NORTH CAROLINA.

INDUSTRIES IN GENERAL.

General character of the state.—North Carolina has a gross area of 52,426 square miles, of which 3,686 represent water surface. Its population in 1910 was 2,206,287, as compared with 1,893,810 in 1900 and 1,617,949 in 1890. It ranked sixteenth among the 49 states and territories of continental United States as regards population in 1910 and fifteenth in 1900. The density of population for the state is 45.3 per square mile, the corresponding figure for 1900 being 38.9. The population of North Carolina is mostly rural, only 14.4 per cent of the entire population of the state residing in incorporated cities and towns having a population of 2,500 inhabitants or over, as against 9.9 per cent in 1900.

The state has seven cities having a population of over 10,000: Charlotte, Wilmington, Raleigh, Asheville, Durham, Winston, and Greensboro. These seven cities contain 6.8 per cent of the total population of the state and are credited with 28.2 per cent of the total value of its manufactures. The harbors, rivers, and railway systems of the state are important factors in furthering its manufacturing and commercial interests. The streams also furnish abundant water power, the use of which in the manufactures of the state has increased decidedly during recent years. The large local supply of fuel also adds greatly to the possibilities of the state for manufacturing.

Importance and growth of manufactures.—Its recent growth in manufactures has placed North Carolina among the leading manufacturing states of the South. To a large extent, its manufacturing industries depend upon the products of its soil. Each succeeding census from 1849 to 1909 has shown a large increase in the value of the manufactured products of North Carolina. From a total of $9,111,000 in 1849, it had increased in 1889 to $40,375,000, while the increase during the last two decades has been even more rapid. The value reported for 1899 was $85,274,000, exclusive of the hand trades and neighborhood industries; for 1904 it was $142,521,000; and for 1909, $216,656,000. During 1849 an average of 14,601 wage earners, representing 1.7 per cent of the total population, were employed in manufactures, while in 1909 an average of 121,473 wage earners, or 5.5 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 $10 to $98. From 1849 to 1909, however, the proportion which the manufactures of the state represent of the total value of products of manufacturing industries in the United States has increased but little. This proportion was nine-tenths of 1 per cent in 1849 and 1 per cent in 1909. In the former year the state was the twentieth in the Union in respect to value of manufactures, and in 1909, twenty-third.

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 the 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	4,931	3,272	3,465	50.7	−5.6
Persons engaged in manufactures	133,453	93,142	(2)	43.3	.....
Proprietors and firm members	5,451	3,731	(2)	46.1	.....
Salaried employees	6,529	4,072	2,894	60.3	40.7
Wage earners (average number)	121,473	85,339	72,322	42.3	18.0
Primary horsepower	378,556	216,622	154,467	74.8	40.2
Capital	$217,186,000	$141,001,000	$68,283,000	54.0	106.5
Expenses	186,463,000	122,391,000	70,934,000	52.4	72.5
Services	41,259,000	25,170,000	16,447,000	63.9	53.0
Salaries	6,904,000	3,795,000	2,395,000	81.9	58.5
Wages	34,355,000	21,375,000	14,052,000	60.7	52.1
Materials	121,861,000	79,268,000	44,854,000	53.7	76.7
Miscellaneous	23,343,000	17,953,000	9,633,000	30.0	86.4
Value of products	216,656,000	142,521,000	85,274,000	52.0	67.1
Value added by manufacture (value of products less cost of materials)	94,795,000	63,253,000	40,420,000	49.9	56.5

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

[2] Figures not available.

In 1909 the state of North Carolina had 4,931 manufacturing establishments, which gave employment to an average of 133,453 persons during the year and paid $41,259,000 in salaries and wages. Of the

persons employed, 121,473 were wage earners. These establishments turned out products to the value of $216,656,000, using materials costing $121,861,000. The value added by manufacture was thus $94,795,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

In general, this table shows a marked development in the manufactures of the state during the 10-year period 1899–1909. During the five-year period 1899–1904 the number of establishments decreased 5.6 per cent, but the average number of wage earners increased 18 per cent, and the value of products 67.1 per cent. In the period 1904–1909 the percentages of increase were, as a whole, more uniform, the number of establishments showing an increase of 50.7 per cent, the average number of wage earners an increase of 42.3 per cent, and the value of products an increase of 52 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 price of commodities.

It is a matter of interest to note that the percentage of increase shown for wages is larger than that shown for the average number of wage earners. It is also significant that the primary horsepower increased far more rapidly from 1904 to 1909 than from 1899 to 1904, the respective rates of increase being 74.8 and 40.2 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.	Percent distribution.	Amount.	Percent distribution.	Amount.	Percent distribution.	Value of products.		Value added by manufacture.	
								1904–1909	1899–1904	1904–1909	1899–1904
All industries	**4,931**	**121,473**	**100.0**	**$216,656,000**	**100.0**	**$94,795,000**	**100.0**	**52.0**	**67.1**	**49.9**	**56.5**
Cotton goods, including cotton small wares	281	47,231	38.9	72,680,000	33.5	23,992,000	25.3	53.8	66.5	68.6	29.5
Tobacco manufactures	43	8,203	6.8	35,987,000	16.6	22,171,000	23.4	28.1	102.8	23.6	88.1
Lumber and timber products	2,544	34,001	28.0	33,525,000	15.5	20,991,000	22.1	72.0	11.7	63.0	27.5
Oil, cottonseed, and cake	53	1,165	1.0	8,504,000	3.9	1,414,000	1.5	126.8	40.0	78.3	53.7
Flour-mill and gristmill products	249	496	0.4	8,501,000	3.9	1,214,000	1.3	23.8	45.9	38.3	2.4
Furniture and refrigerators	117	5,533	4.6	7,885,000	3.6	3,487,000	3.7	27.5	299.6	13.4	274.2
Fertilizers	34	933	0.8	6,316,000	2.9	2,133,000	2.2	103.8	106.9	142.1	94.1
Leather, tanned, curried, and finished	39	832	0.7	5,415,000	2.5	1,250,000	1.3	103.4	77.2	101.8	67.3
Hosiery and knit goods	62	5,151	4.2	5,152,000	2.4	2,140,000	2.3	107.4	142.8	96.5	109.8
Carriages and wagons and materials	138	1,629	1.3	3,283,000	1.5	1,389,000	1.5	42.5	118.4	29.2	101.3
Cars and general shop construction and repairs by steam-railroad companies	12	2,568	2.1	2,934,000	1.4	1,373,000	1.4	20.0	61.7	23.7	79.6
Foundry and machine-shop products	102	1,490	1.2	2,771,000	1.3	1,526,000	1.6	2.4	94.0	14.5	102.9
Printing and publishing	322	1,376	1.1	2,497,000	1.2	1,352,000	2.0	51.1	59.1	45.7	59.9
Clothing, men's, including shirts	21	882	0.7	1,653,000	0.8	613,000	0.6	.....	.....	.....	.....
Brick and tile	159	1,460	1.2	1,174,000	0.5	806,000	0.8	68.7	8.6	52.4	7.1
Marble and stone work	56	807	0.7	881,000	0.4	655,000	0.7	120.8	99.5	106.0	92.7
Cordage and twine and jute and linen goods	7	491	0.4	824,000	0.4	265,000	0.3	−20.5	.....	19.9	.....
Woolen, worsted, and felt goods, and wool hats	11	424	0.3	675,000	0.3	283,000	0.3	21.4	91.7	88.7	76.5
Turpentine and rosin	79	139	0.1	674,000	0.3	191,000	0.2	−9.3	−29.6	15.8	−30.7
Ice, manufactured	45	318	0.3	659,000	0.3	479,000	0.5	57.7	83.3	49.2	98.1
Bread and other bakery products	54	189	0.2	539,000	0.2	198,000	0.2	119.1	129.9	75.2	130.6
Patent medicines and compounds and druggists' preparations	26	60	(2)	474,000	0.2	258,000	0.3	78.2	195.6	103.1	135.2
Leather goods	33	135	0.1	427,000	0.2	170,000	0.2	39.5	102.6	47.8	79.7
Boots and shoes, including cut stock and findings	7	178	0.1	408,000	0.2	166,000	0.2	119.4	154.8	140.6	245.0
Copper, tin, and sheet-iron products	26	184	0.2	374,000	0.2	160,000	0.2	92.8	92.1	83.9	67.3
Gas, illuminating and heating	14	151	0.1	369,000	0.2	246,000	0.3	65.5	71.5	61.8	63.4
Coffins, burial cases, and undertakers' goods	9	226	0.2	352,000	0.2	195,000	0.2	29.9	127.7	−3.0	151.2
Confectionery	18	79	0.1	345,000	0.2	99,000	0.1	315.7	.....	200.0	.....
Mattresses and spring beds	23	166	0.1	315,000	0.1	143,000	0.2	92.1	192.9	155.4	194.7
Agricultural implements	22	132	0.1	262,000	0.1	172,000	0.2	106.3	28.3	126.3	31.0
All other industries	325	4,844	4.0	10,801,000	5.0	4,755,000	5.0	.....	.....	.....	.....

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

Textiles.—The combined products of all textile manufactures, exclusive of four establishments engaged in the manufacture of silk and silk goods, statistics for which could not be shown without disclosing individual operations, amounted in 1909 to $78,507,000 in value, or 36.2 per cent of the total value of all manufactured products of the state.

The establishments classified under the head of

"Cotton goods, including cotton small wares," in North Carolina comprise mills primarily engaged in the manufacture of cotton goods, no establishments being reported as engaged mainly in the manufacture of cotton small wares. The cotton-goods industry occupies first place among the individual industries of the state. The remarkable growth of this industry in the state indicates a tendency to locate the mills near the source of supply of cotton. In 1909 North Carolina stood second, in order of importance among the cotton-manufacturing states, in value of products, first in number of establishments, and third in number of producing spindles, while in 1889 it ranked but tenth in value of products, fourth in number of establishments, and tenth in number of spindles. It will be noted that the percentage of increase of this industry in value of products was much higher than that in value added by manufacture during the period 1899–1904, but that during the period 1904–1909 the rate of increase in value added by manufacture was the greater. This variation is due, probably, in part, to the rise in the price of cotton during the former period and the manufacture of a better grade of goods in the latter period.

The manufacture of hosiery and knit goods is closely allied to the cotton industry, the products of this industry being made almost entirely of cotton materials. Although the value of these products is small when compared with that reported for cotton goods, it amounted in 1909 to $5,152,000, an increase of 107.4 per cent since 1904.

The establishments classified in the table under the head of "Woolen, worsted, and felt goods, and wool hats," consist entirely of establishments primarily engaged in the manufacture of woolen goods.

Tobacco manufactures.—With an actual increase in value of products from 1904 to 1909, amounting to $7,898,670, this industry shows a lower percentage of increase for this five-year period than for the earlier five-year period. In number of establishments the industry shows an absolute decrease from 96 in 1899 to 55 in 1904 and to 43 in 1909. It is interesting to note that the cotton-goods and tobacco manufacturing industries combined, two industries depending almost entirely upon agricultural products of the state for raw material, represent 50.2 per cent of the total value of all manufactured products reported for the state in 1909.

Lumber and timber products.—In respect to the number of establishments engaged in this industry, North Carolina occupied second place among the states in 1909. In addition to sawmills and logging camps, the establishments classified under this head include planing mills and establishments making wooden packing boxes. The rate of increase in value of products from 1904 to 1909, 72 per cent, is noteworthy for a long-established industry. It is due partly to the more thorough canvass made in 1909 than in 1904 but mainly to the expansion of the industry under the stimulus of the general advance in lumber values. Of the totals reported for all industries, this industry employed 28 per cent of the average number of wage earners, manufactured 15.5 per cent of the total value of products, and showed 22.1 per cent of the total value added by manufacture.

Oil, cottonseed, and cake.—The statistics presented include those for all establishments engaged primarily in extracting oil from cotton seed or in refining crude cottonseed oil. For the five-year period 1904–1909 this industry shows a greater percentage of increase in value of products than any other of the more important industries in the state. In 1909 it had become the fourth industry in importance, outranking the flour-mill and gristmill and the furniture industries, which occupied fourth and fifth places, respectively, in 1904. While this large increase was due, in part, to the rise in the value of crude cottonseed oil, the industry has shown a consistent and rapid growth from census to census.

Flour-mill and gristmill products.—This classification does not include mills engaged wholly in custom work, the statistics for which are presented separately at the end of the report. In a predominantly agricultural state like North Carolina it is natural that the products of the flour mills and gristmills should be large; the percentages of increase shown by this industry, are, however, relatively small, as compared with those for other industries of the state. In 1909 employment was given to 496 wage earners, and products valued at $8,501,000, representing 3.9 per cent of the total for the state, were reported.

Furniture and refrigerators.—This industry shows a remarkable development, having grown from only six establishments, with products valued at $159,000, in 1889, to one of the most important industries of the state in 1909. For the latter year, reports were received from 117 establishments, which gave employment to 5,533 wage earners and reported products to the value of $7,885,000. The greater part of this growth took place previous to 1904, though the five-year period 1904–1909 showed a gain of 27.5 per cent in value of products.

If the industries were arranged in order of the value added by manufacture, the three leading ones would still hold the relative positions which they have in the table, where they are arranged according to the value of products. The furniture industry, however, would stand in fourth place instead of sixth, while the cottonseed-oil industry would drop from fourth to ninth place, and the flour-mill and gristmill industry from fifth to thirteenth place. Hosiery and knit goods and fertilizers would occupy fifth and sixth places, respectively. Because of the comparatively simple processes involved in flour mills and gristmills, in cottonseed-oil

mills, and in several other industries, and the extent to which these processes are carried on by machinery, the value added by manufacture is not commensurate with the gross value of products.

This table shows the percentages of increase for these leading industries in respect to value of products and value added by manufacture. The fertilizer industry showed a greater rate of increase from 1904 to 1909 in value added by manufacture than any other of the specified industries which had products exceeding $1,000,000 in value, namely, 142.1 per cent, while during the same period the cottonseed-oil industry showed the greatest rate of increase in value of products, 126.8 per cent. The manufacture of leather, hosiery and knit goods, bakery products, and marble and stone work, are all industries which showed remarkable increases, both in gross value of products and in value added by manufacture. Among the less important industries, the manufacture of confectionery showed the most pronounced increase in value of products, 315.7 per cent, and in value added by manufacture, 200 per cent.

The cordage and twine industry, with a decrease of 20.5 per cent, and the manufacture of turpentine and rosin, with a decrease of 9.3 per cent, are the only industries listed in the table which show a decrease in value of products from 1904 to 1909. The manufacture of coffins is the only industry which shows a decrease in value added by manufacture during the period named, while the turpentine and rosin industry was the only one showing a decrease in either item from 1899 to 1904.

In addition to the industries listed separately in the table there are seven important industries each of which had a value of products in 1909 in excess of $200,000. They are included under the head of "All other industries," because, in some instances, the operations of individual establishments would be disclosed if they were shown separately; while in others, 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 industries are the manufacture of bags, other than paper, dyestuffs and extracts, mineral and soda waters, mirrors, silk and silk goods, paper and wood pulp, and the dyeing and finishing of textiles. The 1909 statistics for the manufacture of mirrors are presented in Table II.

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	**133,453**	**105,175**	**28,278**
Proprietors and officials	8,937	8,875	62
Proprietors and firm members	5,451	5,395	56
Salaried officers of corporations	1,460	1,456	4
Superintendents and managers	2,026	2,024	2
Clerks	3,043	2,513	530
Wage earners (average number)	121,473	93,787	27,686
16 years of age and over	107,775	86,082	21,693
Under 16 years of age	13,698	7,705	5,993

The average number of persons engaged in manufactures during 1909 was 133,453, of which 121,473 were wage earners. Of the remainder, 8,937 were proprietors and officials and 3,043 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 10 important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total. number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage-earners (average number).
All industries	**133,453**	**6.7**	**2.3**	**91.0**
Carriages and wagons and materials	1,922	12.2	3.0	84.8
Cotton goods, including cotton small wares	48,525	1.9	0.8	97.3
Fertilizers	1,117	7.2	9.3	83.5
Flour-mill and gristmill products	971	44.6	4.3	51.1
Furniture and refrigerators	6,023	4.9	3.3	91.9
Hosiery and knit goods	5,361	2.7	1.2	96.1
Leather, tanned, curried, and finished	938	7.7	3.6	88.7
Lumber and timber products	38,636	10.9	1.1	88.0
Oil, cottonseed, and cake	1,446	8.9	10.5	80.6
Tobacco manufactures	9,065	2.5	7.0	90.5
All other industries	19,449	11.3	4.9	83.8

Of the total number of persons engaged in all manufacturing industries, 6.7 per cent were proprietors and officials, 2.3 per cent clerks, and 91 per cent wage earners. In the flour-mill and gristmill industry a large number 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 the persons engaged in the industry 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 carriage and wagon industry and in lumber mills. The smallest proportion for this class, 1.9 per cent, is shown for the cotton industry, where it is due not only

to the large average number of wage earners to an individual establishment, but also to the fact that these establishments are operated mostly by corporations, for which no proprietors are reported.

The following table 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 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	**121,473**	**70.9**	**17.9**	**11.3**
Carriages and wagons and materials	1,629	95.2	0.4	4.4
Cotton goods, including cotton small wares	47,231	51.1	30.0	18.9
Fertilizers	933	100.0	.....	.....
Flour-mill and gristmill products	496	98.0	0.6	1.4
Furniture and refrigerators	5,533	92.4	(2)	7.6
Hosiery and knit goods	5,151	22.5	49.7	27.7
Leather, tanned, curried, and finished	832	99.5	.....	0.5
Lumber and timber products	34,001	98.6	0.1	1.3
Oil, cottonseed, and cake	1,165	97.9	0.1	2.1
Tobacco manufactures	8,203	54.1	28.8	17.1
All other industries	16,299	78.4	15.7	5.9

[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, 70.9 per cent of the average number of wage earners were males 16 years of age and over; 17.9 per cent, females 16 years of age and over; and 11.3 per cent, persons under the age of 16. The largest proportion of women were employed in hosiery and knitting mills, while the largest proportions of children were employed in hosiery and in cotton mills. The proportions for the mills producing cotton goods are of special significance, because of the magnitude of the industry in the state. Out of a total of 47,231 wage earners employed in these mills, only 51.1 per cent of the average number of wage earners were males 16 years of age and over, 30 per cent were females 16 years of age and over, and 18.9 per cent children under 16 years of age. In the hosiery and knitting mills, with a total of 5,151 workers employed, one-half were women and over one-fourth children, and in the tobacco factories, with a total of 8,203 wage earners, about one-fourth were women and one-sixth children. The men's clothing industry, which is not shown in the table, and which gave employment to a comparatively small number of wage earners, namely, 882, reported the largest per cent of women, namely, 81.5 per cent. With these four industries omitted, the average number of females 16 years of age and over in all industries combined would represent only 1.6 per cent of the total number of wage earners, and the average number of persons under 16 years of age would represent the same proportion.

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	**133,453**	**100.0**	**93,142**	**100.0**	**43.3**
Proprietors and firm members	5,451	4.1	3,731	4.0	46.1
Salaried employees	6,529	4.9	4,072	4.4	60.3
Wage earners (average number)	121,473	91.0	85,339	91.6	42.3

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.)

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	**121,473**	**100.0**	**85,339**	**100.0**	**72,322**	**100.0**
16 years of age and over	107,775	88.7	73,707	86.4	62,112	85.9
Male	86,082	70.9	55,406	64.9	47,028	65.0
Female	21,693	17.9	18,301	21.4	15,084	20.9
Under 16 years of age	13,698	11.3	11,632	13.6	10,210	14.1

This table indicates that while for all industries combined there has been an increase during the 10 years in the number of children employed, this increase has not been in proportion to the increase in the total number of wage earners. So, too, with an increase in the actual number of women employed, there has been a decrease during the past five years in the percentage of women in the whole number of wage earners. In 1909 males 16 years of age and over formed 70.9 per cent of all wage earners, as compared with 64.9 per cent in 1904 and 65 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 914, is shown, for most of the industries in the state, the largest number and also 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	117,007	90.9	July	118,953	92.4
February	118,464	92.0	August	120,417	93.5
March	120,354	93.5	September	123,496	95.9
April	120,038	93.2	October	126,265	98.1
May	118,441	92.0	November	127,774	99.2
June	117,713	91.4	December	128,754	100.0

This table indicates a very considerable degree of steadiness of employment in the manufacturing industries of North Carolina, taken as a whole. The number employed in January, the month of least employment, was 90.9 per cent of the number for December, the month of greatest employment. The figures in Table II show that in the cotton-goods industry, the most important in the state, employment was very steady, the number employed for January, the lowest month, being 94.2 per cent of the number for December, the highest month. There are certain seasonal industries—brick and tile, canning and preserving, fertilizers, and cottonseed-oil—in which the number employed for the maximum month was considerably greater than the number for the minimum month, but the total number of wage earners in these industries is small. In the important lumber industry, which in some of the more northern states is decidedly seasonal in character, the climatic conditions in North Carolina permit a considerable degree of steadiness of employment; the minimum number for this industry in June was 84.9 per cent of the maximum number in December.

Prevailing hours of labor.—In the following table 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	**121,473**	**1,648**	**1,447**	**3,741**	**14,016**	**47,974**	**49,834**	**2,672**	**141**
Agricultural implements	132				54	76	2		
Boots and shoes, including cut stock and findings	178					178			
Bread and other bakery products	189	15		6		99	11	58	
Brick and tile	1,460	19	86	22	288	992	43		10
Carriages and wagons and materials	1,620	19	8	32	252	1,306	4	8	
Cars and general shop construction and repairs by steam-railroad companies	2,568		121	2,389		58			
Clothing, men's, including shirts	882	9		50	79	744			
Coffins, burial cases, and undertakers' goods	226				111	115			
Confectionery	79	3		6		54	12	2	2
Copper, tin, and sheet-iron products	184		41	65	13	65			
Cordage and twine and jute and linen goods	491				119	100	272		
Cotton goods, including cotton small wares	47,231				52	7,499	39,680		
Fertilizers	933			2	70	686	36	139	
Flour-mill and gristmill products	496	14	4	7	18	307	117	29	
Foundry and machine-shop products	1,490	6	6	118	234	1,123	3		
Furniture and refrigerators	5,533	3	1	168	802	4,559			
Gas, illuminating and heating	151					59	52		40
Hosiery and knit goods	5,151				689	2,524	1,938		
Ice, manufactured	318			3		71	3	154	87
Leather goods	135				4	131			
Leather, tanned, curried, and finished	832		1	1	8	820	2		
Lumber and timber products	34,001	733	729	257	2,645	22,838	6,540	259	
Marble and stone work	807	118	319	220	74	76			
Mattresses and spring beds	166	4		8	32	119	3		
Oil, cottonseed, and cake	1,165					43	95	1,025	2
Patent medicines and compounds and druggists' preparations	60	17		23	2	18			
Printing and publishing	1,376	527	70	308	137	297	37		
Tobacco manufactures	8,203	66	59	4	7,628	446			
Turpentine and rosin	139	69	2			60	1	7	
Woolen, worsted, and felt goods, and wool hats	424					315	109		
All other industries	4,844	26		52	705	2,196	874	991	

It is evident from these figures that for most of the wage earners employed in the manufacturing industries of North Carolina the prevailing hours of labor were 60 or more a week, or 10 or more a day. Out of a total average number of 47,231 wage earners employed in the cotton-goods industry, 39,680,

or 84 per cent, were in establishments where the prevailing hours of labor were over 60 per week. The reports indicate that the industry is mainly on a basis of 11 hours per day, or from 63 to 66 hours per week. This condition prevails to some extent in the hosiery and knitting mills, although less than two-fifths of the wage earners in these mills are required to work more than 10 hours a day, or more than 60 hours a week. In the lumber and other specified industries shown, with the exception of the tobacco factories and the car repair shops, the 10-hour day, or 60-hour week, predominates. In tobacco manufactures the prevailing hours are more than 54 but less than 60 a week, while the car repair shops are distinctly on a 9-hour-day basis.

Location of establishments.—The following table shows how largely manufacturing in the state is confined to rural districts and small towns. (See Introduction.) The statistics for 1904 are omitted from this table, because there was no Federal census of population for that year, and it was impossible to determine the cities that come within the group having over 10,000 inhabitants.

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	2,206,287	149,045	2,057,242	6.8	93.2
	1900	1,893,810	87,447	1,806,363	4.6	95.4
Number of establishments.	1909	4,931	453	4,478	9.2	90.8
	1899	3,465	256	3,209	7.4	92.6
Average number of wage earners.	1909	121,473	18,797	102,676	15.5	84.5
	1899	72,322	9,264	63,058	12.8	87.2
Value of products.	1909	$216,656,055	$61,171,160	$155,484,895	28.2	71.8
	1899	85,274,083	14,530,673	70,743,410	17.0	83.0
Value added by manufacture.	1909	94,794,525	31,354,345	63,440,180	33.1	66.9
	1899	40,419,859	7,139,230	33,280,629	17.7	82.3

In 1909, 28.2 per cent of the total value of products was reported from cities having a population of over 10,000 inhabitants, and 15.5 per cent of the average number of wage earners were employed in such cities. The figures indicate that, on the whole, the industries of the manufacturing cities gained considerably on those of the outside districts during the last 10 years. This increase was due largely to the inclusion in 1909 of the city of Durham, which, in 1899, had less than 10,000 inhabitants, and so was included in outside districts.

The population, for 1910 and 1900, of the seven cities which had 10,000 inhabitants or over in 1910 is given in the next statement.

CITY.	1910	1900
Charlotte	34,014	18,091
Wilmington	25,748	20,976
Raleigh	19,218	13,643
Asheville	18,762	14,694
Durham	18,241	[1] 6,679
Winston	17,167	10,008
Greensboro	15,895	10,035

[1] Population less than 10,000 in 1900; therefore, in the preceding table, the statistics for 1899 are included with those for the districts outside of cities.

The relative importance in manufacturing industries of each of these seven 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. It should be noted that the figures represent only establishments within the city boundaries; in the case of some of the cities large establishments are located just outside.

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Durham	3,718	(1)	(1)	$23,271,525	(1)	(1)
Winston	6,708	4,850	2,894	16,778,072	$11,353,296	$4,887,649
Charlotte	4,199	2,234	2,787	10,459,684	4,849,630	4,186,644
Asheville	984	792	804	3,249,684	1,918,362	1,300,698
Wilmington [2]	1,213	1,594	1,553	3,004,717	2,904,323	2,283,253
Raleigh	1,023	585	549	2,375,872	1,086,671	947,018
Greensboro [2]	952	1,098	677	2,031,606	1,743,837	925,411

[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.

In general, all of the cities, except Wilmington, have made rapid progress in manufacturing. Durham, which entered this group at the present census, shows the largest value of products, although surpassed in the average number of wage earners by Winston and Charlotte. The manufacturing importance of Durham and Winston centers in their tobacco factories. Durham has also large cotton and hosiery and knitting mills, besides a number of other industries which had products exceeding $100,000 in value. In Winston, in addition to the tobacco manufactures, the boot and shoe industry, confectionery, flour mills and gristmills, furniture, hosiery and knitting mills, and the lumber industry each reported an output for the year exceeding $100,000 in value.

Charlotte, the city third in importance in the value of its manufactures, has a number of industries. The manufacture of men's clothing, cotton goods, cottonseed oil, and lumber, foundry and machine shops, and printing and publishing were the most important. Asheville reported a diversity of small establishments in addition to its important cotton mills, flour mills and gristmills, leather manufacturing establishments, and lumber mills.

Wilmington is not primarily a manufacturing community. Although a variety of industries were reported, the lumber, cottonseed-oil, and flour-mill and gristmill industries contributed the largest part of the output. The cotton and cottonseed-oil mills and printing and publishing of Raleigh and the foundries and machine shops and lumber mills of Greensboro may be mentioned as the most important industries in these two cities.

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.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	4,931	121,473	$216,656,055	$94,794,525
1904	3,272	85,339	142,520,776	63,252,772
Individual:				
1909	2,265	14,215	17,451,179	9,229,920
1904	1,425	10,184	14,318,319	7,159,172
Firm:				
1909	1,303	11,302	16,951,420	7,900,722
1904	956	9,187	14,629,571	6,746,318
Corporation:				
1909	1,339	95,885	182,140,604	77,584,474
1904	879	65,954	113,510,110	49,320,121
Other:				
1909	24	71	112,792	70,409
1904	12	14	62,776	27,161
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Individual:				
1909	45.9	11.7	8.1	9.7
1904	43.6	11.9	10.0	11.3
Firm:				
1909	26.4	9.3	7.8	8.3
1904	29.2	10.8	10.3	10.7
Corporation:				
1909	27.2	78.9	84.1	81.8
1904	26.9	77.3	79.6	78.0
Other:				
1909	0.5	0.1	0.1	0.1
1904	0.4	(1)	(1)	(1)
Cotton goods, including cotton small wares, 1909	281	47,231	$72,680,385	$23,992,813
Individual	9	648	924,409	354,830
Firm	10	943	1,354,931	485,928
Corporation	262	45,640	70,401,045	23,152,055
Per cent of total	100.0	100.0	100.0	100.0
Individual	3.2	1.4	1.3	1.5
Firm	3.6	2.0	1.9	2.0
Corporation	93.2	96.6	96.9	96.5
Flour-mill and gristmill products, 1909	249	496	$8,501,219	$1,214,331
Individual	106	146	2,219,058	332,607
Firm	101	181	2,700,534	429,819
Corporation	42	169	3,581,627	452,505
Flour-mill and gristmill products, 1909—Continued.				
Per cent of total	100.0	100.0	100.0	100.0
Individual	42.6	29.4	26.1	27.3
Firm	40.6	36.5	31.8	35.4
Corporation	16.9	34.1	42.1	37.3
Furniture and refrigerators, 1909	117	5,533	$7,884,679	$3,486,869
Individual	11	182	207,190	91,063
Firm	8	160	215,384	113,262
Corporation	98	5,191	7,462,105	3,282,554
Per cent of total	100.0	100.0	100.0	100.0
Individual	9.4	3.3	2.6	2.6
Firm	6.8	2.9	2.7	3.2
Corporation	83.8	93.8	94.6	94.1
Leather, tanned, curried, and finished, 1909	39	832	$5,415,495	$1,259,344
Individual	18	34	102,093	24,923
Firm	11	145	1,667,374	358,907
Corporation	10	653	3,646,028	875,514
Per cent of total	100.0	100.0	100.0	100.0
Individual	46.2	4.1	1.9	2.0
Firm	28.2	17.4	30.8	28.5
Corporation	25.6	78.5	67.3	69.5
Lumber and timber products, 1909	2,544	34,001	$33,524,653	$20,991,056
Individual	1,429	9,773	8,122,842	5,344,554
Firm	800	6,361	5,751,876	3,794,223
Corporation [2]	315	17,867	19,649,935	11,852,279
Per cent of total	100.0	100.0	100.0	100.0
Individual	56.2	28.7	24.2	25.5
Firm	31.4	18.7	17.2	18.1
Corporation [2]	12.4	52.5	58.6	56.5
Tobacco manufactures, 1909	43	8,203	$35,986,639	$22,170,571
Individual	18	299	619,737	424,480
Firm	11	621	1,174,671	738,507
Corporation	14	7,283	34,192,231	21,007,584
Per cent of total	100.0	100.0	100.0	100.0
Individual	41.9	3.6	1.7	1.9
Firm	25.6	7.6	3.3	3.3
Corporation	32.6	88.8	95.0	94.8

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

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

The most important distinction shown is that between corporate and all other forms of ownership. Although only 27.2 per cent of the total number of establishments were under corporate ownership, such establishments reported 84.1 per cent of the total value of products and 78.9 per cent of the total average number of wage earners. The percentages indicate that for all industries combined there was a slight increase from 1904 to 1909 in corporate control, when measured by value of products and value added by manufacture, with a corresponding decrease in individual and firm ownership. In the cotton-goods and furniture industries, as measured by number of establishments, the corporate form of ownership predominates, while in the flour-mill, leather, lumber, and tobacco industries, individual ownership is most prominent. In all the industries shown in the table, however, establishments under corporate ownership report the largest proportion of the total value of products, this proportion exceeding 90 per cent in the case of the cotton-goods, furniture, and tobacco manufacturing industries.

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 4,931 establishments only 22, or four-tenths of 1 per cent, had a value of products exceeding $1,000,000. These establishments, however, employed an average of 20,595 wage earners, or 17 per cent of the total number in all establishments, and reported 27.1 per cent of the total value of the products and 30.7 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 considerable proportion (47.1 per cent) of the total number of establishments, but the value of their products amounted to only 2.4 per cent of the total. In 1909, 74.2 per cent of the total value of products was reported by the 431 establishments having products in excess of $100,000 in value, although these establishments represented but 8.7 per cent of the total number.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	4,931	121,473	$216,656,055	$94,794,525
1904	3,272	85,339	142,520,776	63,252,772
Less than $5,000:				
1909	2,322	6,970	5,151,695	3,432,538
1904	1,276	2,946	3,118,617	2,064,947
$5,000 and less than $20,000:				
1909	1,358	11,902	13,690,273	7,799,055
1904	1,076	8,573	10,894,177	6,232,879
$20,000 and less than $100,000:				
1909	820	24,074	37,172,248	16,594,882
1904	602	17,930	27,111,101	11,818,958
$100,000 and less than $1,000,000:				
1909	409	57,932	101,973,523	37,902,430
1904	309	47,351	70,985,231	25,823,306
$1,000,000 and over:				
1909	22	20,595	58,668,316	29,065,620
1904	9	8,539	30,411,050	17,312,682
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	47.1	5.7	2.4	3.6
1904	39.0	3.5	2.2	3.3
$5,000 and less than $20,000:				
1909	27.5	9.8	6.3	8.2
1904	32.9	10.0	7.6	9.9
$20,000 and less than $100,000:				
1909	16.6	19.8	17.2	17.5
1904	18.4	21.0	19.0	18.7
$100,000 and less than $1,000,000:				
1909	8.3	47.7	47.1	40.0
1904	9.4	55.5	49.8	40.8
$1,000,000 and over:				
1909	0.4	17.0	27.1	30.7
1904	0.3	10.0	21.3	27.4
Average per establishment:				
1909	.....	25	$43,938	$19,224
1904	.....	26	43,558	19,332
Cotton goods, including cotton small wares, 1909	281	47,231	$72,680,385	$23,992,813
$5,000 and less than $20,000 [1]	10	124	114,193	30,288
$20,000 and less than $100,000	78	3,761	5,237,425	1,476,857
$100,000 and less than $1,000,000	184	34,868	51,858,858	17,399,276
$1,000,000 and over	9	8,478	15,469,909	5,086,397
Per cent of total	100.0	100.0	100.0	100.0
$5,000 and less than $20,000 [1]	3.6	0.3	0.2	0.1
$20,000 and less than $100,000	27.8	8.0	7.2	6.2
$100,000 and less than $1,000,000	65.5	73.8	71.4	72.5
$1,000,000 and over	3.2	18.0	21.3	21.2
Average per establishment	.....	168	$258,649	$85,384
Flour-mill and gristmill products, 1909	249	496	$8,501,219	$1,214,331
Less than $5,000	27	15	83,942	16,681
$5,000 and less than $20,000	106	129	1,315,678	241,204
$20,000 and less than $100,000	103	239	4,266,144	628,559
$100,000 and less than $1,000,000	13	113	2,835,455	327,887
Flour-mill and gristmill products, 1909—Continued.				
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	10.8	3.0	1.0	1.4
$5,000 and less than $20,000	42.6	26.0	15.5	19.9
$20,000 and less than $100,000	41.4	48.2	50.2	51.8
$100,000 and less than $1,000,000	5.2	22.8	33.4	27.0
Average per establishment	.....	2	$34,141	$4,877
Furniture and refrigerators, 1909	117	5,538	$7,884,679	$3,486,869
Less than $5,000	11	32	26,029	16,502
$5,000 and less than $20,000	16	183	179,572	89,203
$20,000 and less than $100,000	61	2,417	3,230,470	1,508,616
$100,000 and less than $1,000,000	29	2,901	4,448,608	1,872,548
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	9.4	0.6	0.3	0.5
$5,000 and less than $20,000	13.7	3.3	2.3	2.6
$20,000 and less than $100,000	52.1	43.7	41.0	43.3
$100,000 and less than $1,000,000	24.8	52.4	56.4	53.7
Average per establishment	.....	47	$67,390	$29,802
Leather, tanned, curried, and finished, 1909	39	832	$5,415,495	$1,259,344
Less than $5,000	22	18	30,426	13,731
$5,000 and less than $20,000	6	22	50,939	17,068
$20,000 and less than $100,000	3	40	174,152	30,946
$100,000 and less than $1,000,000 [2]	8	752	5,159,978	1,197,599
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	56.4	2.2	0.6	1.1
$5,000 and less than $20,000	15.4	2.6	0.9	1.4
$20,000 and less than $100,000	7.7	4.8	3.2	2.5
$100,000 and less than $1,000,000 [2]	20.5	90.4	95.3	95.1
Average per establishment	.....	21	$138,859	$32,291
Lumber and timber products, 1909	2,544	34,001	$33,524,653	$20,991,056
Less than $5,000	1,525	5,499	3,271,530	2,294,528
$5,000 and less than $20,000	685	7,586	6,427,028	4,278,951
$20,000 and less than $100,000	284	10,099	11,843,680	6,921,166
$100,000 and less than $1,000,000 [2]	50	10,817	11,982,415	7,496,411
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	59.9	16.2	9.8	10.9
$5,000 and less than $20,000	26.9	22.3	19.2	20.4
$20,000 and less than $100,000	11.2	29.7	35.3	33.0
$100,000 and less than $1,000,000 [2]	2.0	31.8	35.7	35.7
Average per establishment	.....	13	$13,178	$8,251
Tobacco manufactures, 1909	43	8,203	$35,986,639	$22,170,571
Less than $5,000	13	19	27,837	15,683
$5,000 and less than $20,000	8	93	95,237	60,280
$20,000 and less than $100,000	7	196	301,083	171,937
$100,000 and less than $1,000,000 [2]	15	7,895	35,562,482	21,922,671
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	30.2	0.2	0.1	0.1
$5,000 and less than $20,000	18.6	1.1	0.3	0.3
$20,000 and less than $100,000	16.3	2.4	0.8	0.8
$100,000 and less than $1,000,000 [2]	34.9	96.2	98.8	98.9
Average per establishment	.....	191	$836,899	$515,595

[1] Includes the group "Less than $5,000."

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

It will be seen from the above table that the group of establishments whose products exceed $1,000,000 in value contributed a considerably greater proportion to the total value of products in 1909 than it did in 1904, while all the other groups, with the exception of that comprising the smallest establishments, show a decrease in their proportion of the total. Owing to the large increase in the number of small establishments, however, the average value of products per establishment shows only a slight increase, while the average number of wage earners per establishment and the average value added by manufacture both show a slight decrease. When the size of establishments is measured by the average value of products, the establishments in the flour-mill and gristmill and the lumber industries are much smaller as a whole than are those manufacturing cotton goods, furniture, leather, and tobacco.

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 10 important industries individually, 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	4,931	171	2,496	1,356	415	239	168	64	16	6
Carriages and wagons and materials	138	7	70	38	17	5	1	.....	.....	.....
Cotton goods, including cotton small wares	281	.....	1	12	46	71	97	41	10	3
Fertilizers	34	.....	11	11	4	7	1	.....	.....	.....
Flour-mill and gristmill products	249	22	214	13	.....	.....	.....	.....	.....	.....
Furniture and refrigerators	117	2	13	17	42	34	8	1	.....	.....
Hosiery and knit goods	62	.....	6	12	9	20	11	3	1	.....
Leather, tanned, curried, and finished	39	3	25	3	1	5	2	.....	.....	.....
Lumber and timber products	2,544	39	1,332	880	181	61	29	10	2	1
Oil, cottonseed, and cake	53	.....	3	28	20	2	.....	.....	.....	.....
Tobacco manufactures	43	1	14	8	5	2	6	5	1	1
All other industries	1,371	97	807	325	90	32	13	4	2	1
	AVERAGE NUMBER OF WAGE EARNERS.									
All industries	121,473	.....	6,244	14,783	13,325	16,963	25,242	21,771	10,695	12,450
Carriages and wagons and materials	1,629	.....	150	412	557	408	102	.....	.....	.....
Cotton goods, including cotton small wares	47,231	.....	4	156	1,650	5,231	14,818	14,566	6,385	4,421
Fertilizers	933	.....	30	127	144	494	138	.....	.....	.....
Flour-mill and gristmill products	496	.....	369	127	.....	.....	.....	.....	.....	.....
Furniture and refrigerators	5,533	.....	41	220	1,437	2,545	1,039	251	.....	.....
Hosiery and knit goods	5,151	.....	23	176	316	1,377	1,512	840	907	.....
Leather, tanned, curried, and finished	832	.....	38	41	42	381	330	.....	.....	.....
Lumber and timber products	34,001	.....	3,644	9,516	5,633	4,113	4,353	3,127	1,198	2,417
Oil, cottonseed, and cake	1,165	.....	11	400	622	132	.....	.....	.....	.....
Tobacco manufactures	8,203	.....	27	93	183	107	1,034	1,750	629	4,380
All other industries	16,299	.....	1,907	3,515	2,741	2,175	1,916	1,237	1,576	1,232
	PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.									
All industries	100.0	.....	5.1	12.2	11.0	14.0	20.8	17.9	8.8	10.2
Carriages and wagons and materials	100.0	.....	9.2	25.3	34.2	25.0	6.3	.....	.....	.....
Cotton goods, including cotton small wares	100.0	.....	(1)	0.3	3.5	11.1	31.4	30.8	13.5	9.4
Fertilizers	100.0	.....	3.2	13.6	15.4	52.9	14.8	.....	.....	.....
Flour-mill and gristmill products	100.0	.....	74.4	25.6	.....	.....	.....	.....	.....	.....
Furniture and refrigerators	100.0	.....	0.7	4.0	26.0	46.0	18.8	4.5	.....	.....
Hosiery and knit goods	100.0	.....	0.4	3.4	6.1	26.7	29.4	16.3	17.6	.....
Leather, tanned, curried, and finished	100.0	.....	4.6	4.9	5.0	45.8	39.7	.....	.....	.....
Lumber and timber products	100.0	.....	10.7	28.0	16.6	12.1	12.8	9.2	3.5	7.1
Oil, cottonseed, and cake	100.0	.....	0.9	34.3	53.4	11.3	.....	.....	.....	.....
Tobacco manufactures	100.0	.....	0.3	1.1	2.2	1.3	12.6	21.3	7.7	53.4
All other industries	100.0	.....	11.7	21.6	16.8	13.3	11.7	7.6	9.7	7.6

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

The per cent distribution of the number of establishments is not shown in this table; of the 4,931 establishments reported for all industries, 81.6 per cent employed no wage earners at all or under 21 wage earners each. The most numerous single group consists of the 2,496 establishments employing from 1 to 5 wage earners, which comprised 50.6 per cent of the total, and the next of the 1,356 establishments employing from 6 to 20 wage earners, which formed 27.5 per cent of the total. The lumber industry furnished over one-half the number in these two groups. There were 171 establishments employing no wage earners; such establishments were most numerous in the flour-mill and gristmill and the lumber industries. Eighty-six establishments, of which 54 were cotton mills, employed over 250 wage earners each, while only 6 employed over 1,000, 3 of these being cotton mills. The smallest establishments were reported for the flour-mill and gristmill industry, 85.9 per cent of the establishments in this industry employing from 1 to 5 wage earners, none having as many as 21.

Of the total number of wage earners, 25,242, or 20.8 per cent, were in establishments employing from 101 to 250 persons, while the next largest group consisted of the 21,771 wage earners in establishments employing from 251 to 500 persons, who represented 17.9 per cent of the total. In the cotton-goods industry, less than 1 per cent of the total number worked in mills employing under 21 persons, while 31.4 per cent were in mills employing from 101 to 250, and very nearly as many, 30.8 per cent, in those employing from 251 to 500. In the lumber industry the largest group, representing 28 per cent of the total, was made up of those employed in establishments having from 6 to 20 wage earners, while in tobacco manufactures a single establishment employed 4,380 wage earners, or 53.4 per cent of the total for the industry.

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 following table 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.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	3.7	18.4	65.4	12.5
Carriages and wagons and materials	5.3	21.3	66.9	6.5
Cotton goods, including cotton small wares	2.5	18.5	74.1	4.9
Fertilizers	4.5	7.3	77.6	10.6
Flour-mill and gristmill products	0.8	2.3	94.9	1.9
Furniture and refrigerators	5.7	23.0	63.8	7.4
Hosiery and knit goods	4.1	24.0	67.0	4.9
Leather, tanned, curried, and finished	2.2	6.1	87.6	4.1
Lumber and timber products	4.7	36.1	46.7	12.5
Oil, cottonseed, and cake	3.3	4.1	89.2	3.4
Tobacco manufactures	3.3	6.6	47.4	42.7
All other industries	6.7	24.8	59.7	8.8

This table shows that for all industries combined 65.4 per cent of the total expenses was incurred for materials, 22.1 per cent for services—that is, salaries and wages—and 12.5 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. The large proportion shown for miscellaneous expenses for tobacco manufactures is due to the inclusion of expenditures for internal revenue under this heading.

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.

The table shows a considerable increase in almost every class of power used, the most interesting, perhaps, being that in rented electric power from 2,423 horsepower in 1904 to 60,044 horsepower in 1909. The proportion of the total primary power represented by this form of power advanced from 1.1 per cent in 1904 to 15.9 per cent in 1909. Steam engines, which in 1904 generated nearly six-sevenths of all the primary power reported, show an increase in horsepower for the five-year period 1904–1909 of 88,778, or 48.5 per cent. This gain represents more than one-half of the aggregate increase for all forms of primary power. The increase in water power was also large, 47.7 per cent, a slightly lower rate than for steam power. Of the total primary power in 1909, 71.8 per cent was steam, 11.1 per cent water, and 15.9 per cent electric, leaving 1.2 per cent for all other kinds. 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 1,839 in 1899 to 3,130 in 1904 and 25,958 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	7,373	3,504	3,261	378,556	216,622	154,467	100.0	100.0	100.0
Owned	5,386	3,504	3,261	317,261	213,697	152,957	83.8	98.6	99.0
Steam	4,500	2,951	2,605	271,944	183,166	122,778	71.8	84.6	79.5
Gas	316	104	67	2,356	2,102	388	0.6	1.0	0.3
Water wheels	561	441	589	41,619	28,353	29,241	11.0	13.1	18.9
Water motors	9	8	(2)	307	29	(1)	0.1	(3)	(3)
Other	.....	.....	.....	1,035	47	550	0.3	(3)	0.4
Rented	1,987	(2)	(2)	61,295	2,925	1,510	16.2	1.4	1.0
Electric	1,987	(2)	(2)	60,044	2,423	894	15.9	1.1	0.6
Other	.....	.....	.....	1,251	502	616	0.3	0.2	0.4
Electric motors	2,708	196	70	86,002	5,553	2,733	100.0	100.0	100.0
Run by current generated by establishment	721	196	70	25,958	3,130	1,839	30.2	56.4	67.3
Run by rented power	1,987	(2)	(2)	60,044	2,423	894	69.8	43.6	32.7

[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.

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 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	12,321	892,484	58,174	268,769	17,865	9,881
Brick and tile	418	33,794	290	105,192	22	.....
Carriages and wagons and materials	722	3,685	75	2,458	334	.....
Cars and general shop construction and repairs by steam-railroad companies	.....	21,156	350	.....	.....	.....
Cotton goods, including cotton small wares	6,075	420,455	9,759	66,649	320	5,500
Fertilizers	.....	19,220	.....	1,270	74	.....
Flour-mill and gristmill products	109	7,417	30	19,394	263	.....
Furniture and refrigerators	.....	14,708	350	3,792	22	.....
Gas, illuminating and heating	35	16,460	41,124	.....	13,123	263
Hosiery and knit goods	.....	24,596	.....	4,065	286	.....
Ice, manufactured	34	29,306	.....	12,858	15	.....
Leather, tanned, curried, and finished	.....	14,472	.....	1,110	27	.....
Lumber and timber products	2,696	24,247	762	9,916	1,091	.....
Oil, cottonseed, and cake	.....	40,785	.....	17,642	6	.....
Tobacco manufactures	1,107	32,080	.....	588	.....	220
All other industries	1,125	189,803	5,434	23,835	2,282	3,898

NOTE.—In addition, there were 14,314 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 machinery which do not appear on the general schedule. Certain data of this character for six important industries in North Carolina 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 more important machines used in these industries for 1909, 1904, and 1899:

MACHINE.	Census.	Total.	Cotton goods, including cotton small wares.	Hosiery and knit goods.	Woolen, worsted, and felt goods, and wool hats.	Silk and silk goods, including throwsters.
Producing spindles	1909	2,972,261	2,908,383	24,944	13,434	25,500
	1904	1,914,259	1,880,950	13,264	8,779	11,266
	1899	1,151,052	1,133,432	2,860	5,080	9,680
Looms	1909	51,467	50,840	.....	266	361
	1904	43,554	43,219	.....	235	100
	1899	25,755	25,469	.....	161	125
Knitting machines	1909	6,395	.....	6,395	.....	.....
	1904	3,043	.....	3,043	.....	.....
	1899	1,354	.....	1,354	.....	.....

The total number of producing spindles for the textile industry as a whole shows an increase from 1904 to 1909 of 1,058,002, or 55.3 per cent; of looms, an increase of 7,913, or 18.2 per cent; and of knitting machines, an increase of 3,352, or 110.2 per cent. In addition to the number of spindles given for the four industries shown in the table, there were 22,908 reported as used in the cordage and twine industry and 68 in the jute and jute-goods industry.

For the same five-year period the increase in the number of producing spindles in the cotton-goods industry was very marked, amounting to 1,027,433, or 54.6 per cent, while the number of looms increased 7,621, or 17.6 per cent. In the hosiery and knit-goods industry the increase in spindles was 11,680, or 88.1 per cent, and in knitting machines, 3,352, or 110.2 per cent. Separate data regarding materials and products are given for the two principal textile industries.

Cotton goods, including cotton small wares.—This industry is largely responsible for the remarkable progress which the state has made in manufactures. The proximity of the factories to the raw cotton and the consequent low cost of transportation of this material are conditions which have been particularly favorable for the development of the industry.

The next table shows the quantity and cost of the various materials used in the manufacture of cotton goods, and the quantity and value of the different classes of products, as reported at the last three censuses.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	$48,687,572	$33,025,340	$17,386,624
Cotton:			
Domestic—			
Pounds	348,979,258	240,937,988	190,138,759
Cost	$40,605,341	$27,592,963	$13,627,720
Foreign—			
Pounds	1,231,356	1,422,750	.....
Cost	$231,543	$229,790	.....
Cotton waste, purchased:			
Pounds	6,041,351	1,399,977	777,101
Cost	$335,595	$52,433	$35,410
Cotton yarns, purchased:			
Pounds	9,738,724	10,656,597	10,284,488
Cost	$1,789,555	$1,920,368	$1,268,058
Starch	$214,975	$152,474	$91,283
Chemicals and dyestuffs	$713,030	$543,394	$478,258
Fuel and rent of power and heat	$2,170,315	$1,332,821	$718,434
All other materials	$2,627,218	$1,201,097	$1,167,401
Products, total value	$72,680,385	$47,254,054	$28,372,798
Plain cloths, for printing or converting:			
Square yards	104,895,423	93,273,990	51,244,944
Value	$4,998,695	$4,125,563	$1,943,568
Brown or bleached sheetings or shirtings:			
Square yards	164,707,838	105,598,908	88,085,411
Value	$8,286,984	$4,790,873	$3,471,329
Twills and sateens:			
Square yards	12,473,668	15,785,124	114,166
Value	$814,767	$815,868	$5,789
Fancy woven fabrics:			
Square yards	38,513,689	22,434,783	7,770,704
Value	$3,638,379	$1,615,245	$502,123
Ginghams:			
Square yards	111,994,426	79,056,081	79,531,131
Value	$7,403,532	$4,747,674	$3,799,187
Drills:			
Square yards	18,940,774	5,270,874	2,821,238
Value	$1,119,822	$364,316	$133,110
Ticks, denims, and stripes:			
Square yards	97,997,821	70,499,429	23,228,007
Value	$9,801,356	$5,835,804	$2,521,849
Napped fabrics:			
Square yards	64,627,668	62,053,042	30,175,177
Value	$5,389,195	$3,749,475	$1,555,920
Yarns, for sale:			
Pounds	142,213,450	95,481,949	86,970,599
Value	$28,312,873	$18,566,247	$12,708,636
Cotton waste, for sale:			
Pounds	34,801,543	22,235,597	22,039,030
Value	$836,652	$657,968	$335,571
All other products	$2,378,130	$1,985,021	$1,395,716

The principal material used is domestic cotton, of which 348,979,258 pounds were consumed in 1909. A large part of this material came directly from the plantations of the state. The figures for 1909 show a decrease in the quantity of foreign cotton consumed and in the quantity of cotton yarn bought for consumption.

The largest single product continues to be cotton yarn, of which 142,213,450 pounds were produced for sale in 1909, 95,481,949 pounds in 1904, and 86,970,599 pounds in 1899—an increase for the 10 years of 63.5 per cent. It is interesting to note, however, that the proportion which the value of cotton yarn manufactured for sale represents of the total value of products shows a decrease at each census as the result of the more general practice of confining all of the processes of the manufacture of cotton goods to one establishment. The partly manufactured articles shown in the table represent a certain amount of duplication, because, although they are the products of one set of mills, to some extent they become the materials of other establishments within the industry. Ticks,

denims, and stripes constitute the most important product of the looms, with a value of $9,801,356 in 1909 and an increase in quantity amounting to 321.9 per cent for the 10-year period.

Hosiery and knit goods.—This industry is largely an outgrowth of the general increase in the manufacture of cotton goods in the state. From 1899 to 1904 it showed an increase in value of products of 142.8 per cent and from 1904 to 1909 an increase of 107.4 per cent. The principal products are cotton hose and cotton half hose. Four establishments reported hosiery and knit goods as by-products to the value of $287,061, which amount is not included in the totals shown for this industry.

The following statement shows the quantity and cost of the various materials used in the industry and the quantity and value of the different kinds of products, as reported for 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	$3,012,295	$1,394,811	$504,027
Cotton:			
Pounds	3,531,967	2,112,160	1,300,378
Cost	$398,635	$236,118	$92,754
Cotton yarn, purchased:			
Pounds	9,527,471	5,115,699	2,136,604
Cost	$1,858,760	$916,779	$333,058
Chemicals and dyestuffs	$151,329	$73,104	$33,219
Fuel and rent of power	$92,812	$47,351	$13,762
All other materials	$510,759	$121,459	$31,234
Products, total value	$5,151,692	$2,483,827	$1,023,150
Cotton hose:			
Dozen pairs	3,879,392	1,950,578	726,094
Value	$2,877,922	$1,408,060	$446,262
Cotton half hose:			
Dozen pairs	1,926,748	977,454	343,337
Value	$1,222,767	$610,368	$331,043
Cotton shirts and drawers:			
Dozens	409,635	174,549	112,875
Value	$805,643	$414,583	$196,220
All other products	$245,360	$50,816	$49,625

Oil, cottonseed, and cake.—Closely allied to the cotton industry is the manufacture of cottonseed oil and cake. North Carolina holds seventh place among the states in the value of its cottonseed-oil products. The increase shown in the total value of products indicates a rapid growth of this industry in the state.

The following table shows the quantity of cotton seed used for oil extraction and the quantities of the principal products for the census years 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	QUANTITY.		
	1909	1904	1899
Cotton seed crushed ... tons	214,582	148,097	107,660
Crude products manufactured:			
Oil ... gallons	9,611,394	6,269,062	4,388,277
Meal and cake ... tons	92,906	59,787	36,088
Hulls ... tons	68,459	53,184	52,139
Linters ... pounds	8,442,520	4,472,965	2,149,996

The statistics in this table cover the products of all establishments which crushed seed during the year, regardless of the extent to which they were engaged in other industries. 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 refining of oil and the mixing of fertilizer and feed.

The average crush per mill has fallen off during the last decade from 5,383 tons in 1899 to 4,049 tons in 1909, although it has increased since 1904, when it was only 3,366 tons. The total quantity crushed increased from 107,660 tons in 1899 to 214,582 tons in 1909, or 99.3 per cent. Of the 53 cottonseed-oil mills reported in 1909 as crushing seed, 6 crushed less than 1,000 tons each during the census year; 9 crushed 1,000 but less than 2,000 tons; 26 crushed 2,000 but less than 5,000 tons; 9 crushed 5,000 but less than 10,000 tons; and 3 crushed 10,000 tons and 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, 16.8 per cent; meal and cake, 43.3 per cent; hulls, 31.9 per cent; and linters, 2 per cent. It will be observed that there has been an increase in the actual weights of all products, but that hulls now represent a much smaller proportion of the total than formerly.

Fertilizers.—This industry has grown more rapidly than most industries in the state; the percentage of increase in value of products from 1904 to 1909 was 103.9, and for the previous five years, 106.9. This growth is largely a result of the development of the cottonseed-oil mills of the state.

The following table shows in detail the quantity and value of the different kinds of products for the years 1909 and 1904:

PRODUCT.	1909	1904	1899
Total value	$6,316,485	$3,098,561	$1,497,625
Superphosphates from minerals, bones, etc.:			
Tons	90,180	51,475	48,820
Value	$1,140,790	$517,600	$397,397
Ammoniated fertilizers:			
Tons	32,879	81,353	3,400
Value	$776,562	$1,367,927	$51,000
Complete fertilizers:			
Tons	142,592	42,202	53,528
Value	$3,031,198	$889,611	$841,632
Other fertilizers:			
Tons	57,911	6,150	14,345
Value	$997,436	$89,163	$197,304
All other products	$370,499	$234,260	$10,292

The total quantity of all kinds of fertilizers shows large increases from 1904 to 1909. Complete fertilizers constituted the chief product, both as to quantity and value, in 1909, while the quantity and value of ammoniated fertilizers were the largest in 1904.

Considerable quantities of fertilizers were produced as by-products of establishments engaged in the manufacture of cottonseed oil. Twenty of such establishments reported these by-products, which were valued at $856,716, representing 40,769 tons of fertilizer; these amounts are not included in the totals presented in the above table.

Lumber and timber products.—The following is a statement of the quantity of products, by classes, for the sawmill branch of the lumber industry for 1909 and 1899:

PRODUCT.	QUANTITY.	
	1909	1899
Lumber.....M feet b. m..	2,177,715	1,286,638
Lath.....thousands..	70,724	48,782
Shingles.....thousands..	280,942	212,467

Rough lumber shows an increase in quantity for the 10-year period amounting to 69.3 per cent, lath an increase of 45 per cent, and shingles an increase of 32.2 per cent. Over 80 per cent of the total cut in 1909 was softwood. Of the softwood, 1,575,186 M feet board measure, or about nine-tenths, was yellow pine; of the hardwood, 209,405 M feet, or about one-half, was oak.

Flour-mill and gristmill products.—A better idea of the flour-mill and gristmill industry in North Carolina may be obtained from a comparison of the quantities of the different products in 1909 and in 1904 than from a comparison of the values, either for the single products or for the whole industry. The following tabular statement gives the quantity and value of the different kinds of products in 1909 and 1904:

PRODUCT.	1909	1904
Total value	$8,501,219	$6,863,770
Wheat flour:		
White—		
Barrels	758,876	713,379
Value	$4,762,881	$3,816,342
Graham—		
Barrels	196	21
Value	$1,075	$106
Corn meal and corn flour:		
Barrels	596,872	648,481
Value	$2,294,852	$1,738,154
Rye flour:		
Barrels	1,155	1,972
Value	$6,470	$9,146
Buckwheat flour:		
Pounds	73,500	132,448
Value	$2,310	$3,072
Hominy and grits:		
Pounds	8,056,030	8,976,400
Value	$143,658	$134,718
Feed:		
Tons	11,814	16,561
Value	$352,582	$400,526
Offal:		
Tons	36,135	32,242
Value	$918,443	$726,106
All other products	$18,948	$35,600

White flour, the most important product, showed a substantial increase both in quantity and in value. There was a considerable decrease in the number of barrels of corn meal and corn flour produced, although a large increase in the total value was shown. Hominy and grits show a decrease in quantity but a slight increase in value, and offal shows substantial increases in both respects.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. There were 43 such establishments in North Carolina in 1909, 16 of which were in cities of over 10,000 population. The following tabular statement summarizes the statistics of the industry for the state:

Number of establishments	43
Persons engaged in the industry	924
Proprietors and firm members	43
Salaried employees	69
Wage earners (average number)	812
Primary horsepower	1,000
Capital	$424,642
Expenses	435,951
Services	265,038
Materials	107,865
Miscellaneous	63,048
Amount received for work done	559,949

Eighteen establishments were under individual ownership, 12 under firm ownership, and 13 under corporate ownership. Eleven establishments had receipts for the year's business of less than $5,000; 21, $5,000 but less than $20,000; and 11, $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	745	84.4	July	877	99.3
February	754	85.4	August	883	100.0
March	756	85.6	September	871	98.6
April	785	88.9	October	822	93.1
May	815	92.3	November	786	89.0
June	852	96.5	December	798	90.4

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 or motors.	Horsepower.
Primary power, total	.....	1,000
Owned—Steam	40	867
Rented—Electric	15	133

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

KIND.	Unit.	Quantity.
Bituminous coal	Tons	8,872
Wood	Cords	2,497
Oil	Barrels	101
Gas	1,000 feet	1,468
Other	Tons	967

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 next summary.

	Custom sawmills.	Custom gristmills.
Number of establishments	191	861
Persons engaged in the industry	811	1,547
Proprietors and firm members	300	1,207
Salaried employees	5	7
Wage earners (average number)	506	333
Primary horsepower	3,641	18,444
Capital	$214,394	$1,535,027
Expenses	101,312	3,375,538
Services	83,272	97,008
Materials	5,821	[1] 3,245,191
Miscellaneous	12,219	33,279
Value of products	209,665	[1] 3,935,922

[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	4,931	133,453	5,451	6,529	121,473	378,556	$217,186	$6,904	$34,355	$121,861	$216,656	$94,795
	1904	3,272	93,142	3,731	4,072	85,339	216,622	141,001	3,795	21,375	79,268	142,521	63,253
	1899	3,465	.....	.....	2,894	72,322	154,467	68,283	2,395	14,052	44,854	85,274	40,420
Agricultural implements	1909	22	169	22	15	132	356	306	21	50	90	262	172
	1904	13	128	13	8	107	206	117	9	31	51	127	76
	1899	9	112	14	7	91	178	78	4	20	41	99	58
Boots and shoes, including cut stock and findings	1909	7	211	6	27	178	242	413	17	46	242	408	166
	1904	7	109	11	9	89	70	86	6	25	117	186	69
	1899	3	44	1	3	40	53	38	2	14	53	73	20
Bread and other bakery products	1909	54	272	63	20	189	148	170	8	80	341	539	198
	1904	34	165	40	10	115	42	77	6	36	133	246	113
	1899	22	87	28	14	45	.....	33	2	13	58	107	49
Brick and tile	1909	159	1,762	197	105	1,460	6,759	1,455	83	370	368	1,174	806
	1904	111	1,271	146	46	1,079	3,222	651	25	247	167	696	529
	1899	157	1,660	216	36	1,408	2,493	445	11	269	147	641	494
Carriages and wagons and materials	1909	138	1,922	160	133	1,629	9,110	3,168	150	603	1,894	3,283	1,389
	1904	[1] 125	1,597	160	64	1,373	1,310	2,010	60	482	1,229	2,304	1,075
	1899	[1] 157	.....	.....	29	800	.....	861	19	236	521	1,055	534
Cars and general shop construction and repairs by steam-railroad companies.	1909	12	2,640	.....	72	2,568	1,458	974	67	1,296	1,561	2,934	1,373
	1904	11	2,069	.....	96	1,973	988	858	79	1,023	1,334	2,444	1,110
	1899	12	1,188	.....	47	1,141	762	540	38	551	893	1,511	618
Clothing, men's, including shirts	1909	21	977	11	84	882	213	999	90	200	1,040	1,653	613
	1904	[1] 16	933	9	45	879	176	944	45	194	905	1,401	496
	1899	17	999	12	91	896	.....	502	73	154	650	1,059	409
Coffins, burial cases, and undertakers' goods	1909	9	273	3	44	226	431	372	43	71	157	352	195
	1904	9	206	6	17	183	394	186	14	52	70	271	201
	1899	7	137	5	11	121	.....	177	7	30	39	119	80
Confectionery	1909	18	139	23	37	79	66	186	18	27	246	345	99
	1904	8	55	10	4	41	9	45	3	10	50	83	33
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Copper, tin, and sheet-iron products	1909	26	234	35	15	184	5	198	11	76	214	374	160
	1904	13	117	20	4	93	10	98	2	40	107	194	87
	1899	16	.....	.....	.....	62	.....	107	.....	25	49	101	52
Cordage and twine and jute and linen goods	1909	7	542	2	49	491	1,755	1,260	50	104	559	824	265
	1904	6	565	2	20	543	1,007	886	21	101	815	1,036	221
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cotton goods, including cotton small wares	1909	281	48,525	42	1,252	47,231	164,609	96,993	1,610	12,131	48,688	72,680	23,992
	1904	212	37,292	33	903	36,356	92,215	57,413	973	7,504	33,025	47,254	14,229
	1899	177	30,973	41	659	30,273	56,986	33,012	587	5,127	17,387	28,373	10,986
Fertilizers	1909	34	1,117	22	162	933	3,132	7,680	242	393	4,183	6,316	2,133
	1904	27	1,019	33	78	908	2,653	3,098	75	282	2,218	3,099	881
	1899	18	494	16	51	427	1,292	2,819	66	109	1,044	1,498	454
Flour-mill and gristmill products	1909	240	971	384	91	496	11,578	2,643	65	180	7,287	8,501	1,214
	1904	234	967	376	72	519	10,359	1,990	47	160	5,986	6,864	878
	1899	217	.....	.....	56	481	9,149	1,519	30	130	3,846	4,703	857
Foundry and machine-shop products	1909	102	1,816	87	239	1,490	2,700	3,247	231	718	1,245	2,771	1,526
	1904	70	1,439	77	146	1,216	1,782	2,406	152	550	1,374	2,707	1,333
	1899	[3] 61	930	70	63	797	1,037	1,018	56	273	738	1,395	657
Furniture and refrigerators	1909	117	6,023	38	452	5,533	11,379	7,606	395	1,585	4,398	7,885	3,487
	1904	105	5,493	43	286	5,164	9,113	4,622	236	1,311	3,106	6,182	3,076
	1899	44	1,909	32	118	1,759	2,691	1,023	65	334	725	1,547	822
Gas, illuminating and heating	1909	14	201	.....	50	151	308	1,772	39	62	123	369	246
	1904	12	145	1	40	104	309	515	20	38	71	223	152
	1899	10	66	.....	19	47	68	683	15	14	37	130	93
Hosiery and knit goods	1909	62	5,361	34	176	5,151	4,024	5,164	185	1,080	3,012	5,152	2,140
	1904	40	3,084	38	102	2,944	2,148	2,081	125	617	1,395	2,484	1,089
	1899	24	1,574	15	64	1,495	1,736	675	46	255	504	1,023	519
Ice, manufactured	1909	45	426	16	92	318	5,386	1,514	80	127	180	659	479
	1904	32	317	13	69	235	2,991	860	58	83	97	418	321
	1899	23	211	13	37	161	2,275	523	32	53	66	228	162
Leather goods	1909	33	197	41	21	135	99	284	12	52	257	427	170
	1904	[3] 13	202	20	11	171	158	209	10	52	191	306	115
	1899	[3] 10	.....	.....	6	73	.....	102	1	18	87	151	64
Leather, tanned, curried, and finished	1909	39	938	49	57	832	2,672	6,753	107	290	4,156	5,415	1,259
	1904	34	616	45	37	534	1,521	2,569	61	149	2,038	2,662	624
	1899	75	488	94	28	366	989	1,300	29	105	1,129	1,502	373

[1] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[2] Figures can not be shown without disclosing 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 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—Continued.													
Lumber and timber products	1909	2,544	38,636	3,349	1,286	34,001	115,542	$29,675	$1,264	$9,707	$12,534	$33,525	$20,991
	1904	1,364	19,560	1,836	741	16,983	65,026	12,008	621	5,119	6,612	19,489	12,877
	1899	1,416	.....	.....	607	19,972	59,181	10,060	413	4,245	7,341	17,442	10,101
Marble and stone work	1909	56	948	74	67	807	1,863	957	62	384	226	881	655
	1904	22	443	24	23	396	382	358	18	156	81	399	318
	1899	20	.....	.....	16	403	.....	110	6	103	35	200	165
Mattresses and spring beds	1909	23	214	28	20	166	134	200	14	65	172	315	143
	1904	9	81	9	3	69	76	58	2	16	108	164	56
	1899	8	.....	.....	2	32	.....	24	1	8	37	56	19
Oil, cottonseed, and cake	1909	53	1,446	3	278	1,165	9,641	4,432	265	326	7,090	8,504	1,414
	1904	43	1,027	3	157	867	7,935	3,118	123	233	2,956	3,749	793
	1899	21	651	.....	87	564	2,908	1,842	68	133	2,161	2,677	516
Patent medicines and compounds and druggists' preparations.	1909	26	140	17	63	60	28	325	61	18	216	474	258
	1904	26	118	17	46	55	6	116	18	11	139	266	127
	1899	9	.....	.....	14	30	.....	49	10	8	36	90	54
Printing and publishing	1909	322	2,059	307	376	1,376	1,119	2,180	306	661	645	2,497	1,852
	1904	258	1,475	267	237	971	582	1,274	164	404	382	1,653	1,271
	1899	203	1,195	219	157	819	.....	793	96	286	244	1,039	795
Tobacco manufactures	1909	43	9,065	44	818	8,203	3,712	23,162	963	1,918	13,816	35,987	22,171
	1904	55	7,899	72	534	7,293	2,017	36,077	585	1,457	10,149	28,088	17,939
	1899	96	7,187	113	491	6,583	2,071	7,045	594	907	4,312	13,851	9,539
Turpentine and rosin	1909	79	249	103	7	139	19	159	4	28	483	674	191
	1904	87	262	110	4	148	4	116	3	39	578	743	165
	1899	174	630	205	25	400	29	217	5	71	818	1,056	238
Woolen, worsted, and felt goods, and wool hats.	1909	11	461	12	25	424	968	1,159	37	116	392	675	283
	1904	12	381	15	23	343	849	419	21	71	406	556	150
	1899	16	234	11	17	206	608	348	9	39	205	290	85
All other industries	1909	325	5,519	279	396	4,844	19,100	11,780	404	1,591	6,046	10,801	4,755
	1904	264	4,107	282	237	3,588	9,062	5,136	213	882	3,378	6,227	2,849
	1899	443	.....	.....	139	2,830	.....	2,340	110	522	1,651	3,258	1,607
CITIES OF 10,000 OR MORE INHABITANTS—ALL INDUSTRIES COMBINED.													
Asheville	1909	52	1,148	43	121	984	2,095	$2,827	$140	$359	$2,295	$3,250	$955
	1904	45	910	51	67	792	.....	1,522	66	229	1,247	1,918	671
	1899	37	.....	.....	45	804	.....	1,174	35	225	821	1,301	480
Charlotte	1909	108	4,705	54	452	4,199	12,384	9,451	522	1,557	6,532	10,460	3,928
	1904	73	2,537	51	252	2,234	.....	4,850	239	693	2,869	4,850	1,981
	1899	57	.....	.....	175	2,787	.....	3,803	167	621	2,604	4,187	1,583
Durham	1909	61	4,030	45	267	3,718	5,257	15,389	302	1,087	9,810	23,272	13,462
	[1]1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[1]1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greensboro	1909	61	1,132	45	135	952	1,545	1,696	131	338	1,106	2,032	926
	[2]1904	63	1,261	60	103	1,098	.....	1,548	71	317	978	1,744	766
	1899	43	.....	.....	64	677	.....	885	47	152	508	925	417
Raleigh	1909	55	1,249	43	183	1,023	2,970	2,027	174	384	1,276	2,376	1,100
	1904	42	719	30	104	585	.....	804	78	226	512	1,087	575
	1899	39	.....	.....	104	549	.....	728	68	220	433	947	514
Wilmington	1909	64	1,386	44	129	1,213	4,580	2,022	123	470	1,903	3,005	1,102
	[2]1904	53	1,794	44	156	1,594	.....	1,837	130	605	1,715	2,904	1,189
	1899	50	.....	.....	92	1,553	.....	1,758	74	476	1,392	2,283	891
Winston	1909	52	7,408	25	675	6,708	3,933	12,856	763	1,580	6,896	16,778	9,882
	1904	47	5,289	41	398	4,850	.....	9,212	433	986	3,843	11,353	7,510
	1899	30	.....	.....	238	2,894	.....	3,969	282	369	1,633	4,888	3,255

