	53	53	.....	.....	.....	159
18	Stoves and furnaces, including gas and oil stoves.	8	575	3	11	21	9	531	517	1	13	550	536	1	13	.....	468
19	Tobacco manufactures	23	95	26	.....	1	.....	68	66	1	1	70	68	1	1	.....	.....
20	All other industries [1]	119	3,438	129	84	149	52	3,024	2,235	635	154	3,309	2,444	696	96	73	9,467

[1] All other industries embrace: Agricultural implements, 1; artificial stone, 9; automobiles, including bodies and parts, 1; awnings, tents, and sails, 2; babbitt metal and solder, 3; bicycles, motorcycles, and parts, 2; boxes, cigar, 2; boxes, fancy and paper, 1; brooms, 2; brushes, 1; buttons, 2; canning and preserving, 5; carpets, rag, 2; carriages and sleds, children's, 1; cars and general shop construction and repairs by steam-railroad companies, 1; cars and general shop construction and repairs by street-railroad companies, 1; cars, steam-railroad, not including operations of railroad companies, 1; clothing, men's, including shirts, 2; coffee and spice, roasting and grinding, 2; coffins, burial cases, and undertakers' goods, 1; cork, cutting, 1; dairymen's, poulterers', and apiarists' supplies, 1; dentists' materials, 1; dyeing and finishing textiles, 2; fancy articles, not elsewhere specified, 1; flags, banners, regalia, society badges, and emblems, 1; food preparations, 5; fur goods, 2; furnishing goods, men's, 2; furniture and refrigerators, 2; gas and electric fixtures and lamps and reflectors, 1; gas, illuminating and heating, 1; glass, cutting, staining, and ornamenting, 1; grease and tallow, 1;

AND TOTALS FOR ALL INDUSTRIES IN CITIES OF 10,000 BUT LESS THAN 50,000 INHABITANTS: 1909.

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES.

ALLENTOWN.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	$21,568,972	$23,850,797	$414,413	$459,978	$5,061,470	$420,651	$15,160,505	$106,694	$319,503	$595,025	$1,312,558	$26,263,327	$10,682,171
2	669,352	1,146,658	33,156	6,746	297,275	4,027	758,449	4,985	1,361	.....	40,659	1,302,072	539,596
3	294,957	376,491	3,000	1,240	76,953	8,338	267,163	5,812	1,596	.....	12,389	475,086	199,585
4	260,428	123,777	6,030	.....	55,748	29,397	7,441	6,673	622	.....	17,866	174,977	138,139
5	10,562	15,190	.....	.....	4,987	113	9,387	267	51	.....	385	20,925	11,425
6	99,347	45,226	.....	.....	17,917	941	25,553	.....	461	.....	354	61,495	35,001
7	275,419	207,000	.....	6,194	64,464	1,883	128,252	930	747	.....	4,530	251,661	121,526
8	53,463	67,497	.....	598	25,257	512	39,007	1,134	198	20	771	83,472	43,953
9	1,776,674	1,466,525	45,106	65,810	399,898	22,882	746,529	13,746	4,194	.....	168,360	1,631,805	862,394
10	712,184	650,861	45,118	32,501	252,039	7,374	198,112	5,900	2,537	.....	107,280	732,615	527,129
11	677,665	677,305	16,022	13,306	147,054	6,426	450,917	3,274	1,174	12,858	26,274	716,796	259,453
12	51,040	30,434	.....	572	10,011	209	17,769	413	490	.....	910	44,157	26,119
13	1,631,611	493,920	16,556	12,748	63,271	15,962	177,465	.....	103,124	.....	104,794	657,416	463,989
14	412,920	261,532	4,383	4,112	80,026	5,892	151,174	728	1,376	160	13,681	318,881	161,815
15	22,480	23,672	.....	466	9,587	614	12,485	202	44	.....	274	32,200	19,101
16	495,873	249,721	14,398	11,769	92,889	5,081	96,156	3,466	2,111	4,677	19,174	338,519	237,282
17	6,404,761	6,900,886	76,562	94,193	1,483,500	34,732	4,263,798	36,871	8,336	576,418	326,476	7,455,528	3,156,998
18	439,259	1,359,920	21,914	12,442	438,876	3,797	677,961	12,230	173,318	.....	19,382	1,445,652	763,894
19	7,280,977	9,754,182	132,168	197,281	1,541,718	272,411	7,132,887	10,063	17,763	892	448,999	10,520,070	3,114,772

flags, banners, regalia, society badges, and emblems, 1; cutlery and tools, not elsewhere specified, 1; food preparations, 2; fur goods, 2; gas and electric fixtures and lamps and reflectors, 2; gas, illuminating and heating, 1; glass, 1; glass, cutting, staining, and ornamenting, 1; hand stamps and stencils and brands, 1; hats and caps, other than felt, straw, and wool, 1; ice, manufactured, 1; instruments, professional and scientific, 1; iron and steel, blast furnaces, 1; iron and steel, steel works and rolling mills, 1; leather, tanned, curried, and finished, 2; mattresses and spring beds, 2; mineral and soda waters, 1; patent medicines and compounds and druggists' preparations, 8; photo-engraving, 2; pottery, terra-cotta, and fire-clay products, 1; slaughtering and meat packing, 1; umbrellas and canes, 1; wood, turned and carved, 1.

ALTOONA.

1	$16,094,094	$16,238,833	$333,096	$316,255	$5,750,228	$209,922	$8,924,259	$7,227	$121,053	$1,840	$574,953	$16,762,738	$7,628,557
2	137,566	99,518	1,560	982	21,713	2,555	65,022	1,761	504	1,230	4,191	122,174	54,597
3	1,061,002	428,645	13,200	12,594	41,550	12,538	225,229	.....	75,328	410	47,796	526,456	288,689
4	267,251	177,924	11,580	2,170	44,231	1,111	111,631	.....	1,833	.....	5,368	249,562	136,820
5	405,765	217,132	10,000	23,710	87,213	5,418	75,430	2,874	938	200	11,349	259,685	178,837
6	14,222,510	15,315,614	296,756	276,799	5,555,521	188,300	8,446,947	2,592	42,450	.....	506,249	15,604,861	6,969,614

ERIE.

1	$30,619,869	$20,436,226	$767,201	$521,448	$5,101,041	$796,457	$11,267,070	$60,634	$228,108	$29,091	$1,665,176	$24,225,633	$12,162,106
2	116,736	108,753	5,780	940	25,295	2,914	68,832	400	392	.....	4,200	127,246	55,500
3	264,161	490,491	2,236	3,116	91,440	9,279	354,622	4,936	1,397	.....	23,465	561,229	197,328
4	64,228	39,373	.....	1,400	14,553	518	20,220	.....	294	.....	2,388	51,002	30,264
5	41,848	153,762	6,120	3,016	16,373	2,354	114,138	6,940	170	.....	4,651	170,620	54,128
6	90,175	100,285	4,360	1,928	22,897	1,083	62,116	1,320	101	.....	6,480	105,265	42,066
7	216,262	196,051	6,336	2,080	64,878	2,568	108,133	1,496	387	.....	10,173	216,362	105,661
8	493,415	184,741	13,240	11,201	67,229	1,789	63,266	2,968	468	.....	24,580	197,211	132,156
9	341,411	817,405	17,176	7,143	17,953	3,902	759,958	150	1,428	.....	9,695	842,745	78,885
10	13,517,209	7,233,078	321,140	194,923	2,499,494	203,713	3,312,167	6,984	40,065	.....	654,592	8,714,772	5,198,892
11	2,448,727	678,604	24,657	21,443	89,523	15,946	196,081	.....	141,556	.....	189,398	925,931	713,904
11	1,179,383	886,156	33,940	20,521	175,452	5,968	603,885	4,370	3,298	2,560	36,162	963,582	353,729
13	51,050	69,085	.....	.....	11,565	185	55,168	278	94	.....	1,795	98,660	43,307
14	257,908	208,864	22,788	3,232	64,436	2,027	101,489	600	314	493	13,485	237,329	133,813
15	94,611	85,951	4,480	860	7,901	720	55,934	3,671	87	502	11,796	131,714	75,060
16	1,247,473	618,027	54,506	35,049	181,741	9,563	240,742	5,644	1,756	.....	89,026	829,470	579,165
17	207,385	793,740	6,000	4,280	31,311	2,771	736,737	800	1,855	.....	9,986	957,115	217,607
18	1,012,932	695,577	26,360	36,863	324,022	7,287	241,358	1,615	3,728	.....	54,344	843,453	594,808
19	89,919	128,717	.....	1,202	41,394	467	62,618	1,370	13,778	.....	7,888	156,906	93,821
20	8,885,036	6,947,566	218,082	172,251	1,353,584	523,403	4,109,606	17,092	16,940	25,536	511,072	8,095,021	3,462,012

hand stamps and stencils and brands, 2; hats, fur-felt, 1; house-furnishing goods, not elsewhere specified, 1; ice, manufactured, 2; iron and steel, blast furnaces, 1; iron and steel forgings, 1; jewelry, 1; leather goods, 2; leather, tanned, curried, and finished, 1; locomotives, not made by railroad companies, 1; looking-glass and picture frames, 2; mineral and soda waters, 4; models and patterns, not including paper patterns; 5; oil, not elsewhere specified, 5; optical goods, 4; paint and varnish, 1; paper and wood pulp, 1; photo-engraving, 1; roofing materials, 1; rubber goods, not elsewhere specified, 2; shipbuilding, including boat building, 3; show cases, 1; signs and advertising novelties, 2; silk and silk goods, including throwsters, 1; sporting and athletic goods, 1; stereotyping and electrotyping, 1; wall plaster, 3; washing machines and clothes wringers, 1; wirework, including wire rope and cable, 3.

TABLE III.—DETAIL STATEMENT FOR CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES, AND

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES—Continued.

HARRISBURG.

	INDUSTRY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners (average number). Total.	Wage earners. 16 and over. Male.	Wage earners. 16 and over. Female.	Wage earners. Under 16.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horse-power.
1	**All industries**	199	11,024	190	242	584	265	9,743	7,088	2,531	124	10,601	7,884	2,587	57	73	22,355
2	Bread and other bakery products	39	237	40	5	2	5	185	175	9	1	193	183	9	1	.....	143
3	Carriages and wagons and materials	7	61	7	1	1	2	50	50	.....	.....	53	53	.....	.....	.....	67
4	Foundry and machine-shop products	8	449	10	17	17	11	394	382	9	3	426	413	10	3	.....	529
5	Iron and steel, steel works and rolling mills	5	2,214	.....	36	.....	42	2,136	2,127	.....	9	2,584	2,573	.....	11	.....	15,937
6	Liquors, malt	3	67	2	5	3	.....	57	57	.....	.....	57	57	.....	.....	.....	347
7	Lumber and timber products	3	132	4	8	2	3	115	115	.....	.....	115	115	.....	.....	.....	325
8	Patent medicines and compounds and druggists' preparations.	11	37	11	2	9	1	14	8	6	.....	15	9	6	.....	.....	2
9	Printing and publishing	30	658	28	34	76	37	483	379	98	6	568	446	115	5	2	460
10	Tobacco manufactures	20	1,630	19	4	23	4	1,580	210	1,326	44	1,534	204	1,287	6	37	73
11	All other industries [1]	73	5,539	69	130	451	160	4,729	3,585	1,083	61	5,056	3,831	1,160	31	34	4,472

[1] All other industries embrace: Artificial stone, 1; awnings, tents, and sails, 2; bags, paper, 1; boots and shoes, including cut stock and findings, 4; boxes, cigar, 1; boxes, fancy and paper, 1; brick and tile, 1; brooms, 1; butter, cheese, and condensed milk, 2; carpets, rag, 1; cars and general shop construction and repairs by steam-railroad companies, 1; cars and general shop construction and repairs by street-railroad companies, 1; clothing, women's, 4; coffee and spice, roasting and grinding, 1; coffins, burial cases, and undertakers' goods, 1; confectionery, 1; copper, tin, and sheet-iron products, 3; electroplating, 1; fancy articles, not elsewhere specified, 1; fertilizers, 1; flour-mill and gristmill products, 1; food preparations, 5; furnishing goods, men's, 1; furniture and refrigerators, 1; gas, illuminating and heating, 2; glass, cutting, staining,

JOHNSTOWN.

1	**All industries**	97	11,671	121	279	594	103	10,574	10,284	92	198	11,335	11,019	102	214	.....	119,508
2	Bread and other bakery products	11	83	10	5	.....	7	61	53	6	2	64	56	6	2	.....	84
3	Copper, tin, and sheet-iron products	5	77	5	3	3	2	64	59	4	1	64	59	4	1	.....	90
4	Liquors, malt	4	176	5	10	18	4	139	135	4	.....	143	139	4	.....	.....	1,020
5	Lumber and timber products	8	85	9	10	7	.....	59	59	.....	.....	59	59	.....	.....	.....	510
6	Printing and publishing	11	181	12	9	20	8	132	102	27	3	139	107	29	3	.....	121
7	All other industries [1]	58	11,069	80	242	546	82	10,119	9,876	51	192	10,866	10,599	59	208	.....	117,683

[1] All other industries embrace: Artificial stone, 1; awnings, tents, and sails, 1; brass and bronze products, 1; brick and tile, 2; brooms, 1; carriages and wagons and materials, 1; cars and general shop construction and repairs by street-railroad companies, 1; chemicals, 1; clothing, men's, including shirts, 1; coke, 1; confectionery, 4; flour-mill and gristmill products, 3; food preparations, 1; foundry and machine-shop products, 9; furniture and refrigerators, 1; gas, illuminating and heating, 1; glass, cutting, staining, and ornamenting, 2; ice, manufactured, 3; iron and steel, blast furnaces, 1; iron and steel, steel works and rolling mills, 1; iron and steel forgings, 1; liquors,

PHILADELPHIA.

1	**All industries**	8,379	294,498	9,162	7,416	19,609	6,427	251,884	166,854	74,660	10,370	272,446	181,130	80,142	5,206	5,968	365,950
2	Artificial flowers and feathers and plumes	29	915	35	16	40	20	804	85	634	85	948	100	748	6	94	70
3	Belting and hose, leather	13	188	13	13	36	7	119	119	.....	.....	120	120	.....	.....	.....	286
4	Boots and shoes, including cut stock and findings.	58	3,820	74	81	134	65	3,466	2,090	1,161	215	3,535	2,131	1,183	116	105	872
5	Boxes, cigar	7	346	9	8	6	3	320	219	83	18	320	219	88	11	7	362
6	Boxes, fancy and paper	65	3,682	67	91	93	52	3,379	862	2,102	415	3,732	951	2,321	56	404	1,382
7	Brass and bronze products	49	1,263	42	56	99	24	1,042	1,010	17	15	1,212	1,174	20	16	2	1,651
8	Bread and other bakery products	1,208	6,936	1,225	86	804	223	4,598	3,738	690	170	4,761	3,871	716	64	110	4,159
9	Brick and tile	31	1,468	51	25	23	.....	1,369	1,361	.....	8	1,388	1,380	.....	8	.....	2,715
10	Brooms	22	190	29	.....	10	1	150	148	.....	2	162	160	.....	2	.....	68
11	Brushes	37	340	41	9	25	6	259	196	53	10	265	201	54	7	3	187
12	Buttons	21	740	23	19	21	9	668	396	215	57	758	449	244	25	40	393
13	Canning and preserving	23	804	26	15	105	30	628	387	206	35	656	405	215	21	15	723
14	Carpets and rugs, other than rag	84	10,863	96	134	219	51	10,363	6,114	3,731	518	11,282	6,652	4,061	305	264	11,435
15	Carriages and wagons and materials	90	1,511	96	42	44	13	1,316	1,313	.....	3	1,345	1,342	.....	3	.....	1,100
16	Cars and general shop construction and repairs by steam-railroad companies.	10	3,963	.....	180	114	.....	3,669	3,640	29	.....	3,972	3,939	33	.....	.....	2,256
17	Chemicals	16	1,972	17	40	128	34	1,753	1,641	110	2	1,748	1,636	110	.....	2	4,875
18	Clocks and watches, including cases and materials.	5	937	3	27	66	67	774	495	255	24	764	488	252	13	11	793
19	Clothing, men's, including shirts	456	14,075	716	167	759	218	12,215	6,474	5,521	220	12,952	6,870	5,846	95	141	2,472
20	Clothing, women's	351	15,627	576	240	958	353	13,500	4,631	8,707	162	14,483	4,965	9,340	28	150	1,955
21	Confectionery	129	3,371	128	64	186	102	2,891	1,012	1,654	225	3,651	1,279	2,088	54	230	1,699
22	Cooperage and wooden goods, not elsewhere specified.	44	814	47	16	13	5	733	671	1	61	745	682	1	62	.....	729
23	Copper, tin, and sheet-iron products	134	3,490	159	102	234	56	2,939	2,695	176	68	3,369	3,090	201	69	9	2,074
24	Cordage and twine and jute and linen goods	8	1,214	8	17	23	3	1,163	640	462	61	1,179	648	468	26	37	2,250
25	Cork, cutting	6	75	8	4	2	1	60	34	21	5	62	35	22	3	2	49
26	Cotton goods, including cotton small wares	136	10,527	135	236	321	101	9,734	4,351	4,877	506	10,116	4,516	5,071	166	363	14,160
27	Cutlery and tools, not elsewhere specified	33	1,036	39	37	65	12	883	860	10	13	971	946	11	10	4	2,086
28	Dyeing and finishing textiles	104	3,991	133	116	129	38	3,575	3,003	425	147	3,801	3,191	452	131	27	7,037
29	Electrical machinery, apparatus, and supplies.	45	2,317	23	116	317	102	1,759	1,458	260	41	2,053	1,701	304	44	4	2,693
30	Fancy articles, not elsewhere specified	42	827	47	13	27	21	719	354	338	27	802	395	377	19	11	341
31	Fertilizers	6	896	4	31	80	17	764	762	.....	2	753	751	.....	2	.....	3,020
32	Files	7	1,298	4	16	44	17	1,217	885	232	100	1,239	900	237	88	14	1,313
33	Flour-mill and gristmill products	28	154	36	8	17	4	89	89	.....	.....	95	95	.....	.....	.....	1,116
34	Foundry and machine-shop products	545	20,641	508	744	1,886	362	17,141	16,610	308	223	19,158	18,562	349	226	21	23,629
35	Fur goods	47	284	59	5	15	24	181	87	92	2	267	129	135	3	.....	10
36	Furniture and refrigerators	147	4,042	165	156	276	52	3,393	3,291	68	34	3,787	3,674	75	38	.....	3,870

TOTALS FOR ALL INDUSTRIES IN CITIES OF 10,000 BUT LESS THAN 50,000 INHABITANTS: 1909—Continued.

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES—Continued.

HARRISBURG.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	$22,925,122	$21,314,436	$391,294	$677,051	$4,541,259	$906,141	$13,177,003	$45,963	$285,069	$177,694	$1,112,962	$22,725,328	$8,642,184
2	301,283	497,113	7,244	4,108	90,946	13,944	348,053	4,163	2,301	.....	26,354	601,025	239,028
3	85,191	73,912	936	1,272	29,496	1,473	35,294	573	599	.....	4,269	92,370	55,603
4	1,756,882	560,372	45,786	23,992	204,904	20,976	188,054	320	5,026	.....	71,314	609,895	400,865
5	7,659,571	7,434,536	98,679	48,419	963,501	333,201	5,823,431	6,000	13,132	.....	148,173	7,620,923	1,464,291
6	398,363	231,946	10,400	8,000	36,719	9,515	95,909	.....	58,838	.....	12,565	360,540	255,116
7	283,533	296,942	9,612	3,100	46,028	1,290	212,614	1,356	825	.....	22,117	349,869	135,965
8	53,316	37,195	1,500	1,108	4,718	306	24,603	558	200	.....	4,202	57,100	32,191
9	1,119,437	780,607	41,306	82,654	266,605	12,912	250,956	11,584	3,346	32,356	78,388	953,978	690,110
10	1,209,879	1,583,949	13,866	24,259	497,498	3,518	678,489	7,211	183,582	160	175,366	1,761,606	1,079,599
11	10,057,667	9,817,864	161,965	480,139	2,400,844	509,006	5,519,600	14,198	17,220	144,678	570,214	10,318,022	4,289,416

and ornamenting, 1; hand stamps and stencils and brands, 1; hosiery and knit goods, 4; iron and steel, blast furnaces, 1; jewelry, 1; leather goods, 1; marble and stone work, 3; mattresses and spring beds, 1; mineral and soda waters, 4; models and patterns, not including paper patterns, 1; mucilage and paste, 1; oils, not elsewhere specified, 1; paint and varnish, 1; pottery, terra-cotta, and fire-clay products, 1; rubber goods, not elsewhere specified, 1; silk and silk goods, including throwsters, 1; slaughtering and meat packing 1; soap, 1; surgical appliances and artificial limbs, 2; tin plate and terneplate, 1; toys and games, 1; typewriters and supplies, 1; wheelbarrows, 1; window shades and fixtures, 1.

JOHNSTOWN.

1	$47,242,096	$44,448,096	$463,798	$538,947	$6,304,103	$5,216,754	$27,131,728	$16,739	$343,447	$22,838	$4,409,742	$48,105,775	$15,757,293
2	155,862	202,165	4,168	1,955	35,222	3,545	142,641	1,840	1,660	.....	11,134	219,196	73,010
3	133,245	109,486	5,426	2,870	34,349	1,740	55,440	324	499	.....	8,838	138,455	81,275
4	1,669,530	627,343	22,340	19,704	91,378	14,890	171,214	.....	138,010	.....	169,807	808,351	622,247
5	177,005	174,587	7,300	8,100	43,436	6,016	92,530	240	720	11,333	4,912	195,104	96,558
6	379,064	219,690	12,554	22,662	86,575	4,830	69,093	4,789	668	1,530	16,980	280,875	206,952
7	44,727,390	43,114,825	412,010	483,656	6,013,143	5,185,733	26,600,810	9,546	201,890	9,975	4,198,062	46,463,794	14,677,251

distilled, 1; marble and stone work, 2; mattresses and spring beds, 2; mineral and soda waters, 4; models and patterns, not including paper patterns, 1; paint and varnish, 1; photo-engraving, 1; pottery, terra-cotta, and fire-clay products, 2; slaughtering and meat packing, 1; springs, steel, car and carriage, 1; steam packing, 1; stoves, gas and oil, 1; tobacco manufactures, 1; wall plaster, 1.

PHILADELPHIA.

1	$691,396,873	$663,405,035	$17,731,066	$21,715,118	$126,380,829	$12,892,039	$416,200,238	$7,082,927	$5,463,356	$6,439,368	$49,500,094	$746,075,059	$316,983,382
2	934,444	1,119,499	33,312	38,257	261,863	6,268	668,674	20,583	1,348	7,010	82,184	1,313,901	638,959
3	636,841	1,000,895	23,360	39,256	81,400	8,635	800,610	8,850	1,163	.....	37,621	1,104,086	294,841
4	3,967,520	6,006,131	165,238	210,058	1,593,661	31,554	3,671,589	68,704	4,939	3,923	256,465	6,517,371	2,814,228
5	364,160	502,305	18,576	7,800	124,521	4,065	318,749	2,716	1,350	.....	24,528	542,983	220,169
6	2,456,925	3,309,513	143,321	94,949	1,112,668	39,911	1,591,087	97,550	4,501	1,194	224,332	3,821,642	2,190,644
7	3,213,699	3,598,384	121,680	125,935	624,991	62,852	2,455,072	18,196	9,848	6,996	172,814	4,057,132	1,539,208
8	14,890,194	16,398,953	176,608	774,354	2,591,915	389,619	11,260,025	210,531	110,041	968	884,892	19,018,476	7,308,832
9	3,037,869	1,560,316	37,712	18,757	786,323	303,391	152,799	24,155	15,524	4,436	217,219	1,885,222	1,429,032
10	144,550	345,291	.....	11,926	93,541	2,584	226,262	4,516	344	500	5,618	413,068	184,222
11	517,315	619,618	13,500	25,802	120,765	4,584	380,789	18,339	349	18,000	28,490	719,159	333,786
12	551,121	991,210	47,350	19,427	284,600	7,356	578,271	13,552	1,005	.....	39,649	1,158,550	572,923
13	1,527,752	2,297,852	37,133	128,456	226,086	18,129	1,753,452	14,256	4,353	.....	115,987	2,537,533	765,952
14	22,802,811	20,688,031	407,712	275,844	4,721,668	254,863	13,120,485	85,853	36,376	117,568	1,667,662	22,628,537	9,253,189
15	2,391,584	2,014,633	84,062	41,045	839,471	32,729	867,993	33,728	11,395	1,525	102,685	2,458,474	1,557,752
16	4,470,980	5,318,144	143,597	88,807	2,526,770	242,319	2,173,829	.....	18,945	.....	123,877	5,318,145	2,901,997
17	12,997,171	8,433,635	190,440	155,197	1,045,986	315,390	6,203,460	9,696	28,919	.....	484,547	9,642,702	3,123,852
18	2,737,282	1,743,863	89,311	73,135	399,096	11,446	966,202	1,518	2,363	.....	200,792	1,965,029	987,381
19	14,871,442	25,768,501	327,666	928,691	5,961,978	142,903	14,344,846	364,569	2,847	2,312,397	1,382,604	29,000,899	14,513,150
20	10,590,279	26,293,811	396,614	1,134,119	6,573,875	126,777	16,539,163	398,610	7,469	235,036	882,148	30,132,842	13,466,902
21	4,264,332	6,500,236	174,588	271,524	1,008,072	87,270	4,253,148	91,693	25,327	500	588,114	7,314,964	2,974,546
22	1,500,859	1,948,158	44,792	12,274	343,696	11,143	1,437,461	24,039	3,677	.....	71,076	2,213,712	765,108
23	6,511,211	6,775,396	207,975	205,997	1,559,475	58,963	4,272,006	55,501	17,998	13,371	384,110	7,492,831	3,161,862
24	3,816,268	2,744,186	64,628	39,889	429,250	15,140	2,120,272	1,000	4,494	200	69,313	3,324,660	1,189,248
25	73,702	90,631	5,100	2,756	24,081	1,793	47,493	2,820	280	.....	6,308	106,217	56,931
26	20,867,555	19,832,512	689,227	496,125	4,411,243	287,216	12,040,268	224,289	38,042	214,703	1,431,399	22,537,898	10,210,414
27	2,618,608	1,523,448	79,766	56,804	535,609	50,796	554,102	16,384	4,274	1,563	224,150	1,685,799	1,080,901
28	6,178,763	5,124,128	223,225	134,420	1,828,587	401,221	2,012,088	64,306	37,433	2,741	420,107	6,327,261	3,913,952
29	6,739,433	5,793,489	274,910	294,820	923,150	61,549	3,179,918	72,774	14,896	2,835	968,637	7,065,145	3,823,678
30	882,995	1,022,332	24,248	28,473	296,278	16,289	528,736	21,744	1,503	15,583	89,478	1,281,392	736,367
31	4,345,808	3,945,307	102,748	99,281	374,542	65,331	2,988,636	21,300	15,879	.....	277,590	4,267,878	1,213,911
32	2,686,218	1,157,012	51,543	39,902	527,845	43,240	383,605	8,937	4,022	.....	97,918	1,539,566	1,112,721
33	886,067	2,757,601	13,580	21,371	52,587	16,831	2,606,859	3,066	2,619	.....	40,688	2,876,749	253,959
34	56,029,107	33,901,423	1,730,970	1,941,304	10,134,975	607,988	15,636,717	354,766	128,212	61,756	3,304,735	38,684,799	22,440,094
35	872,276	718,861	7,820	23,469	128,529	3,836	458,085	43,292	2,758	1,141	49,931	1,031,564	569,643
36	7,450,857	6,984,391	318,528	285,150	1,939,927	62,364	3,668,150	120,229	15,474	12,094	562,475	8,051,535	4,321,021

TABLE III.—DETAIL STATEMENT FOR CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES, AND CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES—Continued.

PHILADELPHIA—Continued.

	INDUSTRY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners (average number). Total.	Wage earners. 16 and over. Male.	Wage earners. 16 and over. Female.	Wage earners. Under 16.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
37	Gas and electric fixtures and lamps and reflectors.	41	1,376	38	81	131	30	1,096	1,008	44	44	1,300	1,197	51	51	1	879
38	Glass	4	1,185	1	31	29	12	1,112	854	90	168	1,334	1,024	108	188	14	419
39	Hats and caps, other than felt, straw, and wool.	42	562	55	11	22	10	464	322	139	3	476	330	143	2	1	51
40	Hats, fur-felt	27	6,080	34	41	161	19	5,825	4,054	1,491	280	6,217	4,327	1,591	133	166	4,163
41	Hosiery and knit goods	177	17,027	195	301	364	168	15,999	3,520	10,799	1,680	17,009	3,745	11,526	487	1,311	7,962
42	Ice, manufactured	31	645	12	58	36	4	535	535	.....	.....	496	496	.....	.....	.....	11,703
43	Ink, printing	8	246	6	18	50	7	165	165	.....	.....	162	162	.....	.....	.....	483
44	Iron and steel, steel works and rolling mills	8	5,248	6	36	374	11	4,821	4,793	.....	28	5,341	5,310	.....	31	.....	27,009
45	Jewelry	52	411	69	10	17	20	295	245	33	17	305	253	34	13	5	110
46	Leather goods	84	2,092	108	45	185	47	1,707	1,036	476	195	1,763	1,070	492	51	150	430
47	Leather, tanned, curried, and finished	41	6,400	36	128	214	50	5,972	5,273	556	143	6,265	5,534	580	104	47	8,664
48	Liquors, malt	48	2,290	31	133	261	8	1,857	1,848	7	2	1,830	1,821	7	2	.....	13,368
49	Lumber and timber products	98	3,609	103	94	130	34	3,248	3,059	75	114	3,557	3,349	82	119	7	7,872
50	Marble and stone work	98	1,869	127	48	64	11	1,619	1,606	10	3	1,659	1,646	10	3	.....	2,662
51	Mattresses and spring beds	38	408	37	12	35	15	309	231	69	9	326	244	73	9	.....	471
52	Millinery and lace goods	90	3,164	124	51	133	86	2,770	429	2,213	128	2,830	437	2,262	31	100	370
53	Musical instruments, pianos and organs and materials.	14	501	13	16	11	3	458	411	11	36	488	438	12	38	.....	361
54	Optical goods	14	419	12	12	68	36	291	172	104	15	295	175	105	5	10	110
55	Paint and varnish	50	1,612	46	82	227	60	1,197	1,155	36	6	1,274	1,229	39	5	1	4,027
56	Paper and wood pulp	7	1,395	2	26	45	21	1,301	1,145	156	.....	1,315	1,158	157	.....	.....	10,645
57	Paper goods, not elsewhere specified	31	1,600	31	47	137	74	1,311	602	638	71	1,350	620	657	30	43	1,213
58	Patent medicines and compounds and druggists' preparations.	174	3,175	153	128	516	238	2,140	918	1,166	56	2,243	962	1,222	24	35	2,012
59	Photo-engraving	16	546	15	26	80	28	397	384	12	1	397	384	12	1	.....	105
60	Pottery, terra-cotta, and fire-clay products	13	640	9	21	20	5	585	572	6	7	650	635	7	8	.....	803
61	Printing and publishing	931	20,912	885	972	3,406	1,968	13,681	10,028	3,160	493	14,624	10,712	3,383	367	162	12,267
62	Safes and vaults	3	278	.....	8	24	1	245	243	.....	2	256	254	.....	2	.....	418
63	Shoddy	15	442	20	11	11	7	393	293	100	.....	405	302	103	.....	.....	1,718
64	Silk and silk goods, including throwsters	32	3,348	29	68	150	45	3,056	1,008	1,855	193	3,322	1,096	2,016	80	130	2,156
65	Slaughtering and meat packing	81	1,430	110	39	138	34	1,109	1,101	8	.....	1,144	1,136	8	.....	.....	3,004
66	Smelting and refining, not from the ore	15	160	14	8	11	6	121	120	1	.....	139	138	1	.....	.....	208
67	Soap	32	1,059	40	15	143	62	799	611	151	37	767	587	145	25	10	1,520
68	Steam packing	15	351	12	23	99	24	193	170	20	3	237	208	25	4	.....	413
69	Stoves and furnaces, including gas and oil stoves.	20	984	18	35	67	18	846	840	3	3	845	839	3	3	.....	891
70	Tobacco manufactures	496	7,634	528	127	361	73	6,545	3,096	3,266	183	7,152	3,380	3,572	21	179	891
71	Umbrellas and canes	31	1,297	31	29	54	17	1,166	700	420	46	1,215	724	437	42	12	1,342
72	Wall paper	4	504	.....	13	35	2	454	326	45	83	503	361	50	72	20	525
73	Woolen, worsted, and felt goods, and wool hats.	131	20,073	150	255	386	105	19,177	8,073	9,282	1,822	19,873	8,371	9,623	799	1,080	33,428
74	All other industries [1]	1,331	48,909	1,420	1,427	4,095	975	40,992	34,187	5,780	1,025	46,571	38,829	6,589	739	414	97,447

[1] All other industries embrace: Agricultural implements, 2; artificial stone, 8; artists' materials, 3; automobiles, including bodies and parts, 18; awnings, tents, and sails, 20; axle grease, 3; babbitt metal and solder, 11; bags, other than paper, 4; bags, paper, 11; baking powders and yeast, 3; baskets, and rattan and willow ware, 17; belting and hose, woven and rubber, 3; bicycles, motorcycles, and parts, 7; billiard tables and materials, 3; blacking and cleansing and polishing preparations, 30; bluing, 8; bone, carbon, and lamp black, 2; butter, cheese, and condensed milk, 1; card cutting and designing, 16; carpets, rag, 13; carriages and sleds, children's, 2; cars and general shop construction and repairs by street-railroad companies, 3; cars, street-railroad, not including operations of railroad companies, 1; china decorating, 2; chocolate and cocoa products, 2; cloth, sponging and refinishing, 7; clothing, horse, 7; clothing, men's, buttonholes, 10; coffee and spice, roasting and grinding, 61; coffins, burial cases, and undertakers' goods, 8; cordials and sirups, 4; corsets, 2; crucibles, 3; dairymen's, poulterers' and apiarists' supplies, 4; dentists' materials, 20; drug grinding, 2; dyestuffs and extracts, 1; electroplating, 22; emery and other abrasive wheels, 2; enameling and japanning, 9; engravers' materials, 1; engraving and diesinking, 24; engraving, wood, 5; firearms and ammunition, 5; fire extinguishers, chemical, 1; flags, banners, regalia, society badges, and emblems, 23; flavoring extracts, 21; food preparations, 66; foundry supplies, 1; furnishing goods, men's, 38; furs, dressed, 1; galvanizing, 4; gas, illuminating and heating, 4; glass, cutting, staining, and ornamenting, 51; glue, 3; gold and silver, leaf and foil, 6; gold and silver, reducing and refining, not from the ore, 5; grease and tallow, 13; grindstones, 1; haircloth, 9; hair work, 8; hammocks, 3; hand stamps and stencils and brands, 22; hat and cap materials, 5; hats, straw, 9; house-furnishing goods, not elsewhere specified, 17; ink, writing, 3; instruments, professional and scientific, 31; iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills, 8; iron and steel forgings, 9; iron and steel, nails and spikes, cut and wrought, including wire nails, not made in steel works

PITTSBURGH.

1	All industries	1,659	79,625	1,553	2,457	6,731	1,410	67,474	58,369	7,699	1,406	78,752	68,571	8,495	998	688	307,666
2	Boxes, fancy and paper	7	237	7	9	1	6	214	53	129	32	235	58	142	4	31	165
3	Brass and bronze products	12	740	14	23	52	22	629	592	30	7	795	748	38	3	6	2,756
4	Bread and other bakery products	248	2,791	264	46	396	76	2,009	1,282	595	132	2,103	1,346	623	22	117	2,222
5	Brick and tile	17	457	17	19	10	4	407	395	12	.....	458	444	14	.....	.....	2,614
6	Brooms	6	60	9	5	.....	1	45	43	1	1	68	65	1	2	.....	65
7	Brushes	3	71	1	5	5	5	55	39	14	2	51	36	13	.....	2	100
8	Canning and preserving	11	3,073	14	70	1,084	195	1,710	891	812	7	1,658	863	788	1	6	1,811
9	Carriages and wagons and materials	28	358	30	19	10	1	298	297	.....	1	279	278	.....	1	.....	726
10	Cars and general shop construction and repairs by steam-railroad companies.	7	4,827	.....	226	281	7	4,313	4,278	26	9	4,849	4,809	31	9	.....	9,898
11	Chemicals	3	62	.....	7	5	2	48	48	.....	.....	45	45	.....	.....	.....	260
12	Clothing, men's, including shirts	24	1,011	43	12	77	13	866	171	690	5	965	190	769	2	4	340
13	Clothing, women's	5	72	6	.....	5	1	60	4	56	.....	66	4	62	.....	.....	13
14	Confectionery	16	713	7	19	58	16	613	183	397	33	806	240	522	4	40	549
15	Cooperage and wooden goods, not elsewhere specified.	12	202	13	9	9	3	168	158	.....	10	198	186	.....	12	.....	144
16	Copper, tin, and sheet-iron products	48	608	51	42	28	16	471	395	51	25	539	452	59	15	13	349

TOTALS FOR ALL INDUSTRIES IN CITIES OF 10,000 BUT LESS THAN 50,000 INHABITANTS: 1909—Continued.

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES—Continued.

PHILADELPHIA—Continued.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
37	$2,083,017	$2,018,239	$138,562	$115,761	$604,091	$25,958	$786,812	$50,097	$3,085	$1,546	$292,327	$2,177,032	$1,364,262
38	1,251,725	1,249,520	60,236	29,195	559,371	84,064	413,659	.....	4,223	.....	98,772	1,367,246	869,523
39	426,318	707,933	27,581	25,989	187,960	6,532	406,175	18,882	570	10	34,234	802,953	390,246
40	13,337,205	7,567,502	163,691	177,744	3,101,108	109,413	3,453,470	15,033	28,302	15,053	503,688	10,401,794	6,838,911
41	18,782,157	21,275,911	492,889	394,976	5,752,603	205,666	12,664,201	216,336	41,148	332,726	1,175,366	23,970,740	11,100,873
42	5,258,018	1,291,048	61,423	26,685	374,656	302,377	222,101	6,293	32,879	.....	264,634	1,662,977	1,138,499
43	742,447	993,366	49,812	44,550	104,581	14,925	607,657	6,752	968	18,023	146,098	1,050,113	427,531
44	18,016,226	10,392,632	254,532	487,105	2,773,875	1,094,376	4,494,043	9,600	15,701	8,594	1,254,806	11,788,721	6,200,302
45	664,396	720,722	14,118	23,493	186,454	8,028	418,756	21,648	504	6,755	40,966	884,433	457,649
46	2,695,629	3,498,898	108,151	262,744	781,108	18,153	2,122,958	61,281	4,436	7,823	132,244	3,993,684	1,852,573
47	16,522,970	22,048,254	380,152	239,199	3,009,188	187,120	16,952,692	107,246	43,925	20,030	1,108,702	23,526,421	6,386,609
48	28,676,252	11,377,304	774,497	253,042	1,442,925	319,356	3,613,704	153,184	2,476,477	4,000	2,340,119	14,256,991	10,323,931
49	5,971,750	6,938,776	193,890	125,081	1,811,806	40,367	4,412,478	46,162	22,571	46,171	240,250	7,703,399	3,250,554
50	2,991,449	2,865,114	82,076	59,488	1,089,355	40,858	1,391,463	36,912	9,415	15,106	140,441	3,464,334	2,032,013
51	602,928	938,234	19,701	30,227	138,118	8,387	648,392	23,688	429	.....	69,292	1,068,682	411,903
52	2,205,096	4,312,329	80,557	141,321	956,112	23,911	2,749,524	101,309	542	10,886	248,167	5,051,658	2,278,223
53	562,611	693,026	32,200	9,396	155,286	6,993	393,108	14,502	621	497	80,423	775,237	375,136
54	455,324	546,827	29,800	59,771	123,330	5,592	267,160	16,710	1,932	250	42,282	620,693	347,941
55	8,193,491	7,243,630	207,835	344,205	688,634	168,080	5,025,582	27,887	22,995	.....	758,412	8,044,514	2,850,852
56	4,922,981	3,797,635	130,326	52,664	628,743	304,158	2,048,258	.....	8,064	.....	625,422	4,122,296	1,769,880
57	3,168,906	3,363,065	139,006	170,333	517,824	23,666	2,137,146	55,321	6,109	3,164	310,496	3,596,503	1,435,691
58	9,751,799	8,167,179	371,368	702,495	896,567	50,209	4,037,014	78,044	16,240	1,183	2,014,059	9,423,075	5,335,852
59	523,182	830,938	71,920	68,835	381,086	9,882	175,348	21,282	410	7,611	94,564	917,108	731,878
60	1,244,081	747,049	42,830	17,388	345,220	50,544	182,399	3,760	4,161	5,274	95,473	822,963	590,020
61	42,591,355	38,433,230	2,391,550	3,513,699	8,249,137	372,740	15,013,967	717,740	91,035	1,701,671	6,381,691	45,806,931	30,420,224
62	505,706	503,883	18,650	14,440	160,090	14,177	274,042	840	1,878	7,329	12,437	493,255	205,036
63	1,504,226	1,633,814	22,906	16,253	166,217	25,658	1,337,353	3,508	5,395	2,912	53,612	1,845,962	482,951
64	6,091,241	5,530,025	138,893	175,671	1,235,356	36,784	3,435,090	68,435	11,095	142,818	285,883	6,502,044	3,030,170
65	4,605,111	21,405,395	118,135	166,631	792,881	89,128	19,692,116	60,190	18,970	28,705	438,639	22,078,631	2,297,387
66	596,753	1,066,571	20,490	14,606	79,709	18,739	889,136	1,602	1,620	5,000	35,669	1,226,187	318,312
67	3,651,112	6,690,529	35,246	164,185	388,201	41,208	5,029,421	11,570	5,329	.....	1,015,369	7,319,189	2,248,560
68	760,041	1,028,111	37,774	94,243	99,668	9,095	556,411	13,441	1,173	.....	216,306	1,136,313	570,807
69	2,392,606	1,800,176	87,687	86,774	550,130	24,959	760,627	36,119	5,801	15,000	233,079	2,069,846	1,284,260
70	7,819,776	11,608,070	303,047	383,134	2,649,741	36,812	5,353,239	189,859	1,284,651	1,095	1,406,492	13,428,757	8,038,706
71	3,413,424	1,781,248	48,080	53,811	504,830	20,875	1,039,259	27,164	4,182	320	82,727	2,074,521	1,014,387
72	1,367,754	1,527,481	49,735	67,491	195,642	14,702	1,032,501	32,190	2,468	.....	132,752	1,732,074	684,871
73	54,913,979	50,348,778	765,296	545,879	7,995,502	574,267	37,294,685	219,743	73,189	769,484	2,110,733	54,922,096	17,053,144
74	183,305,833	167,632,897	3,295,584	4,411,240	22,205,700	4,707,935	120,607,390	2,086,535	630,896	224,292	9,463,325	183,908,565	58,593,240

or rolling mills, 3; iron and steel pipe, wrought, 2; jewelry and instrument cases, 10; kaolin and ground earths, 4; labels and tags, 12; lapidary work, 3; lasts, 4; lead, bar, pipe, and sheet, 2; lime, 1; liquors, distilled, 5; locomotives, not made by railroad companies, 1; looking-glass and picture frames, 36; mats and matting, 1; mineral and soda waters, 85; mirrors, 6; models and patterns, not including paper patterns, 38; moving pictures, 2; mucilage and paste, 11; musical instruments and materials, not specified, 17; needles, pins, and hooks and eyes, 7; oil, linseed, 1; oil, not elsewhere specified, 12; oilcloth and linoleum, 2; paving materials, 1; peanuts, grading, roasting, cleaning, and shelling, 4; pencils, lead, 2; pens, fountain, stylographic, and gold, 1; pens, steel, 1; petroleum, refining, 1; phonographs and graphophones, 2; photographic apparatus and materials, 7; pipes, tobacco, 4; pulp, from fiber other than wood, 2; pumps, not including steam pumps, 2; roofing materials, 6; rubber goods, not elsewhere specified, 4; sand and emery paper and cloth, 2; saws, 6; scales and balances, 1; screws, machine, 4; shipbuilding, including boat building, 11; show cases, 3; signs and advertising novelties, 12; silverware and plated ware, 7; soda-water apparatus, 4; sporting and athletic goods, 11; springs, steel, car and carriage, 4; stationery goods, not elsewhere specified, 3; statuary and art goods, 11; stereotyping and electrotyping, 15; sugar, refining, not including beet sugar, 2; surgical appliances and artificial limbs, 30; tin plate and terneplate, 1; toys and games, 12; type founding and printing materials, 6; typewriters and supplies, 5; upholstering materials, 13; vault lights and ventilators, 5; vinegar and cider, 6; washing machines and clothes wringers, 1; waste, 22; wheelbarrows, 1; whips, 1; window shades and fixtures, 12; wire, 1; wirework, including wire rope and cable, 26; wood carpet, 2; wood, turned and carved, 30; wool pulling, 5; wool scouring, 2.

PITTSBURGH.

1	$283,138,717	$220,734,609	$5,462,869	$7,219,735	$39,972,932	$11,373,393	$137,153,390	$1,445,384	$3,700,981	$368,604	$14,037,321	$243,453,693	$94,926,910
2	108,616	187,567	13,120	3,304	61,827	2,147	84,120	12,645	352	.....	10,052	214,767	128,500
3	4,025,745	3,041,778	70,816	64,886	378,698	43,137	2,330,205	6,642	14,288	1,551	131,555	3,188,424	815,082
4	5,873,013	6,964,026	147,518	358,835	1,047,964	109,642	4,362,829	115,188	49,397	4,400	768,253	8,053,837	3,581,366
5	947,070	494,798	28,035	8,106	197,805	114,398	58,226	5,480	8,942	.....	73,806	555,067	382,443
6	79,044	114,685	2,100	40	22,470	503	85,767	1,292	64	350	2,099	131,327	45,057
7	229,200	146,870	15,440	4,342	34,268	640	75,516	8,420	38	.....	8,206	193,339	117,183
8	6,823,389	5,634,054	209,517	1,128,052	615,275	33,719	2,358,171	4,569	37,014	3,626	1,244,111	6,201,830	3,809,940
9	928,227	513,190	21,151	7,070	216,029	10,150	216,926	11,399	10,933	1,833	17,699	581,973	354,897
10	4,379,455	8,555,664	148,727	242,528	3,051,530	147,307	4,820,086	.....	22,987	.....	122,499	8,555,664	3,588,271
11	446,276	498,014	17,395	7,970	31,561	4,711	387,099	.....	881	.....	48,397	530,850	139,040
12	1,237,435	1,725,105	20,443	67,334	342,412	7,301	1,114,472	46,021	696	31,939	94,487	1,949,728	827,955
13	104,408	117,106	.....	6,444	24,014	779	78,790	4,808	36	500	1,735	134,270	54,704
14	1,127,042	1,680,277	27,648	58,109	209,816	17,459	1,264,418	30,336	6,757	.....	65,734	1,853,332	571,455
15	439,275	482,865	14,027	8,700	93,768	1,802	346,963	3,952	2,874	.....	10,779	566,705	217,940
16	1,002,068	983,004	62,121	28,639	297,406	5,792	489,094	33,166	4,138	2,982	59,666	1,120,537	625,651

TABLE III.—DETAIL STATEMENT FOR CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES, AND

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES—Continued.

PITTSBURGH—Continued.

	INDUSTRY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners (average number). Total.	16 and over. Male.	16 and over. Female.	Under 16.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horse-power.
17	Cutlery and tools, not elsewhere specified	16	743	20	21	29	9	664	619	36	9	695	648	38	9	.....	1,238
18	Electrical machinery, apparatus, and supplies.	13	1,012	8	41	75	26	862	589	265	8	946	647	290	8	1	1,640
19	Foundry and machine-shop products	155	9,742	81	390	907	149	8,215	8,009	140	66	10,100	9,843	175	59	23	18,311
20	Furniture and refrigerators	11	373	12	20	19	7	315	299	12	4	283	269	11	3	.....	629
21	Gas and electric fixtures and lamps and reflectors.	16	302	16	24	21	8	233	121	106	6	311	161	142	4	4	212
22	Glass	9	1,263	6	29	45	12	1,171	877	93	201	1,703	1,276	134	258	35	915
23	Ice, manufactured	15	268	2	22	42	6	196	195	1	.....	176	175	1	.....	.....	6,384
24	Iron and steel, blast furnaces	6	1,749	.....	75	259	32	1,383	1,374	.....	9	1,840	1,828	.....	12	.....	50,768
25	Iron and steel, steel works and rolling mills.	25	25,341	.....	436	1,173	172	23,560	23,065	236	259	27,887	27,294	269	254	70	156,512
26	Jewelry	6	96	9	2	3	5	77	64	10	3	77	64	10	3	.....	19
27	Leather goods	12	154	13	9	6	2	124	107	16	1	125	108	16	1	.....	79
28	Leather, tanned, curried, and finished	6	273	2	14	11	2	244	243	.....	1	234	233	.....	1	.....	846
29	Liquors, malt	12	994	.....	24	96	1	873	872	1	.....	867	866	1	.....	.....	6,591
30	Lumber and timber products	40	780	46	35	47	7	645	616	1	28	740	707	1	32	.....	2,836
31	Marble and stone work	25	348	30	14	12	7	285	283	.....	2	323	321	.....	2	.....	709
32	Mattresses and spring beds	6	256	5	9	15	4	223	175	44	4	252	197	50	5	.....	261
33	Paint and varnish	16	362	12	29	53	16	252	233	18	1	240	222	17	1	.....	1,760
34	Patent medicines and compounds and druggists' preparations.	31	214	25	22	41	12	114	66	46	2	100	58	40	2	.....	263
35	Photo-engraving	6	109	6	14	8	4	77	69	4	4	78	70	4	4	.....	71
36	Pottery, terra-cotta and fire-clay products	3	337	.....	8	6	3	320	313	7	.....	335	328	7	.....	.....	850
37	Printing and publishing	254	4,216	255	223	752	181	2,805	2,104	614	87	2,896	2,173	634	82	7	4,173
38	Shipbuilding, including boat building	4	169	4	14	7	.....	144	144	.....	.....	115	115	.....	.....	.....	580
39	Slaughtering and meat packing	14	1,063	7	36	164	15	841	832	7	2	886	877	7	2	.....	3,391
40	Soap	7	469	12	6	80	128	243	114	128	1	264	124	139	1	.....	488
41	Stoves and furnaces, including gas and oil stoves.	9	285	8	12	25	7	233	216	14	3	258	239	16	3	.....	256
42	Surgical appliances and artificial limbs	9	66	13	4	6	1	42	41	.....	1	41	40	.....	1	.....	31
43	Tobacco manufactures	215	3,456	223	54	64	50	3,065	742	2,075	248	3,161	765	2,140	10	246	213
44	All other industries [1]	271	9,903	262	359	744	176	8,362	7,158	1,012	192	10,699	9,159	1,291	166	83	25,628

[1] All other industries embrace: Artificial flowers and feathers and plumes, 1; artificial stone, 1; automobiles, including bodies and parts, 1; awnings, tents, and sails, 7; babbitt metal and solder, 2; baking powders and yeast, 1; baskets, and rattan and willow ware, 3; belting and hose, leather, 1; billiard tables and materials, 1; bluing 1; boots and shoes, including cut stock and findings, 1; boxes, cigar, 3; butter, cheese, and condensed milk, 2; calcium lights, 1; card cutting and designing, 1; carpets, rag, 2; cars and general shop construction and repairs by street-railroad companies, 1; cars, steam-railroad, not including operations of railroad companies, 1; chocolate and cocoa products, 1; cleansing and polishing preparations, 4; cloth, sponging and refinishing, 1; coffee and spice, roasting and grinding, 4; coffins, burial cases, and undertaker's goods 3; coke, 2; cork, cutting, 1; crucibles, 1; electroplating, 6; engraving and diesinking, 1; engraving, wood, 3; fancy articles, not elsewhere specified, 2; fertilizers, 1; fire extinguishers, chemical, 1; fireworks, 1; flags, banners, regalia, society badges, and emblems, 1; flavoring extracts, 5; flour-mill and gristmill products, 1; food preparations, 12; foundry supplies, 1; fur goods, 6; furnishing goods, men's, 3; galvanizing, 3; gas, illuminating and heating, 3; glass, cutting, staining, and ornamenting, 22; gloves and mittens, leather, 1; grease and tallow, 2; hair work, 2; hand stamps and stencils and brands, 3; hats and caps, other than felt, straw, and wool, 2;

READING.

1	**All industries**	482	26,407	517	485	1,020	240	24,145	16,610	6,213	1,322	26,484	18,499	6,576	602	807	43,193
2	Automobiles, including bodies and parts	5	398	2	10	27	4	355	355	.....	.....	393	393	.....	.....	.....	235
3	Boxes, cigar	4	119	4	4	1	2	108	47	54	7	112	49	56	7	.....	99
4	Boxes, fancy and paper	6	164	10	6	.....	3	145	45	88	12	159	49	97	4	9	115
5	Brass and bronze products	8	79	9	6	5	2	57	55	1	1	78	76	1	1	.....	72
6	Bread and other bakery products	55	447	68	4	21	12	342	304	15	23	370	329	16	20	5	282
7	Brooms [1]	6	61	8	.....	5	1	47	45	2	.....	47	45	2	.....	.....	26
8	Carriages and wagons and materials	8	314	11	5	4	4	290	289	1	.....	279	278	1	.....	.....	224
9	Cars and general shop construction and repairs by steam-railroad companies.	6	2,765	.....	60	77	.....	2,628	2,628	.....	.....	3,001	3,001	.....	.....	.....	5,752
10	Clothing, men's, including shirts	10	608	20	13	38	3	534	125	384	25	564	132	406	14	12	118
11	Clothing, women's	7	161	9	1	.....	1	150	5	141	4	161	6	151	1	3	46
12	Confectionery	10	507	13	15	74	20	385	151	207	27	538	211	289	11	27	388
13	Copper, tin, and sheet-iron products	3	15	2	.....	.....	.....	13	13	.....	.....	13	13	.....	.....	.....	3
14	Dyeing and finishing textiles	4	298	1	9	10	6	272	218	41	13	298	239	45	12	2	625
15	Foundry and machine-shop products	37	3,079	26	57	134	30	2,832	2,577	136	119	3,220	2,929	156	102	33	3,389
16	Hats, fur-felt	5	870	6	20	6	2	836	562	211	63	853	573	215	47	18	87
17	Hosiery and knit goods	38	4,521	30	41	33	21	4,396	642	3,200	554	4,497	655	3,275	111	456	2,097
18	Iron and steel, steel works and rolling mills.	6	3,218	.....	29	151	27	3,011	2,992	.....	19	3,481	3,459	.....	22	.....	11,209
19	Leather goods	5	89	6	5	2	2	74	61	2	11	80	66	2	11	1	84
20	Liquors, malt	4	153	4	10	34	.....	105	105	.....	.....	104	104	.....	.....	.....	1,555
21	Lumber and timber products	6	246	1	9	11	3	222	210	.....	12	243	230	.....	13	.....	722
22	Marble and stone work	9	110	16	1	2	.....	91	91	.....	.....	94	94	.....	.....	.....	179
23	Optical goods	3	288	2	7	4	2	273	104	123	46	270	103	122	15	30	170
24	Patent medicines and compounds and druggists' preparations.	13	32	16	.....	1	.....	15	9	6	.....	18	11	7	.....	.....	10
25	Printing and publishing	37	452	42	13	100	21	276	220	46	10	331	264	55	11	1	355
26	Tobacco manufactures	81	1,589	107	11	53	15	1,403	714	685	4	1,504	766	734	.....	4	49
27	Woolen, worsted, and felt goods, and wool hats.	5	548	12	19	16	2	494	368	89	37	426	317	77	15	17	628
28	All other industries [2]	101	5,281	92	130	211	57	4,791	3,675	781	335	5,350	4,107	869	185	189	14,674

[1] Includes two establishments engaged in the manufacture of brushes.

[2] All other industries embrace: Bags, paper, 1; baskets, and rattan and willow ware, 2; bicycles, motorcycles, and parts, 1; boots and shoes, including cut stock and findings, 3; butter, cheese, and condensed milk, 2; carpets, rag, 3; cars and general shop construction and repairs by street-railroad companies, 1; coffee and spice, roasting and grinding, 4; cooperage and wooden goods, not elsewhere specified, 1; cordage and twine and jute and linen goods, 1; cotton goods, including cotton small wares, 1; cutlery and tools, not elsewhere specified, 5; flags, banners, regalia, society badges, and emblems, 2; flour-mill and gristmill products, 2; food preparations, 2; furniture and refrigerators, 2; gas and electric fixtures and lamps and reflectors, 2; gas, illuminating and heating, 2: glass, cutting, staining, and ornamenting, 1; hand stamps and stencils

TOTALS FOR ALL INDUSTRIES IN CITIES OF 10,000 BUT LESS THAN 50,000 INHABITANTS: 1909—Continued.

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES—Continued.

PITTSBURGH—Continued.