[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 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**	4,931	133,453	5,451	3,486	2,513	530	121,478	De 128,754	Ja 117,007	(1)	(1)	(1)	(1)	(1)	378,556
2	Agricultural implements	22	169	22	11	4	.....	132	Mh 159	Jy 108	137	135	.....	2	.....	356
3	Boots and shoes, including cut stock and findings.	7	211	6	6	17	4	178	De 2 200	Ap 137	200	146	38	20	5	242
4	Boxes, fancy and paper	4	86	.....	5	1	.....	80	My 2 86	De 75	75	25	39	3	8	46
5	Bread and other bakery products	54	272	63	6	7	7	189	De 199	Ja 182	199	166	8	25	.....	148
6	Brick and tile	159	1,762	197	92	12	1	1,460	Au 2,281	Ja 406	2,448	2,265	.....	183	.....	6,759
7	Canning and preserving	21	212	18	6	.....	.....	188	Au 394	Ap 75	519	166	249	58	46	230
8	Carriages and wagons and materials	138	1,922	160	75	44	14	1,629	De 1,750	Ja 1,536	1,756	1,671	8	74	3	9,110
9	Cars and general shop construction and repairs by steam-railroad companies.	12	2,640	.....	9	61	2	2,568	De 2,745	Ja 2,392	2,745	2,734	6	5	.....	1,458
10	Cars and general shop construction and repairs by street-railroad companies.	3	25	.....	2	.....	.....	23	My 37	De 15	15	15	.....	.....	.....	.....
11	Clothing, men's, including shirts	21	977	11	31	50	3	882	De 987	Ja 829	994	152	810	8	24	213
12	Coffins, burial cases, and undertakers' goods.	9	273	3	17	22	5	226	Oc 240	Mh 2 219	233	216	13	4	.....	431
13	Confectionery	18	139	23	5	23	9	79	No 112	Ja 60	102	58	38	5	1	66
14	Cooperage and wooden goods, not elsewhere specified.	15	158	15	10	1	.....	132	Se 153	Ap 110	166	157	.....	9	.....	348
15	Copper, tin, and sheet-iron products	26	234	35	11	2	2	184	Se 204	Ja 164	181	178	.....	3	.....	5
16	Cordage and twine and jute and linen goods.	7	542	2	17	30	2	491	My 506	Ja 475	523	224	178	75	46	1,755
17	Cotton goods, including cotton small wares.	281	48,525	42	865	324	63	47,231	De 49,034	Ja 46,184	49,171	25,137	14,731	4,982	4,321	164,609
18	Electrical machinery, apparatus, and supplies.	3	134	2	6	3	3	120	De 157	Ja 92	157	53	104	.....	.....	38
19	Fertilizers	34	1,117	22	58	97	7	933	Ap 1,604	Jy 494	896	896	.....	.....	.....	3,132
20	Flour-mill and gristmill products	249	971	384	49	34	8	496	De 533	My 463	554	543	3	8	.....	11,578
21	Foundry and machine-shop products.	102	1,816	87	125	85	29	1,490	No 1,581	Fe 1,408	1,601	1,583	5	13	.....	2,700
22	Furniture and refrigerators	117	6,023	38	255	153	44	5,533	De 5,907	Jy 5,144	6,204	5,733	1	466	4	11,379
23	Gas, illuminating and heating	14	201	.....	25	18	7	151	Jy 172	Se 138	150	150	.....	.....	.....	308
24	Hosiery and knit goods	62	5,361	34	111	50	15	5,151	De 5,292	Ja 4,980	5,411	1,219	2,691	562	939	4,024
25	Ice, manufactured	45	426	16	61	29	2	318	Jy 474	Ja 188	346	340	.....	6	.....	5,386
26	Kaolin and ground earths	7	82	7	6	2	1	66	Mh 71	Fe 2 64	77	76	.....	1	.....	693
27	Leather goods	33	197	41	11	8	2	135	Oc 141	Fe 2 122	147	132	.....	15	.....	99
28	Leather, tanned, curried, and finished.	39	938	49	23	27	7	832	De 913	Mh 722	918	914	.....	4	.....	2,672
29	Lime	7	71	11	3	.....	.....	57	Au 76	Ja 41	64	63	.....	1	.....	163
30	Lumber and timber products	2,544	38,636	3,349	858	355	73	34,001	De 37,667	Je 31,962	41,763	41,159	55	530	19	115,542
31	Marble and stone work	56	948	74	42	21	4	807	No 1,063	Ja 582	999	991	.....	8	.....	1,863
32	Mattresses and spring beds	23	214	28	8	8	4	166	De 179	Fe 149	179	127	31	20	1	134
33	Mirrors	4	286	1	6	8	2	269	No 287	Ja 250	283	283	.....	.....	.....	262
34	Oil, cottonseed, and cake	53	1,446	3	126	140	12	1,165	No 1,797	Jy 332	1,723	1,687	1	35	.....	9,641
35	Patent medicines and compounds and druggists' preparations.	26	140	17	17	37	9	60	Je 63	Mh 2 58	64	29	34	1	.....	28
36	Printing and publishing	322	2,059	307	152	138	86	1,376	No 1,433	Je 1,336	1,422	1,123	173	121	5	1,119
37	Shipbuilding, including boat building.	10	66	12	1	.....	.....	53	Mh 63	De 44	47	47	.....	.....	.....	60
38	Show cases	5	39	3	4	.....	2	30	Mh 34	Au 2 28	31	31	.....	.....	.....	53
39	Tobacco manufactures	43	9,065	44	186	558	74	8,203	De 8,853	Se 7,918	9,117	4,929	2,626	908	654	3,712
40	Turpentine and rosin	79	249	103	5	2	.....	139	Je 162	Ja 102	168	167	.....	1	.....	19
41	Wall plaster	4	31	3	5	2	.....	21	Ap 2 22	Ja 17	22	22	.....	.....	.....	153
42	Wood distillation, not including turpentine and rosin.	5	67	.....	10	5	1	51	De 58	Jy 2 44	57	57	.....	.....	.....	75
43	Woolen, worsted, and felt goods, and wool hats.	11	461	12	17	7	1	424	Au 461	Ap 392	481	253	193	13	22	968
44	All other industries [3]	237	4,262	207	148	128	25	3,754	.....	.....	.....	.....	.....	.....	.....	16,989

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

Artificial stone	6	Brass and bronze products	1	Dairymen's, poulterers', and apiarists' supplies	2
Artists' materials	1	Brooms	3	Dyeing and finishing textiles	4
Awnings, tents, and sails	1	Cars, street-railroad, not including operations of railroad companies	1	Dyestuffs and extracts	4
Bags, other than paper	5	Clothing, women's	2	Flags, banners, regalia, society badges, and emblems	1
Belting and hose, leather	1	Cordials and sirups	1	Furnishing goods, men's	2
Bicycles, motorcycles, and parts	2	Cutlery and tools, not elsewhere specified	1	Hand stamps and stencils and brands	2
Blacking and cleansing and polishing preparations	2			House-furnishing goods, not elsewhere specified	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	$217,185,588	$186,463,491	$4,547,467	$2,356,080	$34,354,625	$4,269,088	$117,592,442	$354,295	$6,037,837	$1,793,937	$15,157,720	$216,656 055	$94,794,525
2	306,437	182,696	18,167	3,000	49,693	4,568	85,401	620	1,694	.....	19,553	261,819	171,850
3	413,492	340,125	5,942	11,177	46,455	1,641	239,940	372	2,386	.....	32,212	408,079	166,498
4	53,656	80,015	4,182	120	23,127	1,273	45,416	1,156	363	123	4,255	86,747	40,058
5	169,808	455,205	3,860	4,212	80,440	11,006	330,328	15,272	1,491	208	8,388	538,955	197,621
6	1,454,748	897,041	74,478	8,380	369,681	327,673	40,017	1,209	7,020	2,882	65,701	1,173,751	806,061
7	93,474	120,409	3,980	.....	24,610	2,872	72,098	740	2,057	5,600	8,452	143,091	68,721
8	3,168,231	2,830,604	100,358	49,358	602,527	27,384	1,866,122	10,521	22,990	4,298	147,046	3,282,634	1,389,128
9	974,045	2,933,820	11,216	56,025	1,296,172	51,602	1,509,525	350	6,813	1,414	703	2,933,776	1,372,649
10	9,200	31,817	2,100	.....	9,802	275	18,050	.....	40	.....	1,550	31,817	13,492
11	998,958	1,405,986	43,040	46,816	200,141	7,320	1,032,943	6,136	6,984	.....	62,606	1,653,076	612,813
12	371,713	302,120	18,702	24,286	71,483	5,893	151,581	33	2,697	.....	27,445	352,240	194,766
13	186,270	330,376	6,600	11,847	26,685	2,196	243,989	6,813	1,329	.....	30,917	344,848	98,663
14	72,638	115,364	5,190	750	32,603	1,431	70,800	544	573	.....	3,473	131,636	59,405
15	197,673	314,657	9,216	1,463	75,871	1,108	212,955	3,809	1,331	.....	8,904	373,635	159,572
16	1,259,585	748,888	24,859	24,948	103,778	8,201	551,228	4,485	2,146	.....	29,243	823,864	264,435
17	96,993,125	65,676,383	1,333,803	276,025	12,130,608	2,170,315	46,517,257	20,192	438,471	423,684	2,366,028	72,680,385	23,992,813
18	77,163	148,886	12,600	3,600	31,000	1,025	95,533	1,200	338	.....	3,590	149,591	53,033
19	7,679,857	5,389,466	117,534	124,799	392,752	69,658	4,113,545	6,802	69,953	7,307	487,116	6,316,485	2,133,282
20	2,642,885	7,680,149	38,000	26,509	179,983	93,931	7,192,957	2,426	17,283	175	128,885	8,501,219	1,214,331
21	3,246,716	2,359,578	150,290	81,141	718,209	57,823	1,187,579	13,681	19,180	233	131,442	2,771,287	1,525,885
22	7,606,147	6,889,014	278,470	116,614	1,585,235	54,988	4,342,822	3,053	39,485	3,926	464,421	7,884,679	3,486,869
23	1,771,505	273,260	24,188	15,181	62,324	99,055	24,436	.....	9,808	.....	38,268	369,375	245,884
24	5,164,117	4,496,511	136,849	47,874	1,080,410	92,812	2,919,483	4,915	21,625	3,117	189,426	5,151,692	2,139,397
25	1,514,394	432,496	60,445	19,704	127,046	121,572	58,246	12,925	16,906	.....	65,652	659,377	479,559
26	141,800	62,696	3,780	1,916	27,955	8,995	14,410	.....	565	150	4,925	47,600	24,195
27	284,434	344,940	5,585	6,837	51,840	2,766	253,797	8,376	2,141	.....	13,598	426,630	170,067
28	6,753,436	4,746,258	72,220	34,385	289,502	44,428	4,111,723	60	24,185	.....	169,755	5,415,495	1,259,344
29	36,031	35,836	2,100	.....	17,922	7,636	4,646	1,200	420	490	1,422	44,148	31,866
30	29,674,900	26,856,858	967,829	295,982	9,707,194	121,697	12,411,900	38,260	176,016	967,848	2,170,132	33,524,653	20,991,056
31	956,731	719,682	44,195	18,292	384,277	20,901	205,252	4,357	4,544	1,408	36,456	881,343	655,190
32	200,420	268,030	7,800	5,840	65,469	2,497	169,118	1,828	983	.....	14,495	315,154	143,539
33	274,700	795,850	9,900	8,020	95,181	6,838	668,444	600	934	.....	5,933	785,351	110,069
34	4,432,010	7,952,231	153,993	111,106	325,880	184,247	6,905,083	2,564	26,274	60	242,424	8,504,477	1,414,547
35	324,674	395,224	17,993	42,837	17,621	1,041	215,137	2,630	2,542	.....	95,423	473,926	257,748
36	2,179,530	1,950,059	169,625	136,478	661,015	43,652	601,077	41,018	16,720	77,785	202,689	2,497,493	1,852,764
37	73,693	79,659	624	.....	25,058	100	47,186	548	329	4,200	1,614	100,254	52,968
38	25,417	57,479	2,610	320	16,104	680	34,723	414	198	500	1,930	62,054	26,651
39	23,161,830	29,163,923	343,638	619,558	1,918,033	122,953	13,693,115	109,809	5,020,412	3,509	7,332,896	35,986,639	22,170,571
40	158,716	534,127	2,350	1,380	28,242	4,018	478,918	25	767	.....	18,427	673,954	191,018
41	73,409	76,460	6,540	1,650	7,069	2,799	55,219	.....	259	.....	2,924	82,548	24,530
42	204,837	87,553	14,140	4,710	15,598	7,256	26,651	.....	513	.....	18,685	104,241	70,334
43	1,159,005	593,465	31,110	5,700	116,331	14,431	377,538	50	6,265	.....	42,040	675,265	283,296
44	10,644,088	7,258,295	207,366	107,240	1,263,699	456,531	4,395,654	25,302	60,807	285,020	456,676	9,030,172	4,177,987

[3] All other industries embrace—Continued.

Liquors, vinous	4
Looking-glass and picture frames	1
Millinery and lace goods	2
Mineral and soda waters	113
Mucilage and paste	1
Musical instruments, pianos and organs and materials	1
Optical goods	2
Paint and varnish	4
Paper and wood pulp	3
Peanuts, grading, roasting, cleaning, and shelling	2
Pottery, terra-cotta, and fire-clay products	17
Pumps, not including steam pumps	1
Rice, cleaning and polishing	1
Roofing materials	2
Shoddy	1
Silk and silk goods, including throwsters	4
Slaughtering and meat packing	2
Steam packing	1
Upholstering materials	2
Vinegar and cider	2
Window shades and fixtures	1
Wood, turned and carved	27

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.									WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners (average number).				Total.	16 and over.		Under 16.		
						Male.	Female.	Total.	16 and over.		Under 16.		Male.	Female.	Male.	Female.	
									Male.	Female.							
1	ASHEVILLE	52	1,148	43	47	52	22	984	718	217	49	1,018	743	224	36	15	2,095
2	CHARLOTTE	108	4,705	54	179	225	48	4,199	2,930	956	313	4,276	2,983	974	198	121	12,384
3	DURHAM	61	4,030	45	91	129	47	3,718	1,770	1,080	868	3,940	1,876	1,144	521	399	5,257
4	GREENSBORO	61	1,132	45	67	52	16	952	602	271	79	1,068	675	304	45	44	1,545
5	RALEIGH	55	1,249	43	67	65	51	1,023	655	273	95	1,092	699	292	59	42	2,970
6	WILMINGTON	64	1,386	44	57	62	10	1,213	1,096	77	40	1,474	1,332	94	21	27	4,580
7	WINSTON	52	7,408	25	158	472	45	6,708	3,739	1,943	1,026	7,486	4,173	2,168	606	539	3,933

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	$2,827,265	$2,966,173	$83,648	$56,585	$358,931	$53,209	$2,241,559	$13,796	$16,717	$5,722	$136,006		$3,249,684	$954,916
2	9,451,463	9,069,850	303,306	218,466	1,557,203	220,960	6,310,599	27,536	59,913	46,995	324,872		10,459,684	3,928,125
3	15,388,914	18,630,427	151,127	150,994	1,086,840	115,585	9,694,134	113,012	2,023,745	206,110	5,088,880		23,271,525	13,461,806
4	1,696,232	1,767,591	74,693	56,082	337,971	41,315	1,065,045	10,795	47,868	683	133,139		2,031,606	925,246
5	2,027,385	2,125,380	102,522	71,535	383,866	63,417	1,212,242	17,996	17,104	43,739	212,959		2,375,872	1,100,213
6	2,021,916	2,716,779	70,923	51,882	470,419	51,656	1,851,309	20,844	16,230	720	182,796		3,004,717	1,101,752
7	12,856,283	14,146,126	285,292	478,109	1,580,258	101,461	6,794,324	8,020	2,605,899	600	2,292,163		16,778,072	9,882,287

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NORTH DAKOTA.

INDUSTRIES IN GENERAL.

General character of the state.—North Dakota, with a gross area of 70,837 square miles, of which 654 represent water surface, ranks sixteenth in size among the states and territories of continental United States. Its population in 1910 was 577,056, as compared with 319,146 in 1900 and 190,983 in 1890. It ranked thirty-seventh among the 49 states and territories as regards population in 1910 and fortieth in 1900.

In 1910 only 11 per cent of the total population of the state resided in incorporated cities having a population of 2,500 or over, as compared with 7.3 per cent in 1900. Only two cities, Fargo and Grand Forks, have a population of more than 10,000.

The density of population in 1910 was 8.2 persons per square mile, as compared with 4.5 in 1900.

Several important railway systems traverse the state from east to west, and these lines, together with the connecting railways, provide excellent transportation facilities.

Importance and growth of manufactures.—Although North Dakota is primarily an agricultural community, the total value of manufactured products of the state has increased steadily at each census since 1899. Prior to that year manufacturing in the state was limited almost entirely to the so-called neighborhood, hand, and building industries; and, with the exception of the flour-mill and gristmill industry, practically the entire product was made for local consumption. The latter statement continued to be true to a great extent in 1909. In that year North Dakota ranked forty-fifth among the states of the Union in value of manufactures. The gross value of products per capita of the total population of the state increased from $20 in 1899 to $33 in 1909.

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 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	752	507	337	48.3	50.4
Persons engaged in manufactures	4,148	2,545	(1)	63.0	.....
Proprietors and firm members	723	494	(1)	46.4	.....
Salaried employees	636	296	152	114.9	94.7
Wage earners (average number)	2,789	1,755	1,358	58.9	29.2
Primary horsepower	13,196	9,873	7,351	33.7	34.3
Capital	$11,585,000	$5,704,000	$3,512,000	103.1	62.4
Expenses	17,290,000	8,895,000	5,155,000	94.4	72.6
Services	2,416,000	1,289,000	801,000	87.4	60.9
Salaries	629,000	258,000	130,000	143.8	98.5
Wages	1,787,000	1,031,000	671,000	73.3	53.7
Materials	13,674,000	7,096,000	4,151,000	92.7	70.9
Miscellaneous	1,200,000	510,000	203,000	135.3	151.2
Value of products	19,138,000	10,218,000	6,260,000	87.3	63.2
Value added by manufacture (value of products less cost of materials)	5,464,000	3,122,000	2,109,000	75.0	48.0

[1] Figures not available.

In 1909 the state of North Dakota had 752 manufacturing establishments, which gave employment to an average of 4,148 persons during the year and paid out $2,416,000 in salaries and wages. Of the persons employed, 2,789 were reported as wage earners. These establishments turned out products to the value of $19,138,000, to produce which materials costing $13,674,000 were consumed. The value added by manufacture was thus $5,464,000, 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 marked development in the manufacturing industries of North Dakota which took place from 1899 to 1904 continued even to a greater degree in the following five years. From 1899 to 1904 the value of products increased 63.2 per cent, and from 1904 to 1909, 87.3 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 price of commodities.

It is a matter of interest to note that the percentages of increase shown for salaries and wages show a greater proportionate increase than those for numbers of salaried employees and wage earners. 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	**752**	**2,789**	**100.0**	**$19,138,000**	**100.0**	**$5,464,000**	**100.0**	**87.3**	**63.2**	**75.0**	**48.0**
Flour-mill and gristmill products	84	435	15.6	11,685,000	61.1	1,630,000	29.8	80.8	67.9	63.0	33.7
Printing and publishing	330	788	28.3	1,910,000	10.0	1,470,000	26.9	72.1	54.2	68.4	58.7
Butter, cheese, and condensed milk	68	62	2.2	1,029,000	5.4	138,000	2.5	83.1	360.7	64.3	223.1
Leather goods	19	98	3.5	683,000	3.6	221,000	4.0	.....	.....	.....	.....
Cars and general shop construction and repairs by steam-railroad companies	5	463	16.6	680,000	3.6	380,000	7.0	236.6	43.3	214.0	59.2
Bread and other bakery products	67	146	5.2	601,000	3.1	255,000	4.7	93.2	284.0	100.8	188.6
Brick and tile	13	188	6.7	287,000	1.5	214,000	3.9	68.8	28.8	57.4	33.3
Gas, illuminating and heating	6	28	1.0	199,000	1.0	121,000	2.2	95.1	.....	77.9	.....
Tobacco manufactures	28	34	1.2	98,000	0.5	61,000	1.1	28.9	10.1	29.8	9.3
All other industries	132	547	19.6	1,966,000	10.3	974,000	17.8	.....	.....	.....	.....

[1] Percentages are based on figures in Table I. 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 product of one establishment in the industry as material for another establishment.

The most important industries presented 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.—North Dakota is one of the leading wheat-growing states; and, measured by the value of products, milling is the state's most important manufacturing industry. The value of products for this industry in 1909 formed 61.1 per cent of the total value of all manufactured products for the state. From 1904 to 1909 the value of products in the industry increased 80.8 per cent, while the value added by manufacture increased 63 per cent.

Printing and publishing.—In 1909 over one-fourth, 28.3 per cent, of the total average number of wage earners of all manufacturing industries in the state were employed in this industry. The establishments were principally small newspaper and job printing offices.

Butter, cheese, and condensed milk.—Butter was reported almost exclusively as the product of this industry at the last two censuses. Reports were received from four cheese factories in 1904 and from only one in 1909. No condensed-milk establishment was reported at either census. The growth of the butter and cheese industry from 1904 to 1909 was marked; the value of products increased 83.1 per cent and the value added by manufacture 64.3 per cent; the growth was more pronounced from 1899 to 1904, when the value of products increased 360.7 per cent and the value added by manufacture 223.1 per cent.

Leather goods.—This industry, which was represented by 19 establishments, embraces the manufacture of saddlery, harness, trunks, and valises. There were five establishments in the industry in 1904, but the statistics for these can not be presented separately without disclosing the operations of individual establishments.

Measured by value added by manufacture, the industries in the preceding table show considerable change in their order from that when measured by value of products. The butter and cheese industry, which is third in value of products, is seventh in value added by manufacture; the leather-goods industry, which is fourth in value of products, is fifth in value added by manufacture; while the industries, cars and general shop construction and repairs by steam-railroad companies and bread and other bakery products, which are fifth and sixth, respectively, in value of products, are third and fourth, respectively, in value added by manufacture. This table also shows the percentages of increase for these leading industries in respect to value of products and value added by manufacture where the statistics are comparable. The railroad repair shop industry showed a greater rate of increase from 1904 to 1909 in value of products and value added by manufacture than any of the other specified industries, namely, 236.6 per cent and 214 per cent, respectively.

In the rate of increases, both in value of products and value added by manufacture, from 1899 to 1904, as compared with those for 1904 to 1909, some striking differences may be noted, especially in the case of the creameries. the bakeries, and the steam-railroad repair shops.

In addition to the nine industries presented separately, there are six industries which had a value of products in 1909 in excess of $100,000. One of these, the mineral and soda-water industry, is not shown, because the

returns do not properly present the true condition of the industry, for the reason that bottling is also done largely in connection with other industries. The artificial-stone, confectionery, copper, tin, and sheet-iron, foundry and machine-shop, and lumber and timber industries are not shown separately, because in some cases the operations of individual establishments would thus be disclosed; in others, because the data for prior censuses are not available, and in still others, because there has been a change in classification. The 1909 statistics, however, for four of these industries are presented in Table II.

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	**4,148**	**3,777**	**371**
Proprietors and officials	965	936	29
Proprietors and firm members	723	697	26
Salaried officers of corporations	64	64	.....
Superintendents and managers	178	175	3
Clerks	394	303	91
Wage earners (average number)	2,789	2,538	251
16 years of age and over	2,732	2,489	243
Under 16 years of age	57	49	8

The average number of persons engaged in manufactures during 1909 was 4,148, of whom 2,789 were wage earners. Of the remainder, 965 were proprietors and officials and 394 were clerks. Corresponding figures for individual industries will be found in Table II.

The table following 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 seven important industries individually.

Of the total number of persons engaged in all manufacturing industries, 23.3 per cent were proprietors and officials, 9.5 per cent clerks, and 67.2 per cent wage earners. In the bakery, butter, and printing and publishing industries the majority of the establishments are small and to a large extent the work is done by the proprietors or their immediate representatives, so that the proportion of persons falling in the class of proprietors and officials is higher than for such an industry as railroad repair shops, which are operated by corporations, for which no proprietors are reported, and whose general officials are not, as a rule, assigned to the supervision of this particular branch of the work.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries	**4,148**	**23.3**	**9.5**	**67.2**
Bread and other bakery products	242	31.8	7.9	60.3
Brick and tile	214	11.2	0.9	87.8
Butter, cheese, and condensed milk	106	39.6	1.9	58.5
Cars and general shop construction and repairs by steam-railroad companies	494	3.0	3.2	93.7
Flour-mill and gristmill products	710	21.7	17.0	61.3
Leather goods	157	20.4	17.2	62.4
Printing and publishing	1,294	30.3	8.8	60.9
All other industries	931	24.6	10.0	65.4

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 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	**2,789**	**89.3**	**8.7**	**2.0**
Bread and other bakery products	146	77.4	19.9	2.7
Brick and tile	188	97.3	.....	2.7
Butter, cheese, and condensed milk	62	98.4	.....	1.6
Cars and general shop construction and repairs by steam-railroad companies	463	100.0	.....	.....
Flour-mill and gristmill products	435	99.8	0.2	.....
Leather goods	98	99.0	.....	1.0
Printing and publishing	788	77.4	17.3	5.3
All other industries	609	87.0	12.5	0.5

[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, 89.3 per cent of the average number of wage earners were males 16 years of age and over; 8.7 per cent, females 16 years of age and over; and 2 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 the printing and publishing industry. Among the industries not shown in the table, the confectionery industry also employed a large number of women. These two industries combined reported four-fifths of all female employees 16 years of age and over. The printing and publishing industry also includes the larger part of the

small total number of wage earners under 16 years of age.

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	4,148	100.0	2,545	100.0	63.0
Proprietors and firm members	723	17.4	494	19.4	46.4
Salaried employees	636	15.3	206	11.6	114.9
Wage earners (average number)	2,789	67.2	1,755	69.0	58.9

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.)

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	2,789	100.0	1,755	100.0	1,358	100.0
16 years of age and over	2,732	98.0	1,720	98.0	1,324	97.5
Male	2,489	89.2	1,521	86.7	1,232	90.7
Female	243	8.7	199	11.3	92	6.8
Under 16 years of age	57	2.0	35	2.0	34	2.5

The present proportion of children is slightly less than it was 10 years ago; and while in 1909 the proportion of women employed was greater than in 1899, it was less than in 1904. In 1909 males 16 years of age and over formed 89.2 per cent of all wage earners, as compared with 86.7 per cent in 1904 and 90.7 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, for the brick and tile industry, and for all other industries combined; it also gives the percentage which the number reported for each month is of the greatest number reported for any month. In Table II, page 930, is shown, for practically all of the important industries in the state, the largest number and also 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.					
	All industries.		Brick and tile.		All other industries.	
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.
January	2,356	77.2	40	10.4	2,316	80.3
February	2,386	78.2	49	12.7	2,337	81.1
March	2,443	80.0	82	21.3	2,361	81.9
April	2,580	84.5	134	34.8	2,446	84.8
May	2,816	92.3	256	66.5	2,560	88.8
June	3,041	99.6	385	100.0	2,656	92.1
July	3,004	98.4	385	100.0	2,619	90.8
August	2,880	94.4	248	64.4	2,632	91.3
September	2,927	95.9	196	50.9	2,731	94.7
October	3,033	99.4	194	50.4	2,839	98.5
November	3,052	100.0	169	43.9	2,883	100.0
December	2,950	96.7	117	30.4	2,833	98.3

For all industries combined the number of wage earners employed was lowest in January and highest in November. Considerable irregularity in employment is shown, however, for the several months, which is due somewhat to the fluctuation in the number of wage earners employed in the brick and tile industry. During the first six months of the year there was a steady increase in the number of wage earners in this industry, from 40 in January to 385 in June and July. From this time the number fell continuously until in December it was 117. Outside of this industry the number of wage earners employed underwent no great change, the number increasing steadily from January to November, with the exception of July and August, when slightly smaller numbers were employed than in June.

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 some few employees work a greater or less number of hours.

Almost one-half of the total number of wage earners employed in the manufacturing industries of North Dakota were in establishments where the prevailing hours of labor were 60 per week or 10 per day; 3.9 per cent were reported in establishments where more than 60 hours per week prevail and 49.4 per cent in those where less than 60 hours per week prevail.

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	**2,789**	**423**	**186**	**542**	**227**	**1,303**	**59**	**30**	**19**
Bread and other bakery products	146	1	.....	2	33	108	2	.....	.....
Brick and tile	188	.....	.....	4	.....	184	.....	.....	.....
Butter, cheese, and condensed milk	62	7	.....	3	.....	50	.....	2	.....
Cars and general shop construction and repairs by steam-railroad companies	463	.....	124	216	.....	123	.....	.....	.....
Flour-mill and gristmill products	435	3	1	.....	3	348	52	28	.....
Leather goods	98	.....	.....	2	67	29	.....	.....	.....
Printing and publishing	788	377	46	268	58	39	.....	.....	.....
All other industries	609	35	15	47	66	422	5	.....	19

Location of establishments.—Fargo with 14,331 and Grand Forks with 12,478 inhabitants are the only cities which had a population of over 10,000 in 1910. Prior to this census there were no cities in the state having over 10,000 inhabitants. The 1909 totals given in Table I (p. 929) show that the two cities combined, although having slightly less than one-twentieth of the population of the state, reported nearly one-third of the total number of wage earners and almost one-fourth of the value of the manufactured products. In the former city the manufacture of saddlery and harness and the printing and publishing industry predominate. In Grand Forks the flour-mill and gristmill and printing and publishing industries are among the most important. Comparable data for earlier censuses are available for the city of Fargo only. The total value of manufactured products in this city, which showed a decrease from 1899 to 1904, increased 113.4 per cent from 1904 to 1909.

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 reporting, 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	**752**	**2,789**	**$19,137,506**	**$5,463,916**
1904	**507**	**1,755**	**10,217,914**	**3,121,928**
Individual:				
1909	472	775	3,555,937	1,561,752
1904	295	565	2,546,425	1,045,945
Firm:				
1909	112	233	1,570,604	483,322
1904	91	331	2,264,145	625,611
Corporation:				
1909	133	1,752	13,586,608	3,356,970
1904	81	826	5,146,817	1,407,935
Other:				
1909	35	29	424,357	61,872
1904	40	33	260,527	42,437
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Individual:				
1909	62.8	27.8	18.6	28.6
1904	58.2	32.2	24.9	33.5
Firm:				
1909	14.9	8.4	8.2	8.8
1904	17.9	18.9	22.2	20.0
Corporation:				
1909	17.7	62.8	71.0	61.4
1904	16.0	47.1	50.4	45.1
Other:				
1909	4.7	1.0	2.2	1.1
1904	7.9	1.9	2.5	1.4
Bread and other bakery products, 1909	**67**	**146**	**$600,621**	**$254,706**
Individual	55	96	485,369	179,328
Firm	9	10	52,185	23,931
Corporation	3	40	113,067	51,447
Per cent of total	100.0	100.0	100.0	100.0
Individual	82.1	65.8	72.5	70.4
Firm	13.4	6.8	8.7	9.4
Corporation	4.5	27.4	18.8	20.2

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Butter, cheese, and condensed milk, 1909	**68**	**62**	**$1,020,135**	**$137,806**
Individual	14	10	217,563	31,369
Firm	9	7	132,198	19,644
Corporation	16	18	267,249	33,390
Other	29	27	412,125	53,403
Per cent of total	100.0	100.0	100.0	100.0
Individual	20.6	16.1	21.1	22.8
Firm	13.2	11.3	12.8	14.3
Corporation	23.5	29.0	26.0	24.2
Other	42.6	43.5	40.0	38.8
Flour-mill and gristmill products, 1909	**84**	**435**	**$11,685,116**	**$1,630,202**
Individual	32	52	1,268,595	233,200
Firm	17	41	835,135	120,443
Corporation	35	342	9,581,386	1,276,559
Per cent of total	100.0	100.0	100.0	100.0
Individual	38.1	12.0	10.9	14.3
Firm	20.2	9.4	7.1	7.4
Corporation	41.7	78.6	82.0	78.3
Leather goods, 1909	**19**	**98**	**$683,273**	**$221,326**
Individual	11	14	106,442	39,897
Firm	5	8	30,510	16,134
Corporation	3	76	546,321	165,295
Per cent of total	100.0	100.0	100.0	100.0
Individual	57.9	14.3	15.6	18.0
Firm	26.3	8.2	4.5	7.3
Corporation	15.8	77.6	80.0	74.7
Printing and publishing, 1909	**330**	**788**	**$1,909,514**	**$1,469,733**
Individual	257	389	897,080	713,023
Firm	37	71	176,783	138,609
Corporation	31	327	829,231	611,850
Other	5	1	6,420	6,251
Per cent of total	100.0	100.0	100.0	100.0
Individual	77.9	49.4	47.0	48.5
Firm	11.2	9.0	9.3	9.4
Corporation	9.4	41.5	43.4	41.6
Other	1.5	0.1	0.3	0.4

From 1904 to 1909 the proportionate number of establishments under the different kinds of ownership shows no pronounced change, although in this respect there were small increases in the proportion of estab-

lishments under individual and corporate ownership and slight decreases in the proportion of those under other forms. In the average number of wage earners employed, however, in the value of products and in the value added by manufacture, establishments operated by corporations reported a much larger proportion of the total in 1909 than in 1904. In 1909, of the total value of products of the bakeries, 72.5 per cent was reported by establishments under individual ownership. In the manufacture of butter and cheese, "Other" forms of ownership showed the largest value of products, because of the large number of cooperative organizations which are peculiar to this industry. In the flour-mill and gristmill and in the leather industries four-fifths of the value of products were reported by corporations.

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.

This table shows that, in 1909, of the 752 establishments only 33, or 4.4 per cent, had a value of products exceeding $100,000. These establishments, however, had an average number of wage earners of 859, or 30.8 per cent of the total number in all establishments, and reported 58 per cent of the total value of products and 36.6 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, 50.8 per cent, of the total number of establishments, but the average number of wage earners employed in them represented only 12.6 per cent, the value of their products only 4.8 per cent, and the value added by manufacture only 12.1 per cent of the corresponding totals for the state.

The increase from $20,154 to $25,449 in the average value of products per establishment, and from $6,158 to $7,266 in average value added by manufacture per establishment, is due to the greater proportion of the totals shown for these items in the establishments having products valued at over $100,000. The average number of wage earners per establishment remained practically the same.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	752	2,789	$19,137,506	$5,463,916
1904	507	1,755	10,217,914	3,121,928
Less than $5,000:				
1909	382	351	915,406	658,537
1904	285	290	669,773	409,202
$5,000 and less than $20,000:				
1909	238	628	2,350,795	1,103,616
1904	132	439	1,262,776	641,385
$20,000 and less than $100,000:				
1909	99	951	4,767,125	1,703,216
1904	66	591	2,798,317	1,024,540
$100,000 and less than $1,000,000:				
1909 [1]	33	859	11,104,180	1,998,553
1904	24	435	5,487,048	886,801
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	50.8	12.6	4.8	12.1
1904	56.2	16.5	6.6	15.0
$5,000 and less than $20,000:				
1909	31.6	22.5	12.3	20.2
1904	26.0	25.0	12.4	20.5
$20,000 and less than $100,000:				
1909	13.2	34.1	24.9	31.2
1904	13.0	33.7	27.4	32.8
$100,000 and less than $1,000,000:				
1909 [1]	4.4	30.8	58.0	36.6
1904	4.7	24.8	53.7	31.6
Average per establishment:				
1909	.....	4	$25,449	$7,266
1904	.....	3	20,154	6,158
Bread and other bakery products, 1909	67	146	$600,621	$254,706
Less than $5,000	31	14	82,071	38,881
$5,000 and less than $20,000	30	68	290,463	124,193
$20,000 and less than $100,000	6	64	228,067	91,632
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	46.3	9.6	13.7	15.3
$5,000 and less than $20,000	44.8	46.6	48.4	48.8
$20,000 and less than $100,000	9.0	43.8	38.0	36.0
Average per establishment	.....	2	$8,964	$3,802
Butter, cheese, and condensed milk, 1909	68	62	$1,029,135	$137,806
Less than $5,000	10	7	30,705	7,031
$5,000 and less than $20,000	41	32	469,737	67,065
$20,000 and less than $100,000	17	23	528,693	63,710
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	14.7	11.3	3.0	5.1
$5,000 and less than $20,000	60.3	51.6	45.6	48.7
$20,000 and less than $100,000	25.0	37.1	51.4	46.2
Average per establishment	.....	1	$15,134	$2,027
Flour-mill and gristmill products, 1909	84	435	$11,685,116	$1,680,202
Less than $5,000	3	2	11,123	1,399
$5,000 and less than $20,000	22	14	282,066	46,980
$20,000 and less than $100,000	35	105	2,029,191	362,469
$100,000 and less than $1,000,000 [1]	24	314	9,362,736	1,218,884
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	3.6	0.5	0.1	0.1
$5,000 and less than $20,000	26.2	3.2	2.4	2.9
$20,000 and less than $100,000	41.7	24.1	17.4	22.2
$100,000 and less than $1,000,000 [1]	28.6	72.2	80.1	74.8
Average per establishment	.....	5	$139,100	$19,407
Leather goods, 1909	19	98	$683,273	$221,328
Less than $5,000	5	5	18,162	10,779
$5,000 and less than $20,000	11	24	112,975	45,931
$20,000 and less than $100,000 [2]	3	69	552,136	164,616
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	26.3	5.1	2.7	4.9
$5,000 and less than $20,000	57.9	24.5	16.5	20.8
$20,000 and less than $100,000 [2]	15.8	70.4	80.8	74.4
Average per establishment	.....	5	$35,962	$11,649
Printing and publishing, 1909	330	788	$1,909,514	$1,469,733
Less than $5,000	248	254	599,352	489,455
$5,000 and less than $20,000	69	246	559,883	439,454
$20,000 and less than $100,000 [2]	13	288	750,279	540,824
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	75.2	32.2	31.4	33.3
$5,000 and less than $20,000	20.9	31.2	29.3	29.9
$20,000 and less than $100,000 [2]	3.9	36.5	39.3	36.8
Average per establishment	.....	2	$5,786	$4,454

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

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 following table shows for 1909 such a classification for all industries combined and for seven important industries individually, 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	**752**	**125**	**537**	**64**	**21**	**3**	**2**			
Bread and other bakery products	67	17	46	3	1					
Brick and tile	13		5	6	2					
Butter, cheese, and condensed milk	68	8	60							
Cars and general shop construction and repairs by steam-railroad companies	5				1	2	2			
Flour-mill and gristmill products	84	12	51	15	5	1				
Leather goods	19		16	1	2					
Printing and publishing	330	60	248	17	5					
All other industries	166	28	111	22	5					
	AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**2,789**		**956**	**654**	**706**	**226**	**247**			
Bread and other bakery products	146		92	23	31					
Brick and tile	188		13	90	85					
Butter, cheese, and condensed milk	62		62							
Cars and general shop construction and repairs by steam-railroad companies	463				42	174	247			
Flour-mill and gristmill products	435		116	140	127	52				
Leather goods	98		22	9	67					
Printing and publishing	788		431	152	205					
All other industries	609		220	240	149					
	PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**100.0**		**34.3**	**23.4**	**25.3**	**8.1**	**8.9**			
Bread and other bakery products	100.0		63.0	15.8	21.2					
Brick and tile	100.0		6.9	47.9	45.2					
Butter, cheese, and condensed milk	100.0		100.0							
Cars and general shop construction and repairs by steam-railroad companies	100.0				9.1	37.6	53.3			
Flour-mill and gristmill products	100.0		26.7	32.2	29.2	12.0				
Leather goods	100.0		22.4	9.2	68.4					
Printing and publishing	100.0		54.7	19.3	26.0					
All other industries	100.0		36.1	39.4	24.5					

The per cent distribution of the number of establishments is not shown in this table; of the 752 establishments reported for all industries, 16.6 per cent employed no wage earners; 71.4 per cent, 1 to 5; 8.5 per cent, 6 to 20; and 2.8 per cent, 21 to 50. The most numerous single group consists of the 537 establishments employing 1 to 5 wage earners, and the next of the 125 establishments employing no wage earners.

Of the total number of wage earners, 34.3 per cent were in establishments employing from 1 to 5 wage earners; 23.4 per cent were in establishments employing from 6 to 20 wage earners; 25.3 per cent were in establishments employing from 21 to 50 wage earners; while 17 per cent were in the 5 establishments employing over 50 wage earners each.

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 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	**3.6**	**10.3**	**79.1**	**6.9**
Bread and other bakery products	3.4	16.9	69.2	10.4
Brick and tile	10.6	36.9	30.6	22.0
Butter, cheese, and condensed milk	0.8	4.7	91.5	2.9
Cars and general shop construction and repairs by steam-railroad companies	4.9	50.1	44.1	1.0
Flour-mill and gristmill products	1.8	2.6	91.3	4.4
Leather goods	7.2	8.6	75.3	8.9
Printing and publishing	11.1	38.5	31.7	18.6
All other industries	7.8	19.1	58.8	14.2

This table shows that, for all industries combined, 79.1 per cent of the total expenses was incurred for materials, 13.9 per cent for services—that is, salaries and wages—and but 6.9 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	**749**	**290**	**271**	**13,196**	**9,873**	**7,351**	**100.0**	**100.0**	**100.0**
Owned	442	290	271	12,004	9,586	7,197	91.0	97.1	97.9
Steam	169	147	128	10,170	8,619	5,930	77.1	87.3	80.7
Gas	265	136	127	1,304	645	759	9.9	6.5	10.3
Water wheels	8	6	16	530	318	506	4.0	3.2	6.9
Water motors	.....	1	(2)	.....	4	(3)	.....	(3)	(2)
Other	.....	.....	.....	.....	.....	2	.....	.....	(3)
Rented	307	(2)	(2)	1,192	287	154	9.0	2.9	2.1
Electric	307	(2)	(2)	1,164	281	127	8.8	2.8	1.7
Other	.....	.....	.....	28	6	27	0.2	0.1	0.4
Electric motors	**335**	**14**	**6**	**1,698**	**477**	**171**	**100.0**	**100.0**	**100.0**
Run by current generated by establishment	28	14	6	534	196	44	31.4	41.1	25.7
Run by rented power	307	(2)	(2)	1,164	281	127	68.6	58.9	74.3

[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 from 1904 to 1909 there was an increase of 3,323 in the total primary horsepower used in the state, almost one-half of which, 1,551 horsepower, was in power generated by steam engines, and more than one-fourth, or 905 horsepower, was in rented electric power. Water power also shows an increase of 208 horsepower. The more general use of gas engines is shown by the fact that the number of such engines in use in 1909 was 265, as compared with 136 in 1904, while the horsepower during the same period of years more than doubled. The horsepower represented by electric motors operated by rented power increased from 281 in 1904 to 1,164 in 1909. The number of motors run by rented power was not reported in 1904 or 1899, thus rendering impossible a comparison with the figures for 1909. In 1904, 97.1 per cent of the total horsepower was owned by the establishments reporting, compared with 91 per cent in 1909. This loss of 6.1 per cent in owned power was gained by power rented. The horsepower of the electric motors run by current generated in the manufacturing establishments increased from 44 in 1899 to 196 in 1904 and 534 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 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	**2,874**	**105,798**	**429**	**11,651**	**6,879**	**2,696**
Bread and other bakery products	225	872	24	1,709	36	445
Brick and tile	.....	22,871	.....	4,804	5	.....
Butter, cheese, and condensed milk	212	3,089	.....	67	20	.....
Cars, and general shop construction and repairs by steam-railroad companies	.....	26,051	.....	.....	.....	.....
Flour-mill and gristmill products	1,632	40,146	.....	4,216	940	14
Gas, illuminating and heating	6	8,772	136	.....	3,113	.....
Leather goods	47	63	.....	14	5	80
Printing and publishing	564	1,434	.....	59	943	1,768
All other industries	188	1,900	269	782	1,817	389

NOTE.—In addition, there were 3 tons of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries and custom 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 of this character for three important industries in North Dakota are here presented.

Flour-mill and gristmill products.—The tabular statement following gives the quantity and value of products for the last two census years.

From 1904 to 1909 there was an increase of 80.8 per cent in the value of products. While every product shared in this increase, the most important change was in the production of grits, which increased from 22,068 to 9,029,862 pounds. The value of wheat flour showed a gain of 63.9 per cent in 1909, compared with 1904, although its proportion of the total value of all products of the industry decreased from 85.3 per cent in 1904 to 77.3 per cent in 1909.

PRODUCT.	QUANTITY.		VALUE.	
	1909	1904	1909	1904
Total value			**$11,685,116**	**$6,463,228**
Wheat flour.....barrels..	1,825,920	1,223,219	9,034,418	5,513,554
White.....barrels..	1,816,738	1,221,416	8,996,038	5,506,935
Graham.....barrels..	9,182	1,803	38,380	6,619
Corn meal.....barrels..	1,626	.....	5,124	.....
Rye flour.....barrels..	153	50	581	300
Grits.....pounds..	9,029,862	22,068	261,844	417
Feed.....tons..	30,575	11,220	805,888	189,230
Offal.....tons..	76,357	52,904	1,554,283	755,846
All other products	.....	.....	22,978	3,881

Butter, cheese, and condensed milk.—There were only four cheese factories in 1904 and only one in 1909, and the value of their products, which was comparatively small at both censuses, is included under "All other products" in the following table:

PRODUCT.	QUANTITY AND VALUE.		
	1909	1904	1899
Total value	**$1,029,135**	**$562,481**	**$122,128**
Butter:			
Packed solid—			
Pounds	2,873,519	2,657,328	361,224
Value	$756,158	$485,758	$74,839
Prints or rolls—			
Pounds	810,160	355,823	101,964
Value	$225,197	$70,650	$20,393
Cream sold:			
Pounds	3,348	120	2,400
Value	$496	$12	$120
All other products	$47,284	$6,061	$26,776

There was an increase of 83 per cent in the total value of products from 1904 to 1909. This increase is due largely to an advance in the price of butter.

Printing and publishing.—The following shows the number of publications and the aggregate circulation per issue for 1909, 1904, and 1899, distributed according to period of issue.

In 1909 the aggregate circulation per issue of the newspapers and periodicals of the state combined was 372,642, which represents an increase of 51.7 per cent over the corresponding figure for 1904. Weekly publications had a circulation of 259,675 per issue.

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	**333**	**235**	**143**	**372,642**	**245,711**	**138,890**
Daily	12	9	9	56,954	21,458	18,021
Sunday	4	2	4	23,900	9,550	(1)
Semiweekly	1	3	2	613	5,060	7,100
Weekly	310	212	126	259,675	175,513	106,219
Monthly	5	6	2	26,000	19,030	7,550
All other classes	1	3	.....	5,500	14,500	.....

[1] Included in circulation of dailies.

Of the 333 newspapers and periodicals published in 1909, 310, or 93.1 per cent, were published weekly. There was an increase of three in the number of dailies from 1904 to 1909, and during the same period the combined total circulation of the daily publications increased 165.4 per cent. All of the publications were in the English language, except 10, 5 of which were in German, 2 in German and English, and 3 in Norwegian.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. There were 34 establishments in the state of North Dakota, 6 of which were in Fargo and 4 in Grand Forks.

The following statement summarizes the statistics:

Number of establishments	34
Persons engaged in the industry	503
Proprietors and firm members	39
Salaried employees	30
Wage earners (average number)	434
Primary horsepower	606
Capital	$444,817
Expenses	413,161
Services	208,492
Materials	102,412
Miscellaneous	102,257
Amount received for work done	548,175

Twenty establishments were operated by individuals, five by corporations, and nine by general partnerships. Six establishments had receipts for the year's business of less than $5,000; 17, $5,000 but less than $20,000; and 11, $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	394	85.7	July	457	99.3
February	400	87.0	August	460	100.0
March	435	94.6	September	445	96.7
April	437	95.0	October	430	93.5
May	417	90.7	November	446	97.0
June	440	95.7	December	451	98.0

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		606
Owned	32	500
Steam	29	485
Gas	3	15
Rented—Electric	26	106

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

KIND.	Unit.	Quantity.
Anthracite coal	Tons	161
Bituminous coal	Tons	5,888
Wood	Cords	1,767
Oil	Barrels	130
Gas	1,000 feet	1,840

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

Number of establishments	58
Persons engaged in the industry	79
Proprietors and firm members	60
Salaried employees	2
Wage earners (average number)	17
Primary horsepower	1,270
Capital	$168,192
Expenses	746,119
Services	8,860
Materials	[1] 730,458
Miscellaneous	6,801
Value of products	[1] 824,782

[1] Includes estimate of all grain ground.

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**	**752**	**4,148**	**723**	**636**	**2,789**	**13,196**	**$11,585**	**$629**	**$1,787**	**$13,674**	**$19,138**	**$5,464**
	1904	**507**	**2,545**	**494**	**296**	**1,755**	**9,873**	**5,704**	**258**	**1,031**	**7,096**	**10,218**	**3,122**
	1899	**337**	.....	.....	**152**	**1,358**	**7,351**	**3,512**	**130**	**671**	**4,151**	**6,260**	**2,109**
Bread and other bakery products	1909	67	242	74	22	146	88	337	17	84	346	601	255
	1904	39	137	43	8	86	14	107	6	44	184	311	127
	1899	11	49	12	.....	37	.....	21	.....	13	37	81	44
Brick and tile	1909	13	214	11	15	188	668	769	25	88	73	287	214
	1904	14	142	10	15	117	407	204	10	60	34	170	136
	1899	12	132	20	4	108	165	174	3	48	30	132	102
Butter, cheese, and condensed milk	1909	68	106	32	12	62	854	312	8	46	891	1,029	138
	1904	60	98	18	25	55	618	202	2	38	478	562	84
	1899	21	31	13	5	13	191	52	1	8	96	122	26
Cars and general shop construction and repairs by steam-railroad companies.	1909	5	494	.....	31	463	332	745	33	340	300	680	380
	1904	3	166	.....	20	146	98	137	19	102	81	202	121
	1899	3	133	.....	7	126	197	171	7	68	65	141	76
Flour-mill and gristmill products	1909	84	710	79	196	435	8,907	4,427	199	283	10,055	11,685	1,630
	1904	56	454	66	76	312	5,770	2,384	85	200	5,463	6,463	1,000
	1899	58	.....	.....	53	272	.....	1,144	46	149	3,102	3,850	748
Gas, illuminating and heating	1909	6	49	1	20	28	52	861	18	13	78	199	121
	1904	4	23	1	12	10	1,825	432	11	6	34	102	68
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing	1909	330	1,294	333	173	788	948	1,955	154	533	440	1,910	1,470
	1904	[2] 229	834	243	76	515	392	1,079	69	313	237	1,110	873
	1899	140	578	148	48	382	.....	626	42	177	170	720	550
Tobacco manufactures	1909	28	68	31	3	34	.....	53	1	20	37	98	61
	1904	27	60	30	.....	30	.....	35	.....	16	29	76	47
	1899	26	61	28	.....	33	.....	24	.....	17	26	69	43
All other industries	1909	151	971	162	164	645	1,347	2,126	174	380	1,454	2,649	1,195
	1904	75	631	83	64	484	749	1,124	56	252	556	1,222	666
	1899	66	.....	.....	35	387	.....	1,300	31	191	625	1,145	520

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

Fargo	1909	61	746	43	193	510	789	$2,077	$192	$325	$1,410	$2,477	$1,067
	1904	47	522	47	89	386	.....	884	76	219	555	1,161	606
	1899	36	.....	.....	37	307	.....	846	33	163	783	1,231	448
Grand Forks	1909	38	473	31	92	350	773	1,376	112	218	1,251	1,910	659
	[3] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

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**	**752**	**4,148**	**723**	**242**	**303**	**91**	**2,789**	No 3,052	Ja 2,356	(1)	(1)	(1)	(1)	(1)	**13,196**
2	Artificial stone	31	116	34	3	3	.....	76	Je[2] 138	Ja 10	119	119	.....	.....	.....	101
3	Bread and other bakery products	67	242	74	3	12	7	146	Jy 158	Mh 120	157	122	31	4	.....	88
4	Brick and tile	13	214	11	13	1	1	188	Je[2] 385	Ja 40	284	277	.....	7	.....	668
5	Butter, cheese, and condensed milk	68	106	32	10	.....	2	62	Je 72	Ja 49	67	66	.....	1	.....	854
6	Carriages and wagons and materials	3	12	3	.....	.....	.....	9	Mh[2] 10	Jy[2] 8	10	10	.....	.....	.....	14
7	Cars and general shop construction and repairs by steam-railroad companies.	5	494	.....	15	14	2	463	De 517	Ap 424	527	527	.....	.....	.....	332
8	Confectionery	3	127	.....	7	18	4	98	No 134	Ja[2] 82	115	45	70	.....	.....	60
9	Copper, tin, and sheet-iron products	8	82	6	5	6	2	63	Oc 78	Ja 41	66	66	.....	.....	.....	36
10	Flour-mill and gristmill products	84	710	79	75	99	22	435	Oc 560	Au 305	561	560	1	.....	.....	8,907
11	Fur goods	4	19	5	.....	.....	1	13	No[2] 22	Ap 7	22	5	17	.....	.....	7
12	Gas, illuminating and heating	6	49	1	10	7	3	28	My 32	Fe 23	28	28	.....	.....	.....	52
13	Leather goods	19	157	22	10	23	4	98	De 111	Jy[2] 94	111	110	.....	1	.....	93
14	Lumber and timber products	8	80	8	6	3	.....	63	No 77	Ja 40	71	71	.....	.....	.....	249
15	Marble and stone work	7	31	9	.....	6	1	15	Se 19	Ja[2] 8	16	16	.....	.....	.....	13
16	Patent medicines and compounds and druggists' preparations.	3	8	4	1	1	.....	2	Ja[3] 2	Jy[3] 2	2	2	.....	.....	.....	9
17	Printing and publishing	330	1,204	333	59	81	33	788	De 822	Mh 769	832	644	144	36	8	948
18	Tobacco manufactures	28	68	31	1	2	.....	34	No 43	Je 27	44	37	5	2	.....	.....
19	All other industries[4]	65	339	71	24	27	9	208	.....	.....	.....	.....	.....	.....	.....	765

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

Agricultural implements	2	Canning and preserving	1	Coffee and spice, roasting and grinding	1
Awnings, tents, and sails	1	Carpets, rag	1	Flax and hemp, dressed	6
Bluing	1	Cars and general shop construction and repairs by street-railroad companies	2		
Brooms	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.	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 horsepower.
1	FARGO	61	746	43	58	110	25	510	434	72	4	548	466	78	4	.....	789
2	GRAND FORKS	38	473	31	32	46	14	350	275	61	14	416	326	73	17	.....	773

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	**$11,584,747**	**$17,290,331**	**$320,815**	**$307,915**	**$1,787,405**	**$453,420**	**$13,220,170**	**$84,175**	**$75,612**	**$21,323**	**$1,019,496**		**$19,137,506**	**$5,463,916**
2	165,701	140,918	2,620	1,839	48,607	2,439	72,427	520	689	.....	11,777		183,769	108,903
3	337,417	499,541	4,940	12,248	84,491	18,350	327,565	11,090	3,891	.....	36,966		600,621	254,706
4	769,367	238,175	17,714	7,504	87,795	46,798	25,990	1,100	2,420	.....	48,854		286,921	214,133
5	312,246	973,917	7,502	450	45,943	13,890	877,439	1,530	2,087	77	24,999		1,029,135	137,806
6	23,685	15,165	.....	.....	6,940	787	6,700	.....	168	.....	570		18,885	11,398
7	744,651	679,613	20,085	13,070	340,186	58,925	240,620	.....	.....	.....	6,727		679,612	380,067
8	206,009	424,183	13,864	24,986	38,423	4,397	293,763	1,856	1,372	.....	45,522		454,516	156,356
9	204,719	238,723	6,408	8,327	40,502	1,304	126,140	1,500	1,026	.....	53,516		258,283	130,839
10	4,427,320	11,017,142	102,759	96,418	283,063	185,591	9,869,323	1,203	26,487	.....	452,298		11,685,116	1,630,202
11	51,827	37,679	.....	384	7,290	348	22,844	2,520	377	.....	3,916		48,011	24,819
12	860,894	132,823	11,747	5,919	13,162	56,983	20,849	500	6,156	2,767	14,740		198,633	120,801
13	526,881	613,507	18,100	26,069	52,947	3,537	458,410	5,380	3,373	.....	45,691		683,273	221,326
14	177,587	161,074	8,700	3,250	50,162	5,108	83,478	8	1,987	.....	8,381		186,645	98,059
15	96,402	76,648	.....	4,650	11,429	650	42,026	591	637	.....	16,665		96,150	53,474
16	6,673	9,442	600	1,012	1,312	96	5,466	60	42	140	714		11,451	5,889
17	1,955,261	1,386,077	76,345	78,036	533,432	42,888	396,893	45,378	15,147	17,856	180,102		1,909,514	1,469,733
18	52,565	69,970	300	1,090	20,102	365	37,070	2,021	6,165	.....	2,857		98,178	60,743
19	665,542	575,734	29,131	22,663	121,619	10,964	313,167	8,918	3,588	483	65,201		708,793	384,662

[1] All other industries embrace—Continued.

Food preparations	1	Leather, tanned, curried, and finished	2	Upholstering materials	2
Foundry and machine-shop products	12	Mattresses and spring beds	1	Wirework, including wire rope and cable	1
Hair work	1	Mineral and soda waters	26		
Hand stamps and stencils and brands	1	Show cases	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	$2,077,135	$2,232,000	$86,052	$105,565	$325,052	$57,371	$1,352,902	$17,075	$13,011	$17,301	$257,671		$2,476,845	$1,066,572
2	1,375,525	1,742,238	53,418	58,729	218,084	59,183	1,191,385	11,186	12,062	1,650	136,536		1,910,062	659,489

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OHIO.

INDUSTRIES IN GENERAL.

General character of the state.—Ohio, with a gross area of 41,040 square miles, of which 300 represent water surface, and a population in 1910 of 4,767,121, ranks thirty-fifth in area and fourth in population among the states of the Union. Its population was 4,157,545 in 1900 and 3,672,329 in 1890. In 1910 the density of population for the entire state was 117 per square mile, the corresponding figure for 1900 being 102.1. Fifty-five and nine-tenths per cent of the entire population of the state resided in 1910 in incorporated cities and villages having a population of 2,500 or over as against 48.1 per cent in 1900.

In 1910 eight cities in the state had a population of over 50,000, as follows: Cleveland, 560,663; Cincinnati, 363,591; Columbus, 181,511; Toledo, 168,497; Dayton, 116,577; Youngstown, 79,066; Akron, 69,067; and Canton, 50,217. There were also 29 cities having a population of over 10,000 but less than 50,000. (See table on page 944.) These 37 cities contained 45 per cent of the total population of the state and, excluding Lakewood, were credited in 1909 with 74.9 per cent of the total value of its manufactures. Apart from these cities, only 10.9 per cent of the population resided in incorporated places of 2,500 inhabitants or over.

The industrial prominence of Ohio is due in the main to its many natural resources, among the most important of which are a fertile soil, extensive hardwood forests, and abundant supplies of coal, natural gas, and petroleum. Furthermore, the splendid advantages afforded for transportation by water as well as by rail can not be overestimated. Lake Erie and the Erie Canal make a direct outlet to the Atlantic seaboard, and the western Great Lakes and the Sault Ste. Marie Canal furnish a water route to the Northwest states, while the Ohio River, which forms 436 miles of the southern boundary of the state, and its tributary, the Muskingum River, furnish communication with Pennsylvania and the states of the Mississippi Valley.

Two canals, one from Cleveland to Portsmouth and the other from Toledo to Cincinnati, connect Lake Erie with the Ohio River. In 1909 there were 9,079 [1] miles of main and branch lines of steam railroad within the borders of the state. The growth of interurban electric systems in the state has stimulated its manufactures and has added greatly to its facilities for local trade. Ohio is the fifth state of the Union in the mileage of steam railways and second in the mileage of electric railways.

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

Importance and growth of manufactures.—Although mining and agriculture are important, Ohio is largely a manufacturing state. Its early industrial development was due in part to its excellent location, since its manufactures received an impetus from the rapid settlement of the Mississippi Valley, which opened a market for manufactured products in which the Eastern states were unable to compete with success. The growth of manufactures in the state has been substantial. In 1849 the total value of products for Ohio, including the products of the neighborhood and hand industries, amounted to $62,692,279, while in 1909, exclusive of the value of the products of the neighborhood and hand industries, it reached $1,437,935,817, a figure about twenty-three times that of 60 years before. During the same period the population of the state increased 140.7 per cent and the gross value of products per capita of the total population of the state increased from $32 to $302. However, the proportion of the total value of the products of manufacturing industries in the United States which is contributed by Ohio has changed but slightly, having been 6.2 per cent in 1849 and 7 per cent in 1909. In 1849 an average of 51,491 wage earners, representing 2.6 per cent of the total population, were engaged in manufactures, and in 1909 an average of 446,934 wage earners, or 9.4 per cent of the total population, were so engaged. The state ranked fourth among the states of the Union in gross value of manufactured products at each census from 1849 to 1869. In 1879, however, it dropped to the fifth place, a position which it has retained at each subsequent census.

The first table on the following page 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 Ohio had 15,138 manufacturing establishments, which gave employment to an average of 523,004 persons during the year and paid out $317,597,000 in salaries and wages. Of the persons employed, 446,934 were wage earners. These establishments turned out products to the value of $1,437,936,000, to produce which materials costing $824,202,000 were utilized. The value added by manufacture was thus $613,734,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

The totals presented in the tables of this report do not include the statistics for an establishment operated by the Federal Government, the National Home for

Disabled Volunteer Soldiers, located outside the corporate limits of Dayton, in Montgomery County. In 1909 this establishment employed an average of 228 wage earners and turned out products, such as uniform clothing, underwear, and bedding, equivalent to $217,622 in value.

	Number or amount.			Per cent of increase.[1]	
	1909	1904	1899	1904–1909	1899–1904
Number of establishments	15,138	13,785	13,868	9.8	—0.6
Persons engaged in manufactures	523,004	417,946	(2)	25.1	.....
Proprietors and firm members	14,719	13,657	(2)	7.8	.....
Salaried employees	61,351	39,991	28,109	53.4	42.3
Wage earners (average number)	446,934	364,298	308,109	22.7	18.2
Primary horsepower	1,583,155	1,116,932	783,665	41.7	42.5
Capital	$1,300,733,000	$856,989,000	$570,909,000	51.8	50.1
Expenses	1,282,845,000	856,206,000	637,576,000	49.8	34.3
Services	317,597,000	225,864,000	164,579,000	40.6	37.2
Salaries	72,147,000	43,435,000	28,151,000	66.1	54.3
Wages	245,450,000	182,429,000	136,428,000	34.5	33.7
Materials	824,202,000	527,637,000	409,303,000	56.2	28.9
Miscellaneous	141,046,000	102,705,000	63,694,000	37.3	61.2
Value of products	1,437,936,000	960,812,000	748,671,000	49.7	28.3
Value added by manufacture (value of products less cost of materials)	613,734,000	433,175,000	339,368,000	41.7	27.6

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

[2] Figures not available.

In general, this table brings out the fact that the manufacturing industries of Ohio 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 9.8 per cent and the average number of wage earners 22.7 per cent, while the value of products increased 49.7 per cent and the value added by manufacture 41.7 per cent. As pointed out in the Introduction, it would be improper to infer that manufactures had increased in volume to the full extent indicated by these figures representing values, since a considerable part of the increase shown is certainly due to the increase that has taken place in the price of commodities during the period covered by the statistics. The only decrease shown in the table is in the number of establishments during the period 1899–1904, amounting to six-tenths of 1 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	**15,138**	**446,934**	**100.0**	**$1,437,936,000**	**100.0**	**$613,734,000**	**100.0**	**49.7**	**28.3**	**41.7**	**27.6**
Iron and steel, steel works and rolling mills	75	38,586	8.6	197,780,000	13.8	58,537,000	9.5	76.6	13.6	73.3	9.8
Foundry and machine-shop products	1,218	64,817	14.5	145,837,000	10.1	81,277,000	13.2	40.6	17.3	37.4	19.9
Iron and steel, blast furnaces	40	7,295	1.6	83,699,000	5.8	15,274,000	2.5	104.8	1.2	82.2	—50.2
Slaughtering and meat packing	158	3,086	0.7	50,804,000	3.5	6,457,000	1.1	74.3	40.4	68.0	39.2
Flour-mill and gristmill products	673	2,585	0.6	48,093,000	3.4	6,740,000	1.1	17.7	16.5	28.9	2.7
Printing and publishing	1,055	15,756	3.5	41,657,000	2.9	29,753,000	4.8	33.0	31.4	31.4	34.3
Automobiles, including bodies and parts	75	12,130	2.7	38,839,000	2.7	20,317,000	3.3	510.9	4,284.8	434.0	4,376.5
Lumber and timber products	1,390	13,456	3.0	34,597,000	2.4	14,625,000	2.4	5.1	0.3	—3.7	—3.2
Boots and shoes, including cut stock and findings	72	16,026	3.6	31,551,000	2.2	12,679,000	2.1	22.6	41.0	18.0	54.9
Tobacco manufactures	1,146	12,631	2.8	28,907,000	2.0	16,832,000	2.7	41.1	20.6	29.6	14.4
Cars and general shop construction and repairs by steam-railroad companies	71	20,728	4.6	28,690,000	2.0	14,424,000	2.4	33.9	65.1	28.8	59.8
Liquors, malt	105	4,356	1.0	25,332,000	1.8	18,769,000	3.1	17.2	19.0	19.8	12.2
Clothing, men's, including shirts	342	9,950	2.2	24,869,000	1.7	11,949,000	1.9	28.5	11.7	27.0	20.0
Bread and other bakery products	1,467	5,972	1.3	23,007,000	1.6	9,341,000	1.5	47.1	58.7	41.9	48.6
Carriages and wagons and materials	407	8,815	2.0	21,949,000	1.5	10,535,000	1.7	—8.6	5.3	—5.5	4.9
Pottery, terra-cotta, and fire-clay products	186	16,519	3.7	21,173,000	1.5	14,712,000	2.4	14.1	56.5	7.2	59.2
Clothing, women's	153	8,843	2.0	19,493,000	1.4	9,202,000	1.5	52.2	64.7	52.5	81.6
Copper, tin, and sheet-iron products	221	6,598	1.5	19,086,000	1.3	7,464,000	1.2	102.7	75.1	83.3	87.6
Electrical machinery, apparatus, and supplies	115	8,073	1.8	18,777,000	1.3	11,551,000	1.9	70.4	69.4	82.8	99.6
Soap	44	1,774	0.4	17,077,000	1.2	5,416,000	0.9	44.8	.....	59.5	.....
Paper and wood pulp	47	4,673	1.0	16,965,000	1.2	6,067,000	1.0	54.8	67.5	26.2	73.3
Furniture and refrigerators	228	8,232	1.8	16,259,000	1.1	9,017,000	1.5	17.6	45.3	8.9	51.3
Stoves and furnaces, including gas and oil stoves	102	7,274	1.6	15,358,000	1.1	9,058,000	1.5	50.7	.....	46.4	.....
Agricultural implements	55	5,997	1.3	14,440,000	1.0	8,121,000	1.3	12.0	—7.8	12.8	—9.0
Glass	45	10,159	2.3	14,358,000	1.0	9,670,000	1.6	59.1	98.5	56.2	87.9
Paint and varnish	87	1,535	0.3	13,617,000	1.0	5,047,000	0.8	59.6	27.2	88.7	3.3
Liquors, distilled	17	374	0.1	12,011,000	0.8	9,497,000	1.5	—24.8	28.4	—24.4	14.2
Coffee and spice, roasting and grinding	39	762	0.2	11,224,000	0.8	2,947,000	0.5	12.7	70.2	26.4	104.4
Petroleum, refining	10	1,659	0.4	10,754,000	0.8	2,669,000	0.4	—1.8	30.4	—20.6	48.1
Leather, tanned, curried, and finished	36	1,884	0.4	10,128,000	0.7	2,408,000	0.4	55.5	25.7	17.4	45.7

[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.