	Capital.	EXPENSES.											Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.						
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.			
17	$1,257,878	$1,448,371	$43,675	$33,879	$345,555	$34,154	$892,573	$8,161	$5,804	.....	$84,570		$1,654,333	$727,606
18	3,320,644	2,924,427	109,885	71,910	432,596	12,909	1,829,873	22,470	14,714	.....	430,070		3,323,747	1,480,965
19	31,926,579	19,675,171	981,332	981,732	5,773,099	404,607	9,538,527	238,976	164,866	$1,876	1,590,156		21,690,645	11,747,511
20	826,412	802,525	31,623	22,410	187,884	9,702	430,745	11,458	10,290	.....	98,413		900,036	459,589
21	435,324	463,974	30,248	17,963	95,400	4,399	257,451	12,804	2,073	60	43,576		467,171	205,321
22	2,483,387	1,326,677	73,700	60,272	608,039	81,870	367,548	6,332	11,871	.....	117,045		1,443,275	993,857
23	2,965,308	618,495	48,650	41,862	181,302	114,556	84,252	1,000	25,778	.....	171,095		957,923	759,115
24	30,134,438	18,195,338	263,989	354,725	1,053,258	3,794,221	12,244,150	56,250	96,245	.....	332,500		20,668,023	4,629,652
25	105,052,680	76,007,909	1,104,518	1,239,769	14,454,764	3,737,907	52,148,698	183,426	381,469	.....	2,757,858		82,306,627	26,420,022
26	88,697	163,154	2,600	4,220	54,651	1,416	86,546	9,187	12	.....	4,513		182,514	94,552
27	318,223	229,914	7,330	3,080	63,722	1,755	134,643	11,674	571	.....	7,139		260,459	124,061
28	1,552,876	1,167,040	28,635	17,820	138,824	12,303	901,610	8,332	8,641	.....	50,875		1,161,603	247,690
29	14,627,749	4,011,957	120,315	179,064	685,661	103,156	1,164,059	.....	914,929	.....	844,773		5,419,704	4,152,489
30	2,019,116	1,638,844	54,653	44,907	433,073	18,714	941,516	23,159	15,140	.....	107,682		1,694,270	734,040
31	562,871	543,724	22,040	21,596	193,883	5,278	242,450	9,129	4,130	12,988	32,230		598,152	350,424
32	574,089	558,241	22,150	15,375	123,679	3,531	333,866	12,000	5,371	.....	42,269		589,588	252,191
33	2,360,896	2,199,869	67,383	69,874	138,480	24,431	1,715,379	24,888	10,806	452	148,176		2,419,006	679,196
34	684,676	700,554	38,938	56,704	51,080	3,802	309,658	17,308	4,780	210	218,074		897,867	584,407
35	107,935	154,504	26,555	7,494	55,371	2,369	38,332	7,440	65	5,682	11,196		186,838	146,137
36	1,172,949	418,228	19,200	6,845	154,584	29,112	166,238	.....	6,673	.....	35,576		507,308	311,958
37	9,599,947	7,738,345	488,555	825,671	1,959,512	65,235	2,604,009	212,415	39,401	286,472	1,257,075		9,070,889	6,401,645
38	532,631	264,672	35,248	6,383	96,417	3,548	103,719	4,175	4,312	.....	10,870		267,835	160,568
39	3,509,855	12,837,408	99,600	176,723	553,307	52,648	11,413,201	38,564	25,841	.....	477,524		13,106,735	1,640,886
40	1,184,790	1,140,290	13,100	92,942	103,561	14,933	443,435	698	5,987	.....	465,634		1,206,704	748,336
41	1,226,411	394,971	21,475	27,728	132,654	4,709	155,984	5,634	8,287	900	37,600		416,332	255,639
42	35,955	91,237	4,860	7,182	36,833	769	18,784	8,030	92	.....	14,687		111,323	91,770
43	1,877,915	3,260,534	71,901	72,162	844,257	11,581	1,160,663	27,270	887,636	961	184,103		3,615,296	2,443,052
44	34,948,423	30,619,233	832,653	765,075	4,446,643	2,320,291	19,352,799	200,686	885,800	11,822	1,803,464		34,497,840	12,824,750

house-furnishing goods, not elsewhere specified, 1; ink, writing, 2; instruments, professional and scientific, 2; iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills, 7; iron and steel, doors and shutters, 1; iron and steel forgings, 2; iron and steel pipe, wrought, 2; kaolin and ground earths, 1; lead, bar, pipe, and sheet, 2; liquors, distilled, 1; locomotives, not made by railroad companies, 2; looking-glass and picture frames, 3; millinery and lace goods, 3; mineral and soda waters, 24; mirrors, 3; models and patterns, not including paper patterns, 13; mucilage and paste, 3; oil, castor, 1; oil, not elsewhere specified, 7; optical goods, 2; paper goods, not elsewhere specified, 1; paving materials, 1; petroleum, refining, 3; plated ware, 1; printing materials, 1; roofing materials, 3; safes and vaults, 1; salt, 1; saws, 1; show cases, 1; signs and advertising novelties, 1; smelting and refining, not from the ore, 4; springs, steel, car and carriage, 4; statuary and art goods, 6; steam packing, 2; stereotyping and electrotyping, 3; sulphuric, nitric, and mixed acids, 1; tin plate and terneplate, 2; umbrellas and canes, 1; vault lights and ventilators, 1; vinegar and cider, 2; wall plaster, 1; wheelbarrows, 2; window shades and fixtures, 2; wirework, including wire rope and cable, 6; wood, turned and carved, 3; wool pulling, 3; woolen, worsted, and felt goods, and wool hats, 1.

READING.

1	$41,052,993	$46,094,414	$844,883	$965,408	$11,011,328	$1,490,431	$28,357,874	$171,843	$580,252	$99,625	$2,572,770	$51,134,967	$21,286,662
2	572,192	611,977	17,709	16,512	187,361	7,024	306,763	5,970	1,361	.....	69,277	666,205	352,418
3	118,388	112,457	3,582	1,170	39,009	1,299	60,550	836	279	.....	5,782	128,269	66,420
4	126,756	140,786	5,948	1,144	49,663	2,403	76,417	1,205	776	.....	3,230	163,879	85,059
5	116,429	137,997	7,212	2,448	29,903	3,492	87,197	752	461	.....	6,532	148,920	58,231
6	517,240	794,213	4,016	12,477	190,908	22,639	513,600	7,017	3,421	.....	40,135	950,357	414,118
7	82,320	109,699	.....	325	16,311	475	87,504	520	109	.....	4,455	158,500	70,521
8	291,977	344,764	6,099	5,285	145,394	6,208	156,822	4,858	769	.....	19,329	412,803	249,683
9	3,984,546	5,566,873	7,970	73,923	1,681,3[illegible]5	87,337	3,679,575	.....	8,750	.....	27,973	5,660,928	1,894,016
10	508,012	823,190	20,494	35,529	166,[illegible]7	6,981	559,884	7,695	544	5,315	20,051	938,358	371,493
11	63,316	111,048	936	364	36,[illegible]1	1,393	70,041	900	146	.....	1,417	130,145	58,711
12	515,248	838,882	18,681	53,633	95,[illegible]9	7,980	592,051	1,926	1,149	22,354	45,429	1,047,218	447,187
13	20,950	25,312	.....	.....	9,[illegible]0	82	14,467	660	147	.....	906	32,820	18,271
14	289,865	274,086	12,120	9,345	84,[illegible]6	16,597	117,722	.....	2,191	.....	31,755	293,901	159,582
15	4,293,149	3,578,328	108,429	118,925	1,383,[illegible]2	98,854	1,616,964	29,310	11,750	976	209,498	3,889,062	2,173,244
16	588,696	1,456,848	31,476	36,972	366,[illegible]6	23,508	861,206	720	1,523	700	133,827	1,571,125	686,411
17	4,025,056	3,890,711	70,766	43,693	1,322[illegible]51	26,051	2,106,444	23,366	7,577	22,161	268,102	4,551,087	2,418,592
18	6,824,105	7,630,050	102,771	165,119	1,670[illegible]40	472,689	4,877,731	.....	14,053	.....	327,447	8,190,378	2,839,958
19	63,343	103,670	3,769	1,416	23[illegible]27	397	62,630	3,083	6	.....	8,642	127,977	64,950
20	2,546,112	1,151,375	52,900	33,660	72[illegible]21	29,244	319,709	16,000	265,313	.....	361,828	1,416,854	1,067,901
21	426,609	448,921	13,246	7,300	10[illegible]53	4,733	301,007	696	1,519	.....	14,777	547,035	241,205
22	131,411	116,152	1,200	2,500	5[illegible]58	1,963	44,807	805	317	.....	11,702	156,300	109,530
23	391,899	278,280	14,098	3,926	8[illegible]08	2,233	137,093	100	1,167	.....	33,555	339,367	200,041
24	31,153	48,332	.....	750	[illegible]845	327	32,460	909	401	.....	7,640	66,726	33,939
25	571,308	529,845	20,190	59,555	19[illegible]744	8,906	152,861	11,708	1,288	9,781	66,812	743,104	581,337
26	1,249,784	2,305,015	21,236	74,111	5[illegible]117	3,189	1,278,464	8,552	214,657	196	141,493	2,574,114	1,292,461
27	793,160	1,110,768	19,261	17,298	2[illegible]642	14,890	725,180	3,800	1,561	8,396	83,740	1,314,590	574,520
28	11,909,969	13,554,235	280,824	188,028	2,1[illegible]047	639,447	9,518,635	40,455	39,017	29,746	627,436	14,914,945	4,756,863

and brands, 2; hats and caps, other than felt, straw, and wool, 1; i[illegible] manufactured, 2; iron and steel, blast furnaces, 1; iron and steel forgings, 2; iron and steel pipe, wrought, 2; jewelry, 4; leather, tanned, curried, and finished, 1; mattresse[illegible] and spring beds, 2; mineral and soda waters, 7; models and patterns, not including paper patterns, 9; needles, pins, and hooks and eyes, 1; paint and varnish, 3; pap[illegible] and wood pulp, 2; photo-engraving, 2; pottery, terra-cotta, and fire-clay products, 2; scales and balances, 1; signs and advertising novelties, 2; silk and silk goods, inclu[illegible]g throwsters, 3; slaughtering and meat packing, 4; soap, 1; stoves and furnaces, including gas and oil stoves, 3; umbrellas and canes, 1; wall paper, 1; washing machi[illegible] and clothes wringers, 3; wood, turned and carved, 1.

TABLE III.—DETAIL STATEMENT FOR CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES, AND

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES—Continued.

SCRANTON.

	INDUSTRY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners (average number). Total.	Wage earners. 16 and over. Male.	Wage earners. 16 and over. Female.	Wage earners. Under 16.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horse-power.
1	**All industries**	293	14,242	270	316	603	202	12,851	6,756	5,068	1,027	13,180	6,963	5,179	318	720	20,564
2	Bread and other bakery products	38	322	36	10	19	13	244	193	46	5	46	36	9	1	.....	200
3	Brick and tile	3	74	1	6	1	1	65	65	.....	.....	47	47	.....	.....	.....	525
4	Carriages and wagons and materials	13	230	18	8	5	2	197	196	.....	1	195	194	.....	1	.....	294
5	Clothing, women's	7	446	9	5	3	8	421	40	356	25	484	46	409	1	28	103
6	Copper, tin, and sheet-iron products	8	60	8	1	2	1	48	48	.....	.....	47	47	.....	.....	.....	5
7	Flour-mill and gristmill products	4	35	5	3	5	3	19	19	.....	.....	16	16	.....	.....	.....	208
8	Foundry and machine-shop products	20	1,286	16	43	118	26	1,083	1,080	3	.....	1,256	1,252	4	.....	.....	2,467
9	Gas and electric fixtures and lamps and reflectors.	3	27	2	2	.....	.....	23	22	1	.....	26	25	1	.....	.....	19
10	Liquors, malt	5	341	.....	15	42	3	281	281	.....	.....	278	278	.....	.....	.....	1,172
11	Lumber and timber products	9	432	9	18	12	4	389	387	.....	2	452	450	.....	2	.....	737
12	Patent medicines and compounds and druggists' preparations.	10	96	8	5	5	18	60	4	56	.....	81	5	76	.....	.....	1
13	Printing and publishing	48	800	50	48	90	24	588	425	154	9	689	491	178	11	.....	700
14	Silk and silk goods, including throwsters	15	3,908	9	33	36	16	3,814	378	2,792	644	3,830	378	2,805	154	493	4,738
15	Tobacco manufactures	28	339	32	13	27	3	264	62	182	20	269	63	185	1	20	135
16	All other industries [1]	82	5,846	67	106	238	80	5,355	3,556	1,478	321	5,473	3,635	1,512	147	179	9,200

[1] All other industries embrace: Artists' materials, 1; awnings, tents, and sails, 3; bluing, 1; boots and shoes, including cut stock and findings, 1; brass and bronze products, 1; brushes, 1; buttons, 1; canning and preserving, 2; carpets, rag, 1; cars and general shop construction and repairs by steam-railroad companies, 2; cars and general shop construction and repairs by street-railroad companies, 1; clothing, men's, including shirts, 2; coffins, burial cases, and undertakers' goods, 1; confectionery, 2; cotton goods, including cotton small wares, 1; cutlery and tools, not elsewhere specified, 1; dentists' materials, 1; dyeing and finishing textiles, 1; electroplating, 2; emery and other abrasive wheels, 1; engraving and diesinking, 1; flavoring extracts, 2; fur goods, 1; gas, illuminating and heating, 1; hair work, 1; horseshoes, not made in steel works or rolling

WILKES-BARRE.

1	**All industries**	176	8,329	177	180	370	49	7,553	4,943	2,062	548	7,546	4,900	2,095	221	330	12,109
2	Bread and other bakery products	28	254	31	10	16	1	196	176	13	7	204	183	14	7	.....	126
3	Brick and tile	3	85	3	4	2	1	75	75	.....	.....	70	70	.....	.....	.....	190
4	Clothing, women's	3	322	2	2	15	4	299	24	235	40	279	22	220	.....	37	46
5	Flour-mill and gristmill products	4	27	3	3	3	.....	18	18	.....	.....	18	18	.....	.....	.....	270
6	Furniture and refrigerators	4	84	5	3	5	1	70	66	2	2	71	67	2	2	.....	56
7	Printing and publishing	31	462	36	27	63	9	327	284	32	11	336	292	33	10	1	320
8	Silk and silk goods, including throwsters	6	1,113	.....	8	17	5	1,083	135	771	177	1,162	145	828	36	153	1,866
9	Tobacco manufactures	13	36	14	.....	.....	.....	22	18	4	.....	22	18	4	.....	.....	.....
10	All other industries [1]	84	5,946	83	123	249	28	5,463	4,147	1,005	311	5,384	4,085	904	166	139	9,235

[1] All other industries embrace: Artificial stone, 1; boots and shoes, including cut stock and findings, 1; brass and bronze products, 1; carriages and wagons and materials, 7; cars and general shop construction and repairs by steam-railroad companies, 2; clothing, men's, including shirts, 2; coffee and spice, roasting and grinding, 1; copper, tin, and sheet-iron products, 2; corsets, 1 cotton goods, including cotton small wares, 2; cutlery and tools, not elsewhere specified, 4; electrical machinery, apparatus, and supplies, 2; firearms and ammunition, 2; flavoring extracts, 1; food preparations, 1; foundry and machine-shop products, 7; gas, illuminating and heating, 1; grease and tallow, 1; hats and caps, other than felt, straw, and wool, 2; ice, manufactured, 1; instruments, professional and scientific, 1; jewelry, 1; liquors, malt, 3; locomotives,

TOTALS FOR ALL INDUSTRIES IN CITIES OF 10,000 BUT LESS THAN 50,000 INHABITANTS: 1909—Continued.

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES—Continued.

SCRANTON.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	$22,494,063	$23,402,692	$719,456	$617,959	$5,146,237	$415,704	$13,886,141	$171,374	$512,633	$405,033	$1,528,155	$26,384,755	$12,082,910
2	412,407	685,628	11,346	19,689	118,218	11,402	467,969	7,698	1,649	.....	47,657	758,857	279,486
3	165,556	55,673	4,542	1,020	26,023	5,432	9,860	.....	34	.....	8,762	59,196	43,904
4	534,320	283,868	10,345	4,637	102,740	9,563	140,598	3,642	1,468	860	10,015	331,260	181,099
5	269,868	471,399	7,689	7,050	127,948	2,837	282,531	8,465	139	831	33,909	549,583	264,215
6	40,361	59,105	1,300	1,038	22,098	379	30,429	2,184	35	.....	1,642	74,517	43,709
7	126,836	208,058	1,640	4,249	6,344	1,426	187,365	1,088	872	.....	5,074	226,523	37,732
8	5,462,992	1,949,987	94,993	132,913	567,115	54,782	797,948	4,128	20,043	55,200	222,865	2,218,214	1,365,484
9	49,609	30,787	2,600	.....	10,174	951	15,474	30	145	.....	1,413	33,014	16,589
10	2,129,811	1,519,670	100,700	62,903	214,352	28,285	480,809	.....	348,204	2,699	281,628	1,946,913	1,437,819
11	1,095,031	891,947	29,300	10,783	212,021	9,132	594,147	2,284	4,117	.....	29,463	932,561	329,282
12	72,103	148,981	8,100	9,430	16,784	141	36,417	2,705	32	90	75,282	197,342	160,784
13	1,451,741	1,136,017	97,180	66,124	353,730	14,518	430,179	20,797	1,537	103,365	48,587	1,309,301	864,604
14	2,986,535	6,173,277	84,401	36,579	975,870	64,818	4,575,567	9,931	14,095	230,751	181,265	6,630,848	1,990,463
15	549,292	563,224	18,058	21,693	87,622	1,778	286,604	5,315	85,601	.....	56,553	637,611	349,229
16	7,147,601	9,225,771	247,262	239,851	2,305,198	210,260	5,550,244	103,107	34,572	11,237	524,040	10,479,015	4,713,511

mills, 1; hosiery and knit goods, 3; iron and steel, steel works and rolling mills, 1; iron and steel forgings, 1; labels and tags, 1; leather goods, 2; lime, 1; locomotives, not made by railroad companies, 1; looking-glass and picture frames, 3; marble and stone work, 8; mattresses and spring beds, 4; millinery and lace goods, 1; mineral and soda waters, 8; musical instruments, pianos and organs and materials, 1; optical goods, 1; paint and varnish, 1; scales and balances, 1; slaughtering and meat packing, 2; soap, 1; statuary and art goods, 1; stereotyping and electrotyping, 1; stoves and furnaces, including gas and oil stoves, 1; surgical appliances and artificial limbs, 1; umbrellas and canes, 1; upholstering materials, 1; wall plaster, 1.

WILKES-BARRE.

1	$16,010,724	$12,248,106	$366,684	$375,994	$3,323,385	$210,762	$6,222,089	$45,481	$342,900	$112,431	$1,248,380	$13,525,957	$7,093,106
2	278,191	606,908	12,326	14,316	109,071	10,228	407,532	7,929	1,921	.....	43,585	660,353	242,593
3	36,500	50,123	2,879	1,250	30,390	6,326	4,752	1,500	107	.....	2,919	63,242	52,164
4	332,556	376,020	7,200	26,105	76,409	876	212,050	1,750	1,081	.....	50,549	382,717	169,791
5	146,778	319,305	1,929	2,373	9,690	1,560	291,055	668	499	.....	10,931	331,740	38,525
6	99,690	69,009	3,280	4,115	26,351	1,136	31,409	420	380	.....	1,918	79,747	47,202
7	596,838	596,133	43,317	51,153	206,160	10,722	195,694	12,709	1,407	13,643	61,328	765,916	559,500
8	1,389,913	886,747	16,530	10,384	246,779	20,894	385,651	5,400	3,327	87,818	109,964	1,065,554	659,009
9	35,873	35,853	.....	.....	11,392	22	16,247	1,302	3,353	.....	3,537	39,709	23,440
10	13,094,385	9,308,008	279,223	266,298	2,607,143	158,998	4,677,099	13,803	330,825	10,970	963,649	10,136,979	5,300,882

not made by railroad companies, 1; looking-glass and picture frames, 1; lumber and timber products, 6; marble and stone work, 6; mattresses and spring beds, 2; millinery and lace goods, 1; mineral and soda waters, 9; patent medicines and compounds and druggists' preparations, 2; shipbuilding, including boat building, 1; signs and advertising novelties, 1; slaughtering and meat packing, 1; soap, 1; steam packing, 1; stoves and furnaces, including gas and oil stoves, 1; surgical appliances and artificial limbs, 1; wire, 1; wirework, including wire rope and cable, 1.

TABLE III.—DETAIL STATEMENT FOR CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES, AND CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

	City or borough.	Number of establishments	Persons engaged in industry.									Wage earners—number Dec. 15, or nearest representative day.					Primary horsepower
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners (average number).				Total.	16 and over.		Under 16.		
						Male.	Female.	Total.	16 and over.		Under 16.		Male.	Female.	Male.	Female.	
									Male.	Female.							
1	Beaver Falls	44	2,456	34	76	129	37	2,180	1,980	137	63	2,570	2,332	163	66	9	5,141
2	Bethlehem	40	1,727	54	36	42	12	1,583	879	546	158	1,677	930	579	72	96	3,086
3	Braddock	41	1,218	36	48	83	11	1,040	1,005	7	28	1,208	1,167	8	33	.....	7,332
4	Bradford	82	1,650	104	73	120	35	1,318	1,123	162	33	1,443	1,229	177	26	11	3,856
5	Butler	61	3,344	102	99	288	32	2,823	2,736	62	25	3,820	3,703	82	31	4	10,405
6	Carbondale	34	1,636	29	37	51	16	1,503	1,220	235	48	1,455	1,182	227	10	36	1,407
7	Carlisle	50	1,590	148	34	50	24	1,334	835	426	73	1,462	915	466	38	43	1,735
8	Carnegie	19	509	17	17	47	6	422	410	10	2	530	515	13	2	.....	1,245
9	Chambersburg	57	1,631	56	68	114	29	1,364	1,165	149	50	1,499	1,281	163	21	34	3,126
10	Chester	128	7,867	102	243	436	100	6,986	5,260	1,488	238	7,420	5,587	1,578	126	129	17,131
11	Columbia	47	2,944	45	48	71	7	2,773	1,966	643	164	3,039	2,155	704	93	87	6,589
12	Connellsville	39	1,269	28	52	145	9	1,035	1,005	27	3	1,223	1,189	31	3	.....	4,526
13	Dubois	37	1,210	37	54	93	11	1,015	916	91	8	1,016	916	92	1	7	3,199
14	Dunmore	18	1,423	16	37	51	11	1,308	1,082	170	56	1,358	1,123	177	31	27	1,266
15	Easton	126	3,769	138	75	104	64	3,388	2,392	881	115	3,607	2,512	924	89	82	5,965
16	Greensburg	47	393	50	18	10	5	310	281	27	2	338	307	29	2	.....	738
17	Hazleton	77	2,998	84	57	134	41	2,682	995	1,357	330	2,883	1,069	1,458	135	221	3,112
18	Homestead	26	248	17	19	28	13	171	154	13	4	192	173	15	4	.....	890
19	Lancaster	306	8,981	317	187	401	119	7,957	4,719	2,745	493	8,600	5,104	2,966	233	297	10,037
20	Lebanon	109	6,077	105	99	229	53	5,591	4,288	1,046	257	6,075	4,659	1,135	113	168	21,717
21	McKees Rocks	31	3,903	21	50	211	30	3,591	3,508	54	29	4,231	4,135	61	30	5	8,872
22	McKeesport	68	9,093	58	148	569	72	8,246	7,990	206	50	9,356	9,062	238	49	7	49,935
23	Mahanoy City	33	666	44	9	19	4	590	143	398	49	608	147	410	3	48	753
24	Meadville	62	2,506	54	97	150	157	2,048	1,655	379	14	2,085	1,684	387	7	7	2,539
25	Mount Carmel	20	651	28	16	5	2	600	87	364	149	614	90	372	3	149	322
26	Nanticoke	17	378	15	9	4	2	348	75	179	94	347	75	178	6	88	447
27	New Castle	82	6,063	73	103	472	76	5,339	5,143	160	36	5,972	5,753	179	38	2	64,697
28	Norristown	111	4,223	104	123	103	75	3,818	1,940	1,676	202	4,051	2,061	1,774	109	107	5,713
29	Oil City	34	1,593	44	85	109	17	1,338	1,311	24	3	1,529	1,498	27	2	2	2,467
30	Phoenixville	31	2,822	37	47	115	24	2,599	1,934	585	80	2,905	2,161	654	51	39	15,152
31	Pittston	40	942	39	29	61	21	792	351	390	51	825	365	409	19	32	2,133
32	Plymouth	23	986	21	18	31	8	908	285	518	105	850	267	485	9	89	1,412
33	Pottstown	78	4,123	84	98	247	44	3,650	2,968	602	80	4,179	3,392	686	58	43	17,415
34	Pottsville	91	3,342	100	125	212	33	2,872	2,085	629	158	3,066	2,228	669	64	105	15,262
35	Shamokin	39	1,744	34	31	47	9	1,623	359	1,016	248	1,717	372	1,083	34	228	1,862
36	Sharon	45	3,795	51	121	272	35	3,316	3,293	20	3	4,798	4,766	29	3	.....	27,462
37	Shenandoah	29	301	24	18	14	3	242	158	76	8	287	188	90	2	7	1,382
38	South Bethlehem	49	8,469	65	81	325	13	7,985	7,003	894	88	9,659	8,421	1,129	23	86	31,502
39	Sunbury	39	2,339	42	102	107	19	2,069	1,585	430	54	2,142	1,645	442	29	26	2,835
40	Uniontown	41	492	38	25	91	3	335	325	4	6	390	378	5	6	1	1,620
41	Warren	72	1,767	70	74	88	46	1,489	1,295	179	15	1,587	1,380	191	14	2	3,960
42	Washington	75	2,387	68	71	82	40	2,126	1,937	125	64	2,159	1,966	129	54	10	4,216
43	West Chester	35	1,113	35	29	90	43	916	829	81	6	891	805	80	2	4	934
44	Wilkinsburg	24	231	21	8	9	8	185	181	4	.....	227	222	5	.....	.....	1,016
45	Williamsport	159	6,534	139	189	375	190	5,641	4,163	1,309	169	6,079	4,490	1,406	131	52	11,713
46	York	218	11,530	221	284	439	94	10,492	7,829	2,263	400	11,268	8,408	2,430	218	212	15,344

TOTALS FOR ALL INDUSTRIES IN CITIES OF 10,000 BUT LESS THAN 50,000 INHABITANTS: 1909—Continued.

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

	Capital.	EXPENSES.											Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.						
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.			
1	$7,503,172	$5,064,607	$149,498	$137,197	$1,217,864	$123,586	$2,891,573	$3,720	$50,171	$379	$490,619		$6,400,338	$3,385,179
2	3,300,363	3,283,113	57,769	47,148	593,366	44,493	2,285,949	3,103	49,119	74,649	127,517		3,711,602	1,381,160
3	5,368,886	4,629,078	75,633	84,717	784,865	134,014	3,213,348	10,938	22,017	.....	303,546		5,094,382	1,747,020
4	4,225,816	3,480,423	110,378	118,164	654,619	110,508	2,331,830	6,515	16,805	3,641	127,963		3,886,538	1,444,200
5	16,768,720	10,037,837	194,265	263,176	1,571,309	201,264	7,392,362	4,707	46,208	11,609	352,937		11,058,353	3,464,727
6	2,307,379	2,228,578	74,808	47,886	635,717	31,322	1,221,799	7,807	29,084	69,394	110,761		2,523,387	1,270,266
7	2,054,048	2,219,052	84,627	58,960	510,869	30,120	1,400,535	7,282	2,572	2,162	121,925		2,495,710	1,065,055
8	2,371,255	2,908,978	46,966	46,648	275,321	31,674	2,409,419	3,504	40,340	.....	55,106		3,099,445	658,352
9	3,483,712	2,135,926	105,239	71,428	599,184	48,626	1,120,981	5,621	9,638	4,746	170,463		2,456,035	1,286,428
10	23,928,262	17,053,434	573,759	390,742	3,392,003	728,471	10,847,917	33,502	104,290	4,742	978,008		19,373,314	7,796,626
11	3,590,195	4,191,244	64,319	65,309	1,106,641	191,712	2,479,311	5,852	11,031	90,018	177,051		4,807,068	2,136,045
12	3,274,771	1,798,882	69,410	124,097	576,459	45,622	771,683	7,042	75,913	.....	128,656		1,970,936	1,153,631
13	2,393,996	1,828,048	80,416	52,594	506,588	35,090	890,092	4,000	51,270	400	206,998		1,890,168	964,386
14	938,399	1,716,086	85,695	47,213	602,570	25,900	644,526	25,512	67,648	24,371	192,651		1,850,654	1,180,228
15	7,687,412	5,687,849	145,581	100,659	1,523,797	143,471	3,281,001	26,031	87,815	136,769	242,725		6,915,345	3,490,873
16	937,674	595,268	22,532	9,800	163,376	24,104	306,336	9,656	13,156	360	45,948		726,268	395,828
17	5,208,544	4,271,721	122,865	126,887	939,936	62,052	2,639,930	7,397	74,740	40,263	257,651		4,707,025	2,005,043
18	1,272,845	558,990	24,103	25,250	110,765	12,317	309,623	6,088	11,969	2,076	56,799		659,196	337,256
19	17,442,636	14,152,001	337,347	475,694	3,235,975	246,565	8,594,240	48,929	334,012	76,211	803,028		15,978,666	7,137,861
20	12,275,811	10,295,061	183,423	225,906	2,440,505	2,234,358	4,543,092	60,058	55,003	51,926	500,790		11,429,063	4,651,613
21	10,328,079	8,467,279	120,115	214,619	2,309,492	274,663	5,132,183	8,192	45,085	2,546	360,384		9,786,828	4,379,982
22	43,432,669	35,473,003	341,043	549,726	6,030,799	2,867,852	24,427,883	11,770	410,848	2,443	830,639		42,494,567	15,198,832
23	993,610	717,866	7,676	11,890	166,231	17,247	365,657	4,969	52,293	442	91,461		867,576	484,672
24	2,725,110	3,324,266	140,793	196,567	973,887	62,874	1,652,935	8,246	4,871	.....	284,093		3,558,925	1,843,116
25	434,653	652,143	15,590	3,716	143,898	5,950	410,486	1,080	2,456	28,863	40,104		785,391	368,955
26	420,412	402,830	20,104	3,700	120,232	5,777	174,415	2,235	28,981	1,660	45,726		423,093	242,901
27	27,028,455	36,572,210	255,465	497,632	3,870,179	3,870,043	27,604,047	12,693	116,824	12,876	832,451		38,037,522	7,063,432
28	6,983,733	6,000,126	226,077	152,063	1,553,004	116,815	3,157,384	38,424	214,184	108,133	443,052		7,413,211	4,139,012
29	3,847,457	3,645,547	122,084	104,417	903,422	97,273	2,202,428	5,276	32,759	.....	177,888		4,121,892	1,822,191
30	8,764,839	5,355,262	90,871	144,254	1,179,735	481,197	3,235,726	9,990	26,063	16,609	170,817		5,876,154	2,159,231
31	2,336,648	1,739,559	37,426	54,643	315,785	34,433	1,032,070	2,334	90,159	43,883	128,826		1,969,452	902,949
32	2,544,133	1,076,639	22,069	27,180	280,623	27,761	676,173	3,902	2,325	.....	36,606		1,178,606	474,672
33	9,961,316	11,746,401	237,630	256,234	1,721,575	1,401,741	7,597,147	45,275	41,222	8,959	436,618		12,505,196	3,506,308
34	13,981,695	8,424,572	156,311	184,750	1,326,391	285,291	5,641,431	18,660	155,742	21,944	634,052		9,138,122	3,211,400
35	3,227,194	2,998,314	58,234	63,022	498,902	27,448	2,101,320	4,410	28,138	117,302	99,538		3,544,095	1,415,327
36	14,649,393	9,824,160	211,571	243,028	2,000,291	716,021	5,967,021	3,896	87,409	614	594,255		9,880,672	3,197,630
37	1,051,238	752,108	27,094	10,283	133,919	15,775	319,807	3,149	113,076	700	128,305		887,503	551,921
38	41,120,579	24,370,313	245,093	358,893	4,973,065	3,110,941	12,855,732	17,847	215,561	853	2,592,328		26,417,103	10,450,430
39	4,767,882	4,239,748	183,344	113,860	1,117,520	56,742	2,171,649	3,867	18,588	381,126	193,052		4,450,159	2,221,768
40	1,685,736	1,084,895	32,759	129,823	224,588	24,152	354,516	6,464	153,305	4,490	154,798		1,346,865	968,197
41	5,795,846	5,222,356	149,792	115,977	835,690	182,292	3,493,786	7,660	22,306	1,066	413,787		5,744,321	2,068,243
42	3,982,523	4,284,888	147,967	116,013	1,119,064	218,313	2,229,003	12,976	68,959	8,808	363,785		4,837,055	2,389,739
43	2,488,639	2,120,759	42,149	140,201	477,702	26,491	640,225	6,213	5,609	895	781,274		2,145,843	1,479,127
44	534,648	473,042	11,645	9,195	129,296	10,004	252,261	11,447	3,490	.....	45,704		538,217	275,952
45	14,070,147	11,720,412	375,667	392,403	2,526,621	203,022	6,856,703	27,686	58,372	243,456	1,036,482		13,347,943	6,288,218
46	22,418,526	16,692,482	605,434	527,384	4,438,233	282,411	8,583,082	58,876	222,829	180,887	1,793,346		18,622,400	9,756,907

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RHODE ISLAND.

INDUSTRIES IN GENERAL.

General character of the state.—Rhode Island, with a gross area of 1,250 square miles, of which 197 represent water surface, is the smallest state in the Union. Its population in 1910 was 542,610, as compared with 428,556 in 1900 and 345,506 in 1890. It ranked thirty-eighth among the 49 states and territories as regards population in 1910 and thirty-fifth in 1900. Ninety-six and seven-tenths per cent of the entire population of the state resides in incorporated cities and towns having a population of 2,500 inhabitants or over, as against 95.1 per cent in 1900.

The state has nine cities and towns having a population of over 10,000: Providence, with a population of 224,326; Pawtucket, with 51,622; Woonsocket, with 38,125; Newport, with 27,149; Warwick, with 26,629; Central Falls, with 22,754; Cranston, with 21,107; East Providence, with 15,808; and Cumberland, with 10,107. In density of population Rhode Island far outranks all other states in the Union, having 508.5 persons per square mile, the corresponding figure for 1900 being 400.7. The transportation facilities are excellent, Providence, the largest city, being one of the most important seaports in New England, which, together with the fact that the state is traversed by the main line of the most important railway system in New England, gives it direct and adequate connection with the other parts of the country.

Importance and growth of manufactures.—Rhode Island is preeminently a manufacturing community, and the growth and concentration of population in the state have been closely related to the increase in the importance of its manufacturing industries. During 1849 an average of 20,967 wage earners, representing 14.2 per cent of the total population, were employed in manufactures, while in 1909 an average of 113,538 wage earners, or 20.9 per cent of the total population, were so engaged. During this period of 60 years the gross value of products per capita increased from $150 in 1849 to $517 in 1909. From 1849 to 1904, however, the proportion which the manufactures of the state represent of the total value of the products of manufacturing industries in the United States decreased somewhat. This proportion was 2.2 per cent in 1849 and 1.4 per cent in 1904; the proportion for 1909 is not yet available.

The following table gives the most important figures relative to all classes of manufactures combined for the state as returned at the censuses of 1909, 1904, and 1899, together with percentages of increase from census to census:

	Number or amount.			Per cent of increase.[1]	
	1909	1904	1899	1904–1909	1899–1904
Number of establishments	1,951	1,617	1,678	20.7	−3.6
Persons engaged in manufactures	122,641	104,299	(2)	17.6	.....
Proprietors and firm members	1,721	1,561	(2)	10.2	.....
Salaried employees	7,382	5,420	4,022	36.2	34.8
Wage earners (average number)	113,538	97,318	88,197	16.7	10.3
Primary horsepower	226,740	182,608	153,619	24.2	18.9
Capital	$290,901,000	$215,901,000	$176,902,000	34.7	22.0
Expenses	242,264,000	177,649,000	140,347,000	36.4	26.6
Services	65,811,000	50,154,000	41,296,000	31.2	21.4
Salaries	10,577,000	7,041,000	5,301,000	50.2	32.8
Wages	55,234,000	43,113,000	35,995,000	28.1	19.8
Materials	158,192,000	112,872,000	87,952,000	40.2	28.3
Miscellaneous	18,261,000	14,623,000	11,099,000	24.9	31.8
Value of products	280,344,000	202,110,000	165,550,000	38.7	22.1
Value added by manufacture (value of products less cost of materials)	122,152,000	89,238,000	77,598,000	36.9	15.0

[1] A minus sign (−) denotes decrease.

[2] Figures not available.

In 1909 the state of Rhode Island had 1,951 manufacturing establishments, which gave employment to an average of 122,641 persons during the year and paid out $65,811,000 in salaries and wages. Of the persons employed, 113,538 were wage earners. These establishments turned out products to the value of $280,344,000, to produce which materials costing $158,192,000 were consumed. The value added by manufacture was thus $122,152,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

In general, this table brings out the fact that the manufacturing industries of Rhode Island as a whole showed a greater development during the more recent five-year period, 1904–1909, than during the preceding five-year period, 1899–1904. During the later period the number of establishments increased 20.7 per cent and the average number of wage earners 16.7 per cent, while the value of products increased 38.7 per cent and the value added by manufacture 36.9 per cent. As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume during the period 1904–1909 to the extent indicated by these figures regarding values, since the increase shown is certainly due, in part, to the increase that has taken place in the prices of commodities.

It is a matter of interest to note that the percentages of increase shown for wages, value of products, and value added by manufacture are considerably larger than those for the number of establishments and average number of wage earners. The only decrease shown in the table is that in the number of establishments during the period 1899–1904, amounting to 3.6 per cent.

The relative importance and growth of the leading manufacturing industries of the state are shown in the following table:

INDUSTRY.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE.[1]			
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Value of products.		Value added by manufacture.	
								1904–1909	1899–1904	1904–1909	1899–1904
All industries	**1,951**	**113,538**	**100.0**	**$280,344,000**	**100.0**	**$122,152,000**	**100.0**	**38.7**	**22.1**	**36.9**	**15.0**
Woolen, worsted, and felt goods, and wool hats	88	24,924	22.0	74,600,000	26.6	23,575,000	19.3	41.7	36.1	41.1	21.1
Cotton goods, including cotton small wares	106	28,786	25.4	50,313,000	17.9	24,912,000	20.4	45.5	30.8	67.1	1.1
Jewelry	296	9,511	8.4	20,685,000	7.4	10,897,000	8.9	43.3	9.1	40.2	10.2
Foundry and machine-shop products	141	10,937	9.6	20,612,000	7.4	12,598,000	10.3	45.2	4.4	37.2	14.5
Electrical machinery, apparatus, and supplies	12	1,601	1.4	6,410,000	2.3	1,815,000	1.5	17.9	6.3	28.0	45.0
Silverware and plated ware	11	2,294	2.0	6,198,000	2.2	3,563,000	2.9	16.4	25.3	22.9	22.5
Silk and silk goods, including throwsters	13	1,685	1.5	4,584,000	1.6	1,396,000	1.1	79.3	95.0	62.3	74.8
Gold and silver, reducing and refining, not from the ore	15	82	0.1	4,442,000	1.6	271,000	0.2	4.2	22.3	−1.1	−20.8
Bread and other bakery products	187	1,055	0.9	3,937,000	1.4	1,466,000	1.2	28.9	41.7	19.2	33.7
Hosiery and knit goods	17	1,774	1.6	3,866,000	1.4	1,422,000	1.2	15.6	22.8	32.4	12.6
Printing and publishing	147	1,454	1.3	3,780,000	1.3	2,716,000	2.2	23.1	49.9	20.5	50.7
Liquors, malt	9	450	0.4	3,579,000	1.3	2,391,000	2.0	30.6	45.7	18.5	41.3
Slaughtering and meat packing	21	214	0.2	3,156,000	1.1	362,000	0.3	18.8	2.3	32.6	−9.6
Lumber and timber products	57	748	0.7	1,907,000	0.7	843,000	0.7	12.3	36.2	−0.6	34.4
Gas, illuminating and heating	8	412	0.4	1,833,000	0.7	1,303,000	1.1	16.0	63.1	20.9	48.7
Marble and stone work	46	660	0.6	1,033,000	0.4	784,000	0.6	−0.7	−3.6	2.9	−7.6
Copper, tin, and sheet-iron products	41	377	0.3	932,000	0.3	480,000	0.4	26.6	104.4	35.2	70.7
Flour-mill and gristmill products	18	39	(2)	886,000	0.3	96,000	0.1	−21.9	−37.7	28.0	−70.8
Brass and bronze products	18	225	0.2	828,000	0.3	279,000	0.2	24.0	55.0	−14.4	48.2
Enameling and japanning	21	615	0.5	570,000	0.2	424,000	0.3	68.6	27.5	53.6	36.6
Tobacco manufactures	65	268	0.2	537,000	0.2	341,000	0.3	50.0	22.2	52.9	10.9
All other industries	614	25,427	22.4	65,656,000	23.4	30,218,000	24.7	.....	.....	.....	.....

[1] Percentages are based on figures in Table I; a minus sign (−) denotes decrease. Where the percentages are omitted, comparable figures can not be given.
[2] Less than one-tenth of 1 per cent.

It should be borne in mind, in considering this table, that the value of products in some of the industries involves a certain amount of duplication due to the use of the product of one establishment in the industry as material for another establishment.

The dyeing and finishing of textiles is the most important of the industries included under the head of "All other industries." It covers the bleaching, dyeing, and mercerizing of raw fiber, yarns, and woven cloth, as well as the printing of cotton piece goods. A considerable number of the cotton, wool, and silk mills in the same establishment combine one or more of these subordinate processes with their manufacture; therefore the statistics for the independent establishments engaged in dyeing and finishing do not fully represent the statistics for the industry. It is of interest, however, to know that there were 45 of these independent establishments reported at the census of 1909, compared with 37 in 1904. The average number of wage earners employed was 7,792 and 7,562, respectively, for the two census years. Measured by value of products, this industry, with $13,955,700 in 1909, ranked fifth, compared with other industries of the state. In 1904 Rhode Island, with products valued at $9,981,457, was the third state in the Union in this class of manufacture, New Jersey being first and Massachusetts second.

In addition to the 20 industries presented separately and dyeing and finishing textiles, there are 21 industries which had a value of products in 1909 in excess of $500,000. They are included under the head of "All other industries" in the table, because in some cases the operations of individual establishments would be disclosed if they were shown separately; in others, because the returns do not present properly the true condition of the industry, for the reason that it is more or less interwoven with one or more other industries of similar character; while for others, comparable statistics for the different census years can not be presented on account of changes in classification.

These industries are: Automobiles, including bodies and parts; baking powders and yeast; rubber boots and shoes; dyestuffs and extracts; files; men's furnishing goods; grease and tallow; steel works and rolling mills; iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills; cottonseed oil and cake; oleomargarine; paper goods, not elsewhere specified; rubber goods, not elsewhere specified; wood screws; shipbuilding; soap; sporting and athletic goods; washing machines and clothes wringers; waste; and wire. The 1909 statistics, however, for the manufacture of men's furnishing goods, paper goods, and rubber goods, and for the shipbuilding industry are presented in Table II, page 1134.

Although a few industries predominate greatly in importance, it will be seen from Table II that there is on the whole considerable diversity in the manufacturing activities of the state. The most important industries listed in the table given above, in which they are arranged in the order of the value of products, call for brief consideration.

Textiles.—The textile industry of the state—consisting of the manufacture of woolen and worsted goods; cotton goods, including cotton small wares; silk and silk goods, including throwsters; and hosiery and knit goods—is by far the most important branch of manufacture. Combined, the four allied branches gave employment to 57,169 wage earners on the average during the year, and the value of their products amounted to $133,363,000, these figures representing 50.4 per cent and 47.6 per cent, respectively, of the totals for all industries in the state. Rhode Island ranks fourth among the states in the production of cotton goods, third in woolen and worsted goods, sixth in silk and silk goods, and eleventh in hosiery and knit goods.

Manufactures from precious metals.—The manufacture of jewelry is allied closely with the production of silverware and plated ware, and the reduction and refining of gold and silver from sweepings, clippings, and scrap. These three industries combined employed an average of 11,887 wage earners and turned out products valued at $31,325,000. In 1905 Rhode Island led all other states in the manufacture of jewelry.

Foundry and machine-shop products.—The number of establishments engaged in this industry and the degree of their activity in any community are usually a fair index of the extent and prosperity of its manufactures. The industry was really of greater importance in the state than is indicated by the statistics, as some machine shops manufactured a distinctive product and were assigned to other classifications. A number of the most important establishments are engaged in the manufacture of textile machinery.

Electrical machinery, apparatus, and supplies.—The establishments engaged in this industry are devoted primarily to the production of insulated wires and cables, incandescent lamps of carbon filament, and electric-lighting fixtures.

The four groups of industries considered in the immediately preceding paragraphs held the same relative rank when measured by value added by manufacture as when measured by value of products. Treating the industries individually, however, considerable change is noted in their order when ranked according to value added by manufacture. Cotton manufacture displaces woolen and worsted goods from first place, and the foundry and machine-shop industry exchanges places with jewelry. Silverware becomes fifth in order instead of electrical machinery, which drops to eighth place. Printing and publishing and malt liquors become sixth and seventh, respectively, while silk manufacture falls to eleventh place, and gold and silver, reducing and refining, not from the ore, drops to twentieth place.

This table shows also the percentages of increase for these leading industries in respect to value of products and value added by manufacture. The cotton industry showed a greater rate of increase from 1904 to 1909 in value added by manufacture than any other of the specified industries, namely, 67.1 per cent, while during the same period the silk industry showed the greatest rate of increase in value of products, 79.3 per cent. The foundry and machine-shop, jewelry, and woolen industries also showed remarkable increases both in gross value of products and in value added by manufacture.

Two of the specified industries, marble and stone work and flour-mill and gristmill products, showed a decrease in value of products both from 1899 to 1904 and from 1904 to 1909, while all the others showed an increase for both periods. Three industries showed a decrease in value added by manufacture from 1904 to 1909, while four showed a decrease from 1899 to 1904.

Persons engaged in manufacturing industries.—The following table shows the distribution of the number of persons engaged in manufactures, the average number of wage earners being distributed by sex and age. It should be borne in mind, however, that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes	**122,641**	**81,843**	**40,798**
Proprietors and officials	4,109	3,957	152
Proprietors and firm members	1,721	1,606	115
Salaried officers of corporations	907	885	22
Superintendents and managers	1,481	1,466	15
Clerks	4,994	3,337	1,657
Wage earners (average number)	113,538	74,549	38,989
16 years of age and over	108,913	72,239	36,674
Under 16 years of age	4,625	2,310	2,315

The average number of persons engaged in manufactures during 1909 was 122,641. Of these, 113,538 were wage earners. Of the remainder, 4,109, or 45.1 per cent, were proprietors and officials, and 4,994, or 54.9 per cent, clerks. Corresponding figures for individual industries will be found in Table II.

The following table shows the percentage of proprietors and officials, clerks, and wage earners, respectively, in the total number of persons employed in manufactures. It covers all industries combined and 13 important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries	**122,641**	**3.4**	**4.1**	**92.6**
Bread and other bakery products	1,401	17.1	7.6	75.3
Cotton goods, including cotton small wares	29,488	1.1	1.3	97.6
Electrical machinery, apparatus, and supplies	1,730	2.3	5.2	92.5
Foundry and machine-shop products	11,905	3.5	4.7	91.9
Gold and silver, reducing and refining, not from the ore	142	26.1	16.2	57.7
Hosiery and knit goods	1,849	2.0	2.1	95.9
Jewelry	11,002	5.7	7.8	86.4
Liquors, malt	543	5.2	12.0	82.9
Printing and publishing	2,049	11.2	17.8	71.0
Silk and silk goods, including throwsters	1,750	2.1	1.6	96.3
Silverware and plated ware	2,517	1.4	7.4	91.1
Slaughtering and meat packing	267	12.4	7.5	80.1
Woolen, worsted, and felt goods, and wool hats	25,673	1.4	1.5	97.1
All other industries	32,325	5.2	5.8	89.0

Of the total number of persons engaged in all manufacturing industries, 3.4 per cent were proprietors and officials, 4.1 per cent clerks, and 92.6 per cent wage earners. The highest percentage of proprietors and officials shown for any individual industry, 26.1, is for the establishments engaged in reducing and refining gold and silver from sweepings, clippings, and scrap; measured by number of persons engaged, the establishments in this industry are generally small. In the bakery and the printing and publishing industries the majority of the establishments are also small and the work is done to a large extent by the proprietors or their immediate representatives, so that the proportion of persons engaged in these industries falling in the class of proprietors and officials is very much higher than for most other industries or for all industries combined. The high percentage shown for the slaughtering and meat-packing industry is due to the fact that a number of the establishments classified under this head are small establishments engaged exclusively in the manufacture of sausage.

On account of the large average number of wage earners to an individual establishment in the cotton, woolen, and silverware industries, these industries show the smallest proportion of proprietors and officials.

The following table shows, in percentages, for all industries combined, the distribution of the average number of wage earners, by age periods and sex, calculated in the manner described in the Introduction. It also shows, for some of the important industries separately, the percentage distribution, by age periods and sex, of wage earners as reported for December 15, or the nearest representative day. As a means of judging the importance of the several industries, the average total number employed for the year is also given in each case.

INDUSTRY.	WAGE EARNERS.			
	Average number.[1]	Per cent of total.		
		16 years of age and over.		Under 16 years of age.
		Male.	Female.	
All industries	**113,538**	**63.6**	**32.3**	**4.1**
Bread and other bakery products	1,055	91.7	7.6	0.8
Cotton goods, including cotton small wares	28,786	50.7	43.3	6.0
Electrical machinery, apparatus, and supplies	1,601	58.7	39.1	2.2
Foundry and machine-shop products	10,937	97.3	1.6	1.1
Gold and silver, reducing and refining, not from the ore	82	100.0	.....	.....
Hosiery and knit goods	1,774	19.9	73.1	7.0
Jewelry	9,511	56.8	40.6	2.6
Liquors, malt	450	100.0	.....	.....
Printing and publishing	1,454	70.8	26.8	2.3
Silk and silk goods, including throwsters	1,685	43.6	53.2	3.2
Silverware and plated ware	2,294	89.0	9.2	1.7
Slaughtering and meat packing	214	98.6	.....	1.4
Woolen, worsted, and felt goods, and wool hats	24,924	52.1	41.7	6.2
All other industries	28,771	75.9	21.8	2.3

[1] For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see Introduction.

For all industries combined, 63.6 per cent of the average number of wage earners were males over 16 years of age; 32.3 per cent, females over 16 years of age; and 4.1 per cent, persons of both sexes under the age of 16. The larger part of the total number of female wage earners is made up of those employed in the textile industries. In the cotton-goods industry over two-fifths of the employees are women over 16 years of age, in the hosiery and knit-goods industry the proportion is nearly three-fourths, in the silk industry over one-half, and in the woolen and worsted industry over two-fifths. The manufacture of electrical machinery, apparatus, and supplies, and the jewelry industry, also show a large proportion of female wage earners, 39.1 per cent and 40.6 per cent, respectively. If the four textile industries are excluded, females over 16 employed in all industries combined represent 20.6 per cent of the total number of wage earners.

The four textile industries combined also include the larger part of the total number of wage earners under 16 years of age. The proportions of such employees engaged in each industry were as follows: Cotton goods, 6 per cent; hosiery and knit goods, 7 per cent; silk and silk goods, 3.2 per cent; and woolen and worsted goods, 6.2 per cent.

In order to compare the distribution of persons engaged in manufactures in 1909 with that shown at the census of 1904 it is necessary to use the classification employed at the earlier census. (See Introduction.) The following table makes this comparison according to occupational status:

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				
	1909		1904		Per cent of increase, 1904–1909.
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total	**122,641**	**100.0**	**104,299**	**100.0**	**17.6**
Proprietors and firm members	1,721	1.4	1,561	1.5	10.2
Salaried employees	7,382	6.0	5,420	5.2	36.2
Wage earners (average number)	113,538	92.6	97,318	93.3	16.7

Comparable figures are not obtainable for 1899. The table shows a greater percentage of increase in the salaried employees than in the other two classes.

The following table shows the average number of wage earners, distributed according to age periods, and in the case of those 16 years of age and over according to sex, for 1909, 1904, and 1899. The averages for 1909 are estimated on the basis of the actual number reported for a single representative day. (See Introduction.)

This table indicates that for all industries combined there has been a decrease during the 10 years in the employment of children under 16 years of age, although from 1899 to 1904 the total number of children employed increased. There has not been much change in the proportion of male and female wage earners. In 1909 males 16 years of age and over formed 63.6 per cent of all wage earners, as compared with 63 per cent in 1904 and 62.7 per cent in 1899.

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	**113,538**	**100.0**	**97,318**	**100.0**	**88,197**	**100.0**
16 years of age and over	108,913	95.9	92,088	94.6	83,212	94.3
Male	72,239	63.6	61,346	63.0	55,305	62.7
Female	36,674	32.3	30,742	31.6	27,907	31.6
Under 16 years of age	4,625	4.1	5,230	5.4	4,985	5.7

Wage earners employed, by months.—The following table gives the number of wage earners employed on the 15th of each month during the year 1909, for all industries combined, for the cotton-goods, foundry and machine-shop, jewelry, and woolen and worsted goods industries, and for all other industries combined; it gives also the percentage which the number reported for each month is of the greatest number reported for any month. In Table II, page 1134, is shown, for each industry in the state, the largest number and also the smallest number of employees reported for any month. The number for each month relates to the 15th day, or the nearest representative day, of the month.

MONTH.	WAGE EARNERS.											
	All industries.		Cotton goods, including cotton small wares.		Foundry and machine-shop products.		Jewelry.		Woolen, worsted, and felt goods, and wool hats.		All other industries.	
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.
January	108,773	91.3	28,807	98.7	9,301	73.4	9,293	82.7	24,072	94.1	37,300	89.3
February	109,615	92.0	28,738	98.4	9,567	75.5	8,939	79.5	24,480	95.6	37,891	90.7
March	111,924	93.9	28,896	99.0	10,062	79.4	8,928	79.4	25,429	99.3	38,609	92.4
April	111,320	93.4	28,806	98.7	10,216	80.6	8,439	75.1	24,880	97.2	38,979	93.3
May	111,952	93.9	28,818	98.7	10,318	81.4	8,625	76.7	25,128	98.1	39,063	93.5
June	112,055	94.0	28,632	98.1	10,633	83.9	8,774	78.1	25,203	98.4	38,813	92.9
July	111,571	93.6	28,611	98.0	11,113	87.7	8,574	76.3	24,811	96.9	38,462	92.1
August	112,835	94.7	28,342	97.1	11,388	89.8	9,097	80.9	24,800	96.9	39,208	93.8
September	116,116	97.4	28,722	98.4	11,566	91.2	10,201	90.8	25,604	100.0	40,023	95.8
October	118,007	99.0	28,796	98.6	12,015	94.8	10,883	96.8	25,365	99.1	40,948	98.0
November	119,104	99.9	29,080	99.6	12,382	97.7	11,145	99.2	25,011	97.7	41,486	99.3
December	119,191	100.0	29,192	100.0	12,678	100.0	11,238	100.0	24,302	94.9	41,781	100.0

There are no seasonal industries of importance in Rhode Island which give employment to a large number of persons at certain periods of the year only. On the contrary, all of the more important industries show comparatively little fluctuation in the number of wage earners employed. Among the industries covered by the above table the greatest variation is shown in the foundry and machine-shop industry, in which the smallest number, 9,301, were employed in the month of January. The number increased constantly from month to month, however, to the end of the year, when 12,678 were employed, a difference of 3,377 from that at the beginning of the year. In the cotton mills the greatest activity was in December and the next greatest in November. The smallest number were employed in August, but represented a difference of only

850, or 2.9 per cent, from the largest number. In the woolen mills September was the month when the most wage earners were employed, while the fewest were employed in January. April was the month of least activity in the jewelry industry and November and December the months of greatest activity.

Prevailing hours of labor.—In the following table wage earners have been classified according to hours of labor prevailing in the establishments in which they are employed. In making this classification the average number of wage earners employed during the year is used, and the number employed in each establishment is classified as a total according to the hours prevailing in that establishment, even though some few employees work a greater or less number of hours.

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries	**113,538**	**2,672**	**1,484**	**7,001**	**92,597**	**9,388**	**163**	**30**	**203**
Brass and bronze products	225			2	145	78			
Bread and other bakery products	1,056	104	20	136	99	627	46	23	
Copper, tin, and sheet-iron products	377	206	18	11	142				
Cotton goods, including cotton small wares	28,786			34	28,658	94			
Electrical machinery, apparatus, and supplies	1,601	1	6	158	1,409	27			
Enameling and japanning	615		78		529	8			
Flour-mill and gristmill products	39				22	17			
Foundry and machine-shop products	10,937	9	348	1,221	8,411	948			
Gas, illuminating and heating	412				1	282	83		46
Gold and silver, reducing and refining, not from the ore	82				70	12			
Hosiery and knit goods	1,774		1		1,702	71			
Jewelry	9,511	573	53	167	7,500	1,218			
Liquors, malt	450			449		1			
Lumber and timber products	748	77	13	191	267	200			
Marble and stone work	660	618	13	28		1			
Printing and publishing	1,454	529	525	98	278	21	3		
Silk and silk goods, including throwsters	1,685				1,685				
Silverware and plated ware	2,294			2	2,292				
Slaughtering and meat packing	214	1	1	31	88	93			
Tobacco manufactures	268	236	2	5	22	3			
Woolen, worsted, and felt goods, and wool hats	24,924	2	95	284	22,748	1,795			
All other industries	25,427	316	311	4,184	16,529	3,892	31	7	157

It is evident from these figures that for the great majority of wage earners employed in the manufacturing industries of Rhode Island the prevailing hours of labor range from 54 to 60 a week, or from 9 to 10 a day, only 3.7 per cent of the total being employed in establishments working less than 9 hours a day and only three-tenths of 1 per cent being employed in establishments working more than 10 hours a day.

It will be noted that in all of the larger industries the employment is confined mainly to a week of between 54 and 60 hours. Practically all of the wage earners in the gas industry, however, are in plants operating 60 hours a week or over, while for the majority of the wage earners in the bakery industry the prevailing hours of labor are 60 per week.

Location of establishments.—The next table shows how largely manufacturing in the state is centralized in cities and towns of 10,000 inhabitants or over. (See Introduction.)

ITEM.	Year.	Aggregate.	CITIES AND TOWNS HAVING A POPULATION OF 10,000 AND OVER.								DISTRICTS OUTSIDE OF CITIES AND TOWNS HAVING A POPULATION OF 10,000 AND OVER.	
			Total.		10,000 to 25,000.		25,000 to 100,000.		100,000 and over.			
			Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.
Population	1910	542,610	437,627	80.7	69,776	12.9	143,525	26.4	224,326	41.3	104,983	19.3
	1900	428,556	330,437	77.1	87,405	20.4	67,435	15.7	175,597	41.0	98,119	22.9
Number of establishments	1909	1,951	1,656	84.9	126	6.5	450	23.1	1,080	55.4	295	15.1
	1904	1,617	1,320	81.6	150	9.3	289	17.9	881	54.5	297	18.4
	1899	1,678	1,358	80.9	134	8.0	295	17.6	929	55.4	320	19.1
Average number of wage earners	1909	113,538	91,142	80.3	11,586	10.2	33,175	29.2	46,381	40.8	22,396	19.7
	1904	97,318	71,943	73.9	11,413	11.7	20,726	21.3	39,804	40.9	25,375	26.1
	1899	88,197	66,718	75.6	10,047	11.4	18,303	20.8	38,368	43.5	21,479	24.4
Value of products	1909	$280,343,797	$226,191,505	80.7	$28,068,350	10.0	$77,882,571	27.8	$120,240,584	42.9	$54,152,292	19.3
	1904	202,109,583	157,761,715	78.1	20,673,316	10.2	45,107,436	22.3	91,980,963	45.5	44,347,868	21.9
	1899	165,550,382	131,529,623	79.4	18,856,038	11.4	34,016,482	20.5	78,657,103	47.5	34,020,759	20.6
Value added by manufacture	1909	122,152,223	101,209,421	82.9	12,122,100	9.9	33,616,782	27.5	55,470,539	45.4	20,942,802	17.1
	1904	89,237,322	70,514,173	79.0	8,089,377	9.1	20,417,143	22.9	42,007,653	47.1	18,723,149	21.0
	1899	77,598,602	61,111,305	78.8	8,134,338	10.5	16,870,528	21.7	36,106,439	46.5	16,487,297	21.2

In 1909, 80.7 per cent of the total value of products was reported from cities and towns having over 10,000 inhabitants, and 80.3 per cent of the average number of wage earners were employed in such cities and towns. The figures indicate that while very little relative change took place during the last 5 or 10 years, yet on the whole the industries of the manufacturing cities and larger towns have gained very slightly on those of the districts outside during the last decade.

The group of cities and towns having between 10,000 and 25,000 inhabitants consisted in 1910 of Central Falls, Cranston, Cumberland, and East Providence, and those having between 25,000 and 100,000 inhabitants comprise Newport, Pawtucket, Warwick, and Woonsocket. Providence is the only city having more than 100,000 inhabitants.

The population in 1900 was used as the basis in making the classification for 1904 as well as 1899. The increase in the population of different cities has affected the grouping in the table. In 1900 Newport and Warwick were in the first group, but during the following decade the population of each increased so that both now fall in the second group. Prior to 1910 Cumberland had less than 10,000 inhabitants, and so was not included in that group.

The first group shows a proportional loss and the second group a gain in 1909, as compared with 1904, while the manufacturing industries of Providence show a slight decrease in relative importance, although a decided absolute gain was returned for all items. Of the total value of products reported for the state in 1909, 10 per cent was reported from the four cities and towns of the first group, 27.8 per cent from the four cities and towns of the second group, and 42.9 per cent from Providence alone.

The relative importance of each of the nine cities having a population of 10,000 or over in 1910 is shown in the following table, in which the value of products and average number of wage earners are shown separately for 1909, 1904, and 1899:

CITY OR TOWN.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Providence	46,381	39,804	38,368	$120,240,584	$91,980,963	$78,657,103
Pawtucket	15,275	12,054	10,712	37,696,186	25,846,899	19,271,582
Woonsocket	10,703	8,672	7,591	28,218,515	19,260,537	14,744,900
Warwick	6,471	6,153	5,465	10,588,943	7,051,971	6,019,989
Cumberland [1]	5,359	4,574	1,500	9,826,720	5,965,027	1,756,268
East Providence [1]	2,041	1,381	836	7,145,977	5,544,376	5,347,316
Cranston [1]	1,711	587	493	5,624,714	1,638,881	1,402,359
Central Falls	2,475	2,443	2,372	5,470,939	5,090,984	4,511,182
Newport	726	849	881	1,378,927	1,347,104	1,575,192

[1] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.

Every city shows an increase in value of products from 1904 to 1909, and all but Newport an increase from 1899 to 1904. The percentages of increase, however, were generally greater from 1904 to 1909. The greatest gain, 243.2 per cent, was made by Cranston, and was due in part to the establishment of such new industries as the manufacture of automobiles, of foundry and machine shops, and of street-railway repair shops. The next largest increase, 64.7 per cent, is shown for Cumberland, and was due mostly to the increased production of the cotton mills of that town. Manufacturing in Newport was practically at a standstill from 1904 to 1909, as there was scarcely any change in the value of products and a decrease in the average number of wage earners. The totals presented for Newport do not include the statistics for the naval torpedo station in that city, operated by the Federal Government. In 1909 this plant employed an average of 270 wage earners and turned out products valued at $471,712.

Providence, the largest and most important city in the state, shows an increase in 1909, as compared with 1904, of $28,259,621, or 30.7 per cent, in value of products, and 6,577, or 16.5 per cent, in the average number of wage earners. The relative importance of Providence as a manufacturing city is indicated by comparing it with the leading cities of the United States. This comparison shows that when ranked by value of products it was seventeenth both in 1899 and 1904 About one-fourth of the total value of the textile products of the state was reported from this city. Practically all of the establishments of the state engaged in manufactures from the precious metals were in Providence, 98.4 per cent of the value of products of these industries being credited to this city. All of the establishments engaged in "gold and silver refining, not from the ore," and in the production of silverware and plated ware were located here. Seventy and three-tenths per cent of the total value of the foundry and machine-shop products of the state was reported from Providence.

Pawtucket, Woonsocket, and Warwick still maintain their importance in the manufacture of textiles, these industries contributing 53.4, 70.5, and 77.8 per cent, respectively, of the total value of products of these places. In Woonsocket the woolen mills are the most important textile establishments, while in Pawtucket and Warwick cotton mills predominate.

Character of ownership.—The table that follows has for its purpose the presentation of conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the censuses of 1909 and 1904. Comparative data for 1899 are not available. Figures for 1909 only are presented for several important industries. In order to avoid disclosing the operations of individual concerns it is necessary to omit several important industries from this table and the one following.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	1,951	113,538	$280,343,797	$122,152,223
1904	1,617	97,318	202,109,583	89,237,322
Individual:				
1909	955	8,888	18,425,145	9,408,377
1904	754	8,858	18,576,416	9,124,529
Firm:				
1909	329	8,849	18,464,914	8,229,493
1904	347	11,653	25,198,561	9,455,620
Corporation:				
1909	659	95,794	243,426,998	104,490,185
1904	512	76,803	158,322,601	70,646,328
Other:				
1909	8	7	26,740	24,168
1904	4	4	12,005	10,845
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Individual:				
1909	48.9	7.8	6.6	7.7
1904	46.6	9.1	9.2	10.2
Firm:				
1909	16.9	7.8	6.6	6.7
1904	21.5	12.0	12.5	10.6
Corporation:				
1909	33.8	84.4	86.8	85.5
1904	31.7	78.9	78.3	79.2
Other:				
1909	0.4	(1)	(1)	(1)
1904	0.2	(1)	(1)	(1)
Bread and other bakery products, 1909	187	1,055	$3,936,864	$1,466,806
Individual	147	448	1,622,156	589,059
Firm	28	219	887,379	322,692
Corporation	12	388	1,427,329	554,555
Per cent of total	100.0	100.0	100.0	100.0
Individual	78.6	42.5	41.2	40.2
Firm	15.0	20.8	22.5	22.0
Corporation	6.4	36.8	36.3	37.8
Cotton goods, including cotton small wares, 1909	106	28,786	$50,312,597	$24,911,358
Individual	8	62	163,448	61,592
Firm	12	3,604	5,092,593	2,343,253
Corporation	86	25,120	45,056,556	22,506,513
Per cent of total	100.0	100.0	100.0	100.0
Individual	7.5	0.2	0.3	0.2
Firm	11.3	12.5	10.1	9.4
Corporation	81.1	87.3	89.6	90.3
Foundry and machine-shop products, 1909	141	10,937	$20,611,693	$12,598,192
Individual	57	550	1,332,787	745,750
Firm	14	149	333,406	195,866
Corporation	70	10,238	18,945,500	11,656,576
Per cent of total	100.0	100.0	100.0	100.0
Individual	40.4	5.0	6.5	5.9
Firm	9.9	1.4	1.6	1.6
Corporation	49.6	93.6	91.9	92.5
Jewelry, 1909	296	9,511	$20,685,100	$10,897,063
Individual	132	2,367	3,303,671	2,047,067
Firm	73	2,126	4,121,705	2,485,517
Corporation	91	5,018	13,259,724	6,364,479
Per cent of total	100.0	100.0	100.0	100.0
Individual	44.6	24.9	16.0	18.8
Firm	24.7	22.4	19.9	22.8
Corporation	30.7	52.8	64.1	58.4
Printing and publishing, 1909	147	1,454	$3,780,075	$2,716,400
Individual	86	305	629,556	472,949
Firm	25	127	259,822	194,093
Corporation	28	1,015	2,863,957	2,025,190
Other	8	7	26,740	24,168
Per cent of total	100.0	100.0	100.0	100.0
Individual	58.5	21.0	16.7	17.4
Firm	17.0	8.7	6.9	7.1
Corporation	19.0	69.8	75.8	74.6
Other	5.4	0.5	0.7	0.9
Woolen, worsted, and felt goods, and wool hats, 1909	88	24,924	$74,600,240	$23,574,864
Individual	10	456	806,531	345,100
Firm	6	573	1,009,431	387,133
Corporation	72	23,895	72,784,278	22,842,631
Per cent of total	100.0	100.0	100.0	100.0
Individual	11.4	1.8	1.1	1.5
Firm	6.8	2.3	1.4	1.6
Corporation	81.8	95.9	97.6	96.9

[1] Less than one-tenth of 1 per cent.

The most important distinction shown is that between corporate and all other forms of ownership. For all industries combined, 33.8 per cent of the total number of establishments were in 1909 under corporate ownership, as against 66.2 per cent under all other forms. The corresponding figures for 1904 were 31.7 per cent and 68.3 per cent, respectively. In respect to value of products the difference was even more pronounced, for in 1909 the establishments operated by corporations reported 86.8 per cent of the total value, as against 13.2 per cent for those under all other forms of ownership, while in 1904 the corresponding figures were 78.3 per cent and 21.7 per cent, respectively. The greatest relative decrease from 1904 to 1909 is shown for establishments operated by firms, which represented only 16.9 per cent of the total number of establishments in 1909, as compared with 21.5 per cent in 1904.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it the next table groups the establishments according to the value of their products. The table also shows the average size of establishments for all industries combined and for important industries separately as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries are shown for the last two censuses, while for certain important industries figures are given for 1909 only.

This table shows that, in 1909, of the 1,951 establishments only 69, or 3.5 per cent, had a value of products exceeding $1,000,000. These establishments, however, had an average number of wage earners of 49,126, or 43.3 per cent, of the total number in all establishments, and reported 48.3 per cent of the total value of products and 44.7 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having a value of products of less than $5,000—constituted a very considerable proportion (24.4 per cent) of the total number of establishments, but the value of their products amounted to only four-tenths of 1 per cent of the total. The great bulk of the manufacturing was carried on in establishments having a product valued at not less than $100,000.

It will be seen from the above table that during the five years from 1904 to 1909 there was a considerable increase in the relative importance of the largest establishments—those reporting products of not less than $1,000,000 in value—and a decrease in that of all other classes.

The fact that the average value of products per establishment increased from $124,990 to $143,692, and the value added by manufacture from $55,187 to $62,610, can scarcely be taken as in itself indicating a tendency toward concentration. The increased values shown may be, and probably are, due in part to the increase that has taken place in the prices of commodities. The average number of wage earners per establishment decreased by two.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	1,951	113,538	$280,343,797	$122,152,223
1904	1,617	97,318	202,109,583	89,237,322
Less than $5,000:				
1909	477	707	1,166,084	795,432
1904	308	449	807,109	552,428
$5,000 and less than $20,000:				
1909	579	3,244	5,891,800	3,510,241
1904	523	2,955	5,392,825	3,277,555
$20,000 and less than $100,000:				
1909	459	10,742	21,304,255	11,231,441
1904	428	9,595	18,617,859	10,035,332
$100,000 and less than $1,000,000:				
1909	367	49,719	116,696,453	52,043,520
1904	317	50,490	97,235,874	43,774,550
$1,000,000 and over:				
1909	69	49,126	135,285,205	54,571,589
1904	41	33,829	80,055,916	31,597,457
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Less than $5,000:				
1909	24.4	0.6	0.4	0.7
1904	19.0	0.5	0.4	0.6
$5,000 and less than $20,000:				
1909	29.7	2.9	2.1	2.9
1904	32.3	3.0	2.7	3.7
$20,000 and less than $100,000:				
1909	23.5	9.5	7.6	9.2
1904	26.5	9.9	9.2	11.2
$100,000 and less than $1,000,000:				
1909	18.8	43.8	41.6	42.6
1904	19.6	51.9	48.1	49.1
$1,000,000 and over:				
1909	3.5	43.3	48.3	44.7
1904	2.5	34.8	39.6	35.4
Average per establishment:				
1909	.....	58	$143,692	$62,610
1904	.....	60	124,990	55,187
Bread and other bakery products, 1909	187	1,055	$3,936,864	$1,466,306
Less than $5,000	47	36	151,596	68,147
$5,000 and less than $20,000	100	293	1,000,645	393,871
$20,000 and less than $100,000	33	395	1,478,007	521,732
$100,000 and less than $1,000,000	7	331	1,306,616	490,556
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	25.1	3.4	3.9	4.1
$5,000 and less than $20,000	53.5	27.8	25.4	26.9
$20,000 and less than $100,000	17.6	37.4	37.5	35.6
$100,000 and less than $1,000,000	3.7	31.4	33.2	33.5
Average per establishment	.....	6	$21,053	$7,841
Cotton goods, including cotton small wares, 1909	106	28,786	$50,312,597	$24,911,358
Less than $5,000	3	5	8,900	5,413
$5,000 and less than $20,000	4	52	52,851	31,387
$20,000 and less than $100,000	27	970	1,464,968	622,177
$100,000 and less than $1,000,000	58	15,294	25,640,252	12,531,368
$1,000,000 and over	14	12,465	23,145,626	11,721,013
Cotton goods, including cotton small wares, 1909—Con.				
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	2.8	(1)	(1)	(1)
$5,000 and less than $20,000	3.8	0.2	0.1	0.1
$20,000 and less than $100,000	25.5	3.4	2.9	2.5
$100,000 and less than $1,000,000	54.7	53.1	51.0	50.3
$1,000,000 and over	13.2	43.3	46.0	47.1
Average per establishment	.....	272	$474,647	$235,013
Foundry and machine-shop products, 1909	141	10,937	$20,611,693	$12,598,192
Less than $5,000	17	20	40,866	31,279
$5,000 and less than $20,000	47	261	478,459	323,116
$20,000 and less than $100,000	43	1,036	2,062,782	1,209,731
$100,000 and less than $1,000,000	30	4,808	9,417,048	5,579,126
$1,000,000 and over	4	4,812	8,612,538	5,454,940
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	12.1	0.2	0.2	0.2
$5,000 and less than $20,000	33.3	2.4	2.3	2.6
$20,000 and less than $100,000	30.5	9.5	10.0	9.6
$100,000 and less than $1,000,000	21.3	44.0	45.7	44.3
$1,000,000 and over	2.8	44.0	41.8	44.3
Average per establishment	.....	78	$146,182	$89,349
Jewelry, 1909	296	9,511	$20,685,100	$10,897,063
Less than $5,000	58	234	132,701	109,090
$5,000 and less than $20,000	66	602	681,340	430,447
$20,000 and less than $100,000	108	3,225	5,354,684	3,313,363
$100,000 and less than $1,000,000[2]	64	5,450	14,516,375	6,994,163
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	19.6	2.5	0.6	1.0
$5,000 and less than $20,000	22.3	6.3	3.3	4.4
$20,000 and less than $100,000	36.5	33.9	25.9	30.4
$100,000 and less than $1,000,000[2]	21.6	57.3	70.2	64.2
Average per establishment	.....	32	$69,882	$36,814
Printing and publishing, 1909	147	1,454	$3,780,075	$2,716,400
Less than $5,000	71	78	170,498	134,733
$5,000 and less than $20,000	45	218	403,562	303,444
$20,000 and less than $100,000	23	377	905,869	677,176
$100,000 and less than $1,000,000	8	781	2,299,146	1,601,047
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	48.3	5.4	4.5	5.0
$5,000 and less than $20,000	30.6	15.0	10.7	11.2
$20,000 and less than $100,000	15.6	25.9	24.0	24.9
$100,000 and less than $1,000,000	5.4	53.7	60.8	58.9
Average per establishment	.....	10	$25,715	$18,479
Woolen, worsted, and felt goods, and wool hats, 1909	88	24,924	$74,600,240	$23,574,864
Less than $5,000	4	8	13,090	9,292
$20,000 and less than $100,000[3]	12	375	521,973	238,787
$100,000 and less than $1,000,000	49	7,651	21,505,311	6,467,645
$1,000,000 and over	23	16,890	52,559,266	16,859,140
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	4.5	(1)	(1)	(1)
$20,000 and less than $100,000[3]	13.6	1.5	0.7	1.0
$100,000 and less than $1,000,000	55.7	30.7	28.8	27.4
$1,000,000 and over	26.1	67.8	70.5	71.5
Average per establishment	.....	283	$847,730	$267,896

[1] Less than one-tenth of 1 per cent. [2] Includes the group "$1,000,000 and over." [3] Includes the group "$5,000 and less than $20,000."

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed. The next table shows such a classification for all industries combined and for 13 important industries individually, and gives not only the number of establishments falling into each group but also the average number of wage earners employed.

The per cent distribution of the number of establishments is not shown in the table; of the 1,951 establishments reported for all industries, 8.1 per cent employed no wage earners; 38.1 per cent, 1 to 5; 23.2 per cent, 6 to 20; and 11.1 per cent, 21 to 50. The most numerous single group consists of the 744 establishments employing 1 to 5 wage earners, and the next, of the 452 establishments employing from 6 to 20 wage earners. There were 117 establishments that employed over 250 wage earners; 15 employed over 1,000, of which 5 were cotton mills and 4 woolen mills.

Of the total number of wage earners, 61.2 per cent were in establishments employing over 250 wage earners. The single group having the largest number of employees was the group comprising the establishments employing from 251 to 500 wage earners. This group employed 25,828 wage earners, or 22.7 per cent of the total. The individual industries listed in this table, but not in the preceding one, namely, electrical machinery, hosiery and knit goods, silk, and silverware and plated ware, are all industries in which comparatively large establishments do most of the business, as appears from the classification according to the number of wage earners.

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING— No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
	NUMBER OF ESTABLISHMENTS.									
All industries	**1,951**	**158**	**744**	**452**	**216**	**143**	**121**	**74**	**28**	**15**
Bread and other bakery products	187	27	112	40	6	1	1	.....	.....	.....
Cotton goods, including cotton small wares	106	.....	4	10	15	15	20	25	12	5
Electrical machinery, apparatus, and supplies	12	.....	4	1	2	.....	3	1	1	.....
Foundry and machine-shop products	141	6	38	41	21	17	7	8	2	1
Gold and silver, reducing and refining, not from the ore	15	.....	9	6	.....	.....	.....	.....	.....	.....
Hosiery and knit goods	17	.....	1	3	3	3	5	2	.....	.....
Jewelry	296	8	66	90	73	40	18	.....	1	.....
Liquors, malt	9	1	1	1	3	2	1	.....	.....	.....
Printing and publishing	147	29	75	32	5	2	4	.....	.....	.....
Silk and silk goods, including throwsters	13	.....	.....	4	1	4	.....	4	.....	.....
Silverware and plated ware	11	.....	1	1	5	1	2	.....	.....	1
Slaughtering and meat packing	21	2	11	6	.....	2	.....	.....	.....	.....
Woolen, worsted, felt goods, and wool hats	88	.....	4	5	8	16	28	16	7	4
All other industries	888	85	418	212	74	40	32	18	5	4
	AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**113,538**	.....	**1,922**	**5,124**	**7,211**	**10,141**	**19,538**	**25,828**	**18,883**	**24,891**
Bread and other bakery products	1,055	.....	275	409	209	56	106	.....	.....	.....
Cotton goods, including cotton small wares	28,786	.....	10	130	502	1,080	3,481	8,895	7,711	6,977
Electrical machinery, apparatus, and supplies	1,601	.....	10	6	53	.....	500	298	734	.....
Foundry and machine-shop products	10,937	.....	120	376	673	1,240	1,240	2,799	1,125	3,364
Gold and silver, reducing and refining, not from the ore	82	.....	29	53	.....	.....	.....	.....	.....	.....
Hosiery and knit goods	1,774	.....	1	32	96	191	875	579	.....	.....
Jewelry	9,511	.....	204	1,062	2,418	2,718	2,598	.....	511	.....
Liquors, malt	450	.....	1	12	118	143	176	.....	.....	.....
Printing and publishing	1,454	.....	180	381	211	138	544	.....	.....	.....
Silk and silk goods, including throwsters	1,685	.....	.....	46	45	284	.....	1,310	.....	.....
Silverware and plated ware	2,294	.....	2	13	174	68	313	.....	.....	1,724
Slaughtering and meat packing	214	.....	23	53	.....	138	.....	.....	.....	.....
Woolen, worsted, felt goods, and wool hats	24,924	.....	8	75	293	1,172	4,764	5,467	5,288	7,857
All other industries	28,771	.....	1,059	2,476	2,419	2,913	4,941	6,480	3,514	4,969
	PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**100.0**	.....	**1.7**	**4.5**	**6.4**	**8.9**	**17.2**	**22.7**	**16.6**	**21.9**
Bread and other bakery products	100.0	.....	26.1	38.8	19.8	5.3	10.0	.....	.....	.....
Cotton goods, including cotton small wares	100.0	.....	(1)	0.5	1.7	3.8	12.1	30.9	26.8	24.2
Electrical machinery, apparatus, and supplies	100.0	.....	0.6	0.4	3.3	.....	31.2	18.6	45.8	.....
Foundry and machine-shop products	100.0	.....	1.1	3.4	6.2	11.3	11.3	25.6	10.3	30.8
Gold and silver, reducing and refining, not from the ore	100.0	.....	35.4	64.6	.....	.....	.....	.....	.....	.....
Hosiery and knit goods	100.0	.....	0.1	1.8	5.4	10.8	49.3	32.6	.....	.....
Jewelry	100.0	.....	2.1	11.2	25.4	28.6	27.3	.....	5.4	.....
Liquors, malt	100.0	.....	0.2	2.7	26.2	31.8	39.1	.....	.....	.....
Printing and publishing	100.0	.....	12.4	26.2	14.5	9.5	37.4	.....	.....	.....
Silk and silk goods, including throwsters	100.0	.....	.....	2.7	2.7	16.9	.....	77.7	.....	.....
Silverware and plated ware	100.0	.....	0.1	0.6	7.6	3.0	13.6	.....	.....	75.2
Slaughtering and meat packing	100.0	.....	10.7	24.8	.....	64.5	.....	.....	.....	.....
Woolen, worsted, felt goods, and wool hats	100.0	.....	(1)	0.3	1.2	4.7	19.1	21.9	21.2	31.5
All other industries	100.0	.....	3.7	8.6	8.4	10.1	17.2	22.5	12.2	17.3

[1] Less than one-tenth of 1 per cent.

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses which make up the total.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED. Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	**4.4**	**22.8**	**65.3**	**7.5**
Bread and other bakery products	2.4	18.9	70.9	7.8
Cotton goods, including cotton small wares	3.3	29.1	62.6	5.1
Electrical machinery, apparatus, and supplies	3.1	11.7	79.4	5.8
Foundry and machine-shop products	6.5	37.6	43.6	12.3
Gold and silver, reducing and refining, not from the ore	1.6	1.3	95.8	1.2
Hosiery and knit goods	4.4	18.8	72.3	4.6
Jewelry	8.6	26.4	54.4	10.6
Liquors, malt	5.7	13.6	42.0	38.6
Printing and publishing	16.6	32.1	35.8	15.5
Silk and silk goods, including throwsters	1.9	18.7	75.7	3.7
Silverware and plated ware	4.6	28.5	47.9	18.9
Slaughtering and meat packing	1.8	4.1	93.0	1.2
Woolen, worsted, and felt goods, and wool hats	2.0	17.3	76.5	4.2
All other industries	5.8	22.8	62.4	9.0

The foregoing table shows, in percentages, the distribution of expenses among the classes indicated for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II.

This table shows that, for all industries combined, 65.3 per cent of the total expenses were incurred for materials, 27.2 per cent for services—that is, salaries and wages—and but 7.5 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries.

Engines and power.—The next table shows, for all industries combined, the number of engines or other motors, according to their character, employed in generating power (including electric motors operated by purchased current), and their total horsepower at the censuses of 1909, 1904, and 1899. It also shows separately the number and horsepower of electric motors, including those operated by current generated in the manufacturing establishments.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899[1]	1909	1904	1899[1]	1909	1904	1899
Primary power, total	3,674	1,463	1,545	226,740	182,608	153,619	100.0	100.0	100.0
Owned	1,500	1,463	1,545	210,049	172,829	146,928	92.6	94.6	95.6
Steam	1,104	1,095	1,170	175,293	141,591	115,735	77.3	77.5	75.3
Gas	100	63	43	3,300	1,247	427	1.5	0.7	0.3
Water wheels	290	293	332	31,376	29,181	28,171	13.8	16.0	18.3
Water motors	6	12	(2)	41	50	(2)	(3)	(3)	(2)
Other	.....	.....	.....	39	760	2,595	(3)	0.4	1.7
Rented	2,174	(2)	(2)	16,691	9,779	6,691	7.4	5.4	4.4
Electric	2,174	(2)	(2)	13,697	6,119	2,969	6.0	3.4	1.9
Other	.....	.....	.....	2,994	3,660	3,722	1.3	2.0	2.4
Electric motors	3,964	570	152	42,130	15,811	4,895	100.0	100.0	100.0
Run by current generated by establishment	1,790	570	152	28,433	9,692	1,926	67.5	61.3	39.3
Run by rented power	2,174	(2)	(2)	13,697	6,119	2,969	32.5	38.7	60.7

[1] Includes the neighborhood industries and hand trades, omitted in 1904 and 1909.
[2] Not reported.
[3] Less than one-tenth of 1 per cent.

The table indicates that the increase in primary power was in power generated by steam and gas engines and water wheels, that generated by water motors and the forms of owned power included under the head of "Other" showing a decrease. The more general use of gas engines is shown, the number of such engines reported being 100 in 1909, as against 63 in 1904 and 43 in 1899. The figures also show that the practice of renting power is on the increase, 7.4 per cent of the total power being rented in 1909, as against but 5.4 per cent in 1904 and 4.4 per cent in 1899. The use of electric motors for the purpose of applying the power generated within the establishments is also shown to be rapidly becoming more common, the horsepower of such motors increasing from 1,926 in 1899 to 9,692 in 1904 and 28,433 in 1909.

Fuel.—Closely related to the question of kind of power employed is that of the fuel used in generating this power, or otherwise as material in the manufacturing processes. The table following shows the quantity of each kind of fuel used in 1909 for all industries combined and for certain selected industries.

INDUSTRY.	Anthracite coal (tons).	Bituminous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gasoline (barrels).	Gas (1,000 feet).
All industries	186,164	627,514	31,326	6,821	171,092	115,679
Bread and other bakery products	3,745	1,753	4,633	1,160	5	4,035
Cotton goods, including cotton small wares	47,239	220,965	27	478	776	555
Electrical machinery, apparatus, and supplies	470	16,932	30	.....	5,228	807
Foundry and machine-shop products	17,110	33,883	10,179	563	2,202	9,698
Gas, illuminating and heating	16,900	55,600	13,161	.....	112,189	10,291
Gold and silver, reducing and refining, not from the ore	15	1,477	995	411	58	1,265
Hosiery and knit goods	59	6,666	.....	.....	.....	.....
Jewelry	711	3,452	175	35	20	43,539
Liquors, malt	1,341	28,618	.....	.....	.....	.....
Printing and publishing	406	2,526	288	34	30	5,829
Silk and silk goods, including throwsters	134	4,150	.....	.....	.....	.....
Silverware and plated ware	665	5,494	112	.....	5,614	14,299
Slaughtering and meat packing	160	1,440	50	138	1	25
Woolen, worsted, and felt goods, and wool hats	16,867	198,634	.....	1,108	127	.....
All other industries	80,342	345,868	1,676	2,894	44,842	25,336

NOTE.—In addition, there were 314 tons of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries and custom sawmills and gristmills.)

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and value of materials and products and the number and classes of machines used in manufactures which do not appear on the general schedule. Certain data of this character for five important industries in Rhode Island are here presented.

Textiles.—The progress of the textile industries is indicated by the increase in the number of spindles, looms, knitting machines, and other equipment. The following table shows the number of the principal machines used in the combined industries and for each of the four branches for 1909, 1904, and 1899:

MACHINE.	Census.	Total.	Cotton goods, including cotton small wares.	Woolen, worsted, and felt goods, and wool hats.	Hosiery and knit goods.	Silk and silk goods, including throwsters.
Producing spindles.	1909	2,836,038	2,363,689	459,127	1,280	11,942
	1904	2,489,016	2,085,802	379,374	4,354	19,476
	1899	2,350,020	1,920,522	419,844	6,244	3,410
Looms	1909	81,093	69,330	9,252	.....	2,511
	1904	63,830	54,021	8,103	.....	1,706
	1899	50,838	42,293	8,007	.....	533
Knitting machines.	1909	1,669	.....	.....	1,669	.....
	1904	1,170	.....	.....	1,170	.....
	1899	1,262	.....	.....	1,262	.....
Cards (sets)	1909	625	.....	621	4	.....
	1904	669	.....	659	10	.....
	1899	488	.....	478	10	.....
Combing machines.	1909	461	.....	461	.....	.....
	1904	294	.....	291	3	.....
	1899	290	.....	287	3	.....

The total number of producing spindles shows an increase from 1904 to 1909 of 347,022, or 13.9 per cent; the number of looms an increase of 17,263, or 27 per cent; the number of knitting machines an increase of 499, or 42.6 per cent; and the number of combing machines an increase of 167, or 56.8 per cent; while the number of sets of cards decreased 44, or 6.6 per cent. The gains for producing spindles and for looms were much greater than the gains shown for the five-year period 1899 to 1904, which were 5.9 per cent and 25.6 per cent, respectively. The cotton mills made the largest gain in absolute number of spindles, the increase being 277,887, or 13.3 per cent; this industry also reported by far the largest number of spindles, 2,363,689. About one-fifth as many spindles were used in the woolen and worsted mills, and the increase was 79,753, or 21 per cent. The knitting mills and the silk mills each used fewer spindles in 1909 than in 1904. The number of looms used in the cotton mills increased 15,309, or 28.3 per cent; in the woolen mills 1,149, or 14.2 per cent; and in the silk mills 805, or 47.2 per cent.

Woolen and worsted goods.[1]—This industry in the state, which consists exclusively of the manufacture of woolen and of worsted goods, dates from 1804, when the first woolen mill was started at Peacedale. It ranks first among the manufacturing industries of the state both in cost of materials and in value of products, and second in value added by manufacture.

The quantity and cost of the materials reported for this industry in 1909, 1904, and 1899, by kinds, are given in the following table:

MATERIAL.	1909	1904	1899
Total cost	$51,025,376	$35,936,232	$24,877,585
Wool:			
Foreign (in condition purchased)—			
Pounds	20,973,869	9,293,080	9,842,343
Cost	$7,300,286	$3,103,045	$2,894,387
Domestic (in condition purchased)—			
Pounds	58,108,445	56,776,005	41,014,744
Cost	$15,408,437	$13,804,403	$8,333,755
Cotton:			
Pounds	579,139	1,847,509	3,535,334
Cost	$96,882	$290,491	$360,241
Shoddy:			
Pounds	1,546,464	4,273,269	2,101,252
Cost	$259,829	$631,450	$369,287
Wool or other waste and noils:			
Pounds	2,578,085	3,160,612	2,005,717
Cost	$839,389	$880,816	$588,764
Tops, purchased:			
Pounds	10,406,834	4,150,072	2,374,537
Cost	$7,887,543	$2,455,639	$1,499,364
Yarns, purchased:			
Woolen—			
Pounds	273,926	1,233,801	1,174,278
Cost	$143,015	$715,529	$582,961
Worsted—			
Pounds	13,403,194	10,382,578	7,794,620
Cost	$11,987,111	$8,069,611	$5,726,002
Merino—			
Pounds	65,430	405,642	115,690
Cost	$32,437	$139,020	$53,576
Cotton—			
Pounds	5,479,701	5,596,723	4,174,190
Cost	$1,530,130	$1,391,592	$941,494
Silk—			
Pounds	27,191	80,339	18,688
Cost	$150,824	$342,337	$82,046
Spun-silk—			
Pounds	18,376	57,119	25,229
Cost	$71,649	$231,227	$88,336
Chemicals and dyestuffs	$1,536,824	$1,108,222	$1,019,068
Fuel and rent of power	$906,926	$740,476	$435,837
All other materials	$2,814,094	$2,032,374	$1,902,467

Both the quantity and the cost of the foreign wool used more than doubled from 1904 to 1909, while from 1899 to 1904 there was a decrease of 549,263 pounds in quantity, although there was an increase of $208,658 in cost. Of all wool consumed in 1909, 73.5 per cent was domestic, representing 67.9 per cent of the total cost of this material, while in 1904 the proportions were 85.9 per cent and 81.6 per cent, respectively. A decrease is shown in the quantity and cost of the cotton consumed. The most conspicuous gains shown for any materials not made in the mill were for tops and for worsted yarns. For tops increases of 6,256,762 pounds in quantity and $5,431,904 in cost were reported, and for worsted yarns increases of 3,020,616 pounds in quantity and $3,917,500 in cost. Shoddy, wool and other waste and noils, and woolen, merino, silk, and spun-silk yarns all show decreases in quantity and cost, but cotton yarn shows a decrease in quantity only.

The statement following compares the quantity and value reported for the different kinds of products at the last three censuses.

[1] The title of this industry in the tables, being uniform for all states, is "Woolen, worsted, and felt goods, and wool hats," but in Rhode Island only woolen and worsted goods are made.

PRODUCT.	1909	1904	1899
Total value	$74,600,240	$52,640,763	$38,671,879
All-wool woven goods, whether woolen or worsted:			
Wool cloth, etc.—			
Square yards	4,716,866	4,555,010	1,735,526
Value	$3,436,215	$2,654,026	$1,308,525
Worsted coatings, etc.—			
Square yards	30,517,606	18,793,540	16,629,693
Value	$24,280,705	$16,802,566	$12,584,943
Woolen overcoatings, etc.—			
Square yards	178,227	592,199	810,894
Value	$120,488	$504,400	$829,714
Worsted dress goods, cashmeres, buntings, etc.—			
Square yards	18,069,251	18,276,957	9,850,120
Value	$8,096,724	$7,198,495	$4,059,947
All other—			
Square yards	179,581	1,613,530	1,671,829
Value	$121,728	$1,057,971	$1,239,145
Union or cotton mixed woven goods:			
Unions, tweeds, etc.—			
Square yards	1,831,640	3,708,784	1,244,332
Value	$984,481	$2,138,727	$835,901
All other—			
Square yards	164,500	321,656	555,869
Value	$60,225	$142,590	$482,790
Goods woven on cotton warps, etc.:			
Worsted filling, cassimeres, jeans, etc.—			
Square yards	8,453,778	6,772,247	6,738,436
Value	$5,030,340	$3,955,123	$4,585,717
Worsted filling, dress goods, etc.—			
Square yards	7,187,938	2,995,144	8,835,833
Value	$2,275,346	$936,799	$1,620,473
All other—			
Square yards	5,140,513	2,292,029	2,095,579
Value	$2,303,847	$870,381	$599,191
Upholstery goods and sundries	$229,651	$519,409	$382,000
Partly manufactured goods for sale:			
Woolen yarn, all wool—			
Pounds	661,234	1,339,608	579,528
Value	$368,165	$844,691	$258,419
Woolen yarn, union or merino—			
Pounds	534,654	2,341,087	1,187,639
Value	$225,317	$1,150,011	$684,011
Worsted yarn and tops—			
Pounds	24,285,265	13,222,913	8,789,306
Value	$23,410,014	$10,551,023	$6,789,859
Noils—			
Pounds	5,199,661	3,319,117	2,099,777
Value	$1,819,094	$1,240,806	$651,720
Waste—			
Pounds	7,106,426	5,837,000	3,292,631
Value	$1,316,779	$831,452	$410,317
All other—			
Pounds	177,701	1,461,544	708,836
Value	$32,248	$820,589	$454,555
Amount received for contract work	$366,622	$138,822	$149,626
All other products	$122,251	$282,882	$745,026

The quantity of all kinds of wool woven goods reported, whether woolen or worsted, was 53,661,591 square yards in 1909, as compared with 43,831,236 in 1904 and 30,698,062 in 1899, a gain of 9,830,355 square yards in 1909 as compared with 1904, and of 13,133,174 square yards in 1904 as compared with 1899. In 1909, compared with 1904, decided increases were made in each of the three classes of goods woven on cotton warps, the most noteworthy being in those included under the head "All other," which more than doubled. Both classes of union or cotton mixed goods decreased in both quantity and value. Partly manufactured goods, such as yarns, noils, waste, etc., generally increased in quantity and value, although all-wool yarns and those included under the head "All other" both decreased. The output of worsted yarn and tops increased 11,062,352 pounds, and the value of the output $12,858,991.

Cotton goods, including cotton small wares.—The beginning of the cotton industry in the United States under the factory system took place in Rhode Island with the starting of the first mill at Pawtucket in 1790. This was a water frame cotton mill producing cotton warp, which was used by hand weavers in the production of sheetings, shirtings, checks, and ginghams. With the introduction in 1814 of power looms and dressing machines simultaneously in Providence, R. I., and in Waltham, Mass., a single establishment was enabled to perform all the processes of cotton manufacture. The industry in the state has shown a healthy growth.

The quantity and cost of the materials used, by kinds, in 1909, 1904, and 1899, are given below:

MATERIAL.	1909	1904	1899
Total cost	$25,401,239	$19,665,504	$11,697,461
Cotton:			
Domestic—			
Pounds	101,896,174	89,422,995	92,900,390
Cost	$13,138,735	$11,021,798	$6,794,160
Egyptian and other foreign—			
Pounds	10,860,853	6,125,640	6,575,088
Cost	$2,030,857	$1,023,838	$592,179
Yarn, purchased:			
Cotton—			
Pounds	13,263,003	13,033,803	7,031,251
Cost	$4,051,301	$3,303,127	$1,440,361
Silk and spun-silk—			
Pounds	516,323	(1)	(1)
Cost	$1,278,828	(1)	(1)
Other—			
Pounds	112,904	(1)	(1)
Cost	$115,502	$151,719	$104,195
Cotton waste, purchased:			
Pounds	29,195,998	45,168,838	5,963,702
Cost	$1,274,989	$1,824,505	$269,853
Starch:			
Pounds	3,584,542	2,778,192	2,487,648
Cost	$116,461	$85,137	$70,707
Chemicals and dyestuffs	$287,997	$149,309	$371,706
Fuel and rent of power	$1,045,147	$796,652	$568,946
All other materials	$2,061,422	$1,309,419	$1,485,354

[1] Not reported separately.

The cotton consumed in this industry in 1909 amounted to 112,757,027 pounds, which cost $15,169,592, representing an increase since 1904 of 17,208,392 pounds, or 18 per cent, in quantity, and of $3,123,956, or 25.9 per cent, in cost. In 1909 the quantity and cost of domestic cotton represented 90.4 per cent and 86.6 per cent of the respective totals for all cotton consumed, proportions somewhat smaller than the corresponding figures for 1904, which were 93.6 per cent and 91.5 per cent, respectively. There was a slight gain in the quantity of cotton yarn purchased, whereas its cost increased $748,174. The waste purchased from other mills decreased decidedly, 15,972,840 pounds in quantity and $549,516 in cost.

The statement following shows the products reported for the industry at the last three censuses.

Brown or bleached sheetings and shirtings showed the greatest value in 1909 as in 1904, and during the five-year period the quantity made increased 45,031,732 square yards and its value $4,627,446. The quantity of plain cloth for printing or converting manufactured increased by 18,310,655 square yards and its value by $3,662,178; while the quantity of fancy woven fabrics decreased by 1,700,730 square yards, although their value increased by $2,865,478. It is significant that the quantities of the different classes of products did not increase as much proportionally as their values, which is due principally to the general rise in prices and in part perhaps to the manufacture of a higher grade fabric in 1909 than in 1904.

PRODUCT.	1909	1904	1899
Total value	$50,312,597	$34,573,450	$26,435,675
Plain cloths, for printing or converting:			
Square yards	111,065,838	93,355,183	99,272,574
Value	$8,008,079	$4,345,901	$4,354,811
Brown or bleached sheetings and shirtings:			
Square yards	135,165,530	90,133,798	128,276,782
Value	$10,204,180	$5,576,734	$7,160,965
Twills and sateens:			
Square yards	53,871,689	56,095,899	43,308,277
Value	$4,139,572	$3,880,069	$2,504,620
Fancy woven fabrics:			
Square yards	49,309,098	51,009,828	21,554,243
Value	$7,108,434	$4,242,956	$1,997,352
Corduroy, cotton velvet, and plush:			
Square yards	3,106,639	3,422,206	1,965,422
Value	$1,135,767	$940,030	$779,900
Tapes and webbing:			
Pounds	3,791,553	.....	.....
Value	$2,214,178	$1,531,909	$978,249
Yarns, for sale:			
Pounds	19,752,920	16,462,391	14,482,710
Value	$6,066,271	$4,954,570	$2,845,261
Thread:			
Pounds	3,715,469	2,934,660	3,943,840
Value	$3,516,713	$2,717,267	$2,734,280
Cotton waste, not used for further manufacture:			
Pounds	42,158,042	49,352,389	19,159,895
Value	$1,984,192	$2,177,008	$393,079
All other products	$5,335,211	$4,207,006	$2,687,158

Silk and silk goods, including throwsters.—The third industry in importance among the textile industries of Rhode Island in respect to value of products is the manufacture of silk and silk goods. The first silk mill reported in the state was at the census of 1879. The recent development of this branch of the textile industries has been more rapid than in the case of any other of the textile group. In value of products it has displaced hosiery and knit goods in rank since 1904.

The following statement compares the kind, quantity, and value of the materials consumed in the industry as reported at the last three censuses:

MATERIAL.	1909	1904	1899
Total cost	$3,187,685	$1,695,950	$818,561
Silk:			
Raw—			
Pounds	483,330	262,112	102,691
Cost	$2,173,458	$1,179,447	$490,750
Spun—			
Pounds	73,816	52,145	51,516
Cost	$175,113	$139,909	$136,404
Yarns, not made in mill:			
Woolen or worsted—			
Pounds	59,811	7,800	2,667
Cost	$93,493	$5,040	$2,000
Cotton—			
Pounds	1,421,229	969,426	409,936
Cost	$404,141	$290,214	$122,800
Fuel and rent of power	$36,091	$20,341	$6,176
All other materials	$305,389	$59,999	$60,431

The relative increase in the use of raw silk from census to census is the most noteworthy feature of this table. There has been an increase of 221,218 pounds in the quantity of this class of material reported and of $994,011 in its cost since 1904. While there has been far more cotton than woolen or worsted yarn used, the increase in the use of the latter material has been proportionally greater than that in the use of the former.

A detailed statement of products can not be shown without disclosing the operations of individual establishments. The principal product, however, consisted of silk-mixed, piece-dyed broad silks. In 1909 no silk was thrown for other establishments under contract, while in 1904 a total of 88,000 pounds was thrown—68,000 pounds into organzine and 20,000 pounds into tram.

Hosiery and knit goods.—This industry has been carried on in the state at least since 1870, when three mills were in operation. Its real growth, however, began in 1889. While it is the least important of the textile group in respect to value of products, the gains have been substantial from year to year.

The following statement compares the quantity and cost of the different kinds of materials used in 1909, 1904, and 1899:

MATERIAL.	1909	1904	1899
Total cost	$2,444,457	[1] $2,271,099	$1,770,979
Yarns, not made in mill:			
Worsted—			
Pounds	597,037	622,209	531,778
Cost	$686,017	$606,595	$488,442
Merino—			
Pounds	314,048	120,331	8,999
Cost	$146,544	$56,779	$5,450
Cotton—			
Pounds	4,609,892	4,778,112	4,071,207
Cost	$1,220,424	$1,154,834	$809,552
Silk and spun-silk—			
Pounds	22,900	5,425	155
Cost	$34,955	$17,352	$432
Chemicals and dyestuffs	$32,160	$61,935	$14,794
Fuel and rent of power	$29,795	$42,082	$25,715
All other materials	$244,502	$331,522	$426,594

[1] Excluding the operations of one establishment engaged in the manufacture of hand-knit goods.

A conspicuous feature in the development of this industry is the marked decrease during the last decade in the quantity of raw cotton and wool consumed. In 1899, 735,548 pounds of wool and 125,733 pounds of cotton were used. In 1904 the quantity of wool had decreased to 559,124 pounds and the quantity of cotton to 47,000 pounds, while in 1909 only one establishment spun a portion of the yarn knitted. The material reported for 1909 consists mostly of yarn spun in other mills. Cotton yarn was the principal material used, the cost of which formed about one-half of the total cost of all materials at each of the three censuses. From 1904 to 1909 decreases are shown in the amounts of worsted and cotton yarns consumed, while increases are reported in the case of merino yarns and of silk and spun-silk yarns.

The kind, quantity, and value of products at the last three censuses were as follows:

PRODUCT.	1909	1904	1899
Total value	$3,865,792	[1] $3,344,655	$2,724,825
Hose:			
Dozens	[2] 428,551	338,754	216,855
Value	[2] $1,024,802	$763,963	$507,498
Half hose:			
Dozens	125,643	41,063	55,412
Value	$220,280	$80,000	$98,223
Shirts and drawers:			
Dozens	199,997	212,307	133,486
Value	$830,977	$656,540	$447,085
Combination suits:			
Dozens	111,199	1,950	6,800
Value	$554,201	$16,000	$28,440
Boot and shoe linings:			
Square yards	6,686,112	9,021,062	5,151,255
Value	$862,090	$826,362	$820,851
All other products	$373,442	$1,001,790	$816,728

[1] Excluding the operations of one establishment engaged in the manufacture of hand-knit goods.
[2] Includes silk hose and half hose.

From 1904 to 1909 there was a general increase in the value of each kind of product, with the exception of those included under the head "All other products." During the five-year period 1899–1904, on the other hand, small decreases were reported in the value of half hose, combination suits, and boot and shoe linings, although large increases were shown for all other classes of products. The quantities generally increased from 1899 to 1904, but from 1904 to 1909 there was a decrease of 12,310 dozens in the output of shirts and drawers and of 2,334,950 square yards in the output of boot and shoe linings. The greatest gains were those made in the output of combination suits, which more than counterbalance the loss in shirts and drawers. The decided decline in the value of "All other products" from $1,001,790 in 1904 to $373,442 in 1909, was due principally to the discontinuance of the manufacture of eiderdown.

Printing and publishing.—Though the printing and publishing industry as a whole in Rhode Island shows considerable growth during the last five years as measured by the financial statistics, the number of publications have decidedly decreased, while the aggregate circulation increased but slightly during the same period, as shown by the table following.

Without exception each of the different classes of publications shows a decrease in number in 1909 as compared with 1904, the greatest decline being in the weeklies. Only for the dailies and for the publications included under the head "All other classes" are gains shown in circulation. The wider circulation of the Boston newspapers and periodicals possibly may have had some effect upon the circulation of home papers. In 1909 three of the twelve daily papers, with an aggregate circulation of 30,608, were morning editions. All the publications were in the English language except one daily, which was in French; three weeklies, two of which were in Italian and one in German; and one semiweekly, which was in French.

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	47	60	42	254,493	247,613	170,594
Daily	12	13	12	147,045	131,056	118,844
Sunday	2	3	2	44,625	49,408	(1)
Semiweekly	3	4	[2] 4	5,810	6,719	6,854
Weekly	21	29	21	34,013	39,542	37,671
All other classes	9	11	3	23,000	20,888	7,225

[1] Included in circulation of dailies. [2] Includes one triweekly publication.

Laundries.—Statistics for steam laundries are not included in the general tables. There were 53 such establishments in the state of Rhode Island, 24 of which were in Providence, 8 in Warwick, 5 in Newport, 5 in Pawtucket, and 5 in Woonsocket.

The following statement summarizes the statistics:

Number of establishments	53
Persons engaged in the industry	1,211
Proprietors and firm members	70
Salaried employees	65
Wage earners (average number)	1,076
Primary horsepower	1,368
Capital	$612,524
Expenses	841,748
Services	523,045
Materials	158,443
Miscellaneous	160,260
Amount received for work done	1,019,404

The most common form of organization was the individual, with 28 establishments. The firm and corporate forms of ownership were represented by 20 and 5 establishments, respectively. Thirteen establishments had receipts for the year's business of less than $5,000; 27, $5,000 but less than $20,000; 11, $20,000 but less than $100,000; and 2, $100,000 but less than $1,000,000.

The number of wage earners employed each month and the per cent which this number represented of the greatest number employed in any month were as follows:

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January	1,041	94.2	July	1,105	100.0
February	1,040	94.1	August	1,101	99.6
March	1,041	94.2	September	1,104	100.0
April	1,047	94.8	October	1,091	98.7
May	1,070	96.8	November	1,095	99.1
June	1,083	98.0	December	1,095	99.1

The different kinds of primary power, the number of engines, and the horsepower used in 1909 are shown in the following tabular statement:

KIND.	Number of engines.	Horsepower.
Primary power, total		1,368
Owned	54	1,275
Steam	52	1,252
Gas	2	23
Rented		93
Electric	3	20
Other		73

The kind and amount of fuel used are shown in the following statement:

KIND.	Unit.	Quantity.
Anthracite coal	Tons	1,099
Bituminous coal	Tons	8,031
Coke	Tons	50
Wood	Cords	71
Oil	Barrels	25
Gas	1,000 feet	2,927

Custom sawmills and gristmills.—Statistics for custom sawmills and gristmills are not included in the general tables, but are presented in the next summary.

	Custom sawmills.	Custom gristmills.
Number of establishments	11	16
Persons engaged in the industry	26	16
Proprietors and firm members	12	16
Salaried employees	.....	.....
Wage earners (average number)	14	.....
Primary horsepower	410	403
Capital	$19,500	$27,865
Expenses	11,110	36,843
Materials	7,191	.....
Miscellaneous	807	[1] 35,866
Value of products	3,112	977
	15,290	[1] 45,666

[1] Includes estimate of all grain ground. A similar estimate for value of lumber sawed by custom sawmills is impracticable.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
STATE—All industries	1909	1,951	122,641	1,721	7,382	113,538	226,740	$290,901	$10,577	$55,234	$158,192	$280,344	$122,152
	1904	1,617	104,299	1,561	5,420	97,318	182,608	215,901	7,041	43,113	112,872	202,110	89,238
	1899	1,678	.....	.....	4,022	88,197	153,619	176,902	5,301	35,995	87,952	165,550	77,598
Brass and bronze products	1909	18	257	15	17	225	350	560	25	118	549	828	279
	1904	[1] 26	364	31	32	301	226	432	33	141	342	668	326
	1899	20	244	24	13	207	.....	229	13	72	211	431	220
Bread and other bakery products	1909	187	1,401	213	133	1,055	757	1,436	83	659	2,471	3,937	1,466
	1904	174	1,228	205	59	964	368	1,056	43	570	1,824	3,054	1,230
	1899	170	1,070	200	164	706	.....	640	85	352	1,236	2,156	920
Copper, tin, and sheet-iron products	1909	41	470	44	49	377	179	548	58	218	452	932	480
	1904	[2] 21	381	17	50	314	159	391	42	165	381	736	355
	1899	[1] 17	.....	.....	18	194	.....	236	15	98	152	360	208
Cotton goods, including cotton small wares	1909	106	29,488	46	656	28,786	95,278	67,679	1,330	11,797	25,401	50,313	24,912
	1904	99	25,425	56	611	24,758	75,607	47,477	1,021	8,890	19,666	34,573	14,907
	1899	87	24,440	28	380	24,032	67,309	40,151	734	8,033	11,697	26,436	14,739
Electrical machinery, apparatus, and supplies	1909	12	1,730	5	124	1,601	2,837	4,315	179	678	4,595	6,410	1,815
	1904	11	1,531	3	119	1,409	3,223	3,608	153	557	4,017	5,435	1,418
	1899	13	922	8	50	864	1,388	2,652	65	329	4,135	5,113	978
Enameling and japanning	1909	21	673	27	31	615	337	219	22	271	146	570	424
	1904	11	420	17	18	385	106	193	16	158	62	338	276
	1899	20	430	28	14	388	.....	108	13	117	63	265	202
Flour-mill and gristmill products	1909	18	68	18	11	39	1,046	387	11	22	790	886	96
	1904	22	83	23	15	45	1,310	389	7	24	1,059	1,134	75
	1899	21	.....	.....	19	72	.....	481	14	35	1,563	1,820	257
Foundry and machine-shop products	1909	141	11,905	87	881	10,937	11,033	27,101	1,203	6,900	8,014	20,612	12,598
	1904	143	9,498	105	776	8,617	6,717	23,883	1,077	4,676	5,014	14,194	9,180
	1899	165	.....	.....	523	8,940	.....	16,751	729	4,705	5,573	13,592	8,019
Gas, illuminating and heating	1909	8	487	.....	75	412	719	7,110	118	303	530	1,833	1,303
	1904	6	524	.....	62	462	652	5,793	80	303	502	1,580	1,078
	1899	6	475	.....	45	430	353	5,664	50	249	244	969	725
Gold and silver, reducing and refining, not from the ore.	1909	15	142	15	45	82	270	711	70	57	4,171	4,442	271
	1904	10	120	16	27	77	225	599	29	55	3,987	4,261	274
	1899	10	108	16	22	70	.....	506	24	44	3,138	3,484	346
Hosiery and knit goods	1909	17	1,849	9	66	1,774	1,626	2,878	147	635	2,444	3,866	1,422
	1904	[1] 15	1,802	9	72	1,721	1,565	2,277	100	574	2,271	3,345	1,074
	1899	18	1,675	13	66	1,596	1,231	2,454	88	470	1,771	2,725	954
Jewelry	1909	296	11,002	292	1,199	9,511	2,425	17,050	1,548	4,761	9,788	20,685	10,897
	1904	197	7,507	233	799	6,475	2,524	11,199	919	3,365	6,658	14,432	7,774
	1899	210	.....	.....	602	7,102	.....	8,788	583	3,146	6,177	13,229	7,052
Liquors, malt	1909	9	543	3	90	450	2,055	4,530	162	384	1,188	3,579	2,391
	1904	7	473	1	66	406	2,031	4,771	117	330	723	2,740	2,017
	1899	6	350	1	53	296	1,967	3,338	90	224	453	1,880	1,427
Lumber and timber products	1909	57	880	59	73	748	2,828	1,343	83	437	1,064	1,907	843
	1904	47	761	54	49	658	2,472	1,018	46	371	850	1,698	848
	1899	51	.....	.....	31	657	.....	979	29	280	616	1,247	631
Marble and stone work	1909	46	764	61	43	660	1,754	577	61	451	249	1,033	784
	1904	23	828	27	43	758	1,316	678	58	520	278	1,040	762
	1899	40	.....	.....	26	882	.....	753	24	473	254	1,079	825
Printing and publishing	1909	147	2,049	139	456	1,454	1,944	3,257	493	956	1,064	3,780	2,716
	1904	140	1,996	130	434	1,432	939	2,604	364	787	816	3,070	2,254
	1899	[2] 119	1,499	128	124	1,247	.....	1,759	130	663	552	2,048	1,496
Silk and silk goods, including throwsters	1909	13	1,750	6	59	1,685	2,318	3,496	80	788	3,188	4,584	1,396
	1904	8	1,326	4	31	1,291	1,645	2,652	41	480	1,696	2,556	860
	1899	6	466	3	8	455	250	680	12	167	819	1,311	492
Silverware and plated ware	1909	11	2,517	8	215	2,294	1,515	9,422	251	1,568	2,635	6,198	3,563
	1904	[1] 10	2,067	9	139	1,919	1,133	8,582	171	1,440	2,423	5,323	2,900
	1899	[1] 12	1,978	11	152	1,815	.....	5,499	171	1,100	1,881	4,249	2,368
Slaughtering and meat packing	1909	21	267	26	27	214	428	593	53	122	2,794	3,156	362
	1904	16	223	22	15	186	357	562	13	105	2,384	2,657	273
	1899	[1] 13	278	20	27	231	.....	779	26	123	2,294	2,596	302
Tobacco manufactures	1909	65	360	79	13	268	7	228	18	180	196	537	341
	1904	38	264	43	4	217	3	184	6	129	135	358	223
	1899	34	208	35	14	159	.....	121	12	66	92	293	201
Woolen, worsted, and felt goods, and wool hats	1909	88	25,673	26	723	24,924	43,715	68,867	1,322	11,538	51,025	74,600	23,575
	1904	82	22,090	44	436	21,610	35,981	45,600	654	9,102	35,936	52,641	16,705
	1899	[1] 77	18,069	62	401	17,606	28,420	41,018	737	6,641	24,878	38,672	13,794
All other industries	1909	614	28,366	543	2,396	25,427	53,319	68,594	3,260	12,391	35,438	65,656	30,218
	1904	511	25,388	512	1,563	23,313	44,049	51,953	2,051	10,371	21,848	46,277	24,429
	1899	563	.....	.....	1,270	20,248	.....	43,316	1,657	8,608	20,153	41,595	21,442

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
PAWTUCKET—All industries	**1909**	**217**	**16,261**	**166**	**820**	**15,275**	**29,510**	**$40,094**	**$1,405**	**$7,255**	**$21,540**	**$37,696**	**$16,156**
	1904	**186**	**12,950**	**159**	**737**	**12,054**	.....	**27,178**	**1,040**	**5,100**	**14,112**	**25,847**	**11,735**
	1899	**191**	.....	.....	**495**	**10,712**	.....	**20,451**	**715**	**4,381**	**9,977**	**19,272**	**9,295**
Bread and other bakery products	1909	16	122	17	10	95	64	145	6	53	252	365	113
	1904	11	111	19	6	86	.....	90	4	48	185	276	91
	1899	19	152	24	21	107	.....	70	14	50	146	264	118
Cotton goods, including cotton small wares	1909	23	7,265	4	216	7,045	16,524	16,906	429	3,039	7,567	14,338	6,771
	1904	20	5,764	3	235	5,526	.....	10,422	304	2,143	5,627	10,099	4,472
	1899	15	4,572	5	110	4,457	.....	5,500	214	1,601	2,699	5,635	2,936
Foundry and machine-shop products	1909	20	1,346	7	96	1,243	1,191	2,770	153	757	841	2,250	1,409
	1904	[1] 22	1,089	15	68	1,006	.....	2,334	99	545	719	1,882	1,163
	1899	23	1,081	23	45	1,013	.....	1,627	67	561	855	1,833	978
Hosiery and knit goods	1909	5	444	4	15	425	242	710	30	141	710	980	270
	1904	3	228	.....	11	217	.....	367	15	65	429	559	130
	1899	3	.....	.....	9	235	.....	270	8	57	334	450	116
Jewelry	1909	7	293	6	23	264	75	201	39	84	199	385	186
	1904	4	96	4	9	83	.....	88	12	26	32	115	83
	1899	6	205	12	11	182	.....	313	10	79	338	598	260
Lumber and timber products	1909	8	289	9	22	258	567	515	24	161	469	723	254
	1904	3	123	2	14	107	.....	254	15	64	166	303	137
	1899	4	.....	.....	15	101	.....	330	18	51	159	348	189
Printing and publishing	1909	12	164	13	28	123	186	322	35	89	104	388	284
	1904	[2] 13	232	16	48	168	.....	397	46	92	120	414	294
	1899	14	.....	.....	26	169	.....	329	19	80	116	316	200
Tobacco manufactures	1909	14	116	21	1	94	.....	81	1	55	61	156	95
	1904	12	106	13	1	92	.....	91	1	52	46	131	85
	1899	12	54	12	4	38	.....	35	3	21	23	68	45
All other industries	1909	112	6,222	85	409	5,728	10,661	18,444	688	2,876	11,337	18,111	6,774
	1904	98	5,201	87	345	4,769	.....	13,135	484	2,065	6,788	12,068	5,280
	1899	95	.....	.....	254	4,410	.....	11,977	362	1,831	5,307	9,760	4,453
PROVIDENCE—All industries	**1909**	**1,080**	**51,667**	**1,017**	**4,269**	**46,381**	**56,410**	**$118,512**	**$5,650**	**$24,449**	**$64,770**	**$120,241**	**$55,471**
	1904	**881**	**43,748**	**893**	**3,051**	**39,804**	.....	**95,666**	**3,819**	**19,555**	**49,973**	**91,981**	**42,008**
	1899	**929**	.....	.....	**2,493**	**38,368**	.....	**79,686**	**3,053**	**16,931**	**42,551**	**78,657**	**36,106**
Brass and bronze products	1909	11	140	12	7	121	98	272	13	70	345	477	132
	1904	[1] 21	339	26	32	281	.....	402	33	130	320	618	298
	1899	15	212	18	12	182	.....	193	12	59	177	371	194
Bread and other bakery products	1909	87	779	103	78	598	564	884	46	392	1,473	2,381	908
	1904	83	652	100	38	514	.....	569	30	312	1,054	1,757	703
	1899	78	554	93	107	354	.....	292	59	175	718	1,182	464
Copper, tin, and sheet-iron products	1909	27	390	28	43	319	166	455	50	176	395	784	389
	1904	[2] 15	312	11	44	257	.....	346	36	128	347	634	287
	1899	11	.....	.....	18	154	.....	174	15	78	120	289	169
Cotton goods, including cotton small wares	1909	13	2,010	6	63	1,941	5,156	3,502	111	774	1,392	2,850	1,458
	1904	17	2,143	10	55	2,078	.....	3,307	97	688	1,539	2,993	1,454
	1899	12	2,403	2	46	2,355	.....	3,126	74	766	1,232	2,653	1,421
Electrical machinery, apparatus, and supplies	1909	6	436	3	55	378	504	966	60	186	373	879	506
	1904	6	308	1	35	272	.....	454	37	111	258	560	302
	1899	9	146	8	11	127	.....	235	11	54	99	216	117
Foundry and machine-shop products	1909	85	8,404	53	643	7,708	7,208	20,150	879	4,966	5,235	14,485	9,250
	1904	80	6,179	55	576	5,548	.....	18,930	818	3,177	3,418	9,584	6,166
	1899	97	.....	.....	423	6,419	.....	12,983	586	3,433	3,965	9,757	5,792
Gold and silver, reducing and refining, not from the ore.	1909	15	142	15	45	82	270	711	70	57	4,171	4,442	271
	1904	10	120	16	27	77	.....	599	29	55	3,987	4,261	274
	1899	10	108	16	22	70	.....	506	24	44	3,138	3,484	346
Jewelry	1909	282	10,621	280	1,165	9,176	2,340	16,755	1,492	4,651	9,534	20,166	10,632
	1904	193	7,410	229	790	6,391	.....	11,111	906	3,339	6,626	14,317	7,691
	1899	203	.....	.....	591	6,917	.....	8,473	573	3,065	5,838	12,628	6,790
Liquors, malt	1909	4	240	.....	47	193	858	2,414	83	168	657	1,867	1,210
	1904	4	196	.....	29	167	.....	2,837	60	133	366	1,427	1,061
	1899	3	142	.....	31	111	.....	1,768	50	81	220	1,008	788
Lumber and timber products	1909	17	404	12	44	348	1,081	605	53	203	430	840	410
	1904	16	360	21	32	307	.....	537	28	182	536	896	360
	1899	15	302	23	8	271	.....	255	7	129	265	489	224
Printing and publishing	1909	90	1,532	81	347	1,104	1,920	2,304	395	735	828	2,860	2,032
	1904	84	1,381	70	312	999	.....	1,683	247	548	600	2,178	1,578
	1899	[1] 70	971	77	73	821	.....	1,046	90	452	370	1,371	1,001

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY AND CITY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
PROVIDENCE—Continued.													
Silverware and plated ware	1909	11	2,517	8	215	2,294	1,515	$9,422	$251	$1,568	$2,635	$6,198	$3,563
	1904	[1] 10	2,067	9	139	1,919	.....	8,582	171	1,440	2,423	5,323	2,900
	1899	[1] 12	1,978	11	152	1,815	.....	5,499	171	1,100	1,881	4,249	2,368
Tobacco manufactures	1909	38	172	42	8	122	6	115	14	91	98	280	182
	1904	16	90	17	2	71	.....	57	4	46	60	145	85
	1899	15	109	14	9	86	.....	58	8	24	51	168	117
Woolen, worsted, and felt goods, and wool hats	1909	20	10,853	2	237	10,614	17,936	27,942	449	4,878	20,439	29,926	9,487
	1904	15	10,281	2	112	10,167	.....	19,969	203	4,219	16,307	23,102	6,795
	1899	15	8,845	5	158	8,682	.....	21,506	363	3,141	12,295	18,376	6,081
All other industries	1909	374	13,027	372	1,272	11,383	16,728	32,015	1,675	5,534	16,765	31,806	15,041
	1904	311	11,910	326	828	10,756	.....	26,283	1,120	5,047	12,132	24,186	12,054
	1899	364	.....	.....	832	10,004	.....	23,572	1,010	4,330	12,182	22,416	10,234
CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.													
Central Falls	1909	43	2,612	26	111	2,475	4,992	$4,975	$145	$1,021	$3,381	$5,471	$2,090
	1904	33	2,558	30	85	2,443	.....	4,950	123	965	3,330	5,091	1,761
	1899	36	.....	.....	76	2,372	.....	3,970	104	883	2,726	4,511	1,785
Cranston	1909	28	1,921	16	194	1,711	3,707	5,030	232	1,003	2,887	5,625	2,738
	[2] 1904	13	656	8	61	587	.....	1,902	86	332	596	1,639	1,043
	1899	13	.....	.....	45	493	.....	1,817	69	249	613	1,402	789
Cumberland	1909	29	5,498	19	120	5,359	15,112	16,351	280	2,231	4,618	9,827	5,209
	[2] 1904	19	4,717	17	126	4,574	.....	11,359	214	1,778	3,107	5,965	2,858
	1899	10	.....	.....	20	1,500	.....	4,373	40	540	592	1,756	1,164
East Providence	1909	26	2,237	14	182	2,041	7,123	6,479	262	932	5,061	7,146	2,085
	[2] 1904	21	1,492	15	96	1,381	.....	3,643	117	574	4,254	5,544	1,290
	1899	15	.....	.....	42	836	.....	2,191	49	332	4,288	5,347	1,059
Newport	1909	54	890	54	110	726	869	968	82	480	570	1,379	809
	1904	46	975	46	80	849	.....	1,286	66	489	556	1,347	791
	1899	43	.....	.....	50	881	.....	1,407	48	443	654	1,575	921
Warwick	1909	49	6,694	55	168	6,471	22,041	13,368	322	2,803	5,394	10,589	5,195
	1904	37	6,316	44	119	6,153	.....	8,253	187	2,144	3,848	7,052	3,204
	1899	27	.....	.....	67	5,465	.....	8,318	116	1,826	2,441	6,020	3,579
Woonsocket	1909	130	11,341	96	542	10,703	23,571	27,700	768	4,908	16,762	28,219	11,457
	1904	103	9,112	83	357	8,672	.....	15,402	456	3,550	10,579	19,261	8,682
	1899	104	.....	.....	162	7,591	.....	13,954	256	2,854	7,169	14,745	7,576

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.