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
Butter, cheese, and condensed milk	325	1,067	0.2	$9,690,000	0.7	$2,005,000	0.3	111.0	20.6	132.1	14.6
Brick and tile	517	7,466	1.7	9,358,000	0.7	7,154,000	1.2	31.1	54.1	30.0	50.8
Tin plate and terneplate	4	676	0.2	7,889,000	0.5	734,000	0.1	.....	.....	.....	.....
Chemicals	33	1,132	0.3	7,742,000	0.5	2,994,000	0.5	68.7	28.4	88.7	6.4
Woolen, worsted, and felt goods, and wool hats	20	2,566	0.6	7,690,000	0.5	3,074,000	0.5	114.4	26.9	112.0	26.6
Confectionery	114	2,493	0.6	7,307,000	0.5	3,218,000	0.5	55.1	23.2	31.9	34.0
Brass and bronze products	82	2,232	0.5	6,572,000	0.5	3,039,000	0.5	96.4	46.0	68.6	43.7
Cars, steam-railroad, not including operations of railroad companies	6	2,282	0.5	6,451,000	0.4	2,256,000	0.4	16.5	40.5	3.4	89.7
Hosiery and knit goods	39	3,149	0.7	6,433,000	0.4	2,582,000	0.4	60.9	152.2	41.9	134.8
Paper goods, not elsewhere specified	28	2,040	0.5	6,307,000	0.4	2,873,000	0.5	58.7	47.6	34.4	63.4
Sewing machines, cases, and attachments	4	3,831	0.9	5,972,000	0.4	3,454,000	0.6	53.8	32.8	66.1	40.8
Patent medicines and compounds and druggists' preparations	261	905	0.2	5,859,000	0.4	3,971,000	0.6	−20.5	52.2	−24.4	54.6
Safes and vaults	10	2,014	0.5	5,488,000	0.4	3,326,000	0.5	12.1	103.3	16.8	121.6
Cutlery and tools, not elsewhere specified	70	2,820	0.6	5,036,000	0.4	3,386,000	0.6	41.2	46.1	46.5	47.1
Leather goods	86	1,890	0.4	4,939,000	0.3	2,080,000	0.3	−9.3	19.4	−17.2	40.4
Canning and preserving	107	2,009	0.4	4,660,000	0.3	1,558,000	0.3	3.8	38.3	−13.0	36.0
Fertilizers	27	841	0.2	4,435,000	0.3	1,900,000	0.3	93.8	38.1	110.4	41.1
Musical instruments, pianos and organs and materials	30	1,841	0.4	3,926,000	0.3	2,004,000	0.3	6.6	153.9	−2.7	177.9
Marble and stone work	108	2,012	0.5	3,847,000	0.3	2,397,000	0.4	−20.9	59.0	−23.4	62.5
Boxes, fancy and paper	46	2,530	0.6	3,635,000	0.3	1,704,000	0.3	70.4	51.5	60.6	34.6
Oil, linseed	4	213	(2)	3,627,000	0.3	546,000	0.1	51.1	−23.0	106.0	17.3
Gas and electric fixtures and lamps and reflectors	56	1,437	0.3	3,503,000	0.2	1,786,000	0.3	177.5	22.8	123.2	27.6
Cooperage and wooden goods, not elsewhere specified	113	1,663	0.4	3,516,000	0.2	1,300,000	0.2	−1.2	36.3	−18.3	26.5
Mattresses and spring beds	38	961	0.2	3,307,000	0.2	1,625,000	0.3	44.0	135.5	79.8	128.3
Gas, illuminating and heating	38	666	0.1	3,080,000	0.2	2,253,000	0.4	−36.0	22.4	−35.0	13.8
Coffins, burial cases, and undertakers' goods	24	1,245	0.3	3,061,000	0.2	1,737,000	0.3	21.3	40.1	28.9	45.1
Flags, banners, regalia, society badges, and emblems	13	1,262	0.3	3,026,000	0.2	1,517,000	0.2	34.1	25.7	22.9	57.4
Pumps, not including steam pumps	20	897	0.2	2,747,000	0.2	1,476,000	0.2	308.8	248.2	225.1	340.8
Millinery and lace goods	31	1,357	0.3	2,744,000	0.2	1,285,000	0.2	360.4	8.8	317.2	37.5
Cordage and twine and jute and linen goods	8	791	0.2	2,728,000	0.2	744,000	0.1	−16.1	9.9	1.6	15.8
Bags, paper	8	557	0.1	2,393,000	0.2	755,000	0.1	58.2	110.4	35.3	168.3
Bicycles, motorcycles, and parts	6	942	0.2	2,308,000	0.2	1,242,000	0.2	121.7	−74.6	112.7	−68.4
Ice, manufactured	97	892	0.2	2,270,000	0.2	1,706,000	0.3	86.5	108.7	84.4	107.9
Firearms and ammunition	5	813	0.2	2,215,000	0.2	924,000	0.2	15.4	130.8	32.0	162.2
Clocks and watches, including cases and materials	9	1,456	0.3	1,981,000	0.1	1,455,000	0.2	6.0	27.4	26.0	16.4
Cars, street-railroad, not including operations of railroad companies	4	734	0.2	1,955,000	0.1	861,000	0.1	6.9	239.8	13.4	147.2
Ink, printing	8	183	(2)	1,907,000	0.1	1,098,000	0.2	44.6	86.6	20.4	174.7
Salt	8	648	0.1	1,807,000	0.1	717,000	0.1	54.7	42.8	42.0	28.2
Explosives	11	358	0.1	1,719,000	0.1	615,000	0.1	−6.7	38.6	8.3	2.0
Cars and general shop construction and repairs by street-railroad companies	49	1,318	0.3	1,691,000	0.1	890,000	0.1	883.1	−30.9	660.7	−24.5
Lime	39	1,273	0.3	1,620,000	0.1	1,022,000	0.2	21.4	.....	27.4	.....
Grindstones	9	1,277	0.3	1,498,000	0.1	1,113,000	0.2	189.7	−42.9	197.6	−46.5
Cement	9	887	0.2	1,465,000	0.1	827,000	0.1	−2.9	.....	−15.1	.....
Artificial stone	299	802	0.2	1,378,000	0.1	879,000	0.1	209.0	.....	215.1	.....
Butter, reworking	5	47	(2)	1,356,000	0.1	128,000	(2)	28.7	.....	−33.0	.....
Liquors, vinous	29	149	(2)	1,304,000	0.1	586,000	0.1	−2.3	66.5	−9.0	72.7
Shoddy	4	438	0.1	1,257,000	0.1	515,000	0.1	1.5	−16.2	77.0	−27.4
Jewelry	35	356	0.1	1,255,000	0.1	636,000	0.1	92.2	−24.4	50.0	21.5
Dairymen's, poulterers', and apiarists' supplies	18	479	0.1	1,149,000	0.1	622,000	0.1	34.9	.....	43.6	.....
Belting and hose, leather	8	107	(2)	1,080,000	0.1	285,000	(2)	43.4	−9.9	40.4	2.5
Umbrellas and canes	15	287	0.1	1,005,000	0.1	398,000	0.1	20.6	67.9	15.4	72.5
Wall plaster	23	259	0.1	935,000	0.1	501,000	0.1	−9.8	.....	−23.5	.....
Coke	4	246	0.1	851,000	0.1	211,000	(2)	228.6	1.6	137.1	−23.9
Hats and caps, other than felt, straw, and wool	25	406	0.1	804,000	0.1	382,000	0.1	25.2	−36.1	3.2	14.2
Boxes, cigar	31	531	0.1	711,000	(2)	351,000	0.1	6.3	3.7	19.0	−3.3
Blacking and cleansing and polishing preparations	49	103	(2)	672,000	(2)	375,000	0.1	342.1	−3.2	316.7	(3)
Models and patterns, not including paper patterns	74	441	0.1	670,000	(2)	511,000	0.1	73.6	−5.2	55.8	−0.9
Show cases	14	349	0.1	668,000	(2)	361,000	0.1	−10.8	296.3	−17.0	302.8
Screws, machine	6	324	0.1	598,000	(2)	420,000	0.1	−24.6	.....	−14.6	.....
Photo-engraving	20	277	0.1	576,000	(2)	467,000	0.1	79.4	38.4	63.9	54.1
All other industries	1,586	53,162	11.9	185,872,000	12.9	82,608,000	13.5	.....	.....	.....	.....

[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.
[2] Less than one-tenth of 1 per cent.
[3] Value added by manufacture the same both years.

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 foregoing table specifies 90 industries or industry groups which had in 1909 a product in excess of $500,000 in value. Of these industries there are 4 whose product exceeds $50,000,000 in value; 8, with a product between $25,000,000 and $50,000,000 in value; and 18, with a product between $10,000,000 and $25,000,000 in value, making an aggregate of 30 industries each of which had a product exceeding $10,000,000 in value. Mention is also made of 14 other industries with a product between $5,000,000 and $10,000,000 in value; 37, with a product of $1,000,000 to $5,000,000 in value; and 9, with a product between $500,000 and $1,000,000 in value.

Of the industries included under the head of "All other industries," rubber goods, "not elsewhere specified," which covers the manufacture of rubber tires, clothing, mats, type, springs, tubing, brushes, bands, etc., is the most important. It is shown separately for 1909 in Table II, page 984, but comparative statistics for the different census years can not be given on account of changes in classification. The classification as used at the census of 1904 was "Rubber and elastic goods," but in 1909 the same classes of establishments were distributed and included with other establishments under two headings: "Rubber goods, not elsewhere specified," and "Suspenders, garters, and elastic woven goods," the latter being a subclass of men's furnishing goods. A total of 37 establishments in the state were engaged primarily during 1909 in the manufacture of rubber goods, employing an average of 10,382 wage earners and turning out products valued at $53,911,000. These figures represent 2.3 per cent of the wage earners and 3.7 per cent of the products reported for all industries in the state combined. This industry ranked fourth in 1909, as measured by value of products, among the industries in the state, having grown decidedly during recent years, mainly on account of the increased demand for rubber tires, the value of which represented over one-half of the total value of products reported for the industry.

In addition to the industries presented separately in the foregoing table and the manufacture of rubber goods, there are 34 important industries in the state which had a value of product in 1909 in excess of $1,000,000, distributed as follows: Twenty-nine, with $1,000,000 but less than $5,000,000; 3, with $5,000,000 but less than $10,000,000; and 2, with $10,000,000 and over.[1] 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 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; and for 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. However, for several of these industries, namely, the manufacture of babbitt metal and solder, woven and rubber belting and hose, brooms, brushes, men's furnishing goods, shipbuilding, including boat building, and the manufacture of signs and advertising novelties, the statistics for 1909 are presented separately in Table II, page 984.

The first 11 industries noted in the preceding table represent about one-half of the gross value of manufactured products in the state, but there are a 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 of the 264 classifications used for compiling statistics of manufactures for 1909 in the United States, 218 were represented in Ohio. The leading products of the state for which comparable figures are presented are those of steel works and rolling mills, foundries and machine shops, blast furnaces, and slaughtering and meat-packing establishments. Fourteen industries or groups of industries important in Ohio call for special consideration.

Iron and steel.—The steel works and rolling mills and the blast furnaces rank first and third, respectively, among the industries of the state. With these may be grouped, for convenience of presentation, the tin-plate and terneplate industry. Combined, the three allied industries gave employment in 1909 to an average of 46,557 wage earners, and turned out products valued at $289,368,000, or 10.4 per cent and 20.1 per cent of the respective totals for all manufactures in the state. These figures also represent an increase over 1899 in the number of wage earners of 12,183, or 35.4 per cent, and in the value of products of $144,409,000, or 99.6 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, as well as the few forges and bloomeries which are still extant. Blast furnaces include establishments engaged in the manufacture of pig iron from the ore.

The plating of sheet metal with tin or with terne mixture (an alloy of lead and tin) is treated as a separate industry, notwithstanding the fact that nearly all of the establishments so engaged roll their plates. 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, Ohio ranks second among the states of the Union in the combined industries, and also in each of the two leading branches, and third in tin plate and terneplate, contributing $197,780,000, or 20.1 per cent of the total value reported in 1909 for all steel works and rolling mills in the United States; $83,699,000, or 21.4 per cent of the total for all blast furnaces; and $7,889,000, or 16.4 per cent of the total for all tin-plate and terneplate mills. In the value of products each of the three industries showed remark-

[1] These industries are:

Awnings, tents, and sails.
Babbitt metal and solder.
Bags, other than paper.
Belting and hose, woven and rubber.
Brooms.
Brushes.
Carriages and sleds, children's.
Cash registers and calculating machines.
Clothing, horse.
Cordials and sirups.
Flavoring extracts.
Food preparations.
Furnishing goods, men's.
Galvanizing.
Grease and tallow.
House-furnishing goods, not elsewhere specified.
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.
Iron and steel forgings.
Iron and steel pipe, wrought.
Locomotives, not made by railroad companies.
Matches.
Mineral and soda waters.
Oil, cottonseed, and cake.
Oilcloth and linoleum.
Roofing materials.
Scales and balances.
Shipbuilding, including boat building.
Signs and advertising novelties.
Stationery goods, not elsewhere specified.
Waste.
Wire.
Wirework, including wire rope and cable.
Wood, turned and carved.

able gains from 1899 to 1909, the largest percentage of increase, 107.3 per cent, being shown for blast furnaces. Ohio is not important in the production of iron ore, but the output of the great ore mines of the Lake Superior region is handled largely at the state's lake ports and the necessary coke required for the operation of blast furnaces is readily procurable from the near-by Connellsville (Pa.) ovens.

Foundry and machine-shop products.—Products of great diversity enter into the group of foundry and machine-shop products, which includes not only the output of general foundries and machine shops, but also that of establishments engaged in the manufacture of bells, gas machines and gas and water meters, hardware, plumbers' supplies, steam fittings and heating apparatus, structural ironwork, and cast-iron and cast-steel pipe, all of which, with the exception of the last named, were shown under separate headings at the census of 1904. The foundry and machine-shop industry in its broadest sense is of even greater importance in the state than is indicated by the statistics placed under this specific title, for the reason that some machine shops manufacture a special product, such as locomotives, electrical machinery, stoves and furnaces, cash registers and calculating machines, 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 machinery and appliances for handling coal, ore, dirt, and stone, and the manufacture of steam boilers, air and gas compressors and pumping machinery, cast-iron pipe and fittings, and structural and ornamental ironwork. The foundry and machine-shop industry gave employment to an average of 64,817 wage earners in 1909, which was 14.5 per cent of the total reported for all manufactures, and was the largest number shown for any of the industries specified in the table. The total value of products, $145,837,000, in 1909 was $42,124,000, or 40.6 per cent, more than that reported in 1904. Ohio is the third state of the Union in manufactures of this class.

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 slaughter a large number of animals. The earliest packing houses in the state were flatboats on the Ohio River, and, as early as 1803 beef and pork were shipped from Cincinnati to New Orleans.[1] The pioneer establishment of the western packing industry, as now understood, was founded in Cincinnati about 1818.[2] Cincinnati has long been the chief center of the slaughtering and meat-packing industry in the state, but the proportion of the total value of such products for the state which this city contributed has been growing smaller during the last decade, being 49.9 per cent in 1899, 46.3 per cent in 1904, and 38 per cent in 1909. Cleveland ranked second, with products in 1909 valued at $17,192,000, or 33.8 per cent of the total for the industry in the state. The value of products for this industry in Ohio increased from $20,768,000 in 1899 to $29,155,000 in 1904, and $50,804,000 in 1909, when the total was $30,036,000, or 144.6 per cent, greater than in 1899. The percentages of increase during the five-year period 1904–1909 in value of products and value added by manufacture were nearly twice as great as during the preceding five-year period, 1899–1904. Of the 158 establishments reported for the industry as a whole in 1909, 68 were engaged in both wholesale slaughtering and meat packing, 69 in slaughtering only, and 21 in the manufacture of sausage only, the value of the output of these three branches representing 83.4 per cent, 14.6 per cent, and 2 per cent, respectively, of the total value for the combined industry. For the last two censuses Ohio has ranked eighth among the states in this industry, having risen from ninth place in 1899.

Flour-mill and gristmill products.—The statistics for all merchant mills grinding wheat, rye, buckwheat, corn, or other grain are included in this classification. It does not, however, include factories making fancy cereals or other food preparations as a chief product or mills doing custom grinding exclusively, the statistics for the latter mills being presented separately on page 968. Flour and grist milling is one of the oldest industries in Ohio, flour having been sent to New Orleans from this state as early as 1803.[1] Owing to the large quantities of cereals raised in Ohio and its close proximity to the other great grain-growing states, this industry has retained its prominence among the manufacturing industries of the state. As early as 1849 there were 1,062 flour mills and gristmills in the state and the total output was valued at $14,372,000. In 1899 the value of the output had reached $35,078,000, an increase for the 50 years of $20,706,000, or 144.1 per cent. The value of flour-mill and gristmill products was $40,856,000 in 1904 and $48,093,000 in 1909, representing an increase of $5,778,000, or 16.5 per cent, for the five-year period 1899–1904, and one of $7,237,000, or 17.7 per cent, for the five-year period 1904–1909. Notwithstanding these gains, the rank of Ohio among the states in this industry, as measured by value of products, dropped from third place in 1899 to fourth place in 1904 and to fifth place in 1909.

Clothing.—While neither the manufacture of men's clothing nor of women's clothing is among the first twelve industries of Ohio, the two industries considered together had a combined output for 1909 valued at $44,362,000, which was more than that reported for printing and publishing, the sixth industry presented separately in the preceding table.

[1] The Journal of a Tour into the Territory Northwest of the Allegheny Mountains in the year 1803, by T. M. Harris, p. 146.

[2] Philip D. Armour, in One Hundred Years of American Commerce, vol. 2, p. 383.

The increase in value of products from 1904 to 1909 was $12,212,000, or 38 per cent, and that from 1899 to 1904, $7,065,000, or 28.2 per cent. In 1849 Ohio, with a total of $2,765,232, which includes the value of the output for custom tailoring, dressmaking, and repairing establishments, was the fourth state in the Union in the manufacture of clothing, as measured by value of products. At the census of 1889, when the first attempt was made to segregate the statistics in order to show separately the establishments manufacturing clothing under the factory system, the output was valued at $25,525,751, Ohio was the fifth state of the United States in the combined industries, but it advanced to fourth place in 1899 and has retained this position at each subsequent census. The value of men's clothing has represented more than half of the total value of all clothing manufactured at each census year, but since 1889 the proportion which was contributed by this branch has decreased constantly. The manufacture of women's clothing has increased rapidly; the total value was $4,352,000 in 1889, $7,773,000 in 1899, and $19,493,000 in 1909.

Printing and publishing.—Under this head are included job-printing establishments, the printing and publishing of books, newspapers and periodicals, and of music, bookbinding and blank-book making, steel engraving, and lithographing. Of the 1,655 establishments reported in 1909, a larger number than was shown for any other single industry in the state (890) were engaged primarily in printing and publishing newspapers and periodicals and employed an average of 6,462 wage earners and reported products valued at $21,453,000. These totals represent increases over the corresponding figures for 1904 of 4.3 per cent in wage earners and 30.7 per cent in the value of products. The industry as a whole shows an advance of 33 per cent in the value of products from 1904 to 1909, which was slightly more than the relative gain shown for the preceding five-year period. The absolute increase in the value of products from 1904 to 1909 was $10,330,000, and from 1899 to 1904 was $7,494,000.

Automobiles, including bodies and parts.—This classification includes, besides the articles mentioned in the industry designation, the manufacture of automobile accessories, but this latter branch of the industry covers a wide field and is to a considerable extent interwoven with other industries. A number of foundries and machine shops incidentally manufactured automobile accessories and parts, and a number of establishments classified under the head of "Rubber goods, not elsewhere specified," manufactured automobile tires. Furthermore, many electrical attachments and motors for automobiles were made in establishments engaged in the general manufacture of electrical machinery, apparatus, and supplies, and considerable quantities of brass fixtures used in connection with the manufacture of automobiles were produced in establishments engaged primarily in the manufacture of brass and bronze products. The decided growth from 1904 to 1909 of each of these three industries was due in large measure to the remarkable development in the automobile industry. In 1899 there were only three establishments in the state engaged in the manufacture of automobiles, and the total value of their products for that year was only $145,000. In 1904, 22 establishments, with products valued at $6,358,000, were reported, while in 1909 there were 75 establishments the output of which was valued at $38,839,000. Measured by value of products, Ohio was, in 1899, the sixth state in the Union in the manufacture of automobiles, but advanced to second place in 1904, a position which was retained in 1909. The proportion which Ohio contributed of the total value of products reported for the automobile industry in the United States was 3.1 per cent in 1899, 21.2 per cent in 1904, and 15.6 per cent in 1909.

Liquors.—The manufacture of distilled, malt, and vinous liquors forms a very important group of industries in Ohio. The combined output for 1909 was valued at $38,647,000, and $28,852,000 (including $12,560,000 for internal-revenue tax) was added to the materials by the process of manufacture. These figures, however, represent decreases over the corresponding totals for 1904 of seven-tenths of 1 per cent and one-tenth of 1 per cent, respectively. Of the three industries comprising this group, the manufacture of malt liquors was by far the most important, the total output being valued at $25,332,000 in 1909, an increase over 1904 of $3,711,000, or 17.2 per cent. This gain was not large enough to overcome the losses of the other two industries in this group in respect to value of products. The value of distilled liquors was $12,011,000 in 1909 and $15,977,000 in 1904, showing a decrease of $3,966,000, or 24.8 per cent, for the five-year period. The value of vinous liquors, the least important of the liquor group, was $1,304,000 in 1909, showing a decrease compared with 1904 of $31,000, or 2.3 per cent. In 1909 Ohio ranked sixth among the states of the Union in the manufacture of malt liquors, fifth in distilled liquors, and third in vinous liquors.

Lumber and timber products.—This industry includes the timber plants whose chief products are logs, as well as the sawmills, shingle mills, and planing mills which produce rough and dressed lumber, lath, shingles, cooperage stock, sash, doors, blinds, interior finishing, and other millwork, and also wooden packing-box factories. The industry as a whole has been practically at a standstill in Ohio during the last decade, 1899–1909, the total output for 1909 being valued at $34,597,000, compared with $32,926,000 for 1904 and $32,812,000 for 1899. The timber and sawmill branch of the industry shows quite a decline for this 10-year period, which, however, was offset by the increased production of the planing mills and

the packing-box factories. The 1,390 establishments reported in 1909 for the entire industry were distributed as follows: 411 independent planing mills, reporting 54.1 per cent of the value of products; 900 sawmills and timber plants, reporting 37.2 per cent; and 79 packing-box factories, reporting 8.7 per cent. The corresponding percentages of the total value of products contributed by these three branches in 1899 were 33.7, 60.3, and 6, respectively.

Boots and shoes, including cut stock and findings.—Of the 72 establishments included in this classification in 1909, 63 were engaged primarily in the manufacture of boots and shoes, 5 in the production of boot and shoe findings, and 4 in the manufacture of boot and shoe cut stock. There is some overlapping between these three branches, which makes it desirable to combine them in presenting these statistics. In 1849 there were 805 establishments reported for this industry in Ohio, with an output valued at $2,328,896, but it was not until recent years that the industry showed its most marked development. In 1899 the output of this class of establishments was valued at $18,246,000, in 1904 it was $25,735,000, and in 1909 it reached $31,551,000, an increase for the decade of $13,305,000, or 72.9 per cent, and for the more recent five-year period, 1904–1909, of $5,816,000, or 22.6 per cent. Of the total value of products reported for the industry in the United States, these figures represented 6.3 per cent in 1899, 7.2 per cent in 1904, and 6.2 per cent in 1909, Ohio ranking fourth, third, and fifth, respectively, at the three censuses.

Clay products.—The total output of pottery, terra-cotta, and fire-clay products and brick and tile reported for 1909 was valued at $30,531,000, an increase over 1904 of $4,844,000, or 18.9 per cent, and over 1899 of $14,050,000, or 85.2 per cent. The importance of Ohio in the manufacture of clay products is due very largely to the development of its extensive deposits of suitable clays. In 1909 Ohio ranked first among the states of the Union in this industry, contributing 18.1 per cent of the total value of products in the United States, the proportion for 1904 having been 19 per cent and for 1899, 17.3 per cent. The manufacture of pottery, terra-cotta, and fire-clay products, in which Ohio outranks all other states, is by far the most important branch of the clay manufactures in the state, the value of the output having been 69.3 per cent of the total for the combined industries in 1909, 72.2 per cent in 1904, and 71.9 per cent in 1899. There were 248 such establishments in the state in 1899, and the total output was valued at $11,851,000, whereas in 1904 there were 205, with products valued at $18,551,000, and in 1909, 186, with products valued at $21,173,000. In the manufacture of brick and tile Ohio ranks second among the states, a position which it has held for a number of years.

Tobacco manufactures.—The statistics included in this industry include those for the establishments engaged in the manufacture of chewing and smoking tobacco and snuff, as well as the cigar and cigarette factories. The industry in the state, if measured by number of plants, seems to be very largely confined to the latter class of establishments, for of the 1,146 reported for the entire industry in 1909, 1,124 were cigar and cigarette factories, but the value of their output represented only about half of the total. For the industry as a whole, the total value of the product in 1909 was $28,907,000, an increase over 1904 of $8,418,000, or 41.1 per cent, the absolute gain being more than double that for the preceding five-year period. Ohio ranked fifth in 1909, when measured by value of products, among the states of the Union in this class of manufacture.

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. Although the number of establishments decreased from 91 in 1899 to 71 in 1909, chiefly through the elimination of a few roundhouses which were included in the prior census, the value of the work performed increased from $12,975,000 to $28,690,000 during that period. The growth of the industry, however, as measured by the value of products, during the five years 1904–1909, was slightly less than during the preceding five-year period. In 1909 employment was given to an average of 20,728 wage earners, this being the third largest number reported by any of the industries of the state specified in the table, and representing an increase over the number reported in 1899 of 9,194, or 79.7 per cent.

Carriages and wagons and materials.—This classification includes establishments which made five or more horse-drawn vehicles during the year, as well as those engaged in the manufacture of carriage or wagon bodies, tops, and other parts and accessories. In contrast to the great increase noted in the automobile industry from 1904 to 1909, there has been a decline in the manufacture of carriages and wagons during the same period. While the value of products of this industry increased from $22,803,000 in 1899 to $24,003,000 in 1904, it decreased to $21,949,000 in 1909, a loss of 8.6 per cent in the last five years. As this decrease was general throughout the country, Ohio retained first place among the states of the Union in this class of manufactures.

In the table on pages 934 and 935 statistics are presented for five other industries which, though not among the leading ones of the state, are noteworthy in that Ohio ranks first among the states in each when measured by the value of products. These industries, together with the percentage contributed by Ohio in 1909 of the total value for each in the United States, are: Stoves and furnaces, including gas and oil stoves, 19.5 per cent; safes and vaults, 64.6 per cent; flags,

banners, regalia, society badges, and emblems, 37.3 per cent; pumps, not including steam pumps, 49.2 per cent; and grindstones, 88.7 per cent. Ohio holds second place among the states in the manufacture of glass; sewing machines and attachments; mattresses and spring beds; coffins, burial cases, and undertakers' goods; bicycles, motorcycles, and parts; street-railroad cars; printing ink; lime; and machine screws.

The rank of the industries when measured by value added by manufacture differs considerably from the rank by value of products, which is the order in which they are shown in the table on pages 934 and 935. Of all the industries listed in the table, only five hold the same position when ranked according to the value added by manufacture. Noticeable changes in rank are found in the case of tin plate and terneplate, which drops from thirty-third place in gross value to seventy-first place in added value; in linseed oil, which falls from fifty-first to seventy-seventh place; in slaughtering and meat packing, which drops from fourth to twenty-fifth place; and in the manufacture of flour-mill and gristmill products, which falls from fifth to twenty-fourth place. On the other hand, the manufacture of patent medicines and compounds advances from forty-second to twenty-ninth place; the manufacture of cutlery and tools, from forty-fourth to thirty-first; liquor distilling, from twenty-seventh to sixteenth; and the manufacture of safes and vaults, from forty-third to thirty-second.

The table on pages 934 and 935 also shows the percentages of increase or decrease for each industry in respect to value of products and value added by manufacture in all cases where comparative figures are presented in Table I. Several of the industries show exceptionally large percentages of increase during both of the five-year periods, while others show marked decreases. From 1904 to 1909 the largest increases in both items are shown for street-railroad repair shops; for the manufacture of automobiles; millinery and lace goods; blacking and cleansing and polishing preparations; and pumps, not including steam pumps. From 1899 to 1904 the largest gains in both items are shown for the manufacture of automobiles, including bodies and parts; show cases; pumps, not including steam pumps; street-railroad cars; musical instruments; and hosiery and knit goods.

The largest percentage of increase in value of products during the more recent five-year period was 883.1 in street-railroad repair shops, and for the preceding five-year period was 4,284.8 in the manufacture of automobiles, including bodies and parts. In value of products 15 of the 90 industries presented separately in the table show a decrease from 1904 to 1909, and 11 a decrease from 1899 to 1904, while in value added by manufacture decreases are shown for 17 industries from 1904 to 1909, and for 10 from 1899 to 1904. The largest relative decreases in value of products from 1904 to 1909 were in the manufacture of illuminating and heating gas (36 per cent), and in the manufacture of distilled liquors (24.8 per cent).

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	**523,004**	**439,811**	**83,193**
Proprietors and officials	31,213	30,341	872
Proprietors and firm members	14,719	14,141	578
Salaried officers of corporations	6,371	6,258	113
Superintendents and managers	10,123	9,942	181
Clerks	44,857	34,101	10,756
Wage earners (average number)	446,934	375,369	71,565
16 years of age and over	441,690	372,694	68,996
Under 16 years of age	5,244	2,675	2,569

The average number of persons engaged in manufactures during 1909 was 523,004, of whom 446,934 were wage earners. Of the remainder, 31,213 were proprietors and officials and 44,857 were clerks. Corresponding figures for individual industries will be found in Table II, page 984.

The next 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 40 important industries individually.

Of the total number of persons engaged in all manufacturing industries, 6 per cent were proprietors and officials, 8.6 per cent clerks, and 85.5 per cent wage earners. The highest percentage of proprietors and officials shown for any industry, 51.9, was for establishments engaged in the manufacture of butter, cheese, and condensed milk. In this, as well as in the flour-mill and gristmill industry and in the manufacture of bread and other bakery products, 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 these industries falling into the class of proprietors and officials is very much higher than for the other industries shown separately or for all industries combined. Somewhat analogous conditions prevail in the lumber industry and in printing and publishing, in which proprietors and officials formed 13.6 per cent and 12.1 per cent, respectively, of the total number of persons engaged in each industry.

Tin-plate and terneplate mills, steam-railroad repair shops, glass factories, and steel works and rolling mills which are for the most part large establishments, show very small proportions of proprietors and officials.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number)
All industries	**523,004**	**6.0**	**8.6**	**85.5**
Agricultural implements	6,972	3.2	10.8	86.0
Automobiles, including bodies and parts	13,458	2.3	7.6	90.1
Boots and shoes, including cut stock and findings	17,607	2.5	6.5	91.0
Brass and bronze products	2,650	6.9	8.8	84.2
Bread and other bakery products	8,758	20.1	11.7	68.2
Brick and tile	8,575	10.9	2.1	87.1
Butter, cheese, and condensed milk	2,494	51.9	5.3	42.8
Carriages and wagons and materials	10,350	8.2	6.6	85.2
Cars and general shop construction and repairs by steam-railroad companies	22,102	1.5	4.7	93.8
Cars, steam-railroad, not including operations of railroad companies	2,477	3.4	4.5	92.1
Chemicals	1,346	5.7	10.2	84.1
Clothing, men's, including shirts	11,813	5.1	10.6	84.2
Clothing, women's	10,191	3.6	9.6	86.8
Coffee and spice, roasting and grinding	1,586	6.5	45.5	48.0
Confectionery	3,012	6.7	10.6	82.8
Copper, tin, and sheet-iron products	7,685	5.9	8.2	85.9
Electrical machinery, apparatus, and supplies	9,605	3.8	12.1	84.0
Flour-mill and gristmill products	4,164	28.0	9.9	62.1
Foundry and machine-shop products	74,887	4.5	8.9	86.6
Furniture and refrigerators	9,449	5.7	7.2	87.1
Glass	10,630	1.8	2.6	95.6
Hosiery and knit goods	3,412	3.4	4.3	92.3
Iron and steel, blast furnaces	8,278	2.5	9.4	88.1
Iron and steel, steel works and rolling mills	41,912	1.9	6.0	92.1
Leather, tanned, curried, and finished	2,028	4.3	2.8	92.9
Liquors, distilled	434	6.7	7.1	86.2
Liquors, malt	5,275	7.0	10.4	82.6
Lumber and timber products	16,445	13.6	4.6	81.8
Paint and varnish	2,587	9.8	30.9	59.3
Paper and wood pulp	4,972	2.6	3.4	94.0
Paper goods, not elsewhere specified	2,264	4.2	5.7	90.1
Petroleum, refining	2,039	2.1	16.6	81.4
Pottery, terra-cotta, and fire-clay products	17,751	3.0	3.9	93.1
Printing and publishing	22,754	12.1	18.6	69.2
Slaughtering and meat packing	3,864	8.1	12.1	79.9
Soap	2,280	4.9	17.3	77.8
Stoves and furnaces, including gas and oil stoves	8,352	3.6	9.4	87.1
Tin plate and terneplate	742	1.3	7.5	91.1
Tobacco manufactures	14,681	10.3	3.7	86.0
Woolen, worsted, and felt goods, and wool hats	2,711	2.4	3.0	94.7
All other industries	120,412	6.1	9.8	84.1

Among the industries shown separately in the table, the largest proportion of wage earners, 95.6 per cent, was reported for the glass factories, while the smallest, 42.8 per cent, was for the manufacture of butter, cheese, and condensed milk. Among the industries specified, the roasting and grinding of coffee and spice shows the largest proportion of clerks, 45.5 per cent.

The next table 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.

For all industries combined, 83.4 per cent of the average number of wage earners were males 16 years of age and over; 15.4 per cent, females 16 years of age and over; and 1.2 per cent, children under the age of 16. The larger part of the total number of female wage earners 16 years of age and over was made up of those employed in the boot and shoe, clothing, hosiery and knit-goods, and pottery industries, printing and publishing, and tobacco manufactures. In the manufacture of hosiery and knit goods over three-fourths of the wage earners were women 16 years of age and over; in the manufacture of men's clothing and women's clothing and in tobacco manufactures, about two-thirds; in the boot and shoe industry, over two-fifths; in printing and publishing, nearly one-fourth; and in the pottery industry, nearly one-fifth. In the manufacture of confectionery and in the woolen and worsted goods industry the proportion of female wage earners was also large, being 59.5 per cent and 59.3 per cent, respectively.

The boot and shoe, men's clothing, confectionery, glass, hosiery and knit-goods, pottery, woolen and worsted goods industries, printing and publishing, and the manufacture of copper, tin, and sheet-iron products include the larger part of the total number of wage earners under 16 years of age. Of this class of employees the largest absolute number, 552, was in the boot and shoe industry, and the largest proportion, 10.1 per cent, in the manufacture of confectionery.

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	**446,934**	**83.4**	**15.4**	**1.2**
Agricultural implements	5,997	99.1	0.7	0.2
Automobiles, including bodies and parts	12,130	98.6	1.1	0.2
Boots and shoes, including cut stock and findings	16,026	55.5	41.0	3.4
Brass and bronze products	2,232	97.5	2.2	0.3
Bread and other bakery products	5,972	80.7	18.5	0.9
Brick and tile	7,466	99.3	(2)	0.7
Butter, cheese, and condensed milk	1,067	89.7	9.0	1.3
Carriages and wagons and materials	8,815	96.8	2.7	0.6
Cars and general shop construction and repairs by steam-railroad companies	20,728	99.8	0.2	(2)
Cars, steam-railroad, not including operations of railroad companies	2,282	99.6	0.4	.....
Chemicals	1,132	96.4	3.6	.....
Clothing, men's, including shirts	9,950	30.0	66.5	3.5
Clothing, women's	8,843	35.0	63.6	1.3
Coffee and spice, roasting and grinding	762	49.7	50.1	0.1
Confectionery	2,493	30.4	59.5	10.1
Copper, tin, and sheet-iron products	6,598	78.7	16.3	5.0
Electrical machinery, apparatus, and supplies	8,073	67.6	31.5	0.9
Flour-mill and gristmill products	2,585	96.0	4.0	.....
Foundry and machine-shop products	64,817	98.3	1.3	0.4
Furniture and refrigerators	8,232	96.7	2.4	0.9
Glass	10,159	87.6	8.2	4.3
Hosiery and knit goods	3,149	16.5	76.5	7.0
Iron and steel, blast furnaces	7,295	100.0	(2)	.....
Iron and steel, steel works and rolling mills	38,586	99.2	0.8	(2)
Leather, tanned, curried, and finished	1,884	99.5	0.5	.....
Liquors, distilled	374	97.3	2.7	.....
Liquors, malt	4,356	99.8	0.2	(2)
Lumber and timber products	13,456	98.8	1.1	0.2
Paint and varnish	1,535	88.5	11.5	0.1
Paper and wood pulp	4,673	84.5	15.4	0.1
Paper goods, not elsewhere specified	2,040	47.8	51.5	0.7
Petroleum, refining	1,659	98.7	1.0	0.3
Pottery, terra-cotta, and fire-clay products	16,519	79.9	19.0	1.0
Printing and publishing	15,756	73.7	24.9	1.4
Slaughtering and meat packing	3,086	97.8	2.2	.....
Soap	1,774	74.0	24.2	1.8
Stoves and furnaces, including gas and oil stoves	7,274	99.5	0.3	0.2
Tin plate and terneplate	676	85.6	14.3	.....
Tobacco manufactures	12,631	32.3	66.8	0.9
Woolen, worsted, and felt goods, and wool hats	2,566	31.9	59.3	8.8
All other industries	101,286	80.2	18.3	1.5

[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.

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 classifica-

tion 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	523,004	100.0	417,946	100.0	25.1
Proprietors and firm members	14,719	2.8	13,657	3.3	7.8
Salaried employees	61,351	11.7	39,991	9.6	53.4
Wage earners (average number)	446,934	85.5	364,298	87.2	22.7

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

The following table shows the average number of wage earners, 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	446,934	100.0	364,298	100.0	308,109	100.0
16 years of age and over	441,690	98.8	359,203	98.6	304,050	98.7
Male	372,694	83.4	303,828	83.4	258,778	84.0
Female	68,996	15.4	55,375	15.2	45,272	14.7
Under 16 years of age	5,244	1.2	5,095	1.4	4,059	1.3

This table indicates that for all industries combined there has been an increase during the 10 years in the number of children under 16 years of age employed, although in 1909 the proportion which such employees formed of all wage earners engaged in manufactures was less than in 1904. There has been little change during the decade in the proportion of male and female wage earners. In 1909 and 1904 males 16 years of age and over formed 83.4 per cent of all wage earners, as compared with 84 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; 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 984, is shown, for practically all of the important industries in the state, the largest number and also 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.

There were no seasonal industries of importance which gave employment to large numbers of persons at certain seasons of the year only. Most of the industries showed comparatively little fluctuation throughout the year in the number of wage earners employed. The greatest relative variation was in the foundry and machine-shop industry, in which the minimum number, 57,555, was employed in January, and the maximum number, 74,069, in December. The steel works and rolling mills had the next largest relative variation, with a minimum of 33,845 wage earners in February and 45,151 in December. For all industries combined, the smallest number, 414,278, was employed in the month of January. The number increased steadily month by month until July, when a slight decrease occurred. Thereafter the number increased constantly until in December 480,405 wage earners were employed, the largest number reported for any month. The difference between the figures for the months of greatest and of least activity was thus 66,127, or 13.8 per cent of the maximum.

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January	414,278	86.2	July	435,241	90.6
February	421,945	87.8	August	448,898	93.4
March	432,343	90.0	September	465,351	96.9
April	432,828	90.1	October	474,448	98.8
May	436,450	90.8	November	476,023	99.1
June	444,998	92.6	December	480,405	100.0

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. 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.

It is evident from the figures that for the great majority of wage earners employed in the manufacturing industries of Ohio the prevailing hours of labor range from 54 to 60 a week, only 13.7 per cent of the total being employed in establishments where the prevailing hours were less than 54 a week, and only 7.6 per cent in establishments where they were more than 60 a week.

It will be noted that for the wage earners in 33 of the 89 industries shown separately in the table the most common period of employment was a week of between 54 and 60 hours, while in 32 industries the most common period was a week of 60 hours. The largest proportion of wage earners shown in the first of these groups was for the manufacture of flags and banners and in the second for liquor distilling, the proportions being 88.8 per cent and 90.1 per cent, respectively. The majority of wage earners engaged in the manufacture of cement, and illuminating and heating gas, and in blast furnaces were employed in establishments where the prevailing hours of labor were over 72 per week, while in the manufacture of malt liquors and in photo-engraving, the prevailing hours for the greater part of the wage earners were 48 or less per week.

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	**446,934**	**31,977**	**29,296**	**88,915**	**130,852**	**131,853**	**14,484**	**8,714**	**10,843**
Agricultural implements	5,997	195	1,294	387	2,354	1,767			
Artificial stone	802	34	13	170	71	514			
Automobiles, including bodies and parts	12,130	2	64	4,469	6,055	1,051		489	
Bags, paper	557			134	367	56			
Belting and hose, leather	107			1	54	52			
Bicycles, motorcycles, and parts	942			209	54	679			
Blacking and cleansing and polishing preparations	103	42	1	33	4	22		1	
Boots and shoes, including cut stock and findings	16,026	190	305	2,608	9,106	3,817			
Boxes, cigar	531	89	84	97	139	122			
Boxes, fancy and paper	2,530	112	430	339	1,208	441			
Brass and bronze products	2,232	30	36	831	1,114	94	127		
Bread and other bakery products	5,972	589	149	1,007	512	3,244	299	132	40
Brick and tile	7,466	355	65	852	529	5,576	22		67
Butter, cheese, and condensed milk	1,067	64	9	27	53	401	470	11	27
Canning and preserving	2,009	208	18	79	149	1,555			
Carriages and wagons and materials	8,815	641	651	1,634	1,993	3,896			
Cars and general shop construction and repairs by steam-railroad companies	20,728	1,718	2,660	3,057	6,273	4,094	1,509		1,417
Cars and general shop construction and repairs by street-railroad companies	1,318	2		50	331	381	550		4
Cars, steam-railroad, not including operations of railroad companies	2,282		121	279	1,830	52			
Cars, street-railroad, not including operations of railroad companies	734				488	246			
Cement	887	19				122			746
Chemicals	1,132	2		3	164	586	13	34	330
Clocks and watches, including cases and materials	1,456			25	173	1,258			
Clothing, men's, including shirts	9,950	1,300	2,023	5,428	1,090	109			
Clothing, women's	8,843	456	1,146	5,242	1,952	47			
Coffee and spice, roasting and grinding	762	46	87	133	252	244			
Coffins, burial cases, and undertakers' goods	1,245		255	226	640	124			
Coke	246	31				3	212		
Confectionery	2,493	322	342	280	280	1,266		3	
Cooperage and wooden goods, not elsewhere specified	1,663	181	476	256	269	479	2		
Copper, tin, and sheet-iron products	6,598	549	167	1,384	1,250	3,000			248
Cordage and twine and jute and linen goods	791				637	154			
Cutlery and tools, not elsewhere specified	2,820	40	11	118	2,007	644			
Dairymen's, poulterers', and apiarists' supplies	479			20	111	129	219		
Electrical machinery, apparatus, and supplies	8,073	20	1,086	2,430	3,071	1,452		14	
Explosives	358	19		106		233			
Fertilizers	841			60	26	755			
Firearms and ammunition	813		48	48	700	17			
Flags, banners, regalia, society badges, and emblems	1,262	4	5	77	1,121	55			
Flour-mill and gristmill products	2,585	207	53	56	60	1,571	378	253	1
Foundry and machine-shop products	64,817	809	2,508	11,087	28,233	21,845	314	21	
Furniture and refrigerators	8,232	196	345	1,266	2,660	3,765			
Gas and electric fixtures and lamps and reflectors	1,437	39	201	452	462	136	147		
Gas, illuminating and heating	666	128	2		37	2	36	8	453
Glass	10,159	1,797	2,279	1,726	2,501	1,139	652	65	
Grindstones	1,277			71	94	1,112			
Hats and caps, other than felt, straw, and wool	406	3	112	268	2	21			
Hosiery and knit goods	3,149	10	45	921	1,019	1,154			
Ice, manufactured	892	8			47	109	140	152	436
Ink, printing	183		121	25		37			
Iron and steel, blast furnaces	7,295						606	1	6,688
Iron and steel, steel works and rolling mills	38,586	1,483	44	5,442	7,260	13,352	6,296	4,709	
Jewelry	356	28	54	231	40	3			
Leather goods	1,890	24	24	465	861	515		1	
Leather, tanned, curried, and finished	1,884	95	1	815	367	606			
Lime	1,273	1	10	115	27	865	48	26	181
Liquors, distilled	374	12		25		337			
Liquors, malt	4,356	2,309	1	1,479	89	471	7		
Liquors, vinous	149	4	2	10		133			
Lumber and timber products	13,456	704	358	2,802	2,238	7,348	2	4	
Marble and stone work	2,012	341	61	478	19	1,001	44	68	
Mattresses and spring beds	961	59	205	68	451	178			
Millinery and lace goods	1,357	432	469	346	102	8			
Models and patterns, not including paper patterns	441	1	151	106	152	31			
Musical instruments, pianos and organs and materials	1,841		3	219	782	837			
Oil, linseed	213						88	125	
Paint and varnish	1,535	53	267	198	520	497			
Paper and wood pulp	4,673				468	1,498	1,233	1,456	18
Paper goods, not elsewhere specified	2,040	40	19	853	200	928			
Patent medicines and compounds and druggists' preparations	905	163	167	177	311	86		1	
Petroleum, refining	1,659			480	30	1,122	19	8	
Photo-engraving	277	262	15						
Pottery, terra-cotta, and fire-clay products	16,519	2,143	2,660	3,838	1,058	6,703	117		
Printing and publishing	15,756	6,888	1,951	4,670	1,486	744	18		
Pumps, not including steam pumps	897	3	70	39	725	60			
Safes and vaults	2,014		89	217	1,617	91			
Salt	648	21		57	110	127	93	240	
Screws, machine	324			45	33	246			
Sewing machines, cases, and attachments	3,831			623	1,657	1,551			
Shoddy	438					170	268		
Show cases	349			42	111	191	5		
Slaughtering and meat packing	3,086	26	6	484	90	2,333	67	80	
Soap	1,774	9		30	1,209	526			
Stoves and furnaces, including gas and oil stoves	7,274	336	350	1,539	3,116	1,933			
Tin plate and terneplate	676			461	137	78			
Tobacco manufactures	12,631	4,327	2,431	938	2,806	2,113	10	3	3
Umbrellas and canes	287		48	37	193	9			
Wall plaster	259		5	17	13	224			
Woolen, worsted, and felt goods, and wool hats	2,566	2	6		1,990	568			
All other industries	53,209	1,754	2,617	13,598	19,032	14,742	473	809	184

Location of establishments.—The following table shows the extent to which the manufactures of Ohio are centralized in cities of 10,000 population or over. (See Introduction.) Statistics for Lakewood, a city having over 10,000 inhabitants in 1909, are not included in the city group, but are shown in those for districts outside of cities so as to avoid disclosing the operations of individual establishments.

ITEM.	Year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 AND OVER.								DISTRICTS OUTSIDE OF CITIES 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	4,767,121	2,130,013	44.7	345,803	7.3	393,371	8.3	1,390,839	29.2	2,637,108	55.3
	1900	4,157,545	1,512,007	36.4	305,089	7.3	241,866	5.8	965,052	23.2	2,645,538	63.6
Number of establishments	1909	15,138	8,765	57 9	1,366	9.0	1,208	8.0	6,191	40.9	6,373	42.1
	1899	13,868	6,990	50.4	1,299	9.4	1,034	7.5	4,657	33.6	6,878	49.6
Average number of wage earners	1909	446,934	323,359	72.4	53,624	12.0	67,960	15.2	201,775	45.1	123,575	27.6
	1899	308,109	220,141	71.4	40,530	13.2	42,794	13.9	136,817	44.4	87,968	28.6
Value of products	1909	$1,437,935,817	$1,077,616,658	74.9	$156,321,801	10.9	$284,178,542	19.8	$637,116,315	44.3	$360,319,159	25.1
	1899	748,670,855	540,823,420	72.2	84,434,579	11.3	108,630,809	14.5	347,758,032	46.4	207,847,435	27.8
Value added by manufacture	1909	613,733,870	471,430,081	76.8	68,825,229	11.2	108,036,558	17.6	294,568,294	48.0	142,303,789	23.2
	1899	339,368,354	251,523,607	74.1	40,462,166	11.9	48,808,752	14.4	162,252,689	47.8	87,844,747	25.9

In 1909, 74.9 per cent of the total value of products for all manufacturing industries in the state were reported from cities having over 10,000 inhabitants, and 72.4 per cent of the average number of wage earners were employed in such cities. During the 10 years from 1899 to 1909 the industries located in cities have gained somewhat on those in the remainder of the state. It should be understood that the places which had less than 10,000 inhabitants each in 1900 but more than that number in 1910, namely, Norwood, Alliance, Elyria, Middletown, Lancaster, Bellaire, Cambridge, and Warren, are included in the 1899 statistics for the districts outside of cities. The total value of products reported for these eight cities in 1909 was $64,845,752, or 4.5 per cent of the total value for the state. If, therefore, the statistics for these cities in 1909 were eliminated from the totals of the cities having a population of 10,000 or over and added to those having less than 10,000 inhabitants, the proportion of the aggregate value of products credited to the former group would be 70.4 per cent and that credited to the latter 29.6 per cent, which figures represent the relative proportions of the total value of manufactured products for the state contributed by the same areas that are compared in the total for the prior census.

The composition of each of the groups of cities having more than 10,000 inhabitants has been affected by changes in the population of the different cities during the decade. In 1900 Hamilton, Lima, Lorain, Newark, and Zanesville had less than 25,000 inhabitants, but during the following decade the population of each increased, so that all now belong to the group comprising cities having between 25,000 and 100,000 inhabitants. Dayton had less than 100,000 in 1900, but it so gained in population that in 1910 it was included with Cleveland, Cincinnati, Columbus, and Toledo in the group of cities having more than 100,000 inhabitants.

Although each of the three groups into which the cities having over 10,000 inhabitants are divided shows a substantial absolute increase during the 10-year period in average number of wage earners, value of products, and value added by manufacture, the group comprising the cities having between 10,000 and 25,000 inhabitants had for each of these items a smaller proportion of the total in 1909 than 1899; the group having 100,000 and over had a smaller proportion of the value of products but a larger proportion of the wage earners and value added by manufacture; while the group comprising cities having between 25,000 and 100,000 inhabitants had larger proportions in each item. These changes are, of course, due in the main to the shifting of the cities among the different groups. Of the total value of products shown in the state at the census of 1909, 10.9 per cent was reported from the 22 cities (Lakewood excluded) having between 10,000 and 25,000 inhabitants, and 19.8 per cent from the 9 cities having between 25,000 and 100,000, and 44.3 per cent from the 5 cities having more than 100,000 inhabitants.

The population in 1910 and 1900 of the 37 cities which had 10,000 or more inhabitants in 1910 is given in the following table:

CITY.	1910	1900	CITY.	1910	1900
Cleveland	560,663	381,768	Ashtabula	18,266	12,949
Cincinnati	363,591	325,902	Marion	18,232	11 862
Columbus	181,511	125,560	Norwood	16,185	6,480
Toledo	168,497	131,822	Lakewood	15,181	3,355
Dayton	116,577	85,333	Alliance	15,088	8,974
Youngstown	79,066	44,885	Findlay	14,858	17,613
Akron	69,067	42,728	Elyria	14,825	8,791
Canton	50,217	30,667	Chillicothe	14,508	12,976
Springfield	46,921	38,253	Massillon	13,879	11,944
Hamilton	35,279	23,914	Piqua	13,388	12,172
Lima	30,508	21,723	Middletown	13,152	9,215
Lorain	28,883	16,028	Ironton	13,147	11,868
Zanesville	28,026	23,538	Lancaster	13,093	8,991
Newark	25,404	18,157	Bellaire	12,946	9,912
Portsmouth	23,481	17,870	Marietta	12,923	13,348
Steubenville	22,391	14,349	Tiffin	11,894	10,989
Mansfield	20,768	17,640	Cambridge	11,327	8,241
East Liverpool	20,387	16,485	Warren	11,081	8,529
Sandusky	19,989	19,664			

The relative importance in the manufactures of each of the foregoing cities (except Lakewood) 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, as far as comparative figures are available:

CITY.[1]	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Cleveland [2]	84,728	64,041	55,341	$271,960,833	$171,923,636	$139,355,508
Cincinnati	60,192	58,584	54,942	194,515,692	166,059,050	141,677,997
Youngstown [2]	10,498	8,095	8,679	81,270,747	46,853,307	33,908,459
Akron [2]	15,831	9,626	8,259	73,158,206	33,559,243	22,015,643
Toledo [2]	18,878	15,697	12,747	61,229,542	44,501,292	31,976,094
Dayton	21,549	17,093	14,408	60,378,376	39,596,773	31,015,293
Columbus [2]	16,428	14,350	13,787	49,031,872	39,530,132	34,748,433
Lorain	6,697	3,102	2,233	38,986,996	14,491,091	9,481,388
Canton	9,964	5,938	5,149	28,582,811	10,591,143	9,575,473
Steubenville	4,267	4,184	1,773	21,187,127	12,369,677	4,547,049
Springfield [2]	7,405	6,258	6,299	19.246,141	13,381,767	12.115,941
Hamilton [2]	6,895	6,107	5,147	18,183,693	13,810,901	10,655,486
Middletown	2,576	1,814	1,578	16,516,785	8,537,993	5,800,095
Bellaire	2,597	2,183	1,928	10,091,554	10,712,438	8,837,646
Norwood	3,907	(3)	(3)	9,684,332	(3)	(3)
Zanesville [2]	3,150	3,098	3,405	9,144,953	6,347,387	5,708,137
Mansfield	3,204	3,021	2,622	8,172,911	7,353,578	6,076,124
Elyria	2,673	1,144	638	8,064,914	2,933,450	1,221,250
Newark	3,913	3,627	2,075	7,851,118	5,612,587	2,879,368
Lima [2]	3,607	2,733	1,980	7,753,877	4,827,556	6,222,432
Portsmouth [2]	3,728	4,072	4,153	7,276,893	6,645,112	6,658,441
Ironton	1,920	1,800	1,577	7,118,259	4,755,304	5,410,528
Piqua	2,683	2,044	1,955	6,930,672	4,035,706	5,552,184
East Liverpool	4,873	5,228	4,171	6,629,076	6,437,090	4,749,165
Alliance [2]	2,524	1,442	1,486	6,135,429	3,546,689	3,202,730
Warren	1,798	1,505	1,832	5,988,174	4,414,379	4,584,603
Sandusky	2,118	2,323	1,453	5,946,853	4,878,563	2,833,506
Marion	2,619	1,721	1,171	5,666,976	3,227,712	2,425,883
Massillon	1,934	1,995	1,474	4,787,772	3,707,013	2,748,999
Chillicothe	1,674	1,553	1,112	4,345,224	3,146,890	1.615,959
Cambridge	1,230	814	768	4,290,560	2,440,917	2,201,573
Lancaster [2]	1,532	1,695	1,069	4,074,004	3,848,269	1,905,350
Findlay	1,376	1,343	1,107	3,486,793	2,925,309	1,685,418
Ashtabula	1,471	846	373	3,458,612	1,895,454	884,413
Tiffin	1,632	1,645	1,238	3,254,328	2,434,502	1,901,962
Marietta	1,288	1,314	1,511	3,214,553	2,599,287	2,398,137

[1] Exclusive of Lakewood, to avoid disclosure of the operations of individual establishments.
[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.

Every city for which comparative statistics are given, except Bellaire, shows an increase in the value of products from 1904 to 1909, and all but Lima, Portsmouth, Ironton, Piqua, and Warren an increase from 1899 to 1904. The percentages of increase, however, were generally greater from 1904 to 1909 than from 1899 to 1904. The greatest percentage of gain from 1904 to 1909, 174.9 per cent, was made by Elyria, due largely to gains in the chemical, foundry and machine-shop, and steel works and rolling-mill industries, and to the establishment there, since 1904, of a new factory manufacturing automobile bodies and parts. In Canton there was an increase of 169.9 per cent for the five-year period, due in part to the establishment of such new industries as steel works and rolling mills, and the manufacture of tin plate and terneplate and stamped and enameled ware. Lorain showed the next largest increase, 169 per cent, mainly on account of the increased production of steel and pig iron. Akron is still another of the cities in which the value of products more than doubled during the five-year period, the gain, 118 per cent, being due largely to the increased output of rubber goods.

Cleveland, the largest and most important city in the state, with abundant facilities for commerce by lake and land, shows an increase from 1904 to 1909 of $100,037,197, or 58.2 per cent, in the value of manufactured products, and of 20,687, or 32.3 per cent, in the average number of wage earners. The growing importance of Cleveland as a manufacturing city is indicated by the fact that when ranked by value of products it was fifth among the cities of the United States in 1909, seventh in 1904, and eighth in 1899. Nineteen per cent of the wage earners and 18.9 per cent of the value of products shown for the state in 1909 were reported from Cleveland. The corresponding proportions for 1904 were 17.6 per cent and 17.9 per cent, respectively. As measured by value of products, the steel works and rolling mills, with products valued at $38,463,000, was the most important industry of the city in 1909, while foundries and machine shops, with products valued at $37,443,000, followed very closely. The value of products stated represents 19.4 per cent and 25.7 per cent of the respective totals for these industries in the state.

The third industry in the city was the manufacture of automobiles, including bodies and parts, the output of which was valued at $21,404,000, which represents an increase over 1904 of over 360 per cent, and forms 55.1 per cent of the value reported for the state for this industry. The increase in the value of output for the three leading industries combined represents over one-third of the total increase for all manufacturing industries in the city. Other industries of importance for which statistics are shown separately for Cleveland in Table I, page 976, are slaughtering and meat packing, with products valued at $17,192,000; the making of women's clothing, with $12,789,000; printing and publishing, with $9,635,000; the manufacture of paint and varnish, with $6,138,000; that of men's clothing, with $5,953,000; and that of malt liquors, with $5,124,000. Of the remaining industries shown in that table, there are seven in which Cleveland contributed over one-third of the total value of products reported for the state in 1909, namely, the manufacture of blacking and cleansing and polishing preparations, brass and bronze products, confectionery, cutlery and tools, hosiery and knit goods, millinery and lace goods, and models and patterns.

In addition to the 48 industries presented separately for Cleveland in Table I, there are 105 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; in fact, 17 reported products in 1909 exceeding $1,000,000 in value, which were distributed as follows: Thirteen, with $1,000,000 but less than $5,000,000; 3, with $5,000,000 but less than $10,000,000; and 1, with $10,000,000 and over.[1]

[1] These industries are:

Bags, other than paper.
Bicycles, motorcycles, and parts.
Coffee and spice, roasting and grinding.
Flour-mill and gristmill products.
Gas, illuminating and heating.
Iron and steel, blast furnaces.
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.
Oil, linseed.
Petroleum, refining.
Rubber goods, not elsewhere specified.
Sewing machines, cases, and attachments.
Shipbuilding, including boat building.
Shoddy.
Tin plate and terneplate.
Wire.
Wirework, including wire rope and cable.
Woolen, worsted, and felt goods, and wool hats.

Cincinnati, the second city of the state in population, is the center of an important industrial district, which extends into Kentucky and Indiana. Its manufactures showed an increase from 1904 to 1909 of $28,456,642, or 17.1 per cent, in value of products and of 1,608, or 2.7 per cent, in the average number of wage earners. Notwithstanding this gain in value of products, Cincinnati dropped from eighth place in 1904 to twelfth in 1909 among the manufacturing cities of the United States. In 1909 its leading industry was slaughtering and meat packing, with products valued at $19,320,000, which constituted 9.9 per cent of the total for all industries in the city and 38 per cent of the total for this industry in the state. Foundries and machine shops were next in importance, with an output valued at $18,380,000, followed by the manufacture of men's clothing, valued at $16,975,000, representing 12.6 per cent and 68.3 per cent of the totals for the respective industries in the state. The output of boots and shoes in Cincinnati, valued at $14,999,000, constituted nearly one-half of the total for the industry in the state; that of printing and publishing, $11,519,000, over one-fourth; that of malt liquors, $8,874,000, over one-third; and that of distilled liquors, $8,745,000, nearly three-fourths. Carriages and wagons manufactured in this city, valued at $6,825,000, represented nearly one-third of the total reported for such products in the state; bread and other bakery products, valued at $5,103,000, nearly one-fourth; leather (tanned, curried, and finished), valued at $5,059,000, about one-half; and lumber and timber products, valued at $5,021,000, over one-seventh.

In addition to the 50 industries presented separately for Cincinnati in Table I, there are 104 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, 6 reporting products valued at more than $1,000,000 but less than $2,000,000 in 1909.[1]

Youngstown, the third manufacturing city of the state as measured by the value of products, showed an increase of $34,417,440, or 73.5 per cent, from 1904 to 1909, due primarily to the increased production of steel, in the manufacture of which the city outranks all others in the state. The output of steel works and rolling mills located in Youngstown in 1909 was valued at $50,175,000, an increase over 1904 of $20,437,000, or 68.7 per cent, and represented 61.7 per cent of the total reported for all manufacturing industries of the city. Blast furnaces, foundries and machine shops, and the planing-mill branch of the lumber industry are also important industries in Youngstown. The value of the output of the blast furnaces far exceeds the value of the other two classes of establishments, but the statistics for such concerns can not be presented separately for Youngstown in Table I, page 982, without disclosing the operations of individual establishments. Youngstown ranked twenty-third in 1909 and thirty-second in 1904 among the manufacturing cities of the United States, as measured by value of products.

Akron was the fourth city of the state in 1909, reporting products valued at $73,158,206, having advanced from seventh place in 1904, when $33,559,243 was reported. It held seventh place also in 1899, when the output of its manufactures was valued at $22,015,643. The manufacture of rubber goods is by far the leading industry, Akron being not only the most prominent center of that industry in the state but also in the United States. The manufacture of food preparations is next in importance, followed in order of value of products by printing and publishing, foundries and machine shops, flour-mill and gristmill products, automobiles, including bodies and parts, and pottery, terra-cotta, and fire-clay products. The statistics, however, for rubber goods, food preparations, flour-mill and gristmill products, and automobiles, including bodies and parts, can not be presented separately for Akron in Table I, page 973, without disclosing the operations of individual establishments.

Toledo, with products valued at $61,229,542, was the fifth manufacturing city of the state in 1909, having dropped from fourth place in 1904, although the value of products increased from $44,501,292, a gain of $16,728,250, or 37.6 per cent, for the five-year period. The city owes its position in manufacturing to a comparatively wide range of industries, among which may be mentioned foundries and machine shops, with products valued at $7,024,000; and flour-mill and gristmill products, with $5,662,000. In 1909, 16.9 per cent of the wage earners reported for all manufacturing industries of the city were employed in foundries and machine shops. Other industries of importance in Toledo in 1909 were the roasting and grinding of coffee and spice, the blast furnaces, the manufacture of automobiles, including bodies and parts, petroleum refining, the manufacture of women's clothing, tobacco products, and linseed oil, and printing and publishing. The statistics for four of these industries—the first three named and linseed oil—could not be presented separately for Toledo in Table I, page 980, without disclosing the operations of individual establishments. Ten other industries in the city each reported products in 1909 valued at more than $1,000,000 but less than $2,000,000.

Dayton, the sixth city in the state when ranked by value of products, holds third place in respect to average number of wage earners employed. The total value of its products was $60,378,376 in 1909 and $39,596,773 in 1904, an increase for the five-year period of $20,781,603, or 52.5 per cent. The leading industry in the city in 1909 was the manufacture of cash registers and calculating machines, in which Dayton outranks all other cities of the United States. Other industries, named in order of their importance in the value of products, were foundries and machine shops,

[1] These industries are:
Babbitt metal and solder.
Coffins, burial cases, and undertakers' goods.
House-furnishing goods, not elsewhere specified.
Ink, printing.
Oil, cottonseed, and cake.
Waste.

steam-railroad car construction shops, the manufacture of automobiles, including bodies and parts, and slaughtering and meat packing. The aggregate output for 1909 for these five leading industries represented 52.9 per cent of the total for all manufacturing industries in the city. Of these five industries the statistics can not be presented separately for Dayton, since comparative data are not available for automobiles, including bodies and parts, as it is a new industry, and as separate statistics for cash registers and steam-railroad car construction shops would disclose the operations of individual establishments. There are 10 other industries in the city each of which reported products in excess of $1,000,000, the most important being the roasting and grinding of coffee and spice, the manufacture of sewing machines and attachments, and tobacco manufactures.

Columbus shows an increase in value of products from 1904 to 1909 of $9,501,740, or 24 per cent, and from 1899 to 1904 of $4,781,699, or 13.8 per cent. The leading industry in the city is foundry and machine-shop products, which were valued at $7,744,000 in 1909 and represented 15.8 per cent of the total value of manufactures in the city. Other important industries were: Boots and shoes, with products valued at $5,436,000; malt liquors, with $2,728,000; printing and publishing, with $2,660,000; and slaughtering and meat packing, with $2,354,000.

Lorain, with products valued at $38,986,996 in 1909, owes practically its entire industrial activity to the operation of two establishments—a steel works and rolling mill and a blast furnace. The value of the output of the blast furnace, however, was less than half that of the steel plant. All other industries except shipbuilding, for which one establishment was reported in 1909, are insignificant.

For Canton the most important industries were steel works and rolling mills, foundries and machine shops, and the manufacture of copper, tin, and sheet-iron products. A factory manufacturing automobile bodies and parts, an establishment engaged in the manufacture of safes and vaults, one tin-plate and terneplate mill, and two watch and watch-case factories located in Canton contributed considerably to its prominence in manufacture. Foundries and machine shops constitute the only one of these seven industries for which statistics can be presented separately for Canton in Table I, page 973, without disclosing the operations of individual establishments.

There are five cities in Ohio for which the products reported for 1909 were valued at more than $10,000,000 but less than $25,000,000, namely, Steubenville, Springfield, Hamilton, Middletown, and Bellaire. In both Steubenville and Bellaire the iron and steel industries (including tin plate and terneplate) contributed considerably more than half of the total value of products reported for the city, there being four establishments in the former city and two in the latter. In Bellaire the manufacture of stamped and enameled ware and of glass are also important industries. The manufacture of agricultural implements is the largest industry in Springfield, the value of the products for this industry forming somewhat less than one-third of the total value shown for the city. Foundry and machine-shop products, printing and publishing, flour-mill and gristmill products, and pianos and organs and materials were also important. In Hamilton the leading industries were the manufacture of paper and wood pulp and of foundry and machine-shop products, their combined value of products being more than half of that reported for the city. The manufacture of safes and vaults and of copper, tin, and sheet-iron products are also important. Tobacco manufactures is by far the most important industry in Middletown, while the combined output of the five paper and wood pulp mills and of the steel works and rolling mill located in this city represented about one-fourth of the total for the city.

Of the remaining cities in Ohio for which statistics are shown separately in the preceding table, two had one industry each which contributed more than one-half of its total value of products for 1909, these cities being important centers of the respective industries in the state. In Portsmouth the value of boots and shoes was $5,300,000, representing 72.8 per cent of the total reported for all manufactures in the city, while in East Liverpool pottery, terra-cotta, and fire-clay products were manufactured to the value of $5,452,000, which amount represents 82.2 per cent of the total for that city.

The other cities of the state having products valued at more than $5,000,000 but less than $10,000,000, together with the two leading industries in each, were as follows: Norwood, printing and publishing and foundry and machine-shop products; Zanesville, iron and steel pipe, wrought, and steel works and rolling mills; Mansfield, agricultural implements and brass and bronze products; Elyria, chemicals and foundry and machine-shop products; Newark, glass and steam-railroad repair shops; Lima, tobacco manufactures and locomotives; Ironton, blast furnaces and wire; Piqua, hosiery and knit goods and stoves and furnaces; Alliance, foundry and machine-shop products and cash registers and calculating machines; Warren, foundry and machine-shop products and electrical machinery, apparatus, and supplies; Sandusky, vinous liquors and paper goods; and Marion, foundry and machine-shop products and agricultural implements.

The leading industry in each of the remaining cities of the state having over 10,000 inhabitants was as follows: Foundry and machine-shop products, in Massillon and in Tiffin; flour mills and gristmills, in Chillicothe; steel works and rolling mills, in Cambridge; boots and shoes, in Lancaster; petroleum refining, in Findlay and in Marietta; leather (tanned, curried, and finished), in Ashtabula; and electrical machinery and apparatus, in Lakewood.

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.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	15,138	446,934	$1,437,935,817	$613,733,870
1904	13,785	364,298	960,811,857	433,175,272
Individual:				
1909	6,978	34,345	88,075,465	41,358,065
1904	6,590	36,980	80,034,354	40,150,057
Firm:				
1909	2,861	33,409	96,698,565	42,158,928
1904	3,002	38,519	101,947,038	47,273,310
Corporation:				
1909	5,123	378,473	1,249,778,444	528,329,235
1904	4,008	288,591	777,392,416	345,106,135
Other:				
1909	176	707	3,383,343	1,887,642
1904	185	208	1,438,049	645,770
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Individual:				
1909	46.1	7.7	6.1	6.7
1904	47.8	10.2	8.3	9.3
Firm:				
1909	18.9	7.5	6.7	6.9
1904	21.8	10.6	10.6	10.9
Corporation:				
1909	33.8	84.7	86.9	86.1
1904	29.1	79.2	80.9	79.7
Other:				
1909	1.2	0.2	0.2	0.3
1904	1.3	0.1	0.1	0.1
Agricultural implements, 1909	55	5,997	$14,440,461	$8,121,942
Individual	10	51	122,107	62,906
Firm	4	148	525,896	267,763
Corporation	41	5,798	13,792,458	7,791,273
Per cent of total	100.0	100.0	100.0	100.0
Individual	18.2	0.8	0.8	0.8
Firm	7.3	2.5	3.6	3.3
Corporation	74.5	96.7	95.5	95.9
Automobiles, including bodies and parts, 1909	75	12,130	$38,838,754	$20,316,756
Individual	10	147	227,816	137,171
Firm	13	228	1,608,896	788,593
Corporation	52	11,755	37,002,042	19,390,992
Per cent of total	100.0	100.0	100.0	100.0
Individual	13.3	1.2	0.6	0.7
Firm	17.3	1.9	4.1	3.9
Corporation	69.3	96.9	95.3	95.4
Boots and shoes, including cut stock and findings, 1909	72	16,026	$31,550,957	$12,678,950
Individual	8	307	514,920	218,034
Firm	13	1,852	3,360,551	1,512,723
Corporation	51	13,867	27,675,486	10,948,193
Per cent of total	100.0	100.0	100.0	100.0
Individual	11.1	1.9	1.6	1.7
Firm	18.1	11.6	10.7	11.9
Corporation	70.8	86.5	87.7	86.3
Bread and other bakery products, 1909	1,467	5,972	$23,007,131	$9,340,898
Individual	1,232	2,824	10,381,455	4,182,351
Firm	164	598	2,299,455	933,424
Corporation [1]	71	2,550	10,326,221	4,225,123
Per cent of total	100.0	100.0	100.0	100.0
Individual	84.0	47.3	45.1	44.8
Firm	11.2	10.0	10.0	10.0
Corporation [1]	4.8	42.7	44.9	45.2
Brick and tile, 1909	517	7,466	$9,357,730	$7,153,387
Individual	211	994	1,200,580	934,044
Firm	153	1,095	1,407,180	1,096,681
Corporation	153	5,377	6,749,970	5,122,662
Per cent of total	100.0	100.0	100.0	100.0
Individual	40.8	13.3	12.8	13.1
Firm	29.6	14.7	15.0	15.3
Corporation	29.6	72.0	72.1	71.6
Butter, cheese, and condensed milk, 1909	325	1,067	$9,689,670	$2,004,234
Individual	87	163	1,592,131	271,005
Firm	53	89	1,144,155	148,102
Corporation	72	701	5,874,514	1,413,458
Other	113	114	1,078,870	171,669
Butter, cheese, and condensed milk, 1909—Con.				
Per cent of total	100.0	100.0	100.0	100.0
Individual	26.8	15.3	16.4	13.5
Firm	16.3	8.3	11.8	7.4
Corporation	22.2	65.7	60.6	70.5
Other	34.8	10.7	11.1	8.6
Carriages and wagons and materials, 1909	407	8,815	$21,949,459	$10,535,458
Individual	183	1,256	2,345,765	1,348,446
Firm	97	1,164	2,858,841	1,312,097
Corporation	127	6,395	16,744,853	7,874,915
Per cent of total	100.0	100.0	100.0	100.0
Individual	45.0	14.2	10.7	12.8
Firm	23.8	13.2	13.0	12.5
Corporation	31.2	72.5	76.3	74.7
Clothing, men's, including shirts, 1909	342	9,950	$24,869,437	$11,949,357
Individual	227	2,873	4,235,966	2,466,330
Firm	70	4,254	13,387,356	6,261,928
Corporation	45	2,823	7,246,115	3,221,099
Per cent of total	100.0	100.0	100.0	100.0
Individual	66.4	28.9	17.0	20.6
Firm	20.5	42.8	53.8	52.4
Corporation	13.2	28.4	29.1	27.0
Clothing, women's, 1909	153	8,843	$19,493,060	$9,202,477
Individual	62	589	750,916	448,905
Firm	44	2,444	5,207,648	2,446,138
Corporation	47	5,810	13,534,496	6,307,434
Per cent of total	100.0	100.0	100.0	100.0
Individual	40.5	6.7	3.9	4.9
Firm	28.8	27.6	26.7	26.6
Corporation	30.7	65.7	69.4	68.5
Coffee and spice, roasting and grinding, 1909	39	762	$11,224,437	$2,947,098
Individual	5	23	302,060	53,496
Firm	7	121	1,010,768	282,637
Corporation	27	618	9,911,609	2,610,965
Per cent of total	100.0	100.0	100.0	100.0
Individual	12.8	3.0	2.7	1.8
Firm	17.9	15.9	9.0	9.6
Corporation	69.2	81.1	88.3	88.6
Confectionery, 1909	114	2,493	$7,306,574	$3,217,656
Individual	41	380	909,991	426,178
Firm	26	387	917,511	422,453
Corporation	47	1,726	5,479,072	2,369,025
Per cent of total	100.0	100.0	100.0	100.0
Individual	36.0	15.2	12.5	13.2
Firm	22.8	15.5	12.6	13.1
Corporation	41.2	69.2	75.0	73.6
Flour-mill and gristmill products, 1909	673	2,585	$48,093,353	$6,740,746
Individual	280	604	8,472,566	1,467,028
Firm	272	671	11,645,211	1,844,075
Corporation	121	1,310	27,975,576	3,429,643
Per cent of total	100.0	100.0	100.0	100.0
Individual	41.6	23.4	17.6	21.8
Firm	40.4	26.0	24.2	27.4
Corporation	18.0	50.7	58.2	50.9
Foundry and machine-shop products, 1909	1,218	64,817	$145,836,648	$81,276,753
Individual	283	2,108	4,727,124	2,685,005
Firm	173	2,871	6,350,524	3,465,944
Corporation	762	59,838	134,759,000	75,125,804
Per cent of total	100.0	100.0	100.0	100.0
Individual	23.2	3.3	3.2	3.3
Firm	14.2	4.4	4.4	4.3
Corporation	62.6	92.3	92.4	92.4
Furniture and refrigerators, 1909	228	8,232	$16,258,757	$9,016,312
Individual	66	895	1,698,026	912,404
Firm	40	537	1,070,674	633,800
Corporation	122	6,800	13,490,057	7,470,108
Per cent of total	100.0	100.0	100.0	100.0
Individual	28.9	10.9	10.4	10.1
Firm	17.5	6.5	6.6	7.0
Corporation	53.5	82.6	83.0	82.9

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

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Liquors, malt, 1909	**105**	**4,356**	**$25,332,059**	**$18,768,959**
Individual	12	141	644,346	488,820
Firm	10	205	1,557,171	1,063,474
Corporation	83	4,010	23,130,542	17,216,656
Per cent of total	100.0	100.0	100.0	100.0
Individual	11.4	3.2	2.5	2.6
Firm	9.5	4.7	6.1	5.7
Corporation	79.0	92.1	91.3	91.7
Lumber and timber products, 1909	**1,390**	**13,456**	**$34,597,069**	**$14,624,706**
Individual	753	3,797	7,708,569	3,896,347
Firm	352	2,623	6,122,840	2,610,692
Corporation	285	7,036	20,765,660	8,117,667
Per cent of total	100.0	100.0	100.0	100.0
Individual	54.2	28.2	22.3	26.6
Firm	25.3	19.5	17.7	17.9
Corporation	20.5	52.3	60.0	55.5
Printing and publishing, 1909	**1,655**	**15,756**	**$41,657,306**	**$29,752,952**
Individual	829	2,745	6,510,373	4,891,752
Firm	283	1,615	3,232,528	2,306,498
Corporation	483	10,832	29,673,914	20,877,439
Other	60	564	2,240,491	1,677,263
Printing and publishing, 1909—Continued.				
Per cent of total	100.0	100.0	100.0	100.0
Individual	50.1	17.4	15.6	16.4
Firm	17.1	10.2	7.8	7.3
Corporation	29.2	68.7	71.2	70.2
Other	3.6	3.6	5.4	5.6
Slaughtering and meat packing, 1909	**158**	**3,086**	**$50,804,100**	**$6,456,938**
Individual	80	463	7,690,049	968,940
Firm	31	148	4,044,496	416,638
Corporation	47	2,475	39,069,555	5,071,360
Per cent of total	100.0	100.0	100.0	100.0
Individual	50.6	15.0	15.1	15.0
Firm	19.6	4.8	8.0	6.5
Corporation	29.7	80.2	76.9	78.5
Tobacco manufactures, 1909	**1,146**	**12,631**	**$28,907,269**	**$16,832,446**
Individual	963	3,259	5,121,142	3,272,670
Firm	137	2,751	3,715,795	2,378,108
Corporation	46	6,621	20,070,332	11,181,668
Per cent of total	100.0	100.0	100.0	100.0
Individual	84.0	25.8	17.7	19.4
Firm	12.0	21.8	12.9	14.1
Corporation	4.0	52.4	69.4	66.4

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, 33.8 per cent were under corporate ownership in 1909, as against 66.2 per cent under all other forms. The corresponding proportions for 1904 were 29.1 and 70.9 per cent, respectively. In respect to value of products, the diversity in the figures for the two classes was even more pronounced but in the opposite direction. In 1909 the establishments operated by corporations represented 86.9 per cent of the total value as against 13:1 per cent for establishments under all other forms of ownership, while in 1904 the corresponding figures were 80.9 per cent and 19.1 per cent, respectively. The establishments operated by firms decreased from 1904 to 1909 both in number and in the value of their products. They represented, in 1909, 18.9 per cent of the total number of establishments, as compared with 21.8 per cent in 1904, and contributed in 1909 only 6.7 per cent of the total value of products, as compared with 10.6 per cent in 1904.

Establishments under corporate ownership reported a larger proportion of the value of products (95.5 per cent), in the manufacture of agricultural implements than in any other industry shown separately in the table. The proportion of the total value of products reported for establishments under individual ownership was largest in the bakery industry (45.1 per cent), and that for establishments operated by firms greatest in the manufacture of men's clothing (53.8 per cent).

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 on the following page 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.

The table shows that in 1909, of the 15,138 establishments, only 245, or 1.6 per cent, had a value of products of $1,000,000 and over. These establishments, however, employed an average of 142,832 wage earners, or 32 per cent of the total number in all establishments, and reported 46.3 per cent of the total value of products and 39.8 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 (33.7 per cent) of the total number of establishments, but the value of their products amounted to only eight-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 table that during the five years from 1904 to 1909 there was a marked increase, as measured by average number of wage earners, value of products, and value added by manufacture, 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 $69,700 to $94,988, and the value added by manufacture from $31,424 to $40,543, 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 com-

modities. The average number of wage earners per establishment increased from 26 in 1904 to 30 in 1909.

This table shows further that among the industries given separately in the table the average value of products per establishment was high in the manufacture of automobiles, the boot and shoe industry, and in slaughtering and meat packing, while the average was low in the bakery, brick and tile, and lumber industries. The average value of products in the automobile factories was $517,850 and in the bakeries $15,683. In the steel works and rolling mills, blast furnaces, tin-plate and terneplate factories, and petroleum refineries, the average value of products per establishment exceeded $1,000,000, but the statistics as required in this table can not be presented separately for these industries without disclosing the operations of individual establishments.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	15,138	446,934	$1,437,935,817	$613,733,870
1904	13,785	364,298	960,811,857	433,175,272
Less than $5,000:				
1909	5,095	7,021	12,198,229	7,811,667
1904	4,857	7,831	11,864,202	7,737,680
$5,000 and less than $20,000:				
1909	4,474	23,571	46,028,999	26,309,694
1904	4,147	24,003	42,532,939	24,242,565
$20,000 and less than $100,000:				
1909	3,405	64,853	156,080,099	76,806,053
1904	3,083	66,880	139,906,296	71,518,400
$100,000 and less than $1,000,000:				
1909	1,919	208,656	557,384,719	258,737,951
1904	1,562	181,411	434,781,943	202,893,808
$1,000,000 and over:				
1909	245	142,833	666,243,771	244,068,505
1904	136	84,173	331,726,477	126,782,819
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	33.7	1.6	0.8	1.3
1904	35.2	2.1	1.2	1.8
$5,000 and less than $20,000:				
1909	29.6	5.3	3.2	4.3
1904	30.1	6.6	4.4	5.6
$20,000 and less than $100,000:				
1909	22.5	14.5	10.9	12.5
1904	22.4	18.4	14.6	16.5
$100,000 and less than $1,000,000:				
1909	12.7	46.7	38.8	42.2
1904	11.3	49.8	45.3	46.8
$1,000,000 and over:				
1909	1.6	32.0	46.3	39.8
1904	1.0	23.1	34.5	29.3
Average per establishment:				
1909	.....	30	$94,988	$40,543
1904	.....	26	69,700	31,424
Agricultural implements, 1909	55	5,997	$14,440,461	$8,121,942
Less than $5,000	8	12	19,452	12,550
$5,000 and less than $20,000	10	50	117,250	69,183
$20,000 and less than $100,000	12	291	652,373	391,332
$100,000 and less than $1,000,000	22	3,340	8,389,730	4,696,335
$1,000,000 and over	3	2,304	5,261,656	2,952,542
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	14.5	0.2	0.1	0.2
$5,000 and less than $20,000	18.2	0.8	0.8	0.8
$20,000 and less than $100,000	21.8	4.9	4.5	4.8
$100,000 and less than $1,000,000	40.0	55.7	58.1	57.8
$1,000,000 and over	5.5	38.4	36.4	36.4
Average per establishment	.....	109	$262,554	$147,672
Automobiles, including bodies and parts, 1909	75	12,130	$38,838,754	$20,316,756
Less than $5,000	7	8	20,426	13,391
$5,000 and less than $20,000	12	73	148,768	93,543
$20,000 and less than $100,000	21	549	941,263	555,539
$100,000 and less than $1,000,000	22	2,714	7,244,613	3,586,193
$1,000,000 and over	13	8,786	30,483,684	16,068,090
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	9.3	0.1	0.1	0.1
$5,000 and less than $20,000	16.0	0.6	0.4	0.5
$20,000 and less than $100,000	28.0	4.5	2.4	2.7
$100,000 and less than $1,000,000	29.3	22.4	18.7	17.6
$1,000,000 and over	17.3	72.4	78.5	79.1
Average per establishment	.....	162	$517,850	$270,890
Boots and shoes, including cut stock and findings, 1909	72	16,026	$31,550,957	$12,678,950
Less than $5,000	4	17	9,827	5,272
$5,000 and less than $20,000	9	75	94,097	54,113
$20,000 and less than $100,000	9	334	404,621	199,611
$100,000 and less than $1,000,000	40	7,368	14,136,417	5,555,195
$1,000,000 and over	10	8,232	16,905,995	6,864,759
Per cent of total	100.0	100.0	100.00	100.0
Less than $5,000	5.6	0.1	(1)	(1)
$5,000 and less than $20,000	12.5	0.5	0.3	0.4
$20,000 and less than $100,000	12.5	2.1	1.3	1.6
$100,000 and less than $1,000,000	55.6	46.0	44.8	43.8
$1,000,000 and over	13.9	51.4	53.6	54.2
Average per establishment	.....	223	$438,208	$176,097
Bread and other bakery products, 1909	1,467	5,972	$23,007,131	$9,340,898
Less than $5,000	557	397	1,618,993	715,540
$5,000 and less than $20,000	720	1,854	6,687,277	2,756,564
$20,000 and less than $100,000	151	1,458	5,521,220	2,058,762
$100,000 and less than $1,000,000	33	2,263	9,179,641	3,810,032
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	38.0	6.6	7.0	7.7
$5,000 and less than $20,000	49.5	31.0	29.1	29.5
$20,000 and less than $100,000	10.3	24.4	24.0	22.0
$100,000 and less than $1,000,000	2.2	37.9	39.9	40.8
Average per establishment	.....	4	$15,683	$6,367
Brick and tile, 1909	517	7,466	$9,357,730	$7,153,387
Less than $5,000	246	646	670,208	531,882
$5,000 and less than $20,000	162	1,446	1,649,911	1,280,893
$20,000 and less than $100,000	94	3,463	4,287,605	3,248,814
$100,000 and less than $1,000,000	15	1,911	2,750,006	2,091,798
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	47.6	8.7	7.2	7.4
$5,000 and less than $20,000	31.3	19.4	17.6	17.9
$20,000 and less than $100,000	18.2	46.4	45.8	45.4
$100,000 and less than $1,000,000	2.9	25.6	29.4	29.2
Average per establishment	.....	14	$18,100	$13,836
Butter, cheese, and condensed milk, 1909	325	1,067	$9,689,670	$2,004,234
Less than $5,000	123	54	333,861	71,210
$5,000 and less than $20,000	104	112	1,059,718	195,725
$20,000 and less than $100,000	77	282	2,890,024	512,951
$100,000 and less than $1,000,000	21	619	5,406,067	1,224,348
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	37.8	5.1	3.4	3.6
$5,000 and less than $20,000	32.0	10.5	10.9	9.8
$20,000 and less than $100,000	23.7	26.4	29.8	25.6
$100,000 and less than $1,000,000	6.5	58.0	55.8	61.1
Average per establishment	.....	3	$29,814	$6,167
Carriages and wagons and materials, 1909	407	8,815	$21,949,459	$10,535,458
Less than $5,000	84	155	227,147	154,619
$5,000 and less than $20,000	172	1,073	1,788,714	1,118,304
$20,000 and less than $100,000	89	1,968	4,250,008	2,092,509
$100,000 and less than $1,000,000	62	5,619	15,683,590	7,170,026
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	20.6	1.8	1.0	1.5
$5,000 and less than $20,000	42.3	12.2	8.1	10.6
$20,000 and less than $100,000	21.9	22.3	19.4	19.9
$100,000 and less than $1,000,000	15.2	63.7	71.5	68.1
Average per establishment	.....	22	$53,930	$25,886
Clothing, men's, including shirts, 1909	342	9,950	$24,869,437	$11,949,357
Less than $5,000	119	549	296,605	284,219
$5,000 and less than $20,000	116	1,784	1,084,327	945,399
$20,000 and less than $100,000	53	1,537	2,701,557	1,302,380
$100,000 and less than $1,000,000 [2]	54	6,080	20,786,948	9,417,359
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	34.8	5.5	1.2	2.4
$5,000 and less than $20,000	33.9	17.9	4.4	7.9
$20,000 and less than $100,000	15.5	15.4	10.9	10.9
$100,000 and less than $1,000,000 [2]	15.8	61.1	83.6	78.8
Average per establishment	.....	29	$72,718	$34,940
Clothing, women's, 1909	153	8,843	$19,493,060	$9,202,477
Less than $5,000	42	154	103,484	88,862
$5,000 and less than $20,000	27	316	286,802	209,521
$20,000 and less than $100,000	42	1,234	2,162,544	969,594
$100,000 and less than $1,000,000	39	5,095	11,562,057	5,277,791
$1,000,000 and over	3	2,044	5,378,173	2,656,709
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	27.4	1.7	0.5	1.0
$5,000 and less than $20,000	17.6	3.6	1.5	2.3
$20,000 and less than $100,000	27.4	14.0	11.1	10.5
$100,000 and less than $1,000,000	25.5	57.6	59.3	57.3
$1,000,000 and over	2.0	23.1	27.6	28.9
Average per establishment	.....	58	$127,406	$60,157

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

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

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Coffee and spice, roasting and grinding, 1909	39	762	$11,224,437	$2,947,098
Less than $5,000	3	2	9,465	3,845
$5,000 and less than $20,000	4	10	45,975	11,485
$20,000 and less than $100,000	10	45	446,753	113,144
$100,000 and less than $1,000,000	18	407	4,819,723	1,354,060
$1,000,000 and over	4	298	5,902,521	1,464,564
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	7.7	0.3	0.1	0.1
$5,000 and less than $20,000	10.3	1.3	0.4	0.4
$20,000 and less than $100,000	25.6	5.9	4.0	3.8
$100,000 and less than $1,000,000	46.2	53.4	42.9	45.9
$1,000,000 and over	10.3	39.1	52.6	49.7
Average per establishment		20	$287,806	$75,567
Confectionery, 1909	114	2,493	$7,306,574	$3,217,656
Less than $5,000	27	31	60,400	29,231
$5,000 and less than $20,000	36	178	378,643	181,430
$20,000 and less than $100,000	32	540	1,568,573	671,091
$100,000 and less than $1,000,000 [1]	19	1,744	5,298,958	2,335,904
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	23.7	1.2	0.8	0.9
$5,000 and less than $20,000	31.6	7.1	5.2	5.6
$20,000 and less than $100,000	28.1	21.7	21.5	20.9
$100,000 and less than $1,000,000 [1]	16.7	70.0	72.5	72.6
Average per establishment		22	$64,093	$28,225
Flour-mill and gristmill products, 1909	673	2,585	$48,093,353	$6,740,746
Less than $5,000	41	33	125,064	30,114
$5,000 and less than $20,000	191	207	2,398,342	460,476
$20,000 and less than $100,000	368	1,051	15,827,039	2,719,774
$100,000 and less than $1,000,000	64	750	16,641,167	1,954,400
$1,000,000 and over	9	544	13,191,741	1,575,982
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	6.1	1.3	0.3	0.4
$5,000 and less than $20,000	28.4	8.0	4.8	6.8
$20,000 and less than $100,000	54.7	40.7	32.9	40.4
$100,000 and less than $1,000,000	9.5	29.0	34.6	29.0
$1,000,000 and over	1.3	21.0	27.4	23.4
Average per establishment		4	$71,461	$10,016
Foundry and machine-shop products, 1909	1,218	64,817	$145,836,648	$81,276,753
Less than $5,000	198	280	481,119	317,218
$5,000 and less than $20,000	303	1,830	3,347,103	2,172,448
$20,000 and less than $100,000	401	9,752	19,627,491	11,223,823
$100,000 and less than $1,000,000	293	38,563	86,934,104	47,427,402
$1,000,000 and over	23	14,392	35,446,831	20,135,862
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	16.3	0.4	0.3	0.4
$5,000 and less than $20,000	24.9	2.8	2.3	2.7
$20,000 and less than $100,000	32.9	15.0	13.5	13.8
$100,000 and less than $1,000,000	24.1	59.5	59.6	58.3
$1,000,000 and over	1.9	22.2	24.3	24.8
Average per establishment		53	$119,735	$66,730
Furniture and refrigerators, 1909	228	8,232	$16,258,757	$9,016,312
Less than $5,000	35	43	91,623	62,003
$5,000 and less than $20,000	54	357	599,079	369,452
$20,000 and less than $100,000	101	3,086	5,341,808	2,851,220
$100,000 and less than $1,000,000 [1]	38	4,746	10,226,247	5,733,637
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	15.4	0.5	0.6	0.7
$5,000 and less than $20,000	23.7	4.3	3.7	4.1
$20,000 and less than $100,000	44.3	37.5	32.9	31.6
$100,000 and less than $1,000,000 [1]	16.7	57.7	62.9	63.6
Average per establishment		36	$71,310	$39,545
Liquors, malt, 1909	105	4,356	$25,332,059	$18,768,959
Less than $5,000	4	5	8,855	5,915
$5,000 and less than $20,000	7	30	75,779	46,192
$20,000 and less than $100,000	36	467	2,126,651	1,485,398
$100,000 and less than $1,000,000	52	2,370	13,794,286	10,318,489
$1,000,000 and over	6	1,484	9,326,488	6,912,465
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	3.8	0.1	(2)	(2)
$5,000 and less than $20,000	6.7	0.7	0.3	0.2
$20,000 and less than $100,000	34.3	10.7	8.4	7.9
$100,000 and less than $1,000,000	49.5	54.4	54.5	55.0
$1,000,000 and over	5.7	34.1	36.8	36.8
Average per establishment		41	$241,258	$178,752
Lumber and timber products, 1909	1,390	13,456	$34,597,069	$14,624,706
Less than $5,000	574	1,121	1,370,723	868,599
$5,000 and less than $20,000	453	2,561	4,565,738	2,504,581
$20,000 and less than $100,000	284	4,901	12,920,125	5,425,620
$100,000 and less than $1,000,000	79	4,873	15,740,483	5,825,906
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	41.3	8.3	4.0	5.9
$5,000 and less than $20,000	32.6	19.0	13.2	17.1
$20,000 and less than $100,000	20.4	36.4	37.3	37.1
$100,000 and less than $1,000,000	5.7	36.2	45.5	39.8
Average per establishment		10	$24,890	$10,521
Printing and publishing, 1909	1,655	15,756	$41,657,306	$29,752,952
Less than $5,000	795	1,095	1,939,089	1,496,403
$5,000 and less than $20,000	524	2,823	5,208,241	4,044,786
$20,000 and less than $100,000	260	4,713	10,754,812	7,765,373
$100,000 and less than $1,000,000	72	5,624	18,731,793	13,187,171
$1,000,000 and over	4	1,501	5,023,371	3 259,219
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	48.0	6.9	4.7	5.0
$5,000 and less than $20,000	31.7	17.9	12.5	13.6
$20,000 and less than $100,000	15.7	29.9	25.8	26.1
$100,000 and less than $1,000,000	4.4	35.7	45.0	44.3
$1,000,000 and over	0.2	9.5	12.1	11.0
Average per establishment		10	$25,171	$17,978
Slaughtering and meat packing, 1909	158	3,086	$50,804,100	$6,456,938
Less than $5,000	7	11	26,156	13,002
$5,000 and less than $20,000	18	19	196,283	35,274
$20,000 and less than $100,000	60	224	3,277,587	568,803
$100,000 and less than $1,000,000	61	1,088	20,274,934	2,487,572
$1,000,000 and over	12	1,744	27,029,140	3,352,287
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	4.4	0.4	0.1	0.2
$5,000 and less than $20,000	11.4	0.6	0.4	0.5
$20,000 and less than $100,000	38.0	7.3	6.5	8.8
$100,000 and less than $1,000,000	38.6	35.3	39.9	38.5
$1,000,000 and over	7.6	56.5	53.2	51.9
Average per establishment		20	$321,545	$40,867
Tobacco manufactures, 1909	1,146	12,631	$28,907,269	$16,832,446
Less than $5,000	860	808	1,658,381	1,104,749
$5,000 and less than $20,000	184	1,263	1,702,071	1,129,261
$20,000 and less than $100,000	64	2,218	2,900,171	1,840,402
$100,000 and less than $1,000,000	34	6,010	8,617,942	4,926,900
$1,000,000 and over	4	2,332	14,028,704	7,831,134
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	75.0	6.4	5.7	6.6
$5,000 and less than $20,000	16.1	10.0	5.9	6.7
$20,000 and less than $100,000	5.6	17.6	10.0	10.9
$100,000 and less than $1,000,000	3.0	47.6	29.8	29.3
$1,000,000 and over	0.3	18.5	48.5	46.5
Average per establishment		11	$25,234	$14,688

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

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

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 the following page shows, for 1909, such a classification for all industries combined and for 40 important industries individually, and gives not only the number of establishments falling into each group but also the average number of wage earners employed.

Of the 15,138 establishments reported for all industries, 10 per cent employed no wage earners; 48.4 per cent, from 1 to 5; 20.9 per cent, from 6 to 20; and 9.4 per cent, from 21 to 50. The most numerous single group consists of the 7,320 establishments employing from 1 to 5 wage earners, and the next of the 3,163 establishments employing from 6 to 20 wage earners. There were 337 establishments that employed over 250 wage earners; 33 of these employed over 1,000, of which 8 were steel works and rolling mills and 4 automobile factories.

Of the total number of wage earners, 44 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 101 to 250 wage earners. This group employed 98,905 wage earners, or 22.1 per cent of the total. The average per establishment in this

group was 156. More than two-fifths of the total wage earners employed in the following industries were in this class of establishments: Hosiery and knit-goods mills; blast furnaces; distilleries; paint and varnish factories; pottery, terra-cotta, and fire-clay factories; and tin-plate and terneplate mills. All of the individual industries listed in this table but not in the preceding one are those 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	**15,138**	**1,521**	**7,320**	**3,163**	**1,429**	**733**	**635**	**199**	**105**	**33**
Agricultural implements	55	3	12	8	10	3	13	4	1	1
Automobiles, including bodies and parts	75	1	14	17	9	9	10	9	2	4
Boots and shoes, including cut stock and findings	72	1	4	11	5	10	23	9	7	2
Brass and bronze products	82	3	31	29	9	5	2	3	.....	.....
Bread and other bakery products	1,467	220	1,055	151	22	13	6	.....	.....	.....
Brick and tile	517	4	276	141	59	27	10	.....	.....	.....
Butter, cheese, and condensed milk	325	27	266	24	3	4	1	.....	.....	.....
Carriages and wagons and materials	407	9	167	135	48	27	21	.....	.....	.....
Cars and general shop construction and repairs by steam-railroad companies	71	.....	2	5	6	8	13	23	13	1
Cars, steam-railroad, not including operations of railroad companies	6	.....	.....	.....	2	1	1	1	.....	1
Chemicals	33	2	13	12	2	1	1	2	.....	.....
Clothing, men's, including shirts	342	8	95	138	60	24	13	2	1	1
Clothing, women's	153	3	39	41	29	19	16	4	1	1
Coffee and spice, roasting and grinding	39	1	15	13	5	4	1	.....	.....	.....
Confectionery	114	12	42	30	14	9	7	.....	.....	.....
Copper, tin, and sheet-iron products	221	4	107	55	28	9	12	6	.....	.....
Electrical machinery, apparatus, and supplies	115	1	35	29	15	12	15	6	1	1
Flour-mill and gristmill products	673	59	529	68	13	3	1	.....	.....	.....
Foundry and machine-shop products	1,218	47	355	316	211	124	111	35	16	3
Furniture and refrigerators	228	7	51	62	67	24	14	2	1	.....
Glass	45	.....	.....	3	5	8	16	6	6	1
Hosiery and knit goods	39	.....	10	2	7	9	9	2	.....	.....
Iron and steel, blast furnaces	40	.....	1	.....	3	8	20	6	2	.....
Iron and steel, steel works and rolling mills	75	.....	.....	5	5	7	17	17	16	8
Leather, tanned, curried, and finished	36	1	11	5	12	3	3	.....	1	.....
Liquors, distilled	17	3	5	5	2	1	1	.....	.....	.....
Liquors, malt	105	2	6	41	35	12	6	3	.....	.....
Lumber and timber products	1,390	28	831	376	114	30	11	.....	.....	.....
Paint and varnish	87	3	49	22	7	.....	6	.....	.....	.....
Paper and wood pulp	47	.....	.....	5	15	14	11	1	1	.....
Paper goods, not elsewhere specified	28	.....	9	7	5	3	1	2	1	.....
Petroleum, refining	10	.....	.....	2	3	1	2	1	1	.....
Pottery, terra-cotta, and fire-clay products	186	2	15	18	53	43	45	7	3	.....
Printing and publishing	1,655	326	817	351	101	38	18	3	1	.....
Slaughtering and meat packing	158	12	80	36	14	13	1	1	1	.....
Soap	44	6	16	11	5	3	1	1	1	.....
Stoves and furnaces, including gas and oil stoves	102	2	26	20	18	19	12	2	2	1
Tin plate and terneplate	4	.....	.....	.....	.....	1	3	.....	.....	.....
Tobacco manufactures	1,146	352	599	109	38	18	20	6	4	.....
Woolen, worsted, and felt goods, and wool hats	20	.....	4	5	3	2	5	.....	.....	1
All other industries	3,691	372	1,733	855	367	164	136	35	22	7
	AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**446,934**	.....	**17,097**	**35,261**	**46,960**	**52,186**	**98,905**	**69,553**	**70,883**	**56,089**
Agricultural implements	5,997	.....	33	90	318	227	2,170	1,287	530	1,342
Automobiles, including bodies and parts	12,130	.....	36	204	386	586	1,421	3,248	1,351	4,898
Boots and shoes, including cut stock and findings	16,026	.....	10	118	162	739	3,885	3,303	4,908	2,901
Brass and bronze products	2,232	.....	89	356	285	339	296	867	.....	.....
Bread and other bakery products	5,972	.....	2,119	1,389	723	920	821	.....	.....	.....
Brick and tile	7,466	.....	752	1,521	1,029	1,788	1,476	.....	.....	.....
Butter, cheese, and condensed milk	1,067	.....	329	249	82	289	118	.....	.....	.....
Carriages and wagons and materials	8,815	.....	511	1,449	1,706	1,983	3,166	.....	.....	.....
Cars and general shop construction and repairs by steam-railroad companies	20,728	.....	7	75	165	559	1,954	7,562	8,420	1,986
Cars, steam-railroad, not including operations of railroad companies	2,282	.....	.....	.....	48	52	121	252	.....	1,809
Chemicals	1,132	.....	27	160	57	58	126	704	.....	.....
Clothing, men's, including shirts	9,950	.....	308	1,706	1,935	1,716	2,044	618	550	1,073
Clothing, women's	8,843	.....	132	483	1,032	1,406	2,668	1,553	504	1,065
Coffee and spice, roasting and grinding	762	.....	41	162	168	280	111	.....	.....	.....
Confectionery	2,493	.....	110	305	455	646	977	.....	.....	.....
Copper, tin, and sheet-iron products	6,598	.....	281	561	895	634	2,106	2,121	.....	.....
Electrical machinery, apparatus, and supplies	8,073	.....	79	337	448	834	2,446	1,944	809	1,176
Flour-mill and gristmill products	2,585	.....	1,182	645	427	181	150	.....	.....	.....
Foundry and machine-shop products	64,817	.....	1,013	3,836	7,214	9,185	17,141	11,922	10,576	3,930
Furniture and refrigerators	8,232	.....	124	741	2,307	1,672	2,036	674	678	.....
Glass	10,159	.....	.....	54	164	544	2,659	2,260	3,440	1,038
Hosiery and knit goods	3,149	.....	25	29	229	672	1,550	644	.....	.....
Iron and steel, blast furnaces	7,295	.....	2	.....	112	632	3,155	2,198	1,196	.....
Iron and steel, steel works and rolling mills	38,586	.....	.....	66	157	534	2,867	6,780	12,149	16,033
Leather, tanned, curried, and finished	1,884	.....	26	53	366	219	452	.....	768	.....
Liquors, distilled	374	.....	3	56	60	80	175	.....	.....	.....
Liquors, malt	4,356	.....	14	495	1,127	832	915	973	.....	.....
Lumber and timber products	13,456	.....	2,018	4,058	3,569	2,108	1,703	.....	.....	.....
Paint and varnish	1,535	.....	129	217	227	.....	962	.....	.....	.....
Paper and wood pulp	4,673	.....	.....	88	496	955	1,695	439	1,000	.....
Paper goods, not elsewhere specified	2,040	.....	23	82	170	222	144	652	747	.....
Petroleum, refining	1,659	.....	.....	27	99	97	248	480	708	.....
Pottery, terra-cotta, and fire-clay products	16,519	.....	34	221	1,904	3,086	7,145	2,302	1,827	.....
Printing and publishing	15,756	.....	2,060	3,714	3,161	2,632	2,562	1,112	515	.....
Slaughtering and meat packing	3,086	.....	204	400	474	961	122	347	578	.....
Soap	1,774	.....	34	113	167	194	223	265	778	.....
Stoves and furnaces, including gas and oil stoves	7,274	.....	69	260	580	1,354	1,854	771	1,151	1,235
Tin plate and terneplate	676	.....	.....	.....	.....	78	598	.....	.....	.....
Tobacco manufactures	12,631	.....	1,137	1,154	1,266	1,226	2,979	2,295	2,574	.....
Woolen, worsted, and felt goods, and wool hats	2,566	.....	8	54	76	168	951	.....	.....	1,309
All other industries	101,286	.....	4,128	9,733	11,814	11,498	20,713	11,980	15,126	16,294

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	.....	3.8	7.9	10.5	11.7	22.1	15.6	15.9	12.5
Agricultural implements	100.0	.....	0.6	1.5	5.3	3.8	36.2	21.5	8.8	22.4
Automobiles, including bodies and parts	100.0	.....	0.3	1.7	3.2	4.8	11.7	26.8	11.1	40.4
Boots and shoes, including cut stock and findings	100.0	.....	0.1	0.7	1.0	4.6	24.2	20.6	30.6	18.1
Brass and bronze products	100.0	.....	4.0	15.9	12.8	15.2	13.3	38.8	.....	.....
Bread and other bakery products	100.0	.....	35.5	23.3	12.1	15.4	13.7	.....	.....	.....
Brick and tile	100.0	.....	10.1	20.4	25.8	23.9	19.8	.....	.....	.....
Butter, cheese, and condensed milk	100.0	.....	30.8	23.3	7.7	27.1	11.1	.....	.....	.....
Carriages and wagons and materials	100.0	.....	5.8	16.4	19.4	22.5	35.9	.....	.....	.....
Cars and general shop construction and repairs by steam-railroad companies	100.0	.....	(1)	0.4	0.8	2.7	9.4	36.5	40.6	9.6
Cars, steam-railroad, not including operations of railroad companies	100.0	.....	.....	.....	2.1	2.3	5.3	11.0	.....	79.3
Chemicals	100.0	.....	2.4	14.1	5.0	5.1	11.1	62.2	.....	.....
Clothing, men's, including shirts	100.0	.....	3.1	17.1	19.5	17.2	20.5	6.2	5.5	10.8
Clothing, women's	100.0	.....	1.5	5.5	11.7	15.9	30.2	17.6	5.7	12.0
Coffee and spice, roasting and grinding	100.0	.....	5.4	21.3	22.0	36.7	14.6	.....	.....	.....
Confectionery	100.0	.....	4.4	12.2	18.3	25.9	39.2	.....	.....	.....
Copper, tin, and sheet-iron products	100.0	.....	4.3	8.5	13.6	9.6	31.9	32.1	.....	.....
Electrical machinery, apparatus, and supplies	100.0	.....	1.0	4.2	5.5	10.3	30.3	24.1	10.0	14.6
Flour-mill and gristmill products	100.0	.....	45.7	25.0	16.5	7.0	5.8	.....	.....	.....
Foundry and machine-shop products	100.0	.....	1.6	5.9	11.1	14.2	26.4	18.4	16.3	6.1
Furniture and refrigerators	100.0	.....	1.5	9.0	28.0	20.3	24.7	8.2	8.2	.....
Glass	100.0	.....	.....	0.5	1.6	5.4	26.2	22.2	33.9	10.2
Hosiery and knit goods	100.0	.....	0.8	0.9	7.3	21.3	49.2	20.5	.....	.....
Iron and steel, blast furnaces	100.0	.....	(1)	.....	1.5	8.7	43.2	30.1	16.4	.....
Iron and steel, steel works and rolling mills	100.0	.....	.....	0.2	0.4	1.4	7.4	17.6	31.5	41.6
Leather, tanned, curried, and finished	100.0	.....	1.4	2.8	19.4	11.6	24.0	.....	40.8	.....
Liquors, distilled	100.0	.....	0.8	15.0	16.0	21.4	46.8	.....	.....	.....
Liquors, malt	100.0	.....	0.3	11.4	25.9	19.1	21.0	22.3	.....	.....
Lumber and timber products	100.0	.....	15.0	30.2	26.5	15.7	12.7	.....	.....	.....
Paint and varnish	100.0	.....	8.4	14.1	14.8	.....	62.7	.....	.....	.....
Paper and wood pulp	100.0	.....	.....	1.9	10.6	20.4	36.3	9.4	21.4	.....
Paper goods, not elsewhere specified	100.0	.....	1.1	4.0	8.3	10.9	7.1	32.0	36.6	.....
Petroleum, refining	100.0	.....	.....	1.6	6.0	5.8	14.9	28.9	42.7	.....
Pottery, terra-cotta, and fire-clay products	100.0	.....	0.2	1.3	11.5	18.7	43.3	13.9	11.1	.....
Printing and publishing	100.0	.....	13.1	23.6	20.1	16.7	16.3	7.0	3.3	.....
Slaughtering and meat packing	100.0	.....	6.6	13.0	15.4	31.1	4.0	11.2	18.7	.....
Soap	100.0	.....	1.9	6.4	9.4	10.9	12.6	14.9	43.9	.....
Stoves and furnaces, including gas and oil stoves	100.0	.....	0.9	3.6	8.0	18.6	25.5	10.6	15.8	17.0
Tin plate and terneplate	100.0	.....	.....	.....	.....	11.5	88.5	.....	.....	.....
Tobacco manufactures	100.0	.....	9.0	9.1	10.0	9.7	23.6	18.2	20.4	.....
Woolen, worsted, and felt goods, and wool hats	100.0	.....	0.3	2.1	3.0	6.5	37.1	.....	.....	51.0
All other industries	100.0	.....	4.1	9.6	11.7	11.4	20.4	11.8	14.9	16.1

[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 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, page 984.

The table shows that, for all industries combined, 64.2 per cent of the total expenses were incurred for materials, 24.7 per cent for services—that is, salaries and wages—and only 11 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 manufacture of distilled and malt liquors and tobacco products are due to the inclusion of internal-revenue taxes. The highest percentage shown for materials, 92.7, is for flour mills and gristmills and the lowest percentage shown for salaries and wages, 2.8, is for distilleries, proportions which are due to the comparative simplicity of the manufacturing operations in each class of establishments. Other industries with a high percentage of expense for materials are: Tin plate and terneplate, slaughtering and meat packing, blast furnaces, and butter, cheese, and condensed milk.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED. Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	5.6	19.1	64.2	11.0
Agricultural implements	9.3	25.6	51.2	13.9
Automobiles, including bodies and parts	4.4	24.1	57.5	14.0
Boots and shoes, including cut stock and findings	7.2	22.5	63.9	6.3
Brass and bronze products	7.2	23.7	61.1	8.0
Bread and other bakery products	5.5	17.0	68.8	8.7
Brick and tile	7.9	47.5	29.7	14.8
Butter, cheese, and condensed milk	1.9	6.2	86.0	5.9
Carriages and wagons and materials	6.6	24.1	59.1	10.2
Cars and general shop construction and repairs by steam-railroad companies	4.5	44.3	49.7	1.4
Cars, steam-railroad, not including operations of railroad companies	8.4	20.1	64.6	6.9
Chemicals	5.2	11.9	75.8	7.1
Clothing, men's, including shirts	7.5	18.1	57.6	16.8
Clothing, women's	9.2	23.7	57.1	10.0
Coffee and spice, roasting and grinding	7.8	3.4	79.9	8.9
Confectionery	7.3	13.8	67.1	11.8
Copper, tin, and sheet-iron products	5.6	18.5	68.1	7.7
Electrical machinery, apparatus, and supplies	9.9	24.8	46.6	18.7
Flour-mill and gristmill products	1.5	3.2	92.7	2.6
Foundry and machine-shop products	9.2	29.4	49.9	11.5
Furniture and refrigerators	7.4	29.0	50.7	13.0
Glass	5.6	46.9	36.8	10.8
Hosiery and knit goods	6.8	18.6	66.8	7.8
Iron and steel, blast furnaces	1.8	6.6	88.5	3.1
Iron and steel, steel works and rolling mills	2.3	16.1	78.2	3.5
Leather, tanned, curried, and finished	2.1	11.5	82.1	4.2
Liquors, distilled	0.8	2.0	21.8	75.4
Liquors, malt	8.0	15.6	31.2	45.2
Lumber and timber products	4.8	22.1	65.8	7.3
Paint and varnish	11.0	7.2	68.7	13.1
Paper and wood pulp	3.8	15.6	70.2	10.3
Paper goods, not elsewhere specified	5.7	16.1	62.7	15.5
Petroleum, refining	4.1	10.2	81.1	4.6
Pottery, terra-cotta, and fire-clay products	7.7	45.8	34.3	12.2
Printing and publishing	15.8	27.1	34.4	22.7
Slaughtering and meat packing	1.4	3.9	92.1	2.7
Soap	4.1	5.9	83.0	7.0
Stoves and furnaces, including gas and oil stoves	8.8	30.9	46.2	14.0
Tin plate and terneplate	1.0	5.8	92.5	0.7
Tobacco manufactures	3.8	17.6	47.2	31.3
Woolen, worsted, and felt goods, and wool hats	3.0	13.7	68.2	15.1
All other industries	6.6	19.1	60.4	13.9

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	**25,970**	**11,598**	**11,548**	**1,583,155**	**1,116,932**	**783,665**	**100.0**	**100.0**	**100.0**
Owned	13,012	11,598	11,548	1,483,628	1,088,030	767,051	93.7	97.4	97.9
Steam	9,246	9,063	9,789	1,362,134	1,028,665	732,006	86.0	92.1	93.4
Gas	3,354	2,004	1,203	103,801	35,101	14,230	6.6	3.1	1.8
Water wheels	373	449	556	15,777	17,781	17,848	1.0	1.6	2.3
Water motors	39	82	(2)	330	368	(2)	(3)	(3)	.....
Other	.....	.....	.....	1,586	6,115	2,967	0.1	0.5	0.4
Rented	12,958	(2)	(2)	99,527	28,902	16,614	6.3	2.6	2.1
Electric	12,958	(2)	(2)	93,592	23,159	8,768	5.9	2.1	1.1
Other	.....	.....	.....	5,935	5,743	7,846	0.4	0.5	1.0
Electric motors	**34,237**	**8,668**	**1,721**	**417,844**	**144,467**	**42,157**	**100.0**	**100.0**	**100.0**
Run by current generated by establishment	21,279	8,668	1,721	324,252	121,308	33,389	77.6	84.0	79.2
Run by rented power	12,958	(2)	(2)	93,592	23,159	8,768	22.4	16.0	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.

The amount of primary power used in the manufacturing industries of Ohio increased 333,267 horsepower, or 42.5 per cent, from 1899 to 1904, and 466,223 horsepower, or 41.7 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 and 1899, steam power formed the major part of the total power reported, but notwithstanding increases during the two five-year periods of 296,659 horsepower and 333,469 horsepower, respectively, the proportion which this kind of power formed of the total primary power decreased from 93.4 per cent in 1899 to 92.1 per cent in 1904, and to 86 per cent in 1909.

The more general use of gas engines in recent years is shown, there being 3,354 of such engines with an indicated capacity of 103,801 horsepower reported in 1909, as against 2,004 engines with 35,101 horsepower in 1904, and 1,203 engines with 14,230 horsepower in 1899. The figures also show that the practice of renting electric power is increasing rapidly, 93,592 horsepower, or 5.9 per cent of the total power, being of this character in 1909, as compared with 23,159 horsepower, or 2.1 per cent, in 1904, and 8,768 horsepower, or 1.1 per cent, in 1899. The use of electric motors for the purpose of applying the power generated in the establishments is rapidly becoming more common, the horsepower of such motors increasing from 33,389 in 1899 to 121,308 in 1904 and 324,252 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	**80,860**	**11,760,403**	**6,745,934**	**108,775**	**421,401**	**103,382,125**
Agricultural implements	.....	44,510	8,967	13	11,896	240,768
Automobiles, including bodies and parts	1,057	61,588	1,591	212	16,653	151,524
Boots and shoes, including cut stock and findings	844	31,722	.....	.....	31	68,168
Brass and bronze products	.....	21,888	6,605	23	5,411	22,877
Bread and other bakery products	5 913	27,411	15,893	14,371	270	692,323
Brick and tile	2,957	953,209	1,557	43,685	1,068	1,780,136
Butter, cheese, and condensed milk	222	31,305	23	2,370	19	43,347
Carriages and wagons and materials	204	81,415	5,986	101	4,833	63,790
Cars and general shop construction and repairs by steam-railroad companies	187	379,198	2,012	7,414	23,014	227,694
Cars, steam-railroad, not including operations of railroad companies	36	18,430	2,383	.....	6,000	31,877
Chemicals	.....	160,558	23,231	360	403	876,615
Clothing, men's, including shirts	35	5,470	88	.....	808	71,453
Clothing, women's	889	1,983	11	.....	28	44,195
Coffee and spice, roasting and grinding	1,111	6,801	876	.....	1	22,232
Confectionery	12	10,315	408	.....	32	46,150
Copper, tin, and sheet-iron products	1,731	70,844	2,895	9	1,104	318,942
Electrical machinery, apparatus, and supplies	1,063	65,015	2,443	.....	6,452	615,288
Flour-mill and gristmill products	388	109,236	.....	2,776	1,090	770,887
Foundry and machine-shop products	18,730	690,612	193,398	4,458	60,917	1,533,226
Furniture and refrigerators	41	68,481	489	700	193	33,434
Glass	89	210,815	1,397	5	4,498	12,728,097
Hosiery and knit goods	4	11,522	.....	.....	.....	5,849
Iron and steel, blast furnaces	.....	277,951	6,183,253	521	271	72
Iron and steel, steel works and rolling mills	105	3,460,695	136,964	10,030	73,275	64,620,688
Leather, tanned, curried, and finished	.....	45,516	133	.....	11	34
Liquors, distilled	18	53,837	.....	130	.....	744
Liquors, malt	1,070	320,560	1,202	.....	310	693,380
Lumber and timber products	721	80,623	225	1,227	488	102,075
Paint and varnish	1	29,040	6,523	64	24	32,702
Paper and wood pulp	.....	492,136	.....	.....	.....	4,581,706
Paper goods, not elsewhere specified	5	15,427	.....	.....	.....	6,886
Petroleum, refining	.....	248,039	.....	.....	32,507	519,690
Pottery, terra-cotta, and fire-clay products	1,286	781,527	.....	388	2,670	7,369,525
Printing and publishing	562	40,242	26	96	1,118	225,115
Slaughtering and meat packing	.....	87,452	4	1,424	524	118,502
Soap	426	115,220	1,145	.....	.....	35,887
Stoves and furnaces, including gas and oil stoves	27	41,590	16,730	341	35	216,443
Tin plate and terneplate	.....	14,685	.....	.....	.....	99,862
Tobacco manufactures	47	12,152	136	46	5	37,152
Woolen, worsted, and felt goods, and wool hats	.....	25,634	6,044	.....	.....	9,212
All other industries	41,079	2,495,690	123,296	18,011	165,442	4,324,578

NOTE.—In addition, there were 2,681 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 other information for securing which no provision is made on the general schedule. Certain data of this character for 21 important industries in Ohio are here presented.

Iron and steel.—Under this heading are presented the statistics of blast furnaces and of steel works and rolling mills. Ohio owes its high position in this industry to its location midway between the largest iron-ore and coking-coal deposits in the country, to a plentiful supply of natural gas and oil, and to most excellent transportation facilities. The census of 1909 shows that it has maintained its position as the second state in the United States in the iron and steel industry, Pennsylvania alone having a greater production. The value of the products of the steel works and rolling mills was greater than the value of products of any other industry and represented 13.8 per cent of the total for the state. Blast furnaces ranked third in value of products, with 5.8 per cent of the total for the state.

Steel works and rolling mills.—The following statement shows for 1909, 1904, and 1899 the quantity and cost of the principal materials used by steel works and rolling mills, the quantity and value of the leading products, and the main features of the equipment.

MATERIAL, PRODUCT, OR EQUIPMENT.	1909	1904	1899
Materials used, total cost	$139,243,155	$78,209,770	$67,785,834
Iron and steel:[1]			
For furnaces and hot rolls—			
Pig iron and ferroalloys—			
Tons	4,209,149	2,393,614	2,031,684
Cost	$64,441,978	$33,040,901	$32,833,698
Pig iron—			
Tons	4,172,114	(2)	(2)
Cost	$62,747,851	(2)	(2)
Ferroalloys — spiegeleisen, ferromanganese, etc.—			
Tons	37,035	(2)	(2)
Cost	$1,694,127	(2)	(2)
Scrap, including old rails not intended for rerolling—			
Tons	530,408	635,967	463,335
Cost	$8,093,044	$8,067,895	$8,635,371
Ingots, blooms, billets, slabs, muck and scrap bar, rerolling rails, and sheet and tin-plate bars—			
Tons	1,858,171	1,059,744	709,709
Cost	$40,358,367	$23,607,315	$17,973,277
Rolled forms for further manufacture—			
Skelp—			
Tons	57,144	10,192	(2)
Cost	$1,730,190	$315,343	(2)
Wire rods—			
Tons	97,539	92,246	52,647
Cost	$2,708,015	$2,563,171	$1,925,146
Iron ore:			
Tons	75,857	48,239	26,434
Cost	$384,303	$211,533	$93,610
Fuel and rent of power	$7,672,641	$4,990,891	$6,324,732
All other materials	$13,854,617	$5,412,721	
Products, total value	[3] $197,780,043	$111,996,673	$98,568,619
Rolled, forged, and other classified products, steel and iron:			
Tons	5,898,690	3,533,426	2,737,497
Value	$172,105,247	$101,233,039	$90,366,549
Bars and rods, not including wire rods, sheet and tin-plate bars, splice bars, and bars for reenforced concrete—			
Tons	704,168		
Value	$21,168,583	274,191	472,159
Bars for reenforced concrete—		$8,672,928	$17,787,412
Tons	70,978		
Value	$2,063,084		
Plates and sheets, not including black plates or sheets for tinning, nail and tack plates, tin-plates, fishplates, or armor plates—			
Tons	755,010		
Value	$33,800,603	460,131	308,092
Black plates or sheets for tinning—		$20,700,386	$16,110,691
Tons	111,156		
Value	$5,868,639		
Skelp:			
Tons	739,761	[4] 314,447	[4] 128,188
Value	$22,198,305	$9,707,170	$4,452,276
Blooms, billets, and slabs, produced for sale or for transfer to other works of the same company—			
Tons	1,975,730		
Value	$42,301,868		
Sheet and tin-plate bars, produced for sale or for transfer to other works of the same company—		1,803,873	1,320,750
Tons	679,982	$40,350,466	$32,486,609
Value	$15,611,744		
Products—Continued.			
Rolled, forged, and other classified products, steel and iron—Continued.			
Muck and scrap bar, produced for sale or for transfer to other works of the same company—			
Tons	15,875	32,464	21,261
Value	$415,651	$1,008,781	$594,268
Ingots for sale or for transfer to other works of the same company—			
Tons	32,223	2,661	.....
Value	$613,540	$64,836	.....
Direct castings—			
Tons	93,926	35,156	18,402
Value	$6,343,186	$2,308,178	$1,428,738
All other rolled and forged steel and iron, not including remanufactures of rolling-mill products:			
Tons	719,881	610,503	468,645
Value	$21,719,984	$18,420,294	$17,506,555
All other products, including value added to steel or iron rolling-mill product by further manufacture	$25,674,796	$10,763,634	$8,202,070
Steel production, tons.			
Total	[5] 4,705,337	2,529,997	1,812,829
Bessemer	3,337,895	2,049,153	1,697,353
Open-hearth	1,366,672	480,844	114,926
Basic	1,306,694	425,007	62,394
Acid	59,978	55,837	52,532
Crucible	770	.....	550
Equipment:			
Steel plants: Daily capacity of steel furnaces and converters, tons of steel, double turn	21,084	13,752	8,792
Open-hearth furnaces—			
Number	66	42	27
Daily capacity, tons of steel, double turn	6,329	2,922	1,218
Basic—			
Number	58	33	14
Daily capacity, tons of steel, double turn	5,945	2,384	740
Acid—			
Number	8	9	13
Daily capacity, tons of steel, double turn	384	538	478
Converters, Bessemer, or modified Bessemer—			
Number	17	12	12
Daily capacity, tons of steel, double turn	14,740	10,830	7,573
Crucible and miscellaneous steel furnaces—			
Number	12	.....	6
Number of pots that can be used at a heat	96	.....	12
Daily capacity, tons of steel, double turn	15	.....	1
Metal mixers—			
Number	13	(6)	(6)
Capacity, tons	3,350	(6)	(6)
Rolling mills: Daily capacity of rolled steel and iron, double turn, tons	27,922	19,901	12,374

[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 or rolled steel to the value of $706,241 were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.
[4] Includes hoops, bands, and cotton ties.
[5] In addition, 8,532 tons of steel castings were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.
[6] Not reported.

Establishments which are classified as steel works and rolling mills make three classes of products: (1) Those which must be subjected to further rolling before they can be regarded as finished rolling-mill products; (2) those which have passed through all the contemplated rolling processes and may be termed finished rolling-mill products; and (3) those which have been subjected to processes beyond the rolling-mill stage. In the preceding 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 secured through their manufacture beyond the rolling-mill product stage has been reported under the head of "Value of all other products."

The existence of the other two classes of products in the industry, namely, the finished products and the unfinished products, results in a certain amount of duplication in the figures for cost of materials and value of products. When ore and other materials were worked up into ingots or other similar products in one rolling mill and were then used in a second, where they were 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 an 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 table is chiefly interesting as an indication of the enormous growth of the steel works and rolling mills during the 10-year period 1899–1909. The materials used increased in cost from a little less than $68,000,000 to over $139,000,000 and the value of products from a little over $98,000,000 to almost $198,000,000. The daily capacity of the steel furnaces and converters working on double turn increased from 8,792 tons to 21,084 tons, and the daily capacity of rolling mills working on double turn increased from 12,374 tons to 27,922 tons.

Blast furnaces.—The quantity and cost of materials used in blast furnaces, the production of pig iron according to grades and fuel used, and the equipment of the plants are shown in the following statement for 1909, 1904, and 1899. The year 1904, as stated above, was one of partial depression in the iron and steel industry, and hence comparisons between the censuses of 1899 and 1904 and between the censuses of 1904 and 1909 do not give a true idea of the development of the industry during these five-year periods.

MATERIAL, PRODUCT, OR EQUIPMENT.	1909	1904	1899
Materials used, total cost	$68,424,722	$32,476,727	$23,543,473
Iron ore:			
Tons	9,884,358	5,266,473	4,304,203
Cost	$41,830,645	$18,881,573	$12,204,486
Mill cinder, scrap, etc.:			
Tons	368,931	328,841	192,203
Cost	$1,041,384	$604,526	$403,347
Fluxes:			
Tons	2,693,423	1,464,057	1,252,632
Cost	$2,597,107	$1,348,409	$1,003,919
Coke:			
Tons (2,000 pounds)	6,050,491	3,432,965	2,917,388
Cost	$20,433,686	$10,548,220	$6,869,925
All other materials	$2,521,900	$1,093,999	$3,001,796
Products, total value	$83,699,238	$40,862,451	$40,366,637
Pig iron:			
Tons	5,446,971	2,987,787	2,559,604
Value	$82,048,712	$40,705,777	$40,308,758
All other products	$1,650,526	$156,674	$57,879
Pig iron, classified according to fuel used:			
Coke—			
Tons	5,376,398	2,987,149	2,552,643
Value	$80,813,570	$40,689,717	$40,155,408
All other (raw coal and coke and charcoal)—			
Tons	70,573	638	7,051
Value	$1,235,142	$16,060	$153,350
Pig iron, classified according to disposition:			
Produced for consumption in works of company reporting—			
Tons	3,564,358	1,751,730	(1)
Value	$53,108,589	$23,624,236	(1)
Produced for sale—			
Tons	1,882,613	1,236,057	(1)
Value	$28,940,123	$17,081,541	(1)
Pig iron, classified according to grades (tons):			
Bessemer	[2] 3,456,131	2,120,643	1,862,136
Basic	798,173	206,458	93,700
Foundry	714,322	441,227	305,004
Forge or mill	60,805	66,729	246,487
Malleable Bessemer	364,067	127,330	(1)
White, mottled, miscellaneous, and direct castings	6,121	8,906	33,347
Ferrosilicon	47,352	16,494	19,020
Pig iron, classified according to method of delivery or castings (tons):			
Delivered in molten condition	2,723,700	1,105,159	(1)
Sand cast	1,625,073	1,361,161	(1)
Machine cast	945,036	516,338	(1)
Chill cast and direct castings	153,162	5,129	(1)
Equipment:			
Furnaces in active establishments:			
Completed stacks at end of year—			
Number	67	53	51
Daily capacity, tons	21,017	15,887	10,468
Active during the year—			
Number	65	53	50
Daily capacity, tons	20,677	15,887	(3)
In course of construction at end of year—			
Number	1	1	4
Daily capacity, tons	325	75	2,200
Pig casting machines, number	20	(1)	(1)
Granulated slag pits:			
Number	25	14	(1)
Annual capacity, tons	1,149,000	(3)	(1)
Gas engines operated with blast-furnace gas:			
Number	10	(1)	(1)
Horsepower	20,140	(1)	(1)

[1] Not reported. [2] Includes 9,111 tons of low phosphorus. [3] Figures not available.

The total cost of materials increased from $23,543,473 in 1899 to $68,424,722 in 1909, a gain of 190.6 per cent. The quantity of ore, fluxes, and coke consumed in 1909 was more than double that used in 1899, and mill cinder, scrap, etc., gained 92 per cent, but none of these materials increased in quantity in as great a proportion as they increased in cost.

The total value of the products of blast furnaces was over $83,000,000 in 1909, as compared with slightly over $40,000,000 in 1899. The pig-iron product in

1909 consisted of 5,446,971 tons, valued at $82,048,712, which figures represent an increase since 1899 of 112.8 per cent in quantity and of 103.6 per cent in value. Practically all the pig iron was made with coke, the mixed fuels and charcoal being used for an almost negligible quantity. Nearly two-thirds of the pig iron made in 1909 was for consumption in the works of the company reporting it, and 50 per cent of the entire product was delivered in a molten condition to the steel plants. Sixty-three and five-tenths per cent of the entire output for 1909 was Bessemer pig iron and 14.7 per cent basic, compared with 72.7 per cent Bessemer and 3.7 per cent basic in 1899.

The total number of furnaces in active establishments increased from 51 in 1899 to 67 in 1909, and their daily capacity from 10,468 to 21,017 tons. Pig casting machines were not reported until 1909, when there were 20. Internal-combustion engines to the number of 10, with a total horsepower of 20,140, were first reported in 1909 and mark a great advance in industrial economy in the utilization of what was formerly waste blast-furnace gas.

Tin plate and terneplate.—This industry is allied closely to iron and steel production, since the manufacture of the black plates used in it is a rolling-mill operation. The special statistics of the industry are given in the following table, which shows the kind, quantity, and cost of materials used, and the quantity and value of products for 1909. No comparative figures can be presented without disclosing individual operations.

MATERIAL OR PRODUCT.	1909
Materials used, total cost	$7,155,144
Black plates or sheets:	
Pounds	213,764,915
Cost	$5,143,579
Coating metals:	
Pounds	8,064,988
Cost	$1,587,798
In condition purchased:	
Pig tin—	
Pounds	3,872,221
Cost	$1,142,704
Pig lead—	
Pounds	249,000
Cost	$10,612
Terne mixture—	
Pounds	3,943,767
Cost	$434,482
All other materials	$423,767
Products, total value	$7,889,367
Tin plate and terneplate:	
Pounds	212,737,039
Value	$7,669,423
All other products	$219,944

In 1909 Ohio ranked third among the states of the United States in this industry, reporting 16.4 per cent of the total value of products for the country as a whole.

Slaughtering and meat packing.—The following tabular statement shows, for the slaughtering and meat-packing industry, the kind, quantity, and cost of the principal materials used and the quantity and value of the leading products with the exception of sausage, for which the value only is available.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	$44,347,162	$25,310,709	$18,007,351
Beeves slaughtered:			
Number	265,191	189,613	98,636
Cost	$11,613,314	$6,490,507	$3,629,833
Calves slaughtered:			
Number	150,223	86,906	31,971
Cost	$1,599,585	$665,385	$247,280
Sheep slaughtered:			
Number	229,985	148,418	70,739
Cost	$872,989	$502,029	$224,559
Hogs slaughtered:			
Number	1,725,285	1,447,778	1,283,597
Cost	$24,547,970	$14,954,587	$11,189,787
Dressed meat, purchased	$2,415,657	$1,497,516	$1,143,022
Fuel and rent of power	$224,429	$125,775	$89,302
All other materials	$3,073,218	$1,074,910	$1,483,508
Products, total value	$50,804,100	$29,154,718	$20,767,657
Beef, fresh:			
Pounds	119,597,666	89,925,370	43,652,450
Value	$10,047,217	$5,967,126	$3,116,193
Beef, salted or cured:			
Pounds	4,450,976	2,434,645	4,692,000
Value	$328,334	$175,972	$240,740
Veal:			
Pounds	12,921,896	6,680,682	2,464,318
Value	$1,498,687	$610,883	$234,817
Mutton:			
Pounds	7,738,777	5,406,034	2,277,155
Value	$763,364	$472,931	$212,592
Pork, fresh:			
Pounds	60,320,259	49,033,932	46,226,099
Value	$6,950,354	$4,514,599	$3,354,714
Pork, salted or cured:			
Pounds	121,988,353	116,433,401	114,350,050
Value	$16,202,666	$10,182,724	$9,301,993
Sausage, fresh or cured	$3,346,493	$1,711,463	$1,133,417
All other fresh meat:			
Pounds	6,728,033	4,155,474	242,080
Value	$493,467	$241,956	$21,408
Lard:			
Pounds	58,518,712	49,180,666	32,398,829
Value	$6,566,768	$3,427,690	$2,105,391
Tallow, oleo stock, and stearin:			
Pounds	11,088,893	(1)	(1)
Value	$640,001	(1)	(1)
Fertilizers and fertilizer materials:			
Tons	9,103	7,517	4,006
Value	$166,354	$104,092	$58,646
Hides:			
Number	410,573	254,572	130,595
Pounds	16,900,033	11,638,587	5,728,737
Value	$1,970,069	$1,037,295	$514,759
Pelts:			
Number	232,775	148,118	(1)
Value	$194,720	$101,427	(1)
Amount received for custom or contract work	$16,484	$11,780	$1,500
All other products	$1,619,122	$594,780	$471,487

[1] Figures not available.

The total cost of the materials used in the slaughtering and meat-packing industry in 1909 was $44,347,162, of which $38,633,858 represented the cost of animals slaughtered, $2,415,657 the cost of dressed meat purchased, $224,429 the expenditures for fuel and rent of power, and $3,073,218 the cost of all other materials. The cost of the dressed meat purchased may be to some extent a duplication, because the animals purchased by an establishment for slaughtering may be sold to a second establishment in the form of dressed meat for packing, and hence may enter twice into the cost of materials of the industry and twice into its value of products. If this element of duplication is ignored, it appears that the cost of animals slaughtered and dressed meat purchased formed 92.6 per cent of the total cost of materials.

Comparisons with the figures for earlier censuses show that for all classes of materials there was a substantial increase between 1899 and 1909. "All other materials" decreased in value between 1899 and 1904, but since the later year their cost has almost trebled.

The total value of products of the industry was $50,804,100. Salted or cured pork was the principal

product, having a value of over $16,000,000, as compared with about $10,000,000 for fresh beef. Hides were the most important by-product, having a value of almost $2,000,000.

All products except salted or cured beef, so far as figures are available, show a substantial gain between 1899 and 1909 in both quantity and value, and salted or cured beef shows a considerable increase in value, although the quantity decreased.

A comparison of the figures for 1909 with those for 1904 shows increases for all commodities; in general, the values have increased more rapidly than the quantities, thus reflecting the increase in prices that has been taking place in recent years.

Flour-mill and gristmill products.—Ohio was fifth in 1909 among the states in the manufacture of flour-mill and gristmill products, reporting 5.4 per cent of the total value for the country. It also ranked fifth in the value of wheat flour produced and in the quantity of corn and buckwheat ground. Among the industries of the state itself the industry was sixth and contributed 3.4 per cent of the total value reported for all manufactured products. The tabular statement following gives the quantity and value of products for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	$48,093,353	$40,855,566	$35,077,553
Wheat flour:			
White—			
Barrels	5,713,058	5,606,458	7,113,343
Value	$30,459,760	$27,764,108	$25,140,728
Graham—			
Barrels	10,478	21,721	
Value	$48,349	$92,495	
Corn meal and corn flour:			
Barrels	865,250	1,006,703	1,291,970
Value	$2,528,843	$2,432,026	$2,259,483
Rye flour:			
Barrels	33,215	43,691	39,133
Value	$146,786	$181,105	$114,288
Buckwheat flour:			
Pounds	7,436,813	3,599,618	3,405,955
Value	$180,267	$93,967	$81,575
Hominy and grits:			
Pounds	80,855,375	69,360,258	5,449,650
Value	$1,247,605	$699,171	$54,513
Feed:			
Tons	269,532	203,278	306,943
Value	$7,263,751	$4,151,864	$4,552,016
Offal:			
Tons	232,769	266,726	195,489
Value	$5,142,619	$4,821,108	$2,383,732
All other products	$1,075,373	$619,722	$491,218

White flour was the principal product reported, contributing 63.3 per cent of the total value of products in 1909, 68 per cent in 1904, and 71.7 per cent in 1899. The next in value was feed, with 15.1 per cent of the total in 1909, compared with 10.2 per cent in 1904 and 13 per cent in 1899. Hominy and grits contributed 2.6 per cent of the total in 1909, 1.7 per cent in 1904, and about two-tenths of 1 per cent in 1899. The decrease of 14.1 per cent from 1904 to 1909 in the quantity of corn products was counterbalanced by the greater production of feed, which was derived largely from corn. The value of all products in 1909 was higher per unit of quantity than in 1904 or 1899, except in the case of buckwheat flour, where the value per unit has remained practically the same. Less offal was reported in 1909 than in 1904, but the total value was greater.

Of the 593 establishments grinding wheat in 1909, 10 reported over 100,000 barrels of wheat flour for the census year; 33 reported between 20,000 and 100,000 barrels; 188, from 5,000 to 20,000; 297, from 1,000 to 5,000; and 65, less than 1,000 barrels. The number of pairs of rolls reported was 5,643, and the number of runs of stone and steel burrs 453.

Printing and publishing.—Among the states Ohio ranked fifth in the value of the products of printing and publishing establishments. The industry ranked seventh among those in the state in 1909, and it showed an increase in value of products of 33 per cent over 1904 and of 31.4 per cent over 1899. The following statement gives the number and circulation of the principal kinds of newspapers and periodicals for the last three censuses:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	1,181	1,250	1,069	10,753,143	9,321,545	7,467,358
Daily	184	190	170	1,542,855	1,357,135	1,224,715
Sunday	25	23	30	645,869	544,416	(1)
Semiweekly and triweekly	60	53	61	131,806	113,749	224,461
Weekly	699	781	692	2,913,730	2,747,511	2,411,172
Monthly	152	143	90	2,685,470	2,006,287	1,420,501
Quarterly	37	40	15	2,288,134	2,169,200	1,795,609
All other classes	24	20	11	545,279	383,247	390,900

[1] Included in circulation of dailies.

In the number of publications there was a net decrease of 69 from 1904 to 1909. The daily newspapers decreased by 6, the weekly newspapers and weekly periodicals by 82, and the quarterlies by 3, but there was an increase of 2 in the Sunday newspapers, of 7 in the semiweeklies and triweeklies, of 9 in the monthly publications, and of 4 in "All other classes." The reduction was wholly among publications in English, which decreased 90; the foreign and the foreign and English increased by 21.

In circulation of all publications the increase for the 10-year period 1899–1909 was 44 per cent, and for the 5-year period 1904–1909, 15.4 per cent. Of the different specified publications, the greatest percentage of gain both for the decade and for the 5-year period 1904–1909 was in the circulation of monthlies. These increased 89.1 per cent from 1899 to 1909 and 33.9 per cent from 1904 to 1909. Quarterlies increased their circulation 27.4 per cent during the decade and 5.5 per cent during the 5-year period 1904–1909. Daily newspapers increased their circulation 26 per cent in the decade and 13.7 per cent from 1904 to 1909.

The circulation of weekly newspapers decreased from 1904 to 1909, but the circulation of weekly periodicals increased materially. As these two are combined, a net increase is shown of 20.8 per cent for the decade 1899–1909 and of 6 per cent for the five-year period 1904–1909.

The circulation of Sunday newspapers from 1904 to 1909 increased 18.6 per cent. The circulation of semiweeklies and triweeklies combined decreased 41.3 per cent during the 10 years, but increased 15.9 per cent during the later five-year period, 1904–1909.

The following statement gives the circulation for 1909 of the newspapers and periodicals published in English and of those published in foreign languages, including those published in both foreign languages and English:

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	**1,181**	**10,753,143**	**1,052**	**9,919,063**	**129**	**834,080**
Daily	184	1,542,855	173	1,453,190	11	89,665
Sunday	25	645,869	18	588,729	7	57,140
Semiweekly and triweekly	60	131,806	52	111,438	8	20,368
Weekly	699	2,913,730	630	2,543,916	69	369,814
Monthly	152	2,685,470	133	2,550,482	19	134,988
Quarterly	37	2,288,134	29	2,151,180	8	136,954
All other classes	24	545,279	17	520,128	7	25,151

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

Of the aggregate circulation, 92.2 per cent was that of newspapers and periodicals published in English. This percentage is slightly smaller than that for 1904, when the circulation of publications in English formed 93.4 per cent of the total. The increase of publications in foreign languages, including those in foreign and English, was, however, slight. The circulation of German publications in 1909 constituted 67.5 per cent of the total circulation in foreign languages.

Automobiles, including bodies and parts.—Ohio ranked second among the states in the manufacture of automobiles, including bodies and parts, both in 1909 and 1904. The industry ranked eighth among the industries of the state, with a total value of products of $38,838,754. This represents an increase of $32,480,590, or 510.9 per cent, in value of products.

The number and value of the automobiles manufactured, classified by type and by power, are shown for 1904 and 1909 in the next table. No figures are available for 1899, for in that year the industry was included with that of carriages and wagons.

The total number of automobiles manufactured in Ohio in 1909 was 14,299, and they were valued at $23,550,112. The number was 409.2 per cent greater than in 1904 and the value 353.1 per cent greater. In 1904 practically all machines reported were classed as passenger or pleasure vehicles, but in 1909 the commercial or business type of car was made in such numbers as to form 4.7 per cent of the total number, and ambulances, omnibuses, and similar cars formed 6.3 per cent.

In 1909 Ohio was first among the states in the number and value of electric machines, and in the number and value of steam machines, manufacturing 42.9 per cent and 72.1 per cent, respectively, of the total number reported for the country. As all the steam cars were made by one establishment, they are included under "Electric and steam," to avoid the disclosure of the operations of an individual establishment. The item of "All other products," which includes the manufacture of additional parts, supplies, and other items not called for separately on the schedule, shows an enormous increase—from $1,160,804 in 1904 to $15,288,642 in 1909, or 1,217.1 per cent.

Of the total number of automobiles made in 1909, 76.6 per cent were to be operated with gasoline, and their value formed 76.4 per cent of the total value of all machines manufactured. The number of gasoline machines manufactured increased 504.5 per cent and their value 367.1 per cent over 1904. The increase in the electric and steam automobiles was 236.2 per cent in number and 313.1 per cent in value.

PRODUCT.	1909		1904	
	Number.	Value.	Number.	Value.
Total value	.....	**$38,838,754**	.....	**$6,358,164**
Automobiles, total	14,299	23,550,112	2,808	5,197,360
Gasoline	10,947	17,999,332	1,811	3,853,621
Electric and steam	3,352	5,550,780	997	1,343,739
Passenger vehicles	13,628	22,921,062	[1] 2,808	[1] 5,197,360
Buggies, runabouts, and touring cars	11,539	18,356,985	[1] 2,808	[1] 5,197,360
Limousines, cabs, etc.	1,185	2,775,891	.....	.....
All other (omnibuses, ambulances, etc)	904	1,788,186	.....	.....
Business vehicles (merchandise)	671	629,050	.....	.....
Delivery wagons	469	242,105	.....	.....
Trucks	202	386,945	.....	.....
All other products, including repair work	.....	15,288,642	.....	1,160,804

[1] Includes "Business vehicles," to avoid disclosure of individual operations.

A classification by horsepower rating shows that the greatest number of machines in 1909 were of 30 but less than 50 horsepower. Such machines numbered 4,742 and formed nearly one-third of the total. The next largest number, 3,825, consisted of machines rated at 20 but less than 30 horsepower. Those of from 10 to 19 horsepower, inclusive, numbered 3,716, and those of less than 10 horsepower, 1,542. The higher power machines were fewer in number, 461 being rated at 50 but less than 90 horsepower, and 13 at 90 horsepower or more. No rating by horsepower was secured in 1904, so that comparative data are not possible.

Lumber and timber products.—In the following tabular statement are shown the quantities of rough lumber, lath, and shingles produced in 1909 and 1899:

PRODUCT.		QUANTITY.	
		1909	1899
Rough lumber	M feet b. m.	542,904	990,497
Lath	thousands	17,508	18,519
Shingles	thousands	3,227	13,605

The production of lumber in Ohio decreased 45.2 per cent during the decade 1899–1909, that of lath 5.5 per cent, and that of shingles 76.3 per cent. This

decline is due in the main to the decreasing supply of merchantable timber.

The state dropped in rank from fourteenth in 1899 to twenty-seventh in 1909 in the production of rough lumber from all species, and now ranks tenth in the total production of hardwood lumber in the United States. Oak formed 47.8 per cent of the total output of lumber in the state in 1909 and 62.3 per cent in 1899, only seven states exceeding Ohio in the output of oak lumber in the latter year. Ohio ranked first in 1909 in the cut of walnut lumber, contributing 18.6 per cent of the total production of this species in the United States. Other hardwoods cut in considerable quantities in the state were beech, maple, yellow poplar, elm, ash, and hickory, which ranked in production in the order named.

Boots and shoes.—The following table gives the number and kinds of boots, shoes, and slippers produced by the boot and shoe factories of Ohio in 1909, 1904, and 1899:

PRODUCT.	NUMBER OF PAIRS.		
	1909	1904	1899
Total	**18,908,915**	**18,263,416**	**13,849,679**
Boots and shoes	17,693,316	18,063,299	13,507,978
Men's	1,702,194	1,661,202	527,241
Boys' and youths'	1,372,330	1,590,568	974,257
Women's	11,154,083	9,797,093	8,204,972
Misses' and children's	3,464,709	5,014,436	3,801,508
Slippers	1,147,239	192,053	275,991
All other	68,360	8,064	65,710

The boot and shoe industry in Ohio did not show as large an increase from 1904 to 1909 in the total number of pairs produced as it did from 1899 to 1904, yet all kinds of shoes except boys' and youths' and misses' and children's were manufactured in larger quantities in 1909 than in 1904. More women's shoes were manufactured than any other kind and they formed 59 per cent of the total product. The number of pairs produced increased 1,356,990, or 13.9 per cent, between 1904 and 1909, which was the largest absolute increase reported for any class. The largest relative increase, however, was in the number of pairs of slippers, which increased 955,186, or 497.4 per cent.

In the quantity and value of boot and shoe products Cincinnati stood sixth in 1909 among the cities of the United States, with a production valued at nearly $15,000,000. Portsmouth and Columbus have also become prominent in this industry, both reporting products valued at more than $5,000,000 for that year.

The next table is a statement of the various kinds of footwear, by method of manufacture, for 1909 only.

Of the total number of pairs of boots and shoes manufactured, 9,706,685, or 54.9 per cent, were made by the McKay method and 5,760,738, or 32.6 per cent, by the machine or hand welt method. Men's shoes were made principally by the machine or hand welt method, and misses' and children's by the McKay method.