TABLE II.—DETAIL STATEMENT FOR

	INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners. Average number.	Wage earners. Number. Maximum month.	Wage earners. Number. Minimum month.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
1	**All industries**	**1,951**	**122,641**	**1,721**	**2,388**	**3,337**	**1,657**	**113,538**	**De 119,191**	**Ja 108,773**	(1)	(1)	(1)	(1)	(1)	**226,740**
2	Artificial stone	5	23	5	3	.....	.....	15	Je 22	Ja 10	20	20	.....	.....	.....	45
3	Belting and hose, leather	4	52	3	5	8	.....	36	Se 39	Ja 32	36	36	.....	.....	.....	297
4	Blacking and cleansing and polishing preparations.	5	21	4	3	4	.....	10	My [2] 13	Ja [2] 7	8	6	2	.....	.....	5
5	Boots and shoes, including cut stock and findings.	6	81	6	2	6	2	65	De 79	Ja 53	79	47	32	.....	.....	106
6	Boxes, fancy and paper	9	542	10	19	7	10	496	De 565	Je 444	565	135	402	2	26	125
7	Brass and bronze products	18	257	15	10	2	5	225	De 248	Jy [2] 216	247	243	4	.....	.....	350
8	Bread and other bakery products	187	1,401	213	27	33	73	1,055	De 1,097	Fe 1,025	1,104	1,012	84	7	1	757
9	Brooms	4	16	4	.....	.....	.....	12	No [2] 16	Au [2] 10	16	16	.....	.....	.....	13
10	Brushes	9	156	7	3	2	1	143	De 154	My 135	154	53	98	1	2	64
11	Carpets, rag	3	28	3	1	.....	1	23	Jy 28	De 17	17	14	3	.....	.....	31
12	Carriages and wagons and materials	40	296	39	10	2	7	238	Mh 262	Ja 214	220	217	1	2	.....	387
13	Clothing, men's, including shirts	4	146	5	4	7	8	122	Oc 129	Au 110	127	26	101	.....	.....	21
14	Confectionery	20	193	21	11	17	13	131	De [2] 143	My 122	143	80	49	2	12	166
15	Copper, tin, and sheet-iron products	41	470	44	26	18	5	377	Oc 433	Ap 337	429	381	44	1	3	179
16	Cordage and twine and jute and linen goods.	6	156	8	5	3	1	139	Mh [2] 165	Au 103	160	90	64	.....	6	477
17	Cotton goods, including cotton small wares.	106	29,488	46	279	262	115	28,786	De 29,192	Au 28,342	29,786	15,091	12,894	900	901	95,278
18	Cutlery and tools, not elsewhere specified.	17	178	23	6	1	4	144	De 170	Jy 130	170	164	2	4	.....	96
19	Electrical machinery, apparatus, and supplies.	12	1,730	5	34	45	45	1,601	De 1,796	Jy 1,497	1,796	1,055	702	7	32	2,837
20	Electroplating	19	196	22	7	6	5	156	No 168	Je [2] 148	167	142	19	5	1	155
21	Enameling and japanning	21	673	27	7	8	16	615	Oc 714	Fe 503	680	443	221	13	3	337
22	Fancy articles, not elsewhere specified	13	148	17	6	6	5	114	De 142	Ja 99	144	103	33	2	6	40
23	Flour-mill and gristmill products	18	68	18	4	6	1	39	No [2] 44	Mh 35	42	42	.....	.....	.....	1,046
24	Foundry and machine-shop products	141	11,905	87	324	376	181	10,937	De 12,678	Ja 9,301	12,906	12,561	206	122	17	11,033
25	Furnishing goods, men's	9	723	4	10	15	10	684	Mh 767	Jy 604	664	249	384	13	18	617
26	Furniture and refrigerators	10	205	11	3	4	6	181	Je 222	Fe 163	185	167	12	6	.....	89
27	Gas and electric fixtures and lamps and reflectors.	5	84	7	3	2	3	69	De 73	Ja 64	73	39	32	.....	2	70
28	Gas, illuminating and heating	8	487	.....	21	43	11	412	Au 445	Fe 369	403	387	16	.....	.....	719
29	Gold and silver, reducing and refining, not from the ore.	15	142	15	22	16	7	82	Ja 90	Ap [2] 78	80	80	.....	.....	.....	270
30	Hand stamps and stencils and brands	5	24	9	.....	.....	1	14	Ja [2] 15	Au [2] 14	14	12	.....	2	.....	1
31	Hats and caps, other than felt, straw, and wool.	5	46	11	1	4	2	28	De 31	Fe [2] 24	31	23	8	.....	.....	4
32	Hosiery and knit goods	17	1,849	9	28	18	20	1,774	De 1,825	Au 1,711	1,880	374	1,374	9	123	1,626
33	Ice, manufactured	5	23	2	3	.....	1	17	Jy 35	Ja [3] 0	25	25	.....	.....	.....	349
34	Jewelry	296	11,002	292	337	487	375	9,511	De 11,238	Ap 8,439	11,314	6,428	4,593	154	139	2,425
35	Lapidary work	3	31	5	.....	3	5	18	No [2] 30	Ap 10	30	29	1	.....	.....	7
36	Leather goods	9	178	9	9	7	6	147	No 155	My 139	152	131	19	2	.....	108
37	Liquors, malt	9	543	3	25	62	3	450	Se 487	Fe 425	460	460	.....	.....	.....	2,055
38	Lumber and timber products	57	880	59	31	30	12	748	Ap 834	Ja 673	806	803	2	1	.....	2,828
39	Marble and stone work	46	764	61	18	21	4	660	Jy [2] 732	De 533	576	576	.....	.....	.....	1,754
40	Mattresses and spring beds	6	74	6	1	8	4	55	Je [2] 67	Ja 39	47	33	14	.....	.....	26
41	Millinery and lace goods	8	280	5	5	.....	5	265	Oc 290	Ja 228	284	17	252	1	14	36
42	Models and patterns, not including paper patterns.	9	67	10	.....	.....	1	56	Se 64	Ap 46	60	60	.....	.....	.....	39
43	Paint and varnish	5	65	6	7	9	6	37	No 43	Mh [2] 33	39	37	.....	2	.....	209
44	Paper goods, not elsewhere specified	10	347	6	18	4	17	302	De 319	Ja 286	319	218	71	17	13	984
45	Patent medicines and compounds and druggists' preparations.	19	135	14	14	16	35	56	No 66	Jy [2] 52	63	37	22	3	1	28
46	Photo-engraving	4	47	4	1	4	4	34	De 37	Ap [2] 30	37	37	.....	.....	.....	15
47	Printing and publishing	147	2,049	139	91	271	94	1,454	De 1,570	Ja 1,411	1,570	1,112	421	36	1	1,944
48	Rubber goods, not elsewhere specified	5	835	1	15	22	23	774	No 819	Au 745	805	391	367	21	26	1,075
49	Shipbuilding, including boat building	13	596	12	7	40	2	535	My 677	Se 407	551	541	10	.....	.....	1,030
50	Silk and silk goods, including throwsters.	13	1,750	6	31	10	18	1,685	No 1,908	Ja 1,452	1,893	825	1,007	13	48	2,318
51	Silverware and plated ware	11	2,517	8	28	141	46	2,294	Oc 2,473	Ja 2,078	2,393	2,130	221	25	17	1,515
52	Slaughtering and meat packing	21	267	26	7	14	6	214	De 230	Jy [2] 204	230	227	.....	3	.....	428
53	Surgical appliances and artificial limbs	3	31	1	5	.....	2	23	De [2] 23	Je [2] 22	23	16	7	.....	.....	52
54	Tobacco manufactures	65	360	79	7	5	1	268	Se [2] 283	Ap 229	291	218	72	.....	1	7
55	Woolen, worsted, and felt goods, and wool hats.	88	25,673	26	330	311	82	24,924	Se 25,604	Ja 24,072	24,739	12,879	10,317	726	817	43,715
56	All other industries [4]	317	22,343	243	514	951	347	20,288	.....	.....	.....	.....	.....	.....	.....	46,549

[1] No figures given for reasons explained in the Introduction.
[2] Same number reported for one or more other months.
[3] None reported for one or more other months.
[4] All other industries embrace—

Artists' materials	1	Cash registers and calculating machines	1	Fireworks	1
Automobiles, including bodies and parts	2	Chemicals	3	Flags, banners, regalia, society badges, and emblems	3
Awnings, tents, and sails	5	Clocks and watches, including cases and materials	1	Flavoring extracts	9
Bags, other than paper	1	Clothing, women's	4	Food preparations	5
Baking powders and yeast	1	Coffee and spice, roasting and grinding	3	Fur goods	1
Baskets, and rattan and willow ware	1	Coffins, burial cases, and undertakers' goods	1	Glass, cutting, staining, and ornamenting	3
Boots and shoes, rubber	3	Cooperage and wooden goods, not elsewhere specified	2	Gold and silver, leaf and foil	1
Brick and tile	2	Cordials and sirups	1	Grease and tallow	5
Butter	1	Cork, cutting	1	Haircloth	3
Buttons	1	Dyeing and finishing textiles	45	Hair work	1
Canning and preserving	2	Dyestuffs and extracts	10	Hat and cap materials	1
Card cutting and designing	2	Emery and other abrasive wheels	1	Hats, fur-felt	2
Cars and general shop construction and repairs by steam-railroad companies	1	Engraving and diesinking	38	House-furnishing goods, not elsewhere specified	3
Cars and general shop construction and repairs by street-railroad companies	4	Fertilizers	2	Instruments, professional and scientific	1
		Files	3	Iron and steel, steel works and rolling mills	2

THE STATE, BY INDUSTRIES: 1909.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	$290,901,270	$242,263,739	$6,145,336	$4,431,510	$55,234,068	$5,108,776	$153,082,798	$983,148	$1,891,434	$1,200,749	$14,185,920	$280,343,797	$122,152,223
2	40,701	19,939	1,375	.....	7,803	356	7,734	251	253	.....	2,167	28,296	20,206
3	282,600	200,642	9,100	4,600	25,294	2,586	147,954	120	1,191	.....	9,797	242,848	92,308
4	29,145	53,036	3,380	3,640	5,222	331	28,638	1,079	30	.....	10,716	61,072	32,103
5	121,274	103,621	4,080	3,996	27,682	1,947	55,022	4,330	902	.....	5,662	142,080	85,111
6	326,967	407,294	26,750	13,938	157,687	5,718	163,404	7,235	1,901	.....	30,661	499,419	330,297
7	560,238	731,872	20,342	4,571	117,967	14,469	534,506	2,243	1,971	375	35,428	827,598	278,623
8	1,435,924	3,484,014	36,442	46,476	659,443	72,610	2,397,948	47,931	7,484	.....	215,680	3,936,864	1,466,306
9	11,400	37,863	.....	.....	6,990	170	30,219	291	33	.....	160	43,009	12,620
10	123,940	168,005	4,200	2,072	68,157	3,518	83,254	1,834	444	1,108	3,418	202,634	115,862
11	9,272	16,261	900	520	9,378	863	2,357	950	.....	.....	1,293	22,511	19,291
12	408,410	347,504	10,546	4,386	151,721	7,672	155,495	4,222	2,416	475	10,571	421,913	258,746
13	204,412	442,233	13,375	21,743	29,364	1,262	320,725	1,146	374	29,568	24,676	475,375	153,388
14	201,436	381,384	14,883	20,932	53,868	6,694	251,215	14,027	865	.....	18,900	447,527	189,618
15	548,063	809,125	42,207	16,061	218,263	6,243	445,473	14,522	2,003	3,351	61,002	932,271	480,555
16	190,197	245,578	6,750	1,356	48,444	6,117	170,084	4,150	868	.....	7,809	256,857	80,656
17	67,678,645	40,585,017	991,129	330,263	11,796,733	1,045,147	24,356,092	22,491	350,511	187,046	1,496,605	50,312,597	24,911,358
18	148,639	169,473	9,588	3,756	82,364	4,960	49,078	5,470	486	1,332	12,439	217,193	163,155
19	4,314,783	5,787,657	89,621	89,727	677,593	64,651	4,530,685	13,113	17,710	.....	304,557	6,410,920	1,814,684
20	212,031	268,426	12,422	5,165	80,850	5,095	152,455	6,514	802	.....	5,123	323,168	165,618
21	218,656	493,371	6,804	14,774	270,663	14,453	132,008	6,586	683	678	46,722	569,848	423,387
22	95,158	194,037	10,620	6,018	52,613	1,777	109,334	4,179	230	600	8,666	222,921	111,810
23	387,191	831,807	5,700	5,600	22,367	7,956	782,253	2,030	1,153	.....	4,748	886,432	96,223
24	27,101,221	18,370,569	732,192	471,033	6,899,667	400,941	7,612,560	75,844	122,237	275,744	1,780,351	20,611,693	12,598,192
25	1,084,217	1,386,873	25,778	22,589	310,931	16,398	878,968	3,782	4,950	4,000	119,477	1,548,638	653,272
26	236,572	231,307	4,870	5,751	121,179	3,911	78,989	5,190	1,258	400	9,759	262,371	179,471
27	93,089	87,367	8,540	2,552	27,267	2,054	36,290	2,660	433	100	7,471	130,733	92,389
28	7,109,560	1,159,644	64,216	53,370	302,664	456,477	74,021	.....	89,010	.....	119,886	1,833,176	1,302,678
29	711,224	4,352,123	42,605	27,649	57,425	17,118	4,154,242	9,540	3,043	.....	40,501	4,441,784	270,424
30	16,445	17,938	.....	416	10,418	195	4,110	2,165	45	.....	589	26,848	22,543
31	25,885	52,771	1,560	3,253	14,958	361	28,289	1,216	121	.....	3,013	66,550	37,900
32	2,878,478	3,381,983	85,910	61,338	635,119	29,795	2,414,662	4,936	10,369	7,693	132,161	3,865,792	1,421,335
33	140,916	42,489	2,746	390	10,301	9,015	9,773	4,000	379	.....	5,885	57,446	38,658
34	17,050,490	18,004,578	764,163	783,581	4,760,780	161,637	9,626,400	204,165	51,029	149,654	1,503,169	20,685,100	10,897,063
35	192,800	29,112	.....	3,500	11,178	1,230	8,922	1,105	28	.....	3,149	43,134	32,982
36	311,955	367,304	13,416	9,736	81,680	4,264	228,208	5,084	889	2,500	21,527	405,861	173,389
37	4,529,942	2,824,977	95,473	66,664	383,942	104,074	1,083,636	48	624,396	.....	466,744	3,579,366	2,391,656
38	1,342,924	1,710,672	51,570	31,525	437,065	13,042	1,050,762	19,915	7,401	22,503	76,889	1,907,072	843,268
39	576,844	805,451	30,348	31,030	450,826	23,477	225,906	7,158	3,164	1,522	32,020	1,033,431	784,048
40	41,359	160,719	1,716	7,684	25,082	1,041	110,510	7,080	147	.....	7,459	168,888	57,337
41	163,286	294,307	5,222	2,170	62,776	1,856	196,172	2,384	363	13,412	9,952	332,937	134,909
42	23,849	51,572	.....	208	35,233	1,583	9,114	2,986	82	.....	2,366	69,744	59,047
43	234,273	355,950	15,320	17,926	23,003	3,495	283,628	860	1,355	.....	10,363	471,361	184,238
44	900,233	1,222,436	94,430	13,536	139,571	23,799	878,123	2,076	4,986	.....	65,915	1,352,572	450,650
45	168,602	257,402	21,494	28,090	28,461	1,818	107,092	6,087	679	.....	63,681	306,040	197,130
46	21,554	51,866	1,170	4,117	27,322	873	8,918	1,888	38	3,179	4,361	56,281	46,490
47	3,257,320	2,974,579	214,555	278,704	955,965	41,715	1,021,960	76,308	22,763	60,309	302,300	3,780,075	2,716,400
48	1,906,318	2,656,054	49,420	37,076	319,728	27,582	2,046,993	19,072	6,999	.....	149,184	3,142,529	1,067,954
49	877,443	755,166	21,953	36,426	369,309	16,220	288,108	4,865	2,104	800	15,381	817,281	512,953
50	3,495,555	4,210,400	57,010	23,013	788,229	36,091	3,151,594	5,793	13,188	38,524	96,958	4,584,431	1,396,746
51	9,422,115	5,495,799	100,169	151,160	1,568,095	60,284	2,574,944	16,027	13,017	17,620	994,483	6,198,300	3,563,072
52	593,467	3,005,325	38,072	14,733	121,726	11,637	2,782,719	6,266	2,328	.....	27,844	3,156,308	361,952
53	49,038	49,584	8,900	1,560	10,024	1,745	13,715	2,800	.....	.....	10,840	53,250	37,790
54	228,146	477,225	13,764	3,798	179,818	1,568	194,015	7,252	51,898	.....	25,112	536,534	340,951
55	68,866,620	66,663,375	879,448	443,019	11,537,699	906,926	50,118,450	197,913	187,959	364,260	2,027,701	74,600,240	23,574,864
56	59,700,448	44,978,663	1,379,092	1,185,319	9,956,161	1,451,959	26,875,072	111,969	272,466	13,996	3,732,629	52,735,578	24,408,547

[4] All other industries embrace—Continued.

Iron and steel, bolts, nuts, washers, and rivets, not made in steel works and rolling mills	5
Iron and steel forgings	3
Jewelry and instrument cases	1
Labels and tags	1
Lead, bar, pipe, and sheet	2
Leather, tanned, curried, and finished	3
Lime	1
Liquors, distilled	2
Looking-glass and picture frames	3
Mineral and soda waters	37
Mucilage and paste	1
Musical instruments, pianos and organs and materials	1
Oil, cottonseed, and cake	1
Oil, not elsewhere specified	3
Oleomargarine	4
Optical goods	2
Paper and wood pulp	1
Pens, fountain, stylographic, and gold	1
Pulp goods	1
Screws, wood	2
Sewing machines, cases, and attachments	1
Shoddy	3
Soap	9
Sporting and athletic goods	3
Steam packing	1
Stoves and furnaces, including gas and oil stoves	2
Toys and games	2
Upholstering goods	1
Vault lights and ventilators	1
Vinegar and cider	3
Washing machines and clothes wringers	1
Waste	2
Window shades and fixtures	3
Wire	1
Wirework, including wire rope and cable	7
Wood, turned and carved	16
Wool scouring	2

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SOUTH CAROLINA.

INDUSTRIES IN GENERAL.

General character of the state.—South Carolina, with a gross area of 30,989 square miles, of which 494 represent water surface, ranks thirty-ninth in size among the states and territories of continental United States. Its population in 1910 was 1,515,400, as compared with 1,340,316 in 1900 and 1,151,149 in 1890. The density of population for the entire state was 49.7 per square mile in 1910, the corresponding figure for 1900 being 44. It ranked twenty-sixth among the 49 states and territories as regards population in 1910 and twenty-fourth in 1900. In 1909 as well as in 1899 it ranked thirty-second among the states in respect to gross value of manufactured products. Charleston, with a population of 58,833, is the only city in the state having a population of over 50,000. There are, however, three other cities each of which has a population of over 10,000. These four cities—Charleston, Columbia, Greenville, and Spartanburg—contain 7.8 per cent of the total population and are credited with 16.1 per cent of the total value of manufactured products of the state.

The transportation facilities of South Carolina are excellent. Of the 3,397 [1] miles of steam-railroad trackage in the state in 1909, the greater portion is owned by the several companies which operate the important trunk lines of the South. There are also many less important roads which serve as feeders to these main lines. Charleston, one of the important seaports on the southern Atlantic coast, together with two other ports in the state, afford ample opportunities for domestic and foreign commerce. Furthermore, the principal rivers of the state, which are navigable to a considerable extent, afford additional means of transportation.

Importance and growth of manufactures.—Although South Carolina is preeminently an agricultural community, at each census from 1869 to 1909 the manufactures of the state have represented an increased proportion of the total value of products of the manufacturing industries in the United States. This proportion in 1869 was two-tenths of 1 per cent, while in 1899 and in 1909 it was one-half of 1 per cent.

In 1849 the total value of the manufactures of the state, including the products of the neighborhood and hand industries, amounted to only $7,045,477, while in 1909, exclusive of the value of the products of the neighborhood and hand industries, it reached $113,235,945, representing an increase of fifteen fold. During the same period the population of the state increased 126.7 per cent, and the gross value of products per capita of the total population of the state increased from $11 to $75.

The following table gives the most important figures relative to all classes of manufactures combined for 1909, 1904, and 1899, together with the percentages of increase from census to census:

	Number or amount.			Per cent of increase.	
	1909	1904	1899	1904–1909	1899–1904
Number of establishments	1,854	1,399	1,369	32.5	2.2
Persons engaged in manufactures	78,040	63,071	(1)	23.7	.....
Proprietors and firm members	1,737	1,241	(1)	40.0	.....
Salaried employees	3,257	2,389	1,419	36.3	68.4
Wage earners (average number)	73,046	59,441	47,025	22.9	26.4
Primary horsepower	276,378	197,479	112,697	40.0	75.2
Capital	$173,221,000	$113,422,000	$62,750,000	52.7	80.8
Expenses	97,371,000	72,206,000	44,055,000	34.9	63.9
Services	24,117,000	16,224,000	10,438,000	48.6	55.4
Salaries	3,756,000	2,355,000	1,308,000	59.5	80.0
Wages	20,361,000	13,869,000	9,130,000	46.8	51.9
Materials	66,351,000	49,969,000	30,486,000	32.8	63.9
Miscellaneous	6,903,000	6,013,000	3,131,000	14.8	92.0
Value of products	113,236,000	79,376,000	53,336,000	42.7	48.8
Value added by manufacture (value of products less cost of materials)	46,885,000	29,407,000	22,850,000	59.4	28.7

[1] Figures not available.

In 1909 the state of South Carolina had 1,854 manufacturing establishments which gave employment to an average of 78,040 persons during the year and paid out $24,117,000 in salaries and wages. Of the persons employed, 73,046 were wage earners. These establishments turned out products to the value of $113,236,000, to produce which materials costing

[1] Report of Interstate Commerce Commission, 1909.

$66,351,000 were used. The value added by manufacture was thus $46,885,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

The totals presented in the preceding table do not include the statistics for an establishment operated by the Federal Government—the United States navy yard located just beyond the corporate limits of Charleston. In 1909 this plant employed an average of 571 wage earners, and the expense of repair work at the yard during that year was reported at $876,098.

In general, this table brings out the fact that the manufacturing industries of South Carolina not only increased considerably during each period, but that as a whole there was a greater development during the five-year period 1899–1904 than during the more recent five-year period, 1904–1909. During the period 1904–1909 the number of establishments increased 32.5 per cent; the average number of wage earners, 22.9 per cent; the cost of materials, 32.8 per cent; the value of products, 42.7 per cent; and the value added by manufacture, 59.4 per cent. The differences in the increases shown for the two five-year periods in the cost of materials and in the value added by manufacture are noteworthy. As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume to the full extent indicated by these figures regarding values, since the increase shown is certainly due, in part, to the increase that has taken place in the prices of commodities.

The relative importance and growth of the leading manufacturing industries of the state are shown in the following table:

INDUSTRY.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE.[1]			
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Value of products.		Value added by manufacture.	
								1904–1909	1899–1904	1904–1909	1899–1904
All industries	**1,854**	**73,046**	**100.0**	**$113,236,000**	**100.0**	**$46,885,000**	**100.0**	**42.7**	**48.8**	**59.4**	**28.7**
Cotton goods, including cotton small wares	147	45,454	62.2	65,930,000	58.2	24,627,000	52.5	33.4	66.3	62.8	21.4
Lumber and timber products	851	14,604	20.0	13,141,000	11.6	9,160,000	19.5	58.7	38.9	58.7	63.6
Oil, cottonseed, and cake	103	1,765	2.4	10,903,000	9.6	2,183,000	4.7	99.6	76.1	139.9	23.0
Fertilizers	26	1,851	2.5	9,025,000	8.0	3,396,000	7.2	148.1	−25.5	259.0	−46.7
Printing and publishing	161	834	1.1	1,601,000	1.4	1,261,000	2.7	54.2	31.6	53.0	37.1
Cars and general shop construction and repairs by steam-railroad companies	10	1,418	2.0	1,499,000	1.3	753,000	1.6	38.7	56.4	16.2	63.2
Bread and other bakery products	63	369	0.5	1,100,000	1.0	376,000	0.8	78.0	17.7	51.6	22.8
Brick and tile	45	888	1.2	731,000	0.6	463,000	1.0	11.4	14.5	−3.3	8.6
Hosiery and knit goods	7	839	1.1	655,000	0.6	321,000	0.7	−39.3	175.3	−34.9	220.1
Foundry and machine-shop products	34	417	0.6	547,000	0.5	369,000	0.8	0.9	34.5	−0.5	57.2
Carriages and wagons and materials	23	272	0.4	464,000	0.4	220,000	0.5	−15.3	32.4	−14.7	24.0
Ice, manufactured	32	218	0.3	433,000	0.4	304,000	0.6	77.5	110.3	79.9	113.9
Marble and stone work	36	236	0.3	426,000	0.4	282,000	0.6	.....	.....	.....	.....
Turpentine and rosin	56	443	0.6	406,000	0.4	242,000	0.5	−29.3	−27.2	21.0	−36.9
Flour-mill and gristmill products	10	23	(2)	351,000	0.3	43,000	0.1	−51.6	−16.6	−53.3	−31.9
Gas, illuminating and heating	12	127	0.2	334,000	0.3	220,000	0.5	73.1	12.2	64.2	.....
Canning and preserving	15	467	0.6	318,000	0.3	159,000	0.3	.....	.....	.....	.....
Copper, tin, and sheet-iron products	8	79	0.1	200,000	0.2	94,000	0.2	400.0	−65.5	248.1	−47.1
Clothing, men's, including shirts	5	99	0.1	139,000	0.1	45,000	0.1	.....	.....	.....	.....
Coffins, burial cases, and undertakers' goods	4	77	0.1	127,000	0.1	65,000	0.1	0.8	96.9	−26.1	183.9
Mattresses and spring beds	4	46	0.1	107,000	0.1	43,000	0.1	10.3	−15.7	19.4	−36.8
All other industries	202	2,520	3.5	4,799,000	4.2	2,259,000	4.8	.....	.....	.....	.....

[1] Percentages are based on figures in Table I; a minus sign (−) denotes decrease. Where the percentages are omitted, comparable figures can not be given.
[2] Less than one-tenth of 1 per cent.

It should be borne in mind, in considering this table, that the value of products in some of the industries involves a certain amount of duplication, due to the use of the products of one establishment in the industry as material for another establishment.

In addition to the industries presented separately, there are four important industries, each of which had a value of products in 1909 in excess of $400,000. They are included under the head of "All other industries" in the table, because in some cases the operations of individual establishments would be disclosed if they were shown separately; in others because the returns do not present properly the true condition of the industry, for the reason that it is more or less interwoven with one or more other industries. These industries are: The manufacture of cordage and twine and jute and linen goods, the mineral and soda water industry, the cleaning and polishing of rice, and the manufactures from tobacco.

Four industries, two of which use cotton as a principal material, predominate greatly in importance. The most important industries listed in the table given above, in which they are arranged in the order of the value of products, call for brief consideration.

Cotton goods, including cotton small wares.—This industry consists entirely of mills engaged primarily in the manufacture of cotton goods, no establishment being reported where the output of cotton small

wares predominates. It is by far the most important industry in the state. In 1909 it gave employment to an average of 45,454 wage earners, and the value of its products amounted to $65,930,000, these figures representing 62.2 per cent and 58.2 per cent, respectively, of the corresponding totals for all manufacturing industries in the state. Measured by value of products, South Carolina is third in order of importance among the states in the production of cotton goods. That the percentage of increase in value added by manufacture was much less from 1899 to 1904 than from 1904 to 1909 was due in part to the fluctuation in the price of raw cotton.

Lumber and timber products.—This industry includes, in addition to the timber plants, the chief products of which are logs and bolts, the sawmills, shingle mills, and planing mills, producing rough lumber, lath, shingles, cooperage stock, sash, doors, blinds, interior finish, and other millwork, and also the wooden packing-box factories. The number of establishments included in this industry largely exceeds the number engaged in any other industry in the state.

Oil, cottonseed, and cake.—The statistics include those for all establishments engaged primarily in extracting oil from cotton seed or in refining crude cottonseed oil. The industry is entirely dependent upon the production of cotton, and utilizes the seed, which until recently was practically treated as waste. Since 1899 the number of establishments has increased rapidly, and the varied uses for cottonseed products have greatly stimulated the industry.

Fertilizers.—South Carolina was the first state in the Union to mine and to utilize phosphate rock as the basis of commercial fertilizer. For many years following 1867, when the rock was first mined, this state produced the larger part of the world's supply. The rapid growth of the cottonseed-oil industry in the state has caused a marked development of this industry, for cottonseed meal is one of the best ammoniates, and is an important ingredient in the manufacture of fertilizers. The value of products for the industry was $4,882,506 in 1899 compared with $3,637,576 in 1904 and $9,024,900 in 1909, a decrease from 1899 to 1904 of $1,244,930, or 25.5 per cent, but an increase of $5,387,324, or 148.1 per cent, from 1904 to 1909. Measured by value of products, the fertilizer industry was third in importance in 1899 among the industries of the state, whereas in 1904 and 1909 it held fourth place. In 1899 South Carolina was the second state in the Union in this class of manufacture. It dropped to sixth place in 1904, but by 1909 it had nearly regained its former position by becoming third in importance.

Printing and publishing.—Establishments engaged in the printing and publishing of newspapers and periodicals, book and job printing, and lithographing are included in this classification, which reported a total of 161 establishments in 1909, gave employment to an average of 834 wage earners in that year, and turned out products valued at $1,601,000.

Cars and general shop construction and repairs by steam-railroad companies.—This class of manufacture represents the work done in the car shops of steam-railroad companies, and is confined practically to repairs to the rolling stock and equipment. The statistics do not include minor repairs made in roundhouses. The industry was fifth in the state in 1909 in the employment of wage earners, with an average of 1,418 for the year.

With the exception of the fertilizer and cottonseed-oil industries, which exchanged places, these six industries held the same relative positions when measured by value added by manufacture as when measured by value of products.

Turpentine and rosin.—While this industry does not rank among the most important, it is one of the oldest and is identified closely with the industrial development of the state. There was a decrease in the value of products both between 1899 and 1904, and between 1904 and 1909. The value added by manufacture also decreased between 1899 and 1904. but increased in the succeeding period.

This table shows also the percentages of increase for these leading industries in respect to value of products and value added by manufacture. With the exception of the manufacture of copper, tin, and sheet-iron products, the fertilizer industry showed a greater rate of increase from 1904 to 1909 than any other of the industries shown separately, both in the value added by manufacture and in value of products, namely, 259 per cent and 148.1 per cent, respectively. In the cottonseed-oil, ice, lumber, gas, and bakery industries the gross value of products and the value added by manufacture increased greatly during the same period. Five of the industries listed, namely, hosiery and knit goods, carriage and wagon, turpentine and rosin, flour-mill and gristmill, and canning and preserving, decreased in value of products from 1904 to 1909, while the fertilizer, the turpentine and rosin, the flour-mill and gristmill, the copper, tin, and sheet-iron products, and the mattress and spring-bed industries decreased from 1899 to 1904. Seven industries decreased in value added by manufacture from 1904 to 1909, while five decreased from 1899 to 1904, but with the exception of fertilizers none of these decreases are for industries of great importance in the state. The percentages of increase are not given for marble and stone work and for men's clothing, because the statistics for these two industries for previous censuses are not comparable.

Persons engaged in manufacturing industries.—The following table shows, for 1909, the distribution of the number of persons engaged in manufactures, the average number of wage earners being distributed by sex and age. It should be borne in mind, however, that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes	**78,040**	**60,944**	**17,096**
Proprietors and officials	3,333	3,287	46
Proprietors and firm members	1,737	1,697	40
Salaried officers of corporations	606	603	3
Superintendents and managers	990	987	3
Clerks	1,661	1,393	268
Wage earners (average number)	73,046	56,264	16,782
16 years of age and over	63,641	50,848	12,793
Under 16 years of age	9,405	5,416	3,989

The average number of persons engaged in manufactures during 1909 was 78,040, of whom 73,046 were wage earners. Of the remainder, 3,333 were proprietors and officials, and 1,661 were clerks. Corresponding figures for individual industries will be found in Table II.

The following table shows, for 1909, the percentage of proprietors and officials, clerks, and wage earners, respectively, among the total number of persons employed in manufactures. It covers all industries combined and 11 important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries	**78,040**	**4.3**	**2.1**	**93.6**
Bread and other bakery products	521	16.5	12.7	70.8
Brick and tile	990	9.0	1.3	89.7
Cars and general shop construction and repairs by steam-railroad companies	1,483	0.5	3.8	95.6
Cotton goods, including cotton small wares	46,342	1.0	1.0	98.1
Fertilizers	2,057	3.4	6.7	90.0
Foundry and machine-shop products	477	9.2	3.4	87.4
Hosiery and knit goods	894	1.7	1.2	97.1
Lumber and timber products	16,330	8.8	1.8	89.4
Oil, cottonseed, and cake	2,190	12.1	7.3	80.6
Printing and publishing	1,294	19.4	16.2	64.5
Turpentine and rosin	524	14.9	0.6	84.5
All other industries	4,968	10.9	5.3	83.8

Of the total number of persons engaged in all manufacturing industries, 4.3 per cent were proprietors and officials, 2.1 per cent clerks, and 93.6 per cent wage earners. In the printing and publishing and the bakery industries the majority of the establishments are small and the work is done to a large extent by the proprietors or their immediate representatives, so that the proportion of persons engaged in these industries falling in the class of proprietors and officials is very much higher than for most other industries or for all industries combined. Similar conditions prevail to some extent in the manufacture of turpentine and rosin, where the proprietors and officials form 14.9 per cent of the total number of persons engaged. The proportion is also large in the manufacture of cottonseed products, 12.1 per cent, which is due to the fact that the industry in the state is conducted in relatively small establishments measured by number of wage earners employed. The smallest proportion for this class is found in the steam-railroad repair shops, and is due to the fact that corporations which operate these establishments report no proprietors, and that general officials are not as a rule assigned to the supervision of this particular branch of the work.

In the cotton-goods industry the proportion of proprietors and officials is exceedingly small on account of the large average number of wage earners to an individual establishment.

The following table shows, in percentages, for 1909, for all industries combined the distribution of the average number of wage earners, by age periods and for those 16 years of age and over by sex, calculated in the manner described in the Introduction. It also shows, for some of the important industries separately, a similar distribution of wage earners as reported for December 15, or the nearest representative day. As a means of judging the importance of the several industries the total average number employed for the year is also given in each case.

INDUSTRY.	WAGE EARNERS.			
	Average number.[1]	Per cent of total.		
		16 years of age and over.		Under 16 years of age.
		Male.	Female.	
All industries	**73,046**	**69.6**	**17.5**	**12.9**
Bread and other bakery products	369	79.4	12.2	8.4
Brick and tile	888	94.1	.....	5.9
Cars and general shop construction and repairs by steam-railroad companies	1,418	99.9	0.1	0.1
Cotton goods, including cotton small wares	45,454	56.6	24.7	18.7
Fertilizers	1,851	100.0	.....	.....
Foundry and machine-shop products	417	97.4	2.6	.....
Hosiery and knit goods	839	35.6	45.6	18.7
Lumber and timber products	14,604	98.5	0.1	1.5
Oil, cottonseed, and cake	1,765	99.8	0.1	0.1
Printing and publishing	834	78.5	15.0	6.5
Turpentine and rosin	443	94.8	3.4	1.8
All other industries	4,164	67.6	23.1	9.3

[1] For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see Introduction.

For all industries combined, 69.6 per cent of the average number of wage earners were males 16 years of age and over; 17.5 per cent, females 16 years of age and over; and 12.9 per cent, persons under the age of 16. The larger part of the total number of female wage earners is made up of those employed in

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INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries	**73,046**	**1,431**	**1,291**	**1,778**	**1,391**	**61,647**	**3,211**	**2,038**	**259**
Bread and other bakery products	369	6	4	12	1	236	19	88	3
Brick and tile	888	68	12	.....	46	594	147	21	.....
Canning and preserving	467	52	10	24	.....	375	.....	6	.....
Carriages and wagons and materials	272	.....	10	.....	.....	261	1	.....	.....
Cars and general shop construction and repairs by steam-railroad companies	1,418	.....	.....	1,252	.....	107	59	.....	.....
Clothing, men's, including shirts	99	.....	.....	5	94	.....	.....	.....	.....
Coffins, burial cases, and undertakers' goods	77	.....	.....	.....	.....	77	.....	.....	.....
Copper, tin, and sheet-iron products	79	.....	.....	48	.....	31	.....	.....	.....
Cotton goods, including cotton small wares	45,454	.....	445	.....	.....	45,009	.....	.....	.....
Fertilizers	1,851	.....	.....	4	.....	1,798	6	43	.....
Foundry and machine-shop products	417	.....	.....	190	22	201	4	.....	.....
Gas, illuminating and heating	127	1	.....	.....	.....	.....	14	.....	112
Hosiery and knit goods	839	.....	.....	.....	.....	839	.....	.....	.....
Ice, manufactured	218	.....	.....	.....	.....	28	16	55	119
Lumber and timber products	14,604	567	623	72	742	9,677	2,586	337	.....
Marble and stone work	236	70	31	7	26	102	.....	.....	.....
Oil, cottonseed, and cake	1,765	.....	.....	.....	2	116	286	1,351	10
Printing and publishing	834	336	122	126	34	196	7	13	.....
Turpentine and rosin	443	174	23	.....	.....	246	.....	.....	.....
All other industries	2,589	157	11	38	424	1,754	66	124	15

It is evident from these figures that for the great majority of wage earners employed in the manufacturing industries of South Carolina the prevailing hours of labor are 60 a week, only 8.1 per cent of the total being employed in establishments where less than 60 hours a week prevail, and 7.5 per cent in establishments working more than these hours.

In the manufacture of cotton goods 99 per cent and in the lumber industry 66.3 per cent of the wage earners work 60 hours a week. These two industries combined gave employment to 82.2 per cent of the total average number of wage earners engaged in all manufacturing industries in the state in 1909.

The cottonseed-oil industry is mainly on a 72-hour-per-week basis. Relatively long hours are what might be expected in a seasonal industry where the operations for the entire year are confined principally to a few months. Steam-railroad repair shops are mainly on a 54-hour-per-week basis.

Location of establishments.—The next table shows the extent to which the manufactures of South Carolina are centralized in cities of 10,000 population or over. (See Introduction.) The population in 1900 was used as the basis in making the classification for 1904, as well as for 1899, and the classification for 1909 was made on the basis of the population in 1910.

In 1909 only 16.1 per cent of the total value of products was reported from the four cities having over 10,000 inhabitants, and only 11.4 per cent of the average number of wage earners were employed in such cities. This is due primarily to the fact that the establishments of the two leading and most highly developed industries of the state, the cotton-goods and lumber industries, are located largely outside the corporate limits of the cities, although the former industry is the most important in each of the cities, except Charleston. The figures indicate that while very little relative change took place during the 5 or 10 years, yet on the whole the manufacturing industries of the districts outside of the cities gained on those of the cities.

ITEM.	Year.	Total.	LOCATION OF ESTABLISHMENTS.		PER CENT OF TOTAL.	
			In cities with population of 10,000 and over.	Outside districts.	In cities with population of 10,000 and over.	Outside districts.
Population	1910	1,515,400	118,410	1,396,990	7.8	92.2
	1900	1,340,316	100,170	1,240,146	7.5	92.5
Number of establishments.	1909	1,854	248	1,606	13.4	86.6
	1904	1,399	220	1,179	15.7	84.3
	1899	1,369	195	1,174	14.2	85.8
Average number of wage earners.	1909	73,046	8,351	64,695	11.4	88.6
	1904	59,441	8,697	50,744	14.6	85.4
	1899	47,025	7,409	39,616	15.8	84.2
Value of products	1909	$113,235,945	$18,240,484	$94,995,461	16.1	83.9
	1904	79,376,262	14,488,514	64,887,748	18.3	81.7
	1899	53,335,811	11,404,995	41,930,816	21.4	78.6
Value added by manufacture.	1909	46,885,071	7,120,347	39,764,724	15.2	84.8
	1904	29,407,636	5,453,894	23,953,742	18.5	81.5
	1899	22,849,950	4,425,966	18,423,984	19.4	80.6

The population, for 1910 and 1900, of the four cities which had 10,000 inhabitants or over in 1910 is given in the following statement:

CITY.	1910	1900
Charleston	58,833	55,807
Columbia	26,319	21,108
Spartanburg	17,517	11,395
Greenville	15,741	11,860

The relative importance in manufacturing industry of each of these four cities is shown in the following table, in which the value of products and average number of wage earners are shown separately for 1909, 1904, and 1899:

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Charleston	2,874	3,450	3,187	$6,950,807	$6,007,094	$5,713,315
Columbia	2,522	2,393	2,091	5,871,820	4,676,944	3,133,903
Spartanburg	1,773	1,650	1,361	3,275,711	2,127,702	1,591,325
Greenville	1,182	1,204	770	2,142,146	1,676,774	966,452

Each of the cities shows an increase in value of products from 1904 to 1909, as well as from 1899 to 1904, but, with the exception of Spartanburg, the percentages of increase for the former period were less for each of the cities than for the state as a whole. Although Charleston shows an increase of 15.7 per cent in value of products for the later five-year period, the number of wage earners decreased 16.7 per cent. Likewise, in Greenville the number of wage earners decreased 1.8 per cent, while the value of products increased 27.8 per cent.

Charleston, the largest and most important manufacturing city in the state, owes its position to a wide diversity of industries, of which the most important, as measured by value of products, are the fertilizer, the bakery, the lumber and timber, the printing and publishing, the cottonseed oil and cake industries, the manufacture of jute and jute goods, and the cleaning and polishing of rice.

Character of ownership.—The table that follows has for its purpose the presentation of conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the censuses of 1909 and 1904. Comparative data for 1899 are not available. Figures for 1909 only are presented for several important industries individually. In order to avoid disclosing the operations of individual concerns it is necessary to omit several important industries from this table and the one following.

The most important distinction shown is that between corporate and all other forms of ownership. For all industries combined, 30.4 per cent of the total number of establishments were in 1909 under corporate ownership, as against 69.5 per cent under all other forms. The corresponding figures for 1904 were 33.2 per cent and 66.8 per cent, respectively. The establishments under corporate ownership, however, produced nine-tenths of the total value of products in 1909. For all industries combined, as measured by value of products and value added by manufacture, corporations gained to some extent, due principally to the growth of the cotton-goods industry, in which practically all of the mills are reported under corporate ownership.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	1,854	73,046	$113,235,945	$46,885,071
1904	1,399	59,441	79,376,262	29,407,636
Individual:				
1909	940	6,243	6,816,852	4,168,834
1904	672	5,172	5,764,439	3,235,440
Firm:				
1909	340	3,342	3,977,839	2,247,098
1904	256	2,745	3,090,494	1,751,726
Corporation:				
1909	564	63,455	102,403,671	40,434,017
1904	464	51,510	70,493,378	24,398,500
Other:				
1909	10	6	37,583	35,122
1904	7	14	27,951	21,970
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Individual:				
1909	50.7	8.5	6.0	8.9
1904	48.0	8.7	7.3	11.0
Firm:				
1909	18.3	4.6	3.5	4.8
1904	18.3	4.6	3.9	6.0
Corporation:				
1909	30.4	86.9	90.4	86.2
1904	33.2	86.7	88.8	83.0
Other:				
1909	0.5	(1)	(1)	0.1
1904	0.5	(1)	(1)	0.1
Bread and other bakery products, 1909	63	369	$1,099,920	$376,006
Individual	57	183	585,196	237,164
Firm [2]	6	186	514,724	138,842
Per cent of total	100.0	100.0	100.0	100.0
Individual	90.5	49.6	53.2	63.1
Firm [2]	9.5	50.4	46.8	36.9
Lumber and timber products, 1909	851	14,604	$13,140,886	$9,159,418
Individual	563	4,171	3,226,614	2,363,315
Firm	198	2,296	2,018,993	1,382,491
Corporation	90	8,137	7,895,279	5,413,612
Per cent of total	100.0	100.0	100.0	100.0
Individual	66.2	28.6	24.6	25.8
Firm	23.3	15.7	15.4	15.1
Corporation	10.6	55.7	60.1	59.1
Oil, cottonseed, and cake, 1909	103	1,765	$10,902,935	$2,183,400
Individual	4	42	225,794	34,314
Firm	6	96	595,913	115,748
Corporation	93	1,627	10,081,228	2,033,338
Per cent of total	100.0	100.0	100.0	100.0
Individual	3.9	2.4	2.1	1.6
Firm	5.8	5.4	5.5	5.3
Corporation	90.3	92.2	92.5	93.1
Printing and publishing, 1909	161	834	$1,600,591	$1,260,672
Individual	83	268	387,400	309,331
Firm	35	156	213,157	160,922
Corporation	37	404	966,291	757,237
Other	6	6	33,743	33,182
Per cent of total	100.0	100.0	100.0	100.0
Individual	51.6	32.1	24.2	24.5
Firm	21.7	18.7	13.3	12.8
Corporation	23.0	48.4	60.4	60.1
Other	3.7	0.7	2.1	2.6

[1] Less than one-tenth of 1 per cent.
[2] Includes the group "Corporation," to avoid disclosure of individual operations.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it the table which follows groups the establishments according to the value of their products. The table also shows the average size of establishments for all industries combined and for important industries separately as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries are shown for the last two censuses, while for certain important industries figures are given for 1909 only.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	1,854	73,046	$113,235,945	$46,885,071
1904	1,399	59,441	79,376,262	29,407,636
Less than $5,000:				
1909	812	2,473	1,744,344	1,247,783
1904	544	1,425	1,257,021	871,350
$5,000 and less than $20,000:				
1909	507	4,224	4,912,546	3,200,619
1904	434	4,191	4,342,225	2,554,214
$20,000 and less than $100,000:				
1909	300	9,037	13,432,870	6,391,272
1904	257	8,752	11,448,252	4,773,142
$100,000 and less than $1,000,000:				
1909	218	42,296	68,258,491	27,147,965
1904	151	33,375	44,511,158	16,224,657
$1,000,000 and over:				
1909	17	15,016	24,887,694	8,897,432
1904	13	11,698	17,817,606	4,984,273
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Less than $5,000:				
1909	43.8	3.4	1.5	2.7
1904	38.9	2.4	1.6	3.0
$5,000 and less than $20,000:				
1909	27.3	5.8	4.3	6.8
1904	31.0	7.0	5.5	8.7
$20,000 and less than $100,000:				
1909	16.2	12.4	11.9	13.6
1904	18.4	14.7	14.4	16.2
$100,000 and less than $1,000,000:				
1909	11.8	57.9	60.3	57.9
1904	10.8	56.1	56.1	55.2
$1,000,000 and over:				
1909	0.9	20.6	22.0	19.0
1904	0.9	19.7	22.4	16.9
Average per establishment:				
1909	.....	39	$61,077	$25,289
1904	.....	42	56,738	21,020
Bread and other bakery products, 1909	63	369	$1,099,920	$376,006
Less than $5,000	20	20	57,714	23,235
$5,000 and less than $20,000	32	113	292,004	118,126
$20,000 and less than $100,000 [1]	11	236	750,202	234,645
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	31.7	5.4	5.2	6.2
$5,000 and less than $20,000	50.8	30.6	26.5	31.4
$20,000 and less than $100,000 [1]	17.5	64.0	68.2	62.4
Average per establishment	.....	6	$17,459	$5,968
Lumber and timber products, 1909	851	14,604	$13,140,886	$9,159,418
Less than $5,000	511	1,859	1,004,030	773,527
$5,000 and less than $20,000	218	2,459	2,189,287	1,596,641
$20,000 and less than $100,000	97	4,468	4,231,227	2,790,490
$100,000 and less than $1,000,000 [2]	25	5,818	5,716,342	3,998,760
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	60.0	12.7	7.6	8.4
$5,000 and less than $20,000	25.6	16.8	16.7	17.4
$20,000 and less than $100,000	11.4	30.6	32.2	30.5
$100,000 and less than $1,000,000 [2]	2.9	39.8	43.5	43.7
Average per establishment	.....	17	$15,442	$10,763
Oil, cottonseed, and cake, 1909	103	1,765	$10,902,935	$2,183,400
$5,000 and less than $20,000 [3]	8	21	98,815	22,596
$20,000 and less than $100,000	61	578	3,108,340	671,225
$100,000 and less than $1,000,000	34	1,166	7,695,780	1,489,579
Per cent of total	100.0	100.0	100.0	100.0
$5,000 and less than $20,000 [3]	7.8	1.2	0.9	1.0
$20,000 and less than $100,000	59.2	32.7	28.5	30.7
$100,000 and less than $1,000,000	33.0	66.1	70.6	68.2
Average per establishment	.....	17	$105,854	$21,198
Printing and publishing, 1909	161	834	$1,600,591	$1,260,672
Less than $5,000	89	174	213,894	169,898
$5,000 and less than $20,000	59	314	518,754	407,790
$20,000 and less than $100,000	10	181	356,006	289,930
$100,000 and less than $1,000,000	3	165	511,937	393,054
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	55.3	20.9	13.4	13.5
$5,000 and less than $20,000	36.6	37.6	32.4	32.3
$20,000 and less than $100,000	6.2	21.7	22.2	23.0
$100,000 and less than $1,000,000	1.9	19.8	32.0	31.2
Average per establishment	.....	5	$9,942	$7,830

[1] Includes the group "$100,000 and less than $1,000,000."
[2] Includes the group "$1,000,000 and over."
[3] Includes the group "Less than $5,000."

This table shows that, in 1909, of the 1,854 establishments, only 17, or nine-tenths of 1 per cent, had a value of products exceeding $1,000,000. These 17 establishments, of which 16 were cotton mills, gave employment to an average of 15,016 wage earners, or 20.6 per cent of the total number in all establishments, and reported 22 per cent of the total value of products and 19 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having a value of products of less than $5,000—constituted a considerable proportion (43.8 per cent) of the total number of establishments, but the value of their products amounted to only 1.5 per cent of the total. The great bulk of manufacturing was carried on in establishments having a value of products of not less than $100,000.

Comparison between the two censuses shows a slight increase in the proportion of business done by establishments reporting products valued at $100,000 or more.

The fact that the average value of products per establishment increased from $56,738 to $61,077 and the value added by manufacture from $21,020 to $25,289, can not be taken as in itself indicating a tendency toward concentration. The increased values shown may be, and probably are, due in part to the increase that has taken place in the prices of commodities. The average number of wage earners per establishment decreased three. This table shows further that when the size of establishments is measured by value of products, the bakery, lumber, and printing and publishing industries are composed almost entirely of establishments in which the value of products is less than $100,000, while one-third of the establishments engaged in the manufacture of cottonseed oil have a value of products in excess of $100,000 each.

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed. The next table shows, for 1909, such a classification for all industries combined and for 11 important industries individually, and gives not only the number of establishments falling in each group but also the average number of wage earners employed.

The per cent distribution of the number of establishments is not shown in this table, but of the 1,854 establishments reported for all industries, 3.2 per cent employed no wage earners; 48.9 per cent, from 1 to 5 wage earners; 27.2 per cent, from 6 to 20; 7.6 per cent, from 21 to 50; and 13.1 per cent, 51 and over. The most numerous single group consists of the 906 establishments employing from 1 to 5 wage earners, and the next of the 505 establishments employing from 6 to 20 wage earners. There were 77 establishments that employed over 250 wage earners, 4 of which employed over 1,000, 3 of the latter being cotton mills and 1 a lumber mill.