PRODUCT.	NUMBER OF PAIRS, BY METHOD OF MANUFACTURE.			
	Total.	Machine or hand welt.	McKay.	All other methods.[1]
Boots and shoes	17,693,316	5,760,738	9,706,685	2,225,893
Men's	1,702,194	1,050,218	235,457	416,519
Boys' and youths'	1,372,330	420,986	570,888	380,456
Women's	11,154,083	4,038,641	6,073,809	1,041,633
Misses' and children's	3,464,709	250,893	2,826,531	387,285
Slippers and infants' shoes	1,215,599	67,376	580,125	568,098

[1] Includes "wire screw or metal-fastened," "turned," and "wooden-pegged."

Carriages and wagons and materials.—The following table shows the number and value of the various products of the carriage and wagon industry for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	**$21,949,459**	**$24,002,500**	**$22,803,197**
Carriages (family and pleasure):			
Number	135,877	199,428	213,692
Value	$8,126,285	$11,373,346	$11,257,362
Wagons:			
Number	28,882	40,905	44,315
Value	$2,733,606	$2,703,566	$2,556,063
Business—			
Number	12,187	7,988	.....
Value	$1,507,161	.....	.....
Farm—			
Number	16,549	52,645	.....
Value	$952,252	.....	.....
Government, municipal, etc.—			
Number	146	272	.....
Value	$274,193	.....	.....
Public conveyances:			
Number	657	217	41
Value	$206,458	$107,141	$16,000
Sleighs and sleds:			
Number	7,589	8,479	3,555
Value	$78,542	$52,166	$25,761
All other products, including parts and repair work	$10,804,568	$9,766,281	$8,948,011

Ohio still ranks first among the several states in the production of carriages and wagons, notwithstanding a decrease in the value of products from 1904 to 1909 of $2,053,041. Inspection of the figures for the different classes shows that all the decrease in value results from the decreased production of family and pleasure carriages. In 1899, 213,692 carriages were produced, with a value of $11,257,362, and they contributed 49.4 per cent of the total value of the products of the industry, but in 1909 only 135,877 carriages were produced, with a value of $8,126,285, and they contributed only 37 per cent of the total value of products of the industry. This change is accounted for largely by the enormous development of the automobile industry, which has caused many carriage makers either to go out of business or to devote their attention to automobile manufacture. The decreased numbers of farm wagons manufactured and the great increase in the value of all other products, including parts and repair work, are other interesting features of the table.

Pottery, terra-cotta, and fire-clay products.—At each of the last three censuses Ohio was first among the states in the manufacture of pottery, terra-cotta, and fire-clay products. At the census of 1909 the value of these products comprised 27.8 per cent of the total for the industry in the United States. There was an increase of $2,622,432, or 14.1 per cent, in 1909 over 1904, and of $9,322,047, or 78.7 per cent, over

1899. The following table gives the products by kind and value for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	**$21,173,272**	**$18,550,840**	**$11,851,225**
Pottery	13,416,356	11,904,210	6,994,805
Red earthenware	145,137	181,736	164,798
Stoneware and yellow and Rockingham ware	1,806,798	1,146,718	741,685
White ware, including C. C. ware, white granite ware, semiporcelain ware, and semivitreous ware	8,884,189	8,446,868	5,033,874
Sanitary ware, including solid porcelain bath tubs, laundry tubs, etc.	310,254	197,225	.....
Porcelain electrical supplies	1,146,694	584,243	190,314
Other pottery products	1,123,284	1,347,420	864,134
Terra-cotta and fire-clay products	7,756,916	6,646,630	4,856,420
Fire brick—			
Thousand	[1] 103,148	84,253	69,129
Value	$1,730,401	$1,240,826	$976,693
Sewer pipe	3,009,798	2,939,772	1,680,724
Fireproofing	804,637	577,014	346,090
Tile, not drain	1,912,343	971,785	565,094
Stove lining	23,803	([2])	7,563
Other terra-cotta and fire-clay products[3]	122,010	884,872	1,267,451
All other products	153,924	32,361	12,805

[1] Includes refractory block or tile, boiler and locomotive tile and tank blocks, and other refractory products (9-inch equivalent).
[2] Not reported separately.
[3] Includes common, fancy or ornamental, vitrified, and paving brick or block and draintile to the value of $322,228 in 1904 and $448,089 in 1899.

The manufacture of pottery products is the more important branch of the industry, and in 1909 it furnished 63.4 per cent of the total value of the products. This represents a very slight decrease in the relative importance of the pottery products since 1904, in which year their value formed 64.2 per cent of the total, but it represents a considerable increase since 1899, when the proportion was 59 per cent. The value of the pottery products has increased materially since 1899, being $21,173,272 in 1909 as contrasted with $11,851,225 in 1899.

White ware, including C. C. (cream colored) ware, white granite, semiporcelain, and semivitreous ware, was the leading pottery product in Ohio. In 1909 the value of such ware reported for the state was $8,884,189, which is 64.7 per cent of the total reported for the United States. The increase in the value of this product was small between 1904 and 1909, but between 1899 and 1904 it was $3,412,994, or 67.8 per cent.

Red earthenware and those pottery products included in "Other pottery products" showed a decrease between 1904 and 1909 in the value of products, but the other classes showed increases as follows: Stoneware and yellow and Rockingham ware, 57.6 per cent; sanitary ware, 57.3 per cent; and porcelain electrical supplies, 96.3 per cent. Of the total value of the stoneware and yellow and Rockingham ware made in the United States, Ohio reported 45.2 per cent, and of the porcelain electrical supplies, 37.6 per cent.

Sewer pipe was the leading terra-cotta and fire-clay product, the value of that produced in Ohio forming about one-third of the total for the country as a whole. Its production, however, did not increase materially between 1904 and 1909, the percentage of increase being only 2.4. The proportion which the value of sewer pipe formed of the total value of the products of this branch of the industry fell, moreover, from 44.2 per cent in 1904 to 38.8 per cent in 1909. All the other products reported separately showed considerable increase. The value of tile, not drain, increased 96.8 per cent between 1904 and 1909 and 238.4 per cent between 1899 and 1909. The value of fireproofing increased 39.4 per cent between 1904 and 1909 and 132.5 per cent between 1899 and 1909. Fire brick, the only item for which quantities are given, shows a gain of 18,895 thousand in number and $489,575 in value from 1904 to 1909 and of 15,124 thousand in number and $264,133 in value for the prior census period. The value of fire brick in 1909 formed 22.3 per cent of the value of terra-cotta and fire-clay products.

Brick and tile.—The value of the brick and tile produced in 1909 was $2,221,700, or 31.1 per cent, greater than in 1904, and $4,728,143, or 102.1 per cent, greater than in 1899. The following table gives the products classified by kind, quantity, and value for the last three censuses:

PRODUCT.	1909	1904	1899
Total value	**$9,357,730**	**$7,136,030**	**$4,629,587**
Brick	$6,961,161	$5,355,808	$3,743,365
Common—			
Thousand	420,999	[1] 459,443	[1] 450,047
Value	$2,429,879	$2,675,314	$2,341,063
Vitrified, paving, etc.—			
Thousand	324,530	167,888	118,804
Value	$3,113,128	$1,714,293	$924,585
Front, including fancy-colored—			
Thousand	130,684	82,552	45,515
Value	$1,393,787	$856,431	$436,880
Fancy or ornamental	$24,367	$109,770	$40,837
Draintile	$2,032,528	$1,111,138	$836,631
All other products	$364,041	[1] $669,084	$49,591

[1] Includes enameled brick, $3,000; sand-lime brick, $8,750; and fire brick, $48,046.

Vitrified paving brick or block contributed 33.3 per cent of the total value of the products of the entire industry in 1909, and showed an increase in value of $1,398,835, or 81.6 per cent, between 1904 and 1909. The figures for the three censuses for common building brick, including common brick used for paving and hollow building brick, are not strictly comparable, because hollow building brick was not included under this item previous to the census of 1909. Had this class of brick been omitted from the item "Common brick" in 1909, the decrease would be still greater. Front brick showed an increase in value of 62.7 per cent between 1904 and 1909, and for the more recent year contributed 14.9 per cent of the total value of products for this industry as compared with 12 per cent in 1904.

The value of fancy or ornamental brick decreased 77.8 per cent between 1904 and 1909. The value of draintile, which represented 15.6 per cent of the total value of brick and tile products in 1904, showed an increase of $921,390, or 82.9 per cent, between 1904 and 1909, and in 1909 formed 21.7 per cent of the total for the industry.

Soap.—The following table gives for this industry the kind, quantity, and value of the principal varieties of soap, as shown at the censuses of 1909 and 1904. In 1899 this industry was classified with candles under "Soap and candles;" therefore no figures are included for that census.

PRODUCT.	1909	1904
Total value	$17,077,308	$11,791,223
Hard soap:		
Pounds	255,943,442	268,786,287
Value	$14,589,331	$10,245,313
Soft soap:		
Pounds	1,268,533	1,123,100
Value	$36,449	$39,634
Glycerin:		
Pounds	11,174,661	8,843,638
Value	$1,751,070	$995,009
All other products, including special soap articles	$700,458	$511,267

Ohio, with a gain of $5,286,085, or 44.8 per cent, from 1904 to 1909, in the value of soap products, remained the third state of the Union in the industry. The quantity of hard soaps produced decreased slightly, but their value increased considerably. Statistics for the different kinds of soap can not be shown separately, as to do so might reveal the operations of an establishment which reported by far the greater part of the production of a number of the varieties. It can be said, however, that Ohio led the country in 1909 in olein soap and was second in tallow soap. Soft soap was shown to have increased in quantity but to have decreased in value. The value of all other products, including special soap articles, increased.

Paper and wood pulp.—In the value of paper and wood pulp produced, Ohio ranked sixth among the states in 1909. The industry stood twenty-second among those of the state in value of products, and in that respect shows an increase of $6,003,733, or 54.8 per cent. The next tabular statement shows the materials and products, by kind, quantity, and value, for the last three censuses.

Of the 47 establishments reporting in 1909 only four made both paper and pulp. Only one mill made pulp for sale, and of the four mills making and consuming pulp, no more than two used the same processes, hence figures for wood pulp sold and for the various classes of wood pulp produced can not be presented without disclosing individual operations. It may be said, however, that a little pulp was manufactured by the grinding process but that most of it was made by chemical processes, principally the sulphite. The principal kinds of wood used were spruce and hemlock.

The cost of the wood pulp purchased slightly more than doubled from 1904 to 1909, and the quantity of wood pulp made by establishments consuming it decreased. Of the specified kinds of paper produced, book paper showed the greatest percentage of increase from 1904 to 1909 both in output and value, fine paper, which includes writing paper, ranking second. Heavy wrapping paper decreased both in quantity and value, and straw wrapping in quantity only. There was an increase in value of strawboard during the 10-year period, with a decreased output. For the period 1904–1909, however, there was a decrease in value, accompanied with an increase of output. News paper is not shown separately in the statement, as it was the product of but two mills.

The yearly capacity of the paper machines reported increased from 212,639 tons in 1899 to 281,075 in 1904 and 414,650 in 1909.

MATERIAL, PRODUCT, OR MACHINE.	1909	1904	1899
Materials used, total cost	$10,898,285	$6,153,761	$3,766,572
Pulp wood	$443,296	$189,724	$104,500
Wood pulp, purchased:			
Tons	80,201	40,040	26,691
Cost	$3,743,972	$1,585,559	$867,037
Ground—			
Tons	4,778	2,782	5,186
Cost	$110,372	$57,829	$96,899
Sulphite fiber—			
Tons	47,167	27,344	12,647
Cost	$2,292,178	$1,109,884	$410,693
Other chemical fiber—			
Tons	28,256	9,914	8,858
Cost	$1,341,422	$417,846	$360,045
Rags, including cotton and flax waste and sweepings:			
Tons	33,744	22,877	19,416
Cost	$893,509	$556,545	$374,643
Old and waste paper:			
Tons	93,239	55,475	26,087
Cost	$1,286,182	$606,328	$309,884
Manila stock, including jute bagging, rope, waste, threads, etc.:			
Tons	25,949	12,268	14,994
Cost	$856,420	$354,112	$395,370
Straw:			
Tons	70,322	71,936	93,127
Cost	$335,951	$327,355	$274,447
Fuel and rent of power	$1,049,097	$709,028	$485,295
All other materials	$2,289,858	$1,825,110	$956,796
Products, total value	$16,965,260	$10,961,527	$6,543,613
Book, cover, plate, and coated paper:			
Tons	75,607	45,604	16,582
Value	$6,752,103	$4,019,447	$1,146,015
Writing and other fine paper:			
Tons	19,579	8,722	4,095
Value	$2,306,016	$1,057,920	$578,172
Wrapping paper:			
Tons	42,548	44,037	49,854
Value	$2,389,232	$1,786,172	$2,303,199
Manila (rope, jute, tag, etc.)—			
Tons	12,393	10,056	18,579
Value	$1,264,635	$777,055	$1,368,700
Heavy (mill wrappers, etc.)—			
Tons	5,725	6,314	5,646
Value	$147,869	$164,873	$175,473
Straw—			
Tons	8,682	9,078	10,619
Value	$217,050	$207,610	$211,234
All other—			
Tons	15,748	18,589	15,010
Value	$759,678	$636,634	$547,792
Boards:			
Tons	106,016	60,269	53,886
Value	$3,159,290	$1,716,740	$1,167,360
Strawboard—			
Tons	37,710	33,953	40,531
Value	$853,100	$866,879	$800,038
All other boards—			
Tons	68,306	26,316	13,355
Value	$2,306,190	$849,861	$367,322
Building, roofing, and sheathing paper:			
Tons	18,974	15,400	7,275
Value	$598,680	$499,692	$213,603
All other products	$1,759,939	$1,881,556	$1,135,164
Wood pulp produced (including that used in mills where manufactured), tons	25,935	29,274	13,805
Equipment:			
Paper machines:			
Total number	118	96	81
Capacity, yearly, tons	414,650	281,075	212,639
Fourdrinier—			
Number	63	37	33
Capacity per 24 hours, tons	575	299	(1)
Cylinder—			
Number	55	59	48
Capacity per 24 hours, tons	717	554	(1)
Pulp equipment:			
Grinders, number	5	5	7
Digesters, total number	11	8	13
Sulphite fiber, number	8	8	(2)
Soda fiber, number	3	.....	(2)
Capacity, yearly, tons of pulp	54,400	34,150	29,436
Ground, tons	7,800	5,321	(2)
Sulphite, tons	43,600	28,829	(2)
Soda, tons	3,000	.....	(2)

[1] Not reported. [2] Not reported separately.

Agricultural implements.—For the last two census periods Ohio has been third among the states in the value of its production of agricultural implements, and the industry is of sufficient importance to rank twenty-fifth among those of the state. The value of products in 1909 represents an increase of 12 per cent over 1904 and of 3.3 per cent over 1899. The next table gives for 1909 and 1904 the value of the products manufactured, distributed according to the classes of implements made, but for 1899 only the combined total value of these products is given. Under the heading "All other products" are included miscellaneous agricultural implements and parts which can not be placed in any of the four groups distinguished in the table and also a large number of products not distinctively agricultural, although made by manufacturers of agricultural implements, such as windmills, carriages and wagons, engines, presses, lawn swings, etc. The value of these products classified as "All other products" represents more than a third of the total value for the industry in the state.

PRODUCT.	1909	1904	1899
Total value	**$14,440,461**	**$12,891,197**	**$13,975,268**
Implements of cultivation	3,062,194	3,031,384	13,053,868
Seeders and planters	2,245,512	2,016,919	
Harvesting implements	2,675,727	3,193,853	
Seed separators	858,106	501,482	
All other products	5,291,338	3,624,137	
Amount received for repair work	307,584	523,422	921,400

Glass.—In the industry as a whole, Ohio ranked third in 1904 and second in 1909, and in the manufacture of globes and electrical goods, and beer, soda, and mineral-water bottles the state ranked first.

The next tabular statement shows, for 1909, 1904, and 1899, (1) the kind, quantity, and value of the principal varieties of building glass, (2) the total value of the pressed and blown glass and of the bottles, jars, etc., produced, and (3) the quantity of the different kinds of pressed and blown glass and bottles and jars produced.

Pressed and blown glass was the most important product of the glass industry in Ohio in 1909, furnishing 42.9 per cent of the total value of products. Bottles and jars were second, with 32.9 per cent, and building glass third, with 19.1 per cent. Pressed and blown glass also showed the greatest absolute increase in value between 1904 and 1909, but the greatest percentage of increase (68.9) was in building glass. All kinds of pressed and blown ware increased in quantity between 1904 and 1909 except chimneys and lantern globes. The most conspicuous increase was in the number of dozens of electric globes and other goods, from 1,732,800 in 1904 to 4,750,785 in 1909, or 174.2 per cent. The per cent of increase for gas shades, globes, and other goods was somewhat larger (293.9 per cent), but the absolute increase was only 478,950 dozens. All classes of bottles and jars showed increases except "Liquors and flasks" and "Patent and proprietary." Noteworthy increases occurred in the numbers of "Beer, soda, and minerals," "Milk jars," and "Packers and preservers." All classes of building glass increased materially.

PRODUCT.	1909	1904	1899
Total value	**$14,358,274**	**$9,026,208**	**$4,547,083**
Building glass	$2,744,513	$1,625,126	$671,422
Window glass—			
50-foot boxes	829,872	380,771	200,854
Value	$1,533,460	$941,244	$519,187
All other	$1,211,053	$683,882	$152,235
Pressed and blown glass	$6,160,707	$3,954,660	$2,738,289
Bottles and jars	$4,717,658	$2,961,727	$1,058,955
All other products	$735,396	$484,695	$78,417
Kind and quantity of pressed and blown glass and bottles and jars.			
Pressed and blown glass:			
Tableware—100 pieces	248,815	161,900	150,992
Jellies, tumblers, and goblets, dozens	4,133,100	2,088,925	1,681,584
Lamps, dozens	50,147	25,744	191,084
Chimneys, dozens	1,215,815	1,690,314	1,508,114
Lantern globes, dozens	213,586	255,805	142,800
Globes and other electrical goods, dozens	4,750,785	1,732,800	1,397,824
Shades, globes, and other gas goods, dozens	641,896	162,946	(1)
Blown tumblers, stem ware, and bar goods, dozens	2,255,805	1,835,350	214,072
Opal ware, dozens	318,350	200,000	96,597
Cut ware, dozens	6,000	5,850	2,900
Bottles and jars:			
Prescriptions, vials, and druggists' ware, gross	148,071	79,342	76,409
Beer, soda, and mineral, gross	585,924	433,546	219,422
Liquors and flasks, gross	222,764	268,782	16,400
Milk jars, gross	107,644	2,387	6,000
Fruit jars, gross	21,626	(2)	2,000
Patent and proprietary, gross	21,933	47,933	20,000
Packers and preservers, gross	138,269	10,155	25,000

[1] Included in "Globes and other electrical goods." [2] Not reported.

The number of furnaces, including both active and idle, was 138 in 1909, as compared with 93 in 1904 and 60 in 1899. Sixty-eight of the total number in 1909 were pot furnaces, and they had 736 pots. The corresponding figures for 1904 were 43 pot furnaces with 620 pots, and for 1899, 42 pot furnaces with 539 pots. Fifty-seven tank furnaces with 532 rings were reported in 1909; 36 in 1904 with 303 rings; and 12 in 1899 with 95 rings. Thirteen intermittent or dry-tank furnaces were reported in 1909 with a capacity of 30 tons. The corresponding figures were, for 1904, 14 with a capacity of 42 tons, and for 1899, 6 with a capacity of 25 tons.

The fuel used in the largest number of furnaces in 1909 was producer and natural gas.

Paint and varnish.—The increase in the total value of paint and varnish was very much larger during the period 1904–1909 than during the preceding five years. The next table shows the kind, quantity, and value of the output for the last three censuses.

Paints in oil already mixed for use are the principal products of the paint and varnish industry of Ohio. In 1909 the value of this product was $5,334,914, which was 39.2 per cent of the total for the industry. The increase in the manufacture of these ready-mixed paints was marked during the five years 1904–1909, the quantity produced more than doubling and the value almost doubling. Oleoresinous varnishes ranked second in 1909 among the products, with a value of $2,413,323, or 17.7 per cent of the total. These varnishes almost trebled in quantity and considerably

more than doubled in value. Spirit varnishes and damar and similar turpentine and benzine varnishes decreased in both quantity and value. Paste fillers, dry fillers, and putty also decreased in both quantity and value, due mostly to a great reduction in the output of two large establishments.

PRODUCT.	1909	1904	1899
Total value	$13,617,189	$8,530,142	$6,703,624
Pigments	$949,613	$781,117	$579,377
Paints	$7,674,807	$4,389,985	.....
White lead in oil—			
Pounds	24,057,529	19,903,727	(1)
Value	$1,532,797	$957,134	(1)
Paints in oil, in paste—			
Pounds	12,237,952	10,027,720	30,595,967
Value	$807,156	$701,088	$1,752,553
Paints in oil, already mixed for use—			
Gallons	6,769,267	3,081,836	2,578,218
Value	$5,334,914	$2,731,763	$2,365,938
Varnishes and japans	$3,721,889	$2,424,730	$1,965,016
Oleoresinous varnishes—			
Gallons	3,790,073	1,736,439	1,245,565
Value	$2,413,323	$1,181,203	$1,177,397
Damar and similar turpentine and benzine varnishes—			
Gallons	309,080	624,295	
Value	$259,204	$582,284	
Spirit varnishes, not turpentine—			
Gallons	77,786	80,675	43,304
Value	$106,848	$107,147	$50,107
Drying and baking japans and lacquers—			
Gallons	1,715,173	(2)	(2)
Value	$672,443	$470,771	$512,299
All other	$270,071	$83,325	$225,213
Fillers and putty:			
Liquid fillers—			
Gallons	292,867	146,469	(2)
Value	$155,869	$89,213	(2)
Paste fillers, dry fillers, and putty—			
Pounds	4,623,364	8,779,800	(2)
Value	$159,570	$246,412	(2)
All other products	$955,381	$598,685	$40,740

[1] Included with "Pigments." [2] Not reported.

Petroleum refining.—Ohio was fifth among the states in the production of crude petroleum in 1909, and seventh in the value of its refinery output. The next tabular statement gives the quantity and cost of materials used in the refineries of the state, the quantity and value of the principal products, and details as to the main equipment reported for 1909, 1904, and 1899.

The quantity of illuminating oil and greases produced decreased between 1904 and 1909, but the quantity of fuel oils nearly doubled, and that of lubricating oils and of naphtha and gasoline increased 61.7 per cent and 15.4 per cent, respectively. Of the total quantity of refined oils, which include illuminating, fuel, and lubricating, the fuel oils formed 41.9 per cent in 1909, as contrasted with 28 per cent in 1904 and 26.3 per cent in 1899.

Of the total crude oil used in Ohio refineries in 1909 about one-half was from the Lima (Ohio) and Indiana fields. The remainder, excepting 5.3 per cent returned as "Pennsylvania, including Kentucky," was from the Illinois field.

The development of the industry in the state is also reflected in the equipment, such as stills, storage tanks, and agitators. The number of stills was 198 in 1909, as compared with 217 in 1904 and 222 in 1899. The combined capacity of the stills reported for 1909 was 105,881 barrels of 42 gallons; for the other years this detail was not given. There were 675 tanks in 1909, of which 61 were for crude oils and 614 for refined; in 1904 there were 519, of which 20 were for crude oil and 499 for refined; and in 1899, 296, of which 21 were for crude and 275 for refined. At the earliest of the three censuses no statement of storage capacity was requested. In 1909 the refineries could store 21,520,952 gallons of crude and 78,612,190 gallons of refined petroleum, compared with 8,964,030 gallons of crude and 84,888,935 gallons of refined in 1904. The agitators numbered 44 in 1909, 52 in 1904, and 53 in 1899.

MATERIAL, PRODUCT, OR EQUIPMENT.	1909	1904	1899
Materials used, total cost	$8,144,583	$7,662,397	$6,177,048
Crude petroleum:			
Barrels (42 gallons)	4,833,675	4,195,871	4,061,554
Cost	$4,987,558	$5,143,137	$4,495,890
Containers	$552,487	$936,659	$549,081
All other materials	$2,504,538	$1,582,601	$1,132,077
Products, total value	$10,753,738	$10,948,864	$8,396,977
Oils:			
Illuminating—			
Barrels (50 gallons)	1,204,186	1,961,105	1,387,150
Value	$2,618,762	$5,188,808	$3,449,427
Fuel (including gas oils)—			
Barrels	1,257,950		614,631
Value	$1,302,720		$629,548
Lubricating—			
Barrels	543,526	336,116	331,863
Value	$2,062,387	$1,540,896	$701,635
Naphtha and gasoline (including gas naphtha)—			
Barrels	539,828	467,594	598,858
Value	$2,224,283	$1,676,529	$1,750,541
Greases (lubricating, etc.):			
Barrels	18,076	19,659	161,264
Value	$207,225	$158,885	$723,308
Paraffin wax:			
Barrels	54,536	47,533	66,455
Value	$470,760	$549,515	$801,223
Residuum or tar:			
Barrels	101,105	111,339	146,628
Value	$193,403	$210,911	$224,819
Coke and black naphtha	$33,829	$30,448	$12,594
All other products	$1,640,369	$1,592,872	$103,882
Equipment:			
Stills, number	199	217	222
Heated by steam—			
Number	30	32	32
Capacity (barrels, 42 gallons)	22,589	(1)	(1)
Heated by superheated steam—			
Number	8	1	1
Capacity (barrels, 42 gallons)	4,000	(1)	(1)
Heated by fire—			
Number	160	184	189
Capacity (barrels, 42 gallons)	79,292	(1)	(1)
Agitators, number	44	52	53
Chilling houses for paraffin, number	9	8	8
Hydraulic or other presses, number	17	41	54
Storage tanks:			
For crude petroleum—			
Number	61	20	21
Capacity, gallons	21,520,952	8,964,030	(1)
For refined petroleum—			
Number	614	499	275
Capacity, gallons	78,612,190	84,888,935	(1)
Cooper shops, number	4	7	5
Tin shops, number	1	1	1

[1] Not reported.

Leather, tanned, curried, and finished.—Ohio has held the tenth position among the states in the manufacture of leather since 1899. The value of the leather product increased from $5,182,065 in 1899 to $6,512,754 in 1904 and to $10,127,836 in 1909, or a gain of 55.5 per cent between 1904 and 1909 and of 95.4 per cent between 1899 and 1909. The next table gives the products, by kind, quantity, and value, for 1909, 1904, and 1899:

Carriage, automobile, and furniture leather was the leading product, with a value of $3,734,827. Large

amounts of sundry kinds of leather are included with "All other leather," to avoid disclosing operations of individual establishments.

Of the total value of leather made in the state in 1909 the city of Cincinnati reported one-half, a slight decrease since 1904, when the city reported 52.3 per cent of the total production.

The number of cattle hides used in the manufacture of leather in Ohio in 1909 was 514,226, and they cost $5,179,537, an increase of 110,571, or 27.4 per cent, in number and of $2,335,867, or 82.1 per cent, in cost over 1904. The skins reported in 1909 numbered 607,624, and they cost $1,157,205, an increase of 31,677, or 5.5 per cent, in number and of $476,744, or 70.1 per cent, in cost.

PRODUCT.	1909	1904	1899
Total value	$10,127,836	$6,512,754	$5,182,065
Upper leather, other than calf or kip skins (grain, satin, pebble, etc.):			
Sides	22,668	2,500	1,100
Value	$76,277	$9,700	$2,875
Harness leather:			
Sides	363,981	309,434	336,015
Value	$2,540,892	$1,860,772	$1,831,651
Carriage, automobile, and furniture leather:			
Hides	261,950	205,517	109,071
Value	$3,734,827	$1,798,850	$955,973
All other leather	$3,509,803	$1,777,999	$2,291,744
All other products	$265,277	$1,065,397	$96,702
Work on materials for others	$700	$36	$3,060

Butter, cheese, and condensed milk.—The manufacture of butter, cheese, and condensed milk, although not one of the leading industries of the state, is of such importance that Ohio ranks ninth among the states in the industry. In the manufacture of cheese alone, and of condensed milk alone, it ranks fourth. The following statement gives the principal products, by kind, quantity, and value, for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	$9,689,670	$4,593,222	$3,808,996
Butter:			
Packed solid—			
Pounds	11,265,341	7,233,289	6,802,419
Value	$3,162,518	$1,527,514	$1,335,512
Prints or rolls—			
Pounds	6,225,910	4,358,692	1,285,212
Value	$1,822,755	$1,007,067	$304,039
Cream sold:			
Pounds	4,735,900	1,843,868	6,298,648
Value	$500,528	$116,253	$396,743
Cheese:			
Full cream—			
Pounds	9,768,970	13,219,415	14,570,866
Value	$1,305,461	$1,231,779	$1,304,795
Part cream—			
Pounds	1,550,560	.....	.....
Value	$197,656	.....	.....
Other kinds—			
Pounds	541,071	4,132,358	3,585,661
Value	$30,400	$424,184	$350,928
Condensed milk:			
Sweetened—			
Pounds	4,232,100	266,250	100,000
Value	$256,529	$15,975	$6,500
Unsweetened—			
Pounds	33,423,187	1,680,968	.....
Value	$2,153,430	$123,088	.....
All other products [1]	$260,393	$147,362	$110,479

[1] Includes skimmed milk sold and casein, whey, and skimmed cheese.

The total value of the products increased $5,880,674, or 154.4 per cent, during the 10 years 1899–1909. The increase from 1899 to 1904 was 20.6 per cent, and from 1904 to 1909, 111 per cent.

From 1904 to 1909 the quantity of butter manufactured increased 50.9 per cent and the value 96.7 per cent. The increase for the 10-year period from 1899 to 1909 was 116.3 per cent in quantity and 204 per cent in value. The average value per pound as reported for all kinds in 1909 was 28.5 cents, as against 21.9 cents in 1904.

The total amount of cheese produced decreased from over 18,000,000 pounds in 1899 to about 17,000,000 in 1904 and about 12,000,000 in 1909, a decrease for the decade of 34.7 per cent. The value decreased from $1,655,723 in 1899 to $1,533,517 in 1909. The value in 1904 was practically the same as the value in 1899.

Attention should be called to the fact that part-cream cheese was not differentiated from full-cream cheese prior to 1909. The full-cream cheese reported for the earlier censuses included a certain amount of part-cream cheese. In 1909, 1,550,566 pounds of part-cream cheese, valued at $197,656, were reported.

The output of condensed milk in the state increased from 100,000 pounds in 1899 to 37,655,347 pounds in 1909, and its value increased from $6,500 to $2,409,959. This most remarkable increase from 1899 to 1909 was due to the establishment during the 10 years of a number of large factories for making unsweetened condensed milk. The growth of this branch of the industry has resulted probably in a diversion of considerable quantities of milk formerly sent to the cheese factories and may account in a measure for the decline in the production of cheese.

The butter, cheese, and condensed-milk industry in 1909 was represented by 119 butter, 197 cheese, and 9 condensed-milk factories. Two of the butter factories also made condensed milk, and one butter factory made cheese. Twenty of the cheese factories and one condensed-milk factory made butter also.

Twenty-eight of the butter and 85 of the cheese factories were operated by cooperative associations. These associations operated 34.8 per cent of all the establishments in the combined industry, but employed only 10.7 per cent of the wage earners, and produced only 11.1 per cent of the value of products. Eight of the nine condensed-milk factories were operated by corporations; the other was conducted by a firm.

Chemicals.—The next statement shows the kind, quantity, and value of certain of the products reported for the chemical industry at the last three censuses. The quantity and value of many of the chemicals can not be shown separately, as they are the product of fewer than three establishments and the publication of statistics regarding them would disclose the operations of individual establishments.

The chemical industry in Ohio advanced rapidly in the 10 years from 1899 to 1909. The value of its products was $3,576,260 at the census of 1899, as con-

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.					
COLUMBUS—Continued.													
Foundry and machine-shop products	1909	58	3,745	46	687	3,012	4,148	$9,656	$735	$1,841	$3,465	$7,744	$4,279
	1904	49	3,299	43	388	2,868	.....	6,344	464	1,550	3,393	7,008	3,615
	1899	43	.....	.....	222	2,971	.....	4,277	283	1,433	2,398	5,070	2,672
Furniture and refrigerators	1909	8	422	4	44	374	553	487	61	189	405	747	342
	1904	[1] 4	232	2	26	204	.....	320	29	91	230	405	175
	1899	4	250	4	33	213	.....	265	24	67	205	428	223
Gas and electric fixtures and lamps and reflectors.	1909	9	373	4	35	334	263	573	38	141	371	770	399
	1904	[1] 3	40	4	4	32	.....	74	4	16	28	62	34
	1899	3	.....	.....	3	64	.....	85	4	30	34	103	69
Ice, manufactured	1909	5	183	.....	25	158	1,784	676	21	91	68	253	185
	1904	4	111	.....	18	93	.....	658	10	42	34	128	94
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leather goods	1909	11	200	13	59	128	127	584	43	74	353	560	207
	1904	11	175	14	37	124	.....	306	26	74	223	433	210
	1899	12	.....	.....	50	160	.....	246	38	59	202	395	193
Liquors, malt	1909	4	561	.....	88	473	3,045	10,634	146	371	619	2,728	2,109
	1904	5	526	5	66	455	.....	3,721	93	369	816	2,134	1,318
	1899	4	502	5	50	447	.....	1,647	74	251	497	2,024	1,527
Lumber and timber products	1909	27	530	20	76	434	1,808	936	85	264	758	1,240	482
	1904	20	355	15	35	305	.....	486	31	220	451	799	348
	1899	[3] 17	247	16	13	218	.....	213	11	106	172	374	202
Marble and stone work	1909	6	90	5	15	70	445	236	12	47	75	169	94
	1904	4	128	2	15	111	.....	131	39	71	78	188	110
	1899	8	88	8	9	71	.....	63	5	40	33	114	81
Models and patterns, not including paper patterns.	1909	8	49	10	5	34	58	48	3	23	11	70	59
	1904	5	19	6	1	12	.....	12	1	7	2	19	17
Paint and varnish	1909	5	119	1	63	55	141	413	68	28	346	602	256
	1904	[1] 3	65	.....	27	38	.....	172	39	19	155	282	127
	1899	[1] 3	70	.....	23	47	.....	155	30	18	115	205	90
Patent medicines and compounds and druggists' preparations.	1909	13	281	11	130	140	285	730	95	61	239	946	707
	1904	[3] 9	242	9	70	163	.....	869	50	55	881	3,214	2,333
	1899	10	.....	.....	35	193	.....	713	32	66	491	1,611	1,120
Printing and publishing	1909	91	1,433	71	461	901	879	1,823	417	592	689	2,660	1,971
	1904	76	1,346	78	421	847	.....	1,352	294	516	475	1,916	1,441
	1899	52	.....	.....	181	771	.....	975	137	442	378	1,333	955
Slaughtering and meat packing	1909	6	166	5	31	130	365	636	29	101	1,964	2,354	390
	1904	4	79	5	5	69	.....	116	5	49	737	852	115
	1899	5	88	11	4	73	.....	152	2	34	630	714	84
Stoves and furnaces, including gas and oil stoves.	1909	10	360	4	62	294	377	707	65	173	310	722	412
	1904	10	300	9	36	255	.....	425	46	132	190	497	307
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures	1909	35	278	37	18	223	.....	150	21	81	155	436	281
	1904	47	287	55	12	220	.....	95	11	70	107	349	242
	1899	31	537	32	22	483	.....	332	20	113	104	452	348
All other industries	1909	184	7,222	107	1,074	6,041	18,909	14,125	1,134	3,136	9,264	16,848	7,584
	1904	135	5,332	101	675	4,556	.....	8,642	671	2,279	5,470	10,694	5,224
	1899	137	.....	.....	483	4,518	.....	10,128	443	2,012	8,426	14,164	5,738
DAYTON—All industries	1909	513	24,740	416	2,775	21,549	31,501	$61,316	$3,572	$12,451	$27,528	$60,378	$32,850
	1904	431	19,836	406	2,337	17,093	.....	32,901	2,707	8,893	18,505	39,597	21,092
	1899	425	.....	.....	1,378	14,408	.....	26,283	1,514	6,909	14,330	31,015	16,685
Boxes, cigar	1909	3	97	4	7	86	358	75	5	23	47	85	38
	1904	3	115	3	7	105	.....	77	5	27	45	106	61
	1899	3	122	3	9	110	.....	59	6	36	37	100	63
Boxes, fancy and paper	1909	5	594	.....	54	540	376	881	65	196	486	932	446
	1904	5	437	.....	51	386	.....	531	66	114	379	743	364
	1899	3	389	.....	39	350	.....	342	48	101	261	491	230
Brass and bronze products	1909	7	246	7	29	210	340	494	47	145	213	481	268
	1904	[1] 4	213	5	19	189	.....	436	34	109	111	337	226
	1899	3	282	3	19	260	.....	518	32	89	163	375	212
Bread and other bakery products	1909	65	519	74	95	350	401	719	86	187	949	1,531	582
	1904	47	365	53	50	262	.....	481	39	112	538	861	323
	1899	53	278	61	31	186	.....	444	21	88	332	629	297
Brick and tile	1909	4	31	5	1	25	165	27	1	11	4	26	22
	1904	3	38	4	2	32	.....	35	2	15	6	33	27
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carriages and wagons and materials	1909	17	425	18	33	374	697	677	52	203	347	802	455
	1904	18	431	21	27	383	.....	651	40	167	254	566	312
	1899	13	.....	.....	28	477	.....	652	42	206	330	738	408

[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] Not reported separately.

The following table shows the number of spindles, looms, sets of woolen cards, and combing machines reported for this industry at the censuses of 1909, 1904, and 1899:

MACHINE.	1909	1904	1899
Spindles [1]	69,599	34,733	30,400
Looms	1,434	756	674
Woolen cards (sets)	54	69	78
Wool-combing machines	27	11	5

[1] Includes producing and doubling and twisting spindles.

Hosiery and knit goods.—The following statement compares the quantity and cost of the different kinds of materials used in the hosiery and knit-goods industry and the quantity and value of the various products for 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	1909	1904 [1]	1899
Materials used, total cost	$3,851,419	$2,177,368	$810,401
Yarns, purchased:			
Cotton—			
Pounds	4,207,238	1,649,479	432,372
Cost	$1,238,527	$444,930	$98,817
Worsted—			
Pounds	1,095,829	784,770	455,569
Cost	$1,003,980	$760,490	$412,277
Woolen—			
Pounds	773,371	327,684	64,823
Cost	$439,977	$215,232	$38,346
Merino—			
Pounds	843,181	564,372	202,934
Cost	$398,934	$195,266	$54,774
All other—			
Pounds	66,081	14,262	7,633
Cost	$177,528	$32,941	$26,350
Chemicals	$22,591	$21,730	$10,688
Fuel and rent of power	$37,563	$25,461	$10,323
All other materials	$532,319	$481,318	$158,826
Products, total value	$6,433,431	$3,997,047	$1,584,754
Hose and half hose:			
Merino or mixed—			
Dozen pairs	323,948	239,162	105,000
Value	$504,939	$321,864	$128,000
Cotton—			
Dozen pairs	72,602	74,840	39,609
Value	$150,464	$131,142	$48,079
All other—			
Dozen pairs	3,725	97,815	89,107
Value	$8,725	$156,862	$136,322
Shirts and drawers:			
Cotton—			
Dozens	87,151	82,264	16,806
Value	$166,667	$228,170	$45,658
All other—			
Dozens	39,154	37,190	22,759
Value	$234,037	$247,771	$146,779
Combination suits:			
Cotton—			
Dozens	131,186	55,823	11,517
Value	$1,047,775	$395,058	$73,052
Merino—			
Dozens	58,063	15,643	5,135
Value	$961,771	$212,879	$61,088
All other—			
Dozens	2,683	4,623	1,515
Value	$66,938	$111,326	32,770
Gloves and mittens:			
Dozen pairs	319,522	231,990	273,940
Value	$289,848	$360,111	$333,258
Hoods, scarfs, nubias, etc.:			
Dozens	272,478	206,024	122,102
Value	$1,064,969	$482,070	$304,449
Cardigan jackets, sweaters, fancy jackets, etc.:			
Dozens	115,457	(2)	.....
Value	$1,355,728	(2)	.....
All other products	$581,570	$1,349,794	$275,299

[1] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[2] Included in "All other products."

It is to be noted that in materials used the item of greatest importance for 1909 was cotton yarns purchased, which contributed nearly one-third of the total value of all materials used. Worsted yarns was the most important item of cost in 1904 and in 1899.

The increase in value of products for the 10-year period was 306 per cent, the greater part of this occurring during the earlier five-year period, although the statistics for two establishments making hand-knit goods were omitted for 1904.

Conspicuous increases occurred between 1904 and 1909 in the manufacture of combination suits. Cotton combination suits increased 135 per cent in number and 165.2 per cent in value, while merino combination suits increased 271.2 per cent in number and 351.8 per cent in value. All other combination suits, however, decreased 42 per cent in number and 39.9 per cent in value. Hoods, scarfs, nubias, etc., increased 32.3 per cent in number and 120.9 per cent in value.

The manufacture of hose and half hose increased markedly between 1899 and 1904, but between 1904 and 1909 comparatively little change took place in the totals. A considerable change occurred, however, in the relative importance of the different classes of hosiery. The value of merino or mixed hose formed 76 per cent of the total value of the hosiery produced in 1909, as contrasted with 52.8 per cent in 1904. The corresponding percentages for cotton hose were 22.7 in 1909 and 21.5 in 1904. The proportion formed by the value of all other hose decreased from 25.7 per cent in 1904 to 1.3 in 1909. A striking increase occurred between 1904 and 1909 in the number of pairs of merino or mixed hose and half hose produced, but this was more than offset by the decrease in the number of pairs of cotton hose and in the number of pairs of all other kinds.

Gloves and mittens increased considerably in quantity, but there was a decrease in the value reported in 1909 from that given for 1904. This was due principally to the decrease in value of output reported by one establishment.

Eleven establishments made cardigan jackets, sweaters, fancy jackets, etc., in 1909, but as these items were included under "All other products" at prior censuses, no comparative figures can be given. The value of the output in 1909 was so large as to form 21.1 per cent of the total value of products.

The great decrease in "All other products" between 1904 and 1909 was due in great part to the decrease in the output of shawls and fancy knit goods.

The following is a table showing the machinery of the hosiery and knitting mills for 1909, 1904, and 1899:

MACHINE.	1909	1904	1899
Spindles	4,670	5,484	3,920
Cards (sets)	13	11	10
Sewing machines	1,380	643	170
Knitting machines	2,068	2,308	1,147

The number of knitting machines decreased owing to the elimination of a large number of hand machines, the loss not being counterbalanced by the increase in machines operated by power.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. In 1909 there were 253 such establishments in the state of Ohio, 22 of which

were in Cleveland, 19 in Toledo, 18 in Cincinnati, 11 in Columbus, 7 in Akron, 6 in Dayton, and 5 in Hamilton. No other city had as many as 5 laundries.

The following statement summarizes the statistics:

Number of establishments	253
Persons engaged in the industry	6,773
Proprietors and firm members	277
Salaried employees	603
Wage earners (average number)	5,893
Primary horsepower	7,431
Capital	$3,802,957
Expenses	4,425,294
Services	2,772,137
Materials	871,722
Miscellaneous	781,435
Amount received for work done	5,388,954

The most common form of ownership was the individual, with 125 establishments. The firm and corporate forms of ownership were represented by 69 and 59 establishments, respectively. Seventy-two establishments had receipts for the year's business of less than $5,000; 110, receipts of $5,000 but less than $20,000; 58, receipts of $20,000 but less than $100,000; and 13, receipts of $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	5,641	92.9	July	6,054	99.8
February	5,626	92.7	August	5,976	98.5
March	5,794	95.5	September	6,069	100.0
April	5,800	95.6	October	5,958	98.2
May	5,897	97.2	November	5,912	97.4
June	6,043	99.6	December	5,946	98.0

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

KIND.	Number of engines or motors.	Horsepower.
Primary power, total		7,431
Owned:		
Steam	198	6,235
Gas	45	737
Water wheels	1	35
Water motors	1	15
Rented:		
Electric	82	401
Other		8

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

KIND.	Unit.	Quantity.
Anthracite coal	Tons	398
Bituminous coal	Tons	59,799
Coke	Tons	77
Wood	Cords	26
Oil	Barrels	73
Gas	1,000 feet	649,446

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	262	152
Persons engaged in the industry	732	301
Proprietors and firm members	340	199
Salaried employees	1	7
Wage earners (average number)	391	95
Primary horsepower	5,398	5,125
Capital	$336,846	$503,988
Expenses	138,402	1,034,490
Services	107,999	32,860
Materials	3,980	[1] 981,496
Miscellaneous	26,423	20,134
Value of products	286,189	[1] 1,189,853

[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	15,138	523,004	14,719	61,351	446,934	1,583,155	$1,300,733	$72,147	$245,450	$824,202	$1,437,936	$613,734
	1904	13,785	417,946	13,657	39,991	364,298	1,116,932	856,989	43,435	182,429	527,637	960,812	433,175
	1899	13,868	.....	.....	28,109	308,109	783,665	570,909	28,151	136,428	409,303	748,671	339,368
Agricultural implements	1909	55	6,972	23	952	5,997	9,867	25,637	1,148	3,155	6,319	14,440	8,121
	1904	71	6,616	39	918	5,659	8,354	24,302	1,002	2,910	5,692	12,891	7,199
	1899	78	8,498	58	1,588	6,852	7,836	23,628	1,369	3,271	6,060	13,975	7,915
Artificial stone	1909	299	1,315	391	122	802	1,325	1,274	74	404	499	1,378	879
	1904	67	416	92	44	280	347	437	26	135	167	446	279
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Automobiles, including bodies and parts	1909	75	13,458	42	1,286	12,130	14,433	30,892	1,430	7,746	18,522	38,839	20,317
	1904	22	2,939	8	209	2,722	1,877	4,226	254	1,617	2,553	6,358	3,805
	1899	3	.....	.....	7	86	.....	68	5	52	60	145	85
Bags, paper	1909	8	632	.....	75	557	508	1,447	104	240	1,638	2,393	755
	1904	9	609	3	124	482	1,389	1,306	90	177	955	1,513	558
	1899	10	278	4	56	218	.....	390	41	68	511	719	208
Belting and hose, leather	1909	8	164	4	53	107	405	657	95	80	795	1,080	285
	1904	6	124	1	43	80	307	482	59	48	550	753	203
	1899	5	137	3	42	92	.....	486	45	48	638	836	198
Bicycles, motorcycles, and parts	1909	6	1,037	2	93	942	1,895	2,245	95	686	1,066	2,308	1,242
	1904	3	507	.....	61	446	547	1,132	62	293	457	1,041	584
	1899	34	2,609	20	209	2,380	2,795	4,075	197	1,017	2,251	4,100	1,849
Blacking and cleansing and polishing preparations.	1909	49	238	53	82	103	297	381	68	50	297	672	375
	1904	[2] 21	83	25	20	38	60	78	18	14	62	152	90
	1899	15	70	15	13	42	.....	58	18	12	67	157	90
Boots and shoes, including cut stock and findings.	1909	72	17,607	40	1,541	16,026	8,925	16,755	2,125	6,646	18,872	31,551	12,679
	1904	73	15,091	55	1,004	14,032	6,113	10,434	1,010	5,275	14,989	25,735	10,746
	1899	92	13,758	97	895	12,766	.....	7,654	966	4,010	11,310	18,246	6,936
Boxes, cigar	1909	31	600	38	31	531	1,029	464	31	167	360	711	351
	1904	30	544	36	28	480	506	399	21	136	374	669	295
	1899	32	586	40	29	517	.....	354	18	151	340	645	305
Boxes, fancy and paper	1909	46	2,777	32	215	2,530	1,825	2,841	258	830	1,931	3,635	1,704
	1904	42	1,942	41	158	1,743	827	1,597	156	475	1,072	2,133	1,061
	1899	35	1,597	38	85	1,474	.....	784	98	382	620	1,408	788
Brass and bronze products	1909	82	2,650	72	346	2,232	4,214	6,472	418	1,372	3,533	6,572	3,039
	1904	70	1,719	84	150	1,485	1,860	3,282	181	808	1,545	3,347	1,802
	1899	[3] 46	1,467	53	99	1,315	.....	1,730	111	580	1,039	2,293	1,254
Bread and other bakery products	1909	1,467	8,758	1,600	1,186	5,972	5,398	11,781	1,099	3,371	13,666	23,007	9,341
	1904	1,138	7,097	1,247	555	5,295	3,875	8,320	411	2,520	9,059	15,641	6,582
	1899	956	5,115	1,029	567	3,519	.....	5,057	358	1,529	5,427	9,857	4,430
Brick and tile	1909	517	8,575	569	540	7,466	37,742	17,315	590	3,527	2,204	9,358	7,154
	1904	590	7,839	704	416	6,719	33,291	12,049	390	2,942	1,633	7,136	5,503
	1899	686	6,414	853	208	5,353	22,715	7,344	189	1,967	982	4,630	3,648
Butter, cheese, and condensed milk	1909	325	2,494	1,216	211	1,067	3,386	2,739	173	557	7,685	9,690	2,005
	1904	431	867	318	61	488	3,462	1,428	19	292	3,729	4,593	864
	1899	479	869	391	89	389	2,569	1,041	19	190	3,055	3,809	754
Butter, reworking	1909	5	73	.....	26	47	423	571	20	31	1,228	1,356	128
	1904	8	104	6	12	86	451	208	12	59	863	1,054	191
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Canning and preserving	1909	107	2,379	94	276	2,009	4,244	3,494	252	532	3,102	4,660	1,558
	1904	107	2,484	121	219	2,144	3,580	2,597	192	577	2,701	4,491	1,790
	1899	[2] 97	2,223	113	148	1,962	.....	1,430	120	438	1,931	3,247	1,316
Carriages and wagons and materials	1909	407	10,350	414	1,121	8,815	14,771	20,398	1,282	4,647	11,414	21,949	10,535
	1904	456	12,555	495	1,033	11,027	16,936	19,295	1,069	5,269	12,856	24,003	11,147
	1899	558	.....	.....	954	11,658	.....	17,235	842	5,020	12,181	22,803	10,622
Cars and general shop construction and repairs by steam-railroad companies.	1909	71	22,102	.....	1,374	20,728	19,422	10,654	1,299	12,726	14,266	28,690	14,424
	1904	74	18,195	.....	1,169	17,026	13,954	7,503	969	9,890	10,225	21,428	11,203
	1899	91	12,110	.....	576	11,534	6,767	5,701	457	6,087	5,964	12,975	7,011
Cars and general shop construction and repairs by street-railroad companies.	1909	49	1,392	.....	74	1,318	3,635	2,054	65	722	801	1,691	890
	1904	5	169	.....	19	150	20	128	17	94	55	172	117
	1899	4	236	.....	7	229	.....	123	5	137	94	249	155
Cars, steam-railroad, not including operations of railroad companies.	1909	6	2,477	.....	195	2,282	4,410	11,037	545	1,304	4,195	6,451	2,256
	1904	5	2,148	.....	83	2,065	1,725	3,298	135	1,198	3,358	5,539	2,181
	1899	5	1,866	.....	61	1,805	1,665	2,582	76	862	2,702	3,942	1,150
Cars, street-railroad, not including operations of railroad companies.	1909	4	823	.....	89	734	2,875	2,842	124	471	1,094	1,955	861
	1904	4	835	.....	70	765	1,850	1,748	93	475	1,069	1,828	759
	1899	3	290	2	13	275	.....	253	12	153	231	538	307
Cement	1909	9	978	.....	91	887	12,685	4,732	140	544	638	1,465	827
	1904	12	831	3	85	743	9,579	3,595	125	452	534	1,508	974
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chemicals	1909	33	1,346	17	197	1,132	11,715	8,994	324	749	4,748	7,742	2,994
	1904	18	1,304	10	269	1,025	6,169	3,655	400	652	3,003	4,590	1,587
	1899	35	794	21	164	609	1,280	3,670	199	340	2,084	3,576	1,492

[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.

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.													
Clocks and watches, including cases and materials.	1909	9	1,534	2	76	1,456	877	$4,232	$91	$784	$526	$1,981	$1,455
	1904	6	1,803	.....	91	1,712	649	2,650	104	851	714	1,869	1,155
	1899	5	.....	.....	47	1,271	.....	743	59	589	475	1,467	992
Clothing, men's, including shirts	1909	342	11,813	405	1,458	9,950	1,794	14,432	1,691	4,050	12,920	24,869	11,949
	1904	357	8,590	464	941	7,185	1,315	12,263	1,022	2,749	9,937	19,346	9,409
	1899	563	.....	.....	865	7,129	.....	11,008	842	2,284	9,470	17,312	7,842
Clothing, women's	1909	153	10,191	174	1,174	8,843	1,505	8,151	1,653	4,272	10,291	19,493	9,202
	1904	143	7,191	179	633	6,379	1,363	4,796	657	2,724	6,769	12,804	6,035
	1899	126	5,324	159	348	4,817	613	2,866	384	1,518	4,449	7,773	3,324
Coffee and spice, roasting and grinding	1909	39	1,586	25	799	762	2,186	5,400	812	352	8,277	11,224	2,947
	1904	28	1,139	15	532	592	1,680	6,932	485	221	7,626	9,958	2,332
	1899	26	969	18	273	678	.....	2,376	208	230	4,709	5,850	1,141
Coffins, burial cases, and undertakers' goods.	1909	24	1,475	11	219	1,245	2,289	3,724	266	525	1,324	3,061	1,737
	1904	19	1,309	17	128	1,164	1,454	2,645	167	537	1,176	2,524	1,348
	1899	14	1,112	11	117	984	.....	2,073	138	410	872	1,801	929
Coke	1909	4	259	.....	13	246	1,250	1,238	18	120	640	851	211
	1904	4	126	1	12	113	350	584	13	54	170	259	89
	1899	5	85	.....	14	71	55	85	19	33	138	255	117
Confectionery	1909	114	3,012	103	416	2,493	2,005	3,416	443	840	4,089	7,307	3,218
	1904	70	2,054	81	223	1,750	891	1,764	195	526	2,272	4,712	2,440
	1899	55	.....	.....	235	1,357	.....	1,456	178	396	2,004	3,825	1,821
Cooperage and wooden goods, not elsewhere specified.	1909	113	1,911	118	130	1,663	3,453	2,911	161	803	2,216	3,516	1,300
	1904	120	1,968	120	125	1,723	3,096	2,350	149	823	1,968	3,559	1,591
	1899	141	.....	.....	80	1,800	.....	1,752	84	725	1,354	2,612	1,258
Copper, tin, and sheet-iron products	1909	221	7,685	195	892	6,598	6,352	21,685	961	3,163	11,622	19,086	7,464
	1904	180	4,626	196	460	3,970	3,779	11,223	530	1,746	5,341	9,414	4,073
	1899	147	.....	.....	212	2,674	.....	3,086	205	1,025	3,206	5,377	2,171
Cordage and twine and jute and linen goods.	1909	8	848	3	54	791	3,225	2,743	81	313	1,984	2,728	744
	1904	[1] 8	1,140	.....	70	1,070	3,285	2,306	104	361	2,518	3,250	732
	1899	[1] 9	1,101	2	47	1,052	.....	2,148	54	318	2,326	2,958	632
Cutlery and tools, not elsewhere specified.	1909	70	3,335	49	466	2,820	6,567	7,768	521	1,518	1,650	5,036	3,386
	1904	58	2,763	44	252	2,467	4,836	4,897	258	1,116	1,256	3,567	2,311
	1899	59	.....	.....	184	1,587	.....	2,501	186	767	870	2,441	1,571
Dairymen's, poulterers', and apiarists' supplies.	1909	18	589	19	91	479	916	1,041	72	262	527	1,149	622
	1904	15	444	15	68	361	662	583	48	167	419	852	433
Electrical machinery, apparatus, and supplies.	1909	115	9,605	49	1,483	8,073	11,959	23,706	1,529	3,847	7,226	18,777	11,551
	1904	92	6,187	50	1,023	5,114	7,138	10,408	1,079	2,268	4,699	11,019	6,320
	1899	64	4,196	29	394	3,773	5,123	7,036	399	1,502	3,339	6,505	3,166
Explosives	1909	11	424	.....	66	358	2,692	2,248	102	204	1,104	1,719	615
	1904	16	513	2	83	428	4,075	2,868	126	236	1,275	1,843	568
	1899	9	411	3	56	352	2,738	1,972	93	179	773	1,330	557
Fertilizers	1909	27	1,064	13	210	841	3,059	4,950	237	368	2,535	4,435	1,900
	1904	17	604	8	106	490	2,630	3,551	136	235	1,386	2,289	903
	1899	27	506	26	80	400	2,168	1,888	104	174	1,017	1,657	640
Firearms and ammunition	1909	5	910	.....	97	813	1,129	2,225	164	318	1,291	2,215	924
	1904	[2] 4	786	.....	45	741	1,063	1,658	73	275	1,220	1,920	700
	1899	3	405	2	32	371	.....	676	40	111	565	832	267
Flags, banners, regalia, society badges, and emblems.	1909	13	1,572	4	306	1,262	568	2,352	343	523	1,509	3,026	1,517
	1904	16	1,343	14	209	1,120	421	1,660	243	429	1,023	2,257	1,234
	1899	14	1,150	15	161	974	.....	1,027	132	235	1,012	1,796	784
Flour-mill and gristmill products	1909	673	4,164	911	668	2,585	52,250	19,963	682	1,415	41,353	48,093	6,740
	1904	694	4,141	1,003	438	2,700	53,880	14,931	422	1,340	35,626	40,856	5,230
	1899	676	.....	.....	339	2,334	49,682	10,773	302	1,170	29,984	35,078	5,094
Foundry and machine-shop products	1909	1,218	74,887	683	9,387	64,817	112,538	177,745	11,908	38,015	64,560	145,837	81,277
	1904	[2] 1,003	59,791	755	6,050	52,986	78,859	117,449	7,170	28,207	44,546	103,713	59,167
	1899	[2] 1,007	.....	.....	4,362	50,109	.....	80,899	4,616	24,246	39,052	88,410	49,358
Furniture and refrigerators	1909	228	9,449	170	1,047	8,232	15,951	16,251	1,055	4,142	7,242	16,259	9,017
	1904	212	9,677	170	835	8,672	14,490	13,281	837	3,910	5,544	13,827	8,283
	1899	[1] 105	7,577	183	671	6,723	.....	9,586	573	2,622	4,042	9,515	5,473
Gas and electric fixtures and lamps and reflectors.	1909	56	1,788	40	311	1,437	2,356	2,577	302	748	1,777	3,563	1,786
	1904	22	801	19	120	662	714	923	145	288	484	1,284	800
	1899	24	823	19	89	715	.....	748	68	241	419	1,046	627
Gas, illuminating and heating	1909	38	862	2	194	666	2,165	11,969	181	431	827	3,080	2,253
	1904	58	2,666	.....	427	2,239	2,052	25,081	366	1,083	1,347	4,812	3,465
	1899	73	1,672	.....	283	1,389	1,387	25,017	277	602	885	3,931	3,046
Glass	1909	45	10,630	8	463	10,159	16,198	16,201	716	5,977	4,688	14,358	9,670
	1904	37	8,163	10	309	7,844	11,256	9,254	444	4,512	2,887	9,026	6,189
	1899	28	4,754	9	199	4,546	3,721	5,452	249	2,067	1,253	4,547	3,294

[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.

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.													
Grindstones	1909	9	1,355	3	75	1,277	5,228	$4,679	$147	$597	$385	$1,498	$1,113
	1904	18	638	4	40	594	2,277	1,582	72	222	143	517	374
	1899	20	1,082	4	50	1,028	.....	674	51	356	207	906	699
Hats and caps, other than felt, straw, and wool.	1909	25	511	38	67	406	83	384	74	174	422	804	382
	1904	21	410	31	30	349	67	207	35	139	272	642	370
	1899	26	734	39	39	656	.....	337	31	224	573	1,004	431
Hosiery and knit goods	1909	39	3,412	31	232	3,149	1,613	4,408	391	1,072	3,851	6,433	2,582
	1904	[1] 28	2,649	25	134	2,490	1,221	2,330	146	714	2,177	3,997	1,820
	1899	28	1,504	28	56	1,420	550	1,072	55	356	810	1,585	775
Ice, manufactured	1909	97	1,176	43	241	892	19,058	8,381	220	559	564	2,270	1,706
	1904	69	692	31	141	520	11,882	4,495	111	296	292	1,217	925
	1899	42	395	17	79	299	6,150	1,777	53	155	138	583	445
Ink, printing	1909	8	277	.....	94	183	1,437	1,559	191	131	809	1,907	1,098
	1904	6	185	.....	50	135	732	1,468	97	99	407	1,319	912
	1899	5	132	.....	30	102	.....	686	65	63	375	707	332
Iron and steel, blast furnaces	1909	40	8,278	7	976	7,295	215,739	94,533	1,366	5,090	68,425	83,699	15,274
	1904	33	5,829	.....	395	5,434	167,740	43,196	568	3,471	32,477	40,862	8,385
	1899	43	6,342	17	286	6,039	95,040	22,347	342	3,287	23,543	40,367	16,824
Iron and steel, steel works and rolling mills.	1909	75	41,912	3	3,323	38,586	515,813	163,384	4,061	28,614	139,243	197,780	58,537
	1904	57	29,500	.....	1,744	27,756	304,162	87,406	1,931	18,658	78,210	111,997	33,787
	1899	64	28,583	.....	945	27,638	211,621	63,181	1,250	16,444	67,786	98,569	30,783
Jewelry	1909	35	481	43	82	356	116	1,191	84	252	619	1,255	636
	1904	16	326	21	43	262	94	472	43	162	229	653	424
	1899	21	.....	.....	35	224	.....	647	25	123	515	864	349
Leather goods	1909	86	2,309	90	329	1,890	1,399	4,070	302	879	2,859	4,939	2,080
	1904	[2] 94	2,785	99	274	2,412	1,813	4,229	263	1,063	2,931	5,444	2,513
	1899	96	.....	.....	269	2,345	.....	2,809	217	871	2,769	4,559	1,790
Leather, tanned, curried, and finished	1909	36	2,028	24	120	1,884	4,244	13,759	197	1,083	7,720	10,128	2,408
	1904	40	1,738	34	94	1,610	2,770	6,915	142	839	4,462	6,513	2,051
	1899	58	1,534	76	74	1,384	2,322	5,823	81	617	3,774	5,182	1,408
Lime	1909	39	1,403	34	96	1,273	3,872	2,635	129	553	598	1,620	1,022
	1904	41	1,012	32	81	899	3,318	1,975	65	381	532	1,334	802
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquors, distilled	1909	17	434	12	48	374	2,422	4,732	88	230	2,514	12,011	9,497
	1904	23	845	21	197	627	3,517	3,851	166	317	3,410	15,977	12,567
	1899	26	428	29	64	335	2,683	3,000	86	179	1,439	12,447	11,008
Liquors, malt	1909	105	5,275	35	884	4,356	31,690	57,748	1,683	3,267	6,563	25,332	18,769
	1904	114	4,540	52	717	3,771	25,288	34,970	1,233	2,802	5,956	21,621	15,665
	1899	111	.....	.....	540	3,391	20,860	25,305	871	2,243	4,201	18,168	13,967
Liquors, vinous	1909	29	254	22	83	149	406	1,980	95	79	718	1,304	586
	1904	47	283	43	70	170	677	2,180	77	88	691	1,335	644
	1899	52	286	49	58	179	459	1,622	49	68	429	802	373
Lumber and timber products	1909	1,390	16,445	1,560	1,429	13,456	69,255	28,500	1,467	6,701	19,972	34,597	14,625
	1904	1,312	16,380	1,644	1,166	13,570	68,536	24,631	1,087	6,594	17,733	32,926	15,193
	1899	1,656	.....	.....	864	16,502	71,085	19,136	715	6,548	17,116	32,812	15,696
Marble and stone work	1909	198	2,520	229	279	2,012	7,070	3,505	296	1,161	1,450	3,847	2,397
	1904	123	3,436	139	262	3,035	9,998	6,725	320	1,626	1,732	4,863	3,131
	1899	184	.....	.....	184	2,097	.....	2,396	148	1,038	1,131	3,058	1,927
Mattresses and spring beds	1909	38	1,145	34	150	961	2,009	2,935	183	435	1,682	3,307	1,625
	1904	35	793	42	88	663	1,798	1,682	117	275	1,392	2,296	904
	1899	31	.....	.....	49	441	.....	323	36	156	579	975	396
Millinery and lace goods	1909	31	1,605	30	218	1,357	603	1,334	223	478	1,459	2,744	1,285
	1904	17	519	21	42	456	132	236	28	141	288	596	308
	1899	20	441	30	19	392	.....	221	12	96	324	548	224
Models and patterns, not including paper patterns.	1909	74	564	95	28	441	673	316	27	294	159	670	511
	1904	61	379	77	19	283	631	271	19	174	58	386	328
	1899	65	411	80	11	320	.....	234	10	170	76	407	331
Musical instruments, pianos and organs and materials.	1909	30	1,987	16	130	1,841	2,254	3,593	172	1,092	1,922	3,926	2,004
	1904	26	2,336	10	116	2,210	2,153	3,357	150	1,205	1,625	3,684	2,059
	1899	18	844	20	53	771	1,008	1,349	61	358	710	1,451	741
Oil, linseed	1909	4	258	.....	45	213	1,347	2,552	56	83	3,081	3,627	546
	1904	4	90	2	17	71	950	990	27	50	2,135	2,400	265
	1899	7	172	.....	25	147	.....	1,987	49	76	2,889	3,115	226
Paint and varnish	1909	87	2,587	39	1,013	1,535	5,572	11,757	1,377	904	8,570	13,617	5,047
	1904	75	1,635	40	484	1,111	4,275	7,906	600	581	5,855	8,530	2,675
	1899	65	1,419	62	515	842	2,445	5,502	636	414	4,115	6,704	2,589
Paper and wood pulp	1909	47	4,972	3	296	4,673	51,402	20,970	596	2,419	10,898	16,965	6,067
	1904	53	4,108	3	222	3,883	36,288	14,433	327	1,683	6,154	10,962	4,808
	1899	51	3,399	19	196	3,184	28,517	7,873	278	1,118	3,769	6,544	2,775

[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.

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	28	2,264	19	205	2,040	1,909	$5,605	$312	$882	$3,434	$6,307	$2,873
	1904	23	2,403	10	344	2,049	2,020	4,877	288	653	1,836	3,973	2,137
	1899	[1] 14	804	11	49	744	.....	1,066	76	244	1,383	2,691	1,308
Patent medicines and compounds and druggists' preparations.	1909	261	2,068	236	927	905	1,568	4,072	800	385	1,888	5,859	3,971
	1904	196	1,803	196	561	1,046	1,255	3,832	574	386	2,118	7,371	5,253
	1899	159	1,469	188	412	869	.....	2,978	428	287	1,445	4,842	3,397
Petroleum, refining	1909	10	2,039	.....	380	1,659	4,324	11,152	412	1,028	8,145	10,754	2,609
	1904	12	2,116	.....	216	1,900	4,386	10,385	266	1,054	7,662	10,949	3,287
	1899	9	1,227	2	217	1,008	2,491	10,913	234	552	6,177	8,397	2,220
Photo-engraving	1909	20	370	12	81	277	215	266	85	242	109	576	467
	1904	11	240	9	51	180	159	137	37	146	36	321	285
	1899	18	250	14	36	200	.....	117	26	97	47	232	185
Pottery, terra-cotta, and fire-clay products.	1909	186	17,751	69	1,163	16,519	26,778	32,167	1,443	8,628	6,461	21,173	14,712
	1904	205	17,072	106	1,047	15,919	24,754	26,360	1,177	7,677	4,823	18,551	13,728
	1899	248	12,913	225	818	11,870	20,051	15,564	766	5,001	3,229	11,851	8,622
Printing and publishing	1909	1,655	22,754	1,480	5,518	15,756	18,417	38,053	5,458	9,355	11,904	41,657	29,753
	1904	1,542	19,288	1,513	3,916	13,859	12,272	26,724	3,585	7,573	8,679	31,327	22,648
	1899	1,340	16,949	1,412	2,329	13,208	.....	20,958	2,105	6,351	6,970	23,833	16,863
Pumps, not including steam pumps	1909	20	1,083	23	158	897	1,322	2,273	144	517	1,271	2,747	1,476
	1904	19	444	21	54	369	633	650	55	192	218	672	454
	1899	30	131	35	13	83	.....	116	12	36	90	193	103
Safes and vaults	1909	10	2,437	1	422	2,014	3,177	5,075	749	1,321	2,162	5,488	3,326
	1904	11	2,342	1	188	2,153	2,316	4,549	454	1,395	2,047	4,895	2,848
	1899	10	1,453	2	124	1,327	.....	3,561	141	679	1,123	2,408	1,285
Salt	1909	8	722	.....	74	648	4,034	1,981	77	361	1,090	1,807	717
	1904	8	592	1	52	539	1,705	1,242	53	236	663	1,168	505
	1899	10	729	3	48	678	1,277	797	42	243	424	818	394
Screws, machine	1909	6	363	.....	39	324	915	666	41	204	178	598	420
	1904	4	501	.....	63	438	1,160	1,376	83	226	301	793	492
Sewing machines, cases, and attachments.	1909	4	4,050	1	218	3,831	2,973	4,973	276	2,105	2,518	5,972	3,454
	1904	[1] 3	2,007	.....	101	1,906	1,547	4,052	140	1,057	1,803	3,882	2,079
	1899	[1] 5	1,463	.....	157	1,306	.....	3,404	208	740	1,446	2,923	1,477
Shoddy	1909	4	469	1	30	438	1,100	1,096	62	200	742	1,257	515
	1904	5	450	3	21	426	1,100	922	37	158	948	1,239	291
	1899	6	509	.....	35	474	1,035	1,398	55	165	1,078	1,479	401
Show cases	1909	14	402	6	47	349	569	535	52	173	307	668	361
	1904	14	518	7	73	438	742	380	74	228	314	749	435
	1899	9	125	13	12	100	.....	80	9	51	81	189	108
Slaughtering and meat packing	1909	158	3,864	154	624	3,086	9,873	12,399	687	1,857	44,347	50,804	6,457
	1904	105	2,750	119	316	2,315	4,434	6,465	294	1,355	25,311	29,155	3,844
	1899	77	2,193	96	313	1,784	.....	5,396	266	823	18,007	20,768	2,761
Soap	1909	44	2,280	25	481	1,774	3,579	12,732	573	827	11,661	17,077	5,416
	1904	43	2,323	21	528	1,774	3,166	17,985	743	681	8,395	11,791	3,396
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stoves and furnaces, including gas and oil stoves.	1909	102	8,352	38	1,040	7,274	9,478	15,625	1,201	4,217	6,300	15,358	9,058
	1904	102	7,144	70	565	6,509	6,859	11,251	651	3,634	4,005	10,191	6,186
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tin plate and terneplate	1909	4	742	.....	66	676	1,849	1,063	76	449	7,155	7,889	734
	[3] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	12	736	1	38	697	580	1,153	33	395	5,012	6,023	1,011
Tobacco manufactures	1909	1,146	14,681	1,269	781	12,631	1,401	11,070	980	4,505	12,075	28,907	16,832
	1904	1,329	13,280	1,483	622	11,175	1,011	15,647	533	3,912	7,500	20,489	12,989
	1899	1,148	11,958	1,291	534	10,133	1,127	6,661	606	3,406	5,635	16,993	11,358
Umbrellas and canes	1909	15	371	15	69	287	82	565	69	105	607	1,005	398
	1904	12	369	9	80	280	111	502	76	88	488	833	345
	1899	14	.....	.....	49	288	.....	296	32	88	296	496	200
Wall plaster	1909	23	340	10	71	259	1,823	679	76	106	434	935	501
	1904	27	548	10	72	466	1,730	1,124	62	225	382	1,037	655
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woolen, worsted, and felt goods, and wool hats.	1909	20	2,711	23	122	2,566	6,504	7,159	207	925	4,616	7,690	3,074
	1904	27	1,886	38	75	1,773	3,178	3,585	92	563	2,137	3,587	1,450
	1899	38	.....	.....	84	1,234	.....	2,710	95	384	1,681	2,826	1,145
All other industries	1909	1,586	62,913	1,350	8,401	53,162	119,187	150,018	9,194	27,364	103,264	185,872	82,608
	1904	1,333	45,919	1,218	4,690	40,011	75,058	93,881	5,053	18,444	61,156	105,787	44,631
	1899	1,528	.....	.....	3,502	34,189	.....	66,609	3,541	14,168	48,060	85,884	37,824

[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.

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.					
AKRON—All industries	1909	246	19,023	159	3,033	15,831	36,263	$58,216	$3,004	$8,936	$43,071	$73,158	$30,087
	[1] 1904	186	10,706	128	952	9,626	.....	28,638	1,115	4,893	20,410	33,559	13,149
	1899	178	.....	.....	1,093	8,259	.....	23,725	992	3,615	12,720	22,016	9,296
Artificial stone	1909	10	51	16	5	30	16	31	3	15	15	41	26
	1904	3	31	7	2	22	.....	17	2	11	8	36	28
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bread and other bakery products	1909	25	145	23	32	90	105	161	23	58	255	417	162
	1904	12	42	12	.....	30	.....	33	.....	18	47	76	29
	1899	10	61	18	9	34	.....	27	4	16	52	95	43
Brick and tile	1909	3	96	3	8	85	345	116	7	43	40	141	101
	1904	4	73	3	7	63	.....	142	4	32	35	100	65
	1899	3	82	6	4	72	.....	85	3	29	18	76	58
Carriages and wagons and materials	1909	7	137	8	14	115	357	442	15	68	78	236	158
	1904	10	182	12	11	159	.....	407	15	88	142	293	151
	1899	7	.....	.....	17	156	.....	205	17	73	91	223	132
Foundry and machine-shop products	1909	26	1,061	12	80	969	2,015	3,008	106	650	1,062	2,248	1,186
	1904	20	900	14	54	832	.....	2,924	62	488	1,360	2,368	1,008
	1899	[3] 19	1,391	13	207	1,171	.....	3,540	155	609	746	2,095	1,349
Liquors, malt	1909	3	110	.....	29	81	1,522	914	86	57	170	645	475
	1904	3	77	.....	14	63	.....	494	28	46	113	405	292
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lumber and timber products	1909	10	378	8	51	319	989	663	57	191	437	792	355
	1904	[5] 8	192	9	24	159	.....	417	22	99	396	602	206
	1899	6	130	10	11	109	.....	210	11	53	82	193	111
Patent medicines and compounds and druggists' preparations.	1909	8	18	9	3	6	.....	19	2	2	9	29	20
	1904	5	10	7	.....	3	.....	16	.....	2	5	28	23
	1899	[5] 6	13	5	3	5	.....	48	3	1	13	36	23
Pottery, terra-cotta, and fire-clay products.	1909	15	1,162	5	70	1,087	2,557	1,989	87	557	403	1,350	947
	1904	18	1,377	5	73	1,299	.....	2,520	85	644	406	1,718	1,312
	1899	18	953	8	45	900	.....	1,455	42	412	215	867	652
Printing and publishing	1909	27	990	16	240	734	934	3,587	167	452	597	2,353	1,756
	1904	20	1,052	12	70	970	.....	2,489	120	523	655	2,835	2,180
	1899	18	1,108	11	148	949	.....	2,412	143	466	562	2,049	1,487
Stoves and furnaces, including gas and oil stoves.	1909	5	396	.....	62	334	610	804	77	228	245	754	509
	1904	3	332	2	28	302	.....	473	34	199	165	468	303
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures	1909	7	17	7	.....	10	.....	5	.....	4	6	18	12
	1904	10	26	11	.....	15	.....	7	.....	6	6	22	16
	1899	7	16	7	.....	9	.....	5	.....	4	9	22	13
All other industries	1909	100	14,462	52	2,439	11,971	26,813	46,477	2,374	6,611	39,754	64,134	24,380
	1904	70	6,412	34	669	5,709	.....	18,099	743	2,737	17,072	24,608	7,536
	1899	75	.....	.....	649	4,854	.....	15,738	614	1,952	10,932	16,360	5,428
CANTON—All industries	1909	204	11,313	129	1,220	9,964	27,016	$25,342	$1,347	$5,719	$14,644	$28,583	$13,939
	1904	158	6,666	131	597	5,938	.....	12,850	636	2,964	4,594	10,591	5,997
	1899	164	.....	.....	504	5,149	.....	9,055	497	2,345	4,349	9,575	5,226
Agricultural implements	1909	5	351	.....	68	283	442	1,047	99	127	401	819	418
	1904	5	593	1	67	525	.....	2,421	76	239	533	1,154	621
	1899	6	689	1	102	586	.....	2,474	100	268	539	1,185	646
Brass and bronze products	1909	5	35	7	6	22	38	47	2	16	27	55	28
	1904	[3] 3	8	5	1	2	.....	13	(6)	1	4	15	11
Bread and other bakery products	1909	19	97	23	15	59	38	90	12	34	147	253	106
	1904	7	54	12	.....	42	.....	40	.....	21	49	90	41
	1899	11	63	15	1	47	.....	35	1	21	59	120	61
Confectionery	1909	7	44	7	7	30	18	50	2	10	42	69	27
	1904	3	20	3	.....	17	.....	11	.....	5	11	19	8
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cutlery and tools, not elsewhere specified.	1909	5	179	.....	41	138	230	308	46	74	93	258	165
	1904	3	156	3	33	120	.....	165	17	56	90	207	117
	1899	3	.....	.....	.....	51	.....	42	.....	25	15	67	52
Foundry and machine-shop products	1909	32	2,044	13	283	1,748	3,409	4,578	353	1,005	2,267	4,891	2,624
	1904	25	1,400	16	159	1,225	.....	2,691	199	620	1,298	2,704	1,406
	1899	24	.....	.....	105	877	.....	1,343	87	394	655	1,519	864
Furniture and refrigerators	1909	5	208	2	27	179	354	530	32	99	83	296	213
	1904	5	224	1	20	203	.....	386	21	111	105	340	235
	1899	5	264	1	27	236	.....	382	34	111	87	352	265
Leather goods	1909	3	305	2	36	267	131	468	34	116	339	549	210
	1904	[5] 3	69	3	10	56	.....	89	11	27	54	117	63
	1899	3	.....	.....	12	201	.....	161	11	59	212	322	110

[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] Not reported separately.
[3] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[4] Figures can not be shown without disclosing individual operations.
[5] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[6] 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.					
CANTON—Continued.													
Lumber and timber products	1909	3	52	1	5	46	180	$107	$6	$29	$95	$135	$40
	1904	10	95	11	4	80	.....	127	3	44	100	202	102
	1899	3	.....	.....	2	36	.....	97	1	15	51	83	32
Printing and publishing	1909	17	219	17	41	161	185	326	37	88	78	293	215
	1904	[1] 13	160	13	16	131	.....	184	20	74	52	218	166
	1899	[1] 11	123	8	12	103	.....	116	12	46	38	144	106
Tobacco manufactures	1909	19	93	23	.....	70	.....	33	.....	27	42	106	64
	1904	16	85	17	1	67	.....	21	1	33	22	79	57
	1899	15	61	15	3	43	.....	13	1	14	16	54	38
All other industries	1909	84	7,686	34	691	6,961	21,991	17,758	724	4,094	11,030	20,859	9,829
	1904	65	3,802	46	286	3,470	.....	6,702	288	1,733	2,276	5,446	3,170
	1899	83	.....	.....	240	2,969	.....	4,392	250	1,392	2,677	5,729	3,052
CINCINNATI—All industries	**1909**	**2,184**	**72,488**	**2,015**	**10,281**	**60,192**	**88,597**	**$150,254**	**$12,759**	**$31,101**	**$101,932**	**$194,516**	**$92,584**
	1904	**2,171**	**68,954**	**2,180**	**8,190**	**58,584**	.....	**130,272**	**9,077**	**27,390**	**83,258**	**166,059**	**82,801**
	1899	**2,454**	.....	.....	**6,164**	**54,942**	.....	**103,464**	**6,437**	**23,104**	**71,391**	**141,678**	**70,287**
Bags, paper	1909	5	358	.....	59	299	320	673	72	129	730	1,088	358
	1904	5	291	3	91	197	.....	358	47	68	401	581	180
	1899	7	165	4	35	126	.....	189	26	38	324	463	139
Blacking and cleansing and polishing preparations.	1909	14	92	21	33	38	34	90	24	14	112	255	143
	1904	[1] 8	34	10	7	17	.....	32	6	5	35	77	42
	1899	[2] 4	20	2	5	13	.....	20	12	3	19	56	37
Boots and shoes, including cut stock and findings.	1909	32	8,702	21	692	7,989	4,631	7,656	1,016	3,518	8,584	14,999	6,415
	1904	35	7,178	32	502	6,644	.....	4,661	535	2,563	6,204	11,152	4,858
	1899	46	.....	.....	385	6,747	.....	3,671	489	2,132	5,180	8,626	3,446
Boxes, cigar	1909	8	248	10	16	222	405	213	17	82	177	347	170
	1904	6	210	8	13	189	.....	193	11	57	238	371	133
	1899	8	264	11	13	240	.....	188	9	70	216	354	138
Boxes, fancy and paper	1909	15	738	9	60	669	218	442	70	185	292	679	387
	1904	14	692	14	39	639	.....	374	35	153	234	509	275
	1899	12	581	14	24	543	.....	202	32	134	153	426	273
Brass and bronze products	1909	14	635	12	60	563	424	1,304	80	329	385	996	611
	1904	[2] 17	668	25	56	587	.....	1,038	60	309	465	1,108	643
	1899	14	563	20	27	516	.....	458	23	206	312	680	368
Bread and other bakery products	1909	187	1,768	186	242	1,340	909	2,653	237	723	3,034	5,103	2,069
	1904	199	1,628	198	116	1,314	.....	2,012	88	592	2,311	3,892	1,581
	1899	258	1,548	275	172	1,101	.....	1,505	113	461	1,671	3,048	1,377
Brick and tile	1909	7	114	7	8	99	280	100	7	41	13	94	81
	1904	11	95	14	1	80	.....	94	1	38	13	80	67
	1899	12	73	19	.....	54	.....	26	.....	31	12	66	54
Canning and preserving	1909	9	315	5	93	217	420	646	105	77	483	825	342
	1904	7	495	5	73	417	.....	456	87	129	765	1,262	497
	1899	[2] 8	305	8	33	264	.....	348	53	107	600	1,077	477
Carriages and wagons and materials	1909	74	2,677	64	363	2,250	2,523	4,477	381	1,295	3,702	6,825	3,123
	1904	78	3,146	72	369	2,705	.....	4,026	328	1,380	4,576	7,670	3,094
	1899	73	.....	.....	313	2,771	.....	4,278	263	1,419	4,264	7,220	2,956
Cars and general shop construction and repairs by steam-railroad companies.	1909	3	327	.....	13	314	590	398	14	203	111	328	217
	1904	3	474	.....	25	449	.....	211	22	282	199	510	311
	1899	4	478	.....	18	460	.....	156	16	253	148	454	306
Chemicals	1909	11	162	4	36	122	508	713	63	76	474	899	425
	1904	9	140	4	37	99	.....	774	51	59	651	958	307
	1899	8	118	4	20	94	.....	534	32	52	692	957	265
Clothing, men's, including shirts	1909	183	6,956	237	1,001	5,718	559	10,212	1,212	2,512	8,680	16,975	8,295
	1904	217	5,380	286	774	4,320	.....	9,903	839	1,702	7,756	14,761	7,005
	1899	361	.....	.....	635	4,168	.....	8,462	641	1,419	6,886	12,452	5,566
Clothing, women's	1909	26	1,541	41	175	1,325	176	1,230	217	619	1,514	2,913	1,399
	1904	29	1,366	40	155	1,171	.....	1,269	153	457	1,497	2,712	1,215
	1899	38	1,522	53	106	1,363	.....	850	108	399	1,173	2,075	902
Coffee and spice, roasting and grinding	1909	8	356	7	128	221	691	1,083	131	91	1,595	2,110	515
	1904	10	281	9	102	170	.....	624	96	62	1,432	1,835	403
	1899	10	187	10	68	109	.....	474	71	42	1,160	1,416	256
Confectionery	1909	22	922	21	130	771	573	970	139	279	1,222	2,029	807
	1904	15	739	17	69	653	.....	725	65	225	977	1,568	591
	1899	14	.....	.....	83	437	.....	691	73	148	894	1,310	416
Cooperage and wooden goods, not elsewhere specified.	1909	20	697	17	48	632	1,269	1,44	75	292	766	1,232	466
	1904	[2] 23	718	25	52	641	.....	1,084	71	318	727	1,350	623
	1899	18	.....	.....	23	662	.....	786	42	258	579	1,021	442
Copper, tin, and sheet-iron products	1909	37	1,019	30	156	833	1,154	2,019	147	413	1,633	2,775	1,142
	1904	[1] 35	1,083	34	131	918	.....	1,516	141	432	1,199	2,348	1,149
	1899	36	.....	.....	70	680	.....	789	59	285	833	1,483	650

[1] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[2] 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.					
CINCINNATI—Continued.													
Cutlery and tools, not elsewhere specified.	1909	9	80	14	11	55	166	$101	$13	$35	$51	$136	$85
	1904	11	116	10	21	85	.....	135	21	45	48	175	127
	1899	[1] 10	79	11	11	57	.....	67	11	31	55	135	80
Electrical machinery, apparatus, and supplies.	1909	13	393	9	71	313	397	529	95	200	333	836	503
	1904	13	310	13	54	243	.....	347	60	136	283	621	338
	1899	9	292	8	51	233	.....	321	48	99	530	813	283
Flags, banners, regalia, society badges, and emblems.	1909	8	498	3	92	403	317	668	88	162	503	888	385
	1904	[1] 9	399	8	64	327	.....	344	77	114	331	699	368
	1899	[1] 7	414	8	64	342	.....	259	46	88	284	620	336
Flour-mill and gristmill products	1909	6	84	3	29	52	685	400	33	38	957	1,083	126
	1904	7	122	6	23	93	.....	377	29	40	810	973	163
	1899	6	.....	.....	16	61	.....	272	21	30	671	781	110
Foundry and machine-shop products	1909	200	10,110	120	1,456	8,534	12,590	21,400	1,876	4,985	7,044	18,380	11,336
	1904	186	9,437	126	1,131	8,180	.....	17,240	1,298	4,254	6,309	15,958	9,649
	1899	194	.....	.....	864	8,106	.....	12,439	846	3,895	6,431	14,557	8,126
Furniture and refrigerators	1909	60	2 306	67	213	2,026	3,499	3,024	263	1,071	1,727	4,062	2,335
	1904	[1] 62	3,068	70	292	2,706	.....	4,312	283	1,327	1,962	4,821	2,859
	1899	54	2,667	72	240	2,355	.....	3,817	216	966	1,564	3,594	2,030
Hats and caps, other than felt, straw, and wool.	1909	12	323	20	43	260	33	264	45	112	284	532	248
	1904	11	288	17	20	251	.....	125	28	87	181	424	243
	1899	12	326	20	21	285	.....	136	17	86	241	447	206
Hosiery and knit goods	1909	6	231	5	6	220	192	426	16	84	257	442	185
	1904	[2] 5	290	8	11	271	.....	372	18	77	233	471	238
	1899	9	248	10	1	237	.....	413	4	69	127	275	148
Ice, manufactured	1909	8	168	1	38	129	3,229	1,851	51	81	124	385	261
	1904	10	133	1	23	109	.....	1,146	27	68	100	332	232
	1899	5	46	1	8	37	.....	148	8	19	26	81	55
Jewelry	1909	15	284	25	49	210	88	1,002	52	156	518	936	418
	1904	11	271	17	39	215	.....	452	40	132	189	548	359
	1899	13	.....	.....	34	177	.....	616	25	99	486	790	304
Leather goods	1909	16	659	20	106	533	230	1,475	101	277	790	1,499	709
	1904	[1] 16	625	24	87	514	.....	874	85	271	725	1,407	682
	1899	19	.....	.....	113	622	.....	909	99	270	844	1,435	591
Leather, tanned, curried, and finished	1909	13	1,043	10	36	997	2,269	9,503	71	570	3,677	5,059	1,382
	1904	10	1,021	11	34	976	.....	4,640	63	510	2,285	3,405	1,120
	1899	15	986	18	25	943	.....	4,865	37	412	2,490	3,447	957
Liquors, distilled	1909	4	300	.....	29	271	1,750	2,834	63	178	1,824	8,745	6,921
	1904	4	459	2	46	411	.....	1,658	68	206	2,266	9,610	7,344
	1899	3	199	2	34	163	.....	1,523	55	98	1,034	9,420	8,386
Liquors, malt	1909	22	1,858	.....	280	1,578	11,416	15,464	614	1,168	2,173	8,874	6,701
	1904	21	1,520	1	232	1,287	.....	14,357	462	938	1,884	7,703	5,819
	1899	21	1,481	6	193	1,282	.....	11,371	361	911	1,403	6,387	4,984
Liquors, vinous	1909	5	16	7	1	8	6	57	1	5	19	40	21
	1904	5	15	7	.....	8	.....	63	.....	4	19	41	22
	1899	5	17	6	3	8	.....	26	3	4	15	34	19
Lumber and timber products	1909	45	1,866	30	215	1,621	6,808	6,560	291	863	2,887	5,021	2,134
	1904	43	1,736	48	185	1,503	.....	5,562	210	792	2,627	5,043	2,416
	1899	31	1,430	41	86	1,303	.....	2,393	94	582	1,575	3,408	1,833
Marble and stone work	1909	25	340	30	41	269	854	582	50	181	252	632	380
	1904	21	487	30	40	417	.....	517	42	297	373	1,001	628
	1899	22	.....	.....	20	326	.....	416	18	163	236	524	288
Mattresses and spring beds	1909	9	203	10	28	165	227	311	22	74	223	394	171
	1904	8	85	8	5	72	.....	89	4	31	138	212	74
	1899	7	.....	.....	12	110	.....	103	6	38	139	236	97
Millinery and lace goods	1909	11	494	10	56	428	59	136	49	120	294	547	253
	1904	9	293	10	19	264	.....	134	11	85	158	324	166
	1899	11	263	12	8	243	.....	121	4	66	111	229	118
Models and patterns, not including paper patterns.	1904	9	104	11	4	89	65	70	6	63	54	151	97
	1904	15	96	22	3	71	.....	29	2	43	12	88	76
	1899	20	136	25	3	108	.....	71	3	65	27	149	122
Musical instruments, pianos and organs and materials.	1909	7	760	5	43	712	835	1,185	62	371	1,080	1,753	673
	1904	4	711	.....	32	679	.....	861	51	342	882	1,488	606
	1899	4	538	2	23	513	.....	791	31	226	489	931	442
Paint and varnish	1909	24	636	19	209	408	1,356	4,026	282	215	2,486	3,880	1,394
	1904	23	396	18	108	270	.....	3,108	149	148	2,000	2,628	628
	1899	21	400	24	109	267	.....	2,325	139	144	1,522	2,255	733
Paper goods, not elsewhere specified	1909	6	144	7	24	113	252	319	29	42	205	346	141
	1904	4	49	4	6	39	.....	57	6	12	56	106	50
	1899	4	59	4	9	46	.....	83	6	19	102	176	74
Patent medicines and compounds and druggists' preparations.	1909	50	448	40	206	202	404	953	198	90	497	1,230	733
	1904	37	570	37	168	365	.....	1,207	255	122	439	1,412	973
	1899	50	565	52	160	353	.....	939	186	99	433	1,467	1,034

[1] Excluding statistics for two establishments, to avoid disclosure of individual operations.
[2] 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.					
CINCINNATI—Continued.													
Pottery, terra-cotta, and fire-clay products.	1909	7	276	3	36	237	370	$727	$44	$118	$52	$370	$318
	1904	8	212	8	35	169	.....	360	33	84	44	278	234
	1899	7	321	7	27	287	.....	413	23	124	62	291	229
Printing and publishing	1909	280	5,391	246	1,279	3,866	4,671	8,451	1,379	2,480	3,349	11,519	8,170
	1904	264	5,394	228	1,169	3,997	.....	8,430	1,170	2,317	3,218	10,321	7,103
	1899	233	4,828	237	728	3,863	.....	7,212	728	2,125	2,388	8,193	5,805
Safes and vaults	1909	5	703	1	123	579	970	1,156	257	359	630	1,401	771
	1904	4	626	1	68	557	.....	532	110	313	490	1,151	661
	1899	5	490	2	60	428	.....	615	61	206	340	773	433
Show cases	1909	3	74	.....	11	63	118	58	12	43	50	116	66
	1904	3	94	1	12	81	.....	78	10	47	74	164	90
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Slaughtering and meat packing	1909	55	1,368	69	183	1,116	3,710	4,654	205	669	16,974	19,320	2,346
	1904	48	1,044	63	103	878	.....	2,857	113	522	11,762	13,510	1,748
	1899	[2] 27	990	36	98	856	.....	2,893	104	415	8,807	10,370	1,563
Soap	1909	16	663	8	164	491	699	1,621	205	193	1,359	2,352	993
	1904	14	805	8	152	645	.....	2,192	238	223	1,519	2,690	1,171
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stoves and furnaces, including gas and oil stoves.	1909	15	1,092	3	217	872	1,086	2,150	209	485	1,013	2,325	1,312
	1904	[4] 11	698	6	78	614	.....	873	76	329	365	1,003	638
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures	1909	208	2,920	228	175	2,526	247	2,364	189	988	1,640	4,153	2,513
	1904	253	3,917	281	202	3,434	.....	3,188	182	1,267	2,245	5,748	3,503
	1899	306	4,247	147	205	3,895	.....	2,667	213	1,380	2,265	6,768	4,503
All other industries	1909	337	9,017	299	1,494	7,224	13,315	19,608	1,881	3,747	15,099	26,637	11,538
	1904	300	9,049	290	1,116	7,643	.....	24,406	1,220	3,376	9,461	18,960	9,499
	1899	393	.....	.....	908	7,088	.....	21,613	972	2,918	11,578	19,908	8,330
CLEVELAND—All industries	1909	2,148	98,686	1,718	12,240	84,728	199,898	$227,397	$15,506	$48,053	$154,915	$271,961	$117,046
	[5] 1904	1,616	72,362	1,445	6,876	64,041	.....	156,321	8,299	33,450	97,578	171,924	74,346
	1899	1,350	.....	.....	5,064	55,341	.....	101,243	5,453	26,518	76,465	139,356	62,891
Artificial stone	1909	18	158	19	18	121	158	165	16	76	92	233	141
	1904	5	52	7	7	38	.....	84	6	22	22	60	38
Automobiles, including bodies and parts	1909	32	7,115	20	687	6,408	9,135	16,600	875	4,023	10,417	21,404	10,987
	1904	10	1,949	3	146	1,800	.....	3,095	194	1,027	2,030	4,624	2,594
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blacking and cleansing and polishing preparations.	1909	19	100	16	33	51	55	231	36	29	159	355	196
	1904	7	29	8	9	12	.....	26	7	6	17	44	27
	1899	3	8	4	1	3	.....	2	([6])	2	4	13	9
Boots and shoes, including cut stock and findings.	1909	6	631	8	66	557	304	467	84	225	510	951	441
	1904	[4] 5	578	10	27	541	.....	327	23	195	398	786	388
	1899	8	.....	.....	28	472	.....	319	29	126	492	765	273
Boxes, cigar	1909	5	78	5	4	69	27	57	6	19	43	97	54
	1904	4	63	6	3	54	.....	55	2	16	33	66	33
	1899	4	52	6	4	42	.....	30	2	11	25	48	23
Boxes, fancy and paper	1909	6	790	.....	51	739	647	824	68	266	627	1,141	514
	1904	6	359	4	34	321	.....	404	27	112	199	421	222
	1899	5	329	4	11	314	.....	128	12	88	99	270	171
Brass and bronze products	1909	28	931	23	107	801	872	2,737	121	518	1,362	2,568	1,206
	1904	19	636	21	54	561	.....	1,576	70	310	745	1,480	735
	1899	[4] 12	483	16	38	429	.....	596	47	235	362	931	569
Bread and other bakery products	1909	198	1,696	201	266	1,229	14	2,601	312	804	2,722	4,731	2,009
	1904	138	1,451	130	91	1,230	.....	1,881	81	611	1,719	2,982	1,263
	1899	104	773	103	118	552	.....	724	85	285	892	1,525	633
Brick and tile	1909	13	583	9	28	546	1,965	961	43	286	213	769	556
	1904	8	268	11	5	252	.....	363	9	141	84	346	262
	1899	9	.....	.....	3	196	.....	276	2	112	59	263	204
Carriages and wagons and materials	1909	33	330	38	25	267	175	429	25	182	142	462	320
	1904	[2] 32	409	41	25	343	.....	374	28	203	189	549	360
	1899	[4] 36	.....	.....	25	375	.....	410	18	200	215	574	359
Cars and general shop construction and repairs by steam-railroad companies.	1909	6	1,473	.....	101	1,372	1,640	1,075	99	843	1,077	2,056	979
	1904	6	1,408	.....	95	1,313	.....	490	76	757	823	1,681	858
	1899	7	1,229	.....	74	1,155	.....	564	55	609	514	1,210	696
Chemicals	1909	5	557	.....	88	469	1,840	1,572	141	307	978	1,866	888
	1904	5	708	3	199	506	.....	809	301	308	671	1,373	702
	1899	6	471	1	114	356	.....	2,156	139	204	910	1,729	819
Clothing, men's, including shirts	1909	93	3,166	110	311	2,745	346	3,319	374	1,096	3,203	5,953	2,750
	1904	[4] 70	1,659	93	84	1,482	.....	1,595	122	642	1,366	2,979	1,613
	1899	[4] 118	1,734	156	111	1,467	.....	1,815	119	481	1,871	3,410	1,539

[1] Figures can not be shown without disclosing individual operations.
[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.
[5] Figures do not agree with those published in 1904, because in was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.
[6] 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.					
CLEVELAND—Continued.													
Clothing, women's	1909	96	6,226	100	708	5,418	771	$4,941	$1,126	$2,903	$6,496	$12,789	$6,293
	1904	78	3,864	102	368	3,394	.....	2,583	390	1,682	3,796	7,428	3,632
	1899	77	2,671	91	218	2,362	.....	1,598	221	842	2,445	4,213	1,768
Confectionery	1909	16	908	10	95	803	679	1,294	150	253	1,553	2,852	1,299
	1904	8	449	11	26	412	.....	511	44	106	558	1,715	1,157
	1899	10	.....	.....	36	437	.....	349	33	108	550	1,499	949
Cooperage and wooden goods, not elsewhere specified.	1909	10	289	9	19	261	533	500	36	136	471	708	237
	1904	9	187	10	10	167	.....	209	23	89	234	392	158
	1899	5	.....	.....	8	178	.....	249	17	73	102	224	122
Copper, tin, and sheet-iron products	1909	37	1,531	32	135	1,364	1,231	4,782	183	640	1,628	2,966	1,338
	1904	[1] 19	477	19	53	405	.....	699	62	213	293	724	431
	1899	17	.....	.....	27	503	.....	669	29	214	344	705	361
Cutlery and tools, not elsewhere specified.	1909	15	1,662	11	207	1,444	3,246	4,097	228	759	665	2,395	1,730
	1904	[1] 8	871	7	57	807	.....	1,887	81	389	452	1,224	772
	1899	[1] 8	634	7	59	508	.....	984	56	260	265	890	625
Electrical machinery, apparatus, and supplies.	1909	40	1,899	20	301	1,578	1,980	3,308	346	760	1,780	4,036	2,256
	1904	30	1,463	18	210	1,235	.....	1,893	218	548	1,099	2,653	1,554
	1899	25	.....	.....	151	1,467	.....	2,220	144	602	1,278	2,552	1,274
Foundry and machine-shop products	1909	231	20,348	121	2,312	17,915	24,204	41,610	3,134	10,485	15,324	37,443	22,119
	1904	[2] 164	14,464	98	1,348	13,018	.....	26,163	1,803	7,101	10,017	24,033	14,016
	1899	[1] 156	11,939	121	864	10,954	.....	13,957	966	5,516	7,847	18,424	10,577
Furniture and refrigerators	1909	25	557	19	71	467	578	660	73	288	491	1,069	578
	1904	[2] 26	614	18	53	543	.....	606	64	345	346	961	615
	1899	18	499	20	59	420	.....	969	64	213	511	1,030	519
Gas and electric fixtures and lamps and reflectors.	1909	17	409	16	67	326	199	313	96	193	229	654	425
	1904	[1] 7	346	6	51	289	.....	391	66	112	192	569	377
	1899	[1] 5	242	3	37	202	.....	162	28	76	101	252	151
Hats and caps, other than felt, straw, and wool.	1909	9	132	15	20	97	11	100	26	43	102	199	97
	1904	5	77	9	9	59	.....	71	7	34	56	151	95
	1899	8	352	13	12	327	.....	186	9	123	299	500	201
Hosiery and knit goods	1909	13	1,365	12	119	1,234	407	1,894	185	485	1,813	2,957	1,144
	1904	[1] 6	1,074	9	40	1,025	.....	926	49	348	1,061	1,957	896
	1899	5	555	7	7	541	.....	239	11	131	387	748	361
Ice, manufactured	1909	5	131	1	19	111	3,266	2,149	25	85	103	368	265
	1904	4	52	1	8	43	.....	667	10	33	45	195	150
	1899	4	39	1	12	26	.....	194	11	19	31	95	64
Iron and steel, steel works and rolling mills.	1909	14	8,278	2	738	7,538	60,575	25,087	849	5,150	28,039	38,463	10,424
	1904	9	9,110	.....	533	8,577	.....	23,921	574	4,956	22,772	32,279	9,507
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jewelry	1909	15	124	12	10	102	34	115	12	66	62	208	146
	1904	5	55	4	4	47	.....	20	3	30	40	105	65
	1899	5	.....	.....	.....	31	.....	21	.....	15	13	42	29
Leather goods	1909	14	153	10	18	125	84	154	17	68	133	271	138
	1904	[2] 12	142	7	15	120	.....	98	12	60	89	230	141
	1899	[2] 9	.....	.....	15	160	.....	161	10	68	110	242	132
Leather, tanned, curried, and finished	1909	4	124	1	15	108	422	386	18	69	468	636	168
	1904	4	104	2	12	90	.....	315	13	50	209	302	93
	1899	3	59	5	10	44	.....	171	9	18	105	151	46
Liquors, distilled	1909	4	6	5	.....	1	14	4	.....	1	6	14	8
	1904	4	7	4	.....	3	.....	17	.....	1	3	13	10
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquors, malt	1909	11	904	5	155	744	3,395	9,888	358	594	1,484	6,124	3,640
	1904	9	718	5	112	601	.....	5,949	217	503	1,108	3,986	2,878
	1899	10	582	10	95	477	.....	3,788	174	382	840	4,034	3,194
Liquors, vinous	1909	4	54	3	23	28	23	194	18	17	136	206	70
	1904	3	9	2	1	6	.....	87	1	4	14	31	17
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lumber and timber products	1909	51	1,319	22	150	1,147	5,263	2,380	172	699	2,732	4,021	1,289
	1904	[1] 37	1,216	30	102	1,084	.....	1,877	129	622	2,516	3,820	1,304
	1899	[1] 35	1,169	34	82	1,053	.....	1,258	85	466	1,083	2,055	972
Marble and stone work	1909	18	367	19	33	315	789	409	34	192	197	468	271
	1904	7	199	8	13	178	.....	296	17	116	106	297	191
	1899	10	.....	.....	12	210	.....	231	14	148	146	375	229
Mattresses and spring beds	1909	6	173	4	19	150	178	209	18	71	208	365	157
	1904	3	127	.....	15	112	.....	95	16	47	140	239	99
	1899	4	156	2	17	137	.....	71	15	55	165	286	121
Millinery and lace goods	1909	6	536	4	60	472	143	459	83	190	726	1,206	480
	1904	5	83	6	8	69	.....	75	10	20	58	117	59
	1899	8	174	16	11	147	.....	88	8	30	200	299	99

[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 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.					
CLEVELAND—Continued.													
Models and patterns, not including paper patterns.	1909	21	229	23	16	190	213	$95	$18	$123	$51	$251	$200
	1904	15	124	18	5	101	.....	87	10	70	20	143	123
	1899	13	135	14	4	117	.....	75	6	55	22	123	101
Musical instruments, pianos and organs and materials.	1909	3	52	.....	10	42	75	126	13	32	20	93	64
	1904	3	81	.....	9	72	.....	118	12	44	39	134	95
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paint and varnish	1909	24	1,258	5	493	760	2,624	5,393	704	468	3,889	6,138	2,249
	1904	20	797	7	215	575	.....	3,161	245	304	2,625	3,700	1,075
	1899	16	691	12	288	391	.....	1,805	364	182	1,737	2,902	1,165
Patent medicines and compounds and druggists' preparations.	1909	50	322	56	141	125	66	429	124	62	316	1,010	694
	1904	30	149	31	66	52	.....	274	66	21	132	426	294
	1899	[2] 10	79	8	29	42	.....	147	31	19	84	214	130
Photo-engraving	1909	3	84	1	25	58	23	48	29	50	36	144	108
	1904	4	87	2	19	66	.....	48	14	53	10	125	115
	1899	3	45	2	8	35	.....	16	6	17	5	44	39
Printing and publishing	1909	245	4,671	171	1,396	3,104	3,328	6,944	1,505	2,009	2,780	9,635	6,855
	1904	[2] 184	3,291	164	836	2,291	.....	3,947	884	1,409	1,686	6,140	4,454
	1899	[2] 127	2,536	119	450	1,967	.....	3,227	473	1,120	1,325	4,349	3,024
Slaughtering and meat packing	1909	35	1,336	28	232	1,076	2,570	3,555	260	599	15,399	17,192	1,793
	1904	19	1,128	15	135	978	.....	2,276	121	566	9,338	10,616	1,278
	1899	[3] 10	757	7	173	577	.....	1,827	136	235	6,759	7,514	755
Soap	1909	6	57	2	14	41	143	108	16	26	148	214	66
	1904	6	75	1	25	49	.....	111	21	26	108	205	97
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stoves and furnaces, including gas and oil stoves.	1909	20	2,097	7	247	1,843	1,899	4,093	281	1,155	2,286	4,977	2,691
	1904	17	1,677	11	139	1,527	.....	3,900	169	857	1,535	3,005	1,470
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures	1909	254	2,234	277	91	1,866	29	926	135	734	1,047	2,769	1,722
	1904	257	1,732	270	73	1,389	.....	1,116	69	581	646	1,916	1,270
	1899	[3] 117	1,124	130	51	943	.....	455	53	348	410	1,261	851
Umbrellas and canes	1909	5	98	5	24	69	12	114	27	25	143	253	110
	1904	4	79	5	20	54	.....	103	17	16	136	249	113
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wall plaster	1909	3	64	.....	8	56	270	112	12	32	123	205	82
	1904	3	49	.....	4	45	.....	115	6	25	66	145	79
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other industries	1909	356	21,081	241	2,464	18,376	63,443	69,483	2,995	9,917	42,277	67,076	24,799
	1904	277	17,816	208	1,503	16,105	.....	60,630	1,910	7,719	27,737	44,308	16,571
	1899	320	.....	.....	1,802	25,664	.....	59,106	1,972	12,830	43,858	73,595	29,737
COLUMBUS—All industries	1909	586	20,523	435	3,660	16,428	35,780	$48,747	$3,781	$8,892	$25,204	$49,032	$23,828
	[5] 1904	459	17,127	422	2,355	14,350	.....	29,225	2,337	7,287	19,244	39,530	20,286
	1899	408	.....	.....	1,573	13,787	.....	23,462	1,515	6,028	18,252	34,748	16,496
Artificial stone	1909	5	36	4	7	25	38	38	5	17	23	57	34
	1904	3	27	2	4	21	.....	29	2	10	14	33	19
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boots and shoes, including cut stock and findings.	1909	8	2,791	4	308	2,479	845	3,181	387	1,076	3,224	5,436	2,212
	1904	8	2,457	1	150	2,306	.....	2,245	191	926	3,055	5,425	2,370
	1899	8	2,032	1	151	1,880	.....	1,695	201	683	2,142	3,505	1,363
Brass and bronze products	1909	5	53	5	4	44	55	76	7	28	65	124	59
	1904	4	16	5	1	10	.....	6	(6)	5	16	28	12
	1899	3	46	2	8	36	.....	38	4	16	26	55	29
Bread and other bakery products	1909	58	642	53	154	435	75	1,608	145	222	1,092	1,765	673
	1904	20	392	24	69	299	.....	624	64	143	618	997	379
	1899	30	394	30	78	286	.....	457	57	113	461	811	350
Brick and tile	1909	3	37	4	1	32	130	28	1	14	5	35	30
	1904	4	117	5	8	104	.....	163	6	31	18	92	74
	1899	3	.....	.....	1	35	.....	16	1	17	5	28	23
Carriages and wagons and materials	1909	14	483	17	59	407	477	714	80	217	605	1,078	473
	1904	20	1,288	26	111	1,151	.....	1,998	121	557	1,270	2,558	1,288
	1899	23	.....	.....	115	1,187	.....	1,656	93	478	1,216	2,439	1,223
Coffee and spice, roasting and grinding	1909	3	264	.....	219	45	65	198	142	19	329	604	275
	1904	3	205	2	159	44	.....	226	122	22	395	695	300
	1899	3	99	2	70	27	.....	69	35	12	188	276	88
Copper, tin, and sheet-iron products	1909	6	173	4	29	140	93	251	33	71	472	700	228
	1904	4	49	4	7	38	.....	63	8	19	80	126	46
	1899	6	.....	.....	11	69	.....	120	8	22	48	115	67
Flour-mill and gristmill products	1909	4	32	6	6	20	815	239	8	15	297	384	87
	1904	4	40	5	10	25	.....	148	10	14	508	596	88
	1899	3	41	1	11	29	.....	160	13	16	481	532	51

[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] Not reported separately.
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[6] 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.					
COLUMBUS—Continued.													
Foundry and machine-shop products	1909	58	3,745	46	687	3,012	4,148	$9,656	$735	$1,841	$3,465	$7,744	$4,279
	1904	49	3,299	43	388	2,868	.....	6,344	464	1,550	3,393	7,008	3,615
	1899	43	.....	.....	222	2,971	.....	4,277	283	1,433	2,398	5,070	2,672
Furniture and refrigerators	1909	8	422	4	44	374	553	487	61	189	405	747	342
	1904	[1] 4	232	2	26	204	.....	320	29	91	230	405	175
	1899	4	250	4	33	213	.....	265	24	67	205	428	223
Gas and electric fixtures and lamps and reflectors.	1909	9	373	4	35	334	263	573	38	141	371	770	399
	1904	[1] 3	40	4	4	32	.....	74	4	16	28	62	34
	1899	3	.....	.....	3	64	.....	85	4	30	34	103	69
Ice, manufactured	1909	5	183	.....	25	158	1,784	676	21	91	68	253	185
	1904	4	111	.....	18	93	.....	658	10	42	34	128	94
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leather goods	1909	11	200	13	59	128	127	584	43	74	353	560	207
	1904	11	175	14	37	124	.....	306	26	74	223	433	210
	1899	12	.....	.....	50	160	.....	246	38	59	202	395	193
Liquors, malt	1909	4	561	.....	88	473	3,045	10,634	146	371	619	2,728	2,109
	1904	5	526	5	66	455	.....	3,721	93	369	816	2,134	1,318
	1899	4	502	5	50	447	.....	1,647	74	251	497	2,024	1,527
Lumber and timber products	1909	27	530	20	76	434	1,808	936	85	264	758	1,240	482
	1904	20	355	15	35	305	.....	486	31	220	451	799	348
	1899	[3] 17	247	16	13	218	.....	213	11	106	172	374	202
Marble and stone work	1909	6	90	5	15	70	445	236	12	47	75	169	94
	1904	4	128	2	15	111	.....	131	39	71	78	188	110
	1899	8	88	8	9	71	.....	63	5	40	33	114	81
Models and patterns, not including paper patterns.	1909	8	49	10	5	34	58	48	3	23	11	70	59
	1904	5	19	6	1	12	.....	12	1	7	2	19	17
Paint and varnish	1909	5	119	1	63	55	141	413	68	28	346	602	256
	1904	[1] 3	65	.....	27	38	.....	172	39	19	155	282	127
	1899	[1] 3	70	.....	23	47	.....	155	30	18	115	205	90
Patent medicines and compounds and druggists' preparations.	1909	13	281	11	130	140	285	730	95	61	239	946	707
	1904	[3] 9	242	9	70	163	.....	869	50	55	881	3,214	2,333
	1899	10	.....	.....	35	193	.....	713	32	66	491	1,611	1,120
Printing and publishing	1909	91	1,433	71	461	901	879	1,823	417	592	689	2,660	1,971
	1904	76	1,346	78	421	847	.....	1,352	294	516	475	1,916	1,441
	1899	52	.....	.....	181	771	.....	975	137	442	378	1,333	955
Slaughtering and meat packing	1909	6	166	5	31	130	365	636	29	101	1,964	2,354	390
	1904	4	79	5	5	69	.....	116	5	49	737	852	115
	1899	5	88	11	4	73	.....	152	2	34	630	714	84
Stoves and furnaces, including gas and oil stoves.	1909	10	360	4	62	294	377	707	65	173	310	722	412
	1904	10	300	9	36	255	.....	425	46	132	190	497	307
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures	1909	35	278	37	18	223	.....	150	21	81	155	436	281
	1904	47	287	55	12	220	.....	95	11	70	107	349	242
	1899	31	537	32	22	483	.....	332	20	113	104	452	348
All other industries	1909	184	7,222	107	1,074	6,041	18,909	14,125	1,134	3,136	9,264	16,848	7,584
	1904	135	5,332	101	675	4,556	.....	8,642	671	2,279	5,470	10,694	5,224
	1899	137	.....	.....	483	4,518	.....	10,128	443	2,012	8,426	14,164	5,738
DAYTON—All industries	1909	513	24,740	416	2,775	21,549	31,501	$61,316	$3,572	$12,451	$27,528	$60,378	$32,850
	1904	431	19,836	406	2,337	17,093	.....	32,901	2,707	8,893	18,505	39,597	21,092
	1899	425	.....	.....	1,378	14,408	.....	26,283	1,514	6,909	14,330	31,015	16,685
Boxes, cigar	1909	3	97	4	7	86	358	75	5	23	47	85	38
	1904	3	115	3	7	105	.....	77	5	27	45	106	61
	1899	3	122	3	9	110	.....	59	6	36	37	100	63
Boxes, fancy and paper	1909	5	594	.....	54	540	376	881	65	196	486	932	446
	1904	5	437	.....	51	386	.....	531	66	114	379	743	364
	1899	3	389	.....	39	350	.....	342	48	101	261	491	230
Brass and bronze products	1909	7	246	7	29	210	340	494	47	145	213	481	268
	1904	[1] 4	213	5	19	189	.....	436	34	109	111	337	226
	1899	3	282	3	19	260	.....	518	32	89	163	375	212
Bread and other bakery products	1909	65	519	74	95	350	401	719	86	187	949	1,531	582
	1904	47	365	53	50	262	.....	481	39	112	538	861	323
	1899	53	278	61	31	186	.....	444	21	88	332	629	297
Brick and tile	1909	4	31	5	1	25	165	27	1	11	4	26	22
	1904	3	38	4	2	32	.....	35	2	15	6	33	27
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carriages and wagons and materials	1909	17	425	18	33	374	697	677	52	203	347	802	455
	1904	18	431	21	27	383	.....	651	40	167	254	566	312
	1899	13	.....	.....	28	477	.....	652	42	206	330	738	408

[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] 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.					
DAYTON—Continued.													
Clothing, men's, including shirts	1909	4	237	4	37	196	125	$211	$26	$71	$209	$354	$145
	1904	4	228	4	20	204	.....	180	17	66	167	315	148
	1899	[1] 4	312	5	23	284	.....	250	26	79	174	328	154
Coffee and spice, roasting and grinding	1909	5	271	3	132	136	304	1,165	143	73	1,607	2,245	638
	1904	4	158	1	59	98	.....	500	68	40	1,260	1,571	311
	1899	3	64	4	18	42	.....	188	15	17	386	507	121
Confectionery	1909	11	176	12	22	142	50	104	11	51	196	339	143
	1904	8	134	10	17	107	.....	61	11	33	90	189	99
	1899	4	.....	.....	15	62	.....	23	5	17	80	126	46
Copper, tin, and sheet-iron products	1909	11	98	14	21	63	50	77	5	44	88	178	90
	1904	[1] 6	86	10	5	71	.....	189	5	44	65	153	88
	1899	8	.....	.....	2	74	.....	109	2	34	99	165	66
Cutlery and tools, not elsewhere specified.	1909	4	50	2	8	40	59	51	7	21	7	62	55
	1904	[1] 3	23	4	.....	19	.....	12	.....	10	3	18	15
	1899	[1] 3	9	2	.....	7	.....	7	.....	7	3	16	13
Electrical machinery, apparatus, and supplies.	1909	7	134	3	27	104	334	232	29	49	90	235	145
	1904	5	151	1	28	122	.....	277	30	66	111	325	214
	1899	5	142	4	13	125	.....	217	12	58	74	197	123
Flour-mill and gristmill products	1909	6	65	8	16	41	383	266	25	28	548	669	121
	1904	4	58	4	9	45	.....	154	19	29	570	644	74
	1899	4	.....	.....	8	46	.....	211	15	30	525	624	99
Foundry and machine-shop products	1909	69	4,136	34	517	3,585	5,576	9,530	583	2,033	2,800	6,778	3,978
	1904	50	3,637	59	355	3,223	.....	6,318	404	1,714	2,268	5,539	3,271
	1899	[1] 40	3,109	38	173	2,898	.....	4,647	210	1,526	2,509	5,019	2,510
Furniture and refrigerators	1909	10	491	5	63	423	795	1,087	62	200	287	744	457
	1904	6	477	2	48	427	.....	966	43	193	256	738	482
	1899	6	438	1	34	403	.....	806	31	131	285	528	243
Liquors, malt	1909	3	275	.....	54	221	2,305	5,750	88	148	261	1,218	957
	1904	8	235	.....	37	198	.....	1,287	56	147	257	1,087	830
	1899	9	186	5	29	152	.....	1,727	43	97	183	794	611
Lumber and timber products	1909	11	580	9	59	512	1,650	1,108	69	325	878	1,417	539
	1904	[1] 11	517	9	50	458	.....	649	56	273	720	1,241	521
	1899	8	.....	.....	25	453	.....	345	25	228	484	882	398
Marble and stone work	1909	6	52	9	2	41	80	59	3	33	39	95	56
	1904	3	34	4	3	27	.....	31	3	23	22	65	43
	1899	10	.....	.....	12	80	.....	55	8	55	66	171	105
Mattresses and spring beds	1909	3	14	4	.....	10	100	19	.....	8	24	41	17
	1904	3	28	5	.....	23	.....	25	.....	10	27	49	22
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Models and patterns, not including paper patterns.	1909	5	38	7	.....	31	44	10	.....	20	5	35	30
	1904	5	27	7	2	18	.....	24	1	7	5	22	17
	1899	7	23	7	1	15	.....	5	(3)	9	3	20	17
Patent medicines and compounds and druggists' preparations	1909	11	86	7	36	43	35	101	47	10	51	183	132
	1904	[1] 11	69	15	15	39	.....	60	9	12	51	129	78
	1899	[1] 6	73	8	24	41	.....	430	34	11	54	216	162
Printing and publishing	1909	45	937	39	268	630	1,078	1,198	255	386	440	1,552	1,112
	1904	[1] 40	746	29	196	521	.....	1,417	169	261	310	1,019	709
	1899	[1] 30	596	21	113	462	.....	807	91	224	320	918	598
Slaughtering and meat packing	1909	10	299	8	46	245	484	1,048	52	145	2,636	3,171	535
	1904	7	141	7	24	110	.....	345	17	55	1,144	1,310	166
	1899	[1] 8	.....	.....	9	87	.....	147	7	46	517	611	94
Soap	1909	6	228	3	86	139	232	1,077	101	51	771	1,306	535
	1904	5	136	2	39	95	.....	375	54	40	371	795	424
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures	1909	56	1,544	56	60	1,428	52	700	73	487	831	1,893	1,062
	1904	[1] 60	1,422	62	73	1,287	.....	1,012	55	425	576	1,455	879
	1899	[1] 70	1,212	78	36	1,098	.....	577	51	436	420	1,285	865
All other industries	1909	129	13,117	81	1,102	11,934	15,368	34,650	1,737	7,503	13,714	34,006	20,292
	1904	108	9,930	85	1,201	8,644	.....	16,802	1,444	4,701	8,899	20,287	11,388
	1899	125	.....	.....	717	6,696	.....	13,717	790	3,384	7,025	16,275	9,250
TOLEDO—All industries	1909	760	22,900	665	3,357	18,878	43,946	$58,319	$3,632	$9,911	$34,084	$61,230	$27,146
	[5] 1904	597	18,504	521	2,286	15,697	.....	38,445	2,285	8,099	25,466	44,501	19,035
	1899	445	.....	.....	1,162	12,747	.....	23,788	1,143	5,576	19,397	31,976	12,579
Boxes, fancy and paper	1909	5	111	2	12	97	78	86	12	26	58	103	45
	1904	4	73	2	12	59	.....	70	8	14	43	76	33
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brass and bronze products	1909	6	35	10		22	68	43	2	13	28	52	24
	1904	[1] 3	26	4	3	19	.....	12	2	11	29	42	13
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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[3] Less than $500.
[4] Not reported separately.
[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 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.					
TOLEDO—Continued.													
Bread and other bakery products	1909	88	633	96	69	468	314	$663	$64	$260	$959	$1,598	$639
	1904	64	595	64	88	443	.....	673	51	205	724	1,268	544
	1899	46	356	48	30	278	.....	435	22	133	475	808	333
Brick and tile	1909	8	191	2	17	172	675	233	14	80	35	177	142
	1904	10	248	7	20	221	.....	370	17	117	48	259	211
	1899	11	312	16	8	288	.....	393	7	136	53	279	226
Carriages and wagons and materials	1909	16	602	11	77	514	1,283	2,370	105	257	609	1,317	708
	1904	21	924	20	79	825	.....	2,450	89	399	932	1,756	824
	1899	16	879	13	65	801	.....	2,288	70	281	817	1,379	562
Cars and general shop construction and repairs by steam-railroad companies.	1909	4	1,330	.....	132	1,198	935	534	115	634	674	1,427	753
	1904	5	941	.....	73	868	.....	281	62	465	832	1,367	535
	1899	8	646	.....	40	606	.....	333	31	343	479	866	387
Clothing, women's	1909	13	1,282	16	116	1,150	155	788	176	492	1,375	2,323	948
	1904	11	726	19	69	638	.....	323	77	251	804	1,448	644
	1899	4	645	8	14	623	.....	204	25	171	483	942	459
Confectionery	1909	12	197	14	37	146	105	119	32	51	235	411	176
	1904	10	185	11	33	141	.....	64	18	34	135	262	127
	1899	4	.....	.....	24	47	.....	48	11	13	110	186	76
Cooperage and wooden goods, not elsewhere specified.	1909	10	134	10	8	116	145	133	6	52	106	195	89
	1904	[1] 10	43	11	2	30	.....	23	2	15	53	83	30
	1899	[2] 10	.....	.....	.....	21	.....	16	.....	12	26	50	24
Copper, tin, and sheet-iron products	1909	37	675	37	91	547	265	3,557	85	282	649	1,303	654
	1904	[2] 20	249	27	42	180	.....	331	30	94	198	484	286
	1899	18	.....	.....	38	578	.....	570	42	201	871	1,291	420
Electrical machinery, apparatus, and supplies.	1909	7	483	1	66	416	248	722	55	168	280	932	643
	1904	4	112	1	13	98	.....	75	13	35	45	130	85
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products	1909	7	257	3	50	204	3,510	2,485	84	140	4,931	5,662	731
	1904	8	238	3	40	195	.....	1,488	54	115	3,237	3,676	439
	1899	10	263	10	20	233	.....	1,268	40	123	4,034	4,459	425
Foundry and machine-shop products	1909	75	3,768	50	527	3,191	6,931	8,956	621	1,905	3,161	7,024	3,863
	1904	50	3,253	35	323	2,895	.....	4,945	328	1,566	2,491	5,190	2,699
	1899	[1] 27	2,152	22	139	1,991	.....	1,945	118	970	1,130	2,716	1,586
Furniture and refrigerators	1909	23	674	18	76	580	884	1,069	86	303	545	1,128	583
	1904	12	485	14	38	433	.....	399	37	220	338	660	322
	1899	8	414	11	61	342	.....	360	37	148	129	418	289
Leather goods	1909	4	104	3	13	88	36	79	11	35	78	139	61
	1904	3	101	4	9	88	.....	105	10	38	113	209	96
	1899	4	.....	.....	13	88	.....	73	11	33	80	152	72
Liquors, malt	1909	4	365	.....	53	312	1,631	7,108	92	250	452	1,887	1,435
	1904	6	312	.....	50	262	.....	2,427	110	222	499	1,610	1,111
	1899	6	300	.....	47	253	.....	2,189	76	151	330	1,459	1,129
Lumber and timber products	1909	28	689	21	83	585	2,480	1,433	96	286	1,111	1,793	682
	1904	23	578	19	57	502	.....	911	54	260	1,260	1,784	524
	1899	18	.....	.....	48	514	.....	1,081	43	212	1,257	1,730	473
Marble and stone work	1909	6	89	5	22	62	142	188	22	43	108	217	109
	1904	7	99	9	13	77	.....	172	11	60	134	263	129
	1899	8	.....	.....	7	66	.....	103	6	45	50	135	85
Models and patterns, not including paper patterns.	1909	7	26	10	.....	16	29	15	.....	9	5	24	19
	1904	4	16	4	1	11	.....	10	1	6	5	17	12
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paint and varnish	1909	5	61	4	23	34	150	271	22	20	158	252	94
	1904	5	65	3	30	32	.....	174	24	18	139	225	86
	1899	4	52	3	21	28	.....	216	18	13	120	196	76
Patent medicines and compounds and druggists' preparations.	1909	51	169	50	43	76	154	312	43	36	149	540	391
	1904	[2] 26	107	24	39	44	.....	175	21	15	74	343	269
	1899	[1] 7	61	6	13	42	.....	167	10	13	85	436	351
Petroleum, refining	1909	3	331	.....	61	270	540	2,636	103	157	1,845	2,431	586
	1904	3	199	.....	41	158	.....	1,317	63	104	1,556	2,006	450
	1899	3	123	.....	27	96	.....	887	33	55	1,048	1,393	345
Printing and publishing	1909	72	1,219	60	396	763	866	1,551	353	480	523	2,004	1,481
	1904	56	1,026	48	341	637	.....	916	292	360	414	1,451	1,037
	1899	42	711	39	112	560	.....	727	84	306	288	982	694
Slaughtering and meat packing	1909	11	40	10	3	27	60	68	2	19	294	376	82
	1904	3	45	4	3	38	.....	63	2	24	215	269	54
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

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.					
TOLEDO—Continued.													
Tobacco manufactures	1909	48	593	51	56	486	395	$541	$60	$146	$795	$2,129	$1,334
	1904	[1] 67	189	75	1	113	.....	97	1	58	86	247	161
	1899	[2] 50	184	52	5	127	.....	76	3	58	74	211	137
Wall plaster	1909	6	66	.....	21	45	380	114	18	25	130	221	91
	1904	5	47	1	14	32	.....	83	13	20	81	140	59
	[3] 1889	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other industries	1909	204	8,776	181	1,302	7,293	21,487	22,245	1,353	3,742	14,782	25,565	10,783
	1904	157	7,622	112	852	6,658	.....	20,491	895	3,373	10,981	19,236	8,255
	1899	141	.....	.....	430	5,165	.....	10,409	456	2,159	7,458	11,888	4,430
YOUNGSTOWN—All industries.	1909	115	11,851	94	1,259	10,498	140,907	$87,160	$1,593	$7,835	$62,292	$81,271	$18,979
	[4] 1904	113	8,903	86	722	8,095	.....	40,956	870	5,460	35,183	46,853	11,670
	1899	103	.....	.....	414	8,679	.....	22,064	478	4,730	23,133	33,908	10,775
Bread and other bakery products	1909	22	100	27	8	65	23	90	3	38	133	249	116
	1904	11	64	15	1	48	.....	137	(5)	30	86	153	67
	1899	10	48	12	.....	36	.....	51	.....	17	39	82	43
Carriages and wagons and materials	1909	3	74	2	8	64	88	113	13	40	66	146	80
	1904	4	89	4	5	80	.....	122	10	34	71	160	89
	1899	5	.....	.....	13	82	.....	163	15	38	83	201	118
Foundry and machine-shop products	1909	15	1,453	4	296	1,153	2,674	5,822	338	800	2,702	4,865	2,163
	1904	[1] 13	1,041	4	128	909	.....	3,006	176	566	1,020	2,079	1,059
	1899	[2] 12	858	4	65	789	.....	1,460	74	431	866	1,800	934
Iron and steel, steel works and rolling mills.	1909	7	7,128	.....	478	6,650	75,530	50,516	670	5,204	39,969	50,175	10,206
	1904	7	4,980	.....	350	4,630	.....	23,571	429	3,350	23,000	29,738	6,738
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lumber and timber products	1909	8	232	7	26	199	615	731	32	135	654	953	299
	1904	10	239	11	20	208	.....	576	25	137	431	763	332
	1899	7	202	10	17	175	.....	304	15	85	338	515	177
Printing and publishing	1909	13	251	9	78	164	188	402	82	109	128	454	326
	1904	10	178	4	22	152	.....	260	23	121	69	284	215
	1899	[1] 8	128	5	17	106	.....	178	17	67	49	193	144
Tobacco manufactures	1909	6	39	7	2	30	.....	18	1	12	10	38	28
	1904	11	42	13	.....	29	.....	12	.....	12	19	51	32
	1899	9	35	11	.....	24	.....	15	.....	13	12	39	27
All other industries	1909	41	2,574	38	363	2,173	61,789	29,468	454	1,497	18,630	24,391	5,761
	1904	47	2,270	35	196	2,039	.....	13,263	207	1,210	10,487	13,625	3,138
	1899	52	.....	.....	302	7,467	.....	19,893	357	4,079	21,746	31,078	9,332

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

Alliance	1909	44	3,026	35	467	2,524	3,453	$7,212	$447	$1,462	$2,853	$6,135	$3,282
	[4] 1904	40	1,725	40	243	1,442	.....	5,682	177	837	1,901	3,547	1,646
	1899	39	.....	.....	134	1,486	.....	5,678	119	667	1,648	3,203	1,555
Ashtabula	1909	44	1,601	31	99	1,471	2,379	2,076	138	814	2,084	3,459	1,375
	1904	36	934	32	56	846	.....	1,286	57	456	996	1,895	899
	1899	29	.....	.....	46	373	.....	707	34	165	527	884	357
Bellaire	1909	36	2,846	44	205	2,597	17,790	6,427	225	1,412	7,159	10,092	2,933
	1904	37	2,340	22	135	2,183	.....	6,618	148	1,183	7,316	10,712	3,396
	1899	30	.....	.....	69	1,928	.....	3,517	108	827	5,987	8,838	2,851
Cambridge	1909	32	1,406	30	146	1,230	5,055	2,379	105	919	2,885	4,291	1,406
	1904	34	909	34	61	814	.....	1,147	50	497	1,520	2,441	921
	1899	28	.....	.....	48	768	.....	1,059	51	487	1,317	2,202	885
Chillicothe	1909	57	1,872	59	139	1,674	3,558	2,364	135	707	3,038	4,345	1,307
	1904	64	1,751	65	133	1,553	.....	1,694	114	570	1,928	3,147	1,219
	1899	46	.....	.....	73	1,112	.....	1,054	44	423	878	1,616	738
East Liverpool	1909	82	5,254	49	332	4,873	5,528	7,988	448	2,764	2,521	6,629	4,108
	1904	81	5,586	56	302	5,228	.....	6,972	363	2,703	2,107	6,437	4,330
	1899	75	.....	.....	283	4,171	.....	4,960	288	1,970	1,463	4,749	3,286
Elyria	1909	58	3,117	30	414	2,673	9,058	7,324	464	1,573	4,495	8,065	3,570
	1904	50	1,430	37	249	1,144	.....	3,071	231	567	1,595	2,933	1,338
	1899	32	.....	.....	62	638	.....	1,117	54	269	740	1,221	481
Findlay	1909	74	1,623	67	180	1,376	2,574	2,955	186	574	2,094	3,487	1,393
	1904	71	1,522	78	101	1,343	.....	2,659	105	625	1,579	2,925	1,346
	1899	80	.....	.....	104	1,107	.....	1,693	85	453	751	1,685	934

[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] 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 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED—Continued.

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.					
Hamilton	1909	125	7,770	81	794	6,895	22,563	$24,629	$1,318	$3,798	$9,640	$18,184	$8,544
	[1] 1904	113	6,679	97	475	6,107	.....	18,874	774	3,321	6,384	13,811	7,427
	1899	97	.....	.....	273	5,147	.....	10,243	366	2,316	5,003	10,655	5,652
Ironton	1909	63	2,119	51	148	1,920	15,548	4,993	198	888	4,994	7,118	2,124
	1904	57	1,971	46	125	1,800	.....	3,356	144	824	3,423	4,755	1,332
	1899	53	.....	.....	93	1,577	.....	3,212	106	699	3,145	5,411	2,266
Lancaster	1909	42	1,657	48	77	1,532	2,453	1,459	75	677	3,051	4,074	1,023
	[1] 1904	42	1,853	41	117	1,695	.....	1,665	96	759	2,501	3,848	1,347
	1899	36	.....	.....	64	1,069	.....	1,365	57	544	1,059	1,905	846
Lima	1909	85	3,899	79	213	3,607	3,264	5,488	363	2,024	3,869	7,754	3,885
	[1] 1904	77	3,005	73	199	2,733	.....	3,894	196	1,322	2,255	4,828	2,573
	1899	76	.....	.....	183	1,980	.....	5,361	158	942	3,936	6,222	2,286
Lorain	1909	57	7,347	36	614	6,697	208,992	34,387	762	4,788	24,222	38,987	14,765
	1904	43	3,416	26	288	3,102	.....	10,599	255	2,832	9,708	14,491	4,783
	1899	26	.....	.....	134	2,233	.....	12,684	137	1,102	6,485	9,481	2,996
Mansfield	1909	121	3,901	120	577	3,204	5,077	8,539	585	1,472	4,356	8,173	3,817
	1904	109	3,599	112	466	3,021	.....	8,295	465	1,309	3,523	7,354	3,831
	1899	95	.....	.....	316	2,622	.....	5,457	296	973	2,705	6,076	3,371
Marietta	1909	66	1,549	59	202	1,288	2,742	3,275	190	594	1,787	3,215	1,428
	1904	73	1,515	56	145	1,314	.....	2,557	139	610	1,366	2,599	1,233
	1899	77	.....	.....	125	1,511	.....	1,935	112	590	1,150	2,398	1,248
Marion	1909	55	3,028	40	369	2,619	3,686	7,864	416	1,405	2,577	5,667	3,090
	1904	47	1,965	32	212	1,721	.....	3,395	230	865	1,352	3,228	1,876
	1899	34	.....	.....	121	1,171	.....	2,917	114	556	966	2,426	1,460
Massillon	1909	56	2,193	37	222	1,934	4,730	7,788	282	1,127	2,290	4,788	2,498
	1904	52	2,177	46	136	1,995	.....	5,745	178	1,158	1,582	3,707	2,125
	1899	49	.....	.....	87	1,474	.....	3,975	81	745	1,263	2,749	1,486
Middletown	1909	41	2,992	22	394	2,576	9,304	10,564	473	1,389	7,950	16,517	8,567
	1904	47	2,044	44	186	1,814	.....	10,418	198	861	3,692	8,538	4,846
	1899	41	.....	.....	255	1,578	.....	3,867	309	621	2,473	5,800	3,327
Newark	1909	72	4,282	63	306	3,913	8,630	9,036	315	1,958	3,982	7,851	3,869
	1904	78	3,936	83	226	3,627	.....	3,834	216	2,130	2,433	5,613	3,180
	1899	69	.....	.....	147	2,075	.....	1,681	122	810	1,180	2,879	1,699
Norwood	1909	49	4,445	31	507	3,907	6,381	13,368	632	2,081	4,021	9,684	5,663
	[2] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Piqua	1909	82	3,073	74	316	2,683	5,062	5,444	402	1,292	3,852	6,931	3,079
	1904	76	2,282	62	176	2,044	.....	3,196	210	947	1,908	4,036	2,128
	1899	68	.....	.....	193	1,955	.....	3,516	201	914	3,610	5,552	1,942
Portsmouth	1909	75	4,319	54	537	3,728	4,028	6,385	680	1,459	3,894	7,277	3,383
	[1] 1904	81	4,500	68	360	4,072	.....	4,670	318	1,479	3,520	6,645	3,125
	1899	100	.....	.....	365	4,153	.....	3,826	302	1,341	3,404	6,658	3,254
Sandusky	1909	91	2,518	59	341	2,118	4,856	6,495	353	1,006	2,835	5,947	3,112
	1904	93	2,666	78	265	2,323	.....	6,727	258	1,028	2,136	4,879	2,743
	1899	81	.....	.....	142	1,453	.....	4,453	135	571	1,207	2,834	1,627
Springfield	1909	195	8,634	161	1,068	7,405	10,179	22,485	1,262	3,985	8,919	19,246	10,327
	[1] 1904	157	7,215	103	854	6,258	.....	19,739	937	3,253	5,762	13,382	7,620
	1899	164	.....	.....	1,282	6,299	.....	13,844	1,102	3,015	5,289	12,116	6,827
Steubenville	1909	55	4,638	55	316	4,267	37,748	18,424	403	3,203	14,443	21,187	6,744
	1904	72	4,517	78	255	4,184	.....	12,627	321	2,328	8,243	12,370	4,127
	1899	54	.....	.....	88	1,773	.....	2,303	74	734	2,406	4,547	2,141
Tiffin	1909	75	1,970	78	260	1,632	3,257	3,727	224	828	1,252	3,254	2,002
	1904	87	1,874	94	135	1,645	.....	2,714	125	664	1,000	2,435	1,435
	1899	75	.....	.....	100	1,238	.....	2,252	75	524	808	1,902	1,094
Warren	1909	68	2,174	41	335	1,798	5,530	4,511	421	911	3,064	5,988	2,924
	1904	53	1,763	44	214	1,505	.....	2,730	240	738	2,048	4,414	2,366
	1899	44	.....	.....	126	1,832	.....	2,882	157	775	2,543	4,585	2,042
Zanesville	1909	109	3,586	95	341	3,150	8,783	6,025	351	1,793	5,504	9,145	3,641
	[1] 1904	99	3,468	91	279	3,098	.....	4,995	268	1,590	3,291	6,347	3,056
	1899	115	.....	.....	323	3,405	.....	4,120	246	1,255	3,086	5,708	2,622

[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.