Of the total number of wage earners, 54.3 per cent were in establishments employing over 250 wage

earners. The single group of establishments having the largest number of employees was the one employing from 501 to 1,000; this group employed 17,281 wage earners, or 23.7 per cent of the total. In four of the seven industries listed in this table but not in the preceding one, namely, the steam-railroad repair shops, the fertilizer, the cotton-goods, and the hosiery and knit-goods industries, comparatively large establishments do most of the business, as appears from the classification according to the number of wage earners.

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING— No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
	NUMBER OF ESTABLISHMENTS.									
All industries	**1,854**	**60**	**906**	**505**	**141**	**68**	**97**	**48**	**25**	**4**
Bread and other bakery products	63	6	43	12	.....	2	.....	.....	.....	.....
Brick and tile	45	.....	16	17	7	4	1	.....	.....	.....
Cars and general shop construction and repairs by steam-railroad companies	10	.....	1	1	2	3	.....	3	.....	.....
Cotton goods, including cotton small wares	147	.....	1	4	6	13	60	35	25	3
Fertilizers	26	.....	6	3	2	8	7	.....	.....	.....
Foundry and machine-shop products	34	3	14	9	7	1	.....	.....	.....	.....
Hosiery and knit goods	7	.....	.....	1	2	1	2	1	.....	.....
Lumber and timber products	851	6	461	274	58	22	23	6	.....	1
Oil, cottonseed, and cake	103	.....	28	47	25	2	1	.....	.....	.....
Printing and publishing	161	19	105	32	3	2	.....	.....	.....	.....
Turpentine and rosin	56	3	27	19	7	.....	.....	.....	.....	.....
All other industries	351	23	204	86	22	10	3	3	.....	.....
	AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**73,046**	.....	**2,544**	**5,446**	**4,370**	**5,024**	**16,059**	**17,057**	**17,281**	**5,265**
Bread and other bakery products	369	.....	113	90	.....	166	.....	.....	.....	.....
Brick and tile	888	.....	44	204	236	274	130	.....	.....	.....
Cars and general shop construction and repairs by steam-railroad companies	1,418	.....	4	6	86	189	.....	1,133	.....	.....
Cotton goods, including cotton small wares	45,454	.....	4	47	202	906	10,738	12,639	17,281	3,637
Fertilizers	1,851	.....	23	35	63	599	1,131	.....	.....	.....
Foundry and machine-shop products	417	.....	35	127	187	68	.....	.....	.....	.....
Hosiery and knit goods	839	.....	.....	19	53	87	286	394	.....	.....
Lumber and timber products	14,604	.....	1,355	2,944	1,839	1,621	3,274	1,943	.....	1,628
Oil, cottonseed, and cake	1,765	.....	101	587	791	181	105	.....	.....	.....
Printing and publishing	834	.....	293	287	107	147	.....	.....	.....	.....
Turpentine and rosin	443	.....	50	198	195	.....	.....	.....	.....	.....
All other industries	4,164	.....	522	902	611	786	395	948	.....	.....
	PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**100.0**	.....	**3.5**	**7.5**	**6.0**	**6.9**	**22.0**	**23.3**	**23.7**	**7.2**
Bread and other bakery products	100.0	.....	30.6	24.4	.....	45.0	.....	.....	.....	.....
Brick and tile	100.0	.....	5.0	23.0	26.6	30.9	14.6	.....	.....	.....
Cars and general shop construction and repairs by steam-railroad companies	100.0	.....	0.3	0.4	6.1	13.3	.....	79.9	.....	.....
Cotton goods, including cotton small wares	100.0	.....	(1)	0.1	0.4	2.0	23.6	27.8	38.0	8.0
Fertilizers	100.0	.....	1.2	1.9	3.4	32.4	61.1	.....	.....	.....
Foundry and machine-shop products	100.0	.....	8.4	30.5	44.8	16.3	.....	.....	.....	.....
Hosiery and knit goods	100.0	.....	.....	2.3	6.3	10.4	34.1	47.0	.....	.....
Lumber and timber products	100.0	.....	9.3	20.2	12.6	11.1	22.4	13.3	.....	11.1
Oil, cottonseed, and cake	100.0	.....	5.7	33.3	44.8	10.3	5.9	.....	.....	.....
Printing and publishing	100.0	.....	35.1	34.4	12.8	17.6	.....	.....	.....	.....
Turpentine and rosin	100.0	.....	11.3	44.7	44.0	.....	.....	.....	.....	.....
All other industries	100.0	.....	12.5	21.7	14.7	18.9	9.5	22.8	.....	.....

[1] Less than one-tenth of 1 per cent.

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses which make up the total.

The next table shows, in percentages, for 1909, the distribution of expenses among the classes indicated for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II.

The table shows that, for all industries combined, 68.1 per cent of the total expenses was incurred for materials, 24.8 per cent for services—that is, salaries and wages—and 7.1 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED. Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	**3.9**	**20.9**	**68.1**	**7.1**
Bread and other bakery products	4.3	12.9	78.7	4.1
Brick and tile	6.3	39.7	45.7	8.2
Cars and general shop construction and repairs by steam-railroad companies	4.1	45.8	49.8	0.3
Cotton goods, including cotton small wares	2.5	20.2	71.7	5.5
Fertilizers	4.5	8.9	74.4	12.3
Foundry and machine-shop products	10.1	43.7	40.1	6.1
Hosiery and knit goods	4.5	26.3	57.9	11.3
Lumber and timber products	7.0	42.9	39.0	11.2
Oil, cottonseed, and cake	3.3	4.7	87.1	4.9
Printing and publishing	19.0	34.1	28.2	18.7
Turpentine and rosin	2.9	33.2	54.0	9.8
All other industries	7.2	20.0	61.7	11.0

Engines and power.—The following table shows, for all industries combined, the number of engines or other motors, according to their character, employed

in generating power (including electric motors operated by purchased current), and their total horsepower at the censuses of 1909, 1904, and 1899. It also shows separately the number and horsepower of electric motors, including those operated by current generated in the manufacturing establishments.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899 [1]	1909	1904	1899 [1]	1909	1904	1899
Primary power, total	**3,140**	**1,578**	**1,333**	**276,378**	**197,479**	**112,697**	**100.0**	**100.0**	**100.0**
Owned	2,089	1,578	1,333	235,213	188,948	109,192	85.1	95.7	96.9
Steam	1,806	1,399	1,174	193,052	157,432	80,913	69.9	79.7	71.8
Gas	153	55	29	1,264	239	323	0.5	0.1	0.3
Water wheels	125	123	130	38,422	31,094	27,586	13.9	15.7	24.5
Water motors	5	1	(2)	75	3	(2)	(3)	(3)	(2)
Other	.....	.....	.....	2,400	180	370	0.9	0.1	0.3
Rented	1,051	(2)	(2)	41,165	8,531	3,505	14.9	4.3	3.1
Electric	1,051	(2)	(2)	41,130	8,451	185	14.9	4.3	0.2
Other	.....	.....	.....	35	80	3,320	(3)	(3)	2.9
Electric motors	**1,502**	**268**	**124**	**67,620**	**32,162**	**6,061**	**100.0**	**100.0**	**100.0**
Run by current generated by establishment	451	268	124	26,490	23,711	5,876	39.2	73.7	96.9
Run by rented power	1,051	(2)	(2)	41,130	8,451	185	60.8	26.3	3.1

[1] Includes the neighborhood industries and hand trades, omitted in 1904 and 1909.
[2] Not reported. [3] Less than one-tenth of 1 per cent.

This table indicates that the increase in primary power during the last decade was general in all of the different forms. In 1909 as in 1904 steam formed the major part of the power; but notwithstanding an increase during this period of 35,620 horsepower, the proportion of this kind of power decreased from 79.7 per cent in 1904 to 69.9 per cent in 1909. The more general use of gas engines is shown, the number of such engines being 153 with 1,264 horsepower in 1909, as against 55 with 239 horsepower in 1904 and 29 with 323 horsepower in 1899. The figures also show that the practice of renting power is decidedly on the increase, particularly from 1904 to 1909, as 41,165 horsepower was rented in 1909, as against only 8,531 in 1904 and 3,505 in 1899. This increase is in rented electric power and is due to the rapid development of the abundant water power of the state through central power stations that generate electricity and transmit it over a wide area, thereby furnishing a better and cheaper power for manufacturing. The use of electric motors for the purpose of applying the power generated within the establishments is also shown to be increasing rapidly, the horsepower of such motors having increased from 5,876 in 1899 to 23,711 in 1904 and 26,490 in 1909.

Fuel.—Closely related to the question of kind of power employed is that of the fuel consumed in generating this power, or otherwise used as material in the manufacturing processes. The following table shows the quantity of each kind of fuel used in 1909 for all industries combined and for certain selected industries:

INDUSTRY.	Anthracite coal (tons).	Bituminous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gasoline (barrels).	Gas (1,000 feet).
All industries	**9,314**	**675,653**	**4,444**	**140,208**	**8,865**	**1,448**
Bread and other bakery products	388	662	244	2,811	17	711
Brick and tile	.....	36,642	.....	44,240	134	.....
Cars and general shop construction and repairs by steam-railroad companies	.....	9,289	24	.....	12	.....
Cotton goods, including cotton small wares	7,270	428,523	.....	21,282	276	.....
Fertilizers	.....	45,046	.....	986	27	.....
Foundry and machine-shop products	67	2,094	1,331	1,317	120	.....
Gas, illuminating and heating	.....	20,609	1,350	.....	6,624	.....
Hosiery and knit goods	.....	3,087	.....	1,148	.....	.....
Lumber and timber products	.....	7,287	50	5,963	166	.....
Oil, cottonseed, and cake	1,232	62,119	800	39,475	8	.....
Printing and publishing	200	499	.....	208	329	494
Turpentine and rosin	.....	.....	.....	2,797	1	.....
All other industries	157	59,796	645	19,981	1,151	243

NOTE.—In addition, there were 45 tons of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries and custom sawmills and gristmills.)

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and value of materials and products and the number and kind of machines used in manufactures which do not appear on the general schedule. Certain data of this character for six important industries in South Carolina are here presented.

Cotton goods, including cotton small wares.—The cotton-goods industry has been the most important factor in the development of manufactures in South Carolina. Its history in the state dates beyond 1839 when 15 establishments were reported, employing an average of 570 wage earners and turning out products valued at $359,000. Beginning about 1869 the industry developed rapidly and became more firmly established on a factory basis. During the decade beginning in that year the value of products nearly doubled, while from 1879 to 1889, the period of greatest relative growth, the increase was 238.5 per cent. From 1889 to 1899 the value of products increased 203.3 per cent.

The quantity and cost of materials used, by kind, in 1909, 1904, and 1899, are given below:

MATERIAL.	1909	1904	1899
Total cost	**$41,303,438**	**$34,308,311**	**$17,263,883**
Cotton:			
Domestic—			
Pounds	322,945,571	269,045,002	229,899,760
Cost	$35,284,141	$30,451,159	$14,909,520
Foreign—			
Pounds	1,440,207	1,912,459	154,047
Cost	$249,068	$318,020	$20,026
Cotton yarns, purchased:			
Pounds	487,186	636,300	2,866,925
Cost	$89,706	$110,055	$365,106
Starch	$359,679	$209,646	$115,956
Chemicals and dyestuffs	$187,157	$93,007	$50,707
Fuel and rent of power and heat	$1,977,599	$1,573,054	$611,202
All other materials	$3,156,088	$1,553,370	$1,191,365

The cotton consumed in this industry in 1909 amounted to 324,385,778 pounds, which cost $35,533,209, representing an increase of 53,428,317 pounds, or 19.7 per cent, over the quantity consumed in 1904, and an increase of $4,764,030, or 15.5 per cent, in the cost. This represents an increase in the consumption of domestic cotton alone, the foreign cotton used in 1909 amounting to only 1,440,207 pounds, as compared with 1,912,459 pounds in 1904, although from 1899 to 1904 the consumption of foreign cotton increased greatly. The great increase in the cost of cotton per pound from 1899 to 1904, and the very slight change in this respect from 1904 to 1909, are conspicuous features of the table. There has been a material decrease in the quantity of cotton yarns purchased, which indicates a decided tendency among manufacturers to spin their own yarn. Expenditures for all the remaining materials for which separate totals are shown increased from 1899 to 1904, as well as from 1904 to 1909.

The following is a statement of the products reported for the industry at the last three censuses:

PRODUCT.	1909	1904	1899
Total value	**$65,929,585**	**$49,437,644**	**$29,723,919**
Plain cloth for printing or converting:			
Square yards	561,861,267	414,491,743	175,191,634
Value	$26,848,377	$17,425,723	$6,205,673
Brown or bleached sheetings and shirtings:			
Square yards	302,763,414	276,078,497	283,105,383
Value	$15,914,158	$13,249,096	$11,553,073
Twills and sateens:			
Square yards	12,910,370	17,919,465	11,379,712
Value	$797,624	$962,409	$485,484
Fancy woven fabrics:			
Square yards	50,893,070	17,781,844	213,068
Value	$2,981,306	$975,998	$14,000
Ginghams:			
Square yards	29,417,246	26,212,195	16,752,808
Value	$1,525,286	$1,376,908	$806,551
Drills:			
Square yards	75,828,918	88,551,799	116,467,224
Value	$5,062,204	$5,344,146	$5,375,017
Ticks, denims, and stripes:			
Square yards	8,582,717	6,533,888	1,802,138
Value	$808,407	$444,977	$139,131
Bags and bagging:			
Square yards	19,792,444	14,250,913	229,109
Value	$1,120,825	$683,877	$20,984
Yarns, for sale:			
Pounds	32,709,732	31,645,397	24,859,616
Value	$6,759,913	$6,217,795	$3,461,090
Cotton waste, for sale:			
Pounds	29,621,480	24,199,029	25,582,434
Value	$850,246	$867,273	$433,986
All other products	$3,261,239	$1,889,442	$1,228,930

In 1899 brown or bleached sheetings or shirtings, valued at $11,553,073, was the leading class of products, but in 1904 and 1909 these products became secondary to the manufacture of plain cloth for printing or converting. The value of plain cloth formed 40.7 per cent in 1909, 35.2 per cent in 1904, and 20.9 per cent in 1899, of the total value of all products reported for the entire industry at the three censuses.

The largest proportional increases shown are in the quantity and value of fancy woven fabrics. From 1899 to 1904 the quantity multiplied over eighty-three times and the value nearly seventy times, while from 1904 to 1909 the gain in quantity was 186.2 per cent and the gain in value 205.5 per cent. The output of brown or bleached sheetings and shirtings, ginghams, ticks, denims, and stripes, bags and bagging, and yarns for sale had a greater value in 1909 than in 1904, while the value of twills and sateens, drills, and cotton waste for sale was less.

The growth of this industry is indicated clearly by the increase in the number of producing spindles and looms. The number of active spindles reported by the cotton mills of the state was 3,754,251 in 1909, 2,864,092 in 1904, and 1,431,349 in 1899, an increase in 1909 over 1904 of 890,159, or 31.1 per cent, and an increase in 1904 over 1899 of 1,432,743, or 100.1 per cent. During the period from 1904 to 1909 the number of looms increased from 72,702 to 94,205, a gain of 21,503, or 29.6 per cent, while from 1899 to 1904 the number increased from 42,663 to 72,702, a gain of 30,039, or 70.4 per cent.

Lumber and timber products.—Lumbering has long been an important industry in South Carolina. As early as 1849 there were 353 establishments reported, with a total value of products amounting to $1,108,880.

The following is a statement of the quantities of the principal products reported for the sawmills at the censuses of 1909 and 1899:

PRODUCT.	QUANTITY.	
	1909	1899
Rough lumber ... M feet b.m.	897,660	466,429
Shingles ... thousands	122,709	88,878
Lath ... thousands	28,303	26,311

From 1899 to 1909 there was an increase of 92.5 per cent in the production of rough lumber, 38.1 per cent in shingles, and 7.6 per cent in lath. Yellow pine was the principal species of timber cut in 1909, with 797,094 M feet board measure, or 88.8 per cent of the total cut of rough lumber. Cypress was second in importance, with 36,040 M feet, or 4 per cent of the total cut. Chief among the other species cut were red gum, spruce, oak, and yellow poplar.

Oil, cottonseed, and cake.—The growth and importance of this industry in the state is remarkable. As late as 1880 cotton seed was used as fertilizer and as feed, or was treated as waste; soon after three cottonseed crushing mills were in operation in the state. At the census of 1889, 17 establishments were reported, with products valued at $927,772.

The following statement shows the quantity and cost of cotton seed crushed and the quantity and value of crude products, by kind, in 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	QUANTITY.		
	1909	1904	1899
Cotton seed crushed ... tons	346,550	213,103	156,642
Crude products, manufactured:			
Oil ... gallons	15,745,552	9,178,661	6,162,218
Meal and cake ... tons	156,729	90,815	57,986
Hulls ... tons	103,795	71,942	71,542
Linters ... pounds	14,356,169	6,641,495	3,223,892

The totals presented include all cotton seed crushed, whether by establishments where the exclusive or chief products were those obtained from cotton seed, or by such mills as were engaged primarily in the manufacture of other products but incidentally crushed some cotton seed. Furthermore, the crude products reported represent the total production derived from crushing cotton seed, whether sold as such or used as intermediate products in further processes of manufacture, such as the refining of oil and the mixing of fertilizer and feed.

Of the 102 cottonseed-oil mills reported in 1909 as crushing seed, 23 crushed less than 1,000 tons each during the census year; 28 crushed 1,000 but less than 2,000 tons; 32 crushed 2,000 but less than 5,000 tons; 13 crushed 5,000 but less than 10,000 tons; 4 crushed 10,000 but less than 20,000 tons; and 2 crushed 20,000 tons or over.

In 1909 the ratios which the several products bore to the total weight of the seed when received at the mill were: crude oil, 17 per cent; meal and cake, 45.2 per cent; hulls, 30 per cent; and linters, 2.1 per cent; whereas in 1904 the proportions were: crude oil, 16.2 per cent; meal and cake, 42.6 per cent; hulls, 33.8 per cent; and linters, 1.6 per cent. It is interesting to note that from 1899 to 1909 there was an increase of 2.2 in the percentage of oil and 8.2 in that of meal and cake, while in the percentage of hulls there was a decrease of 15.7.

Fertilizers.—The principal products manufactured during 1909, 1904, and 1899, by kind, quantity, and value, are shown in the following statement:

PRODUCT.	1909	1904	1899
Total value	**$9,024,900**	**$3,637,576**	**$4,882,506**
Superphosphates from minerals, bones, etc.:			
Tons	176,065	49,763	173,183
Value	$2,036,220	$453,663	$1,404,569
Ammoniated fertilizers:			
Tons	41,686	90,324	.....
Value	$872,025	$1,415,462	.....
Concentrated phosphate:			
Tons	2,771	.....	.....
Value	$74,767	.....	.....
Complete fertilizers:			
Tons	237,208	57,230	207,860
Value	$4,943,473	$980,263	$3,146,915
Other fertilizers:			
Tons	55,044	57,091	7,497
Value	$801,327	$648,739	$105,324
Sulphuric acid, for sale:			
Tons	11,839	4,329	41,036
Value	$67,954	$51,864	$225,698
Other acids:			
Tons	12,836	.....	.....
Value	$159,342	.....	.....
All other products	$69,292	$87,585	.....

The statistics presented in this table pertain to the establishments engaged primarily in fertilizer production. There were, however, considerable quantities incidentally manufactured in 1909 by cottonseed-oil mills, amounting to 19,635 tons, which were valued at $392,922.

The quantity of all kinds of fertilizers shown in the above table was 512,714 tons in 1909, compared with 254,408 tons in 1904 and 388,540 tons in 1899, a gain of 258,306 tons in 1909 over 1904 and a decrease of 134,132 tons in 1904, compared with 1899. Complete fertilizers was the most important product in 1909 and 1899, while ammoniated fertilizers was the chief product in 1904. From 1904 to 1909 the quantity of complete fertilizers increased more than threefold and superphosphates more than twofold. During the same period ammoniated fertilizers and other fertilizers decreased 53.8 per cent and 3.6 per cent, respectively. The principal materials used by fertilizer establishments in 1909 consisted of 188,234 tons of phosphate rock, 80,653 tons of pyrites, and 50,669 tons of ammoniates, and in 1904 of 92,108 tons of phosphate rock, 42,670 tons of pyrites, and about 14,300 tons of ammoniates. In addition to the products shown in the above table, 237,188 tons of acid phosphate, 165,509 tons of sulphuric acid, and 25,420 tons of other products were manufactured during 1909 by the 26 establishments reporting, but were consumed by the same establishments in which they were manufactured in further processes.

Printing and publishing.—The following tabular statement shows the number of different newspapers and periodicals published and the average circulation per issue of each for the census years 1909, 1904, and 1899:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	**138**	**148**	**120**	**278,512**	**239,968**	**161,988**
Daily	13	14	7	51,624	32,193	18,850
Sunday	4	6	3	32,447	24,617	(1)
Semiweekly	[2] 21	16	[2] 16	44,622	28,401	23,527
Weekly	90	103	83	133,240	137,439	110,111
Monthly	8	6	10	10,504	7,918	8,000
All other classes	2	3	1	6,075	9,400	1,500

[1] Included in circulation of dailies. [2] Includes one triweekly publication.

With the exception of semiweeklies and monthlies, each of the different classes of publications decreased in number in 1909, as compared with 1904, the greatest decline being in the weeklies. Only the weeklies and the publications included under the head of "All other classes" decreased in circulation from 1904 to 1909. The greatest gain in circulation was made by the daily publications. In 1904 the circulation of this class was 32,193, an increase of 13,343, or 70.8 per cent, over 1899. By 1909 the circulation had reached 51,624, a gain of 19,431, or 60.4 per cent, over 1904. In 1909, 5 of the 13 daily papers were morning editions, with an aggregate circulation per issue of 33,115. All of the publications reported were published in the English language, except one weekly, which was in German.

Turpentine and rosin.—As early as 1849 there were 40 establishments in the state reported as engaged in this industry, having products valued at $235,836. The industry increased until 1879, when 192 establishments were reported, with a product valued at

$1,893,206. Since that census there has been a steady decline of the industry, because of the gradual depletion of the pine forests of the state.

The quantity and value of products, by classes, for 1909, 1904, and 1899 are given below:

PRODUCT.	1909	1904	1899
Total value	**$406,286**	**$574,150**	**$787,656**
Spirits of turpentine:			
Gallons	460,186	764,412	1,508,019
Value	$205,517	$370,046	$563,445
Rosin:			
Barrels (280 pounds)	51,401	87,836	120,013
Value	$199,273	$203,749	$183,528
All other products	$1,496	$355	$40,683

The working unit in turpentine operations is called a "crop," which consists of 10,500 boxes or cups. In 1909 there were 271 crops produced in the state, of which 42 were from virgin trees; 41 from yearling or second-year trees; 91 from third-year trees; and 97 from older trees. It is an interesting fact that no establishments in the state report the treatment of trees through the new cup system, but they universally employed the comparatively crude and wasteful box method.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. In 1909 there were 24 such establishments in South Carolina, 3 of which were in Charleston, 3 in Greenville, 2 in Columbia, and 2 in Spartanburg.

The following statement summarizes the statistics:

Number of establishments	24
Persons engaged in the industry	440
Proprietors and firm members	26
Salaried employees	41
Wage earners (average number)	373
Primary horsepower	501
Capital	$183,975
Expenses	207,717
Services	117,772
Materials	51,765
Miscellaneous	38,180
Amount received for work done	269,112

In respect to form of organization, the establishments are distributed evenly, eight establishments each being reported as under individual, firm, and corporate ownership, respectively. Seven establishments reported receipts for the year of less than $5,000; 12 reported receipts of between $5,000 and $20,000; and 5 reported receipts of between $20,000 and $100,000.

The number of wage earners employed each month and the per cent which this number represented of the greatest number employed in any month are shown in the following table:

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January	362	92.3	July	392	100.0
February	365	93.1	August	361	92.1
March	373	95.2	September	364	92.9
April	376	95.9	October	379	96.7
May	373	95.2	November	386	98.5
June	380	96.9	December	366	93.4

The different kinds of primary power, the number of engines or motors, and the horsepower used in 1909 are shown in the following tabular statement:

KIND.	Number of engines or motors.	Horsepower.
Primary power, total		**501**
Owned—Steam	23	450
Rented—Electric	5	51

The kind and amount of fuel used are shown in the following statement:

KIND.	Unit.	Quantity.
Bituminous coal	Tons	4,575
Coke	Tons	50
Wood	Cords	1,095
Oil	Barrels	48
Gas	1,000 feet	538

Custom sawmills and gristmills.—Statistics for custom sawmills and gristmills are not included in the general tables or in the totals for manufacturing industries, but are presented in the following summary:

	Custom sawmills.	Custom gristmills.
Number of establishments	73	378
Persons engaged in the industry	271	808
Proprietors and firm members	100	441
Salaried employees	1	4
Wage earners (average number)	170	363
Primary horsepower	1,358	7,272
Capital	$66,358	$488,198
Expenses	32,225	1,203,305
Services	25,847	37,045
Materials	1,745	[1] 1,153,398
Miscellaneous	4,633	12,862
Value of products	62,273	[1] 1,326,931

[1] Includes estimate of all grain ground. A similar estimate for value of lumber sawed by custom sawmills is impracticable.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY.	Census.	Number of establishments.	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
STATE—All industries	**1909**	**1,854**	**78,040**	**1,737**	**3,257**	**73,046**	**276,378**	**$173,221**	**$3,756**	**$20,361**	**$66,351**	**$113,236**	**$46,885**
	1904	**1,399**	**63,071**	**1,241**	**2,389**	**59,441**	**197,479**	**113,422**	**2,355**	**13,869**	**49,969**	**79,376**	**29,407**
	1899	**1,369**	.....	.....	**1,419**	**47,025**	**112,697**	**62,750**	**1,308**	**9,130**	**30,486**	**53,336**	**22,850**
Bread and other bakery products	1909	63	521	65	87	369	218	394	39	119	724	1,100	376
	1904	52	397	57	29	311	132	278	19	99	370	618	248
	1899	35	312	39	27	246	.....	285	12	76	323	525	202
Brick and tile	1909	45	990	50	52	888	2,824	935	37	233	268	731	463
	1904	47	963	52	36	875	2,531	517	29	184	177	656	479
	1899	76	1,293	107	41	1,145	2,342	341	20	241	132	573	441
Canning and preserving	1909	15	495	14	14	467	95	286	19	64	159	318	159
	1904	[1] 14	1,080	16	20	1,044	287	202	14	112	349	574	225
	1899	14	.....	.....	7	126	.....	36	1	13	20	51	31
Carriages and wagons and materials	1909	23	317	25	20	272	272	453	25	104	244	464	220
	1904	38	404	42	16	346	320	502	20	118	290	548	258
	1899	56	.....	.....	14	340	.....	314	12	91	206	414	208
Cars and general shop construction and repairs by steam-railroad companies.	1909	10	1,483	.....	65	1,418	1,029	518	62	687	746	1,499	753
	1904	8	1,222	.....	91	1,131	510	300	64	577	433	1,081	648
	1899	6	803	.....	27	776	413	355	21	363	294	691	397
Clothing, men's, including shirts	1909	5	115	1	15	99	39	113	11	20	94	139	45
	1904	[1] 5	138	4	9	125	18	54	4	25	76	137	61
	1899	5	195	7	12	176	10	128	5	37	187	306	119
Coffins, burial cases, and undertakers' goods	1909	4	90	3	10	77	285	130	9	27	62	127	65
	1904	3	104	.....	12	92	125	156	8	25	38	126	88
	1899	3	66	4	4	58	.....	72	4	14	33	64	31
Copper, tin, and sheet-iron products	1909	8	92	8	5	79	54	100	3	35	106	200	94
	1904	5	27	2	1	24	10	24	1	15	13	40	27
	1899	8	.....	.....	7	56	.....	39	4	24	65	116	51
Cotton goods, including cotton small wares	1909	147	46,342	3	885	45,454	187,716	125,549	1,460	11,661	41,303	65,930	24,627
	1904	127	38,038	6	761	37,271	133,397	82,337	1,008	7,702	34,308	49,438	15,130
	1899	80	30,621	5	415	30,201	73,042	39,259	537	5,067	17,264	20,724	12,460
Fertilizers	1909	26	2,057	2	204	1,851	4,766	11,857	338	671	5,629	9,025	3,396
	1904	20	1,221	1	149	1,071	4,286	7,087	153	304	2,692	3,638	946
	1899	22	1,862	5	85	1,772	3,940	10,505	165	479	3,108	4,883	1,775
Flour-mill and gristmill products	1909	10	44	9	12	23	406	110	7	7	308	351	43
	1904	29	103	29	14	60	1,440	206	7	18	633	725	92
	1899	26	.....	.....	18	94	.....	205	8	25	734	869	135
Foundry and machine-shop products	1909	34	477	20	40	417	817	703	45	194	178	547	369
	1904	[1] 37	517	39	28	450	1,122	511	29	212	171	542	371
	1899	[2] 26	369	27	18	324	404	316	17	141	167	403	236
Gas, illuminating and heating	1909	12	163	1	35	127	207	1,431	34	52	114	334	220
	1904	4	124	.....	16	108	43	1,153	11	31	59	193	134
	1899	4	127	.....	23	104	33	961	12	30	38	172	134
Hosiery and knit goods	1909	7	864	3	22	839	597	755	26	152	334	655	321
	1904	14	1,103	5	40	1,058	890	824	30	187	586	1,079	493
	1899	6	377	3	15	359	501	345	14	74	238	392	154
Ice, manufactured	1909	32	287	22	47	218	2,964	1,041	44	85	129	433	304
	1904	18	144	8	25	111	1,835	712	23	45	75	244	169
	1899	13	93	7	13	73	1,074	407	10	24	37	116	79
Lumber and timber products	1909	851	16,330	1,042	684	14,604	49,400	15,010	713	4,378	3,981	13,141	9,160
	1904	502	11,654	621	392	10,641	29,490	8,194	347	2,873	2,506	8,279	5,773
	1899	[1] 519	.....	.....	274	7,117	18,219	3,882	168	1,503	2,431	5,959	3,528
Marble and stone work	1909	36	315	41	38	236	142	218	30	120	144	426	282
	1904	[1] 8	51	9	3	39	2	39	2	15	28	67	39
	1899	11	.....	.....	10	137	.....	265	8	46	34	113	79
Mattresses and spring beds	1909	4	56	1	9	46	77	76	9	12	64	107	43
	1904	5	69	3	7	59	69	73	6	14	61	97	36
	1899	5	.....	.....	15	59	.....	62	9	13	58	115	57
Oil, cottonseed, and cake	1909	103	2,190	16	409	1,765	17,730	6,880	333	467	8,720	10,903	2,183
	1904	100	1,626	3	341	1,282	14,500	5,177	233	320	4,553	5,463	910
	1899	50	914	18	162	734	5,766	1,960	109	144	2,363	3,103	740
Printing and publishing	1909	161	1,294	171	289	834	603	1,664	230	412	340	1,601	1,261
	1904	[1] 150	985	161	201	623	298	945	152	268	214	1,038	824
	1899	120	834	125	84	625	.....	680	62	236	188	789	601
Turpentine and rosin	1909	56	524	63	18	443	2	129	9	101	164	406	242
	1904	79	265	87	9	169	9	92	4	37	374	574	200
	1899	132	1,093	171	36	886	.....	269	8	136	471	788	317
All other industries	1909	202	2,994	177	297	2,520	6,135	4,869	273	760	2,540	4,799	2,259
	1904	134	2,836	96	189	2,551	6,165	4,039	191	688	1,963	4,219	2,256
	1899	152	.....	.....	112	1,617	.....	2,064	102	353	2,095	3,170	1,075

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY AND CITY.	Census.	Number of establishments.	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
CHARLESTON—All industries	**1909**	**116**	**3,375**	**76**	**425**	**2,874**	**4,824**	**$6,573**	**$396**	**$1,013**	**$4,229**	**$6,951**	**$2,722**
	1904	**108**	**3,888**	**78**	**360**	**3,450**	.....	**5,807**	**388**	**1,054**	**3,748**	**6,007**	**2,259**
	1899	**104**	.....	.....	**221**	**3,187**	.....	**5,398**	**206**	**919**	**3,507**	**5,713**	**2,206**
Bread and other bakery products	1909	20	342	20	69	253	137	264	31	81	505	750	245
	1904	23	306	27	27	252	.....	221	18	83	275	457	182
	1899	25	267	29	26	212	.....	246	12	65	290	463	173
Carriages and wagons and materials	1909	3	61	3	3	55	21	23	3	20	24	58	34
	1904	3	45	4	1	40	.....	15	1	16	11	40	29
	[1]1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Foundry and machine-shop products	1909	5	152	3	13	136	269	298	19	66	41	166	125
	1904	[2]4	194	1	11	182	.....	210	14	112	65	243	178
	1899	[2]4	178	1	10	167	.....	179	13	88	90	223	133
Ice, manufactured	1909	4	27	1	4	22	640	253	5	13	24	74	50
	1904	4	41	.....	3	38	.....	307	3	19	33	72	39
	[1]1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lumber and timber products	1909	9	364	3	37	324	898	454	38	100	277	497	220
	1904	8	405	7	29	369	.....	455	35	98	202	404	202
	1899	10	272	7	20	245	.....	322	18	86	298	494	196
Printing and publishing	1909	18	306	14	94	198	465	454	82	110	110	468	358
	1904	[2]15	228	10	84	134	.....	286	66	67	72	279	207
	1899	13	250	16	33	201	.....	272	27	99	90	331	241
All other industries	1909	57	2,123	32	205	1,886	2,394	4,827	218	623	3,248	4,938	1,690
	1904	51	2,669	29	205	2,435	.....	4,313	201	659	3,090	4,512	1,422
	1899	52	.....	.....	132	2,362	.....	4,379	136	581	2,739	4,202	1,463
CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.													
Columbia	1909	55	2,788	33	233	2,522	7,784	$7,705	$259	$927	$3,578	$5,872	$2,294
	1904	41	2,573	25	155	2,393	.....	4,745	176	798	2,642	4,677	2,035
	1899	41	.....	.....	75	2,091	.....	3,879	93	519	1,848	3,134	1,286
Greenville	1909	41	1,324	29	113	1,182	2,574	1,930	98	365	1,228	2,142	914
	1904	36	1 303	26	73	1,204	.....	2,059	60	257	1,101	1,677	576
	1899	22	.....	.....	36	770	.....	1,081	36	145	718	966	248
Spartanburg	1909	36	1,916	25	118	1,773	4,965	4,471	126	499	2,085	3,276	1,191
	1904	35	1,745	26	69	1,650	.....	2,869	72	348	1,544	2,128	584
	1899	28	.....	.....	33	1,361	.....	2,335	41	270	907	1,591	684

[1] Figures can not be shown without disclosing individual operations.
[2] Excluding statistics for one establishment, to avoid disclosure of individual operations.

TABLE II.—DETAIL STATEMENT FOR

	INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners. Average number.	Wage earners. Number. Maximum month.	Wage earners. Number. Minimum month.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
1	**All industries**	**1,854**	**78,040**	**1,737**	**1,596**	**1,393**	**268**	**73,046**	**Mh 76,873**	**Je 70,283**	(1)	(1)	(1)	(1)	(1)	**276,378**
2	Agricultural implements	4	24	5	2	1	1	15	Ap 20	No 11	15	15	.....	.....	.....	53
3	Bread and other bakery products	63	521	65	21	32	34	369	No 391	Ja 353	373	296	46	23	8	218
4	Brick and tile	45	990	50	39	9	4	888	Au 1,230	Fe [2] 510	1,229	1,157	.....	72	.....	2,824
5	Canning and preserving	15	495	14	11	2	1	467	Mh 974	Je [2] 3	1,088	374	552	82	80	95
6	Carriages and wagons and materials	23	317	25	9	8	3	272	De 291	Au 245	291	258	5	28	.....	272
7	Cars and general shop construction and repairs by steam-railroad companies.	10	1,483	.....	8	55	2	1,418	De 1,503	Fe 1,309	1,503	1,501	1	1	.....	1,029
8	Cars and general shop construction and repairs by street-railroad companies.	4	45	.....	4	3	.....	38	Ap [2] 39	Au [2] 37	39	37	2	.....	.....	85
9	Clothing, men's, including shirts	5	115	1	8	7	.....	99	Se 137	Ja 65	131	21	108	1	1	39
10	Coffins, burial cases, and undertakers' goods.	4	90	3	2	7	1	77	Oc 89	Ja 64	88	88	.....	.....	.....	285
11	Confectionery	11	35	12	1	.....	.....	22	De 24	Fe [2] 20	24	19	4	1	.....	5
12	Copper, tin, and sheet-iron products	8	92	8	1	4	.....	79	Je 90	No 74	77	75	.....	2	.....	54
13	Cotton goods, including cotton small wares.	147	46,342	3	443	370	72	45,454	Jy 46,300	Ja 44,609	46,065	26,063	11,386	4,843	3,773	187,716
14	Fertilizers	26	2,057	2	67	127	10	1,851	Mh 4,356	Jy 922	1,669	1,668	1	.....	.....	4,766
15	Flour-mill and gristmill products	10	44	9	8	3	1	23	Fe 26	Se 21	26	26	.....	.....	.....	406
16	Foundry and machine-shop products	34	477	20	24	12	4	417	Au 441	Je 398	436	425	11	.....	.....	817
17	Gas, illuminating and heating	12	163	1	11	20	4	127	De 143	Au [2] 115	143	143	.....	.....	.....	207
18	Hosiery and knit goods	7	864	3	12	8	2	839	Ja 863	No 807	822	293	375	68	86	597
19	Ice, manufactured	32	287	22	36	8	3	218	Jy 339	Ja 121	250	243	.....	7	.....	2,964
20	Leather goods	3	13	4	.....	.....	.....	9	Ja [3] 9	De [3] 9	9	9	.....	.....	.....	4
21	Lumber and timber products	851	16,330	1,042	397	253	34	14,604	De 15,967	Jy 13,704	18,127	17,847	17	263	.....	49,400
22	Marble and stone work	36	315	41	9	27	2	236	Se 249	Ja 207	250	245	.....	5	.....	142
23	Mattresses and spring beds	4	56	1	5	2	2	46	Se 52	Ja 39	49	43	6	.....	.....	77
24	Oil, cottonseed, and cake	103	2,190	16	249	150	10	1,765	De 2,888	Au 521	2,855	2,851	3	1	.....	17,730
25	Patent medicines and compounds and druggists' preparations.	7	51	11	5	18	7	10	De 12	Je 8	13	13	.....	.....	.....	.....
26	Printing and publishing	161	1,294	171	80	167	42	834	My 848	Jy 816	851	668	128	52	3	603
27	Turpentine and rosin	56	524	63	15	3	.....	443	Se 544	Ja 232	586	556	20	10	.....	2
28	Wood distillation, not including turpentine and rosin.	3	28	.....	5	3	1	19	De 35	Au 10	35	35	.....	.....	.....	675
29	All other industries [4]	170	2,798	145	124	94	28	2,407	.....	.....	.....	.....	.....	.....	.....	5,313

[1] No figures given for reasons explained in the Introduction.
[2] Same number reported for one or more other months.
[3] Same number reported throughout the year.
[4] All other industries embrace—

Artificial stone	2	Clothing, women's	1	Food preparations	2
Awnings, tents, and sails	3	Cooperage and wooden goods, not elsewhere specified	1	Furniture and refrigerators	3
Bags, other than paper	1	Cordage and twine and jute and linen goods	3	Glass	1
Baking powders and yeast	1	Dairymen's, poulterers', and apiarists' supplies	1	Hand stamps and stencils and brands	2
Baskets, and rattan and willow ware	2	Dyeing and finishing textiles	1	Lead, bar, pipe, and sheet	1
Boxes, cigar	1	Dyestuffs and extracts	1	Leather, tanned, curried, and finished	1
Boxes, fancy and paper	1	Electrical machinery, apparatus, and supplies	1	Lime	1
Brooms	4			Liquors, malt	1

THE STATE, BY INDUSTRIES: 1909.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	$173,220,870	$97,370,829	$2,563,601	$1,192,687	$20,360,750	$3,106,324	$63,244,550	$117,547	$990,309	$420,768	$5,374,293	$113,235,945	$46,885,071
2	34,500	23,411	450	535	6,650	290	12,100	.....	178	2,500	708	36,300	23,910
3	394,096	919,936	21,008	18,339	118,601	15,657	708,257	12,936	5,887	.....	19,251	1,099,920	376,006
4	935,372	585,825	31,453	5,528	232,701	188,011	79,992	.....	3,240	.....	44,900	730,543	462,540
5	286,426	253,967	12,400	6,605	63,949	4,572	153,979	1,283	2,161	.....	9,018	318,081	159,530
6	453,150	412,481	12,595	12,428	104,025	4,026	240,354	3,076	3,112	.....	32,865	463,566	219,186
7	518,430	1,499,226	12,075	49,483	687,196	16,389	729,504	.....	4,080	.....	499	1,499,226	753,333
8	71,475	52,657	4,372	1,956	18,807	1,156	23,396	.....	1,090	.....	1,880	52,657	28,105
9	113,469	131,804	6,775	4,270	20,196	1,048	93,205	372	919	300	4,719	138,607	44,354
10	129,908	108,737	2,400	6,440	27,016	4,273	57,655	.....	526	.....	10,427	126,817	64,889
11	19,856	54,669	1,000	.....	7,983	1,144	35,875	6,548	361	.....	1,758	71,028	34,009
12	99,807	148,276	1,248	2,216	34,900	795	105,155	1,474	1,154	.....	1,334	200,050	94,100
13	125,549,218	57,614,650	1,124,211	335,851	11,660,658	1,977,599	39,325,839	.....	599,693	148,186	2,442,613	65,929,585	24,626,147
14	11,857,225	7,571,240	181,057	156,445	671,261	161,717	5,467,741	13,444	83,006	.....	836,569	9,024,900	3,395,442
15	110,091	327,403	5,000	1,670	7,000	6,185	301,966	.....	763	.....	4,879	350,506	42,355
16	703,431	444,558	33,520	11,492	194,158	17,465	160,753	3,915	4,021	100	19,134	547,218	369,000
17	1,431,202	250,050	23,959	9,920	51,638	94,005	20,044	12	11,379	.....	39,093	333,877	219,828
18	755,398	576,254	19,787	6,010	151,629	13,321	320,549	406	7,510	49,043	7,999	655,340	321,470
19	1,040,746	307,834	38,565	5,747	84,882	89,520	39,043	212	8,330	2,051	39,484	432,666	304,103
20	23,733	27,956	.....	.....	5,324	46	21,800	660	69	.....	57	38,659	16,813
21	15,009,649	10,214,597	512,804	199,927	4,377,760	35,320	3,946,148	14,651	68,921	178,983	880,083	13,140,886	9,159,418
22	218,378	314,994	8,956	20,570	120,072	3,656	140,495	2,326	1,728	4,654	12,537	425,671	281,520
23	75,536	96,171	5,600	2,950	12,003	1,360	62,704	60	429	97	10,968	107,300	43,236
24	6,880,240	10,007,598	232,252	100,449	466,837	316,344	8,403,191	6,338	49,168	6,636	426,383	10,902,935	2,183,400
25	46,153	69,074	7,180	9,447	4,308	48	29,613	1,400	1,138	.....	15,940	90,943	61,282
26	1,664,485	1,207,074	100,820	128,914	411,586	22,014	317,905	24,855	11,984	26,926	162,061	1,600,591	1,260,672
27	128,727	303,087	7,750	1,165	100,701	1,009	162,777	.....	2,202	.....	27,483	406,286	242,500
28	70,436	41,246	4,700	2,700	8,692	4,325	13,650	.....	140	1,000	6,039	51,878	33,903
29	4,599,733	3,805,994	151,655	91,630	710,217	125,029	2,270,860	23,579	117,120	292	315,612	4,459,909	2,064,020

[1] All other industries embrace—Continued.

Mineral and soda waters	100	Roofing materials	1	Upholstering materials	1
Paint and varnish	1	Shipbuilding, including boat building	1	Vinegar and cider	1
Paper and wood pulp	1	Slaughtering and meat packing	2	Wirework, including wire rope and cable	1
Paper goods, not elsewhere specified	1	Soap	1	Wood, turned and carved	2
Paving materials	1	Steam packing	1	Woolen, worsted, and felt goods, and wool hats	1
Pottery, terra-cotta, and fire-clay products	4	Tobacco manufactures	10		
Rice, cleaning and polishing	3	Umbrellas and canes	1		

TABLE III.—DETAIL STATEMENT FOR CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES.

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES.

CHARLESTON.

	INDUSTRY AND CITY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY.									WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horsepower.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners (average number).				Total.	16 and over.		Under 16.		
						Male.	Female.	Total.	16 and over.		Under 16.		Male.	Female.	Male.	Female.	
									Male.	Female.							
1	**All industries**	**116**	**3,375**	**76**	**125**	**224**	**76**	**2,874**	**2,088**	**592**	**194**	**3,162**	**2,285**	**660**	**108**	**109**	**4,824**
2	Bread and other bakery products	20	342	20	17	27	25	253	199	37	17	249	196	36	9	8	137
3	Carriages and wagons and materials	3	61	3	1	2	.....	55	55	.....	.....	55	55	.....	.....	.....	21
4	Foundry and machine-shop products	5	152	3	6	5	2	136	136	.....	.....	148	148	.....	.....	.....	269
5	Ice, manufactured	4	27	1	3	.....	1	22	22	.....	.....	18	18	.....	.....	.....	640
6	Lumber and timber products	9	364	3	19	13	5	324	324	.....	.....	353	353	.....	.....	.....	898
7	Printing and publishing	18	306	14	12	70	12	198	158	37	3	205	164	38	3	.....	465
8	All other industries [1]	57	2,123	32	67	107	31	1,886	1,194	518	174	2,134	1,351	586	96	101	2,394

[1] All other industries embrace: Awnings, tents, and sails, 3; baking powders and yeast, 1; baskets, and rattan and willow ware, 1; boxes, cigar, 1; boxes, fancy and paper, 1; brooms, 1; canning and preserving, 2; cars and general shop construction and repairs by steam-railroad companies, 1; cars and general shop construction and repairs by street-railroad companies, 1; clothing, men's, including shirts, 1; clothing, women's, 1; confectionery, 4; cooperage and wooden goods, not elsewhere specified, 1; copper, tin, and sheet-iron products, 1; cordage and twine and jute and linen goods, 2; cotton goods, including cotton small wares, 1; fertilizers, 3; flour-mill and gristmill products, 1;

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

1	COLUMBIA	55	2,788	33	69	145	19	2,522	2,038	248	236	2,857	2,309	281	184	83	7,784
2	GREENVILLE	41	1,324	29	46	63	4	1,182	667	339	176	1,252	707	359	83	103	2,574
3	SPARTANBURG	36	1,916	25	42	59	17	1,773	1,074	474	225	1,819	1,102	486	123	108	4,965

AND TOTALS FOR ALL INDUSTRIES IN CITIES OF 10,000 BUT LESS THAN 50,000 INHABITANTS: 1909.

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES.

CHARLESTON.

	Capital.	EXPENSES.											Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.						
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.			
1	**$6,572,516**	**$6,185,333**	**$207,075**	**$188,718**	**$1,012,627**	**$147,450**	**$4,082,026**	**$43,211**	**$108,067**	**$3,139**	**$393,020**		**$6,950,807**	**$2,721,331**
2	264,295	636,930	17,588	13,480	81,248	8,179	496,601	3,780	4,426	.....	11,628		750,167	245,387
3	23,139	50,676	1,200	2,120	19,940	698	23,357	1,396	175	.....	1,790		57,723	33,668
4	297,785	137,122	13,680	4,952	66,202	4,498	36,689	1,200	1,360	.....	8,541		166,140	124,953
5	253,137	53,768	4,200	600	12,672	20,153	3,848	.....	3,012	.....	9,283		73,850	49,849
6	453,712	446,286	25,992	11,838	99,915	1,463	275,913	1,530	3,789	.....	25,846		497,155	219,779
7	453,809	358,559	25,420	56,209	109,914	4,544	105,886	4,052	3,356	2,451	46,727		467,610	357,180
8	4,826,639	4,501,992	118,995	99,519	622,736	107,915	3,139,732	31,253	91,949	688	289,205		4,938,162	1,690,515

food preparations, 2; gas, illuminating and heating, 1; hand stamps and stencils and brands, 2; leather goods, 1; liquors, malt, 1; marble and stone work, 4; mineral and soda waters, 5; oil, cottonseed, and cake, 2; paint and varnish, 1; patent medicines and compounds and druggists' preparations, 1; rice, cleaning and polishing, 2; slaughtering and meat packing, 1; soap, 1; steam packing, 1; tobacco manufactures, 2; umbrellas and canes, 1; upholstering materials, 1; wood, turned and carved, 1.

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

1	$7,704,660	$5,225,366	$123,241	$135,393	$926,710	$147,563	$3,430,110	$8,684	$53,836	$50,478	$349,351	$5,871,820	$2,294,147
2	1,930,052	1,840,062	57,311	40,871	365,339	55,603	1,172,242	8,517	48,677	2,080	89,422	2,142,146	914,301
3	4,470,948	2,936,822	72,191	53,511	498,507	75,292	2,009,851	9,998	36,384	70,245	110,843	3,275,711	1,190,568

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SOUTH DAKOTA.

INDUSTRIES IN GENERAL.

General character of the state.—South Dakota ranks fourteenth in size among the states and territories of continental United States, having an area of 77,650 square miles, of which 76,850 square miles represent land surface. Its population in 1910 was 583,888, as compared with 401,570 in 1900 and 348,600 in 1890. It ranked thirty-sixth among the 49 states and territories as regards population in 1910 and thirty-eighth in 1900.

Lying in the Great Plains region and, with the exception of the Black Hills district, consisting of rolling upland, South Dakota is essentially an agricultural state. In 1910 only 13.1 per cent of the entire population of the state resided in incorporated cities and towns having a population of 2,500 or over, as against 10.2 per cent in 1900. The density of population in 1910 was 7.6 persons per square mile, as compared with 5.2 in 1900. Sioux Falls and Aberdeen were the only cities with a population of more than 10,000 in 1910. The eastern part of the state and the mining region of the southwest corner are well provided with transportation facilities. Nearly every county east of the Missouri River has one or more railroads.

Importance and growth of manufactures.—The agricultural and mining industries of South Dakota are of much more importance than its manufactures. The increase, however, in the number of manufacturing establishments from 1899 to 1909, and that in the average number of wage earners engaged in manufactures, has kept pace with the general increase in population.

The following table gives the more important figures relative to all classes of manufactures combined for the state as returned at the censuses of 1909, 1904, and 1899, together with percentages of increase from census to census:

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.[1]	
	1909	1904	1899	1904–1909	1899–1904
Number of establishments	1,020	686	624	48.7	9.9
Persons engaged in manufactures	5,226	3,582	(2)	45.9	.....
Proprietors and firm members	942	649	(2)	45.1	.....
Salaried employees	682	441	288	54.6	53.1
Wage earners (average number)	3,602	2,492	2,224	44.5	12.0
Primary horsepower	17,666	11,154	11,775	58.4	−5.3
Capital	$13,018,000	$7,585,000	$6,051,000	71.6	25.4
Expenses	15,787,000	11,246,000	8,155,000	40.4	37.9
Services	2,914,000	1,716,000	1,305,000	69.8	31.5
Salaries	616,000	294,000	175,000	109.5	68.0
Wages	2,298,000	1,422,000	1,130,000	61.6	25.8
Materials	11,476,000	8,697,000	6,484,000	32.0	34.1
Miscellaneous	1,397,000	833,000	366,000	67.7	127.6
Value of products	17,870,000	13,085,000	9,530,000	36.6	37.3
Value added by manufacture (value of products less cost of materials)	6,394,000	4,388,000	3,046,000	45.7	44.1

[1] A minus sign (−) denotes decrease.

[2] Figures not available.

In 1909 the state of South Dakota had 1,020 manufacturing establishments, which gave employment to an average of 5,226 persons during the year and paid out $2,914,000 in salaries and wages. Of the persons employed, 3,602 were wage earners. These establishments turned out products to the value of $17,870,000, to produce which materials costing $11,476,000 were consumed. The value added by manufacture was thus $6,394,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

During the last five years the percentages of increase in value of products, value added by manufacture, total expenses, and cost of materials were about the same as in the preceding five years, 1899–1904, but the percentages of increase in the number of wage earners and the amount paid in wages were considerably greater.

As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume during the period 1904–1909 to the extent indicated by these figures regarding values, since the increase shown is certainly due, in part, to the increase that has taken place in the price of commodities.

The relative importance and growth of the leading manufacturing industries of the state are shown in the next table.

INDUSTRY.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE.[1]			
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Value of products.		Value added by manufacture.	
								1904–1909	1899–1904	1904–1909	1899–1904
All industries	**1,020**	**3,602**	**100.0**	**$17,870,000**	**100.0**	**$6,394,000**	**100.0**	**36.6**	**37.3**	**45.7**	**44.1**
Flour-mill and gristmill products	95	285	7.9	6,208,000	34.7	872,000	13.6	−4.8	103.1	−24.9	121.6
Butter, cheese, and condensed milk	95	139	3.9	2,686,000	15.0	378,000	5.9	23.0	82.1	8.0	80.4
Printing and publishing	392	825	22.9	1,976,000	11.1	1,520,000	23.8	61.7	63.8	55.1	67.5
Bread and other bakery products	92	286	7.9	1,161,000	6.5	440,000	6.9	199.2	391.1	158.8	240.0
Lumber and timber products	58	451	12.5	945,000	5.3	596,000	9.3	150.7	−23.8	112.9	−7.6
Liquors, malt	4	76	2.1	606,000	3.4	375,000	5.9	56.2	38.6	56.9	−1.2
Tobacco manufactures	59	203	5.6	454,000	2.5	290,000	4.5	38.4	66.5	44.3	57.0
Cars and general shop construction and repairs by steam-railroad companies	5	327	9.1	439,000	2.5	274,000	4.3	74.9	41.0	128.3	31.9
Confectionery	3	106	2.9	400,000	2.2	129,000	2.0	20.5	.....	−8.5	.....
Gas, illuminating and heating	17	108	3.0	278,000	1.6	158,000	2.5	87.8	.....	58.0	.....
Artificial stone	38	104	2.9	253,000	1.4	133,000	2.1	301.6	.....	269.4	.....
Foundry and machine-shop products	37	78	2.2	225,000	1.3	152,000	2.4	1.8	.....	−9.0	.....
Carriages and wagons and materials	10	48	1.3	131,000	0.7	71,000	1.1	322.6	−36.7	238.1	−27.6
Brick and tile	12	54	1.5	103,000	0.6	72,000	1.1	22.6	82.6	12.5	93.9
All other industries	103	512	14.2	2,005,000	11.2	934,000	14.6	.....	.....	.....	.....

[1] Percentages are based on figures in Table I; a minus sign (−) denotes decrease. Where the percentages are omitted, comparable figures can not be given.

It should be borne in mind, in considering this table, that the value of products in some of the industries involves a certain amount of duplication, due to the use of the products of one establishment in the industry as material for another establishment.

The most important industries listed in this table, in which they are arranged in the order of the value of products, call for brief consideration.

Flour-mill and gristmill products.—The statistics show that this industry continues to lead in value of products, reporting in 1909 more than one-third of the total value of products for the state. Compared with the returns, however, for 1904, there has been a decrease of 4.8 per cent in the value of products and of 24.9 per cent in value added by manufacture.

Butter, cheese, and condensed milk.—The establishments reported for this industry are engaged primarily in the manufacture of butter, no cheese or condensed milk being produced in 1909. This industry increased much more rapidly during the period from 1899 to 1904 than during the latter half of the decade.

Printing and publishing.—Over one-third of the total number of manufacturing establishments and nearly one-fourth of the total number of wage earners of the state are engaged in this industry. The 392 establishments embraced 378 publishers of newspapers and periodicals, 13 job printing offices, and one bookbinding establishment.

Bread and other bakery products.—An increase of nearly 200 per cent was shown in the value of the bakery products reported for 1909, as compared with 1904.

Lumber and timber products.—The development of this industry in South Dakota during the last five years is shown in the increase in value of products and in value added by manufacture. The former item decreased 23.8 per cent from 1899 to 1904, but increased 150.7 per cent from 1904 to 1909, and the latter item decreased 7.6 per cent during the earlier period and increased 112.9 per cent during the later. The increase in the later five-year period is due partly to the large increase in the cut of western yellow pine during this period as well as to an advance in the price of this timber, which constitutes almost the entire lumber cut of South Dakota.

The above table shows that when these five leading industries are ranked according to value added by manufacture the order differs considerably from that when the ranking is by value of products. In value added by manufacture the leading industry is printing and publishing, which ranked third in value of products. It leads also in the number of wage earners employed.

This table shows also the percentages of increase for these leading industries in respect to value of products and value added by manufacture.

In some of the less important industries the percentage of increase in value of products from 1904 to 1909 was very large, amounting to over 300 per cent in two industries—artificial stone and carriages and wagons.

In addition to the 14 industries presented separately, there are 7 other industries each of which had a value of product in 1909 in excess of $100,000. They are included under the head of "All other industries" because, if they were shown separately, the operations of individual establishments would be disclosed, or because the data for prior censuses are not available or comparable, or because the returns do not properly present the true condition of the industry, for the reason that it is more or less interwoven with one or more industries of similar character. These 7 industries are: Automobiles, including bodies and parts; cement; men's clothing, including shirts; copper, tin, and sheet-iron products; marble and stone work; mineral and soda water; and slaughtering and meat packing. The 1909 statistics, however, for the manufacture of copper, tin, and sheet-iron products and marble and stone work will be found in Table II.

Persons engaged in manufacturing industries.—The following table shows the distribution of the number of persons engaged in manufactures, the average number of wage earners being distributed by sex and age. It should be borne in mind, however, that the sex and age classification of the average number of wage earners in this and other tables, is an estimate obtained by the method described in the Introduction.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes	**5,226**	**4,588**	**638**
Proprietors and officials	1,227	1,188	39
Proprietors and firm members	942	906	36
Salaried officers of corporations	96	95	1
Superintendents and managers	189	187	2
Clerks	397	255	142
Wage earners (average number)	3,602	3,145	457
16 years of age and over	3,556	3,099	457
Under 16 years of age	46	46	.....

The average number of persons engaged in manufactures during 1909 was 5,226. Of these, 3,602 were wage earners. Of the remainder, about three-fourths were proprietors and officials and about one-fourth were clerks. Corresponding figures for individual industries will be found in Table II.