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**	**15,138**	**523,004**	**14,719**	**16,494**	**34,101**	**10,756**	**446,934**	**De 480,405**	**Ja 414,278**	(1)	(1)	(1)	(1)	(1)	**1,583,155**
2	Agricultural implements	55	6,972	23	200	630	122	5,997	Ap 6,721	Jy 5,547	6,231	6,178	43	9	1	9,867
3	Artificial flowers and feathers and plumes.	3	21	3	.....	.....	1	17	Jy [2] 19	Je 12	18	3	15	.....	.....	.....
4	Artificial stone	299	1,315	391	66	39	17	802	Au 1,041	Ja 375	956	956	.....	.....	.....	1,325
5	Automobiles, including bodies and parts.	75	13,458	42	267	802	217	12,130	De 15,700	Ja 10,034	16,214	15,993	180	37	4	14,433
6	Babbitt metal and solder	6	74	5	7	10	5	47	Se 52	Fe 41	46	46	.....	.....	.....	251
7	Bags, paper	8	632	.....	25	37	13	557	De 579	Je 527	580	282	280	1	17	508
8	Baking powders and yeast	10	76	11	4	14	5	42	Mh 47	Jy 37	46	17	27	.....	2	61
9	Baskets, and rattan and willow ware	30	350	36	10	3	4	297	Je 361	De 238	359	280	72	4	3	794
10	Belting and hose, leather	8	164	4	18	25	10	107	No [2] 120	My 98	120	120	.....	.....	.....	405
11	Belting and hose, woven and rubber	5	808	3	25	77	20	683	No 845	Jy 540	835	781	45	9	.....	1,522
12	Bicycles, motorcycles, and parts	6	1,037	2	12	58	23	942	De 1,089	Jy 711	1,181	1,181	.....	.....	.....	1,895
13	Blacking and cleansing and polishing preparations.	49	238	53	26	34	22	103	My 126	Oc [2] 94	119	82	37	.....	.....	297
14	Boots and shoes, including cut stock and findings.	72	17,607	40	393	751	397	16,026	De 17,033	Ap 13,880	17,122	9,510	7,023	254	335	8,925
15	Boxes, cigar	31	600	38	16	10	5	531	No 585	Ap 491	574	220	323	11	20	1,029
16	Boxes, fancy and paper	46	2,777	32	94	77	44	2,530	Oc 2,687	Ja 2,419	2,662	950	1,518	4	190	1,825
17	Brass and bronze products	82	2,650	72	112	152	82	2,232	Oc 2,362	Je 2,055	2,612	2,548	56	8	.....	4,214
18	Bread and other bakery products	1,467	8,758	1,600	162	644	380	5,972	De 6,144	Fe 5,809	6,229	5,025	1,149	32	23	5,398
19	Brick and tile	517	8,575	569	363	132	45	7,466	Je 9,401	Ja 4,878	9,093	9,029	2	62	.....	37,742
20	Brooms	82	536	95	18	22	8	393	De 418	Au 357	428	368	56	4	.....	328
21	Brushes	22	549	17	27	53	27	425	My 481	Au 365	527	322	168	15	22	675
22	Butter, cheese, and condensed milk	325	2,494	1,216	78	91	42	1,067	Au 1,232	Fe 876	1,144	1,026	102	8	8	3,386
23	Butter, reworking	5	73	.....	8	9	9	47	Oc 50	Je 42	47	44	3	.....	.....	423
24	Buttons	5	164	4	2	4	3	151	My 186	Au 127	152	118	14	6	14	73
25	Canning and preserving	107	2,379	94	116	129	31	2,009	Se 5,868	Ap 581	6,292	2,869	3,321	56	46	4,244
26	Carpets, rag	29	208	26	10	1	7	164	Jy 184	Fe 124	163	96	65	.....	2	447
27	Carriages and wagons and materials	407	10,350	414	437	447	237	8,815	My 9,596	Au 7,044	9,051	8,757	241	52	1	14,771
28	Cars and general shop construction and repairs by steam-railroad companies.	71	22,102	.....	332	1,025	17	20,728	No 22,043	Ap 19,666	21,846	21,797	47	4	.....	19,422
29	Cars and general shop construction and repairs by street-railroad companies.	49	1,392	.....	47	23	4	1,318	Au 1,354	Fe 1,268	1,347	1,326	20	1	.....	3,635
30	Cars, steam-railroad, not including operations of railroad companies.	6	2,477	.....	83	98	14	2,282	Fe 3,171	Ap 1,571	2,650	2,640	10	.....	.....	4,410
31	Cars, street-railroad, not including operations of railroad companies.	4	823	.....	33	45	11	734	De 1,131	Jy 575	1,131	1,129	2	.....	.....	2,875
32	Cement	9	978	.....	23	56	12	887	Ap 1,119	Ja 600	1,001	999	2	.....	.....	12,685
33	Chemicals	33	1,346	17	60	107	30	1,132	No 1,242	Je 1,051	1,282	1,241	41	.....	.....	11,715
34	Clocks and watches, including cases and materials.	9	1,534	2	21	37	18	1,456	Fe 1,581	Jy 791	1,477	1,018	411	17	31	877
35	Cloth, sponging and refinishing	6	62	10	1	1	2	48	Je 52	Se 44	50	50	.....	.....	.....	24
36	Clothing, men's, including shirts	342	11,813	405	200	1,009	249	9,950	De 10,421	Ja 9,167	10,768	3,234	7,160	33	341	1,794
37	Clothing, women's	153	10,191	174	197	600	287	8,843	Oc 9,857	My 7,883	9,746	3,414	6,201	13	118	1,505
38	Coffee and spice, roasting and grinding.	39	1,586	25	78	614	107	762	No 795	Au 725	784	390	393	1	.....	2,186
39	Coffins, burial cases, and undertakers' goods.	24	1,475	11	51	138	30	1,245	No 1,279	Jy 1,175	1,259	1,044	207	8	.....	2,289
40	Coke	4	259	.....	7	4	2	246	Ap 300	Au 219	240	240	.....	.....	.....	1,250
41	Confectionery	114	3,012	103	98	220	98	2,493	No 3,213	Jy 2,030	2,870	873	1,708	80	209	2,005
42	Cooperage and wooden goods, not elsewhere specified.	113	1,911	118	76	32	22	1,663	De 1,801	Au 1,568	1,735	1,710	11	14	.....	3,453
43	Copper, tin, and sheet-iron products	221	7,685	195	258	441	193	6,598	Se 7,189	Ja 5,762	7,179	5,647	1,172	199	161	6,352
44	Cordage and twine and jute and linen goods.	8	848	3	17	25	12	791	Ap 932	Au 498	912	678	227	5	2	3,225
45	Corsets	4	47	3	3	1	2	38	Mh 52	Au 24	41	1	40	.....	.....	12
46	Cotton goods, including cotton small wares.	4	195	1	10	4	3	177	Oc 183	Se 172	181	42	135	.....	4	440
47	Cutlery and tools, not elsewhere specified.	70	3,335	49	117	251	98	2,820	De 3,173	Ja 2,548	3,173	2,872	291	7	3	6,567
48	Dairymen's, poulterers', and apiarists' supplies.	18	589	19	25	32	34	479	De 520	Oc 433	520	458	47	10	5	916
49	Electrical machinery, apparatus, and supplies.	115	9,605	49	317	745	421	8,073	De 9,456	Ja 6,967	9,471	6,406	2,983	4	78	11,959
50	Electroplating	29	254	30	12	2	5	205	No 218	Ja [2] 191	222	218	3	1	.....	628
51	Enameling and japanning	5	163	3	5	6	4	145	Mh 157	Ja 127	154	95	18	17	24	88
52	Explosives	11	424	.....	24	34	8	358	Au 385	Ap 323	378	355	23	.....	.....	2,692
53	Fancy articles, not elsewhere specified.	15	251	15	15	31	5	185	Oc 226	Ja [2] 125	211	137	65	3	6	195
54	Fertilizers	27	1,064	13	51	138	21	841	Se 1,522	Fe 676	739	738	1	.....	.....	3,059
55	Files	7	154	6	1	3	5	139	Oc 147	Ja 117	157	154	3	.....	.....	490
56	Firearms and ammunition	5	910	.....	15	70	12	813	Au 848	De 750	762	497	265	.....	.....	1,129
57	Flags, banners, regalia, society badges, and emblems.	13	1,572	4	44	186	76	1,262	Je 1,445	Au 1,162	1,197	393	777	8	19	568

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

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	$1,300,732,732	$1,282,845,511	$33,755,010	$38,392,489	$245,449,904	$50,117,773	$774,084,174	$4,913,712	$24,499,586	$6,717,474	$104,915,389		$1,437,935,817	$613,733,870
2	25,637,082	12,339,545	472,305	675,635	3,155,115	161,928	6,156,591	4,445	108,334	8,521	1,596,671		14,440,461	8,121,942
3	9,205	12,968	.....	312	6,659	150	3,314	1,320	92	.....	1,121		17,730	14,266
4	1,274,108	1,075,096	53,839	20,167	403,850	13,337	485,228	11,419	6,871	12,372	68,013		1,377,790	879,225
5	30,891,660	32,192,594	634,690	795,222	7,746,477	248,709	18,273,289	38,778	145,525	220,967	4,088,937		38,838,754	20,316,756
6	463,130	1,000,104	22,948	14,172	25,629	4,151	896,857	1,637	5,713	.....	28,997		1,026,917	125,909
7	1,446,847	2,176,662	69,550	34,498	239,763	13,831	1,624,666	15,981	7,740	3,431	167,202		2,393,385	754,888
8	115,998	251,531	8,280	15,020	15,440	1,885	159,514	4,076	864	.....	46,452		272,672	111,273
9	177,847	230,007	9,579	2,692	107,784	3,079	86,040	2,567	1,329	515	16,422		271,126	182,007
10	656,921	1,035,378	49,500	45,843	79,680	5,247	789,826	6,794	4,852	.....	53,636		1,079,943	284,870
11	3,230,099	2,953,710	56,686	90,351	361,862	37,767	2,077,972	2,686	7,973	.....	318,413		3,443,460	1,327,721
12	2,245,317	2,075,493	40,700	53,528	686,355	35,007	1,031,170	1,000	13,410	.....	214,323		2,308,316	1,242,139
13	381,021	523,986	34,111	34,318	50,064	4,129	292,516	10,261	1,443	.....	97,144		672,117	375,472
14	16,755,293	29,516,430	746,715	1,377,843	6,645,790	126,956	18,745,051	162,529	93,839	128	1,617,579		31,550,957	12,678,950
15	463,577	595,131	21,989	9,514	166,952	8,011	352,136	9,217	3,793	42	23,477		711,370	351,223
16	2,840,735	3,345,199	174,239	83,465	830,401	33,880	1,897,521	49,459	14,954	.....	261,280		3,635,190	1,703,789
17	6,471,775	5,786,809	234,007	183,728	1,372,150	92,505	3,440,876	27,995	32,937	11,906	390,705		6,572,022	3,038,641
18	11,780,708	19,856,771	366,828	732,564	3,370,889	403,802	13,262,431	304,213	94,665	89	1,321,290		23,007,131	9,340,898
19	17,314,892	7,418,610	453,138	136,235	3,527,475	1,797,155	407,188	7,648	78,589	93,030	918,152		9,357,730	7,153,387
20	425,275	944,801	15,783	15,736	172,019	5,343	687,136	3,913	2,458	3,347	39,066		1,079,382	386,903
21	766,332	1,064,209	58,750	62,673	158,076	7,958	617,003	6,975	22,253	73,490	57,031		1,219,461	594,500
22	2,738,717	8,938,606	94,608	78,647	556,764	90,537	7,594,899	12,860	18,851	5,434	486,006		9,689,670	2,004,234
23	571,051	1,330,874	13,700	6,698	30,692	8,421	1,219,201	6,880	13,934	.....	31,348		1,356,245	128,623
24	121,056	96,217	1,780	4,434	54,984	959	28,979	2,840	126	.....	2,115		113,915	83,977
25	3,493,904	4,226,322	124,787	127,240	532,219	39,086	3,063,093	18,912	18,354	10,695	291,936		4,659,674	1,557,495
26	95,823	111,268	11,310	2,980	56,777	2,755	24,242	3,384	1,183	25	8,612		153,671	126,674
27	20,397,675	19,320,042	726,241	555,688	4,647,200	211,381	11,202,620	125,421	119,657	22,129	1,709,705		21,949,459	10,535,458
28	10,653,932	28,703,331	404,428	894,547	12,726,032	473,816	13,791,741	.....	78,108	6,385	328,274		28,690,287	14,424,730
29	2,054,130	1,691,903	47,275	17,880	722,389	23,276	777,775	.....	18,285	2,200	82,823		1,690,903	889,852
30	11,036,610	6,492,724	410,325	134,937	1,303,953	53,281	4,141,234	2,443	37,917	20,272	388,362		6,451,155	2,256,640
31	2,842,157	1,849,075	74,777	49,593	470,572	27,540	1,066,679	1,200	11,430	.....	147,284		1,955,118	860,899
32	4,732,463	1,573,257	69,854	70,313	543,596	325,614	312,864	.....	22,981	14,162	213,873		1,465,413	826,935
33	8,993,786	6,268,370	194,180	129,748	748,913	566,999	4,181,297	11,687	43,324	.....	392,222		7,742,045	2,993,749
34	4,231,593	1,677,188	51,804	38,723	784,220	17,188	508,430	7,325	5,351	154,021	110,126		1,980,957	1,455,339
35	23,982	44,722	2,000	1,240	28,727	2,517	580	4,873	45	80	4,660		66,214	63,117
36	14,432,475	22,432,986	455,255	1,235,963	4,049,927	90,084	12,829,996	321,750	42,823	1,898,437	1,508,751		24,869,437	11,949,357
37	8,150,889	18,014,201	575,276	1,077,461	4,271,984	76,793	10,213,790	197,540	25,117	279,452	1,296,788		19,493,060	9,202,477
38	5,400,252	10,363,145	175,243	636,810	351,936	40,707	8,236,632	40,739	28,658	3,348	849,072		11,224,437	2,947,098
39	3,724,239	2,589,691	105,042	161,039	525,229	32,550	1,291,909	7,265	27,926	.....	438,731		3,061,150	1,736,691
40	1,238,106	808,352	13,840	4,788	119,852	616,101	23,509	450	2,327	.....	27,485		850,615	211,005
41	3,416,317	6,092,637	170,745	272,702	839,703	50,028	4,038,890	95,888	18,018	15,853	590,810		7,306,574	3,217,656
42	2,910,894	3,368,074	118,122	42,635	802,658	22,424	2,193,802	18,147	19,181	480	150,625		3,515,516	1,299,290
43	21,685,043	17,059,530	505,958	455,026	3,163,188	225,815	11,396,152	64,151	61,455	24,460	1,103,325		19,086,462	7,464,495
44	2,743,489	2,561,362	48,265	32,725	312,704	26,774	1,957,255	2,100	18,499	.....	163,040		2,727,854	743,825
45	47,164	50,117	2,432	2,484	10,438	529	28,156	1,904	71	.....	4,103		67,226	38,541
46	300,858	337,519	19,850	4,256	52,411	4,621	229,011	4,662	3,137	.....	19,571		395,175	161,543
47	7,768,232	4,385,900	220,578	299,991	1,518,312	99,846	1,550,390	11,475	37,388	5,040	642,880		5,035,889	3,385,653
48	1,041,471	982,045	32,509	39,719	261,558	9,433	517,827	3,062	5,371	.....	112,566		1,148,746	621,486
49	23,706,297	15,497,820	662,674	866,607	3,846,906	317,650	6,908,228	73,975	153,008	18,892	2,649,880		18,776,769	11,550,891
50	128,121	215,249	11,176	3,740	127,305	10,532	43,061	10,088	911	.....	8,436		259,374	205,781
51	132,069	181,014	7,160	5,624	62,608	11,802	83,098	1,560	988	2,322	5,852		210,478	115,578
52	2,247,776	1,585,825	66,668	35,586	203,782	40,997	1,062,874	460	14,799	.....	160,659		1,718,871	615,000
53	752,760	337,650	19,160	32,036	83,353	2,670	115,551	8,977	1,019	1,239	73,645		412,944	294,723
54	4,950,438	3,583,213	99,669	137,822	367,948	66,782	2,468,003	2,264	22,741	1,229	416,755		4,434,541	1,899,756
55	112,961	141,289	1,200	5,521	75,300	6,794	43,685	3,300	400	.....	5,089		151,522	101,043
56	2,225,245	2,013,684	57,010	106,600	318,116	24,403	1,266,507	1,000	7,457	.....	232,591		2,214,998	924,088
57	2,351,946	2,721,088	106,863	236,169	522,850	10,409	1,498,679	13,103	16,064	1,100	315,851		3,025,875	1,516,787

[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 horse-power.
1	Flour-mill and gristmill products	673	4,164	911	257	287	124	2,585	Oc 2,783	Je 2,425	72,773	2,661	112	.....	.....	52,250
2	Foundry and machine-shop products	1,218	74,887	683	2,720	5,331	1,336	64,817	De 74,069	Ja 57,555	5,123	73,839	950	304	30	112,538
3	Fur goods	18	200	17	8	3	5	167	No 229	Ap 105	221	56	164	1	.....	12
4	Furnishing goods, men's	63	2,934	59	86	146	75	2,568	De 2,852	Ja 2,317	2,881	364	2,372	2	143	917
5	Furniture and refrigerators	228	9,449	170	366	523	158	8,232	De 8,856	Jy 7,557	8,925	8,630	210	58	27	15,951
6	Gas and electric fixtures and lamps and reflectors.	56	1,788	40	72	195	44	1,437	No 1,699	Ja 1,198	1,642	1,084	527	24	7	2,356
7	Gas, illuminating and heating	38	862	2	62	99	33	666	Mh 866	Jy 483	858	858	.....	.....	.....	2,165
8	Glass	45	10,630	8	184	178	101	10,159	De 11,814	Jy 5,888	12,540	10,983	1,023	483	51	16,198
9	Gloves and mittens, leather	6	106	6	4	.....	2	94	De 97	Fe 90	96	24	72	.....	.....	37
10	Grindstones	9	1,355	3	31	37	7	1,277	Jy 1,499	Ja 731	1,246	1,246	.....	.....	.....	5,228
11	Hand stamps and stencils and brands.	31	177	34	8	10	10	115	Je[1] 118	Ja 109	117	107	6	4	.....	105
12	Hats and caps, other than felt, straw, and wool.	25	511	38	17	34	16	406	Fe 416	Se 396	420	183	218	1	18	83
13	Hats, fur-felt	3	10	1	.....	.....	.....	9	Je[1] 10	Ja[1] 7	10	7	3	.....	.....	9
14	Hosiery and knit goods	39	3,412	31	84	100	48	3,149	Au 3,427	Ja 2,682	3,371	557	2,578	32	204	1,613
15	Ice, manufactured	97	1,176	43	139	69	33	892	Jy 1,308	Ja 525	810	802	8	.....	.....	19,058
16	Ink, printing	8	277	.....	19	65	10	183	No 190	Fe 178	190	188	.....	2	.....	1,437
17	Iron and steel, blast furnaces	40	8,278	7	202	717	57	7,295	De 9,168	Fe 6,214	9,187	9,184	3	.....	.....	215,789
18	Iron and steel, steel works and rolling mills.	75	41,912	3	792	2,255	276	38,586	De 45,151	Fe 33,845	45,151	44,798	350	3	.....	515,813
19	Jewelry	35	481	43	22	34	20	356	De 384	Jy 339	383	329	43	11	.....	116
20	Kaolin and ground earths	4	75	.....	8	1	2	64	No 68	Jy 57	70	70	.....	.....	.....	1,340
21	Leather goods	86	2,309	90	107	162	60	1,890	De 1,940	Se 1,822	1,997	1,570	407	15	5	1,399
22	Leather, tanned, curried, and finished	36	2,028	24	63	42	15	1,884	De 2,175	Je 1,739	2,196	2,185	11	.....	.....	4,244
23	Lime	39	1,403	34	44	32	20	1,273	Se 1,522	Fe 903	1,345	1,343	.....	2	.....	3,872
24	Liquors, distilled	17	434	12	17	27	4	374	Oc 399	Je 341	432	420	12	.....	.....	2,422
25	Liquors, malt	105	5,275	35	333	521	30	4,356	Jy 4,782	Fe 4,061	4,259	4,250	7	2	.....	31,690
26	Liquors, vinous	29	254	22	28	46	9	149	Oc 187	Au 135	160	145	14	1	.....	406
27	Lumber and timber products	1,390	16,445	1,560	679	527	223	13,456	Oc 14,199	Ja 12,183	15,644	15,452	165	27	.....	69,255
28	Marble and stone work	198	2,520	229	109	138	32	2,012	No 2,211	Fe 1,524	2,240	2,223	2	15	.....	7,070
29	Mattresses and spring beds	38	1,145	34	30	81	39	961	No 998	Jy 928	985	671	303	8	3	2,069
30	Millinery and lace goods	31	1,605	30	47	111	60	1,357	Fe 1,745	Je 866	1,358	306	1,009	12	31	603
31	Mirrors	8	114	10	8	1	1	94	Oc 107	Je 86	108	107	1	.....	.....	198
32	Models and patterns, not including paper patterns.	74	564	95	16	3	9	441	No 470	Ja 410	477	457	4	16	.....	673
33	Musical instruments and materials, not specified.	8	63	8	1	3	4	47	My[1] 50	Ja[1] 44	46	46	.....	.....	.....	49
34	Musical instruments, pianos and organs and materials.	30	1,987	16	55	53	22	1,841	Oc 1,953	Jy 1,716	1,929	1,846	81	2	.....	2,254
35	Oil, linseed	4	258	.....	11	29	5	213	Mh 308	Se 157	188	185	3	.....	.....	1,347
36	Optical goods	17	124	7	14	22	14	67	Se[1] 74	Ap[1] 62	74	64	10	.....	.....	43
37	Paint and varnish	87	2,587	39	214	616	183	1,535	My 1,662	De 1,431	1,517	1,342	174	1	.....	5,572
38	Paper and wood pulp	47	4,972	3	126	108	62	4,673	De 4,811	My 4,528	4,796	4,055	737	3	1	51,402
39	Paper goods, not elsewhere specified	28	2,264	19	75	84	46	2,040	Ap 2,145	Se 1,956	2,082	995	1,072	5	10	1,909
40	Patent medicines and compounds and druggists' preparations.	261	2,068	236	159	527	241	905	Mh 962	Au 850	941	507	425	6	3	1,568
41	Pens, fountain, stylographic, and gold	9	190	5	13	31	41	100	No 113	Ja 83	107	88	17	2	.....	56
42	Petroleum, refining	10	2,039	.....	42	293	45	1,659	No 1,943	My 1,500	1,890	1,866	18	6	.....	4,324
43	Photographic apparatus and materials.	3	42	.....	12	5	2	23	Fe[1] 24	Ja[1] 22	23	20	3	.....	.....	29
44	Photo-engraving	20	370	12	34	27	20	277	Oc 284	Je 272	281	271	8	2	.....	215
45	Pottery, terra-cotta, and fire-clay products.	186	17,751	69	409	498	196	16,519	Oc 17,044	Ja 15,197	17,323	13,847	3,296	110	70	26,778
46	Printing and publishing	1,055	22,754	1,480	1,276	2,884	1,358	15,756	De 16,428	Jy 15,219	16,555	12,203	4,115	200	37	18,417
47	Pumps, not including steam pumps	20	1,083	28	24	120	14	897	De 947	Se 832	900	900	.....	.....	.....	1,322
48	Rubber goods, not elsewhere specified.	37	12,546	15	199	1,530	420	10,382	De 11,119	Ja 9,292	11,610	9,845	1,662	39	64	25,885
49	Safes and vaults	10	2,437	1	55	288	79	2,014	De 2,145	Fe 1,943	2,145	2,124	.....	21	.....	3,177
50	Salt	8	722	.....	23	36	15	648	Ja[1] 675	Au 609	677	596	80	1	.....	4,034
51	Saws	7	184	5	12	16	5	146	Mh 161	Jy 132	148	148	.....	.....	.....	443
52	Screws, machine	6	363	.....	15	16	8	324	De 409	Ja 265	409	402	7	.....	.....	915
53	Sewing machines, cases, and attachments.	4	4,050	1	25	154	39	3,831	De 4,099	Jy 3,639	4,105	3,996	54	55	.....	2,973
54	Shipbuilding, including boat building.	39	3,408	43	51	92	22	3,200	Mh 4,231	Se 1,945	3,485	3,485	.....	.....	.....	8,125
55	Shoddy	4	469	1	12	16	2	438	Mh[1] 442	Au 432	441	302	139	.....	.....	1,100
56	Show cases	14	402	6	25	14	8	349	De 385	Fe 318	385	369	12	4	.....	569
57	Signs and advertising novelties	28	1,290	13	57	47	77	1,096	Se 1,143	Ja 1,006	1,090	622	464	2	2	1,125
58	Slaughtering and meat packing	158	3,864	154	158	404	62	3,086	De 3,219	Ap 2,993	3,203	3,133	70	.....	.....	9,873
59	Smelting and refining, not from the ore.	6	73	6	5	2	3	57	Ja 73	Au 46	66	66	.....	.....	.....	280
60	Soap	44	2,280	25	87	323	71	1,774	De 1,953	My 1,628	1,962	1,451	476	16	19	3,579
61	Steam packing	4	40	1	3	.....	4	32	De 38	My 25	42	42	.....	.....	.....	132
62	Stereotyping and electrotyping	14	255	9	12	16	11	207	Oc 225	Ja 190	223	219	1	3	.....	323
63	Stoves and furnaces, including gas and oil stoves.	102	8,352	38	259	591	190	7,274	Oc 7,822	Ja 6,621	7,686	7,648	23	15	.....	9,478
64	Sulphuric, nitric, and mixed acids	4	148	.....	8	10	1	129	Se 162	Ja 101	121	121	.....	.....	.....	213
65	Surgical appliances and artificial limbs.	23	186	23	7	32	12	112	De 117	Mh[1] 110	117	71	39	2	5	58
66	Tin plate and terneplate	4	742	.....	10	48	8	676	Je 899	Au 438	896	767	129	.....	.....	1,849

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

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	$19,962,573	$44,617,047	$377,050	$305,101	$1,415,155	$361,954	$40,990,653	$23,042	$133,229	$10,652	$1,000,211	$48,093,353	$6,740,746
2	177,744,821	129,424,717	5,973,713	5,934,233	38,014,707	2,636,816	61,923,079	454,696	989,472	718,395	12,779,606	145,836,648	81,276,753
3	277,682	327,239	11,618	3,910	74,478	1,305	204,959	20,216	1,007	.....	9,746	410,681	204,417
4	2,308,137	4,294,045	115,666	173,577	667,993	20,320	3,029,751	24,360	6,997	20,520	234,361	4,622,959	1,572,388
5	16,250,911	14,294,222	585,971	468,828	4,141,784	163,222	7,079,223	113,757	101,453	29,460	1,610,524	16,258,757	9,016,312
6	2,576,959	3,264,904	137,113	164,767	747,943	35,692	1,740,843	27,186	9,964	60,287	341,109	3,563,239	1,786,704
7	11,969,337	2,182,051	96,435	84,123	431,305	741,935	84,809	363,695	175,832	10,862	193,055	3,079,670	2,252,026
8	16,201,190	12,753,518	456,835	259,528	5,976,989	1,091,415	3,596,571	31,979	68,177	19,321	1,252,703	14,358,274	9,670,288
9	67,620	134,052	6,900	760	31,594	704	88,456	2,328	389	.....	2,921	138,656	49,496
10	4,678,818	1,315,811	81,872	64,773	597,217	55,580	329,279	.....	19,209	3,132	164,749	1,498,256	1,113,397
11	161,327	148,631	8,775	9,618	59,163	2,653	47,985	11,896	730	55	7,756	194,898	144,260
12	384,362	711,787	29,622	43,948	174,355	4,528	417,730	18,948	728	296	21,632	804,229	381,971
13	4,245	10,459	.....	.....	4,716	383	3,457	1,440	42	.....	421	14,683	10,843
14	4,407,562	5,760,921	229,642	160,950	1,071,780	37,563	3,813,856	44,033	14,319	32,156	356,622	6,433,431	2,582,012
15	8,380,852	1,736,257	163,192	56,538	558,758	414,763	149,621	15,499	59,052	458	318,376	2,270,112	1,705,728
16	1,559,069	1,591,527	84,362	106,344	131,103	13,876	795,375	1,135	12,374	.....	446,958	1,907,369	1,098,118
17	94,532,845	77,273,870	565,058	800,777	5,089,969	21,227,222	47,197,500	38,520	430,205	26,360	1,898,259	83,699,238	15,274,516
18	163,383,821	178,093,126	1,792,510	2,268,379	28,614,117	7,672,641	131,570,514	3,050	735,414	58,786	5,377,715	197,780,043	58,536,888
19	1,191,041	1,037,939	33,402	50,313	251,926	5,556	613,528	24,947	4,003	.....	54,264	1,255,110	636,026
20	352,564	294,762	11,217	2,200	33,770	22,393	200,276	.....	2,455	.....	22,451	330,501	107,832
21	4,069,792	4,433,205	151,586	150,752	879,013	27,012	2,831,668	49,218	26,155	.....	317,801	4,939,092	2,080,412
22	13,758,911	9,398,390	141,655	55,585	1,083,121	89,269	7,630,335	7,009	43,512	855	347,049	10,127,836	2,408,232
23	2,634,728	1,424,852	84,831	44,463	553,371	254,658	343,070	1,480	13,107	350	129,522	1,620,060	1,022,332
24	4,731,718	11,529,484	52,970	34,555	230,086	77,402	2,436,914	15,060	8,428,651	1,000	252,846	12,011,115	9,496,709
25	57,748,188	21,008,272	998,973	684,513	3,267,244	731,019	5,832,081	11,824	4,524,313	66,300	4,892,005	25,332,059	18,768,959
26	1,979,718	1,087,261	46,640	48,042	79,439	10,728	707,459	3,622	66,289	.....	125,042	1,303,697	585,510
27	28,500,012	30,347,035	935,657	531,712	6,700,919	219,372	19,752,991	144,685	185,684	252,266	1,623,749	34,597,069	14,624,706
28	3,505,269	3,263,445	149,228	146,564	1,161,397	89,231	1,361,026	22,473	19,337	27,296	286,893	3,847,308	2,397,051
29	2,934,991	2,693,906	73,260	109,654	435,498	24,883	1,656,869	16,899	15,562	6,016	355,265	3,306,839	1,625,087
30	1,333,902	2,368,872	98,361	125,067	478,313	13,780	1,444,869	34,203	5,372	.....	168,907	2,744,492	1,285,843
31	166,006	262,373	9,248	1,150	55,722	2,620	179,555	3,640	915	800	8,723	291,187	109,012
32	315,989	516,425	21,520	6,149	293,545	8,067	150,724	16,235	1,530	300	18,355	669,855	511,064
33	74,145	59,608	1,125	4,329	32,604	1,023	7,071	1,054	395	1,559	10,448	80,884	72,790
34	3,593,177	3,549,176	111,593	60,562	1,092,113	30,944	1,891,439	53,806	19,209	1,985	287,525	3,925,757	2,003,374
35	2,552,088	3,387,051	33,959	22,184	83,232	26,778	3,054,269	360	7,405	.....	158,864	3,627,492	546,445
36	159,808	233,230	20,725	19,658	41,621	2,138	107,066	16,819	1,068	.....	24,135	274,050	164,846
37	11,757,377	12,482,218	598,965	778,140	904,378	96,353	8,473,693	42,917	72,046	600	1,515,126	13,617,189	5,047,143
38	20,909,694	15,515,130	404,240	192,088	2,419,215	1,049,097	9,849,188	4,800	86,867	10,768	1,498,867	16,965,260	6,060,975
39	5,604,576	5,478,505	195,343	116,409	881,779	48,497	3,385,189	24,493	282,825	3	543,967	6,306,606	2,872,920
40	4,071,946	4,908,370	287,680	512,590	385,063	31,100	1,856,866	56,293	91,865	5,380	1,741,533	5,859,469	3,971,503
41	305,989	410,002	27,203	53,386	49,852	1,096	221,023	6,732	975	2,040	47,695	469,869	247,750
42	11,152,443	10,042,159	156,675	255,175	1,028,304	522,595	7,621,988	9,436	100,092	4,025	343,869	10,753,738	2,600,155
43	67,357	101,450	22,046	7,724	10,166	322	42,646	1,660	748	.....	16,138	105,028	62,060
44	266,262	499,709	53,589	31,813	241,786	7,360	101,984	12,575	910	4,524	45,168	575,819	466,475
45	32,166,636	18,838,269	801,509	641,338	8,627,779	2,025,175	4,436,305	15,859	151,374	98,159	2,040,771	21,173,272	14,711,792
46	38,053,259	34,564,572	2,394,986	3,063,222	9,354,848	396,263	11,508,091	649,970	211,913	1,391,211	5,594,068	41,657,306	29,752,952
47	2,272,910	2,280,327	35,020	108,869	517,309	21,166	1,249,532	3,508	12,554	.....	332,369	2,747,109	1,476,411
48	37,545,665	45,575,644	637,545	1,390,141	5,659,522	360,166	32,082,249	5,810	151,455	1,177	5,287,579	53,910,531	21,468,116
49	5,074,718	4,903,112	207,557	541,330	1,321,055	47,024	2,114,961	12,945	27,563	6,335	624,342	5,488,341	3,326,356
50	1,980,873	1,640,212	45,650	32,144	360,534	250,292	840,063	.....	8,791	.....	102,738	1,807,347	716,992
51	339,335	276,201	13,848	11,781	95,449	5,547	101,992	4,110	3,405	.....	40,069	297,667	190,128
52	665,589	459,669	28,400	13,281	203,797	14,460	163,530	3,120	5,689	.....	27,392	597,966	419,976
53	4,973,085	5,691,231	96,080	179,914	2,104,703	42,875	2,475,451	.....	40,686	.....	751,522	5,972,228	3,453,902
54	13,625,199	4,799,707	153,380	105,776	1,704,530	98,317	2,363,525	8,092	49,821	800	315,466	5,676,416	3,214,574
55	1,095,502	1,137,725	32,700	29,679	199,770	26,710	714,934	.....	10,761	.....	123,171	1,257,173	515,529
56	534,654	593,535	37,818	14,221	172,556	7,874	299,049	9,494	3,207	4,000	45,316	667,866	360,943
57	2,039,182	2,247,537	99,043	63,479	505,118	19,216	922,146	17,148	14,556	2,200	604,631	2,598,093	1,650,731
58	12,398,691	48,174,845	279,518	407,343	1,856,502	224,429	44,122,733	21,769	74,172	7,750	1,180,629	50,804,100	6,456,938
59	270,502	247,297	18,366	3,720	41,384	30,617	142,993	930	559	.....	8,728	379,205	205,595
60	12,731,616	14,050,747	186,625	386,553	826,561	222,034	11,438,996	17,279	57,390	843	914,466	17,077,308	5,416,278
61	63,532	35,654	5,300	1,320	14,365	1,436	8,101	770	442	.....	3,920	38,158	28,621
62	239,453	402,982	20,781	18,102	142,532	12,403	158,901	11,922	684	.....	37,567	475,215	303,821
63	15,624,806	13,627,363	519,138	681,673	4,217,193	174,710	6,125,783	46,158	86,343	94,334	1,682,031	15,357,500	9,057,007
64	574,391	394,571	17,367	12,268	82,350	20,238	228,339	.....	3,276	.....	30,733	417,702	169,125
65	253,873	225,983	10,650	43,175	50,110	1,150	80,999	5,758	1,678	2,865	29,598	283,943	201,794
66	1,063,491	7,733,673	18,473	57,083	449,242	29,835	7,125,309	.....	7,036	.....	46,695	7,889,367	734,223

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	Tobacco manufactures	1,146	14,681	1,269	237	455	89	12,631	De 13,194	Fe 12,256	13,384	4,327	8,938	110	9	1,401
2	Type founding and printing materials	5	87	5	3	5	1	73	Ap[1] 75	My 70	74	71	2	1	.....	55
3	Typewriters and supplies	4	20	2	2	2	3	11	Ap[1] 12	Ja[1] 9	11	9	2	.....	.....	17
4	Umbrellas and canes	15	371	15	13	42	14	287	De 314	Ja 252	314	87	208	6	13	82
5	Wall plaster	23	340	10	35	25	11	259	Au[1] 291	Ja 215	243	243	.....	.....	.....	1,823
6	Whips	4	205	.....	8	43	6	148	Mh 162	Se 137	142	91	50	.....	1	210
7	Woolen, worsted, and felt goods, and wool hats.	20	2,711	23	41	65	16	2,566	Au 2,724	Ja 2,358	2,688	857	1,594	42	195	6,504
8	All other industries[2]	979	36,524	813	1,328	2,435	883	31,065	.....	.....	.....	.....	.....	.....	.....	73,492

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

[2] All other industries embrace—

Artists' materials	1
Awnings, tents, and sails	30
Axle grease	5
Bags, other than paper	6
Beet sugar	1
Billiard tables and materials	4
Bluing	3
Bone, carbon, and lamp black	1
Carpets and rugs, other than rag	2
Carriages and sleds, children's	9
Cash registers and calculating machines	8
Charcoal	8
Clothing, horse	1
Clothing, men's, buttonholes	8
Cordials and sirups	7
Dentists' materials	5
Drug grinding	1
Dyeing and finishing textiles	6
Emery and other abrasive wheels	3
Engraving and diesinking	8
Engraving, wood	4
Fire extinguishers, chemical	2
Fireworks	3
Flavoring extracts	37
Food preparations	61
Foundry supplies	10
Furs, dressed	1
Galvanizing	5
Glass, cutting, staining, and ornamenting	34
Glucose and starch	2
Glue	3
Gold and silver, reducing and refining, not from the ore	2
Grease and tallow	23
Hair work	7
Hats, straw	1
Horseshoes, not made in steel works or rolling mills	1
House-furnishing goods, not elsewhere specified	22
Ink, writing	1
Instruments, professional and scientific	17
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills	17
Iron and steel, doors and shutters	3
Iron and steel forgings	30
Iron and steel nails and spikes, cut and wrought, including wire nails, not made in steel works or rolling mills	4
Iron and steel pipe, wrought	5
Jewelry and instrument cases	2
Labels and tags	4
Lasts	2
Lead, bar, pipe, and sheet	2
Locomotives, not made by railroad companies	1

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	$11,070,490	$25,573,191	$490,777	$489,449	$4,504,787	$66,380	$12,008,443	$184,249	$4,758,332	$22,702	$3,048,072	$28,907,269	$16,832,446
2	367,693	159,174	7,360	5,428	58,046	2,724	69,018	6,320	674	.....	9,604	192,220	120,478
3	25,693	47,797	2,600	4,546	6,224	243	25,944	1,908	27	.....	6,305	54,102	27,915
4	564,884	885,072	25,214	43,766	104,642	2,502	604,851	12,389	3,295	500	87,913	1,005,130	397,777
5	679,065	712,459	49,346	26,638	105,556	38,704	395,577	36,195	6,343	4,615	49,485	935,165	500,884
6	302,852	314,633	13,210	50,925	55,452	3,780	137,863	.....	1,910	.....	51,493	349,077	207,434
7	7,158,812	6,767,443	115,080	91,688	924,844	61,360	4,554,669	2,785	32,612	479,818	504,587	7,690,149	3,074,120
8	83,524,536	94,176,549	2,728,243	2,731,218	16,489,005	1,397,744	55,569,415	302,606	528,617	308,265	14,121,436	105,098,862	48,131,703

[2] All other industries embrace—Continued.

Looking-glass and picture frames	15
Malt	8
Matches	4
Mineral and soda waters	174
Mucilage and paste	18
Needles, pins, and hooks and eyes	1
Oil, cottonseed, and cake	1
Oil, not elsewhere specified	21
Oilcloth and linoleum	3
Oleomargarine	2
Paper patterns	2
Paving materials	5
Peanuts, grading, roasting, cleaning, and shelling	2
Pipes, tobacco	1
Pulp goods	2
Roofing materials	11
Rules, ivory and wood	1
Scales and balances	6
Screws, wood	1
Silk and silk goods, including throwsters	1
Silverware and plated ware	5
Soda-water apparatus	1
Sporting and athletic goods	12
Springs, steel, car and carriage	5
Stationery goods, not elsewhere specified	14
Statuary and art goods	8
Toys and games	19
Upholstering materials	9
Vault lights and ventilators	1
Vinegar and cider	19
Wall paper	2
Washing machines and clothes wringers	18
Waste	1
Wheelbarrows	3
Windmills	3
Window shades and fixtures	7
Wire	6
Wirework, including wire rope and cable	60
Wood, turned and carved	83
Wool pulling	1

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

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

AKRON.

	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**	**246**	**19,023**	**159**	**432**	**2,006**	**595**	**15,831**	**13,387**	**2,223**	**221**	**17,411**	**14,726**	**2,445**	**87**	**153**	**36,233**
2	Artificial stone	10	51	16	3	1	1	30	30	.....	.....	30	30	.....	.....	.....	16
3	Bread and other bakery products	25	145	23	6	12	14	90	81	9	.....	95	85	10	.....	.....	105
4	Brick and tile	3	96	3	5	3	.....	85	84	.....	1	98	97	.....	1	.....	345
5	Carriages and wagons and materials	7	137	8	6	5	3	115	114	1	.....	117	116	1	.....	.....	357
6	Foundry and machine-shop products	26	1,061	12	35	36	9	969	908	25	36	1,082	1,014	28	27	13	2,015
7	Liquors, malt	3	110	.....	14	14	1	81	81	.....	.....	80	80	.....	.....	.....	1,522
8	Lumber and timber products	10	378	8	16	23	12	319	279	40	.....	264	231	33	.....	.....	989
9	Patent medicines and compounds and druggists' preparations.	8	18	9	1	1	1	6	3	3	.....	9	5	4	.....	.....	.....
10	Pottery, terra-cotta, and fire-clay products	15	1,162	5	33	26	11	1,087	997	77	13	1,108	1,016	79	.....	13	2,557
11	Printing and publishing	27	990	16	37	103	100	734	352	379	3	781	375	403	3	.....	934
12	Stoves and furnaces, including gas and oil stoves.	5	396	.....	11	40	11	334	334	.....	.....	354	354	.....	.....	.....	610
13	Tobacco manufactures	7	17	7	.....	.....	.....	10	9	1	.....	11	10	1	.....	.....	.....
14	All other industries [1]	100	14,462	52	265	1,742	432	11,971	10,115	1,688	168	13,382	11,313	1,886	56	127	26,813

[1] All other industries embrace: Agricultural implements, 1; automobiles, including bodies and parts, 5; awnings, tents, and sails, 1; baking powders and yeast, 1; belting and hose, leather, 1; blacking and cleansing and polishing preparations, 2; boxes, fancy and paper, 1; brass and bronze products, 2; brooms, 2; brushes, 1; butter, cheese, and condensed milk, 1; canning and preserving, 1; carpets, rag, 3; cars and general shop construction and repairs by street-railroad companies, 1; clothing, women's, 1; coffee and spice, roasting and grinding, 1; confectionery, 3; cooperage and wooden goods, not elsewhere specified, 1; copper, tin, and sheet-iron products, 8; cordage and twine and jute and linen goods, 1; electrical machinery, apparatus, and supplies, 3; electroplating, 1; engraving and diesinking, 1; files, 1; flavoring extracts, 1; flour-mill and gristmill products, 1; food preparations, 4; furnishing goods, men's, 1; gas and electric fixtures and lamps and reflectors, 1; glass, 1; hand stamps and stencils and brands, 1;

CANTON.

1	**All industries**	**204**	**11,313**	**129**	**326**	**641**	**253**	**9,964**	**8,892**	**955**	**117**	**10,815**	**9,646**	**1,043**	**95**	**31**	**27,016**
2	Agricultural implements	5	351	.....	15	44	9	283	283	.....	.....	319	319	.....	.....	.....	442
3	Brass and bronze products	5	35	7	1	1	4	22	21	.....	1	37	36	.....	1	.....	38
4	Bread and other bakery products	19	97	23	3	7	5	59	55	4	.....	60	56	4	.....	.....	38
5	Confectionery	7	44	7	1	3	3	30	9	20	1	31	9	21	1	.....	18
6	Cutlery and tools, not elsewhere specified	5	179	.....	12	13	16	138	123	15	.....	146	130	16	.....	.....	230
7	Foundry and machine-shop products	32	2,044	13	74	158	51	1,748	1,678	18	52	1,832	1,758	19	55	.....	3,409
8	Furniture and refrigerators	5	208	2	10	10	7	179	175	4	.....	194	190	4	.....	.....	354
9	Leather goods	3	305	2	12	12	12	267	175	90	2	284	186	96	2	.....	131
10	Lumber and timber products	3	52	1	4	1	.....	46	46	.....	.....	50	50	.....	.....	.....	180
11	Printing and publishing	17	219	17	10	20	11	161	139	22	.....	173	149	24	.....	.....	185
12	Tobacco manufactures	19	93	23	.....	.....	.....	70	35	30	5	83	42	35	6	.....	.....
13	All other industries [1]	84	7,686	34	184	372	135	6,961	6,153	752	56	7,006	6,721	824	30	31	21,991

[1] All other industries embrace: Artificial stone, 3; automobiles, including bodies and parts, 1; awnings, tents, and sails, 1; axle grease, 1; blacking and cleansing and polishing preparations, 2; boxes, fancy and paper, 1; brooms, 2; butter, cheese, and condensed milk, 2; canning and preserving, 1; carriages and wagons and materials, 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; clocks and watches, including cases and materials, 2; clothing, men's, including shirts, 1; clothing, women's 1; coffee and spice, roasting and grinding, 2; cooperage and wooden goods, not elsewhere specified, 1; copper, tin, and sheet-iron products, 7; dairymen's, poulterers', and apiarists' supplies, 2; electrical machinery, apparatus, and supplies, 1; electroplating, 2; flour-mill and gristmill products, 2; furnishing goods, men's, 2; gas and electric fixtures and lamps and reflectors, 3; gas, illuminating and heating, 1; house-

CINCINNATI.

1	**All industries**	**2,184**	**72,488**	**2,015**	**2,670**	**5,659**	**1,952**	**60,192**	**43,899**	**14,949**	**1,344**	**64,696**	**47,432**	**15,785**	**621**	**858**	**88,597**
2	Bags, paper	5	358	.....	18	31	10	299	153	128	18	303	155	130	1	17	320
3	Blacking and cleansing and polishing preparations.	14	92	21	4	19	10	38	21	17	.....	41	23	18	.....	.....	34
4	Boots and shoes, including cut stock and findings.	32	8,702	21	199	285	208	7,989	4,514	3,132	343	8,328	4,701	3,266	137	224	4,631
5	Boxes, cigar	8	248	10	9	5	2	222	109	107	6	236	116	114	6	.....	405
6	Boxes, fancy and paper	15	738	9	30	20	10	669	162	425	82	715	173	455	1	86	218
7	Brass and bronze products	14	635	12	18	31	11	563	534	24	5	579	549	25	5	.....	424
8	Bread and other bakery products	187	1,768	186	48	121	73	1,340	1,029	296	15	1,446	1,110	320	6	10	909
9	Brick and tile	7	114	7	7	1	.....	99	99	.....	.....	131	131	.....	.....	.....	280
10	Canning and preserving	9	315	5	16	61	16	217	130	76	11	251	150	88	4	9	420
11	Carriages and wagons and materials	74	2,677	64	125	163	75	2,250	2,144	97	9	2,190	2,087	94	9	.....	2,523
12	Cars and general shop construction and repairs by steam-railroad companies.	3	327	.....	3	10	.....	314	304	10	.....	317	307	10	.....	.....	590
13	Chemicals	11	162	4	16	12	8	122	119	3	.....	122	119	3	.....	.....	508
14	Clothing, men's, including shirts	183	6,956	237	106	757	138	5,718	1,870	3,654	194	6,177	2,022	3,947	24	184	559
15	Clothing, women's	26	1,541	41	28	103	44	1,325	444	841	40	1,454	487	924	13	30	176
16	Coffee and spice, roasting and grinding	8	356	7	14	94	20	221	115	106	.....	231	120	111	.....	.....	691
17	Confectionery	22	922	21	23	73	34	771	322	401	48	912	381	474	2	55	573
18	Cooperage and wooden goods, not elsewhere specified.	20	697	17	29	15	4	632	630	1	1	579	577	1	1	.....	1,269
19	Copper, tin, and sheet-iron products	37	1,019	30	47	78	31	833	540	31	262	1,057	685	39	175	158	1,154
20	Cutlery and tools, not elsewhere specified	9	80	14	5	6	.....	55	53	2	.....	61	59	2	.....	.....	166
21	Electrical machinery, apparatus, and supplies.	13	393	9	26	32	13	313	301	12	.....	362	348	14	.....	.....	397

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.

AKRON.

	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	$58,216,484	$62,846,917	$1,094,885	$1,909,378	$8,935,850	$755,617	$42,315,011	$36,722	$373,263	$236,513	$7,189,678		$73,158,206	$30,087,578
2	31,364	33,518	2,090	794	14,556	357	14,334	119	270	.....	998		41,230	26,539
3	161,326	368,283	7,580	15,686	58,194	8,324	246,243	8,711	957	.....	22,588		416,828	162,261
4	115,919	121,391	5,090	2,138	42,689	36,205	3,628	.....	640	10,672	20,329		140,612	100,779
5	442,009	181,165	9,262	6,010	68,286	4,174	73,974	300	2,202	157	16,800		235,680	157,532
6	3,008,142	1,916,425	60,300	45,800	650,481	35,127	1,027,124	6,840	14,152	152	76,449		2,248,059	1,185,808
7	914,133	470,171	71,420	14,536	57,339	19,162	150,739	.....	100,497	.....	56,478		645,038	475,137
8	663,164	736,603	20,972	36,212	191,048	6,497	430,957	200	4,327	.....	46,390		792,141	354,687
9	18,630	20,224	780	1,620	2,440	160	8,350	400	109	200	6,165		28,983	20,473
10	1,988,546	1,215,275	56,172	30,600	556,755	212,049	191,072	.....	17,413	7,356	143,858		1,349,808	946,687
11	3,587,216	1,811,038	100,450	66,568	452,446	13,346	583,189	4,360	12,898	213,353	364,428		2,352,910	1,756,375
12	804,197	647,561	19,900	57,224	227,811	7,294	237,335	2,580	4,074	.....	91,343		753,955	509,326
13	5,231	13,510	.....	.....	4,245	.....	5,794	678	2,659	.....	134		17,989	12,195
14	46,476,607	55,311,753	740,869	1,632,190	6,609,560	412,922	39,342,272	12,534	213,065	4,623	6,343,718		64,134,973	24,379,779

hats, fur-felt, 2; hosiery and knit goods, 1; ice, manufactured, 1; ink, printing, 1; iron and steel, steel works and rolling mills, 1; leather goods, 1; marble and stone work, 2; mattresses and spring beds, 1; mineral and soda waters, 3; models and patterns, not including paper patterns, 1; mucilage and paste, 4; oilcloth and linoleum, 1; paint and varnish, 1; paper and wood pulp, 1; pens, fountain, stylographic, and gold, 1; photo-engraving, 1; rubber goods, not elsewhere specified, 14; shipbuilding, including boat building, 1; signs and advertising novelties, 1; sporting and athletic goods, 2; steam packing, 1; surgical appliances and artificial limbs, 1; umbrellas and canes, 1; wirework, including wire rope and cable, 1; wood, turned and carved, 1.

CANTON.

1	$25,342,343	$24,607,354	$663,154	$683,926	$5,718,517	$569,632	$14,074,131	$31,367	$180,681	$162,736	$2,523,210		$28,582,811	$13,939,048
2	1,047,385	765,025	32,534	66,105	127,007	7,132	393,443	2,625	3,693	.....	132,486		819,171	418,596
3	46,993	52,738	880	1,264	16,377	1,160	26,222	933	180	2,829	2,893		55,461	28,079
4	89,551	215,138	5,200	7,280	34,055	4,296	142,642	1,321	633	.....	19,711		253,488	106,550
5	50,363	59,152	250	1,982	10,046	1,394	40,703	2,680	117	.....	1,980		68,733	26,636
6	308,108	246,122	31,743	14,156	74,082	3,203	89,420	160	2,203	.....	31,155		257,833	165,210
7	4,578,085	4,155,983	182,113	170,974	1,005,372	97,044	2,170,142	11,541	23,460	82,804	412,533		4,891,406	2,624,220
8	530,425	250,573	14,344	17,901	99,188	5,005	78,249	.....	2,456	.....	33,430		296,295	213,041
9	467,833	530,161	18,032	16,453	115,963	2,344	336,306	.....	1,697	.....	39,366		548,803	210,153
10	106,997	138,203	4,872	1,040	29,441	1,109	94,260	.....	700	.....	6,781		134,525	39,156
11	326,322	248,733	17,615	19,850	88,097	3,839	74,309	4,529	1,716	15	38,763		292,656	214,508
12	32,758	88,242	.....	.....	26,620	305	41,932	1,095	17,417	.....	873		105,931	63,694
13	17,757,523	17,857,284	355,571	366,921	4,092,269	442,801	10,586,503	6,483	126,409	77,088	1,803,239		20,858,509	9,829,205

furnishing goods, not elsewhere specified, 1; ice, manufactured, 1; iron and steel, steel works and rolling mills, 5; iron and steel, doors and shutters, 1; iron and steel forgings, 1; liquors, malt, 3; marble and stone work, 1; mattressses and spring beds, 1; mineral and soda waters, 3; paint and varnish, 3; paper goods, not elsewhere specified, 1; patent medicines and compounds and druggists' preparations, 3; photo-engraving, 1; rubber goods, not elsewhere specified, 2; safes and vaults, 1; saws, 1; signs and advertising novelties, 1; soap, 1; springs, steel, car and carriage, 1; stereotyping and electrotyping, 1; surgical appliances and artificial limbs, 2; tin plate and terneplate, 1; toys and games, 1; wirework, including wire rope and cable, 2.

CINCINNATI.

1	$150,254,292	$174,788,679	$5,825,222	$6,934,087	$31,100,972	$1,913,963	$100,017,987	$2,178,707	$9,004,668	$2,192,341	$15,620,732		$194,515,692	$92,583,742
2	673,221	1,019,945	44,558	27,598	129,254	8,381	721,189	15,851	1,626	3,431	68,057		1,088,250	358,680
3	90,292	195,598	4,836	19,625	13,845	826	111,532	4,190	469	.....	40,275		254,960	142,602
4	7,656,352	14,208,886	414,573	601,213	3,517,986	51,995	8,531,675	124,626	34,044	128	932,646		14,998,672	6,415,002
5	212,835	294,721	11,732	4,784	81,609	3,363	173,769	4,905	1,810	42	12,707		347,066	169,934
6	442,245	603,243	53,162	16,785	184,858	6,905	284,799	19,134	1,937	.....	35,663		679,170	387,466
7	1,304,131	864,571	44,048	35,457	328,527	12,034	372,733	9,338	5,034	20	57,380		996,195	611,428
8	2,652,881	4,429,625	101,386	135,706	723,094	72,767	2,961,286	75,566	21,691	.....	338,129		5,102,593	2,068,540
9	100,207	73,571	6,160	900	41,173	10,244	3,129	1,200	964	340	9,461		93,649	80,276
10	646,176	779,288	33,444	71,139	77,465	5,444	477,450	6,830	3,347	.....	104,169		825,010	342,116
11	4,477,372	6,008,649	200,463	180,711	1,295,236	41,464	3,660,246	83,984	24,036	17,337	505,172		6,824,715	3,123,005
12	398,490	328,308	4,140	9,618	203,470	9,048	101,911	.....	121	.....	.....		328,308	217,349
13	712,874	724,611	43,270	19,980	76,268	27,483	446,808	8,703	5,260	.....	96,839		898,729	424,438
14	10,211,774	15,338,315	300,939	910,798	2,512,386	54,063	8,626,031	240,745	23,107	1,539,819	1,130,427		16,974,928	8,294,834
15	1,229,502	2,648,176	79,986	136,937	618,775	10,896	1,502,868	44,920	2,915	3,810	247,069		2,912,862	1,399,098
16	1,083,406	1,965,564	24,120	106,393	91,271	11,183	1,584,026	20,155	5,782	.....	122,634		2,110,024	514,815
17	970,132	1,831,106	50,500	88,241	279,006	16,564	1,205,359	35,261	4,552	12,000	139,623		2,029,075	807,152
18	1,445,850	1,219,146	55,028	20,410	291,804	9,248	756,768	7,891	7,280	.....	70,717		1,232,289	466,273
19	2,018,646	2,438,655	79,863	67,310	413,036	19,726	1,613,672	27,145	11,597	2,122	204,184		2,774,597	1,141,199
20	100,595	120,722	8,220	5,048	35,462	4,354	46,613	2,889	574	.....	17,562		136,284	85,317
21	529,186	712,546	55,918	39,446	200,215	8,966	324,529	16,410	3,332	.....	63,730		835,500	502,005

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.

CINCINNATI—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 horse-power.
22	Flags, banners, regalia, society badges, and emblems.	8	498	3	16	51	25	403	118	279	6	355	104	246	1	4	317
23	Flour-mill and gristmill products	6	84	3	8	12	9	52	50	2	.....	52	50	2	.....	.....	685
24	Foundry and machine-shop products	200	10,110	120	433	838	185	8,534	8,449	51	34	10,032	9,931	65	36	.....	12,590
25	Furniture and refrigerators	60	2,306	67	86	94	33	2,026	1,969	49	8	2,266	2,202	56	8	.....	3,499
26	Hats and caps, other than felt, straw, and wool.	12	323	20	11	20	12	260	102	145	13	265	104	148	1	12	33
27	Hosiery and knit goods	6	231	5	4	1	1	220	31	176	13	218	31	174	2	11	192
28	Ice, manufactured	8	168	1	24	10	4	129	129	.....	.....	137	137	.....	.....	.....	3,229
29	Jewelry	15	284	25	8	26	15	210	176	31	3	216	181	32	3	.....	88
30	Leather goods	16	659	20	30	61	15	533	500	27	6	553	519	28	6	.....	230
31	Leather, tanned, curried, and finished	13	1,043	10	17	16	3	997	995	2	.....	1,214	1,211	3	.....	.....	2,269
32	Liquors, distilled	4	300	.....	10	17	2	271	261	10	.....	312	300	12	.....	.....	1,750
33	Liquors, malt	22	1,858	.....	96	181	3	1,578	1,574	4	.....	1,555	1,551	4	.....	.....	11,416
34	Liquors, vinous	5	16	7	1	.....	.....	8	8	.....	.....	9	9	.....	.....	.....	6
35	Lumber and timber products	45	1,866	30	82	88	45	1,621	1,603	2	16	1,677	1,658	2	17	.....	6,808
36	Marble and stone work	25	340	30	13	24	4	269	269	.....	.....	310	310	.....	.....	.....	854
37	Mattresses and spring beds	9	203	10	3	15	10	165	98	57	10	171	102	59	8	2	227
38	Millinery and lace goods	11	494	10	15	26	15	428	42	378	8	393	39	347	2	5	59
39	Models and patterns, not including paper patterns.	9	104	11	2	1	1	89	89	.....	.....	90	90	.....	.....	.....	65
40	Musical instruments, pianos and organs and materials.	7	760	5	12	25	6	712	646	65	1	784	711	72	1	.....	835
41	Paint and varnish	24	636	19	51	127	31	408	400	8	.....	412	404	8	.....	.....	1,356
42	Paper goods, not elsewhere specified	6	144	7	13	5	6	113	80	31	2	135	95	37	1	2	252
43	Patent medicines and compounds and druggists' preparations.	50	448	40	31	129	46	202	106	93	3	222	116	102	2	2	404
44	Pottery, terra-cotta, and fire-clay products.	7	276	3	17	12	7	237	192	45	.....	237	192	45	.....	.....	970
45	Printing and publishing	280	5,391	246	277	716	286	3,866	3,070	723	73	4,010	3,183	750	68	9	4,671
46	Safes and vaults	5	703	1	28	62	33	579	577	.....	2	607	605	.....	2	.....	970
47	Show cases	3	74	.....	7	3	1	63	63	.....	.....	61	61	.....	.....	.....	118
48	Slaughtering and meat packing	55	1,368	69	51	114	18	1,116	1,053	63	.....	1,202	1,134	68	.....	.....	3,710
49	Soap	16	663	8	25	104	35	491	253	225	13	505	260	232	1	12	699
50	Stoves and furnaces, including gas and oil stoves.	15	1,092	3	57	88	72	872	867	5	.....	920	915	5	.....	.....	1,086
51	Tobacco manufactures	208	2,929	228	49	107	19	2,526	937	1,584	5	2,590	961	1,624	5	.....	247
52	All other industries[1]	337	9,017	299	422	769	303	7,224	5,599	1,531	94	7,094	5,966	1,029	73	26	13,315

[1] All other industries embrace: Artificial flowers and feathers and plumes, 1; artificial stone, 1; automobiles, including bodies and parts, 3; awnings, tents, and sails, 7; axle grease, 1; babbitt metal and solder, 4; bags, other than paper, 1; baking powders and yeast, 3; baskets, and rattan and willow ware, 5; belting and hose, leather, 3; belting and hose, woven and rubber, 1; billiard tables and materials, 2; bluing, 1; bone, carbon, and lamp black, 1; brooms, 4; brushes, 5; buttons, 1; carpets, rag, 3; carriages and sleds, children's, 4; cash registers and calculating machines, 1; clocks and watches, including cases and materials, 4; cloth, sponging and refinishing, 3; clothing, men's, buttonholes, 5; coffins, burial cases, and undertakers' goods, 4; coke, 1; cordage and twine and jute and linen goods, 1; cordials and sirups, 1; cotton goods, including cotton small wares, 2; dyeing and finishing textiles, 1; electroplating, 6; enameling and japanning, 1; engraving and diesinking, 6; engraving, wood, 2; fancy articles, not elsewhere specified, 6; fertilizers, 1; fire extinguishers, chemical, 1; flavoring extracts, 11; food preparations, 7; foundry supplies, 4; fur goods, 3; furnishing goods, men's, 8; galvanizing, 2; gas and electric fixtures and lamps and reflectors, 8; gas, illuminating and heating, 2; glass, 1; glass, cutting, staining, and ornamenting, 8; glue, 1; gold and silver, reducing and refining, not from the ore, 2; grease and tallow, 9; hair work, 3; hand stamps and stencils and brands, 9; hats, fur-felt, 1; hats, straw, 1; house-furnishing

CLEVELAND.

1	All industries	2,148	98,686	1,718	2,927	7,259	2,054	84,728	69,643	13,746	1,339	94,511	78,201	14,870	630	810	199,898
2	Artificial stone	18	158	19	10	8	.....	121	121	.....	.....	111	111	.....	.....	.....	[1]158
3	Automobiles, including bodies and parts	32	7,115	20	137	460	90	6,408	6,331	64	13	8,388	8,288	84	12	4	9,135
4	Blacking and cleansing and polishing preparations.	19	100	16	17	8	8	51	35	16	.....	62	43	19	.....	.....	55
5	Boots and shoes, including cut stock and findings.	6	631	8	15	40	11	557	255	205	97	565	259	208	63	35	304
6	Boxes, cigar	5	78	5	3	.....	1	69	19	50	.....	73	20	53	.....	.....	27
7	Boxes, fancy and paper	6	790	.....	16	22	13	739	366	322	51	773	383	337	1	52	647
8	Brass and bronze products	28	931	23	44	34	29	801	800	1	.....	1,053	1,052	1	.....	.....	872
9	Bread and other bakery products	198	1,696	201	32	169	65	1,229	1,026	192	11	1,277	1,066	199	7	5	14
10	Brick and tile	13	583	9	19	8	1	546	543	.....	3	633	630	.....	3	.....	1,965
11	Carriages and wagons and materials	33	330	38	12	6	7	267	266	1	.....	255	254	1	.....	.....	175
12	Cars and general shop construction and repairs by steam-railroad companies.	6	1,473	.....	33	67	1	1,372	1,366	6	.....	1,497	1,490	7	.....	.....	1,640
13	Chemicals	5	557	.....	16	60	12	469	464	5	.....	533	528	5	.....	.....	1,840
14	Clothing, men's, including shirts	93	3,166	110	49	185	77	2,745	914	1,705	126	2,981	992	1,852	5	132	346
15	Clothing, women's	96	6,226	100	121	425	162	5,418	2,270	3,105	43	5,976	2,504	3,422	.....	50	771
16	Confectionery	16	908	10	27	48	20	803	132	484	187	858	141	517	75	125	679
17	Cooperage and wooden goods, not elsewhere specified.	10	289	9	7	4	8	261	259	.....	2	317	314	.....	3	.....	533
18	Copper, tin, and sheet-iron products	37	1,531	32	41	75	19	1,364	1,097	259	8	1,473	1,184	280	9	.....	1,231
19	Cutlery and tools, not elsewhere specified	15	1,662	11	22	152	33	1,444	1,282	158	4	1,731	1,537	189	2	3	3,246
20	Electrical machinery, apparatus, and supplies.	40	1,899	20	85	135	81	1,578	1,002	575	1	1,831	1,163	667	1	.....	1,980
21	Foundry and machine-shop products	231	20,348	121	615	1,364	333	17,915	17,557	251	107	20,809	20,392	297	114	6	24,204
22	Furniture and refrigerators	25	557	19	18	36	17	467	436	25	6	489	456	26	5	2	578
23	Gas and electric fixtures and lamps and reflectors.	17	409	16	15	43	9	326	274	52	.....	337	283	54	.....	.....	199
24	Hats and caps, other than felt, straw, and wool.	9	132	15	5	12	3	97	45	47	5	104	49	50	.....	5	11
25	Hosiery and knit goods	13	1,365	12	41	57	21	1,234	189	891	154	1,306	200	943	30	133	407
26	Ice, manufactured	5	131	1	12	4	3	111	105	6	.....	111	105	6	.....	.....	3,266

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.

CINCINNATI—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.		
22	$668,178	$845,494	$25,475	$62,647	$162,418	$3,545	$499,606	$11,317	$2,266	$1,100	$77,120	$888,361	$385,210
23	400,465	1,058,317	14,591	18,196	37,672	8,862	948,407	2,486	2,712	.....	25,391	1,082,770	125,501
24	21,399,975	16,155,737	977,016	898,887	4,984,809	216,750	6,827,185	186,279	113,838	42,960	1,908,013	18,379,658	11,335,723
25	3,024,480	3,549,659	150,847	112,593	1,070,633	32,331	1,694,355	60,743	25,844	2,492	399,821	4,061,953	2,335,257
26	263,776	470,158	19,700	25,142	112,280	2,689	280,839	13,616	384	.....	15,508	532,325	248,797
27	426,362	398,449	15,000	1,200	84,479	3,501	253,868	1,867	1,690	1,000	35,844	441,745	184,376
28	1,851,321	338,244	40,150	10,485	81,332	92,071	31,550	5,049	10,621	.....	66,986	385,286	261,665
29	1,002,184	786,138	15,410	37,054	156,398	3,485	514,074	17,786	2,973	.....	38,958	935,935	418,376
30	1,474,520	1,301,187	46,941	53,945	276,784	7,013	782,656	17,120	6,069	.....	110,659	1,498,788	709,119
31	9,503,170	4,526,007	52,925	18,262	570,074	48,190	3,629,073	5,228	24,999	855	176,401	5,058,920	1,381,657
32	2,833,836	8,398,484	39,887	22,662	178,395	50,511	1,773,953	15,000	6,129,991	.....	188,085	8,744,761	6,920,297
33	15,464,116	7,412,217	330,999	282,616	1,167,743	239,307	1,934,139	9,610	1,592,221	.....	1,855,582	8,873,507	6,700,061
34	56,869	29,440	1,040	.....	5,185	275	19,192	990	1,716	.....	1,042	39,570	20,103
35	6,559,630	4,459,531	186,117	104,444	862,596	35,028	2,851,922	40,328	27,612	1,312	350,172	5,021,098	2,134,148
36	581,667	563,622	18,322	31,804	181,128	9,797	242,089	9,272	3,254	14,200	53,756	631,580	379,694
37	310,942	359,420	3,950	17,775	74,287	3,245	220,044	6,595	953	.....	32,571	394,168	170,879
38	136,086	492,911	21,047	27,781	120,381	2,002	292,155	13,908	556	.....	15,081	546,648	252,491
39	70,495	128,546	4,160	1,344	62,982	2,100	51,525	2,810	307	250	3,068	151,198	97,573
40	1,184,890	1,627,034	36,310	25,609	371,324	3,572	1,076,858	45,490	6,054	.....	61,817	1,752,617	672,187
41	4,026,491	3,307,098	124,362	157,867	214,994	31,744	2,454,057	19,141	26,954	.....	277,979	3,879,810	1,394,009
52	319,039	314,154	21,823	7,206	41,807	4,258	200,707	9,934	1,554	.....	26,865	346,285	141,320
43	953,480	1,021,564	81,016	117,294	89,865	9,713	487,009	15,160	6,780	.....	214,727	1,230,060	733,338
44	727,210	293,077	31,048	13,065	118,107	24,374	27,197	810	3,455	21,970	53,051	370,001	318,430
45	8,450,749	9,600,927	608,354	770,678	2,479,852	97,600	3,251,087	200,043	50,540	445,644	1,697,129	11,519,118	8,170,431
46	1,156,228	1,329,854	76,742	180,058	358,838	10,357	619,483	9,220	9,920	.....	65,236	1,401,157	771,317
47	57,823	121,211	8,140	4,250	42,972	2,502	47,216	4,510	570	.....	11,051	115,538	65,820
48	4,653,922	18,303,786	91,020	112,979	669,064	72,007	16,901,498	14,193	28,996	2,400	410,729	19,320,237	2,346,732
49	1,620,682	2,066,292	60,182	144,897	193,042	19,211	1,339,324	9,545	10,320	543	289,228	2,352,006	993,471
50	2,150,012	2,075,539	100,077	109,049	485,300	21,701	991,354	28,607	13,048	2,685	323,718	2,324,950	1,311,895
51	2,363,702	3,702,550	76,548	112,524	988,422	11,634	1,627,963	61,909	524,783	980	357,787	4,153,232	2,513,635
52	19,605,825	23,886,786	928,777	953,675	3,743,069	459,634	14,641,209	590,398	214,210	74,901	2,280,913	26,639,534	11,538,691

goods, not elsewhere specified, 4; ink, printing, 7; ink, writing, 1; instruments, professional and scientific, 3; iron and steel, steel works and rolling mills, 1; iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills, 1; iron and steel forgings, 3; jewelry and instrument cases, 2; labels and tags, 1; lasts, 1; lead, bar, pipe, and sheet, 1; looking-glass and picture frames, 5; malt, 3; mineral and soda waters, 14; mirrors, 2; mucilage and paste, 3; musical instruments and materials, not specified, 3; oil, cottonseed, and cake, 1; oil, not elsewhere specified, 4; oleomargarine, 1; optical goods, 5; paper patterns, 2; pens, fountain, stylographic, and gold, 2; photo-engraving, 6; pulp goods, 1; pumps, not including steam pumps, 2; roofing materials, 3; saws, 2; scales and balances, 2; shipbuilding, including boat building, 3; shoddy, 1; signs and advertising novelties, 5; silverware and plated ware, 4; smelting and refining, not from the ore, 2; sporting and athletic goods, 1; springs, steel, car and carriage, 1; stationery goods, not elsewhere specified, 1; statuary and art goods, 4; stereotyping and electrotyping, 5; surgical appliances and artificial limbs, 8; toys and games, 3; type founding and printing materials, 4; umbrellas and canes, 3; upholstering materials, 2; vinegar and cider, 1; washing machines and clothes wringers, 4; waste, 1; window shades and fixtures, 3; wirework, including wire rope and cable, 9; wood, turned and carved, 8; wool pulling, 1.

CLEVELAND.

1	$227,397,484	$245,390,440	$6,970,282	$8,535,567	$48,052,971	$8,019,953	$146,895,070	$1,092,362	$2,701,598	$2,074,081	$21,048,556	$271,960,833	$117,045,810
2	164,862	204,828	11,255	4,520	75,984	3,599	88,367	4,434	575	.....	16,094	232,784	140,818
3	16,600,162	18,034,495	374,883	500,588	4,022,846	125,531	10,291,503	17,569	76,636	57,989	2,566,950	21,403,926	10,986,892
4	230,575	279,914	26,260	9,630	28,554	2,505	156,531	4,252	737	.....	51,445	355,069	196,033
5	466,861	857,859	29,159	55,282	225,339	8,338	501,167	8,755	1,756	.....	28,063	951,470	441,965
6	57,302	74,971	5,697	560	18,929	1,058	41,534	1,800	733	.....	4,660	96,885	54,293
7	823,648	1,070,281	39,127	28,412	265,692	12,572	614,414	16,530	4,706	.....	88,828	1,140,581	513,595
8	2,736,769	2,215,990	87,035	33,828	518,327	37,216	1,325,176	10,079	14,642	5,300	184,387	2,567,768	1,205,376
9	2,600,924	4,276,576	65,659	246,171	804,436	76,780	2,645,509	46,779	20,225	.....	370,957	4,730,649	2,008,300
10	960,836	608,999	35,060	7,583	285,688	195,283	17,223	200	5,731	.....	62,231	769,218	556,712
11	429,253	378,833	16,880	7,822	181,601	7,525	134,337	6,600	3,643	1,180	19,245	462,146	320,284
12	1,074,883	2,055,672	45,996	52,764	843,330	29,460	1,047,211	.....	8,545	.....	28,366	2,055,672	979,001
13	1,571,754	1,593,932	72,798	67,783	307,084	86,291	891,950	2,091	21,282	.....	144,653	1,865,957	887,716
14	3,318,688	5,394,031	104,806	268,699	1,095,644	23,509	3,179,261	65,696	13,822	335,989	306,605	5,953,321	2,750,551
15	4,940,583	11,837,165	391,311	734,952	2,903,174	50,425	6,446,062	122,314	16,053	275,642	897,232	12,788,775	6,292,288
16	1,294,403	2,284,974	65,314	84,337	253,380	13,457	1,539,661	24,842	7,178	.....	296,805	2,851,927	1,298,809
17	500,289	688,784	25,281	10,220	136,266	2,748	467,753	4,034	6,758	.....	35,724	708,106	237,605
18	4,781,532	2,680,118	111,679	70,868	639,659	57,779	1,570,122	12,347	14,783	21,350	181,531	2,966,476	1,338,575
19	4,097,006	2,070,762	72,180	155,657	759,362	38,180	626,552	5,888	18,724	15	394,204	2,395,436	1,730,704
20	3,308,386	3,482,087	159,476	186,536	760,159	65,788	1,714,279	42,911	18,536	3,200	531,202	4,035,808	2,255,741
21	41,609,539	32,828,725	1,582,480	1,551,933	10,484,895	760,474	14,563,335	117,641	296,683	83,984	3,387,300	37,443,039	22,119,230
22	660,051	916,679	30,730	41,935	288,072	10,433	480,309	25,094	4,307	.....	35,799	1,068,551	577,809
23	313,359	603,178	32,507	63,988	192,863	7,535	221,240	11,664	1,322	.....	72,059	653,709	424,934
24	99,620	180,919	8,830	17,618	42,921	936	101,539	4,022	210	296	4,547	198,548	96,073
25	1,894,348	2,709,814	103,080	81,667	484,818	15,100	1,797,709	34,250	5,291	27,384	160,515	2,957,248	1,144,439
26	2,148,856	272,508	20,390	4,882	84,932	81,900	21,409	8,520	20,497	.....	29,978	367,612	264,303

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.

CLEVELAND—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.
27	Iron and steel, steel works and rolling mills.	14	8,278	2	158	509	71	7,538	7,248	287	3	8,218	7,902	313	3	.....	60,575
28	Jewelry	15	124	12	7	1	2	102	93	1	8	104	95	1	8	.....	34
29	Leather goods	14	153	10	7	6	5	125	107	18	.....	135	116	19	.....	.....	84
30	Leather, tanned, curried, and finished	4	124	1	11	3	1	108	108	.....	.....	128	128	.....	.....	.....	422
31	Liquors, distilled	4	6	5	.....	.....	.....	1	1	.....	.....	2	2	.....	.....	.....	14
32	Liquors, malt	11	904	5	43	106	6	744	743	1	.....	718	717	1	.....	.....	3,395
33	Liquors, vinous	4	54	3	5	18	.....	28	28	.....	.....	35	35	.....	.....	.....	23
34	Lumber and timber products	51	1,319	22	68	64	18	1,147	1,147	.....	.....	1,233	1,233	.....	.....	.....	5,263
35	Marble and stone work	18	367	19	19	9	5	315	315	.....	.....	359	359	.....	.....	.....	789
36	Mattresses and spring beds	6	173	4	6	9	4	150	101	48	1	154	104	49	.....	1	178
37	Millinery and lace goods	6	536	4	16	30	14	472	121	336	15	507	130	361	.....	16	143
38	Models and patterns, not including paper patterns.	21	229	23	11	1	4	190	173	3	14	207	189	3	15	.....	213
39	Musical instruments, pianos and organs and materials.	3	52	.....	7	1	2	42	41	1	.....	47	46	1	.....	.....	75
40	Paint and varnish	24	1,258	5	77	320	96	760	657	102	1	736	636	99	1	.....	2,624
41	Patent medicines and compounds and druggists' preparations.	50	322	56	29	67	45	125	66	58	1	146	77	68	.....	1	66
42	Photo-engraving	3	84	1	11	7	7	58	58	.....	.....	61	61	.....	.....	.....	23
43	Printing and publishing	245	4,671	171	319	783	294	3,104	2,521	518	65	3,247	2,637	543	51	16	3,328
44	Slaughtering and meat packing	35	1,336	28	51	159	22	1,076	1,075	1	.....	1,074	1,073	1	.....	.....	2,570
45	Soap	6	57	2	6	7	1	41	38	3	.....	42	39	3	.....	.....	143
46	Stoves and furnaces, including gas and oil stoves.	20	2,097	7	46	177	24	1,843	1,828	8	7	2,075	2,059	9	7	.....	1,899
47	Tobacco manufactures	254	2,234	277	35	47	9	1,866	709	1,155	2	1,961	745	1,214	1	1	29
48	Umbrellas and canes	5	98	5	5	16	3	69	21	48	.....	66	20	46	.....	.....	12
49	Wall plaster	3	64	.....	4	3	1	56	56	.....	.....	51	51	.....	.....	.....	270
50	All other industries[1]	356	21,081	241	574	1,494	396	18,376	15,234	2,738	404	19,662	16,303	2,922	214	223	63,443

[1] All other industries embrace: Agricultural implements, 2; artificial flowers and feathers and plumes, 2; awnings, tents, and sails, 7; axle grease, 1; bags, other than paper, 2; bags, paper, 1; baking powders and yeast, 1; baskets, and rattan and willow ware, 3; belting and hose, leather, 2; belting and hose, woven and rubber, 2; bicycles, motorcycles, and parts, 3; brooms, 7; brushes, 6; butter, cheese, and condensed milk, 5; butter, reworking, 2; buttons, 2; canning and preserving, 4; carpets, rag, 5; cash registers and calculating machines, 1; clocks and watches, including cases and materials, 2; cloth, sponging and refinishing, 3; clothing, men's, buttonholes, 3; coffee and spice, roasting and grinding, 2; coffins, burial cases, and undertakers' goods, 2; cordials and sirups, 3; corsets, 1; dairymen's, poulterers', and apiarists' supplies, 1; drug grinding, 1; dyeing and finishing textiles, 1; electroplating, 9; enameling and japanning, 1; engraving and diesinking, 1; engraving, wood, 1; fancy articles, not elsewhere specified, 2; fertilizers, 1; files, 2; flavoring extracts, 8; flour-mill and gristmill products, 3; food preparations, 17; foundry supplies, 4; fur goods, 8; furnishing goods, men's, 3; galvanizing, 2; gas, illuminating and heating, 3; glass, cutting, staining, and ornamenting, 13; glue, 1; grease and tallow, 2; hair work, 3; hand stamps and stencils and brands, 10; house-furnishing goods, not elsewhere specified, 2; instruments, professional and scientific, 5; iron and steel, blast furnaces, 4; iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills, 10; iron and steel forgings, 10; iron and steel, nails and spikes, cut and wrought, including wire nails, not

COLUMBUS.