The following table shows the percentage of proprietors and officials, clerks, and wage earners, respectively, and the total number of persons employed in manufactures. It covers all industries combined and five important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries	**5,226**	**23.5**	**7.6**	**68.9**
Bread and other bakery products	431	27.4	6.3	66.4
Butter, cheese, and condensed milk	252	32.1	12.7	55.2
Flour-mill and gristmill products	454	30.2	7.0	62.8
Lumber and timber products	534	13.1	2.4	84.5
Printing and publishing	1,387	30.1	10.5	59.5
All other industries	2,168	18.6	6.8	74.5

Of the total number of persons engaged in all manufacturing industries, 23.5 per cent were proprietors and officials, 7.6 per cent clerks, and 68.9 per cent wage earners. The proportion of proprietors and officials is much greater than in states where the manufacturing industries are developed highly, for the reason that in South Dakota a very large proportion of the establishments are small and the work done largely by the proprietors or by their immediate representatives.

The following table shows, in percentages, for all industries combined, the distribution of the average number of wage earners by age periods and sex, calculated in the manner described in the Introduction. It also shows, for some of the important industries separately, the percentage distribution, by age periods and sex, of the wage earners as reported for December 15, or the nearest representative day. As a means of judging the importance of the several industries the average total number employed for the year is also given in each case.

INDUSTRY.	WAGE EARNERS.			
	Average number.[1]	Per cent of total.		
		16 years of age and over.		Under 16 years of age.
		Male.	Female.	
All industries	**3,602**	**86.0**	**12.7**	**1.3**
Bread and other bakery products	286	65.7	32.9	1.4
Butter, cheese, and condensed milk	139	95.7	4.3	.....
Flour-mill and gristmill products	285	99.6	.....	0.4
Lumber and timber products	451	99.8	.....	0.2
Printing and publishing	825	69.5	28.0	2.5
All other industries	1,616	91.0	7.8	1.2

[1] For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see Introduction.

For all industries combined, 86 per cent of the average number of wage earners were males over 16 years of age; 12.7 per cent, females over that age; and 1.3 per cent, all persons under the age of 16. The largest part of the total number of female wage earners over 16 years of age and of children under that age were confined to the bakery and printing industries combined. In the bakery industry about one-third of the total wage earners employed were females, and in the printing industry about three-tenths of the total employees were of that class.

In order to compare the distribution of persons engaged in manufactures in 1909 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See Introduction.) The following table makes this comparison according to occupational status:

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				
	1909		1904		Per cent of increase, 1904–1909.
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total	**5,226**	**100.0**	**3,582**	**100.0**	**45.9**
Proprietors and firm members	942	18.0	649	18.1	45.1
Salaried employees	682	13.0	441	12.3	54.6
Wage earners (average number)	3,602	68.9	2,492	69.6	44.5

Comparable figures are not obtainable for 1899. The table shows a somewhat greater percentage of increase in the salaried employees than in the other two classes.

The next table shows the average number of wage earners, distributed according to age periods, and in the case of those 16 years of age and over according to sex, for 1909, 1904, and 1899. The averages for 1909 are estimated on the basis of the actual number reported for a single representative day. (See Introduction.)

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.
Total	**3,602**	**100.0**	**2,492**	**100.0**	**2,224**	**100.0**
16 years of age and over	3,556	98.7	2,459	98.7	2,114	95.1
Male	3,099	86.0	2,179	87.4	2,033	91.4
Female	457	12.7	280	11.2	81	3.6
Under 16 years of age	46	1.3	33	1.3	110	4.9

This table indicates that very few children are employed in the manufacturing industries of the state, and that the present proportion of children is less than it was 10 years ago, although there was a slight increase in the number from 1904 to 1909. From 1904 to 1909, as well as from 1899 to 1904, there was a proportional and actual increase in the employment of female wage earners.

Wage earners employed, by months.—The following table gives the number of wage earners employed on the 15th of each month during the year 1909, for all industries combined, for the lumber industry, and for all other industries combined; it gives also the percentage which the number reported for each month is of the greatest number reported for any month. In Table II, page 1170, is shown, for each industry in the state, the largest number and also the smallest number of employees reported for any month. The number for each month relates to the 15th day, or the nearest representative day, of that month.

MONTH.	WAGE EARNERS.									
	All industries.		Lumber and timber products.						All other industries.	
			Total.		In mills.		In logging operations.			
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.
January	3,108	79.2	331	58.9	188	50.1	143	75.3	2,777	81.1
February	3,235	82.4	465	82.7	275	73.3	190	100.0	2,770	80.9
March	3,374	86.0	486	86.5	296	78.9	190	100.0	2,888	84.3
April	3,373	85.9	369	65.7	240	64.0	129	67.9	3,004	87.7
May	3,543	90.3	386	68.7	284	75.7	102	53.7	3,157	92.2
June	3,763	95.9	476	84.7	343	91.5	133	70.0	3,287	96.0
July	3,824	97.4	515	91.6	363	96.8	152	80.0	3,309	96.6
August	3,779	96.3	394	70.1	291	77.6	103	54.2	3,385	98.8
September	3,925	100.0	500	89.0	351	93.6	149	78.4	3,425	100.0
October	3,860	98.3	497	88.4	335	89.3	162	85.3	3,363	98.2
November	3,869	98.6	562	100.0	375	100.0	187	98.4	3,307	96.6
December	3,572	91.0	434	77.2	291	77.6	143	75.3	3,138	91.6

The lumber industry shows more fluctuations in the number of wage earners employed than any other important industry. The greatest activity in logging operations is shown for February and March. In the mills the minimum number of wage earners was employed in January, the number fluctuating until November, when the maximum number was employed. For all industries combined the number of wage earners employed was lowest in January, and increased gradually until reaching the maximum in September.

Prevailing hours of labor.—In the following table wage earners have been classified according to hours of labor prevailing in the establishments in which they are employed. In making this classification the average number of wage earners employed during the year is used, and the number employed in each establishment is classified as a total, according to the hours prevailing in that establishment, even though some few employees work a greater or less number of hours.

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries	**3,602**	**516**	**82**	**746**	**40**	**1,932**	**131**	**39**	**116**
Artificial stone	104		3	3		98			
Bread and other bakery products	286	19	3	26		219	1	14	4
Brick and tile	54			10		44			
Butter, cheese, and condensed milk	139	7		18		85	29		
Carriages and wagons and materials	48					48			
Cars and general shop construction and repairs by steam-railroad companies	327					313	14		
Confectionery	106			33		73			
Flour-mill and gristmill products	285	28		9		175	48	25	
Foundry and machine-shop products	78	2		4		72			
Gas, illuminating and heating	108	6		1	16	36	37		12
Liquors, malt	76	15		43		18			
Lumber and timber products	451	8	3	13		425	2		
Marble and stone work	116	8		83	4	21			
Printing and publishing	825	207	73	447	7	91			
Tobacco manufactures	203	198		3		2			
All other industries	396	18		53	13	212			100

It appears from these figures that a majority of the wage earners employed in the manufacturing industries of South Dakota are employed 60 hours or over per week, the proportion being 61.6 per cent of all wage earners. The artificial stone industry, the bakeries, the railroad repair shops, the flour mills, and the lumber mills and logging camps were mainly on a 10-hour-per-day basis (60 hours per week). Shorter hours prevail in printing and publishing, 88.1 per cent of the total number of wage earners in that industry being employed in establishments running 54 hours or less per week. Eight hours per day were the prevailing hours in the tobacco industry.

Location of establishments.—The following table shows the distribution of manufacturing between cities having a population of 10,000 or over and the remainder of the state. (See Introduction.)

ITEM.	Year.	Total.	LOCATION OF ESTABLISHMENTS.		PER CENT OF TOTAL.	
			In cities with population of 10,000 and over.	Outside districts.	In cities with population of 10,000 and over.	Outside districts.
Population	1910	583,888	24,847	559,041	4.3	95.7
	1900	401,570	10,266	391,304	2.6	97.4
Number of establishments.	1909	1,020	120	900	11.8	88.2
	1904	686	61	625	8.9	91.1
	1899	624	48	576	7.7	92.3
Average number of wage earners.	1909	3,602	972	2,630	27.0	73.0
	1904	2,492	465	2,027	18.7	81.3
	1899	2,224	311	1,913	14.0	86.0
Value of products.	1909	$17,870,135	$4,464,069	$13,406,066	25.0	75.0
	1904	13,085,333	1,897,790	11,187,543	14.5	85.5
	1899	9,529,946	883,624	8,646,322	9.3	90.7
Value added by manufacture.	1909	6,393,785	1,823,764	4,570,021	28.5	71.5
	1904	4,388,502	832,097	3,556,405	19.0	81.0
	1899	3,046,269	562,096	2,484,173	18.5	81.5

At the census of 1900 Sioux Falls was the only city having over 10,000 inhabitants, but in 1910 Aberdeen became a city of that class. The population for the census of 1900 was used in grouping data for 1904 as well as for 1899. The addition, therefore, of Aberdeen in 1909 accounts in part for the relatively large increase in urban manufactures during the period 1904–1909.

Character of ownership.—The next table has for its purpose the presentation of conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the censuses of 1909 and 1904. Comparative data for 1899 are not available. Figures for 1909 only are presented for five important industries.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	1,020	3,602	$17,870,135	$6,393,785
1904	686	2,492	13,085,333	4,388,502
Individual:				
1909	583	1,045	4,047,905	1,876,363
1904	376	816	3,222,105	1,373,597
Firm:				
1909	160	425	2,927,528	908,217
1904	125	452	2,842,052	902,559
Corporation:				
1909	216	2,076	9,870,131	3,479,291
1904	112	1,145	6,003,547	1,943,511
Other:				
1909	61	56	1,024,571	129,914
1904	73	79	1,017,629	168,835
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Individual:				
1909	57.2	29.0	22.7	29.3
1904	54.8	32.7	24.6	31.3
Firm:				
1909	15.7	11.8	16.4	14.2
1904	18.2	18.1	21.7	20.6
Corporation:				
1909	21.2	57.6	55.2	54.4
1904	16.3	45.9	45.9	44.3
Other:				
1909	6.0	1.6	5.7	2.0
1904	10.6	3.2	7.8	3.8
Bread and other bakery products, 1909	92	286	$1,160,536	$439,170
Individual	69	111	470,964	190,499
Firm	20	35	177,890	79,697
Corporation	3	140	511,682	168,974
Per cent of total	100.0	100.0	100.0	100.0
Individual	75.0	38.8	40.6	43.4
Firm	21.7	12.2	15.3	18.1
Corporation	3.3	49.0	44.1	38.5
Butter, cheese, and condensed milk, 1909	95	139	$2,685,511	$377,478
Individual	30	26	548,852	88,705
Firm	8	17	218,840	34,402
Corporation	12	47	1,036,131	165,113
Other	45	49	881,688	89,258
Per cent of total	100.0	100.0	100.0	100.0
Individual	31.6	18.7	20.4	23.5
Firm	8.4	12.2	8.1	9.1
Corporation	12.6	33.8	38.6	43.7
Other	47.4	35.3	32.8	23.6
Flour-mill and gristmill products, 1909	95	285	$6,208,216	$872,451
Individual	31	47	892,441	170,557
Firm	23	64	1,250,306	200,177
Corporations	35	174	3,942,605	472,796
Other	6	.....	122,864	28,921
Per cent of total	100.0	100.0	100.0	100.0
Individual	32.6	16.5	14.4	19.5
Firm	24.2	22.5	20.1	22.9
Corporation	36.8	61.1	63.5	54.2
Other	6.3	.....	2.0	3.3
Lumber and timber products, 1909	58	451	$944,777	$595,866
Individual	34	83	202,684	114,431
Firm	9	31	110,570	82,741
Corporation	15	337	631,523	398,694
Per cent of total	100.0	100.0	100.0	100.0
Individual	58.6	18.4	21.5	19.2
Firm	15.5	6.9	11.7	13.9
Corporation	25.9	74.7	66.8	66.9
Printing and publishing, 1909	392	825	$1,975,976	$1,519,482
Individual	272	402	851,676	678,653
Firm	40	71	176,221	135,884
Corporation	74	350	941,037	698,763
Other	6	2	7,042	6,182
Per cent of total	100.0	100.0	100.0	100.0
Individual	69.4	48.7	43.1	44.7
Firm	10.2	8.6	8.9	8.9
Corporation	18.9	42.4	47.6	46.0
Other	1.5	0.2	0.4	0.4

The proportion of establishments operated by firms was smaller in 1909 than in 1904 and the proportion under corporate ownership considerably larger. In addition, the establishments operated by individuals and by firms reported smaller proportions of the total average number of wage earners, the total value of products, and the total value added by manufacture in 1909 than in 1904. In 1909 corporations reported more than half the totals for each of these items, a much larger proportion than they reported at the preceding census. Of the value of products reported by the flour-mill and gristmill industry and by the lumber industry, 63.5 per cent and 66.8 per cent, respectively, are returned by establishments under this form of ownership. Of the 61 establishments classified as under "Other" forms of ownership, 45 were engaged in making butter and were operated under the cooperative form of ownership.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it, the following table groups the establishments according to the value of their products. The table also shows the average size of establishments for all industries combined and for important industries separately, as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries are shown for the last two censuses, while for certain important industries figures are given for 1909 only.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	1,020	3,602	$17,870,135	$6,393,785
1904	686	2,492	13,085,333	4,388,502
Less than $5,000:				
1909	533	558	1,264,398	876,341
1904	319	384	751,832	553,810
$5,000 and less than $20,000:				
1909	309	878	3,144,801	1,541,435
1904	216	687	2,202,435	1,076,446
$20,000 and less than $100,000:				
1909	142	1,056	5,652,440	1,923,520
1904	130	895	5,885,287	1,869,290
$100,000 and less than $1,000,000:				
1909	36	1,110	7,808,496	2,052,489
1904	21	526	4,245,779	888,956
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Less than $5,000:				
1909	52.3	15.5	7.1	13.7
1904	46.5	15.4	5.7	12.6
$5,000 and less than $20,000:				
1909	30.3	24.4	17.6	24.1
1904	31.5	27.6	16.8	24.5
$20,000 and less than $100,000:				
1909	13.9	29.3	31.6	30.1
1904	19.0	35.9	45.0	42.6
$100,000 and less than $1,000,000:				
1909	3.5	30.8	43.7	32.1
1904	3.1	21.1	32.4	20.3
Average per establishment:				
1909	.....	4	$17,520	$6,268
1904	.....	4	19,075	6,397
Bread and other bakery products, 1909	92	286	$1,160,536	$439,170
Less than $5,000	41	29	119,905	55,796
$5,000 and less than $20,000	44	94	408,128	171,558
$20,000 and less than $100,000 [1]	7	163	632,503	211,816
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	44.6	10.1	10.3	12.7
$5,000 and less than $20,000	47.8	32.9	35.2	39.1
$20,000 and less than $100,000 [1]	7.6	57.0	54.5	48.2
Average per establishment	.....	3	$12,615	$4,774
Butter, cheese, and condensed milk, 1909	95	139	$2,685,511	$377,478
Less than $5,000	6	4	16,959	3,347
$5,000 and less than $20,000	49	41	614,556	90,935
$20,000 and less than $100,000	36	63	1,215,578	151,083
$100,000 and less than $1,000,000	4	31	838,418	132,113
Butter, cheese, and condensed milk, 1909—Con.				
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	6.3	2.9	0.6	0.9
$5,000 and less than $20,000	51.6	29.5	22.9	24.1
$20,000 and less than $100,000	37.9	45.3	45.3	40.0
$100,000 and less than $1,000,000	4.2	22.3	31.2	35.0
Average per establishment	.....	1	$28,269	$3,973
Flour-mill and gristmill products, 1909	95	285	$6,208,216	$872,451
Less than $5,000	11	6	33,809	6,340
$5,000 and less than $20,000	22	21	285,406	58,526
$20,000 and less than $100,000	45	120	2,139,453	391,756
$100,000 and less than $1,000,000	17	138	3,749,548	415,829
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	11.6	2.1	0.5	0.7
$5,000 and less than $20,000	23.2	7.4	4.6	6.7
$20,000 and less than $100,000	47.4	42.1	34.5	44.9
$100,000 and less than $1,000,000	17.9	48.4	60.4	47.7
Average per establishment	.....	3	$65,350	$9,184
Lumber and timber products, 1909	58	451	$944,777	$595,866
Less than $5,000	22	30	60,845	44,767
$5,000 and less than $20,000	28	95	258,664	156,284
$20,000 and less than $100,000	5	46	183,337	91,584
$100,000 and less than $1,000,000	3	280	441,931	303,231
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	37.9	6.7	6.4	7.5
$5,000 and less than $20,000	48.3	21.1	27.4	26.2
$20,000 and less than $100,000	8.6	10.2	19.4	15.4
$100,000 and less than $1,000,000	5.2	62.1	46.8	50.9
Average per establishment	.....	8	$16,289	$10,274
Printing and publishing, 1909.	392	825	$1,975,976	$1,519,482
Less than $5,000	316	363	693,406	557,958
$5,000 and less than $20,000	60	229	522,699	412,152
$20,000 and less than $100,000	16	233	759,871	549,372
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	80.6	44.0	35.1	36.7
$5,000 and less than $20,000	15.3	27.8	26.5	27.1
$20,000 and less than $100,000	4.1	28.2	38.5	36.2
Average per establishment	.....	2	$5,041	$3,876

[1] Includes the group "$100,000 and less than $1,000,000."

This table shows that, in 1909, of the 1,020 establishments, only 36, or 3.5 per cent, had a value of products exceeding $100,000. These establishments, however, had a total average number of wage earners of 1,110, or 30.8 per cent of the total for the state; 43.7 per cent of the total value of products; and 32.1 per cent of the total value added by manufacture. On the other hand, the very small establishments—that is, those having a value of products of less than $5,000—represented more than one-half (52.3 per cent) of the total number of establishments, while the average number of wage earners employed in them formed only 15.5 per cent of the total, and the value of their products only 7.1 per cent.

The fact that the average value of products per establishment decreased from $19,075 to $17,520, and the average value added by manufacture from $6,397 to $6,268, is due chiefly to the disproportionate

increase in the number of very small establishments. Out of a total increase of 334 establishments, there were 214 each of which had a product valued at less than $5,000. There was no change in the average number of wage earners per establishment. Considering only the five leading industries which are included in the table, the average value of products per establishment varies from $5,041 for the printing and publishing industry to $65,350 for flour mills and gristmills.

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed. The next table shows such a classification for all industries combined and for five important industries, and gives not only the number of establishments falling in each group but also the average number of wage earners employed.

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING—								
		No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
	NUMBER OF ESTABLISHMENTS.									
All industries	**1,020**	**146**	**767**	**83**	**17**	**4**	**3**	.....	.....	.....
Bread and other bakery products	92	17	71	3	.....	.....	1	.....	.....	.....
Butter, cheese, and condensed milk	95	9	84	2	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products	95	12	70	12	1	.....	.....	.....	.....	.....
Lumber and timber products	58	2	46	6	1	2	1	.....	.....	.....
Printing and publishing	392	72	300	16	4	.....	.....	.....	.....	.....
All other industries	288	34	196	44	11	2	1	.....	.....	.....
	AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**3,602**	.....	**1,456**	**835**	**517**	**310**	**484**	.....	.....	.....
Bread and other bakery products	286	.....	134	19	.....	.....	133	.....	.....	.....
Butter, cheese, and condensed milk	139	.....	114	25	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products	285	.....	162	96	27	.....	.....	.....	.....	.....
Lumber and timber products	451	.....	106	43	22	149	131	.....	.....	.....
Printing and publishing	825	.....	538	178	109	.....	.....	.....	.....	.....
All other industries	1,616	.....	402	474	359	161	220	.....	.....	.....
	PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**100.0**	.....	**40.4**	**23.2**	**14.4**	**8.6**	**13.4**	.....	.....	.....
Bread and other bakery products	100.0	.....	46.9	6.6	.....	.....	46.5	.....	.....	.....
Butter, cheese, and condensed milk	100.0	.....	82.0	18.0	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products	100.0	.....	56.8	33.7	9.5	.....	.....	.....	.....	.....
Lumber and timber products	100.0	.....	23.5	9.5	4.9	33.0	29.0	.....	.....	.....
Printing and publishing	100.0	.....	65.2	21.6	13.2	.....	.....	.....	.....	.....
All other industries	100.0	.....	24.9	29.3	22.2	10.0	13.6	.....	.....	.....

The per cent distribution of the number of establishments is not shown in this table; of the 1,020 establishments reported for all industries, 89.5 per cent employed no wage earners or from 1 to 5 wage earners each, while only 3 establishments employed over 100 wage earners each.

Of the total number of wage earners, 40.4 per cent were in establishments employing from 1 to 5 wage earners each. The creamery and the printing and publishing industries are the leading industries in this group. The group of establishments employing from 6 to 20 wage earners reported 23.2 per cent of the total number of wage earners, and the 3 establishments which employed over 100 wage earners each reported 13.4 per cent of the total.

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses going to make up the total.

The following table shows, in percentages, the distribution of expenses among the classes indicated for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	**3.9**	**14.6**	**72.7**	**8.9**
Bread and other bakery products	3.0	15.3	73.1	8.6
Butter, cheese, and condensed milk	1.7	4.4	90.7	3.2
Flour-mill and gristmill products	1.4	3.2	91.1	4.3
Lumber and timber products	3.6	33.6	39.0	23.7
Printing and publishing	12.2	35.6	32.9	19.2
All other industries	6.3	25.6	56.0	12.2

This table shows that, for all industries combined, 72.7 per cent of the total expenses was incurred for

materials, 18.5 per cent for services—that is, salaries and wages—and but 8.9 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries.

Engines and power.—The following table shows, for all industries combined, the number of engines or other motors, according to their character, employed in generating power (including electric motors operated by purchased current), and their total horsepower at the censuses of 1909, 1904, and 1899. It also shows separately the number and horsepower of electric motors, including those operated by current generated in the manufacturing establishments.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899[1]	1909	1904	1899[1]	1909	1904	1899
Primary power, total	**972**	**436**	**507**	**17,666**	**11,154**	**11,775**	**100.0**	**100.0**	**100.0**
Owned	648	436	507	15,980	10,963	11,663	90.5	98.3	99.0
Steam	253	214	308	12,257	8,483	9,256	69.4	76.1	78.6
Gas and oil	366	186	158	2,784	1,397	1,270	15.8	12.5	10.8
Water wheels	24	31	41	927	1,060	1,099	5.2	9.5	9.3
Water motors	5	5	(2)	12	9	(2)	0.1	0.1	(2)
Other	.....	.....	.....	.....	14	38	.....	0.1	0.3
Rented	324	(2)	(2)	1,686	191	112	9.5	1.7	1.0
Electric	324	(2)	(2)	1,683	181	100	9.5	1.6	0.8
Other	.....	.....	.....	3	10	12	(3)	0.1	0.1
Electric motors	346	23	7	2,084	339	234	100.0	100.0	100.0
Run by current generated by establishment	22	23	7	401	158	134	19.2	46.6	57.3
Run by rented power	324	(2)	(2)	1,683	181	100	80.8	53.4	42.7

[1] Includes the neighborhood industries and hand trades, omitted in 1904 and 1909.
[2] Not reported. [3] Less than one-tenth of 1 per cent.

The table indicates that the increase in primary power was principally in power generated by steam. Electric power also shows a large increase, while water power shows a decrease. The more general use of gas engines is shown, the number of such engines being 366 in 1909, as compared with 186 in 1904 and 158 in 1899. The number of motors run by rented power was not reported in 1904 and 1899, hence comparative figures are not available for the two earlier censuses. The horsepower furnished by electric motors run by rented power increased from 181 in 1904 to 1,683 in 1909. In 1904, 98.3 per cent of the total horsepower was owned by the establishments reporting, while in 1909 only 90.5 per cent was so reported. During the same period the proportion of rented electric horsepower increased from 1.6 per cent to 9.5 per cent. The horsepower developed by electric motors run by current generated in the manufacturing establishments reporting increased from 134 in 1899 to 158 in 1904 and 401 in 1909.

Fuel.—Closely related to the question of kind of power employed is that of the fuel used in generating this power, or otherwise as material in the manufacturing processes. Because a large amount of fuel is consumed in the manufacture of gas, it is included in addition to the five important industries in the following table, which shows the quantity of each kind of fuel used in 1909:

INDUSTRY.	Anthracite coal (tons).	Bituminous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gasoline (barrels).	Gas (1,000 feet).
All industries	**2,744**	**102,547**	**3,960**	**4,030**	**19,239**	**106,436**
Bread and other bakery products	808	881	374	1,172	121	1,477
Butter, cheese, and condensed milk	27	5,239	.....	.....	111	32
Flour-mill and gristmill products	522	26,702	.....	9	1,681	100,000
Gas, illuminating and heating	22	4,720	3,129	.....	15,238	.....
Lumber and timber products	.....	2,755	.....	.....	171	4
Printing and publishing	632	1,490	23	318	960	2,241
All other industries	733	60,760	434	2,531	957	2,682

NOTE.—In addition, there was 1 ton of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries and custom sawmills and gristmills.)

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and value of materials and products which do not appear on the general schedule. Certain data as to the products for three important industries of South Dakota are here presented.

Flour-mill and gristmill products.—Wheat is the principal agricultural crop of South Dakota, and naturally flour-mill and gristmill products ranked first among its manufactures. The following tabular statement gives the quantity and value of products for the last three census years:

PRODUCT.	1909	1904	1899
Products, total value	$6,208,216	$6,519,364	$3,208,532
Wheat flour:			
White—			
Barrels	962,840	1,142,805	897,026
Value	$5,041,149	$5,360,128	$2,643,678
Graham—			
Barrels	5,446	5,219	(1)
Value	$26,648	$23,242	(1)
Corn meal and corn flour:			
Barrels	6,845	23,308	14,652
Value	$23,413	$49,571	$23,480
Rye flour:			
Barrels	2,579	2,835	2,744
Value	$12,022	$11,414	$6,651
Buckwheat flour:			
Pounds	219,675	26,000	(2)
Value	$7,199	$1,010	(2)
Barley meal:			
Pounds	361,000	40,000	347,000
Value	$7,500	$700	$4,980
Feed:			
Tons	9,849	16,713	14,091
Value	$245,786	$286,438	$185,130
Offal:			
Tons	44,272	55,845	33,868
Value	$830,022	$786,371	$341,573
All other products	$5,477	$490	$3,040

[1] Included in figures for white wheat flour. [2] Figures not available.

There was a decrease in the value of products between 1904 and 1909, due to a falling off of 6 per cent in the value and of 15.7 per cent in the quantity of white flour manufactured. The figures for buckwheat flour and barley meal show notable increases for the same five-year period, the quantity of the former product increasing more than eightfold and of the latter product ninefold.

Butter.—The quantity and value of products for 1909, 1904, and 1899 are given in the next table.

The value of solid packed butter represented 90.3 per cent in 1909, 97 per cent in 1904, and 94.6 per cent in 1899 of the total value of products. From 1899 to 1904 this class of product increased decidedly both in quantity and in value, while from 1904 to 1909, notwithstanding a marked decrease in quantity, there was an increase in the value.

The quantity and value of skimmed milk sold shows a very large decrease from census to census. This is due to the radical change which has taken place in the creamery industry. Formerly whole milk was brought to the creamery while at present the cream is separated largely on the farm and sold as such.

PRODUCT.	1909	1904	1899
Products, total value	$2,685,511	[1] $2,182,653	$1,199,493
Butter:			
Packed solid—			
Pounds	8,880,010	10,835,596	6,110,726
Value	$2,424,897	$2,116,900	$1,134,228
Prints and rolls—			
Pounds	615,598	222,864	61,381
Value	$173,516	$44,423	$14,739
Cream sold:			
Pounds	390,108	2,140	1,596
Value	$43,147	$215	$1,070
Skimmed milk:			
Pounds	1,116,882	4,491,814	9,690,340
Value	$1,583	$7,903	$8,670
All other products	$42,368	$13,212	$40,786

[1] Does not include 1 cheese establishment.

Printing and publishing.—The progress of the newspaper and periodical branch of the industry is indicated in the following statement, which shows the number and aggregate circulation per issue for the different classes of publications for the years 1909, 1904, and 1899.

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	402	302	221	485,101	330,705	232,166
Daily	19	16	16	46,153	21,910	16,463
Sunday	4	5	3	23,526	11,350	(1)
Semiweekly	3	5	1	4,400	6,850	1,600
Weekly	360	263	189	277,127	198,604	151,438
Monthly	11	11	9	23,750	58,600	34,400
All other classes	5	2	3	110,145	33,391	28,265

[1] Included in circulation of dailies.

In 1909 the aggregate circulation per issue of the newspapers and periodicals of the state was 485,101, which represents an increase of 46.7 per cent over the corresponding figure for 1904. Weekly publications have a greater circulation than all other periodicals combined; out of a total of 402 newspapers and periodicals published in 1909, 360, or 89.6 per cent, were published weekly. The proportion which the weeklies formed of the total number in 1904 was 87.1 per cent, while in 1899 it was 85.5 per cent. There was an increase of three in the number of dailies from 1904 to 1909, but during the same period the combined average circulation of all dailies increased over 100 per cent.

Laundries.—Statistics for steam laundries are not included in the general tables. In 1909 there were 28 such establishments in the state of South Dakota, 4 of which were located in Aberdeen and 3 in Sioux Falls.

The following statement summarizes the statistics:

Number of establishments	28
Persons engaged in the industry	447
Proprietors and firm members	33
Salaried employees	28
Wage earners (average number)	386
Primary horsepower	519
Capital	$336,276
Expenses	313,492
Services	190,830
Materials	81,770
Miscellaneous	40,892
Amount received for work done	423,092

Sixteen establishments were operated by individuals, 4 by corporations, and 8 by general partnerships. Nine establishments had receipts for the year's business of less than $5,000; 9, receipts of $5,000 but less than $20,000; and 10, receipts of $20,000 but less than $100,000.

The number of wage earners employed each month and the per cent which this number represented of the greatest number employed in any month were as follows:

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January	352	85.0	July	410	99.0
February	352	85.0	August	414	100.0
March	356	86.0	September	406	98.1
April	369	89.1	October	398	96.1
May	384	92.8	November	395	95.4
June	394	95.2	December	397	95.9

The different kinds of primary power, the number of engines, and the horsepower used in 1909 are shown in the following tabular statement:

KIND.	Number of engines.	Horsepower.
Primary power, total		519
Owned	26	396
Steam engines	19	360
Gas engines	7	36
Rented—Electric	23	123

The kind and amount of fuel used are shown in the following tabular statement:

KIND.	Unit.	Quantity.
Anthracite coal	Tons	19
Bituminous coal	Tons	6,265
Wood	Cords	1
Oil	Barrels	215
Gas	1,000 feet	5,236

Custom sawmills and gristmills.[1]—Statistics for custom sawmills and gristmills are not included in the general tables, but are presented in the following summary:

Number of establishments	4
Persons engaged in the industry	4
Proprietors and firm members	3
Wage earners (average number)	1
Primary horsepower	82
Capital	$15,500
Expenses	29,637
Services	400
Materials	[2] 28,630
Miscellaneous	607
Value of products	[2] 36,102

[1] Includes one custom mill.
[2] Includes estimate of all grain ground. A similar estimate for value of lumber sawed by custom sawmills is impracticable.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY AND CITY.	Census.	Number of establishments.	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
STATE—All industries	1909	1,020	5,226	942	682	3,602	17,666	$13,018	$616	$2,298	$11,476	$17,870	$6,394
	1904	686	3,582	649	441	2,492	11,154	7,585	294	1,422	8,697	13,085	4,388
	1899	624	.....	.....	288	2,224	11,775	6,051	175	1,130	6,484	9,530	3,046
Artificial stone	1909	38	168	49	15	104	139	190	10	62	120	253	133
	1904	4	46	2	9	35	20	37	4	18	27	63	36
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bread and other bakery products	1909	92	431	114	31	286	126	500	30	151	721	1,161	440
	1904	32	169	41	12	116	81	170	7	49	218	388	170
	1899	13	51	17	8	26	.....	23	2	14	29	79	50
Brick and tile	1909	12	72	5	13	54	790	227	10	28	31	103	72
	1904	10	64	9	6	49	355	175	3	27	20	84	64
	1899	11	67	19	.....	48	162	64	.....	20	13	46	33
Butter, cheese, and condensed milk	1909	95	252	50	63	139	1,456	633	44	112	2,308	2,686	378
	1904	[1] 97	350	32	126	192	1,410	484	26	125	1,833	2,183	350
	1899	138	287	44	95	148	1,579	461	12	77	1,005	1,199	194
Carriages and wagons and materials	1909	10	64	10	6	48	94	133	4	38	60	131	71
	1904	3	23	2	2	19	16	54	2	13	10	31	21
	1899	9	.....	.....	.....	25	41	44	.....	14	20	49	29
Cars and general shop construction and repairs by steam-railroad companies.	1909	5	346	.....	19	327	557	259	23	243	165	439	274
	1904	6	197	.....	13	184	270	107	15	106	131	251	120
	1899	7	126	.....	9	117	70	68	8	80	87	178	91
Confectionery	1909	3	136	.....	30	106	69	203	38	36	271	400	129
	1904	5	121	3	21	97	15	182	20	35	191	332	141
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products	1909	95	454	83	86	285	7,364	2,873	79	187	5,336	6,208	872
	1904	96	521	110	64	347	6,777	2,428	57	203	5,358	6,519	1,161
	1899	86	.....	.....	52	275	.....	1,647	47	148	2,685	3,209	524
Foundry and machine-shop products	1909	37	137	45	14	78	307	352	8	62	73	225	152
	1904	[1] 11	138	12	3	123	269	188	6	124	54	221	167
	1899	[3] 13	38	18	1	19	.....	42	(4)	8	14	39	25
Gas, illuminating and heating	1909	17	144	.....	36	108	318	1,317	26	64	120	278	158
	1904	7	61	.....	14	47	115	654	9	26	48	148	100
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquors, malt	1909	4	103	.....	27	76	796	1,330	42	59	231	606	375
	1904	4	87	.....	17	70	267	930	24	44	149	388	239
	1899	4	74	3	10	61	218	561	12	24	38	280	242
Lumber and timber products	1909	58	534	52	31	451	2,260	941	33	301	349	945	596
	1904	26	227	23	13	191	833	244	12	114	97	377	280
	1899	[1] 36	.....	.....	17	371	.....	233	15	170	192	495	303
Marble and stone work	1909	15	148	18	14	116	213	132	13	76	73	220	147
	1904	[3] 5	33	6	3	24	41	69	2	20	46	97	51
	1899	7	.....	.....	2	125	.....	58	2	45	10	114	104
Printing and publishing	1909	392	1,387	359	203	825	931	2,159	170	493	456	1,976	1,520
	1904	[1] 279	1,001	301	108	592	426	1,344	85	312	242	1,222	980
	1899	209	770	224	52	494	.....	737	37	204	161	746	585
Tobacco manufactures	1909	59	287	72	12	203	.....	216	12	122	164	454	290
	1904	47	227	55	5	167	.....	125	5	87	127	328	201
	1899	27	168	30	9	129	.....	84	5	60	69	197	128
All other industries	1909	88	563	85	82	396	2,246	1,553	74	264	998	1,785	787
	1904	54	317	53	25	239	259	394	17	119	146	453	307
	1899	64	.....	.....	33	386	.....	2,029	35	266	2,161	2,899	738

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

Aberdeen	1909	37	430	36	99	295	540	$1,132	$94	$178	$1,011	$1,575	$564
Sioux Falls	1909	83	937	86	174	677	1,402	2,605	161	385	1,629	2,889	1,260
	1904	61	633	67	101	465	.....	1,748	93	248	1,066	1,898	832
	1899	48	.....	.....	57	311	.....	927	42	152	322	884	562

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Figures can not be shown without disclosing individual operations.
[3] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[4] Less than $500.

TABLE II.—DETAIL STATEMENT FOR

	INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners. Average number.	Wage earners. Number. Maximum month.	Wage earners. Number. Minimum month.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
1	**All industries**	**1,020**	**5,226**	**942**	**285**	**255**	**142**	**3,602**	Se 3,925	Ja 3,108	(1)	(1)	(1)	(1)	(1)	**17,666**
2	Artificial stone	38	168	49	11	3	1	104	Je[2] 166	Ja 24	170	170	.....	.....	.....	139
3	Bread and other bakery products	92	431	114	4	13	14	286	Au 325	Mh 259	278	183	91	4	.....	126
4	Brick and tile	12	72	5	11	2	.....	54	Je 106	Ja[2] 8	103	103	.....	.....	.....	790
5	Brooms	5	23	5	.....	1	1	16	Ja[3] 16	Au[3] 16	16	16	.....	.....	.....	2
6	Butter, cheese, and condensed milk	95	252	50	31	18	14	139	Jy 170	Fe[2] 116	131	125	6	.....	.....	1,456
7	Carriages and wagons and materials	10	64	10	3	2	1	48	De 60	Fe 42	60	60	.....	.....	.....	94
8	Cars and general shop construction and repairs by steam-railroad companies.	5	346	.....	12	7	.....	327	De 398	My 269	398	398	.....	.....	.....	557
9	Confectionery	3	136	.....	7	18	5	106	No 130	Jy 89	121	46	75	.....	.....	69
10	Copper, tin, and sheet-iron products	8	33	7	2	3	1	20	Jy[2] 25	Ja 15	19	17	.....	2	.....	8
11	Flour-mill and gristmill products	95	454	83	54	22	10	285	No 320	My 253	323	322	.....	1	.....	7,364
12	Foundry and machine-shop products	37	137	45	7	6	1	78	Jy 89	Ja 65	91	91	.....	.....	.....	307
13	Fur goods	3	15	3	.....	.....	2	10	No[2] 17	My[2] 5	17	3	14	.....	.....	1
14	Gas, illuminating and heating	17	144	.....	17	9	10	108	Jy 160	Fe[2] 78	102	102	.....	.....	.....	318
15	Jewelry	3	11	4	1	.....	.....	6	De[2] 7	My 5	6	5	1	.....	.....	5
16	Leather goods	3	9	3	2	.....	.....	4	Fe[2] 6	Ja[2] 4	4	4	.....	.....	.....	.....
17	Lime	6	29	3	1	1	.....	24	No 42	Fe[2] 18	38	38	.....	.....	.....	.....
18	Liquors, malt	4	103	.....	16	10	1	76	Au 88	No 69	72	69	.....	3	.....	796
19	Lumber and timber products	58	534	52	18	10	3	451	No 562	Ja 331	668	666	.....	2	.....	2,260
20	Marble and stone work	15	148	18	4	9	1	116	Je 145	Fe 66	133	132	.....	1	.....	213
21	Patent medicines and compounds and druggists' preparations.	3	4	.....	2	.....	.....	2	Ja[3] 2	Au[3] 2	2	1	1	.....	.....	.....
22	Printing and publishing	392	1,387	359	58	84	61	825	De 858	Ja 794	878	609	246	23	.....	931
23	Tobacco manufactures	59	287	72	3	9	.....	203	De 227	Ap 185	232	187	35	10	.....	.....
24	All other industries[4]	57	439	60	21	28	16	314	.....	.....	.....	.....	.....	.....	.....	2,230

[1] No figures given for reasons explained in the Introduction.
[2] Same number reported for one or more other months.
[3] Same number reported throughout the year.
[4] All other industries embrace—

Agricultural implements	3	Cars and general shop construction and repairs by street-railroad companies	1	Coffee and spice, roasting and grinding	1
Automobiles, including bodies and parts	3	Cement	1	Flavoring extracts	1
Awnings, tents, and sails	2	Clothing, men's, including shirts	2	Furnishing goods, men's	1
Carpets, rag	2			Furniture and refrigerators	2

TABLE III.—DETAIL STATEMENT FOR CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES,

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

	CITY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners (average number). Total.	Wage earners. 16 and over. Male.	Wage earners. 16 and over. Female.	Wage earners. Under 16.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
1	ABERDEEN	37	430	36	23	49	27	295	215	75	5	343	250	87	6	.....	540
2	SIOUX FALLS	83	937	86	58	79	37	677	502	168	7	711	527	177	7	.....	1,402

THE STATE, BY INDUSTRIES: 1909.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	**$13,017,932**	**$15,787,191**	**$324,561**	**$291,060**	**$2,297,512**	**$507,855**	**$10,968,495**	**$93,868**	**$145,837**	**$196,243**	**$961,760**	**$17,870,135**	**$6,393,785**
2	190,472	199,327	7,690	2,060	61,644	2,715	117,354	330	1,111	963	5,460	253,407	133,338
3	500,429	986,951	7,200	22,576	151,404	28,204	693,162	19,639	4,180	.....	60,586	1,160,536	439,170
4	226,870	79,632	8,855	726	27,504	19,838	10,736	5	1,126	.....	10,842	102,660	72,086
5	21,445	25,622	.....	1,420	8,349	306	12,003	.....	82	.....	3,462	33,404	21,095
6	633,230	2,545,073	22,154	21,760	111,770	33,097	2,274,936	5,339	3,033	.....	72,984	2,685,511	377,478
7	133,121	108,348	2,900	1,380	37,952	3,824	56,490	70	1,215	13	4,495	131,384	71,061
8	258,972	438,921	18,070	5,210	243,499	20,030	145,018	.....	1,875	.....	6,019	438,919	273,871
9	203,204	375,659	14,560	23,671	35,714	4,790	266,497	1,804	755	.....	27,868	400,249	128,962
10	49,543	88,130	3,600	2,979	13,899	566	48,406	1,688	179	.....	16,813	107,648	58,676
11	2,872,621	5,854,359	58,147	21,044	187,266	116,320	5,219,445	979	17,451	6,054	227,653	6,208,216	872,451
12	352,214	156,233	5,434	2,270	62,386	8,724	64,277	694	2,120	285	10,043	225,471	152,470
13	42,900	30,206	.....	936	4,966	175	19,610	1,200	133	.....	3,186	42,737	22,952
14	1,317,421	239,914	15,418	10,106	63,716	78,357	41,196	.....	5,776	.....	25,345	277,569	158,016
15	13,231	14,365	200	.....	6,279	92	6,986	504	160	.....	144	17,601	10,523
16	12,400	12,760	600	.....	3,483	42	7,650	620	100	.....	265	17,789	10,097
17	34,900	36,234	300	90	14,742	8,357	12,558	.....	57	.....	130	38,510	17,595
18	1,330,419	461,208	28,300	13,791	58,798	25,693	205,358	.....	51,198	.....	78,070	605,999	374,948
19	940,549	894,682	22,249	10,395	300,940	13,466	335,445	1,021	7,049	152,108	52,009	944,777	595,866
20	132,045	178,967	4,488	8,985	75,942	3,413	69,257	3,624	774	600	11,884	219,868	147,198
21	5,250	8,803	1,500	.....	1,500	.....	3,980	740	100	357	626	12,033	8,053
22	2,159,079	1,385,567	69,451	100,074	493,317	41,755	414,739	38,799	12,137	21,670	193,625	1,975,976	1,519,482
23	215,861	359,682	3,540	8,340	121,858	1,901	161,859	7,871	31,716	.....	22,597	454,281	290,521
24	1,371,756	1,306,548	20,905	33,247	210,584	96,190	781,524	8,941	4,310	14,193	127,654	1,515,590	637,876

[1] All other industries embrace—Continued.

Grease and tallow	1	Paint and varnish	1	Type founding and printing materials	1
Leather, tanned, curried, and finished	1	Photo-engraving	1	Typewriters and supplies	1
Mattresses and spring beds	2	Shipbuilding, including boat building	1	Wall plaster	1
Mineral and soda waters	25	Slaughtering and meat packing	1		
Models and patterns, not including paper patterns	1	Stoves and furnaces, including gas and oil stoves	1		

AND TOTALS FOR ALL INDUSTRIES IN CITIES OF 10,000 BUT LESS THAN 50,000 INHABITANTS: 1909.

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	$1,132,105	$1,399,842	$32,774	$61,639	$178,424	$43,381	$967,742	$10,008	$8,458	$35	$97,381	$1,574,993	$563,870
2	2,605,143	2,478,120	73,691	87,295	384,903	66,130	1,563,052	22,256	38,711	9,064	233,018	2,889,076	1,259,894

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TENNESSEE.

INDUSTRIES IN GENERAL.

General character of the state.—Tennessee has a gross area of 42,022 square miles, of which 335 represent water surface. Its population in 1910 was 2,184,789, as compared with 2,020,616 in 1900 and 1,767,518 in 1890. It ranked seventeenth among the 49 states and territories of continental United States as regards population in 1910 and fourteenth in 1900. The density of population for the entire state is 52.4 per square mile, the corresponding figure for 1900 being 48.5. Of the entire population of the state, 20.2 per cent resided in cities and incorporated towns having a population of 2,500 inhabitants or over, as against 16.2 per cent in 1900.

Memphis, with a population of 131,105, and Nashville, with 110,364, are the only cities in the state having over 50,000 inhabitants in 1910. Three other cities have a population of over 10,000 but less than 50,000, namely, Chattanooga, Knoxville, and Jackson. Apart from these five cities, only 4.7 per cent of the population resided in cities and incorporated towns of 2,500 inhabitants or over.

The transportation facilities of the state are good, as the Mississippi, Tennessee, and Cumberland Rivers afford advantages for communication by water, while the trunk lines of a number of large railway systems, several of which center at Memphis, cross the state and afford direct connection with all parts of the country.

Importance and growth of manufactures.—Tennessee is preeminently an agricultural and mining state, and its manufactures are based largely upon its rich natural resources. The development of manufacturing in the state has about kept pace with that in the United States as a whole, the value of the manufactures of the state representing about the same relative proportion, less than 1 per cent, of the total value of products of the manufacturing industries of the United States in 1849 and in 1909.

In 1849 the total value of the manufactures of the state, including the products of the neighborhood and hand industries, amounted to only $9,725,608, while in 1909, exclusive of the value of products of the neighborhood and hand industries, it reached $180,216,548, an increase of over seventeen times in 60 years. During the same period the population of the state increased 117.9 per cent. The gross value of products per capita of the total population of the state increased from $10 in 1849 to $82 in 1909.

The following table gives the most important figures relative to all classes of manufactures combined for 1909, 1904, and 1899, together with the percentages of increase from census to census:

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904–1909	1899–1904
Number of establishments	4,609	3,175	3,116	45.2	1.9
Persons engaged in manufactures	87,672	69,287	(1)	26.5	.....
Proprietors and firm members	5,415	3,805	(1)	42.3	.....
Salaried employees	8,417	4,910	3,329	71.4	47.5
Wage earners (average number)	73,840	60,572	45,963	21.9	31.8
Primary horsepower	242,277	175,780	130,318	37.8	34.9
Capital	$167,924,000	$102,439,000	$63,141,000	63.9	62.2
Expenses	158,980,000	119,328,000	78,358,000	33.2	52.3
Services	37,438,000	27,886,000	17,776,000	34.3	56.9
Salaries	9,186,000	5,080,000	3,048,000	80.8	66.7
Wages	28,252,000	22,806,000	14,728,000	23.9	54.8
Materials	104,016,000	79,352,000	54,559,000	31.1	45.4
Miscellaneous	17,526,000	12,090,000	6,023,000	45.0	100.7
Value of products	180,217,000	137,960,000	92,749,000	30.6	48.7
Value added by manufacture (value of products less cost of materials)	76,201,000	58,608,000	38,190,000	30.0	53.5

[1] Figures not available.

In 1909 the state of Tennessee had 4,609 manufacturing establishments, which gave employment to an average of 87,672 persons during the year and paid out $37,438,000 in salaries and wages. Of the persons employed, 73,840 were wage earners. The establishments reporting turned out products to the value of $180,217,000, to produce which materials costing $104,016,000 were used. The value added by manufacture was thus $76,201,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

In general, this table indicates that while there was considerable development in manufactures during the five-year period 1904–1909, the percentage of increase in most items was less than for the preceding five-year period, 1899–1904. The greatest relative increases during the later period were in number of establishments (45.2 per cent), number of salaried employees (71.4 per cent), and salaries (80.8 per cent). The number of wage earners increased 21.9 per cent, the value of products 30.6 per cent, and value added by manufacture 30 per cent. As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume to the full extent indicated by these figures regarding values, since the increase shown is certainly due, in part, to the increase that has taken place in the prices of commodities.

The relative importance and growth of the leading manufacturing industries of the state are shown in the following table:

INDUSTRY	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE.[1]			
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Value of products.		Value added by manufacture.	
								1904–1909	1899–1904	1904–1909	1899–1904
All industries	4,609	73,840	100.0	$180,217,000	100.0	$76,201,000	100.0	30.6	48.7	30.0	53.5
Lumber and timber products	1,977	22,389	30.3	30,457,000	16.9	16,816,000	22.1	13 4	40.2	10.1	55.2
Flour-mill and gristmill products	454	1,577	2.1	29,070,000	16.1	3,784,000	5.0	14.7	32.3	10.0	21.2
Foundry and machine-shop products	124	4,041	5.5	9,190,000	5.1	4,630,000	6 1	50.1	31.9	41.6	38.6
Printing and publishing	413	2,914	3.9	7,173,000	4.0	5,219,000	6.8	40.9	47.4	38.5	46.4
Cars and general shop construction and repairs by steam-railroad companies	17	5,566	7.5	6,777,000	3.8	3,661,000	4.8	16.1	87.6	28.0	80.5
Oil, cottonseed, and cake	20	806	1.1	6,593,000	3.7	1,392,000	1.8	76.1	25.6	110.9	−6.0
Cotton goods, including cotton small wares	17	3,078	4.2	5,201,000	2.9	1,857,000	2.4	46.1	78.5	40.7	54.9
Iron and steel, blast furnaces	13	1,143	1.5	4,653,000	2.6	1,272,000	1.7	35.7	−27.0	55.3	−46.3
Hosiery and knit goods	22	3,117	4.2	3,565,000	2.0	1,445,000	1.9	119.0	312.2	119.3	351.4
Patent medicines and compounds and druggists' preparations	76	433	0.6	3,515,000	2.0	2,174,000	2.9	.....	.....	.....	.....
Clothing, men's, including shirts	34	1,596	2.2	3,361,000	1.9	1,238,000	1.6	9.5	74.4	3.9	60.2
Furniture and refrigerators	42	2,419	3.3	3,309,000	1.8	1,861,000	2.4	.....	.....	.....	.....
Fertilizers	12	559	0.8	3,240,000	1.8	1,127,000	1.5	20.3	84.2	14.0	46.3
Carriages and wagons and materials	129	1,706	2.3	3,040,000	1.7	1,601,000	2.1	−7.3	93.7	−0.6	76.5
Bread and other bakery products	131	855	1.2	2,892,000	1.6	1,102,000	1.4	46.5	79.0	15.6	126.9
Leather, tanned, curried, and finished	25	395	0.5	2,530,000	1.4	536,000	0.7	−29.4	27.9	−26.9	18.6
Confectionery	31	894	1.2	2,520,000	1.4	863,000	1.1	34.5	130.1	−5.4	133.8
Liquors, distilled	39	154	0.2	2,256,000	1.3	1,861,000	2.4	297.2	−39.6	496.5	−57.8
Leather goods	47	604	0.8	2,139,000	1.2	826,000	1.1	19.7	59.3	0.6	75.1
Slaughtering and meat packing	27	280	0.4	2,057,000	1.1	447,000	0.6	.....	.....	.....	.....
Liquors, malt	5	392	0.5	2,044,000	1.1	1,391,000	1.8	11.6	55.9	−0.3	52.8
Stoves and furnaces, including gas and oil stoves	17	1,085	1.5	1,951,000	1.1	1,234,000	1.6	74.8	.....	60.9	.....
Woolen, worsted, and felt goods, and wool hats	21	1,654	2.2	1,802,000	1.0	675,000	0.9	5.6	12.5	−11.3	18.4
Marble and stone work	81	1,006	1.4	1,465,000	0.8	985,000	1.3	55.2	11.7	62.8	−4.0
Ice, manufactured	57	779	1.1	1,324,000	0.7	1,043,000	1.4	93.6	27.1	85.9	31.1
Brick and tile	91	1,281	1.7	1,308,000	0.7	962,000	1.3	18.9	60.6	15.2	60.9
Gas, illuminating and heating	11	422	0.6	1,282,000	0.7	925,000	1.2	54.5	45.1	47.8	43.2
Copper, tin, and sheet-iron products	57	572	0.8	1,229,000	0.7	636,000	0.8	41.1	147.4	45.9	123.6
Coffins, burial cases, and undertakers' goods	8	480	0.6	1,189,000	0.7	667,000	0.9	28.8	47.7	16.2	93.9
Boots and shoes, including cut stock and findings	4	374	0.5	1,181,000	0 6	354,000	0 5	41.1	.....	79.7	.....
Cooperage and wooden goods, not elsewhere specified	19	856	1.2	1,148,000	0 6	519,000	0.7	.....	.....	.....	.....
Agricultural implements	16	645	0.9	1,004,000	0.6	591,000	0.8	30.6	66.1	29.9	74.3
Mattresses and spring beds	17	272	0.4	656,000	0.4	294,000	0.4	50.5	65.8	33.6	168.3
Coke	8	250	0.3	586,000	0.3	108,000	0.1	−27.7	5.9	−45.7	−17.8
Paint and varnish	6	71	0.1	397,000	0.2	159,000	0.2	−17.5	218.5	−17.6	211.3
Pottery, terra-cotta, and fire-clay products	6	323	0.4	328,000	0.2	218,000	0.3	6.1	18.8	−5.2	23.7
Lime	20	415	0.6	323,000	0.2	230,000	0.3	−0.9	.....	12.2	.....
Boxes, fancy and paper	6	202	0.3	258,000	0.1	136,000	0.2	31.6	48.5	47.8	33.3
Canning and preserving	37	303	0.4	206,000	0.1	75,000	0.1	−14.9	236.1	−17.6	167.6
Millinery and lace goods	6	92	0.1	202,000	0.1	101,000	0.1	11.6	.....	26.2	.....
All other industries	466	7,840	10.6	26,787,000	14.9	11,186,000	14.7	.....	.....	.....	.....

[1] Percentages are based on figures in Table I; a minus sign (−) denotes decrease. Where the percentages are omitted, comparable figures can not be given.

It should be borne in mind, in considering this table, that the value of products in some of the industries involves a certain amount of duplication, due to the use of the products of one establishment in the industry as material for another establishment.

In addition to the 40 industries presented separately in the above table, there are 19 other industries, each of which reported products valued at more than $200,000 in 1909. These are included under the head of "All other industries," because in some instances, if they were shown separately, the operations of individual establishments would be disclosed; in others, because the returns do not properly present the true conditions of the industry, as it is more or less interwoven with one or more other industries; and in others, because comparable statistics for the different census years can not be presented on account of changes in classification. These industries are: Bags, other than paper; brooms; cars and general shop construction and repairs by street-railroad com-

panies; cars, steam-railroad, not including the operations of railroad companies; cement; coffee and spice, roasting and grinding; dyestuffs and extracts; explosives; flavoring extracts; food preparations; glass; iron and steel, steel works and rolling mills; mineral and soda waters; smelting and refining, copper; soap; sulphuric, nitric, and mixed acids; tobacco manufactures; vinegar and cider; and wood, turned and carved. Statistics, however, for the manufacture of bags, other than paper, the broom industry, street-railroad repair shops, and the construction of steam-railroad cars are presented in Table II, page 1192, for 1909.

The most important industries listed in this table, in which they are arranged in the order of the value of products, call for brief consideration.

Lumber and timber products.—This industry embraces logging operations, sawmills, planing mills, and establishments engaged in the manufacture of wooden packing boxes. The statistics of mills engaged exclusively in custom sawing for local consumption are not included in the general tables or in the totals for manufacturing industries. Separate statistics for the custom sawmills are given on page 1187. In spite of the fact that the rate of increase in this industry was comparatively small for the period from 1904 to 1909, it still leads all other industries in the state, having in 1909 over two-fifths of the number of establishments and reporting over one-sixth of the total value of products and nearly one-third of the total number of wage earners.

Flour-mill and gristmill products.—In value of products this industry stood but little below the lumber and timber products industry in 1909, reporting 16.1 per cent of the total for the state. The rate of growth, however, was less from 1904 to 1909 than from 1899 to 1904. There was a slight decrease during the last five years in the number of wage earners employed, due perhaps to improved methods of manufacturing and of handling grain and the manufactured products. The soil and climatic conditions of the state are well adapted, especially in the eastern and middle sections, to the raising of wheat and corn. Owing to the comparatively simple processes involved in this class of manufacture, as well as the extent to which these processes are carried on by machinery, the value added by manufacture and the number of wage earners employed are small in proportion to the gross value of products.

Foundry and machine-shop products.—This classification embraces not only foundries and machine shops but establishments engaged in the manufacture of gas machines, hardware, plumbers' supplies, steam fittings and heating apparatus, iron and steel pipe, cast, and structural ironwork. The industry was really of greater importance in the state than is indicated by the statistics, as some machine shops manufactured a distinctive product and were assigned to other classifications. The number of establishments engaged in the industry increased from 100 in 1904 to 124 in 1909. During this period the value of products increased 50.1 per cent and the value added by manufacture 41.6 per cent.

Printing and publishing.—All establishments engaged in bookbinding and blank-book making, steel engraving and plate printing, job printing, and the printing and publishing of newspapers, periodicals, books, and music are included under this head. This industry has had a substantial growth during each of the two five-year periods.

Cars and general shop construction and repairs by steam-railroad companies.—This industry is peculiar among the manufacturing industries of the country. It represents the work done in the car shops of steam-railroad companies and is confined practically to the repairs to the rolling stock and equipment of their own roads, although, to a limited extent, there may be some new construction of rolling stock. The statistics are exclusive of minor repairs in roundhouses.

Oil, cottonseed, and cake.—The statistics include those for all establishments engaged primarily in extracting oil from cotton seed or refining crude cottonseed oil. The industry is entirely dependent upon the production of cotton, as it utilizes the seed, of which, prior to 1870, comparatively little use was made. In this industry a very decided increase in value of products is shown from 1904 to 1909, accompanied by an increase of 15 per cent in the number of wage earners. The establishments are located principally in the southern and western, or cotton-growing, sections of the state.

Iron and steel, blast furnaces.—The industry shows a decrease of 27 per cent in value of products from 1899 to 1904. During the period from 1904 to 1909, however, the industry felt the stimulating effect of the increased demand for pig iron, and with the development of extensive ore beds the industry has nearly recovered from the depression of 1904.

Textiles.—The textile industries of the state—consisting of the manufacture of cotton goods, hosiery and knit goods, and woolen and worsted goods—are important branches of the state's manufacturing interests. Combined, the three allied branches gave employment to an average of 7,849 wage earners during 1909, and the value of their products amounted to $10,568,000, these figures representing 10.6 per cent and 5.9 per cent, respectively, of the corresponding totals for all manufacturing industries in the state.

Measured by value added by manufacture, only 5 of the 40 industries presented separately in the above table held the same rank as when measured by value of products. Interesting variations in this respect are shown for some of the industries. Printing and publishing and the flour mills and gristmills exchange places,

the former taking second place and the latter industry going to fourth place. The manufacture of patent medicines and compounds displaces the cottonseed-oil industry from sixth place, the latter industry dropping to eleventh place. Blast furnaces drop from eighth place in value of products to thirteenth in value added by manufacture. Still greater variations are shown for the leather, distilled-liquor, slaughtering and meat-packing, and malt-liquor industries.

Wherever comparative figures can be given, this table shows also the percentages of increase for these leading industries in value of products and value added by manufacture. During the five-year period 1904 to 1909, the distillery, hosiery and knit-goods, and ice industries showed large increases in gross value of products as well as in value added by manufacture. Six of the industries listed separately, namely, the manufacture of carriages and wagons, the tanning and finishing of leather, and the coke, paint and varnish, lime, and canning and preserving industries showed decreases in value of products from 1904 to 1909, while 8 industries showed decreases during the same period in value added by manufacture. None of these decreases, however, occurred among the 10 leading industries in the state. From 1899 to 1904 there was only 1 industry which showed a decrease in value of products, but 7 showed a decrease in value added by manufacture.

Persons engaged in manufacturing industries.—The following table shows, for 1909, the distribution of the number of persons engaged in manufactures, the average number of wage earners being distributed by sex and age. It should be borne in mind, however, that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes	**87,672**	**77,277**	**10,395**
Proprietors and officials	8,393	8,252	141
Proprietors and firm members	5,415	5,303	112
Salaried officers of corporations	1,216	1,203	13
Superintendents and managers	1,762	1,746	16
Clerks	5,439	4,377	1,062
Wage earners (average number)	73,840	64,648	9,192
16 years of age and over	71,395	63,016	8,379
Under 16 years of age	2,445	1,632	813

The average number of persons engaged in manufactures during 1909 was 87,672, of whom 73,840 were wage earners. Of the remainder, 8,393 were proprietors and officials and 5,439 were clerks. Corresponding figures for individual industries will be found in Table II, page 1192.

The following table shows, for 1909, the percentage of proprietors and officials, clerks, and wage earners, respectively, among the total number of persons employed in manufactures. It covers all industries combined and 16 important industries individually:

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries	**87,672**	**9.6**	**6.2**	**84.2**
Bread and other bakery products	1,179	14.8	12.7	72.5
Carriages and wagons and materials	1,992	11.6	2.7	85.6
Cars and general shop construction and repairs by steam-railroad companies	5,884	1.4	4.0	94.6
Clothing, men's, including shirts	1,892	5.3	10.4	84.4
Cotton goods, including cotton small wares	3,164	1.6	1.1	97.3
Fertilizers	670	5.2	11.3	83.4
Flour-mill and gristmill products	2,658	31.2	9.5	59.3
Foundry and machine-shop products	4,694	6.4	7.5	86.1
Furniture and refrigerators	2,667	4.6	4.7	90.7
Hosiery and knit goods	3,229	1.9	1.5	96.5
Iron and steel, blast furnaces	1,268	3.8	6.1	90.1
Lumber and timber products	26,283	12.6	2.2	85.2
Oil, cottonseed, and cake	957	6.0	9.8	84.2
Patent medicines and compounds and druggists' preparations	998	13.7	42.9	43.4
Printing and publishing	4,442	15.1	19.3	65.6
Woolen, worsted, and felt goods, and wool hats	1,737	2.8	2.0	95.2
All other industries	23,958	8.9	7.7	83.4

Of the total number of persons engaged in all manufacturing industries, 9.6 per cent were proprietors and officials, 6.2 per cent clerks, and 84.2 per cent wage earners. In the flour-mill and gristmill industry the majority of the establishments are small and the work is to a large extent done by the proprietors or their immediate representatives, so that the proportion of persons engaged in this industry falling in the class of proprietors and officials is very much higher than for any other industry or for all industries combined. Similar conditions prevail to some extent in the lumber and timber products, bakery, and printing and publishing industries, and in the manufacture of patent medicines and compounds, and carriages and wagons. The small proportion of this class shown for the cotton-goods and the steam-railroad repair shop industries is due to the comparatively large number of wage earners employed.

The table following shows, for 1909, in percentages, for all industries combined, the distribution of the average number of wage earners by age periods, and for those 16 years of age and over by sex, calculated in the manner described in the Introduction. It also shows, for some of the important industries separately, a similar distribution of wage earners as reported for December 15, or the nearest representative day. As a means of judging the importance of the several industries the average number employed for the year is also given in each case.

INDUSTRY.	WAGE EARNERS.			
	Average number.[1]	Per cent of total.		
		16 years of age and over.		Under 16 years of age.
		Male.	Female.	
All industries	73,840	85.3	11.3	3.3
Bread and other bakery products	855	71.9	26.1	2.0
Carriages and wagons and materials	1,706	99.1	0.2	0.6
Cars and general shop construction and repairs by steam-railroad companies	5,566	99.7	0.3	(2)
Clothing, men's, including shirts	1,596	19.2	79.1	1.7
Cotton goods, including cotton small wares	3,078	44.5	37.9	17.6
Fertilizers	559	100.0	.....	.....
Flour-mill and gristmill products	1,577	99.0	0.1	0.9
Foundry and machine-shop products	4,041	98.6	0.2	1.2
Furniture and refrigerators	2,419	91.4	2.8	5.8
Hosiery and knit goods	3,117	25.8	57.6	16.6
Iron and steel, blast furnaces	1,143	99.1	.....	0.9
Lumber and timber products	22,389	98.0	0.6	1.4
Oil, cottonseed, and cake	806	99.9	0.1	.....
Patent medicines and compounds and druggists' preparations	433	41.3	58.2	0.5
Printing and publishing	2,914	76.9	20.2	3.0
Woolen, worsted, and felt goods, and wool hats	1,654	44.6	44.7	10.8
All other industries	19,987	86.7	10.6	2.7

[1] For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see Introduction.
[2] Less than one-tenth of 1 per cent.

For all industries combined, 85.3 per cent of the average number of wage earners were males 16 years of age and over; 11.3 per cent, females 16 years of age and over; and 3.3 per cent, children under 16 years of age. The larger part of the total number of female wage earners is made up of those employed in the men's clothing and the textile industries. In the men's clothing industry over three-fourths of the wage earners are women 16 years of age and over; in the cotton-goods industry, over one-third; in the hosiery and knit-goods industry, more than one-half; and in the woolen mills, a little less than one-half. The proportions which the number of children formed of the total number of wage earners engaged in each of the textile industries were as follows: Cotton goods, 17.6 per cent; hosiery and knit goods, 16.6 per cent; and woolen goods, 10.8 per cent.

In order to compare the distribution of persons engaged in manufactures in 1909 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See Introduction.) The following table makes this comparison according to occupational status:

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				
	1909		1904		Per cent of increase, 1904–1909.
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total	87,672	100.0	69,287	100.0	26.5
Proprietors and firm members	5,415	6.2	3,805	5.5	42.3
Salaried employees	8,417	9.6	4,910	7.1	71.4
Wage earners (average number)	73,840	84.2	60,572	87.4	21.9

Comparable figures are not obtainable for 1899. Salaried employees show the greatest percentage of increase. Although the greatest actual gain in persons engaged in manufactures was in wage earners, this class shows the smallest percentage of increase and is the only one which shows a decrease in relative numerical importance.

The following table shows the average number of wage earners, distributed according to age periods, and in the case of those 16 years of age and over according to sex, for 1909, 1904, and 1899. The averages for 1909 are estimated on the basis of the actual number reported for a single representative day. (See Introduction.)

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	73,840	100.0	60,572	100.0	45,963	100.0
16 years of age and over	71,395	96.7	58,368	96.4	43,970	95.7
Male	63,016	85.3	51,757	85.4	39,095	85.1
Female	8,379	11.3	6,611	10.9	4,875	10.6
Under 16 years of age	2,445	3.3	2,204	3.6	1,993	4.3

This table shows that, while for all industries combined there were increases from 1899 to 1904 and from 1904 to 1909 in the number of children under 16 years of age employed, the proportion which the children form of the total number of wage earners has decreased from census to census. There has not been much change in the proportion of male and of female wage earners 16 years of age and over. In 1909 males 16 years of age and over formed 85.3 per cent of all wage earners, as compared with 85.4 per cent in 1904 and 85.1 per cent in 1899.

Wage earners employed, by months.—The next table gives the number of wage earners employed on the 15th of each month during the year 1909, for all industries combined, for canning and preserving, for the lumber and timber and the cottonseed-oil industries, and for all other industries combined; it gives also the percentage which the number reported for each month is of the greatest number reported for any one month. In Table II, page 1192, are shown for practically all of the important industries in the state, the largest number and the smallest number of wage earners reported for any month. The figures are for the 15th day, or the nearest representative day, of the month. The wage earners for the lumber industry are divided in the table so as to show separately the number employed in the mills and the number engaged in logging operations.

A little more than 30 per cent of the total average number of wage earners in all industries combined are employed in the lumber and timber industry, and the variation in the number of wage earners employed from month to month for all industries follows closely the variation in the number employed in that one industry. In the lumber mills the minimum number was reported for January. There was an increase from January to March, followed by a decrease from March to June, but from June to November, when the maximum number, 19,249, was employed, the number in-

creased constantly from month to month. In logging operations the least number was employed in May and the greatest in November. A greater variation occurred in the number of wage earners employed in the cottonseed-oil and the canning and preserving industries, but as the number employed was comparatively small, the fluctuation does not materially affect the total for all industries. As in the lumber and timber industry, the maximum number in the cottonseed-oil mills was employed in November. The proportion of the maximum represented by the number reported for the summer months was very low. The canning and preserving industry is particularly seasonal in its character, the number employed varying from 3 in March, probably watchmen or caretakers, to 1,411 in August.

MONTH.	WAGE EARNERS.													
	All industries.		Canning and preserving.		Lumber and timber products.						Oil, cottonseed, and cake.		All other industries.	
					Total.		In mills.		In logging operations.					
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.
January	69,305	85.9	10	0.7	20,620	81.0	16,110	83.7	4,510	72.6	1,306	93.7	47,369	88.1
February	69,974	86.7	10	0.7	20,963	82.3	16,481	85.6	4,482	72.1	1,144	82.1	47,857	89.0
March	71,073	88.1	3	0.2	21,771	85.5	17,265	89.7	4,506	72.5	918	65.9	48,381	89.9
April	70,666	87.6	11	0.8	21,485	84.4	16,961	88.1	4,524	72.8	523	37.5	48,647	90.4
May	69,713	86.4	15	1.1	20,969	82.4	16,646	86.5	4,323	69.6	457	32.8	48,272	89.7
June	70,123	86.9	15	1.1	20,651	81.1	16,241	84.4	4,410	71.0	213	15.3	49,244	91.5
July	71,155	88.2	361	25.6	21,080	82.8	16,406	85.2	4,674	75.2	186	13.3	49,528	92.1
August	74,956	92.9	1,411	100.0	22,189	87.1	16,850	87.5	5,339	85.9	206	14.8	51,150	95.1
September	78,850	97.7	1,243	88.1	23,965	94.1	18,217	94.6	5,748	92.5	685	49.1	52,957	98.4
October	80,011	99.2	504	35.7	24,980	98.1	18,873	98.0	6,107	98.3	1,363	97.8	53,164	98.8
November	80,676	100.0	25	1.8	25,462	100.0	19,249	100.0	6,213	100.0	1,394	100.0	53,795	100.0
December	79,587	98.6	25	1.8	24,537	96.4	19,055	99.0	5,482	88.2	1,280	91.8	53,745	99.9

Prevailing hours of labor.—In the next table wage earners have been classified according to the hours of labor prevailing in the establishments in which they are employed.

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries	**73,840**	**3,579**	**2,040**	**9,957**	**7,416**	**39,806**	**6,126**	**2,419**	**2,497**
Agricultural implements	645	1		154		490			
Boots and shoes, including cut stock and findings	374			73	101	200			
Boxes, fancy and paper	202			21	87	94			
Bread and other bakery products	855	34	15	161	57	412	113	38	25
Brick and tile	1,281	28	27	43	51	1,017	26	78	11
Canning and preserving	303	30	31	16	20	130	51	25	
Carriages and wagons and materials	1,706	102	89	100	201	1,211	1	2	
Cars and general shop construction and repairs by steam-railroad companies	5,566	218		4,305	887	14	142		
Clothing, men's, including shirts	1,596	103	205	423	551	314			
Coffins, burial cases, and undertakers' goods	480		88	13	156	223			
Coke	250	44		56		144	6		
Confectionery	894	4	8	18	373	428	55	8	
Cooperage and wooden goods, not elsewhere specified	856	29		3	25	799			
Copper, tin, and sheet-iron products	572	129	90	96	2	255			
Cotton goods, including cotton small wares	3,078			65		1,333	1,643	37	
Fertilizers	559	1			46	512			
Flour-mill and gristmill products	1,577	167	5	3		410	78	913	1
Foundry and machine-shop products	4,041	10	13	1,005	441	2,551	19	2	
Furniture and refrigerators	2,419		31	256	580	1,321	207	24	
Gas, illuminating and heating	422					1	81	103	237
Hosiery and knit goods	3,117				840	1,323	954		
Ice, manufactured	779	2				23	56	87	611
Iron and steel, blast furnaces	1,143					189		73	881
Leather goods	604	8	8	99	180	309			
Leather, tanned, currried, and finished	395	1			11	383			
Lime	415			18	32	218	66	41	40
Liquors, distilled	154	2		11		117		24	
Liquors, malt	392	132		124	111			25	
Lumber and timber products	22,389	729	704	826	933	17,973	1,177	46	1
Marble and stone work	1,006	80	6	188	23	434	246		29
Mattresses and spring beds	272	5	61	67	14	125			
Millinery and lace goods	92	5		72		15			
Oil, cottonseed, and cake	806							806	
Paint and varnish	71			4		67			
Patent medicines and compounds and druggists' preparations	433	46	70	90	175	50	2		
Pottery, terra-cotta, and fire-clay products	323	30				36	248		
Printing and publishing	2,914	1,149	386	782	262	335			
Slaughtering and meat packing	280	4		2		249		2	23
Stoves and furnaces, including gas and oil stoves	1,085	5	98	239	7	736			
Woolen, worsted, and felt goods, and wool hats	1,654	1			67	1,029	557		
All other industries	7,840	471	105	624	1,183	4,336	398	85	638

In making this classification the average number of wage earners employed during the year is used, and the number employed in each establishment is classified as a total according to the hours prevailing in that establishment, even though a few employees work a greater or less number of hours.

For more than one-half of the wage earners employed in the manufacturing industries of Tennessee the prevailing hours of labor are 60 a week. Nearly one-fourth of the total work from 54 to 60 hours a week; 7.6 per cent are employed in establishments where the prevailing hours are less than 54 a week; and 15 per cent in establishments where they are more than 60 a week.

It will be noted that the foundry and machine-shop, hosiery and knit-goods, furniture, and lumber and timber industries, as well as a number of others, are mainly on a 60-hour-per-week basis, but that the flour-mill and gristmill and the cottonseed-oil industries are largely on a 72-hour-per-week basis. In the majority of establishments engaged in the manufacture of ice and in the operation of blast furnaces wage earners are usually employed over 72 hours per week, these long hours being doubtless explained by the operation of the establishments on Sunday.

Location of establishments.—The following table shows the extent to which the manufactures of Tennessee are centralized in cities of 10,000 population and over. (See Introduction.) The population in 1900 was used as the basis in making the classification for 1904 as well as for 1899.

ITEM.	Year.	Total.	LOCATION OF ESTABLISHMENT.		PER CENT OF TOTAL.	
			In cities with population of 10,000 and over.	Outside districts.	In cities with population of 10,000 and over.	Outside districts.
Population	1910	2,184,789	338,198	1,846,591	15.5	84.5
	1900	2,020,616	260,487	1,760,129	12.9	87.1
Number of establishments.	1909	4,609	1,099	3,510	23.8	76.2
	1904	3,175	903	2,272	28.4	71.6
	1899	3,116	744	2,372	23.9	76.1
Average number of wage earners.	1909	73,840	28,236	45,604	38.2	61.8
	1904	60,572	26,093	34,479	43.1	56.9
	1899	45,963	23,302	22,661	50.7	49.3
Value of products	1909	$180,216,548	$86,786,821	$93,429,727	48.2	51.8
	1904	137,960,476	64,888,160	73,072,316	47.0	53.0
	1899	92,749,129	47,831,174	44,917,955	51.6	48.4
Value added by manufacture.	1909	76,200,714	36,729,504	39,471,210	48.2	51.8
	1904	58,608,730	28,309,319	30,299,411	48.3	51.7
	1899	38,190,090	20,259,432	17,930,658	53.0	47.0

In 1909, 48.2 per cent of the total value of products and 38.2 per cent of the average number of wage earners were reported from cities having over 10,000 inhabitants. While very little change took place during the last 10 years in the relative number of establishments in the cities of over 10,000 inhabitants and in the remainder of the state, the outside districts show a substantial increase over the cities in the average number of wage earners employed, and a smaller relative increase in value of products and in value added by manufacture.

The population for 1910 and 1900 of the five cities which had 10,000 inhabitants and over in 1910 is given in the following tabular statement:

CITY.	1910	1900
Memphis	131,105	102,320
Nashville	110,364	80,865
Chattanooga	44,604	30,154
Knoxville	36,346	32,637
Jackson	15,779	14,511

The relative importance in manufactures of these cities is shown in the following table, in which the value of products and average number of wage earners are shown separately for 1909, 1904, and 1899:

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Memphis [1]	7,927	7,374	6,626	$30,241,519	$20,043,192	$14,233,483
Nashville [1]	9,721	8,032	6,726	29,649,697	21,567,013	15,301,096
Chattanooga [1]	6,410	6,420	4,729	16,036,455	14,261,390	10,517,886
Knoxville [1]	2,773	2,999	4,203	8,149,377	6,698,850	6,201,840
Jackson	1,405	1,268	1,018	2,709,773	2,317,715	1,576,869

[1] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.

Each city shows an increase in the value of products from 1899 to 1904 and from 1904 to 1909. During the period from 1904 to 1909 Memphis shows the greatest rate of gain and Chattanooga the smallest. In average number of wage earners Knoxville shows a decrease during each of the five-year periods, Chattanooga a slight decrease from 1904 to 1909, while the other three cities show increases for both periods.

Memphis, the largest city in the state, shows an increase in 1909, as compared with 1904, of $10,198,327, or 50.9 per cent, in value of products, and of 553, or 7.5 per cent, in the average number of wage earners. The leading manufactures of this city are flour-mill and gristmill products, food preparations, lumber and timber products, cottonseed-oil and tobacco manufactures. In 1909, 65.5 per cent of the total value of cottonseed products manufactured in the state was reported from Memphis.

The increase in value of products for Nashville from 1904 to 1909 was $8,082,684, or 37.5 per cent. The flour-mill and gristmill and printing and publishing industries of this city contributed 19.7 per cent and 45.8 per cent, respectively, of the total value of products of these industries in the state.

Chattanooga's chief industry was the manufacture of foundry and machine-shop products. Other important manufactures, however, were flour-mill and gristmill products, lumber, malt liquors, and furniture.

In Knoxville the flour-mill and gristmill industry was the most important, followed by the men's clothing

industry. Of the total value of men's clothing manufactured in the state in 1909, Knoxville reported 38.2 per cent. The lumber and timber industry and printing and publishing are other important industries.

The leading manufacturing industries of Jackson are the steam-railroad repair shops, foundries and machine shops, the lumber and timber industry, and the cottonseed-oil mills.

The statistics for that part of Bristol which lies in Tennessee are included with those for the outside district in the table on page 1179. The table in the next column presents the totals for the entire city and for the parts situated in Tennessee and Virginia, respectively.

The leading industries of Bristol, Tenn., are the flour-mill and gristmill industry and the manufacture of dyestuffs and extracts, and those of Bristol, Va., are the flour mills and gristmills, the manufacture of paper and wood pulp, the lumber and timber industry, and the steam-railroad repair shops.

	Total for city.	Bristol, Tenn.	Bristol, Va.
Population (1910)	13,395	7,148	6,247
Number of establishments	51	23	28
Persons engaged in manufactures	1,319	377	942
Proprietors and firm members	42	22	20
Salaried employees	148	68	80
Wage earners (average number)	1,129	287	842
Primary horsepower	3,914	1,289	2,625
Capital	$3,062,409	$1,345,671	$1,716,738
Expenses	2,619,392	820,676	1,798,716
Services	631,813	160,327	471,486
Salaries	142,741	53,615	89,126
Wages	489,072	106,712	382,360
Materials	1,828,296	593,974	1,234,322
Miscellaneous	159,283	66,375	92,908
Value of products	2,848,777	878,109	1,970,668
Value added by manufacture (value of products less cost of materials)	1,020,481	284,135	736,346

Character of ownership.—The table that follows presents conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the censuses of 1909 and 1904. Comparative data for 1899 are not available.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	4,609	73,840	$180,216,548	$76,200,714
1904	3,175	60,572	137,960,476	58,608,730
Individual:				
1909	2,182	11,349	22,206,362	10,635,339
1904	1,345	8,717	17,339,985	8,277,012
Firm:				
1909	1,330	10,386	23,227,921	10,487,841
1904	1,035	9,793	23,300,353	9,946,132
Corporation:				
1909	1,068	51,716	133,750,538	54,238,100
1904	785	42,049	97,285,799	40,362,147
Other:				
1909	29	389	1,031,727	839,434
1904	10	13	34,339	23,439
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Individual:				
1909	47.3	15.4	12.3	14.0
1904	42.4	14.4	12.6	14.1
Firm:				
1909	28.9	14.1	12.9	13.8
1904	32.6	16.2	16.9	17.0
Corporation:				
1909	23.2	70.0	74.2	71.2
1904	24.7	69.4	70.5	68.9
Other:				
1909	0.6	0.5	0.6	1.1
1904	0.3	(1)	(1)	(1)
Carriages and wagons and materials, 1909	129	1,706	$3,039,613	$1,600,187
Individual	46	284	404,778	216,434
Firm	44	297	505,542	307,132
Corporation	39	1,125	2,129,293	1,076,621
Per cent of total	100.0	100.0	100.0	100.0
Individual	35.7	16.6	13.3	13.5
Firm	34.1	17.4	16.6	19.2
Corporation	30.2	65.9	70.1	67.3
Clothing, men's, including shirts, 1909	34	1,596	$3,361,105	$1,238,595
Individual	6	21	51,669	25,111
Firm	8	481	993,241	392,690
Corporation	20	1,094	2,316,195	820,794
Per cent of total	100.0	100.0	100.0	100.0
Individual	17.6	1.3	1.5	2.0
Firm	23.5	30.1	29.6	31.7
Corporation	58.8	68.5	68.9	66.3
Flour-mill and gristmill products, 1909	454	1,577	$29,070,019	$3,784,153
Individual	203	359	5,493,218	891,518
Firm	187	361	5,870,094	987,156
Corporation	64	857	17,706,707	1,905,479
Per cent of total	100.0	100.0	100.0	100.0
Individual	44.7	22.8	18.9	23.6
Firm	41.2	22.9	20.2	26.1
Corporation	14.1	54.3	60.9	50.4
Foundry and machine-shop products, 1909	124	4,041	$9,189,791	$4,629,591
Individual	35	413	868,751	427,803
Firm	29	159	352,769	214,384
Corporation	60	3,469	7,968,271	3,987,404
Per cent of total	100.0	100.0	100.0	100.0
Individual	28.2	10.2	9.5	9.2
Firm	23.4	3.9	3.8	4.6
Corporation	48.4	85.8	86.8	86.1
Furniture and refrigerators, 1909	42	2,419	$3,309,385	$1,861,512
Individual	7	222	194,084	125,184
Firm	4	93	69,687	34,890
Corporation	31	2,104	3,045,614	1,701,438
Per cent of total	100.0	100.0	100.0	100.0
Individual	16.7	9.2	5.9	6.7
Firm	9.5	3.8	2.1	1.9
Corporation	73.8	87.0	92.0	91.4
Lumber and timber products, 1909	1,977	22,389	$30,456,807	$16,815,366
Individual	1,101	6,676	6,690,074	4,141,237
Firm	665	5,906	6,567,393	4,104,112
Corporation	211	9,807	17,199,340	8,570,017
Per cent of total	100.0	100.0	100.0	100.0
Individual	55.7	29.8	22.0	24.7
Firm	33.6	26.4	21.6	24.4
Corporation	10.7	43.8	56.5	51.0
Patent medicines and compounds and druggists' preparations, 1909	76	433	$3,514,676	$2,173,870
Individual	15	12	53,072	36,787
Firm	15	194	1,778,181	1,201,940
Corporation	46	227	1,683,423	935,143
Per cent of total	100.0	100.0	100.0	100.0
Individual	19.7	2.8	1.5	1.7
Firm	19.7	44.8	50.6	55.3
Corporation	60.5	52.4	47.9	43.0
Printing and publishing, 1909	413	2,914	$7,173,230	$5,219,645
Individual	208	426	793,011	594,148
Firm	92	440	874,406	600,649
Corporation	85	1,663	4,490,709	3,190,473
Other	28	385	1,015,104	834,375
Per cent of total	100.0	100.0	100.0	100.0
Individual	50.4	14.6	11.1	11.4
Firm	22.3	15.1	12.2	11.5
Corporation	20.6	57.1	62.6	61.1
Other	6.8	13.2	14.2	16.0
Slaughtering and meat packing, 1909	27	280	$2,056,719	$446,609
Individual	11	43	306,031	77,626
Firm	9	26	256,410	82,963
Corporation	7	211	1,494,278	286,020
Per cent of total	100.0	100.0	100.0	100.0
Individual	40.7	15.4	14.9	17.4
Firm	33.3	9.3	12.5	18.6
Corporation	25.9	75.4	72.7	64.0

[1] Less than one-tenth of 1 per cent.

In order to avoid disclosing the operations of individual concerns, it is necessary to omit several important industries from the preceding table and the one following.

The most important distinction shown is that between corporate and all other forms of ownership. For all industries combined, 23.2 per cent of the total number of establishments were in 1909 under corporate ownership, as against 76.8 per cent under all other forms. The corresponding figures for 1904 were 24.7 per cent and 75.3 per cent, respectively. The percentage of the total value of products contributed by establishments under corporate ownership increased from 70.5 per cent in 1904 to 74.2 per cent in 1909, while for the same period the percentage contributed by those under firm ownership decreased from 16.9 per cent to 12.9 per cent. The percentage of the value added by manufacture contributed by the establishments under corporate ownership increased from 68.9 per cent in 1904 to 71.2 per cent in 1909, while the percentage contributed by those under firm ownership decreased during the same period from 17 per cent to 13.8 per cent.

In four of the individual industries for which figures are given in the table, namely, the men's clothing industry, foundries and machine shops, the manufacture of furniture and refrigerators, and patent medicines and compounds, there was a larger number of establishments under corporate management than under any other. In every industry shown separately in the table, except the manufacture of patent medicines and compounds, the establishments operated by corporations contributed the greater part of the total value of products and of the total value added by manufacture.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it, two tables are presented, which group establishments by value of products (p. 1182), and by number of wage earners (p. 1183).

Size measured by value of products.—The table on the next page shows, in addition to certain size groups, the average size of establishments as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries are shown for the last two censuses, while for individual industries figures are given for 1909 only. In 1909, of the 4,609 establishments only 17, or four-tenths of 1 per cent, had a value of products exceeding $1,000,000. These establishments, however, employed an average of 6,423 wage earners, or 8.7 per cent of the total number in all establishments, and reported 17 per cent of the total value of products, and 12.2 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having a value of products of less than $5,000—constituted a very considerable proportion (45.2 per cent) of the total number of establishments, but the value of their products amounted to only 2.6 per cent of the total. The great bulk of the manufacturing was reported by establishments having products valued at not less than $100,000.

It will be seen from the table on page 1182 that during the five years from 1904 to 1909 there was an increase, when measured by value of products, in the relative importance of the large establishments—those reporting products valued at not less than $100,000—and also in that of the very small establishments—those reporting products under $5,000 in value. Establishments in each of these two classes gave employment to a larger proportion of the total number of wage earners, and reported a larger proportion of the total value of products and of the total value added by manufacture, in 1909 than in 1904. Decreases are shown in the corresponding proportions for establishments reporting products of between $5,000 and $100,000 in value.

There was a general decrease in the average size of manufacturing establishments from 1904 to 1909. The average value of products per establishment decreased during the period from $43,452 to $39,101, the value added by manufacture from $18,459 to $16,533, and the average number of wage earners per establishment from 19 to 16.

Of the individual industries for which figures are given in the table, those in which the average size of the establishment as measured by value of products is smallest are the lumber and timber and the printing and publishing industries. In each of these industries more than 60 per cent of the establishments reported products valued at less than $5,000 for the year. The industries in which the establishments averaged the largest were the men's clothing, furniture and refrigerator, and slaughtering and meat-packing industries, in which 73.6 per cent, 64.3 per cent, and 59.2 per cent, respectively, of the establishments reported products valued at $20,000 or over.

Size measured by number of wage earners.—In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed. The table on page 1183 shows for 1909 such a classification for all industries combined and for 16 important industries individually, and gives not only the number of establishments falling in each group but also the average number of wage earners employed.

Of the 4,609 establishments reported for all industries, 6.6 per cent employed no wage earners; 54.3 per cent employed from 1 to 5; and 25.5 per cent, from 6 to 20. The most numerous single group consists of the 2,505 establishments employing from 1 to 5 wage earners, and the next of the 1,174 establishments employing from 6 to 20. There were 153 establishments that

employed over 100 wage earners each, while 10 employed over 500 each, and one of them, a steam-railroad repair shop, employed over 1,000.

Of the total number of wage earners, 46 per cent were in establishments employing over 100 wage earners. The single group having the largest number of wage earners was the group comprising the establishments employing from 101 to 250 each. This group employed 17,173 wage earners, or 23.3 per cent of the total. Of the individual industries listed in this table but not in the preceding one, steam-railroad repair shops, the cotton-goods, the hosiery and knit-goods, and the woolen-goods industries are conducted in comparatively large establishments, as appears from the classification according to the number of wage earners employed. The majority of the blast furnaces employ a relatively small number of wage earners.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	4,809	73,840	$180,216,548	$76,200,714
1904	3,175	60,572	137,960,476	58,608,730
Less than $5,000:				
1909	2,082	5,541	4,640,418	3,058,539
1904	1,015	1,784	2,607,791	1,796,725
$5,000 and less than $20,000:				
1909	1,352	8,675	13,380,348	7,335,137
1904	1,084	6,260	11,301,086	6,129,232
$20,000 and less than $100,000:				
1909	789	15,379	34,700,071	15,749,778
1904	766	16,318	33,535,276	15,427,691
$100,000 and less than $1,000,000:				
1909	369	37,822	96,928,666	40,751,742
1904	299	30,419	71,725,062	29,694,696
$1,000,000 and over:				
1909	17	6,423	30,567,045	9,305,518
1904	11	5,791	18,796,261	5,590,386
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Less than $5,000:				
1909	45.2	7.5	2.6	4.0
1904	32.0	2.9	1.9	3.0
$5,000 and less than $20,000:				
1909	29.3	11.7	7.4	9.6
1904	34.1	10.3	8.2	10.5
$20,000 and less than $100,000:				
1909	17.1	20.8	19.3	20.7
1904	24.1	26.9	24.3	26.3
$100,000 and less than $1,000,000:				
1909	8.0	51.2	53.8	53.5
1904	9.4	50.2	52.0	50.7
$1,000,000 and over:				
1909	0.4	8.7	17.0	12.2
1904	0.3	9.6	13.6	9.5
Average per establishment:				
1909	.....	16	$39,101	$16,533
1904	.....	19	43,452	18,459
Carriages and wagons and materials, 1909	129	1,706	$3,039,613	$1,600,187
Less than $5,000	47	150	135,408	88,742
$5,000 and less than $20,000	45	298	432,681	263,791
$20,000 and less than $100,000	30	753	1,290,524	665,244
$100,000 and less than $1,000,000	7	505	1,181,000	582,410
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	36.4	8.8	4.5	5.5
$5,000 and less than $20,000	34.9	17.5	14.2	16.5
$20,000 and less than $100,000	23.3	44.1	42.5	41.6
$100,000 and less than $1,000,000	5.4	29.6	38.9	36.4
Average per establishment	.....	13	$23,563	$12,405
Clothing, men's, including shirts, 1909	34	1,596	$3,361,105	$1,238,595
$5,000 and less than $20,000 [1]	9	53	83,333	37,395
$20,000 and less than $100,000	14	426	760,659	346,784
$100,000 and less than $1,000,000	11	1,117	2,517,113	854,416
Per cent of total	100.0	100.0	100.0	100.0
$5,000 and less than $20,000 [1]	26.5	3.3	2.5	3.0
$20,000 and less than $100,000	41.2	26.7	22.6	28.0
$100,000 and less than $1,000,000	32.4	70.0	74.9	69.0
Average per establishment	.....	47	$98,856	$36,429
Flour-mill and gristmill products, 1909	454	1,577	$29,070,019	$3,784,153
Less than $5,000	69	49	190,545	38,529
$5,000 and less than $20,000	190	217	2,131,595	414,268
$20,000 and less than $100,000	160	453	6,842,747	1,144,602
$100,000 and less than $1,000,000	29	382	6,902,173	801,445
$1,000,000 and over	6	476	13,002,969	1,385,309
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	15.2	3.1	0.7	1.0
$5,000 and less than $20,000	41.8	13.8	7.3	10.9
$20,000 and less than $100,000	35.2	28.7	23.5	30.2
$100,000 and less than $1,000,000	6.4	24.2	23.7	21.2
$1,000,000 and over	1.3	30.2	44.7	36.6
Average per establishment	.....	3	$64,031	$8,335

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Foundry and machine-shop products, 1909	124	4,041	$9,189,791	$4,629,591
Less than $5,000	29	52	72,293	46,655
$5,000 and less than $20,000	34	209	345,965	197,597
$20,000 and less than $100,000	42	1,138	1,964,688	1,108,527
$100,000 and less than $1,000,000 [2]	19	2,642	6,806,845	3,276,812
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	23.4	1.3	0.8	1.0
$5,000 and less than $20,000	27.4	5.2	3.8	4.3
$20,000 and less than $100,000	33.9	28.2	21.4	23.9
$100,000 and less than $1,000,000 [2]	15.3	65.4	74.1	70.8
Average per establishment	.....	33	$74,111	$37,335
Furniture and refrigerators, 1909	42	2,419	$3,309,385	$1,861,512
Less than $5,000	3	7	6,672	5,250
$5,000 and less than $20,000	12	99	120,911	70,918
$20,000 and less than $100,000	13	635	687,780	347,046
$100,000 and less than $1,000,000	14	1,678	2,494,022	1,438,298
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	7.1	0.3	0.2	0.3
$5,000 and less than $20,000	28.6	4.1	3.7	3.8
$20,000 and less than $100,000	31.0	26.2	20.8	18.6
$100,000 and less than $1,000,000	33.3	69.4	75.4	77.3
Average per establishment	.....	58	$78,795	$44,322
Lumber and timber products, 1909	1,977	22,389	$30,456,807	$16,815,384
Less than $5,000	1,198	4,085	2,572,282	1,771,099
$5,000 and less than $20,000	536	4,961	4,956,787	3,177,175
$20,000 and less than $100,000	174	4,565	7,316,344	3,975,519
$100,000 and less than $1,000,000	69	8,778	15,611,394	7,891,582
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	60.6	18.2	8.4	10.5
$5,000 and less than $20,000	27.1	22.2	16.3	18.9
$20,000 and less than $100,000	8.8	20.4	24.0	23.7
$100,000 and less than $1,000,000	3.5	39.2	51.3	47.0
Average per establishment	.....	11	$15,406	$8,505
Patent medicines and compounds and druggists' preparations, 1909	76	433	$3,514,676	$2,173,870
Less than $5,000	30	12	52,462	36,915
$5,000 and less than $20,000	23	59	239,750	161,394
$20,000 and less than $100,000	18	117	982,421	531,720
$100,000 and less than $1,000,000 [2]	5	245	2,240,043	1,443,841
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	39.5	2.8	1.5	1.7
$5,000 and less than $20,000	30.3	13.6	6.8	7.4
$20,000 and less than $100,000	23.7	27.0	28.0	24.5
$100,000 and less than $1,000,000 [2]	6.6	56.6	63.7	66.4
Average per establishment	.....	6	$46,246	$28,604
Printing and publishing, 1909	413	2,914	$7,173,230	$5,219,645
Less than $5,000	268	375	587,609	402,082
$5,000 and less than $20,000	91	382	831,443	645,754
$20,000 and less than $100,000	35	667	1,377,535	955,725
$100,000 and less than $1,000,000	19	1,490	4,376,643	3,156,084
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	64.9	12.9	8.2	8.0
$5,000 and less than $20,000	22.0	13.1	11.6	12.4
$20,000 and less than $100,000	8.5	22.9	19.2	18.3
$100,000 and less than $1,000,000	4.6	51.1	61.0	60.5
Average per establishment	.....	7	$17,369	$12,638
Slaughtering and meat packing, 1909	27	280	$2,056,719	$446,609
Less than $5,000	3	3	8,621	3,877
$5,000 and less than $20,000	8	25	105,339	36,165
$20,000 and less than $100,000	12	101	507,223	159,130
$100,000 and less than $1,000,000	4	151	1,435,536	247,437
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	11.1	1.1	0.4	0.9
$5,000 and less than $20,000	29.6	8.9	5.1	8.1
$20,000 and less than $100,000	44.4	36.1	24.7	35.6
$100,000 and less than $1,000,000	14.8	53.9	69.8	55.4
Average per establishment	.....	10	$76,175	$16,541

[1] Includes the group "Less than $5,000."

[2] Includes the group "$1,000,000 and over."

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING— No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
	NUMBER OF ESTABLISHMENTS.									
All industries	4,609	306	2,505	1,174	318	153	116	27	9	1
Bread and other bakery products	131	6	103	16	2	2	2			
Carriages and wagons and materials	129	2	65	43	12	6	1			
Cars and general shop construction and repairs by steam-railroad companies	17		2	3			4	5	2	1
Clothing, men's, including shirts	34	2	3	8	9	8	4			
Cotton goods, including cotton small wares	17				4	6	4	1	2	
Fertilizers	12		4	1	2	3	2			
Flour-mill and gristmill products	454	66	350	28	6	3	1			
Foundry and machine-shop products	124	3	43	40	16	12	7	3		
Furniture and refrigerators	42		10	5	10	8	8	1		
Hosiery and knit goods	22		1	3	2	4	9	2	1	
Iron and steel, blast furnaces	13				6	5	1	1		
Lumber and timber products	1,977	40	1,088	679	103	28	31	7	1	
Oil, cottonseed, and cake	20		1	2	11	5	1			
Patent medicines and compounds and druggists' preparations	76	17	43	12	3		1			
Printing and publishing	413	111	229	41	19	8	4	1		
Woolen, worsted, and felt goods, and wool hats	21	6	4	2	1	3	3	1	1	
All other industries	1,107	53	559	291	112	52	33	5	2	
	AVERAGE NUMBER OF WAGE EARNERS.									
All industries	73,840		6,214	12,403	10,401	10,870	17,173	9,175	6,301	1,303
Bread and other bakery products	855		232	165	64	135	259			
Carriages and wagons and materials	1,706		168	513	404	498	123			
Cars and general shop construction and repairs by steam-railroad companies	5,566		4	37			692	1,692	1,838	1,303
Clothing, men's, including shirts	1,596		14	104	280	511	687			
Cotton goods, including cotton small wares	3,078				146	404	650	299	1,579	
Fertilizers	559		11	13	96	192	247			
Flour-mill and gristmill products	1,577		680	263	238	206	190			
Foundry and machine-shop products	4,041		104	504	498	831	960	1,144		
Furniture and refrigerators	2,419		36	65	352	582	1,133	251		
Hosiery and knit goods	3,117		5	48	70	258	1,385	688	663	
Iron and steel, blast furnaces	1,143				241	404	189	309		
Lumber and timber products	22,389		2,937	6,872	3,252	1,989	4,440	2,275	624	
Oil, cottonseed, and cake	806		2	23	340	305	136			
Patent medicines and compounds and druggists' preparations	433		89	108	75		161			
Printing and publishing	2,914		536	394	629	588	514	253		
Woolen, worsted, and felt goods, and wool hats	1,654		4	24	36	245	409	429	507	
All other industries	19,987		1,392	3,270	3,680	3,722	4,998	1,835	1,090	
	PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.									
All industries	100.0		8.4	16.8	14.1	14.7	23.3	12.4	8.5	1.8
Bread and other bakery products	100.0		27.1	19.3	7.5	15.8	30.3			
Carriages and wagons and materials	100.0		9.8	30.1	23.7	29.2	7.2			
Cars and general shop construction and repairs by steam-railroad companies	100.0		0.1	0.7			12.4	30.4	33.0	23.4
Clothing, men's, including shirts	100.0		0.9	6.5	17.5	32.0	43.0			
Cotton goods, including cotton small wares	100.0				4.7	13.1	21.1	9.7	51.3	
Fertilizers	100.0		2.0	2.3	17.2	34.3	44.2			
Flour-mill and gristmill products	100.0		43.1	16.7	15.1	13.1	12.0			
Foundry and machine-shop products	100.0		2.6	12.5	12.3	20.6	23.8	28.3		
Furniture and refrigerators	100.0		1.5	2.7	14.6	24.1	46.8	10.4		
Hosiery and knit goods	100.0		0.2	1.5	2.2	8.3	44.4	22.1	21.3	
Iron and steel, blast furnaces	100.0				21.1	35.3	16.5	27.0		
Lumber and timber products	100.0		13.1	30.7	14.5	8.9	19.8	10.2	2.8	
Oil, cottonseed, and cake	100.0		0.2	2.9	42.2	37.8	16.9			
Patent medicines and compounds and druggists' preparations	100.0		20.6	24.9	17.3		37.2			
Printing and publishing	100.0		18.4	13.5	21.6	20.2	17.6	8.7		
Woolen, worsted, and felt goods, and wool hats	100.0		0.2	1.5	2.2	14.8	24.7	25.9	30.7	
All other industries	100.0		7.0	16.4	18.4	18.6	25.0	9.2	5.5	

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses which make up the total.

The table in the next column shows, for 1909, in percentages, the distribution of expenses among the classes indicated for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II.

This table shows that, for all industries combined, 65.4 per cent of the total expenses was incurred for materials, 23.6 per cent for services—that is, salaries and wages—and 11 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED. Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	5.8	17.8	65.4	11.0
Bread and other bakery products	5.3	14.9	71.0	8.8
Carriages and wagons and materials	6.3	27.8	56.6	9.8
Cars and general shop construction and repairs by steam-railroad companies	4.9	48.0	46.0	1.2
Clothing, men's, including shirts	10.0	12.9	68.4	8.7
Cotton goods, including cotton small wares	2.2	17.8	69.4	10.6
Fertilizers	4.8	7.2	74.5	13.5
Flour-mill and gristmill products	1.2	2.1	93.0	3.8
Foundry and machine-shop products	8.6	24.9	56.7	9.8
Furniture and refrigerators	8.6	29.9	48.3	13.1
Hosiery and knit goods	3.8	22.2	64.9	9.1
Iron and steel, blast furnaces	3.5	12.4	80.8	3.3
Lumber and timber products	5.3	28.0	54.8	11.9
Oil, cottonseed, and cake	3.4	4.8	86.4	5.5
Patent medicines and compounds and druggists' preparations	17.5	4.8	43.9	33.7
Printing and publishing	18.2	28.5	32.7	20.6
Woolen, worsted, and felt goods, and wool hats	4.2	24.0	64.5	7.3
All other industries	6.6	16.8	61.3	15.3

Engines and power.—The following table shows, for all industries combined, the number of engines or other motors, according to their character, employed in generating power (including electric motors operated by purchased current), and their total horsepower at the censuses of 1909, 1904, and 1899. It also shows separately the number and horsepower of electric motors, including those operated by current generated in the manufacturing establishments.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899[1]	1909	1904	1899[1]	1909	1904	1899
Primary power, total	6,058	3,205	2,918	242,277	175,780	130,318	100.0	100.0	100.0
Owned	4,441	3,205	2,918	226,972	173,123	128,424	93.7	98.5	98.5
Steam	3,764	2,750	2,449	215,338	161,919	116,715	88.9	92.1	89.6
Gas	317	128	68	1,353	1,084	593	0.8	0.6	0.5
Water wheels	341	299	401	9,670	9,702	11,073	4.0	5.6	8.5
Water motors	19	22	(2)	107	233	(2)	(3)	0.1	(2)
Other	.....	.....	.....	4	125	33	(3)	0.1	(2)
Rented	1,617	(2)	(2)	15,305	2,657	1,894	6.3	1.5	1.5
Electric	1,617	(2)	(2)	14,666	2,230	1,370	6.1	1.3	1.1
Other	.....	.....	.....	639	427	524	0.3	0.2	0.4
Electric motors	2,579	186	46	29,586	6,586	2,193	100.0	100.0	100.0
Run by current generated by establishment	962	186	46	14,920	4,356	823	50.4	66.1	37.5
Run by rented power	1,617	(2)	(2)	14,666	2,230	1,370	49.6	33.9	62.5

[1] Includes the neighborhood industries and hand trades, omitted in 1904 and 1909.
[2] Not reported.
[3] Less than one-tenth of 1 per cent.

The amount of primary power used in the manufacturing industries of Tennessee increased 34.9 per cent from 1899 to 1904, and 37.8 per cent from 1904 to 1909. This increase was chiefly in power generated by steam engines. From 1904 to 1909 the capacity of the steam engines increased 53,419 horsepower, or 33 per cent, yet the proportion which steam power formed of the total primary power decreased from 92.1 per cent in 1904 to 88.9 per cent in 1909. The horsepower of water wheels and water motors showed an actual decrease. The more general use of gas engines is shown, the number and power of such engines reported in 1909 being 317, with 1,853 horsepower, as compared with 68, with 593 horsepower, in 1899. The figures also show that the practice of renting electric power is on the increase, 14,666 horsepower, or 6.1 per cent of the total power reported in 1909, being rented electric power, as against 1,370 horsepower, or 1.1 per cent, in 1899. The use of electric motors for the purpose of applying the power generated within the establishments is also shown to be rapidly increasing, the horsepower of such motors having increased from 823 in 1899 to 14,920 in 1909.

Fuel.—Closely related to the question of kind of power employed is that of the fuel consumed in generating this power, or otherwise used as material in the manufacturing processes. The following table shows the quantity of each kind of fuel used in 1909 for all industries combined and for certain selected industries:

INDUSTRY.	Anthracite coal (tons).	Bituminous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gasoline (barrels).	Gas (1,000 feet).
All industries	14,115	1,681,456	691,282	94,287	65,108	15,809
Bread and other bakery products	853	3,238	2,861	4,634	61	1,780
Brick and tile	.....	107,726	3,502	23,121	72	.....
Cars and general shop construction and repairs by steam-railroad companies	.....	83,602	1,289	.....	4,300	.....
Coke	.....	495,905	.....	.....	21	.....
Cotton goods, including cotton small wares	831	46,599	.....	2,258	9	.....
Flour-mill and gristmill products	80	86,636	230	17,626	930	.....
Foundry and machine-shop products	11	46,889	43,801	1,635	746	875
Furniture and refrigerators	.....	15,757	4	255	12	.....
Gas, illuminating and heating	.....	53,909	5,967	.....	52,732	.....
Hosiery and knit goods	.....	22,317	.....	.....	.....	440
Ice, manufactured	.....	99,105	.....	850	129	.....
Iron and steel, blast furnaces	.....	30,298	505,386	152	201	.....
Liquors, malt	.....	32,070	.....	.....	.....	.....
Lumber and timber products	500	49,199	.....	1,281	728	.....
Oil, cottonseed, and cake	.....	47,208	.....	500	.....	.....
Pottery, terra-cotta, and fire-clay products	.....	43,564	.....	210	2	.....
Printing and publishing	21	11,099	375	198	521	6,681
Woolen, worsted, and felt goods, and wool hats	.....	20,591	.....	2,873	10	.....
All other industries	11,819	376,024	67,867	38,694	4,628	6,027

NOTE.—In addition, there were 8,819 tons of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries and custom sawmills and gristmills.)

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and cost of materials and the quantity and value of products and other information for securing which no provision is made on the general schedule. Certain data of this character for eight important industries in Tennessee are here presented.

Lumber and timber products.—The forests of Tennessee, containing an abundant growth of many of the most valuable species of forest trees, are among the best in the United States. Lumbering has long been an important industry in the state. As early as 1849 Tennessee had, including the custom sawmills, 451 establishments which reported a total value of products amounting to $725,387.

The following statement gives the quantity of the various products of the sawmills reported at the censuses of 1909 and 1899:

PRODUCT.		QUANTITY.	
		1909	1899
Rough lumber	M feet b. m.	1,223,849	950,958
Lath	thousands	31,179	33,199
Shingles	thousands	35,692	59,735

The above table shows an increase of 272,891 M feet board measure, or 28.7 per cent, in the production of rough lumber. Eighty-three per cent of the total quantity of rough lumber sawed was hardwood, the

principal kind being oak, in the production of which Tennessee was the leading state in 1909, with approximately one-eighth of the total for the United States. The state was also first in the production of yellow poplar and hickory. Decreases are shown in the production of lath and shingles.

Flour-mill and gristmill products.—The following tabular statement gives the quantity and value of the different products of this industry for the last three census years:

PRODUCT.	1909	1904	1899
Total value	$29,070,019	$25,350,758	$19,161,398
Wheat flour:			
White—			
Barrels	2,999,501	3,184,847	3,339,040
Value	$17,218,719	$17,015,408	$12,590,493
Graham—			
Barrels	9,588	1,830	(1)
Value	$48,676	$8,715	(1)
Corn meal and corn flour:			
Barrels	1,981,746	2,052,765	2,002,032
Value	$6,505,710	$4,771,722	$3,995,887
Rye flour:			
Barrels	5	40	113
Value	$20	$160	$348
Buckwheat flour:			
Pounds	21,300	103,000	49,135
Value	$1,020	$2,830	$1,026
Barley meal:			
Pounds	.....	139,600	29,800
Value	.....	$1,948	$435
Hominy and grits:			
Pounds	26,720,930	36,009,405	10,465,460
Value	$441,371	$421,269	$164,348
Feed:			
Tons	64,150	31,909	43,032
Value	$1,657,194	$676,234	$632,693
Offal:			
Tons	127,843	136,875	138,172
Value	$3,189,436	$2,442,960	$1,734,492
All other products	$7,873	$9,512	$41,676

[1] Not reported separately.

In 1909 the value of white flour constituted 59.2 per cent of the total value of products shown for the industry, and that of corn meal and corn flour, 22.4 per cent. From 1904 to 1909 there was a large increase in both the quantity and the value of feed reported, while for white-wheat flour, corn meal and corn flour, hominy and grits, and offal decreases in quantity were accompanied by increases in value.

Printing and publishing.—The following statement shows the number and circulation of the newspapers and periodicals published in the state as reported for 1909, 1904, and 1899:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	**330**	**334**	**258**	**5,601,541**	**3,157,803**	**3,131,017**
Daily	16	17	16	245,658	183,050	165,718
Sunday	7	9	7	183,196	125,905	(1)
Semiweekly	10	3	6	16,925	8,720	7,700
Weekly	223	230	187	923,431	753,290	1,136,199
Monthly	49	33	28	517,643	247,143	270,150
All other classes	25	42	14	3,714,688	1,839,695	1,551,250

[1] Included in circulation of dailies.

From 1904 to 1909 there has been a decrease of four in the total number of publications, the increase in the number of monthlies and semiweeklies being more than offset by the decrease in the number of dailies, Sunday publications, weeklies, and the publications shown under the head of "All other classes." The number of dailies and of Sunday papers were the same in 1909 as shown for 1899.

The aggregate circulation per issue shows an increase of 77.4 per cent from 1904 to 1909, as compared with an increase of less than 1 per cent from 1899 to 1904. The weeklies increased in number but decreased in circulation from 1899 to 1904, while they decreased in number but increased in circulation from 1904 to 1909. The increase in the aggregate circulation of Sunday papers from 1904 to 1909 was 45.5 per cent. About three-fourths of the periodicals classified under the head of "All other classes" are published in Nashville. They are quarterly publications of various religious organizations and consist principally of Sunday-school quarterlies, lesson leaves, and papers. They show great gains in circulation at each census.

All the publications reported were printed in the English language, except two weeklies in German and two religious quarterlies in Spanish.

Oil, cottonseed, and cake.—This is one of the foremost industries of the state. The quantity of cotton seed crushed and the quantity of the resultant products, namely, oil, meal and cake, hulls, and linters, are shown in the following tabular statement for the last three census years:

MATERIAL OR PRODUCT.	QUANTITY.		
	1909	1904	1899
Cotton seed, crushed ... tons	179,475	143,479	168,307
Crude products, manufactured:			
Oil ... gallons	7,525,409	5,760,599	6,454,173
Meal and cake ... tons	76,963	58,477	59,613
Hulls ... tons	59,434	53,738	79,858
Linters ... pounds	8,533,484	5,918,496	4,058,473

The totals presented include the data for all cotton seed crushed and for the crude products manufactured, whether sold as such or used as intermediate products in further processes of manufacture, such as the refining of oil and the mixing of fertilizers and feed.

There was a decrease of 24,828 tons, or 14.8 per cent, in the amount of seed crushed in 1904, as compared with 1899, but this was more than offset by an increase of 35,996 tons, or 25.1 per cent, in the amount crushed in 1909, as compared with 1904.

The production of cottonseed oil decreased in 1904, as compared with 1899, 693,574 gallons, or 10.7 per cent, and increased in 1909, as compared with 1904, 1,764,810 gallons, or 30.6 per cent. The production of linters in 1909 was more than twice that reported for 1899, while that of hulls shows a decrease of 25.6 per cent.

Of the 20 cottonseed-oil mills reported as crushing seed in 1909, 1 crushed less than 1,000 tons, 4 crushed 2,000 but less than 5,000 tons, 8 crushed 5,000 but less than 10,000 tons, and 7 crushed 10,000 tons and over.

Textiles.—The growth of the textile industry, as a whole, is shown by the increase in the number of spindles, looms, and knitting machines. In the next table the number of each of the principal kinds of machines used at the last three censuses is shown.

MACHINE.	Census.	Total.	Cotton goods, including cotton small wares.	Hosiery and knit goods.	Woolen, worsted, and felt goods, and wool hats.
Producing spindles	1909	286,506	225,638	11,892	48,976
	1904	200,047	153,375	.....	46,672
	1899	161,931	123,896	.....	38,035
Looms	1909	5,143	4,283	.....	860
	1904	4,086	3,008	.....	1,078
	1899	4,234	2,995	.....	1,239
Knitting machines	1909	3,929	.....	3,929	.....
	1904	1,787	.....	1,787	.....
	1899	581	.....	581	.....
Woolen cards (sets)	1909	82	.....	.....	82
	1904	82	.....	.....	82
	1899	99	.....	.....	99

The total number of producing spindles shows an increase from 1904 to 1909 of 86,459, or 43.2 per cent; of looms, an increase of 1,057, or 25.9 per cent; and of knitting machines, an increase of 2,142, or 119.9 per cent; while the number of woolen cards was the same for both years. In the cotton mills, where 78.8 per cent of the spindles and 83.3 per cent of the looms were used in 1909, the rates of increase for both kinds of machines were much greater from 1904 to 1909 than during the previous five years.

Cotton goods, including cotton small wares.—The manufacture of cotton goods is the most important of the textile industries in Tennessee, and shows a decided growth from census to census. The quantity and cost of the materials used, and the kind and value of the products reported at the last three censuses are given below:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	$3,343,672	$2,240,973	$1,143,234
Cotton:			
Pounds	28,312,077	19,292,275	15,040,336
Cost	$2,941,046	$2,045,800	$984,309
Starch	$8,085	$10,554	$6,900
Fuel and rent of power	$103,111	$55,654	$39,826
All other materials	$291,430	$128,965	$112,199
Products, total value	$5,200,791	$3,560,984	$1,994,035
Brown or bleached sheetings and shirtings:			
Square yards	7,696,680	6,184,888	11,012,570
Value	$435,958	$341,530	$501,576
Yarns, for sale:			
Pounds	7,443,170	5,062,494	2,000,083
Value	$1,378,605	$992,260	$263,662
Cotton waste, for sale:			
Pounds	2,164,304	2,263,961	1,150,099
Value	$56,954	$84,322	$22,769
All other products	$3,329,184	$2,142,872	$1,206,928

In 1909, 28,312,077 pounds of cotton, all domestic, costing $2,941,046, were consumed in this industry. This was an increase of 9,019,802 pounds, or 46.8 per cent, in quantity and of $895,246, or 43.8 per cent, in cost over the figures for 1904. The industry shows a gain of 46 per cent in value of products from 1904 to 1909, as against a gain of 78.5 per cent from 1899 to 1904. The increase in value of products from 1904 to 1909 was due principally to the increase in the value of the cotton yarn produced for sale and the value of the products included under the head of "All other products." The principal items included under the latter head are plain cloths for printing or converting, drills, and duck. They are not shown separately, as to do so would disclose the output of individual establishments.

Both the quantity and the value of the output of brown or bleached sheetings and shirtings show increases over the figures for 1904, but the increases have not been large enough to counterbalance the decreases which took place from 1899 to 1904. While the quantity of yarn produced for sale in 1909 was 2,380,676 pounds, or 47 per cent, greater than in 1904 and their value $386,435, or 38.9 per cent, greater, the increase was not as great as during the earlier five-year period when the increase in quantity was 153.1 and that in value 276.3 per cent.

Hosiery and knit goods.—The following tabular statement shows the quantity and cost of the different kinds of materials used and the quantity and value of the various products of the industry during the last three census years:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	$2,120,225	$969,196	$248,950
Cotton yarn, purchased:			
Pounds	4,746,936	4,701,653	1,099,000
Cost	$1,203,887	$841,092	$203,600
Chemicals and dyestuffs	$121,614	$40,915	$21,500
Fuel and rent of power	$42,916	$18,146	$1,600
All other materials	$751,808	$69,043	$22,350
Products, total value	$3,565,436	$1,627,823	$395,150
Hose:			
Dozens	2,420,817	1,155,692	183,500
Value	$2,075,719	$917,233	$192,150
Half hose:			
Dozens	846,339	669,754	360,000
Value	$770,547	$368,792	$203,000
All other products	$719,170	$341,798	.....

Cotton yarn purchased formed over four-fifths of the total cost of materials used in 1899 and 1904, but in 1909, when a few of the mills purchased the raw cotton and spun their own yarn, the cost of cotton yarn purchased formed less than three-fifths of the total.

From 1904 to 1909 the value of hose manufactured increased 126.3 per cent and that of half hose 108.9 per cent, while the output of the former increased 109.5 per cent and the output of the latter only 28.3 per cent. The average value of hose per dozen dropped from $1.05 in 1899 to 79 cents in 1904, but advanced to 86 cents in 1909. The average value per dozen of half hose, on the other hand, advanced from 56 cents in 1899 and 1904 to 91 cents in 1909. In 1909 three establishments were engaged in manufacturing knit underwear, and although a large increase was shown in the value of products in 1909 as compared with 1904 the statistics are included under "All other products" in the table in order to avoid disclosing the operations of individual establishments.

Woolen goods.—With respect to value of products this industry is less important than either cotton goods or hosiery and knit goods. The larger part of the output is woolen goods for men's wear woven on cotton warp. The title of this industry, being uniform for all states, is "Woolen, worsted, and felt goods, and wool hats," but in Tennessee only woolen goods are made.

Iron and steel, blast furnaces.—The following is a tabular statement showing the quantity and value of products for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	$4,653,125	$3,428,049	$4,693,215
Pig iron:			
Tons	333,416	303,624	374,249
Value	$4,644,667	$3,426,932	$4,693,215
Classified by grades.			
Foundry ... tons	271,562	247,368	287,655
Forge or mill ... tons	12,693	24,957	54,182
All other, including low phosphorus, Bessemer, ferrosilicon, ferrophosphorous, white and mottled, and miscellaneous, and direct castings ... tons	49,161	31,299	32,412
All other products	$8,458	$1,117	.....

This industry has been built up in the state by the working of the abundant deposits of ore and fuel found there. The value of products in 1909 was practically the same as in 1899, although from 1899 to 1904 there was a decrease of 27 per cent, due to the general business depression prevailing in 1904. The table shows a large decrease in that grade of pig iron classified as forge or mill. The average value per ton of pig iron was $12.54 in 1899, $11.29 in 1904, and $13.93 in 1909.

Fertilizers.—The following tabular statement gives the quantity and value of products reported for this industry at the censuses of 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	$3,249,343	$2,700,561	$1,466,288
Superphosphates from minerals, bones, etc.:			
Tons	25,322	29,416	35,059
Value	$244,278	$308,284	$456,568
Complete fertilizers:			
Tons	139,343	83,370	36,695
Value	$2,776,372	$1,596,764	$704,220
Other fertilizers:			
Tons	14,691	46,707	20,400
Value	$213,464	$755,964	$304,000
Sulphuric acid:			
Tons	866	5,000	.....
Value	$5,197	$30,000	.....
All other products	$10,032	$9,549	$1,500

Complete fertilizers formed the largest single product at each census. Their value from census to census has composed an increasing proportion of the total value of products for the industry, and in 1909 formed more than five-sixths of this total. Superphosphates from minerals, and "Other fertilizers" show decreases both in quantity and in value during the period 1904-1909, the principal cause of which is the more general use in this industry in Tennessee of phosphate rock, pyrites, and kainit. The quantity and value of sulphuric acid sold in 1909 was only about one-sixth of that sold in 1904.

Laundries.—Statistics for steam laundries are not included in the general tables, or in the totals for manufacturing industries. In 1909 there were 63 such establishments in the state of Tennessee, 10 of which were in Nashville, 8 in Memphis, 7 in Knoxville, 6 in Chattanooga, and 3 in Jackson.

The three most common forms of ownership—the individual, firm, and corporate—were about equally represented in the industry, the first two reporting 22 establishments each and the corporate form 19 establishments. Twelve establishments had receipts for the year's business of less than $5,000; 29, $5,000 but less than $20,000; 19, $20,000 but less than $100,000; and 3, receipts in excess of $100,000.

The following statement summarizes the statistics:

Number of establishments	63
Persons engaged in the industry	2,392
Proprietors and firm members	68
Salaried employees	175
Wage earners (average number)	2,149
Primary horsepower	1,863
Capital	$1,283,583
Expenses	1,340,732
Services	811,213
Materials	297,691
Miscellaneous	231,828
Amount received for work done	1,643,407

The average number of wage earners employed each month and the percentage which this number represented of the greatest number employed in any one month were as follows:

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January	2,041	90.9	July	2,236	99.6
February	2,039	90.8	August	2,246	100.0
March	2,059	91.7	September	2,183	97.2
April	2,130	94.8	October	2,189	97.5
May	2,117	94.3	November	2,171	96.7
June	2,196	97.8	December	2,177	96.9

The different kinds of primary power, the number of engines or motors, and the horsepower used in 1909 are shown in the following tabular statement:

KIND.	Number of engines or motors.	Horsepower.
Primary power, total	.....	1,863
Owned:		
Steam	64	1,797
Gas	1	5
Rented—Electric	39	61

The kind and amount of fuel used are shown in the following statement:

KIND.	Unit.	Quantity.
Bituminous coal	Tons	29,395
Coke	Tons	313
Wood	Cords	12
Oil	Barrels	94
Gas	1,000 feet	9,108

Custom sawmills and gristmills.—Statistics for custom sawmills and gristmills are not included in the general tables or in the totals for manufacturing industries, but are presented in the following summary:

	Custom sawmills.	Custom gristmills.
Number of establishments	226	1,068
Persons engaged in the industry	918	1,938
Proprietors and firm members	321	1,403
Salaried employees	3	2
Wage earners (average number)	594	533
Primary horsepower	4,475	16,587
Capital	$237,331	$967,643
Expenses	108,017	2,296,827
Services	87,960	58,968
Materials	6,027	[1] 2,210,809
Miscellaneous	14,030	27,050
Value of products	233,204	[1] 2,648,200

[1] Includes estimate of all grain ground. A similar estimate for value of lumber sawed by custom sawmills is impracticable.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
STATE—All industries	1909	4,609	87,672	5,415	8,417	73,840	242,277	$167,924	$9,186	$28,252	$104,016	$180,217	$76,201
	1904	3,175	69,287	3,805	4,910	60,572	175,780	102,439	5,080	22,606	79,852	137,960	58,008
	1899	3,116	.....	.....	3,329	45,063	130,318	63,141	3,048	14,728	54,559	92,749	38,190
Agricultural implements	1909	16	712	9	58	645	1,236	1,466	80	268	413	1,004	591
	1904	12	656	9	34	613	692	757	51	216	314	769	455
	1899	11	422	11	38	373	503	418	35	113	202	463	261
Boots and shoes, including cut stock and findings.	1909	4	427	7	46	374	174	532	70	118	827	1,181	354
	1904	4	246	5	16	225	200	174	19	78	640	837	197
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boxes, fancy and paper	1909	6	227	3	22	202	114	148	27	58	122	258	136
	1904	6	201	3	11	187	70	84	9	46	104	196	92
	1899	6	196	7	15	174	.....	64	11	33	63	132	69
Bread and other bakery products	1909	131	1,179	150	174	855	645	1,260	132	376	1,790	2,892	1,102
	1904	81	767	95	69	603	316	1,294	58	237	1,021	1,974	953
	1899	76	531	96	75	360	.....	656	37	158	683	1,103	420
Brick and tile	1909	91	1,487	112	94	1,281	4,631	1,868	82	443	346	1,308	962
	1904	84	1,410	108	68	1,234	3,165	1,200	65	378	265	1,100	835
	1899	91	1,307	121	34	1,152	2,821	891	31	293	166	685	519
Canning and preserving	1909	37	375	45	27	303	450	274	11	39	131	206	75
	1904	16	231	16	12	203	360	90	10	30	151	242	91
	1899	11	151	19	16	116	75	36	2	15	38	72	34
Carriages and wagons and materials	1909	129	1,992	150	136	1,706	4,537	3,006	160	693	1,439	3,040	1,601
	1904	97	2,148	109	150	1,889	4,408	2,617	158	750	1,668	3,278	1,610
	1899	95	.....	.....	77	1,157	.....	1,138	71	395	780	1,692	912
Cars and general shop construction and repairs by steam-railroad companies.	1909	17	5,884	.....	318	5,566	5,145	4,035	329	3,252	3,116	6,777	3,661
	1904	16	4,939	.....	179	4,760	1,904	2,029	173	2,617	2,978	5,839	2,861
	1899	16	2,882	.....	65	2,817	1,341	1,320	59	1,459	1,528	3,113	1,585
Clothing, men's, including shirts	1909	34	1,892	34	262	1,596	503	2,257	309	402	2,123	3,361	1,238
	1904	32	2,154	44	142	1,968	656	1,324	153	413	1,877	3,069	1,192
	1899	31	.....	.....	81	1,584	.....	839	74	350	1,016	1,760	744
Coffins, burial cases, and undertakers' goods	1909	8	570	.....	90	480	976	1,138	130	201	522	1,189	667
	1904	8	482	.....	52	430	712	864	83	186	349	923	574
	1899	10	342	3	52	287	.....	440	68	118	329	625	296
Coke	1909	8	270	.....	20	250	370	858	14	87	478	586	108
	1904	9	416	.....	39	377	405	733	24	129	611	810	199
	1899	8	499	.....	22	477	630	607	14	128	523	765	242
Confectionery	1909	31	1,086	23	169	894	1,154	1,504	177	276	1,057	2,520	863
	1904	25	695	19	116	560	313	646	100	181	961	1,873	912
	1899	16	.....	.....	68	337	.....	372	54	101	424	814	390
Cooperage and wooden goods, not elsewhere specified.	1909	19	913	18	39	856	2,209	1,443	50	253	629	1,148	519
	1904	[2] 25	424	29	19	376	884	346	19	134	481	702	221
	1899	34	.....	.....	13	539	.....	230	13	170	277	572	295
Copper, tin, and sheet-iron products	1909	57	704	73	59	572	154	673	70	261	593	1,229	636
	1904	35	404	49	32	383	150	299	25	204	435	871	436
	1899	24	.....	.....	16	224	.....	207	13	86	157	352	195
Cotton goods, including cotton small wares	1909	17	3,164	3	83	3,078	11,129	7,454	105	857	3,344	5,201	1,857
	1904	16	2,362	2	66	2,294	8,301	5,113	80	631	2,241	3,561	1,320
	1899	17	2,158	3	47	2,108	5,525	3,768	54	423	1,143	1,995	852
Fertilizers	1909	12	670	12	99	559	2,152	4,106	137	204	2,122	3,249	1,127
	1904	10	854	6	67	781	1,970	3,381	98	210	1,712	2,701	989
	1899	5	492	4	45	443	.....	950	49	94	790	1,466	676
Flour-mill and gristmill products	1909	454	2,658	663	418	1,577	27,176	8,511	323	559	25,286	29,070	3,784
	1904	387	2,429	584	250	1,595	23,441	6,927	212	591	21,912	25,351	3,439
	1899	302	.....	.....	217	1,055	20,015	4,997	192	500	16,323	19,161	2,838
Foundry and machine-shop products	1909	124	4,694	102	551	4,041	7,488	9,253	695	2,006	4,560	9,190	4,630
	1904	100	3,716	85	318	3,313	4,742	4,616	345	1,482	2,854	6,124	3,270
	1899	[3] 104	.....	.....	182	3,353	.....	3,817	167	1,208	2,284	4,643	2,359
Furniture and refrigerators	1909	42	2,667	15	233	2,419	3,758	3,497	258	897	1,448	3,309	1,861
	1904	[2] 40	2,781	25	146	2,610	3,623	2,780	158	923	1,409	3,238	1,829
	1899	26	1,164	21	75	1,068	.....	1,003	71	318	553	1,188	635
Gas, illuminating and heating	1909	11	530	4	104	422	613	9,370	98	164	357	1,282	925
	1904	11	412	4	50	358	624	2,185	58	127	204	830	626
	1899	11	267	.....	49	218	.....	2,304	41	55	135	572	437
Hosiery and knit goods	1909	22	3,229	2	110	3,117	2,758	3,055	125	724	2,120	3,565	1,445
	1904	16	1,855	4	41	1,810	1,052	1,160	41	341	969	1,628	659
	1899	4	523	.....	12	511	212	217	15	73	249	395	146
Ice, manufactured	1909	57	986	46	161	779	9,327	2,748	154	362	281	1,324	1,043
	1904	37	487	26	79	382	6,312	1,125	67	191	123	684	561
	1899	27	472	20	67	385	3,589	1,104	59	177	110	538	428
Iron and steel, blast furnaces	1909	13	1,268	.....	125	1,143	18,150	7,122	147	519	3,381	4,653	1,272
	1904	13	1,486	.....	128	1,358	21,011	5,688	128	546	2,609	3,428	819
	1899	13	1,845	1	81	1,763	13,350	5,252	103	439	3,169	4,693	1,524

[1] Figures can not be shown without disclosing individual operations.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[3] Excluding statistics for one establishment, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
STATE—Continued.													
Leather goods	1909	47	808	47	157	604	344	$1,419	$141	$243	$1,313	$2,139	$826
	1904	36	852	32	91	729	268	921	87	258	966	1,787	821
	1899	[1] 34	.....	.....	66	534	.....	540	51	198	653	1,122	469
Leather, tanned, curried, and finished	1909	25	463	26	42	395	1,684	3,564	50	139	1,994	2,530	536
	1904	29	804	28	40	736	1,731	4,013	64	252	2,851	3,584	733
	1899	44	887	55	29	803	864	3,444	35	240	2,184	2,802	618
Lime	1909	20	461	19	27	415	668	282	30	139	93	323	230
	1904	17	456	22	18	416	505	278	18	118	121	326	205
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquors, distilled	1909	39	239	40	45	154	1,205	1,398	44	53	395	2,256	1,861
	1904	50	207	60	15	132	893	882	17	55	256	568	312
	1899	51	205	55	11	139	700	590	8	43	200	940	740
Liquors, malt	1909	5	450	2	56	392	3,005	2,263	122	238	653	2,044	1,391
	1904	4	408	1	50	357	1,774	2,339	94	162	437	1,832	1,395
	1899	4	320	1	31	288	1,270	1,278	52	130	262	1,175	913
Lumber and timber products	1909	1,977	26,283	2,683	1,211	22,389	83,382	30,159	1,325	6,966	13,641	30,457	16,816
	1904	1,122	19,705	1,605	823	17,277	54,301	20,431	809	6,456	11,590	26,864	15,274
	1899	1,204	.....	.....	510	14,300	47,807	11,056	418	4,380	9,327	19,166	9,839
Marble and stone work	1909	81	1,189	88	95	1,006	2,781	1,476	88	515	480	1,465	985
	1904	32	750	40	29	681	1,204	648	30	331	339	944	605
	1899	54	.....	.....	68	685	.....	609	36	241	215	845	630
Mattresses and spring beds	1909	17	352	20	60	272	1,690	513	52	104	362	656	294
	1904	12	279	21	21	237	217	212	17	72	216	436	220
	1899	10	.....	.....	14	107	.....	81	10	32	181	263	82
Millinery and lace goods	1909	6	154	8	54	92	4	56	20	26	101	202	101
	1904	4	81	6	2	73	5	37	1	27	101	181	80
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oil, cottonseed, and cake	1909	20	957	4	147	806	7,472	3,731	202	290	5,201	6,593	1,392
	1904	20	819	.....	118	701	6,606	2,914	138	245	3,084	3,744	660
	1899	17	833	2	80	751	4,425	1,997	105	204	2,278	2,980	702
Paint and varnish	1909	6	117	1	45	71	1,045	408	52	37	238	397	159
	1904	4	91	1	14	76	295	224	25	30	288	481	193
	1899	5	56	3	8	45	122	74	11	18	89	151	62
Patent medicines and compounds and druggists' preparations.	1909	76	998	52	513	433	418	2,225	535	148	1,341	3,515	2,174
	1904	[1] 47	739	28	222	489	371	1,317	228	143	901	2,789	1,888
	1899	[1] 28	.....	.....	115	399	.....	739	137	138	525	1,504	979
Pottery, terra-cotta, and fire-clay products	1909	6	354	3	28	323	678	357	32	126	110	328	218
	1904	8	318	7	14	297	535	186	19	128	79	309	230
	1899	18	330	15	15	300	577	172	12	91	74	260	186
Printing and publishing	1909	413	4,442	443	1,085	2,914	2,965	6,493	1,085	1,701	1,954	7,173	5,219
	1904	340	3,373	386	657	2,330	1,913	4,415	657	1,231	1,323	5,091	3,768
	1899	[1] 284	2,604	316	500	1,788	.....	3,602	432	821	882	3,455	2,573
Slaughtering and meat packing	1909	27	379	31	68	280	1,242	2,516	61	140	1,610	2,057	447
	1904	[1] 12	81	13	9	59	936	408	9	23	275	377	102
	1899	13	.....	.....	15	166	.....	680	17	66	1,480	1,712	232
Stoves and furnaces, including gas and oil stoves.	1909	17	1,242	7	150	1,085	1,380	1,827	146	519	717	1,951	1,234
	1904	10	879	7	53	819	830	1,158	60	404	349	1,116	767
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woolen, worsted, and felt goods, and wool hats.	1909	21	1,737	21	62	1,654	2,371	2,515	73	419	1,127	1,802	675
	1904	27	1,481	22	44	1,415	2,590	2,310	54	327	945	1,706	761
	1899	51	1,725	29	64	1,632	2,692	2,400	68	294	874	1,517	643
All other industries	1909	466	9,463	449	1,174	7,840	25,094	31,144	1,445	3,430	15,601	26,787	11,186
	1904	321	6,349	304	606	5,439	15,495	14,314	619	1,995	9,343	15,797	6,454
	1899	301	.....	.....	456	3,525	.....	5,249	423	1,116	4,393	8,058	3,665

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

MEMPHIS—All industries	1909	329	9,937	597	1,413	7,927	21,320	$26,968	$1,727	$4,288	$17,851	$30,242	$12,391
	[4] 1904	289	8,448	269	805	7,374	.....	13,296	994	3,543	11,338	20,043	8,705
	1899	223	.....	.....	452	6,626	.....	9,767	552	2,792	7,879	14,233	6,354
Bread and other bakery products	1909	31	515	32	62	421	312	736	68	202	864	1,452	588
	1904	27	327	32	29	266	.....	528	29	113	446	787	341
	1899	21	216	24	35	157	.....	471	19	75	459	669	210
Carriages and wagons and materials	1909	16	421	14	33	374	714	952	48	200	386	882	496
	1904	15	520	8	33	479	.....	838	53	262	466	971	505
	1899	11	296	8	13	275	.....	403	20	113	206	452	246

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Not reported separately.
[3] Figures can not be shown without disclosing individual operations.
[4] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
MEMPHIS—Continued.													
Clothing, men's, including shirts	1909	7	58	7	5	46	27	$62	$6	$16	$75	$163	$88
	1904	9	240	16	27	197	.....	142	28	37	293	487	194
	1899	12	.....	.....	1	428	.....	213	2	129	274	528	254
Confectionery	1909	9	373	4	72	297	62	422	75	123	830	1,128	298
	1904	7	218	2	30	186	.....	296	30	82	442	849	407
	1899	4	.....	.....	5	57	.....	45	4	22	88	147	59
Cooperage and wooden goods, not elsewhere specified.	1909	4	428	2	13	413	1,166	901	20	123	310	557	247
	1904	5	223	4	8	211	.....	202	10	80	209	379	170
	1899	3	79	3	4	72	.....	29	4	39	86	152	66
Copper, tin, and sheet-iron products	1909	14	140	19	7	114	5	130	7	68	111	242	131
	1904	11	125	16	.....	109	.....	85	.....	77	129	292	163
	1899	7	.....	.....	.....	60	.....	30	.....	32	34	110	76
Foundry and machine-shop products	1909	18	519	12	70	437	1,557	1,086	82	284	565	1,130	565
	1904	15	512	13	53	446	.....	743	68	256	372	881	509
	1899	[1] 15	807	20	23	764	.....	1,071	33	351	496	1,079	583
Ice, manufactured	1909	6	308	1	35	272	1,726	842	48	154	80	495	415
	1904	4	210	.....	31	179	.....	437	32	110	40	310	270
	1899	4	217	.....	25	192	.....	545	31	103	45	260	215
Leather goods	1909	9	96	8	24	64	54	147	17	39	151	262	111
	1904	[2] 5	69	4	5	60	.....	71	6	27	116	171	55
	1899	[1] 5	.....	.....	.....	110	.....	183	.....	69	159	278	119
Lumber and timber products	1909	18	1,288	17	145	1,126	3,250	2,855	220	563	1,504	2,830	1,326
	1904	[3] 16	1,041	11	85	945	.....	1,872	111	421	1,059	1,917	858
	1899	[1] 20	.....	.....	73	1,625	.....	1,984	96	599	1,237	2,498	1,261
Marble and stone work	1909	8	122	11	4	107	125	139	3	84	53	216	163
	1904	3	110	5	3	102	.....	121	2	61	36	121	85
	1899	4	83	6	1	76	.....	101	1	46	43	187	144
Oil, cottonseed, and cake	1909	9	500	4	77	419	3,002	2,201	117	161	3,509	4,316	807
	1904	11	559	.....	74	485	.....	2,196	101	181	2,201	2,621	420
	1899	9	636	.....	49	587	.....	1,550	72	159	1,821	2,271	450
Patent medicines and compounds and druggists' preparations.	1909	21	146	15	61	70	17	304	47	29	360	639	279
	1904	[1] 8	58	4	12	42	.....	128	10	14	174	374	200
	1899	5	48	6	9	33	.....	72	13	14	78	226	148
Printing and publishing	1909	45	815	68	231	516	622	1,183	242	407	520	1,793	1,273
	1904	[1] 46	640	61	156	423	.....	968	190	278	382	1,322	940
	1899	27	432	29	78	325	.....	441	90	173	208	776	568
All other industries	1909	114	4,208	383	574	3,251	7,721	14,048	727	1,835	8,533	14,137	5,604
	1904	107	3,596	93	259	3,244	.....	4,069	324	1,544	4,863	8,501	3,638
	1899	75	.....	.....	136	1,865	.....	2,639	163	868	2,645	4,600	1,955
NASHVILLE—All industries	1909	384	11,883	368	1,794	9,721	19,538	$27,880	$1,862	$4,336	$17,456	$29,650	$12,194
	[3] 1904	257	9,386	255	1,099	8,032	.....	15,601	1,110	3,284	12,482	21,587	9,065
	1899	237	.....	.....	911	6,726	.....	11,874	786	2,276	9,027	15,301	6,274
Bread and other bakery products	1909	23	122	25	10	87	65	83	10	49	203	336	133
	1904	14	157	16	22	119	.....	533	17	45	203	586	378
	1899	16	119	19	27	73	.....	77	12	36	91	169	78
Carriages and wagons and materials	1909	17	226	22	11	193	148	131	12	96	153	337	179
	1904	[1] 11	202	14	20	168	.....	105	15	81	169	319	150
	1899	[1] 9	.....	.....	5	111	.....	73	5	47	65	165	101
Cars and general shop construction and repairs by steam-railroad companies.	1909	3	1,388	.....	60	1,328	639	1,012	68	797	678	1,576	898
	1904	3	1,466	.....	39	1,427	.....	619	47	743	890	1,724	834
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clothing, men's, including shirts	1909	5	466	12	56	398	127	445	73	112	522	836	314
	1904	7	594	18	48	528	.....	364	53	121	424	768	344
	1899	8	518	15	37	466	.....	275	31	99	367	594	227
Confectionery	1909	11	334	10	41	283	131	324	35	63	315	454	139
	1904	9	267	7	65	195	.....	203	52	50	248	583	335
	1899	5	.....	.....	55	166	.....	276	42	49	202	425	223
Cooperage and wooden goods, not elsewhere specified.	1909	4	96	3	9	84	150	98	10	34	139	190	51
	1904	5	86	2	5	79	.....	75	5	31	164	216	52
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Copper, tin, and sheet-iron products	1909	12	96	16	12	68	16	115	8	30	75	160	85
	1904	[1] 4	67	3	5	59	.....	45	4	37	44	114	70
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products	1909	10	309	16	50	243	2,227	947	51	89	4,888	5,719	831
	1904	4	216	2	36	178	.....	752	41	80	3,690	4,242	552
	1899	4	225	2	45	178	.....	922	47	91	3,424	3,907	483
Foundry and machine-shop products	1909	11	179	15	22	142	193	252	24	80	114	280	166
	1904	9	190	10	18	162	.....	235	19	83	143	298	155
	1899	[1] 13	172	18	13	141	.....	113	12	60	82	222	140

[1] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[3] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.
[4] Figures can not be shown without disclosing individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY AND CITY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
								Expressed in thousands.					
NASHVILLE—Continued.													
Furniture and refrigerators	1909	5	522	1	45	476	463	$763	$49	$204	$248	$673	$425
	1904	6	493	4	31	458	.....	462	33	199	289	639	350
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ice, manufactured	1909	4	176	.....	23	153	1,795	354	27	66	67	233	166
	1904	3	63	1	9	53	.....	129	9	25	33	120	87
	1899	4	97	4	14	79	.....	195	11	33	28	112	84
Leather goods	1909	11	271	14	75	182	93	617	67	86	508	789	281
	1904	[2] 7	252	7	36	209	.....	303	31	76	330	564	234
	1899	13	.....	.....	45	208	.....	237	37	66	292	475	183
Lumber and timber products	1909	25	1,372	28	100	1,244	3,352	3,052	117	547	1,539	2,673	1,134
	1904	19	1,125	29	81	1,015	.....	1,545	73	358	1,635	2,418	783
	1899	[3] 13	1,182	23	47	1,112	.....	1,180	44	368	837	1,633	796
Mattresses and spring beds	1909	4	95	3	21	71	111	130	15	27	103	187	84
	1904	3	58	10	6	42	.....	35	4	14	70	130	60
	1899	3	50	8	5	37	.....	29	4	11	61	89	28
Patent medicines and compounds and druggists' preparations.	1909	14	81	10	41	30	13	208	35	10	82	206	124
	1904	7	83	2	40	41	.....	172	41	10	110	280	170
	1899	3	47	5	14	28	.....	57	14	7	71	123	52
Printing and publishing	1909	86	1,875	61	579	1,235	1,227	3,594	603	728	896	3,285	2,389
	1904	54	1,426	41	340	1,045	.....	2,543	344	552	591	2,292	1,701
	1899	[3] 52	1,066	44	291	731	.....	2,115	246	371	421	1,628	1,207
All other industries	1909	139	4,275	132	639	3,504	8,788	15,755	658	1,318	6,921	11,716	4,795
	1904	92	2,641	89	298	2,254	.....	7,481	322	713	3,444	6,274	2,830
	1899	94	.....	.....	313	3,396	.....	6,325	281	1,029	3,086	5,758	2,672

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

Chattanooga	1909	185	7,507	125	972	6,410	17,509	$16,125	$1,180	$2,816	$8,434	$16,036	$7,602
	[4] 1904	177	7,236	130	686	6,420	.....	10,394	719	2,564	7,474	14,261	6,787
	1899	149	.....	.....	458	4,729	.....	7,459	417	1,616	6,421	10,518	4,097
Jackson	1909	42	1,613	28	180	1,405	2,789	2,236	193	673	1,215	2,710	1,495
	1904	42	1,421	35	118	1,268	.....	1,519	112	498	1,183	2,318	1,135
	1899	33	.....	.....	101	1,018	.....	980	78	400	693	1,577	884
Knoxville	1909	159	3,464	141	550	2,773	6,001	5,333	552	1,078	5,101	8,149	3,048
	[4] 1904	138	3,420	128	293	2,999	.....	3,744	275	1,048	4,101	6,699	2,598
	1899	102	.....	.....	240	4,203	.....	5,036	242	1,288	3,552	6,202	2,650

[1] Figures can not be shown without disclosing individual operations.
[2] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[3] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[4] Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.

TABLE II.—DETAIL STATEMENT FOR

	INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners. Average number.	Wage earners. Number. Maximum month.	Wage earners. Number. Minimum month.	WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
1	**All industries**	4,609	87,672	5,415	2,978	4,377	1,062	73,840	No 80,676	Ja 69,305	(1)	(1)	(1)	(1)	(1)	242,277
2	Agricultural implements	16	712	9	26	22	10	645	De 743	My 507	761	745	4	12		
3	Artificial stone	26	155	33	6	1		115	Jy 165	Ja 57	142	140	2			1,236
4	Bags, other than paper	5	464	5	13	33	8	405	No 492	My 345	436	151	242	22	21	51
5	Belting and hose, leather	3	28	6	1	2	2	17	Je 19	Fe 15	17	17				576
6	Boots and shoes, including cut stock and findings.	4	427	7	9	35	2	374	Jy 385	Fe 358	383	252	86	34	11	39 174
7	Boxes, fancy and paper	6	227	3	11	7	4	202	No 222	Ja 184	238	90	144		4	
8	Brass and bronze products	9	40	10	2	2	1	25	No 2 30	Ap 17	30	30				114
9	Bread and other bakery products	131	1,179	150	25	112	37	855	De 967	My 797	975	701	254	17	3	43
10	Brick and tile	91	1,487	112	57	32	5	1,281	Jy 1,740	Fe 652	1,754	1,604	1	89		645
11	Brooms	20	173	40	8	2	1	122	No 148	My 102	152	120	25	5	2	4,631 82
12	Buttons	5	76	6	1			69	No 128	Ja 2 24	123	119	4			
13	Canning and preserving	37	375	45	21	6		303	Au 1,411	Mh 3	1,423	430	787	91	115	84
14	Carriages and wagons and materials	129	1,092	150	82	38	16	1,706	No 1,833	Ja 1,555	1,892	1,875	4	13		450
15	Cars and general shop construction and repairs by steam-railroad companies.	17	5,884		81	231	6	5,566	De 6,081	My 5,197	6,067	6,051	15	1		4,637 5,145
16	Cars and general shop construction and repairs by street-railroad companies.	6	283		6	10	1	266	De 2 283	Fe 252	283	279	4			503
17	Cars, steam-railroad, not including operations of railroad companies.	3	1,170		22	42	2	1,104	No 1,588	My 564	1,539	1,539				1,400
18	Clothing, men's, including shirts	34	1,802	34	66	176	20	1,596	Ja 1,775	Oc 1,460	1,772	341	1,401		30	503
19	Coffins, burial cases, and undertakers' goods.	8	570		24	59	7	480	Fe 487	No 2 472	480	448	32			976
20	Coke	8	270		9	11		250	No 325	Jy 205	322	322				370
21	Confectionery	31	1,086	23	40	108	21	894	No 1,083	Ja 708	1,073	550	511	7	5	1,154
22	Cooperage and wooden goods, not elsewhere specified.	19	913	18	20	16	3	856	De 1,032	My 685	1,047	898	120	26	3	2,209
23	Copper, tin, and sheet-iron products	57	704	73	21	31	7	572	Au 674	Fe 389	653	614	16	16	7	154
24	Cotton goods, including cotton small wares.	17	3,164	3	48	31	4	3,078	My 3,120	Se 3,042	3,123	1,389	1,183	277	274	11,129
25	Electrical machinery, apparatus, and supplies.	5	118		12	2	5	99	De 119	Je 88	119	90	28	1		94
26	Fertilizers	12	670	12	23	71	5	559	Mh 893	Je 372	517	517				2,152
27	Flour-mill and gristmill products	454	2,658	663	166	226	26	1,577	Au 1,661	Je 1,425	1,650	1,633	2	13	2	27,176
28	Foundry and machine-shop products	124	4,694	102	200	281	70	4,041	De 4,535	Ja 3,655	4,513	4,452	8	53		7,488
29	Furnishing goods, men's	4	57	2	5	8	1	46	De 2 49	Mh 2 40	49	5	42	2		8
30	Furniture and refrigerators	42	2,667	15	107	95	31	2,419	De 2,694	Ja 2,232	2,696	2,465	75	156		3,758
31	Gas, illuminating and heating	11	530	4	24	67	13	422	De 514	Fe 373	515	515				653
32	Hosiery and knit goods	22	3,220	2	60	28	22	3,117	Ap 3,191	Mh 3,038	3,261	841	1,878	209	333	2,758
33	Ice, manufactured	57	986	46	96	56	9	779	Jy 1,143	Ja 440	749	742		7		9,327
34	Iron and steel, blast furnaces	13	1,268		48	69	8	1,143	Ja 1,461	My 893	1,539	1,526		13		18,150
35	Jewelry	5	37	6	4	7	1	19	Ja 3 19	Jy 3 19	19	19				27
36	Leather goods	47	808	47	73	68	16	604	De 657	My 558	657	585	29	43		344
37	Leather, tanned, curried, and finished	25	463	26	19	19	4	395	Mh 429	Se 369	388	388				1,684
38	Lime	20	461	19	20	5	2	415	Se 451	Ja 353	457	454		3		603
39	Liquors, distilled	39	239	46	20	21	4	154	No 174	Jy 123	187	180	3	4		1,203
40	Liquors, malt	5	450	2	13	40	3	392	Jy 451	Fe 340	368	349	1	18		3,005
41	Lumber and timber products	1,977	26,283	2,083	623	504	84	22,389	No 25,462	Ja 20,620	28,603	28,032	182	373	16	83,382
42	Marble and stone work	81	1,189	88	37	47	11	1,006	De 1,060	Ja 942	1,076	1,072	2	2		2,781
43	Mattresses and spring beds	17	352	20	30	19	11	272	No 320	Ap 219	325	257	65	3		1,690
44	Millinery and lace goods	6	154	8	12	21	21	92	Se 121	Je 54	71	0	[illegible]			4
45	Models and patterns, not including paper patterns.	6	24	8	2		2	12	De 16	Ap 2 11	16	16				41
46	Oil, cottonseed, and cake	20	957	4	53	89	5	806	No 1,394	Jy 186	1,407	1,405	2			7,472
47	Paint and varnish	6	117	1	17	22	6	71	My 77	Ja 63	74	65	7	2		1,045
48	Patent medicines and compounds and druggists' preparations.	76	998	52	85	276	152	433	De 520	Ja 399	532	220	309	2	1	418
49	Photo-engraving	6	55	6	6		3	40	No 2 46	Au 35	44	39		5		20
50	Pottery, terra-cotta, and fire-clay products.	6	354	3	6	21	1	323	Je 333	De 311	319	314	2	3		678
51	Printing and publishing	413	4,442	443	229	627	229	2,914	Se 3,011	Ja 2,799	3,043	2,339	614	88	2	2,965
52	Saws	5	46	8	5	4	1	28	Jy 31	Mh 21	29	22		7		106
53	Slaughtering and meat packing	27	370	31	23	38	7	280	De 633	My 151	631	591	39	1		1,242
54	Stoves and furnaces, including gas and oil stoves.	17	1,242	7	46	66	38	1,085	No 1,275	Ja 651	1,250	1,195	45	10		1,380
55	Surgical appliances and artificial limbs.	3	7	3				4	Ja 3 4	Jy 3 4	4	4				3
56	Woolen, worsted, and felt goods, and wool hats.	21	1,737	21	27	30	5	1,654	Je 1,746	Ja 1,569	1,686	751	753	88	94	2,371
57	All other industries 4	346	6,730	316	288	543	109	5,469								22,017

1 No figures given for reasons explained in the Introduction.
2 Same number reported for one or more other months.
3 Same number reported throughout the year.
4 All other industries embrace—

Automobiles, including bodies and parts	2	Clothing, women's	3	Fireworks	1
Awnings, tents, and sails	8	Coffee and spice, roasting and grinding	8	Flags, banners, regalia, society badges, and emblems	1
Axle grease	1	Cordage and twine and jute and linen goods	1	Flavoring extracts	10
Babbitt metal and solder	2	Cordials and sirups	2	Food preparations	23
Baking powders and yeast	2	Cutlery and tools, not elsewhere specified	2	Gas and electric fixtures and lamps and reflectors	2
Blacking and cleansing and polishing preparations	3	Dyestuffs and extracts	6	Glass	1
Bluing	1	Electroplating	1	Glass, cutting, staining, and ornamenting	3
Carpets, rag	2	Engraving and diesinking	1	Grease and tallow	1
Cement	1	Explosives	2	Hair work	4
Charcoal	1	Fancy articles, not elsewhere specified	1		

THE STATE, BY INDUSTRIES: 1909.

	Capital.	EXPENSES. Total.	Services. Officials.	Services. Clerks.	Services. Wage earners.	Materials. Fuel and rent of power.	Materials. Other.	Miscellaneous. Rent of factory.	Miscellaneous. Taxes, including internal revenue.	Miscellaneous. Contract work.	Miscellaneous. Other.	Value of products.	Value added by manufacture.
1	$167,923,784	$158,979,837	$4,670,223	$4,516,020	$28,251,591	$5,191,450	$98,824,384	$566,378	$3,202,601	$1,814,598	$11,942,592	$180,216,548	$76,200,714
2	1,465,895	838,978	41,213	38,975	268,119	29,018	383,872	.....	11,440	340	66,001	1,003,747	590,857
3	84,353	109,945	5,600	150	38,117	564	57,354	568	433	.....	7,159	146,715	88,797
4	1,464,135	2,343,811	27,990	39,560	130,171	13,669	2,066,884	2,600	5,394	.....	57,543	2,290,992	210,439
5	52,488	68,055	1,500	4,031	9,903	630	49,486	810	237	.....	1,458	75,986	25,870
6	532,067	1,120,964	23,800	46,117	117,896	6,761	820,736	2,763	1,814	30,316	70,761	1,180,894	353,397
7	148,284	236,355	18,008	9,424	57,883	2,576	119,552	6,650	506	.....	21,756	257,501	135,373
8	69,933	67,113	2,640	1,680	18,619	2,697	33,632	796	254	1,200	5,595	82,372	46,043
9	1,259,877	2,519,781	46,677	85,782	375,826	45,609	1,743,993	49,934	8,567	150	163,243	2,891,821	1,102,219
10	1,867,654	1,051,918	53,892	28,435	443,259	237,008	108,521	14,524	6,272	49,715	110,292	1,307,826	962,297
11	99,169	224,066	7,775	1,787	42,829	1,778	156,934	4,557	274	.....	8,132	270,297	111,585
12	35,300	46,423	360	.....	28,703	1,173	13,799	750	30	1,020	588	48,895	33,923
13	274,022	190,526	8,995	1,848	39,276	2,671	127,982	691	959	550	7,554	206,068	75,415
14	3,005,864	2,541,308	114,980	44,563	693,307	22,549	1,416,877	22,021	15,893	40,313	170,805	3,039,613	1,600,187
15	4,034,678	6,776,511	132,648	196,600	3,251,558	103,680	3,011,853	.....	16,911	1	63,260	6,776,511	3,660,978
16	348,343	305,097	9,870	7,349	150,372	2,630	127,091	.....	6,485	.....	1,300	305,997	176,276
17	1,478,026	1,752,589	44,682	41,825	635,321	15,435	962,006	.....	5,148	.....	48,172	1,909,268	931,827
18	2,256,777	3,104,956	100,249	208,755	402,051	12,872	2,109,638	26,803	8,144	48,333	188,111	3,361,105	1,238,595
19	1,138,445	1,085,549	47,420	82,980	200,948	7,203	515,245	.....	6,382	.....	225,371	1,188,693	666,245
20	857,614	597,122	9,863	4,504	86,784	468,960	8,540	.....	3,558	.....	14,913	585,685	108,185
21	1,503,918	2,286,598	64,924	112,289	276,271	24,153	1,633,036	33,414	8,894	425	133,192	2,520,070	862,881
22	1,442,637	1,081,355	33,395	16,598	253,131	2,157	626,426	1,025	4,268	100	144,255	1,148,269	519,686
23	672,887	1,063,243	48,094	21,867	260,586	16,826	576,624	15,569	4,331	100	119,246	1,229,155	635,705
24	7,453,807	4,816,321	81,409	23,957	856,837	103,111	3,240,561	.....	32,270	444	477,732	5,200,791	1,857,119
25	117,568	131,814	23,038	3,500	32,764	2,040	49,788	840	548	.....	19,296	174,306	122,478
26	4,105,633	2,847,758	49,532	87,167	203,750	32,629	2,089,099	1,550	18,854	.....	365,177	3,249,343	1,127,615
27	8,510,635	27,190,073	176,865	145,712	559,242	198,648	25,087,218	15,912	48,224	2,394	955,858	29,070,019	3,784,158
28	9,252,940	8,046,889	382,104	313,030	2,006,383	244,753	4,315,447	22,441	49,349	46,389	666,993	9,189,791	4,629,591
29	73,720	113,660	7,000	1,812	14,232	528	72,700	860	507	.....	16,021	109,319	36,091
30	3,496,853	2,996,798	151,670	106,566	896,882	27,367	1,420,506	12,713	18,958	85,606	276,530	3,309,385	1,861,512
31	9,369,945	809,700	45,079	52,503	163,958	235,839	120,836	450	85,535	.....	105,500	1,281,558	924,883
32	3,054,790	3,265,867	83,171	41,530	723,756	42,916	2,077,309	4,740	8,803	46,921	236,721	3,565,436	1,445,211
33	2,747,694	1,028,451	109,988	43,527	362,167	189,814	91,224	235	28,293	.....	203,203	1,324,400	1,043,362
34	7,122,172	4,186,377	107,846	39,115	519,274	1,802,704	1,577,962	.....	22,922	310	116,244	4,653,125	1,272,459
35	51,122	75,319	4,700	5,200	14,027	1,101	40,993	5,086	637	.....	3,575	84,232	42,138
36	1,419,188	1,841,514	84,351	56,274	243,386	12,835	1,299,785	19,581	5,588	18,143	101,571	2,138,798	820,178
37	3,564,005	2,263,750	24,900	24,694	138,588	14,201	1,979,513	600	9,108	.....	72,146	2,529,901	536,187
38	281,910	285,755	24,123	5,460	139,120	45,812	47,631	1,080	1,887	71	20,571	323,307	229,864
39	1,398,202	1,877,346	31,912	11,935	53,400	26,062	368,658	1,145	1,359,357	.....	24,877	2,256,429	1,861,709
40	2,263,346	1,728,428	53,050	68,621	238,460	51,513	601,730	.....	265,030	500	449,524	2,043,723	1,390,480
41	30,158,572	24,892,523	848,872	476,445	6,965,997	100,419	13,541,022	38,664	114,292	1,085,650	1,721,162	30,456,807	16,815,366
42	1,475,946	1,200,690	54,155	33,965	514,812	34,250	446,079	9,408	5,984	7,601	94,436	1,465,246	984,917
43	512,761	564,016	31,090	21,119	103,960	9,072	353,307	7,401	2,013	.....	36,054	655,747	293,368
44	56,350	167,068	9,820	10,477	26,155	1,147	99,989	5,796	809	.....	12,875	201,958	100,822
45	12,124	15,771	1,760	173	8,933	148	2,938	911	32	.....	876	21,248	18,162
46	3,730,736	6,021,621	117,496	84,257	290,266	95,825	5,105,249	.....	24,820	.....	303,708	6,592,776	1,391,702
47	407,679	365,669	25,510	26,560	37,314	5,017	232,964	3,000	2,041	.....	33,263	396,712	158,731
48	2,224,909	3,051,926	154,813	380,663	147,885	7,860	1,332,946	30,731	12,251	3,088	981,689	3,514,676	2,173,870
49	30,535	57,569	9,226	1,501	23,569	1,631	7,021	2,995	91	2,300	9,235	68,734	60,082
50	356,887	291,059	14,280	17,680	126,338	67,680	41,850	.....	2,772	.....	20,459	327,610	218,080
51	6,493,325	5,970,963	393,302	692,192	1,701,128	78,598	1,874,987	105,383	35,717	271,812	817,844	7,173,230	5,219,645
52	46,749	51,821	3,730	2,064	15,594	1,701	23,078	520	448	120	4,566	63,599	38,820
53	2,516,295	1,895,094	31,270	29,736	140,275	33,110	1,577,000	2,904	8,801	1,750	70,248	2,056,719	446,609
54	1,827,376	1,649,262	81,743	63,880	519,049	27,292	689,916	4,218	27,339	58,163	177,662	1,950,543	1,233,335
55	18,825	5,684	.....	.....	2,600	152	1,765	360	70	.....	737	9,300	7,383
56	2,515,275	1,745,636	55,842	16,764	419,233	29,476	1,097,257	450	10,660	.....	115,954	1,802,311	675,578
57	27,163,544	18,115,121	552,010	632,822	2,261,327	645,580	11,245,975	82,929	882,397	10,773	1,801,308	21,127,989	9,236,434

[1] All other industries embrace—Continued.

Hand stamps and stencils and brands	8
Hats and caps, other than felt, straw, and wool	1
House-furnishing goods, not elsewhere specified	1
Iron and steel, steel works and rolling mills	1
Iron and steel, doors and shutters	1
Mineral and soda waters	83
Mirrors	2
Musical instruments, pianos and organs and materials	1
Oil, not elsewhere specified	1
Optical goods	1
Paving materials	2
Rubber goods, not elsewhere specified	1
Rules, ivory and wood	1
Scales and balances	1
Shipbuilding, including boat building	3
Shoddy	1
Show cases	1
Signs and advertising novelties	2
Smelting and refining, copper	2
Soap	5
Sporting and athletic goods	1
Stationery goods, not elsewhere specified	2
Stereotyping and electrotyping	2
Sulphuric, nitric, and mixed acids	1
Tobacco manufactures	63
Toys and games	1
Type founding and printing materials	2
Upholstering materials	2
Vinegar and cider	6
Wall plaster	2
Wheelbarrows	1
Window shades and fixtures	3
Wirework, including wire rope and cable	4
Wood, turned and carved	42

TABLE III.—DETAIL STATEMENT FOR CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES, AND

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES.

MEMPHIS.

	Industry and city.	Number of establishments	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners (average number). Total.	Wage earners. 16 and over. Male.	Wage earners. 16 and over. Female.	Wage earners. Under 16.	Wage earners—number Dec. 15, or nearest representative day. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
1	**All industries**	329	9,937	597	399	858	156	7,927	7,198	383	346	9,012	8,187	445	285	95	21,320
2	Bread and other bakery products	31	515	32	8	44	10	421	277	144	.....	460	303	157	.....	.....	312
3	Carriages and wagons and materials	10	421	14	17	13	3	374	370	2	2	387	383	2	2	.....	714
4	Clothing, men's, including shirts	7	58	7	1	4	.....	46	5	41	.....	64	7	57	.....	.....	27
5	Confectionery	9	373	4	17	48	7	297	176	118	3	371	220	147	.....	4	62
6	Cooperage and wooden goods, not elsewhere specified.	4	428	2	6	5	2	413	402	.....	11	492	479	.....	13	.....	1,166
7	Copper, tin, and sheet-iron products	14	140	19	1	5	1	114	112	.....	2	118	116	.....	2	.....	5
8	Foundry and machine-shop products	18	519	12	23	37	10	437	429	4	4	500	491	5	4	.....	1,557
9	Ice, manufactured	6	308	1	14	19	2	272	272	.....	.....	200	200	.....	.....	.....	1,726
10	Leather goods	9	96	8	11	11	2	64	64	.....	.....	83	83	.....	.....	.....	54
11	Lumber and timber products	18	1,288	17	58	71	16	1,126	1,107	.....	19	1,329	1,307	.....	22	.....	3,250
12	Marble and stone work	8	122	11	.....	3	1	107	106	1	.....	103	102	1	.....	.....	125
13	Oil, cottonseed, and cake	9	500	4	31	43	3	419	418	1	.....	734	732	2	.....	.....	3,962
14	Patent medicines and compounds and druggists' preparations.	21	146	15	19	28	14	70	50	20	.....	69	49	20	.....	.....	17
15	Printing and publishing	45	815	68	40	108	23	516	443	52	21	539	463	54	22	.....	622
16	All other industries [1]	114	4,208	353	153	359	62	3,251	2,967	.....	284	3,503	3,252	.....	220	91	7,721

[1] All other industries embrace: Agricultural implements, 1; artificial stone, 4; automobiles, including bodies and parts, 1; awnings, tents, and sails, 4; bags, other than paper, 2; belting and hose, leather, 1; blacking and cleansing and polishing preparations, 2; boxes, fancy and paper, 1; brass and bronze products, 1; brick and tile, 1; brooms, 6; buttons, 1; carpets, rag, 1; cars and general shop construction and repairs by steam-railroad companies, 2; cars and general shop construction and repairs by street-railroad companies, 1; coffee and spice, roasting and grinding, 3; coffins, burial cases, and undertakers' goods, 1; flavoring extracts, 3; flour-mill and gristmill products, 7; food preparations, 8; furnishing goods, men's, 1; furniture and refrigerators, 3; gas, illuminating and heating, 2; glass, cutting, staining, and ornamenting, 2.

NASHVILLE.

	Industry and city.	Number of establishments	Persons engaged in industry. Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks. Male.	Clerks. Female.	Wage earners (average number). Total.	Wage earners. 16 and over. Male.	Wage earners. 16 and over. Female.	Wage earners. Under 16.	Wage earners—number Dec. 15, or nearest representative day. Total.	16 and over. Male.	16 and over. Female.	Under 16. Male.	Under 16. Female.	Primary horsepower.
1	**All industries**	384	11,683	368	498	1,003	293	9,721	7,776	1,755	190	10,487	8,349	1,928	170	40	19,536
2	Bread and other bakery products	23	122	25	2	3	5	87	79	4	4	95	86	5	4	.....	65
3	Carriages and wagons and materials	17	226	22	7	3	1	193	192	1	.....	188	187	1	.....	.....	148
4	Cars and general shop construction and repairs by steam-railroad companies.	3	1,388	.....	23	36	1	1,328	1,315	13	.....	1,377	1,363	14	.....	.....	639
5	Clothing, men's, including shirts	5	406	12	13	40	3	398	35	363	.....	394	35	359	.....	.....	127
6	Confectionery	11	334	10	9	23	9	283	115	162	6	363	147	208	7	1	131
7	Cooperage and wooden goods, not elsewhere specified.	4	96	3	6	3	.....	84	84	.....	.....	86	86	.....	.....	.....	150
8	Copper, tin, and sheet-iron products	12	96	16	5	6	1	68	68	.....	.....	71	71	.....	.....	.....	16
9	Flour-mill and gristmill products	10	309	16	10	35	5	243	242	1	.....	231	230	1	.....	.....	2,227
10	Foundry and machine-shop products	11	179	15	15	5	2	142	137	.....	5	166	160	.....	6	.....	193
11	Furniture and refrigerators	5	522	1	24	18	3	476	457	4	15	407	477	4	16	.....	403
12	Ice, manufactured	4	176	.....	15	8	.....	153	153	.....	.....	183	183	.....	.....	.....	1,795
13	Leather goods	11	271	14	26	43	6	182	163	7	12	204	183	8	13	.....	93
14	Lumber and timber products	26	1,372	28	49	46	5	1,244	1,219	.....	25	1,273	1,247	.....	26	.....	3,352
15	Mattresses and spring beds	4	95	3	13	5	3	71	54	14	3	79	60	16	3	.....	111
16	Patent medicines and compounds and druggists' preparations.	14	81	10	12	23	6	30	12	18	.....	32	13	19	.....	.....	13
17	Printing and publishing	86	1,875	61	98	337	144	1,235	897	322	15	1,277	927	335	14	1	1,227
18	All other industries [1]	139	4,275	132	171	360	99	3,504	2,554	845	105	3,971	2,894	958	81	38	8,783

[1] All other industries embrace: Artificial stone, 1; awnings, tents, and sails, 1; axle grease, 1; bags, other than paper, 1; baking powders and yeast, 1; belting and hose, leather, 2; boots and shoes, 2; boxes, fancy and paper, 3; brass and bronze products, 3; brick and tile, 2; brooms, 7; buttons, 1; carpets, rag, 1; cars and general shop construction and repairs by street-railroad companies, 1; clothing, women's, 1; coffee and spice, roasting and grinding, 5; coffins, burial cases, and undertakers' goods, 1; cotton goods, including cotton small wares, 1; cutlery and tools, not elsewhere specified, 1; electrical machinery, apparatus, and supplies, 2; engraving and diesinking, 1; fertilizers, 1; flavoring extracts, 4; food preparations, 8; furnishing goods, men's, 2; gas, illuminating and heating, 2; hair work, 3; hand stamps and stencils and brands, 4; hats and caps, other than felt, straw, and wool, 1; hosiery and knit goods, 1; house-furnishing goods, not elsewhere specified, 1; iron and steel, blast furnaces, 1; jewelry, 2; lime, 2;

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

1	CHATTANOOGA	185	7,507	125	301	507	164	6,410	5,807	494	109	7,148	6,477	553	112	6	17,509
2	JACKSON	42	1,613	28	65	93	22	1,405	1,280	112	13	1,539	1,402	123	8	6	2,789
3	KNOXVILLE	159	3,464	141	199	276	75	2,773	2,127	602	44	3,030	2,347	664	31	18	6,001

AND TOTALS FOR ALL INDUSTRIES IN CITIES OF 10,000 BUT LESS THAN 50,000 INHABITANTS: 1909.

CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES.

MEMPHIS.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	$26,968,367	$27,097,058	$770,290	$957,083	$4,288,053	$410,853	$17,440,325	$197,330	$559,451	$151,116	$2,322,557	$30,241,519	$12,390,341
2	735,801	1,272,032	17,379	51,054	202,362	24,306	839,275	26,968	3,832	.....	106,856	1,451,508	587,987
3	952,433	755,981	33,413	14,770	200,008	8,106	378,249	6,696	7,577	20,000	87,106	882,434	496,079
4	61,703	122,792	2,000	4,230	16,240	483	74,206	5,890	759	11,750	7,234	162,956	88,267
5	421,938	1,099,070	26,011	48,957	122,974	11,611	817,915	21,297	3,521	425	46,359	1,127,918	298,392
6	900,971	528,809	12,286	8,200	122,800	25	310,076	630	2,294	.....	72,448	557,461	247,360
7	130,223	202,812	1,326	5,364	68,203	1,106	109,856	5,030	617	.....	11,310	241,504	130,542
8	1,085,857	1,023,920	38,625	43,599	283,806	10,421	545,811	5,750	7,683	.....	79,225	1,130,132	564,900
9	842,375	408,265	30,000	17,869	153,809	53,211	27,088	.....	11,380	.....	114,908	494,814	414,515
10	147,291	230,801	11,442	5,629	39,116	2,512	148,306	7,815	877	.....	15,044	262,398	111,520
11	2,855,332	2,457,652	136,588	83,483	562,760	7,680	1,496,360	12,538	12,079	44,076	102,083	2,830,434	1,326,394
12	138,688	157,333	.....	2,700	84,361	1,180	51,498	864	452	.....	16,278	215,876	163,198
13	2,250,845	3,989,876	72,621	44,535	161,197	55,864	3,452,740	.....	15,302	.....	187,617	4,315,731	807,127
14	303,782	528,037	16,744	29,805	29,311	1,452	358,428	6,575	2,317	1,712	81,693	630,247	279,367
15	1,183,170	1,552,175	73,760	168,625	406,811	13,599	505,993	29,492	10,119	17,525	326,251	1,792,887	1,273,295
16	14,947,958	12,767,553	298,095	428,252	1,834,295	210,297	8,324,464	67,785	480,042	55,628	1,068,095	14,136,159	5,601,398

hair work, 1; hand stamps and stencils and brands, 3; iron and steel, doors and shutters, 1; jewelry, 2; liquors, malt, 2; mattresses and spring beds, 4; millinery and lace goods, 1; mineral and soda waters, 8; mirrors 1; models and patterns, not including paper patterns, 1; paint and varnish, 3; photo-engraving, 1; rubber goods, not elsewhere specified, 1; scales and balances, 1; shipbuilding, including boat building, 2; slaughtering and meat packing, 2; tobacco manufactures, 12; vinegar and cider, 4; window shades and fixtures, 1; wirework, including wire rope and cable, 3; wood, turned and carved, 1.

NASHVILLE.

1	$27,880,129	$26,904,585	$824,903	$1,037,127	$4,335,554	$570,931	$16,885,489	$136,697	$643,485	$402,181	$2,068,218	$29,649,697	$12,193,277
2	82,920	278,106	8,000	2,350	48,545	6,385	196,565	4,714	1,187	.....	10,360	335,762	132,812
3	130,637	291,006	9,960	1,997	96,405	3,059	154,935	5,810	1,719	.....	17,121	337,034	179,040
4	1,011,727	1,575,841	36,660	31,195	796,681	20,619	657,763	.....	4,364	.....	28,559	1,575,841	897,459
5	445,021	751,968	25,955	47,256	111,625	3,590	518,563	6,338	2,476	.....	36,165	836,147	313,994
6	324,070	461,203	14,537	20,912	63,176	6,778	308,222	7,483	1,950	.....	38,145	454,305	139,306
7	97,750	193,133	9,124	1,078	33,948	890	137,925	185	804	.....	9,179	190,490	51,675
8	115,118	126,563	4,480	3,445	30,210	1,376	74,056	3,100	674	.....	9,222	159,511	84,079
9	946,931	5,567,070	18,036	32,517	88,884	31,423	4,856,247	3,207	6,000	.....	530,756	5,719,423	831,753
10	251,847	232,583	19,619	4,792	80,134	6,958	106,799	1,758	2,635	.....	10,488	279,607	165,850
11	763,390	629,874	34,017	14,730	204,024	2,178	245,942	2,800	4,369	84,946	36,808	672,927	424,807
12	353,533	178,379	20,658	5,944	65,704	44,285	22,441	.....	4,202	.....	15,085	232,716	165,990
13	617,499	710,937	35,093	32,015	86,147	4,330	504,146	4,680	2,905	.....	41,621	788,728	280,252
14	3,052,140	2,438,277	71,180	46,107	546,550	8,091	1,530,745	6,304	11,780	105,536	111,894	2,673,197	1,134,361
15	129,587	156,530	8,800	6,069	26,735	2,148	100,567	849	644	.....	10,718	186,725	84,010
16	208,413	168,769	12,935	22,158	10,105	411	81,336	3,278	165	291	38,090	205,511	123,764
17	3,593,989	2,799,989	199,066	404,016	727,804	32,388	863,971	33,024	16,908	210,933	311,879	3,284,945	2,388,586
18	15,755,557	10,344,357	296,783	360,453	1,318,877	396,022	6,525,266	53,107	581,243	475	812,128	11,716,827	4,795,539

liquors, distilled, 1; liquors, malt, 1; marble and stone work, 5; millinery and lace goods, 5; mineral and soda waters, 2; mirrors, 1; models and patterns, not including paper patterns, 2; oil, cottonseed, and cake, 1; paint and varnish, 1; paving materials, 1; photo-engraving, 3; pottery, terra-cotta, and fire-clay products, 1; rules, ivory and wood, 1; shipbuilding, including boat building, 1; show cases, 1; slaughtering and meat packing, 4; soap, 2; stationery goods, not elsewhere specified, 2; stereotyping and electrotyping, 1; stoves and furnaces, including gas and oil stoves, 4; surgical appliances and artificial limbs, 2; tobacco manufactures, 19; toys and games, 1; type founding and printing materials, 1; upholstering materials, 1; vinegar and cider, 1; wirework, including wire rope and cable, 1; wood, turned and carved, 1; woolen, worsted, and felt goods, and wool hats, 1.

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

1	$16,125,258	$14,047,718	$613,429	$566,982	$2,815,606	$492,044	$7,942,415	$63,225	$223,149	$41,850	$1,288,928	$16,036,455	$7,601,996
2	2,236,159	2,295,695	86,509	106,767	672,936	58,519	1,156,052	4,670	14,957	4,841	190,444	2,709,773	1,495,202
3	5,332,886	7,402,916	267,359	284,825	1,077,689	74,953	5,025,736	56,475	52,594	48,783	514,502	8,149,377	3,048,688