1	All industries	586	20,523	435	902	2,158	600	16,428	13,137	3,146	145	17,911	14,280	3,465	137	29	35,780
2	Artificial stone	5	36	4	5	2	.....	25	25	.....	.....	26	26	.....	.....	.....	38
3	Boots and shoes, including cut stock and findings.	8	2,791	4	47	214	47	2,479	1,423	1,049	7	2,725	1,565	1,151	6	3	845
4	Brass and bronze products	5	53	5	2	2	.....	44	43	.....	1	42	41	.....	1	.....	55
5	Bread and other bakery products	58	642	53	10	106	29	435	333	97	5	449	344	100	1	4	75
6	Brick and tile	3	37	4	1	.....	.....	32	31	.....	1	58	56	.....	2	.....	130
7	Carriages and wagons and materials	14	483	17	29	26	4	407	382	25	.....	368	345	23	.....	.....	477
8	Coffee and spice, roasting and grinding	3	264	.....	8	199	12	45	35	10	.....	48	37	11	.....	.....	65
9	Copper, tin, and sheet-iron products	6	173	4	8	16	5	140	140	.....	.....	153	153	.....	.....	.....	93
10	Flour-mill and gristmill products	4	32	6	5	1	.....	20	20	.....	.....	21	21	.....	.....	.....	815
11	Foundry and machine-shop products	58	3,745	46	167	457	63	3,012	2,949	54	9	3,220	3,153	57	10	.....	4,148
12	Furniture and refrigerators	8	422	4	25	15	4	374	333	40	1	420	374	45	1	.....	553
13	Gas and electric fixtures and lamps and reflectors.	9	373	4	12	14	9	334	164	170	.....	360	177	183	.....	.....	263
14	Ice, manufactured	5	183	.....	11	11	3	158	158	.....	.....	126	126	.....	.....	.....	1,784
15	Leather goods	11	200	13	12	41	6	128	105	21	2	122	100	20	1	1	127
16	Liquors, malt	4	561	.....	28	54	6	473	473	.....	.....	462	462	.....	.....	.....	3,045
17	Lumber and timber products	27	530	20	32	38	6	434	433	.....	1	470	469	.....	1	.....	1,808
18	Marble and stone work	6	90	5	7	8	.....	70	70	.....	.....	77	77	.....	.....	.....	445
19	Models and patterns, not including paper patterns.	8	49	10	2	1	2	34	34	.....	.....	42	42	.....	.....	.....	58
20	Paint and varnish	5	119	1	15	33	15	55	49	6	.....	53	47	6	.....	.....	141
21	Patent medicines and compounds and druggists' preparations.	13	281	11	16	56	58	140	88	52	.....	118	75	43	.....	.....	285
22	Printing and publishing	91	1,433	71	91	263	107	901	678	211	12	944	711	221	8	4	879
23	Slaughtering and meat packing	6	166	5	5	22	4	130	129	1	.....	133	132	1	.....	.....	365
24	Stoves and furnaces, including gas and oil stoves.	10	360	4	23	28	11	294	288	6	.....	320	314	6	.....	.....	377
25	Tobacco manufactures	35	273	37	10	7	1	223	54	166	3	247	60	184	3	.....	.....
26	All other industries[1]	184	7,222	107	322	544	208	6,041	4,700	1,238	103	6,907	5,373	1,414	103	17	18,909

[1] All other industries embrace: Agricultural implements, 2; automobiles, including bodies and parts, 7; awnings, tents, and sails, 2; axle grease, 1; babbitt metal and solder, 1; baking powders and yeast, 1; baskets, and rattan and willow ware, 1; blacking and cleansing and polishing preparations, 1; boxes, cigar, 1; boxes, fancy and paper, 2; brooms, 9; butter, cheese, and condensed milk, 2; canning and preserving, 1; carpets and rugs, other than rag, 1; carpets, rag, 3; cars and general shop construction and repairs by steam-railroad companies, 2; cars and general shop construction and repairs by street-railroad companies, 2; cash registers and calculating machines, 1; chemicals, 1; clothing, men's, including shirts, 3; clothing, women's, 1; coffins, burial cases, and undertakers' goods, 4; confectionery, 7; cooperage and wooden goods, not elsewhere specified, 2; corsets, 1; cutlery and tools, not elsewhere specified, 3; dentists' materials, 1; dyeing and finishing textiles, 1; electrical machinery, apparatus, and supplies, 2; electroplating, 3; fertilizers, 1; files, 1; flags, banners, regalia, society badges, and emblems, 3; flavoring extracts, 2; food preparations, 6; fur goods, 1; furnishing goods, men's, 4; gas, illuminating and heating, 2; glass, 1; glass, cutting, staining, and ornamenting, 3; gloves and mittens, leather, 2; glucose and starch, 1; hair work, 1; hand stamps and stencils and brands, 1; hats and caps, other than felt, straw, and wool, 2; house-furnishing goods, not elsewhere specified, 1; instruments, professional

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.

CLEVELAND—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.		
27	$25,086,577	$35,672,910	$342,794	$505,773	$5,149,604	$1,349,590	$26,689,426	.....	$137,475	$22,356	$1,475,892	$38,463,316	$10,424,300
28	114,827	152,008	9,792	1,800	65,973	1,462	60,558	$6,453	387	.....	5,583	207,897	145,877
29	154,162	247,992	10,000	6,706	67,737	2,345	131,121	8,156	1,042	.....	20,885	270,537	137,071
30	385,757	592,158	14,750	3,420	69,155	7,866	460,296	600	2,289	.....	33,782	636,153	167,991
31	4,140	11,394	.....	.....	556	154	5,401	60	4,935	.....	288	14,341	8,786
32	9,887,715	4,297,248	222,690	135,255	593,579	113,778	1,370,365	240	1,045,746	66,300	749,295	5,124,478	3,640,335
33	194,150	195,410	7,600	10,500	17,450	996	134,550	732	2,760	.....	20,822	206,060	70,514
34	2,380,092	3,834,222	106,169	66,211	698,767	27,772	2,704,637	42,420	16,146	6,240	165,860	4,021,326	1,288,917
35	408,909	445,763	23,477	10,778	191,655	8,421	188,623	1,908	3,276	.....	17,625	467,892	270,848
36	208,664	332,977	10,620	7,403	70,824	3,688	203,920	5,904	1,634	3,177	25,807	365,067	157,459
37	458,565	1,033,104	46,464	36,750	189,979	6,276	720,185	9,570	1,704	.....	22,176	1,206,250	479,789
38	94,584	206,320	14,460	3,195	123,124	2,884	47,835	6,995	364	.....	7,463	251,264	200,545
39	125,623	88,834	7,870	5,130	31,869	886	28,342	1,600	1,466	.....	11,671	93,059	63,831
40	5,393,459	5,884,987	269,314	435,134	468,471	39,685	3,849,293	11,917	27,708	.....	783,465	6,138,466	2,249,488
41	429,277	855,813	44,996	78,735	62,188	3,171	312,769	15,246	3,009	348	335,351	1,010,113	694,173
42	47,966	132,040	20,071	8,936	49,708	2,000	34,401	2,820	103	.....	13,911	143,674	107,183
43	6,944,331	8,378,501	657,426	847,365	2,008,507	81,832	2,698,240	167,017	43,053	429,482	1,445,579	9,634,683	6,854,611
44	3,555,435	16,736,382	106,807	152,638	599,489	73,334	15,325,328	5,880	25,609	1,700	445,447	17,192,048	1,793,386
45	108,122	204,926	7,600	8,890	26,445	5,708	142,760	1,056	1,359	.....	11,108	213,681	65,213
46	4,002,596	4,411,744	103,101	178,025	1,155,072	43,068	2,243,138	6,988	23,193	76,000	583,159	4,977,096	2,690,890
47	926,161	2,476,999	70,509	64,867	734,229	5,661	1,040,843	32,691	306,643	30	221,526	2,709,129	1,722,625
48	114,079	219,210	9,614	16,895	25,459	334	142,548	2,949	449	.....	20,962	253,049	110,167
49	111,500	186,351	7,088	4,469	31,528	2,913	120,427	5,660	1,317	4,615	8,334	204,591	81,251
50	69,486,304	61,191,053	1,339,107	1,658,457	9,017,648	4,521,617	37,755,851	157,188	466,496	651,504	4,723,185	67,075,982	24,798,514

made in steel works or rolling mills, 2; labels and tags, 1; lead, bar, pipe, and sheet, 1; looking-glass and picture frames, 3; malt, 1; mineral and soda waters, 25; mirrors, 1; mucilage and paste, 2; musical instruments and materials, not specified, 2; needles, pins, and hooks and eyes, 1; oil, linseed, 1; oil, not elsewhere specified, 10; optical goods, 7; paper and wood pulp, 2; paper goods, not elsewhere specified, 3; paving materials, 1; pens, fountain, stylographic, and gold, 1; petroleum, refining, 2; photographic apparatus and materials, 1; pottery, terra-cotta, and fire-clay products, 3; pumps, not including steam pumps, 2; rubber goods, not elsewhere specified, 2; rules, ivory and wood, 1; safes and vaults, 1; salt, 1; screws, machine, 1; sewing machines, cases, and attachments, 3; shipbuilding, including boat building, 4; shoddy, 3; show cases, 3; signs and advertising novelties, 3; silverware and plated ware, 1; smelting and refining, not from the ore, 2; soda-water apparatus, 1; sporting and athletic goods, 1; springs, steel, car and carriage, 2; stationery goods, not elsewhere specified, 2; statuary and art goods, 3; stereotyping and electrotyping, 3; surgical appliances and artificial limbs, 5; tin plate and terneplate, 1; toys and games, 3; type founding and printing materials, 1; typewriters and supplies, 4; vinegar and cider, 2; wall paper, 1; washing machines and clothes wringers, 1; window shades and fixtures, 2; wire, 1; wirework, including wire rope and cable, 17; wood, turned and carved, 4; woolen, worsted, and felt goods, and wool hats, 3.

COLUMBUS.

1	$48,747,055	$44,139,253	$1,658,387	$2,122,453	$8,892,420	$899,561	$24,304,249	$262,778	$787,396	$328,909	$4,883,100	$49,031,872	$23,828,062
2	37,820	49,511	3,880	720	16,588	544	22,795	560	506	2,500	1,418	56,719	33,380
3	3,181,006	4,984,078	105,633	281,227	1,075,993	20,560	3,203,427	19,382	18,526	.....	259,330	5,435,709	2,211,722
4	76,216	107,112	5,200	1,800	27,978	1,498	63,760	380	568	.....	5,928	123,656	58,398
5	1,607,788	1,588,102	45,861	98,930	222,112	29,140	1,062,497	8,853	8,887	.....	111,822	1,765,227	673,590
6	28,307	21,580	980	.....	13,890	5,095	115	230	216	.....	1,054	35,400	30,190
7	713,901	983,053	52,281	27,384	216,721	5,616	599,839	3,600	5,592	.....	72,020	1,077,805	472,350
8	198,045	548,718	18,615	123,168	19,229	867	328,262	1,400	1,560	.....	55,617	604,054	274,925
9	250,573	589,217	14,900	18,534	70,586	1,531	470,757	3,780	1,925	.....	7,204	700,099	227,811
10	239,150	363,558	7,200	614	15,168	3,817	292,700	600	4,509	.....	38,950	384,213	87,696
11	9,656,325	7,177,732	346,126	389,172	1,840,900	110,564	3,354,654	15,193	64,990	50,550	1,005,583	7,743,744	4,278,526
12	487,055	712,368	34,152	27,184	188,660	6,686	398,138	6,015	3,633	724	47,176	746,931	342,107
13	572,918	602,992	21,059	16,897	141,222	3,911	367,071	4,134	1,548	1,816	45,834	770,215	399,233
14	675,789	208,165	11,920	9,227	90,806	38,175	29,373	168	4,306	.....	24,190	252,888	185,340
15	583,982	534,516	19,544	23,854	74,012	3,324	349,564	10,640	5,389	.....	48,189	560,213	207,325
16	10,633,893	2,475,244	86,233	59,663	371,403	70,814	547,861	.....	428,517	.....	910,753	2,728,143	2,109,468
17	935,895	1,172,117	52,561	32,504	263,934	9,608	747,931	9,998	7,216	5,940	42,425	1,239,540	482,001
18	236,113	137,757	7,220	5,049	47,263	3,488	71,139	1,500	1,175	.....	923	168,928	94,301
19	48,374	41,532	2,000	1,250	22,761	461	10,247	1,104	204	50	3,455	70,059	59,351
20	413,480	517,942	34,300	33,214	27,826	3,512	342,135	1,656	5,780	.....	69,519	601,623	255,976
21	730,445	827,206	30,351	64,717	61,043	3,360	235,760	6,326	9,654	.....	415,995	946,406	707,286
22	1,823,120	2,179,101	151,461	265,966	591,661	25,007	663,612	68,663	9,650	134,124	268,957	2,660,202	1,971,583
23	636,469	2,164,319	7,200	22,220	101,292	15,284	1,948,516	.....	2,393	360	67,054	2,354,447	390,647
24	707,124	674,013	39,880	24,805	173,089	6,081	304,316	3,396	5,406	15,149	101,891	722,354	411,957
25	150,152	393,297	10,220	10,734	81,203	650	154,401	4,681	99,180	21,692	10,536	436,156	281,105
26	14,123,115	15,086,023	549,610	583,620	3,137,080	529,968	8,735,379	90,519	96,066	96,504	1,267,277	16,847,141	7,581,794

and scientific, 2; iron and steel, blast furnaces, 1; iron and steel, steel works and rolling mills, 2; iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills, 3; iron and steel forgings, 5; jewelry, 1; leather, tanned, curried, and finished, 2; looking-glass and picture frames, 1; mattresses and spring beds, 2; millinery and lace goods, 5; mineral and soda waters, 3; mirrors, 1; mucilage and paste, 3; musical instruments and materials, not specified, 1; musical instruments, pianos and organs and materials, 1; oil, not elsewhere specified, 1; oilcloth and linoleum, 1; oleomargarine, 1; optical goods, 2; paper goods, not elsewhere specified, 2; photographic apparatus and materials, 2; photo-engraving, 2; pumps, not including steam pumps, 2; roofing materials, 1; saws, 2; show cases, 4; signs and advertising novelties, 2; soap, 5; stationery goods, not elsewhere specified, 2; stereotyping and electrotyping, 2; surgical appliances and artificial limbs, 2; umbrellas and canes, 1; wall plaster, 3; washing machines and clothes wringers, 3; window shades and fixtures, 1; wirework, including wire rope and cable, 6; wood, turned and carved, 2; woolen, worsted, and felt goods, and wool hats, 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.

DAYTON.

	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**	513	24,740	416	860	1,528	387	21,549	17,876	3,572	101	23,605	19,611	3,882	40	72	31,501
2	Boxes, cigar	3	97	4	2	4	1	86	25	51	10	95	28	56	4	7	358
3	Boxes, fancy and paper	5	594	.....	19	21	14	540	189	336	15	564	198	351	.....	15	376
4	Brass and bronze products	7	246	7	12	15	2	210	208	2	.....	254	251	3	.....	.....	340
5	Bread and other bakery products	65	519	74	12	62	21	350	257	91	2	384	282	100	2	.....	401
6	Brick and tile	4	31	5	1	.....	.....	25	25	.....	.....	42	42	.....	.....	.....	165
7	Carriages and wagons and materials	17	425	18	20	11	2	374	371	3	.....	377	374	3	.....	.....	697
8	Clothing, men's, including shirts	4	237	4	9	22	6	196	11	174	11	211	12	187	.....	12	125
9	Coffee and spice, roasting and grinding	5	271	3	14	94	24	136	52	84	.....	138	53	85	.....	.....	304
10	Confectionery	11	176	12	4	9	9	142	46	80	16	182	59	102	.....	21	50
11	Copper, tin, and sheet-iron products	11	98	14	5	5	11	63	63	.....	.....	69	69	.....	.....	.....	50
12	Cutlery and tools, not elsewhere specified	4	50	2	3	1	4	40	40	.....	.....	51	51	.....	.....	.....	50
13	Electrical machinery, apparatus, and supplies.	7	134	3	12	5	10	104	97	7	.....	107	100	7	.....	.....	334
14	Flour-mill and gristmill products	6	65	8	6	8	2	41	41	.....	.....	40	40	.....	.....	.....	383
15	Foundry and machine-shop products	69	4,136	34	170	294	53	3,585	3,474	104	7	4,130	4,000	121	3	6	5,676
16	Furniture and refrigerators	10	491	5	30	24	9	423	410	7	6	450	437	7	6	.....	795
17	Liquors, malt	3	275	.....	21	30	3	221	221	.....	.....	193	193	.....	.....	.....	2,365
18	Lumber and timber products	11	580	9	24	28	7	512	511	.....	1	561	560	.....	1	.....	1,650
19	Marble and stone work	6	52	9	.....	2	.....	41	41	.....	.....	44	44	.....	.....	.....	80
20	Mattresses and spring beds	3	14	4	.....	.....	.....	10	8	2	.....	10	8	2	.....	.....	100
21	Models and patterns, not including paper patterns.	5	38	7	.....	.....	.....	31	31	.....	.....	32	32	.....	.....	.....	44
22	Patent medicines and compounds and druggists' preparations.	11	86	7	16	13	7	43	25	18	.....	26	15	11	.....	.....	35
23	Printing and publishing	45	937	39	55	153	60	630	498	128	4	686	542	140	4	.....	1,078
24	Slaughtering and meat packing	10	299	8	11	35	.....	245	245	.....	.....	247	247	.....	.....	.....	484
25	Soap	6	228	3	21	57	8	139	97	37	5	141	98	38	5	.....	232
26	Tobacco manufactures	56	1,544	56	32	23	5	1,428	173	1,255	.....	1,560	189	1,371	.....	.....	52
27	All other industries [1]	129	13,117	81	361	612	129	11,934	10,717	1,193	24	13,011	11,687	1,298	15	11	15,368

[1] All other industries embrace: Agricultural implements, 2; artificial stone, 7; automobiles, including bodies and parts, 6; awnings, tents, and sails, 2; baskets, and rattan and willow ware, 2; blacking and cleansing and polishing preparations, 1; brooms, 8; brushes, 1; butter, cheese, and condensed milk, 1; buttons, 1; canning and preserving, 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, 2; cars, steam-railroad, not including operations of railroad companies, 1; cash registers and calculating machines, 3; cooperage and wooden goods, not elsewhere specified, 2; electroplating, 1; emery and other abrasive wheels, 1; fertilizers, 1; files, 1; flavoring extracts, 3; fur goods, 1; furnishing goods, men's, 2; gas and electric fixtures and lamps and reflectors, 1; gas, illuminating and heating, 1; glass, cutting, staining, and ornamenting, 2; grease and tallow, 1; hand stamps and stencils and brands, 2; house-furnishing goods, not elsewhere specified, 1; ice, manufactured, 2; instruments, professional and scientific, 2; iron and steel, steel works and rolling mills, 1; jewelry, 2;

TOLEDO.

1	**All industries**	760	22,900	665	854	1,897	606	18,878	15,279	3,327	272	22,381	18,148	3,893	168	172	43,948
2	Boxes, fancy and paper	5	111	2	8	3	1	97	34	62	1	99	35	63	1	.....	78
3	Brass and bronze products	6	35	10	2	.....	1	22	20	2	.....	23	21	2	.....	.....	68
4	Bread and other bakery products	88	633	96	12	35	22	468	338	126	4	480	347	129	2	2	314
5	Brick and tile	8	191	2	10	5	2	172	164	.....	8	194	185	.....	9	.....	675
6	Carriages and wagons and materials	16	602	11	38	26	13	514	512	2	.....	448	446	2	.....	.....	1,283
7	Cars and general shop construction and repairs by steam-railroad companies.	4	1,330	.....	28	103	1	1,198	1,198	.....	.....	1,140	1,140	.....	.....	.....	935
8	Clothing, women's	13	1,282	16	20	81	15	1,150	298	826	26	1,242	322	892	.....	28	155
9	Confectionery	12	197	14	8	22	7	146	39	101	6	197	53	136	.....	8	105
10	Cooperage and wooden goods, not elsewhere specified.	10	134	10	2	4	2	116	107	9	.....	135	125	10	.....	.....	145
11	Copper, tin, and sheet-iron products	37	675	37	24	41	26	547	407	139	1	648	482	165	1	.....	265
12	Electrical machinery, apparatus, and supplies.	7	483	1	19	37	10	416	158	258	.....	413	157	256	.....	.....	248
13	Flour-mill and gristmill products	7	257	3	18	27	5	204	204	.....	.....	224	224	.....	.....	.....	3,510
14	Foundry and machine-shop products	75	3,768	50	172	297	58	3,191	3,166	22	3	3,809	3,780	26	3	.....	6,931
15	Furniture and refrigerators	23	674	18	29	30	17	580	552	14	14	625	597	14	14	.....	884
16	Leather goods	4	104	3	4	7	2	88	75	13	.....	88	75	13	.....	.....	36
17	Liquors, malt	4	365	.....	16	34	3	312	311	1	.....	314	313	1	.....	.....	1,631
18	Lumber and timber products	28	689	21	38	37	8	585	584	1	.....	669	668	1	.....	.....	2,480
19	Marble and stone work	6	89	5	9	9	4	62	61	1	.....	68	67	1	.....	.....	142
20	Models and patterns, not including paper patterns.	7	26	10	.....	.....	.....	16	16	.....	.....	18	18	.....	.....	.....	29
21	Paint and varnish	5	61	4	7	13	3	34	30	4	.....	32	28	4	.....	.....	150
22	Patent medicines and compounds and druggists' preparations.	51	169	50	12	22	9	76	42	31	3	78	43	32	3	.....	154
23	Petroleum, refining	3	331	.....	16	41	4	270	270	.....	.....	294	294	.....	.....	.....	540
24	Printing and publishing	72	1,219	60	85	238	73	763	584	163	16	807	618	172	14	3	866
25	Slaughtering and meat packing	11	40	10	.....	1	2	27	27	.....	.....	27	27	.....	.....	.....	60
26	Tobacco manufactures	48	593	51	7	44	5	486	152	334	.....	500	156	344	.....	.....	395
27	Wall plaster	6	66	.....	13	5	3	45	45	.....	.....	38	38	.....	.....	.....	380
28	All other industries [1]	204	8,776	181	257	735	310	7,293	5,885	1,218	190	9,771	7,889	1,630	121	131	21,487

[1] All other industries embrace: Artificial stone, 10; automobiles, including bodies and parts, 5; awnings, tents, and sails, 3; bags, paper, 1; belting and hose, leather, 2; bicycles, motorcycles, and parts, 1; billiard tables and materials, 2; blacking and cleansing and polishing preparations, 5; bluing, 1; boxes, cigar, 2; brooms, 4; brushes, 4; butter, reworking, 1; canning and preserving, 1; carpets, rag, 4; carriages and sleds, children's, 3; cars and general shop construction and repairs by street-railroad companies, 1; chemicals, 1; clothing, men's, including shirts, 6; coffee and spice, roasting and grinding, 6; cordage and twine and jute and linen goods, 1; corsets, 2; cutlery and tools, not elsewhere specified, 3; dairymen's, poulterers', and apiarists' supplies, 2; dyeing and finishing textiles, 1; electroplating, 2; engraving, wood, 1; fancy articles, not elsewhere specified, 2; firearms and ammunition, 1; fire extinguishers, chemical, 1; flavoring extracts, 4; food preparations, 4; fur goods, 4; furnishing goods, men's, 5; gas and electric fixtures and lamps and reflectors, 3; gas, illuminating and heating, 2; glass, 2; glass, cutting, staining, and ornamenting, 3; gloves and mittens, leather, 1; grease and tallow, 1; hand stamps and stencils and brands, 3; hats and caps, other than felt, straw, and wool, 2; hosiery and knit goods, 3; house-furnishing goods, not

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.

DAYTON.

	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	$61,315,917	$53,591,808	$2,051,115	$1,520,806	$12,450,608	$717,382	$26,810,436	$205,288	$678,288	$68,214	$9,089,671	$60,378,376	$32,850,558
2	74,966	80,201	1,560	3,420	22,749	913	45,669	1,200	386	.....	4,304	85,168	38,586
3	880,903	836,866	42,656	22,626	195,515	6,092	479,585	5,765	5,415	.....	79,212	931,871	446,194
4	493,762	447,956	26,250	21,249	145,048	7,464	205,863	1,345	4,476	.....	36,261	480,630	267,303
5	719,288	1,277,480	23,600	62,152	187,007	24,555	924,478	13,166	7,300	.....	35,222	1,531,019	581,986
6	27,300	17,778	810	.....	10,565	3,975	450	.....	153	.....	1,825	25,950	21,525
7	676,691	682,064	39,186	12,586	202,792	9,717	337,471	6,542	5,028	.....	68,742	801,968	454,780
8	211,365	331,907	7,890	18,472	71,272	1,578	207,819	2,725	1,496	.....	20,655	353,607	144,210
9	1,164,519	2,022,984	45,090	98,112	72,854	7,643	1,599,165	5,380	5,831	.....	188,909	2,244,959	638,151
10	104,452	280,918	4,100	7,000	51,224	3,420	192,956	6,590	781	3,850	10,997	339,239	142,863
11	77,407	148,739	3,398	1,660	44,207	649	87,357	2,604	1,052	.....	7,812	177,869	89,863
12	51,310	44,771	4,200	2,350	21,385	1,105	6,219	600	531	.....	8,381	61,940	54,616
13	231,702	191,503	19,920	8,609	48,629	3,522	86,235	3,408	511	500	20,169	234,969	145,212
14	265,965	621,588	16,500	8,934	27,889	5,210	542,447	360	2,876	.....	17,372	668,541	120,884
15	9,530,033	6,080,801	308,360	274,626	2,033,259	154,092	2,646,397	33,734	45,493	8,554	576,286	6,777,823	3,977,334
16	1,086,619	661,712	36,748	24,947	200,125	10,725	276,451	3,172	4,749	1,349	103,446	743,740	456,564
17	5,749,904	888,941	50,353	37,987	148,418	51,231	209,696	1,274	194,607	.....	195,375	1,218,394	957,467
18	1,107,551	1,338,104	41,696	27,759	324,561	11,307	866,485	1,840	5,396	8,753	50,307	1,417,044	539,252
19	59,335	83,722	.....	3,436	32,797	734	38,340	1,455	190	1,500	5,270	94,620	55,546
20	18,700	34,675	.....	.....	7,780	352	23,984	600	188	.....	1,771	41,248	16,912
21	9,635	26,324	.....	.....	19,656	40	5,200	1,244	35	.....	149	35,200	29,960
22	101,441	144,620	32,669	14,646	10,191	816	50,388	4,076	367	.....	31,467	183,371	132,167
23	1,198,168	1,258,852	125,096	129,960	385,701	17,484	422,083	20,747	8,630	34,396	114,755	1,552,151	1,112,584
24	1,048,287	2,925,251	14,808	36,968	145,216	20,309	2,615,466	.....	3,809	.....	88,675	3,170,916	535,141
25	1,076,916	1,082,018	41,188	60,187	51,275	8,246	762,581	1,200	5,531	.....	151,810	1,305,738	534,911
26	699,909	1,770,479	40,455	32,775	486,916	2,881	828,447	14,785	211,519	.....	152,701	1,892,529	1,061,201
27	34,649,789	30,311,554	1,124,582	610,345	7,503,577	363,322	13,349,204	71,476	161,938	9,312	7,117,798	34,007,872	20,295,346

labels and tags, 2; lasts, 1; leather goods, 3; millinery and lace goods, 2; mineral and soda waters, 4; mirrors, 1; mucilage and paste, 2; musical instruments, pianos and organs and materials, 1; paint and varnish, 6; paper and wood pulp, 2; paper goods, not elsewhere specified, 2; peanuts, grading, roasting, cleaning, and shelling, 1; pottery, terra-cotta, and fire-clay products, 1; pulp goods, 1; pumps, not including steam pumps, 1; roofing materials, 1; rubber goods, not elsewhere specified, 2; saws, 1; scales and balances, 2; screws, machine, 1; screws, wood, 1; sewing machines, cases, and attachments, 1; signs and advertising novelties, 2; stationery goods, not elsewhere specified, 3; stoves and furnaces, including gas and oil stoves, 4; toys and games, 2; umbrellas and canes, 1; upholstering materials, 1; vault lights and ventilators, 1; wall plaster, 2; washing machines and clothes wringers, 2; wirework, including wire rope and cable, 2; wood, turned and carved, 2.

TOLEDO.

1	$58,318,902	$54,560,292	$1,638,366	$1,993,243	$9,910,729	$1,748,786	$32,334,801	$295,283	$1,115,429	$278,056	$5,245,599	$61,229,542	$27,145,955
2	85,650	103,975	8,633	3,500	25,630	1,530	56,859	2,580	201	.....	5,042	103,097	44,708
3	43,033	47,302	1,560	520	12,623	1,618	26,689	780	464	757	2,291	52,218	23,911
4	663,393	1,444,709	21,080	43,419	260,222	40,479	918,253	19,993	5,112	35	136,116	1,597,955	639,223
5	232,536	152,867	10,460	3,830	80,213	33,527	1,918	1,650	2,524	1,000	17,745	177,088	141,643
6	2,369,889	1,066,678	61,752	42,883	257,048	18,821	590,255	6,115	13,848	.....	75,956	1,317,140	708,064
7	533,701	1,427,301	31,080	84,066	633,646	17,813	656,616	.....	2,580	.....	1,500	1,427,302	752,873
8	788,049	2,165,428	54,320	122,088	491,731	7,941	1,367,509	26,225	2,291	.....	93,323	2,323,418	947,968
9	119,095	343,062	13,060	18,906	50,639	4,098	230,549	6,212	473	3	19,122	410,786	176,139
10	132,682	171,848	3,200	3,200	52,405	2,073	103,972	423	929	.....	5,646	194,962	88,917
11	3,556,574	1,153,753	44,856	40,588	282,356	10,772	638,534	8,616	5,034	50	122,947	1,303,243	653,937
12	721,745	635,040	27,283	27,840	168,311	7,494	281,519	2,689	3,243	.....	116,661	932,223	643,210
13	2,484,964	5,315,759	53,685	30,305	140,470	30,953	4,900,076	.....	10,728	.....	149,542	5,662,191	731,162
14	8,955,532	6,462,587	285,430	335,739	1,904,954	155,575	3,005,491	30,937	52,850	16,996	674,615	7,023,984	3,862,918
15	1,069,131	1,048,507	51,794	34,272	302,645	13,165	531,863	12,053	9,294	22,409	71,012	1,128,257	583,229
16	78,875	135,153	4,400	6,225	34,640	1,079	76,428	1,184	692	.....	10,505	139,128	61,621
17	7,107,725	1,529,989	49,598	41,976	250,031	42,356	409,499	.....	349,770	.....	386,759	1,887,344	1,435,489
18	1,432,732	1,615,155	61,525	34,203	286,360	9,499	1,101,839	13,439	12,042	6,000	90,248	1,792,802	681,464
19	187,516	179,465	13,000	8,790	42,775	1,702	105,839	310	818	.....	6,231	216,658	109,117
20	15,010	15,368	.....	.....	8,600	423	4,785	1,063	71	.....	426	23,622	18,414
21	271,268	230,435	9,960	11,692	19,651	2,684	155,550	2,440	662	.....	27,796	252,194	93,960
22	311,570	393,019	19,609	23,027	36,034	2,515	146,242	8,189	1,369	558	155,476	539,822	391,065
23	2,636,194	2,252,287	62,750	40,450	156,551	150,434	1,694,687	.....	13,608	.....	133,807	2,431,170	586,049
24	1,550,679	1,717,993	152,241	200,524	480,148	23,987	499,407	43,662	6,615	27,116	284,293	2,004,384	1,480,940
25	68,200	326,570	.....	2,050	19,016	1,856	292,296	1,220	748	3,290	6,094	375,743	81,501
26	541,469	1,784,797	21,299	38,535	145,505	3,668	791,678	14,740	496,024	.....	273,348	2,129,436	1,334,090
27	113,828	193,451	13,280	4,402	25,496	6,172	124,085	2,092	802	.....	17,122	220,752	90,495
28	22,247,862	22,647,794	562,511	790,213	3,743,029	1,156,552	13,622,363	88,671	122,637	199,842	2,361,976	25,562,673	10,783,758

elsewhere specified, 1; ice, manufactured, 3; instruments, professional and scientific, 1; iron and steel, blast furnaces, 1; iron and steel, steel works and rolling mills, 2; iron and steel forgings, 1; iron and steel pipe, wrought, 1; jewelry, 1; liquors, vinous, 1; looking-glass and picture frames, 3; mattresses and spring beds, 1; millinery and lace goods, 4; mineral and soda waters, 5; mirrors, 3; mucilage and paste, 2; oil, linseed, 3; oil, not elsewhere specified, 2; optical goods, 3; paper and wood pulp, 1; paving materials, 1; peanuts, grading, roasting, cleaning, and shelling, 1; pens, fountain, stylographic, and gold, 5; photo-engraving, 3; pottery, terra-cotta, and fire-clay products, 1; rubber goods, not elsewhere specified, 2; safes and vaults, 1; saws, 1; scales and balances, 1; shipbuilding, including boat building, 9; show cases, 1; signs and advertising novelties, 2; soap, 1; sporting and athletic goods, 3; springs, steel, car and carriage, 1; stereotyping and electrotyping, 1; stoves and furnaces, including gas and oil stoves, 2; surgical appliances and artificial limbs, 4; toys and games, 2; umbrellas and canes, 1; upholstering materials, 1; wheelbarrows, 1; wirework, including wire rope and cable, 2; wood, turned and carved, 2.

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.

YOUNGSTOWN.

	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 horse-power.
1	**All industries**	115	11,851	94	255	833	171	10,498	10,214	272	12	12,524	12,178	334	10	2	140,907
2	Bread and other bakery products	22	100	27	.....	.....	8	65	58	3	4	67	60	3	2	2	23
3	Carriages and wagons and materials	3	74	2	3	4	1	64	63	1	.....	69	68	1	.....	.....	88
4	Foundry and machine-shop products	15	1,453	4	60	170	66	1,153	1,148	5	.....	1,518	1,512	6	.....	.....	2,674
5	Iron and steel, steel works and rolling mills	7	7,128	.....	95	356	27	6,650	6,650	.....	.....	7,776	7,776	.....	.....	.....	75,530
6	Lumber and timber products	8	232	7	14	7	5	199	199	.....	.....	178	178	.....	.....	.....	615
7	Printing and publishing	13	251	9	13	48	17	164	136	21	7	169	140	22	7	.....	188
8	Tobacco manufactures	6	39	7	1	1	.....	30	16	14	.....	38	20	18	.....	.....	.....
9	All other industries [1]	41	2,574	38	69	247	47	2,173	1,944	228	1	2,709	2,424	284	1	.....	61,789

[1] All other industries embrace: Artificial stone, 3; awnings, tents, and sails, 1; brass and bronze products, 1; butter, cheese, and condensed milk, 1; carpets, rag, 1; cars, steam-railroad, not including operations of railroad companies, 1; clothing, men's, including shirts, 1; coffee and spice, roasting and grinding, 1; dentists' materials, 1; electrical machinery, apparatus, and supplies, 1; electroplating, 1; flour-mill and gristmill products, 2; food preparations, 2; gas and electric fixtures and lamps and

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

1	ALLIANCE	44	3,026	35	71	238	108	2,524	2,385	131	8	2,890	2,731	149	3	7	3,453
2	ASHTABULA	44	1,601	31	49	31	19	1,471	1,334	128	9	1,563	1,417	136	9	1	2,379
3	BELLAIRE	36	2,846	44	65	103	37	2,597	2,301	254	42	3,245	2,874	319	28	24	17,790
4	CAMBRIDGE	32	1,406	30	28	102	16	1,230	1,174	56	.....	1,599	1,526	73	.....	.....	5,055
5	CHILLICOTHE	57	1,872	59	43	74	22	1,674	1,157	517	.....	2,072	1,432	640	.....	.....	3,558
6	EAST LIVERPOOL	82	5,254	49	143	136	53	4,873	3,587	1,218	68	5,216	3,841	1,302	40	33	5,528
7	ELYRIA	58	3,117	30	100	226	88	2,673	2,357	289	27	2,929	2,583	317	15	14	9,058
8	FINDLAY	74	1,623	67	55	85	40	1,376	921	454	1	1,513	1,012	500	1	.....	2,574
9	HAMILTON	125	7,770	81	191	451	152	6,895	6,047	752	96	7,394	6,489	804	59	42	22,563
10	IRONTON	63	2,119	51	72	43	33	1,920	1,647	269	4	2,083	1,788	291	.....	4	15,548
11	LANCASTER	42	1,657	48	33	33	11	1,532	1,118	412	2	1,664	1,214	448	1	1	2,453
12	LIMA	85	3,899	79	67	116	30	3,607	2,474	1,082	51	3,946	2,706	1,185	55	.....	3,264
13	LORAIN	57	7,347	36	155	398	61	6,697	6,674	20	3	8,014	7,987	24	3	.....	208,992
14	MANSFIELD	121	3,901	120	142	338	97	3,204	2,201	984	19	3,360	2,307	1,033	16	4	5,077
15	MARIETTA	66	1,549	59	66	103	33	1,288	1,181	106	1	1,423	1,305	117	1	.....	2,742
16	MARION	55	3,028	40	79	248	42	2,619	2,344	272	3	3,202	2,866	332	.....	4	3,686
17	MASSILLON	56	2,193	37	91	102	29	1,934	1,826	87	21	2,330	2,199	105	25	1	4,730
18	MIDDLETOWN	41	2,992	22	93	228	73	2,576	1,805	769	2	2,752	1,928	822	.....	2	9,304
19	NEWARK	72	4,282	63	82	148	76	3,913	3,576	286	51	4,096	3,743	299	52	2	8,630
20	NORWOOD	49	4,445	31	95	286	126	3,907	3,215	684	8	4,114	3,384	722	.....	8	6,381
21	PIQUA	82	3,073	74	95	170	51	2,683	1,913	751	19	2,984	2,128	834	6	16	5,062
22	PORTSMOUTH	75	4,319	54	164	241	132	3,728	2,237	1,390	101	4,234	2,539	1,579	45	71	4,028
23	SANDUSKY	91	2,518	59	133	148	60	2,118	1,608	466	44	2,487	1,886	548	15	38	4,856
24	SPRINGFIELD	195	8,634	161	283	561	224	7,405	6,616	777	12	7,997	7,145	839	10	3	10,179
25	STEUBENVILLE	55	4,638	55	116	164	36	4,267	4,045	196	26	4,600	4,363	210	19	8	37,748
26	TIFFIN	75	1,970	78	60	142	58	1,632	1,289	278	65	1,883	1,489	319	46	29	3,257
27	WARREN	68	2,174	41	98	163	74	1,798	1,190	547	61	2,197	1,455	668	3	71	5,530
28	ZANESVILLE	109	3,586	95	76	211	54	3,150	2,800	325	25	3,569	3,173	367	26	3	8,783

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.

YOUNGSTOWN.

	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	$87,160,357	$74,806,867	$660,173	$932,588	$7,834,685	$6,963,880	$55,328,094	$24,773	$476,206	$23,212	$2,563,256		$81,270,747	$18,978,773
2	89,829	182,256	.....	2,736	38,148	4,036	128,799	4,314	1,211	.....	3,012		249,237	116,402
3	113,041	137,261	6,200	6,500	39,970	1,334	64,700	480	1,333	.....	16,744		145,600	79,566
4	5,822,456	4,301,873	146,151	192,094	800,296	58,716	2,643,724	2,038	28,886	.....	429,968		4,865,305	2,162,865
5	50,515,874	47,317,691	298,848	370,709	5,204,351	1,751,460	38,217,155	.....	168,279	.....	1,306,889		50,175,153	10,206,538
6	730,990	838,567	21,580	10,008	135,095	3,467	650,057	510	4,958	.....	12,892		952,941	299,417
7	402,483	369,322	24,676	57,395	108,976	5,414	122,163	5,886	1,657	4,200	38,955		454,407	326,830
8	18,417	29,201	600	800	11,990	24	9,653	535	5,579	.....	20		37,927	28,250
9	29,467,267	21,630,696	162,118	292,346	1,495,859	5,139,429	13,491,843	11,010	264,303	19,012	754,776		24,390,177	5,758,905

reflectors, 1; gas, illuminating and heating, 1; glass, cutting, staining, and ornamenting, 2; gloves and mittens, leather, 1; ice, manufactured, 1; iron and steel, blast furnaces, 5; leather goods, 1; liquors, malt, 2; marble and stone work, 1; mattresses and spring beds, 1; mineral and soda waters, 2; models and patterns, not including paper patterns, 2; photo-engraving, 1; slaughtering and meat packing, 1; umbrellas and canes, 1; wall plaster, 1.

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

1	$7,211,616	$5,541,577	$141,613	$305,068	$1,462,314	$112,289	$2,740,565	$6,404	$38,628	$1,350	$733,346		$6,135,429	$3,282,575
2	2,075,887	3,173,269	100,660	37,515	814,175	48,834	2,034,944	5,582	13,512	800	117,247		3,458,612	1,374,834
3	6,426,806	9,203,873	105,584	119,585	1,412,182	788,958	6,370,450	3,378	65,424	15,385	322,927		10,091,554	2,932,146
4	2,379,213	4,051,312	30,682	74,214	919,104	85,096	2,799,816	3,457	18,445	5,723	114,775		4,290,560	1,405,648
5	2,364,433	4,064,657	53,988	80,901	707,244	79,023	2,953,750	6,820	66,955	1,725	109,251		4,345,224	1,307,451
6	7,988,058	6,252,881	246,068	202,134	2,764,115	443,457	2,077,625	7,843	62,706	480	448,453		6,629,076	4,107,994
7	7,323,594	7,045,012	213,640	250,241	1,572,832	127,441	4,367,541	9,320	35,196	2,393	466,408		8,064,914	3,569,932
8	2,955,044	3,115,835	90,750	95,146	573,601	109,742	1,984,616	9,361	34,068	350	218,201		3,486,793	1,392,435
9	24,628,608	16,603,005	560,571	757,592	3,798,440	410,654	9,229,705	24,280	184,200	6,823	1,630,740		18,183,693	8,543,334
10	4,993,282	6,359,467	111,689	85,988	887,788	719,942	4,274,029	7,855	111,306	16,399	144,471		7,118,259	2,124,288
11	1,458,899	3,926,325	42,404	32,495	677,326	42,901	3,008,227	2,118	19,934	.....	100,920		4,074,004	1,022,876
12	5,487,852	7,002,077	215,655	146,970	2,023,902	126,532	3,742,719	14,779	256,176	1,093	474,251		7,753,877	3,884,626
13	34,386,551	30,443,247	368,423	393,533	4,787,822	4,270,634	19,950,950	5,366	253,542	50	412,927		38,986,996	14,765,412
14	8,538,840	7,308,564	229,499	355,164	1,472,087	105,865	4,250,591	21,636	141,273	.....	732,449		8,172,911	3,816,455
15	3,275,321	2,798,292	100,117	89,683	594,406	48,365	1,738,520	17,728	51,537	8,410	149,526		3,214,553	1,427,668
16	7,864,474	5,043,207	152,860	263,270	1,404,956	68,198	2,509,200	11,981	48,328	171,288	413,126		5,666,976	3,089,578
17	7,787,668	4,091,529	181,369	100,346	1,127,092	146,747	2,142,911	4,422	42,734	350	345,558		4,787,772	2,498,114
18	10,563,845	14,172,065	240,752	232,289	1,389,143	281,778	7,668,603	14,387	2,182,525	.....	2,162,638		16,516,785	8,566,404
19	9,035,816	6,974,303	150,175	165,224	1,957,796	212,839	3,768,718	5,942	77,848	580	635,181		7,851,118	3,869,561
20	13,367,715	8,534,513	281,235	350,277	2,080,567	68,601	3,952,172	9,522	329,475	18,300	1,444,364		9,684,332	5,663,559
21	5,443,594	6,103,857	240,225	161,712	1,292,246	87,418	3,764,853	12,344	37,898	3,863	503,298		6,930,672	3,073,401
22	6,385,461	6,525,539	243,137	436,596	1,458,546	83,336	3,811,107	14,333	60,382	215	417,887		7,276,893	3,382,450
23	6,494,683	4,991,122	201,747	151,216	1,006,006	105,743	2,729,425	12,575	173,492	.....	610,918		5,946,853	3,111,685
24	22,485,382	16,574,878	574,925	686,877	3,984,818	225,956	8,693,106	47,992	170,330	52,000	2,138,874		19,246,141	10,327,079
25	18,423,529	18,455,386	241,004	162,275	3,203,068	1,459,598	12,983,494	8,095	114,655	400	282,797		21,187,127	6,744,035
26	3,726,917	2,694,897	90,022	134,406	828,017	98,128	1,154,138	8,827	63,492	887	316,980		3,254,328	2,002,062
27	4,511,041	5,130,966	233,409	187,850	910,745	94,649	2,968,886	7,799	18,505	259,582	449,481		5,988,174	2,924,639
28	6,025,109	8,326,902	133,971	217,339	1,793,077	232,580	5,271,226	17,645	66,305	1,905	592,854		9,144,953	3,641,147

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OKLAHOMA.

INDUSTRIES IN GENERAL.

General character of the state.—The territory of Oklahoma and Indian Territory were admitted to the Union as one state under the name of Oklahoma, November 16, 1907. For the census years preceding the consolidation of the two territories their statistics have, therefore, been combined in this report for purposes of comparison.

The state has an area of 70,057 square miles, of which 643 represent water surface. It ranks seventeenth in size among the 49 states and territories of continental United States. Its population in 1910 was 1,657,155, as compared with 790,391 in 1900 and 258,657 in 1890. In 1910 the density of population for the entire state was 23.9 per square mile, the corresponding figure for 1900 being 11.4. It ranked twenty-third among the states and territories as regards population in 1910 and thirtieth in 1900. The percentage of increase in population during the decade 1900–1910 was greater than for any other state except Washington. The population is mostly rural; only 19.3 per cent of the entire population of the state in 1910 resided in incorporated places having a population of 2,500 or over.

There are eight cities in the state which in 1910 had a population of over 10,000—Oklahoma City, Muskogee, Tulsa, Enid, McAlester, Shawnee, Guthrie, and Chickasha. These eight cities contained 10.2 per cent of the total population of the state, and in 1909 were credited with 37.3 per cent of the total value of its manufactures.

The Arkansas and Red Rivers are navigable for boats of light draft for some distance, thus giving water connections with the lower Mississippi. The facilities for railway transportation have been greatly developed during the past few years, and the principal manufacturing centers have good railroad connection with other parts of the country.

Importance and growth of manufactures.—The manufactures of Oklahoma have increased rapidly in their importance, although many of the industries are as yet in their infancy. In 1909, as in 1904 and 1899, the leading industries were those directly dependent on the products of agriculture, but in 1909 these industries, although large, did not report such a large proportion of the total value of products for all industries combined as in the previous years. A marked increase in the independent industrial activities of the state commenced with the development of the oil fields in 1907 and the discovery of natural gas. This cheap fuel has attracted manufacturers, who have established a number of new enterprises. An abundance of coal and lumber and the location in the state of such minerals as gypsum, cement rock, asphalt, granite, limestone, lead, and zinc have further stimulated manufacturing. In 1899 the total value of manufactured products amounted to only $8,133,000, as compared with $24,459,000 in 1904 and $53,682,000 in 1909. Of the total increase of $29,223,000 from 1904 to 1909, nearly one-fourth represents the value of the output of about 30 new industries. From 1899 to 1909 the gross value of products per capita of the total population of the state increased from $10 to $32. The proportion which the manufactures of the state represent of the total value of the products of manufacturing industries in the United States increased from seven-hundredths of 1 per cent in 1899 to seventeen-hundredths of 1 per cent in 1904 and twenty-six hundredths of 1 per cent in 1909.

The first table on the next page gives the more important figures relative to all classes of manufactures combined for the state at the censuses of 1909, 1904, and 1899, with the percentages of increase from census to census.

In 1909 the state of Oklahoma had 2,310 manufacturing establishments, which gave employment to an average of 18,034 persons during the year and paid out $9,285,000 in salaries and wages. Of the persons employed, 13,143 were wage earners. These establishments turned out products to the value of $53,682,000, to produce which materials costing $34,153,000 were used. The value added by manufacture was thus $19,529,000, which figure best represents the net wealth created by manufacturing operations during the year.

In general, this table brings out the fact that there has been a rapid growth of the manufacturing interests of the state. During the five-year period 1904–1909 every item more than doubled, the number of establishments increasing 105.7 per cent and the average number of wage earners 140.9 per cent, while the value of products increased 119.5 per cent and the value added by manufacture 142.1 per cent. As pointed out in the Introduction, however, it would be improper to infer that manufactures increased in

volume to the full extent indicated by the figures representing values, since the increases shown are certainly due, in part, to the increase that 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	2,310	1,123	495	105.7	126.9
Persons engaged in manufactures	18,034	7,456	(1)	141.9	.....
Proprietors and firm members	2,698	1,187	(1)	127.3	.....
Salaried employees	2,193	813	269	169.7	202.2
Wage earners (average number)	13,143	5,456	2,381	140.9	129.1
Primary horsepower	71,139	29,608	11,572	140.3	155.9
Capital	$38,873,000	$16,124,000	$4,054,000	141.1	297.7
Expenses	47,216,000	21,383,000	6,800,000	120.8	214.5
Services	9,285,000	3,517,000	1,113,000	164.0	216.0
Salaries	2,045,000	718,000	219,000	184.8	227.9
Wages	7,240,000	2,799,000	894,000	158.7	213.1
Materials	34,153,000	16,394,000	5,430,000	108.3	201.9
Miscellaneous	3,778,000	1,472,000	257,000	156.7	472.8
Value of products	53,682,000	24,459,000	8,134,000	119.5	200.7
Value added by manufacture (value of products less cost of materials)	19,529,000	8,065,000	2,704,000	142.1	198.3

[1] Figures not available.

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

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	2,310	13,143	100.0	$53,682,000	100.0	$19,529,000	100.0	119.5	200.7	142.1	198.3
Flour-mill and gristmill products	295	842	6.4	19,144,000	35.7	2,051,000	13.6	59.3	155.0	44.7	121.3
Oil, cottonseed, and cake	39	581	4.4	5,187,000	9.7	942,000	4.8	66.8	255.7	24.6	181.0
Lumber and timber products	342	3,175	24.2	4,439,000	8.3	2,952,000	15.1	.....	.....	.....	.....
Printing and publishing	598	1,698	12.9	3,989,000	7.4	2,985,000	15.3	89.9	216.9	83.4	216.1
Bread and other bakery products	252	418	3.2	1,794,000	3.3	825,000	4.2	159.2	620.8	192.6	442.3
Foundry and machine-shop products	64	457	3.5	1,371,000	2.6	784,000	4.0	488.4	294.9	399.4	460.7
Ice, manufactured	77	449	3.4	1,273,000	2.4	966,000	4.9	141.1	371.4	137.3	402.5
Butter, cheese, and condensed milk	19	62	0.5	1,150,000	2.1	222,000	1.1	.....	.....	.....	.....
Brick and tile	38	730	5.6	1,029,000	1.9	803,000	4.1	101.8	175.7	110.2	148.1
Slaughtering and meat packing	7	63	0.5	889,000	1.7	140,000	0.7	202.4	.....	154.5	.....
Copper, tin, and sheet-iron products	62	233	1.8	799,000	1.5	388,000	2.0	271.0	.....	259.3	.....
Artificial stone	129	236	1.8	539,000	1.0	306,000	1.6	582.3	.....	551.0	.....
Marble and stone work	41	147	1.1	418,000	0.8	231,000	1.2	294.3	.....	220.8	.....
Leather goods	15	66	0.5	375,000	0.7	149,000	0.8	33.9	78.3	17.3	104.8
Brooms	23	76	0.6	248,000	0.5	103,000	0.5	244.4	620.0	151.2	583.3
Carriages and wagons and materials	19	123	0.9	233,000	0.4	152,000	0.8	.....	.....	.....	.....
All other industries	290	3,787	28.8	10,805,000	20.1	4,930,000	25.2	.....	.....	.....	.....

[1] Percentages are based on figures in Table I. Where the percentages are omitted, comparable figures can not be given.

The smelting and refining of zinc, the refining of petroleum, and the steam-railroad repair shops, which are among the most important industries in the state when measured by value of products, are included under the head of "All other industries" in the above table. The first two of these industries were started after 1904, and for this reason no comparative figures are available, while for the third industry comparative figures can not be given without disclosing the operations of individual establishments. The 1909 statistics for each of these industries, however, are given in Table II, page 1014. In 1909 three establishments were engaged in the smelting and refining of zinc, the average number of wage earners employed being 566. Measured by value of products, this industry, with $3,002,000 in 1909, held fifth place among the manufacturing industries of the state. The nine establishments engaged in refining petroleum gave employment to an average of 75 employees and reported products valued at $1,055,000. In 1909 the eight steam-railroad car repair shops gave employment to an average of 1,412 wage earners and reported products valued at $1,702,000.

Although a few industries predominate in importance, it will be seen from Table II, page 1014, 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.

Flour-mill and gristmill products.—This industry, which was the first in importance among the manufacturing industries of the state, gave employment in 1909 to 842 wage earners and reported products valued at $19,144,000, or 35.7 per cent of the total value of manufactured products for the state. During the decade 1899–1909 the value of flour-mill and gristmill products increased over 300 per cent.

Oil, cottonseed, and cake.—The statistics presented include those for all establishments engaged primarily in extracting oil from the seed and in refining oil for sale. The industry shows a decided increase during the decade in the average number of wage earners, the value of products, and the value added by manufacture.

Lumber and timber products.—This industry embraces establishments engaged in logging and also sawmills, planing mills, and wooden packing-box factories. Its growth was most rapid during the latter half of the decade, and in 1909 more wage earners were employed in this industry than in any other in the state.

Printing and publishing.—This classification includes establishments which publish newspapers, books, and periodicals, job-printing offices, and those engaged in bookbinding and blank-book making. This industry reported more establishments, and, with the exception of the lumber industry, gave employment to more wage earners than any other in the state.

The rank of the industries according to value added by manufacture differs considerably from the rank in value of products. Because of the extent to which the processes of manufacture are carried on by machinery in the flour mills and gristmills and in the cottonseed-oil mills the value added by manufacture in these industries is not commensurate with the gross value of products. As a result, the flour mills and gristmills would become third in order according to value added by manufacture, and the cottonseed-oil mills would be fifth. Printing and publishing and lumber advance to first and second places, respectively, and the manufacture of ice, which was seventh in value of products, goes to fourth place.

This table also shows the percentages of increase for these leading industries in respect to value of products and value added by manufacture where these statistics are comparable. The butter, cheese, and condensed-milk industry shows a greater rate of increase from 1904 to 1909 both in value of products and in value added by manufacture than any of the other industries shown separately in the table. The bakeries and broom factories show by far the greatest percentages of increase in value of products from 1899 to 1904, and the broom factories show also the greatest rate of increase in value added by manufacture for the same period. Remarkable rates of increase are shown, however, for nearly all of the industries for which a separate presentation is made, and generally for both periods of the decade.

In addition to the 16 industries shown separately in the table and the 3 mentioned in the preceding paragraph, there are 14 other industries which had a value of products in 1909 in excess of $100,000. 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 properly represent the true condition of the industry, for the reason that it is more or less interwoven with one or more other industries; and in others, because comparable statistics for the different census years are not available, or on account of changes in classification. These industries are as follows: Boxes, fancy and paper; cement; clothing, men's; coffee and spice, roasting and grinding; confectionery; cordage and twine and jute and linen goods; explosives; food preparations; furniture and refrigerators; gas, illuminating and heating; mattresses and spring beds; mineral and soda waters; wall plaster; and wood preserving. Statistics for 1909 for men's clothing, confectionery, furniture, gas, mattresses and spring beds, and wall plaster are presented in Table II, page 1014.

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	**18,034**	**17,071**	**963**
Proprietors and officials	3,630	3,547	83
Proprietors and firm members	2,698	2,628	70
Salaried officers of corporations	284	278	6
Superintendents and managers	648	641	7
Clerks	1,261	1,059	202
Wage earners (average number)	13,143	12,465	678
16 years of age and over	13,020	12,345	675
Under 16 years of age	123	120	3

The average number of persons engaged in manufactures during 1909 was 18,034, of whom 13,143 were wage earners. Of the remainder, 3,630 were proprietors and officials and 1,261 were clerks. Corresponding figures for individual industries will be found in Table II, page 1014.

The next 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 nine important industries individually.

Of the total number of persons engaged in all manufacturing industries, 20.1 per cent were proprietors and officials, 7 per cent clerks, and 72.9 per cent wage

earners. In most of the industries the majority of the establishments are small and in many of them the work is done to a large extent by the proprietors or their representatives, so that the proportion of persons falling in the class of proprietors and officials is much higher than in states where the industries are more highly developed and the establishments larger.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries	18,034	20.1	7.0	72.9
Bread and other bakery products	766	40.3	5.1	54.6
Brick and tile	823	8.6	2.7	88.7
Butter, cheese, and condensed milk	101	26.7	11.9	61.4
Flour-mill and gristmill products	1,679	39.2	10.6	50.1
Foundry and machine-shop products	587	17.0	5.1	77.9
Ice, manufactured	614	18.1	8.8	73.1
Lumber and timber products	3,809	14.2	2.5	83.4
Oil, cottonseed, and cake	770	14.2	10.4	75.5
Printing and publishing	2,945	27.9	14.5	57.7
All other industries	5,940	14.9	5.5	79.6

The following table 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 in all industries 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	13,143	93.9	5.1	0.9
Bread and other bakery products	418	90.4	8.1	1.4
Brick and tile	730	99.7	.....	0.3
Butter, cheese, and condensed milk	62	80.6	17.7	1.6
Flour-mill and gristmill products	842	99.8	.....	0.2
Foundry and machine-shop products	457	100.0	.....	.....
Ice, manufactured	449	98.9	.....	1.1
Lumber and timber products	3,175	99.7	(2)	0.2
Oil, cottonseed, and cake	581	100.0	.....	.....
Printing and publishing	1,698	79.9	17.4	2.8
All other industries	4,731	91.8	7.1	1.1

[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, 93.9 per cent of the average number of wage earners were males 16 years of age and over; 5.1 per cent, females 16 years of age and over; and nine-tenths of 1 per cent, children under the age of 16. The larger part of the total number of female wage earners and of the wage earners under 16 years of age is made up of those employed in bakeries, creameries, and printing and publishing establishments.

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	18,034	100.0	7,456	100.0	141.9
Proprietors and firm members	2,698	15.0	1,187	15.9	127.3
Salaried employees	2,193	12.2	813	10.9	169.7
Wage earners (average number)	13,143	72.9	5,456	73.2	140.9

Comparable figures are not obtainable for 1899. Salaried employees show a greater percentage of increase than either of the other two classes, as well as the only increase in the proportion of the total.

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	13,143	100.0	5,456	100.0	2,381	100.0
16 years of age and over	13,020	99.1	5,346	98.0	2,331	97.9
Male	12,345	93.9	5,019	92.0	2,254	94.7
Female	675	5.1	327	6.0	77	3.2
Under 16 years of age	123	0.9	110	2.0	50	2.1

This table indicates that for all industries combined the proportion of females was greater in 1909 than in 1899, while that of males 16 years of age and over and children under 16 years of age was less. In 1909 males 16 years of age and over formed 93.9 per cent of all wage earners, as compared with 92 per cent in 1904 and 94.7 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 the cottonseed-oil 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 1014, 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.

MONTH.	WAGE EARNERS.					
	All industries.		Oil, cottonseed, and cake.		All other industries.	
	Number.	Percent of maximum.	Number.	Percent of maximum.	Number.	Per cent of maximum.
January	11,826	80.7	1,000	79.0	10,826	79.9
February	11,782	80.4	641	50.6	11,141	82.2
March	12,237	83.5	507	40.0	11,730	86.6
April	12,285	83.8	267	21.1	12,018	88.7
May	12,518	85.4	162	12.8	12,356	91.2
June	12,905	88.0	126	10.0	12,779	94.3
July	13,153	89.7	115	9.1	13,038	96.2
August	13,465	91.9	132	10.4	13,333	98.4
September	13,826	94.3	408	32.2	13,418	99.0
October	14,659	100.0	1,112	87.8	13,547	100.0
November	14,551	99.3	1,266	100.0	13,285	98.1
December	14,505	98.9	1,232	97.3	13,273	98.0

For all industries combined the greatest number of wage earners, 14,659, is shown for October, and the smallest number, 11,782, for February, the minimum number representing 80.4 per cent of the maximum number. The most important seasonal industry in Oklahoma is the manufacture of cottonseed oil. The smallest number employed in this industry was 115, in July, and the greatest number, 1,266, in November. The relative variation in the number of wage earners employed for the several months in the more important industries, except in the manufacture of brick and tile, where the number employed in January was only 39.6 per cent of the number employed in July, was not much greater than that which is shown for all industries of the state combined. The minimum number employed in flour mills and gristmills, as shown in Table II, was 80.4 per cent of the maximum number; in the lumber industry the minimum number was 83.4 per cent of the maximum; and in printing and publishing the minimum was 88.8 per cent of the maximum.

Prevailing hours of labor.—In the following table 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	**13,143**	**2,965**	**303**	**1,949**	**526**	**4,711**	**1,463**	**858**	**368**
Artificial stone	236	86	5	54	2	89			
Bread and other bakery products	418	58	4	52	14	236	15	34	5
Brick and tile	730	15		46		669			
Brooms	76	10	19	1	37	9			
Butter, cheese, and condensed milk	62	1		1	29	19	9	3	
Carriages and wagons and materials	123	4		43		76			
Copper, tin, and sheet-iron products	233	187	4	18		24			
Flour-mill and gristmill products	842	98	10	11	4	280	168	271	
Foundry and machine-shop products	457	18	1	90	1	343	4		
Ice, manufactured	449	5			9	40	124	24	247
Lumber and timber products	3,175	800	180	155	156	1,631	253		
Marble and stone work	147	69		45	5	28			
Oil, cottonseed, and cake	581					15	14	488	64
Printing and publishing	1,698	1,122	58	323	32	163			
Slaughtering and meat packing	63					54	7	2	
All other industries	3,853	492	22	1,110	237	1,035	869	36	52

It is evident from these figures that for the majority of wage earners employed in the manufacturing industries of Oklahoma in 1909 the prevailing hours of labor were 60 or more a week, 56.3 per cent being employed in establishments where these hours prevailed and 43.7 per cent in establishments where less than 60 hours a week prevailed. Of the total number of wage earners, 35.8 per cent were employed in plants in which 60 hours constituted a week's work.

In the cottonseed-oil mills most of the wage earners were employed in mills where the prevailing number of hours of labor was 72 or more per week; in the flour mills and gristmills the prevailing hours for the greater part of the wage earners were from 60 to 72 per week; in the lumber industry about three-fifths of the wage earners worked 60 hours or more per week, though slightly more than one-fourth of the total number worked 48 hours or less; and in printing and publishing almost two-thirds of the wage earners were employed for 48 hours or less per week.

Location of establishments.—The next table shows the extent to which the manufactures of Oklahoma are carried on in cities of 10,000 population or over. (See Introduction.) The statistics for 1904 are omitted from this table, because there was no Federal census of population for that year from which to determine the cities that came within the group having over 10,000 inhabitants.

In 1909, 37.3 per cent of the total value of products was reported from cities having over 10,000 inhabitants, and 33.4 per cent of the average number of wage earners were employed in such cities. In the relative importance of their manufacturing industries, this class of cities made a decided gain during the period from 1899 to 1909. There were only two of these cities, however, since Muskogee, Tulsa, Enid, McAlester,

Shawnee, and Chickasha, each had less than 10,000 inhabitants in 1900, and so were included in the districts outside in 1899. The extent of this change will be appreciated when it is considered that in 1909 the manufacturing establishments in these six cities gave employment to an average of 2,704 wage earners and turned out products valued at $10,694,651, which represented 20.6 per cent and 19.9 per cent of the respective totals for the state.

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	1,657,155	168,866	1,488,289	10.2	89.8
	1900	790,391	20,043	770,348	2.5	97.5
Number of establishments.	1909	2,310	486	1,824	21.0	79.0
	1899	495	69	426	13.9	86.1
Average number of wage earners.	1909	13,143	4,384	8,759	33.4	66.6
	1899	2,381	461	1,920	19.4	80.6
Value of products	1909	$53,682,405	$20,005,330	$33,677,075	37.3	62.7
	1899	8,133,936	1,493,998	6,639,938	18.4	81.6
Value added by manufacture.	1909	19,529,511	7,110,080	12,419,431	36.4	63.6
	1899	2,703,489	639,860	2,063,629	23.7	76.3

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

CITY.	1910	1900	CITY.	1910	1900
Oklahoma City	64,205	10,037	McAlester	12,954	4,125
Muskogee	25,278	4,254	Shawnee	12,474	3,462
Tulsa	18,182	1,390	Guthrie	11,654	10,006
Enid	13,799	3,444	Chickasha	10,320	3,209

The relative importance in manufactures of the eight 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, so far as available, for 1909, 1904, and 1899:

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Oklahoma City	1,398	720	458	$7,867,884	$3,670,730	$1,241,987
Enid	393	(1)	(1)	2,453,188	(1)	(1)
Muskogee	381	(1)	(1)	2,279,151	(1)	(1)
Shawnee	1,014	(1)	(1)	2,081,477	(1)	(1)
Chickasha	364	(1)	(1)	1,866,959	(1)	(1)
Tulsa	462	(1)	(1)	1,562,642	(1)	(1)
Guthrie	282	333	241	1,442,795	1,200,662	648,933
McAlester	180	(1)	(1)	451,234	(1)	(1)

[1] Figures not available.

Oklahoma City and Guthrie, the only cities for which comparative figures are given, show increases in value of products at each census. Oklahoma City, however, showed by far the greater growth in manufactures, as it did in population. The value of its manufactured products increased 195.6 per cent from 1899 to 1904 and 114.3 per cent from 1904 to 1909, and the average number of wage earners employed increased 57.2 per cent and 94.2 per cent, respectively, during the same periods. In Guthrie the value of products increased 85 per cent from 1899 to 1904 and 20.2 per cent from 1904 to 1909, while the average number of wage earners increased 38.2 per cent between 1899 and 1904 and decreased 15.3 per cent between 1904 and 1909. In four of the cities shown separately for 1909—Oklahoma City, Enid, Muskogee, and Guthrie—the flour-mill and gristmill products and the printing and publishing industries were predominant.

The leading industries or products in the remaining cities shown in the table are as follows: In Chickasha, flour mills and gristmills, cottonseed-oil mills, and steam-railroad repair shops; in McAlester, manufactured ice and printing and publishing; in Shawnee, steam-railroad repair shops, cottonseed-oil mills, and flour-mill and gristmill products; and in Tulsa, foundries and machine shops, flour-mill and gristmill products, and the lumber industry.

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, 21.7 per cent of the total number of establishments were, in 1909, under corporate ownership, as against 78.3 per cent under all other forms. The corresponding figures for 1904 were 21.5 per cent and 78.4 per cent, respectively. For all industries combined, as measured by value of products and value added by manufacture, corporate ownership gained ground during the period covered by the table, establishments operated by corporations reporting 73.4 per cent of the total value of products and 65 per cent of the total value added by manufacture in 1909, as against 71.1 per cent and 61.2 per cent, respectively, in 1904. This class of establishments reported one-half or more of the total value of products for each of the industries shown separately, with the exception of the bakeries, in which individually owned establishments reported the greater value of products. Among the establishments engaged in the important industries not shown in the preceding table, all of the zinc smelters and refineries, all but two of the cottonseed-oil mills, and all but one of the petroleum refineries were 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	2,310	13,143	$53,682,405	$19,529,511
1904	1,123	5,456	24,459,107	8,065,155
Individual:				
1909	1,257	3,113	7,699,080	4,101,449
1904	635	1,380	4,173,454	1,987,094
Firm:				
1909	541	1,787	6,412,806	2,705,968
1904	242	696	2,879,369	1,139,369
Corporation:				
1909	501	8,225	39,390,339	12,687,947
1904	242	3,366	17,401,144	4,934,424
Other:				
1909	11	18	180,180	34,147
1904	4	5	5,140	4,268
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Individual:				
1909	54.4	23.7	14.3	21.0
1904	56.5	25.5	17.1	24.6
Firm:				
1909	23.4	13.6	11.9	13.9
1904	21.5	12.8	11.8	14.1
Corporation:				
1909	21.7	62.6	73.4	65.0
1904	21.5	61.7	71.1	61.2
Other:				
1909	0.5	0.1	0.3	0.2
1904	0.4	0.1	(1)	0.1
Bread and other bakery products, 1909	252	418	$1,794,113	$825,098
Individual	205	330	1,368,152	633,542
Firm [2]	47	88	425,961	191,556
Per cent of total	100.0	100.0	100.0	100.0
Individual	81.3	78.9	76.3	76.8
Firm [2]	18.6	21.1	23.7	23.2
Flour-mill and gristmill products, 1909	295	842	$19,144,475	$2,651,580
Individual	106	105	1,387,666	236,456
Firm	91	141	2,460,548	387,211
Corporation [3]	98	596	15,296,261	2,027,913
Per cent of total	100.0	100.0	100.0	100.0
Individual	35.9	12.5	7.2	8.9
Firm	30.8	16.7	12.9	14.6
Corporation [3]	33.2	70.8	79.9	76.5
Foundry and machine-shop products, 1909	64	457	$1,371,463	$784,784
Individual	25	125	318,170	198,535
Firm	17	92	366,465	226,551
Corporation	22	240	686,828	359,698
Per cent of total	100.0	100.0	100.0	100.0
Individual	39.1	27.4	23.2	25.3
Firm	26.6	20.1	26.7	28.9
Corporation	34.4	52.5	50.1	45.8
Lumber and timber products, 1909	342	3,175	$4,438,563	$2,951,317
Individual	198	1,094	1,170,314	911,246
Firm	103	710	931,409	657,687
Corporation	41	1,371	2,336,840	1,382,384
Per cent of total	100.0	100.0	100.0	100.0
Individual	57.9	34.5	26.4	30.9
Firm	30.1	22.4	21.0	22.3
Corporation	12.0	43.2	52.6	46.8
Printing and publishing, 1909	598	1,698	$3,988,542	$2,984,419
Individual	397	647	1,233,929	989,002
Firm	109	265	551,112	429,366
Corporation	87	780	2,197,781	1,561,926
Other	5	6	5,720	4,125
Per cent of total	100.0	100.0	100.0	100.0
Individual	66.4	38.1	30.9	33.1
Firm	18.2	15.6	13.8	14.4
Corporation	14.5	45.9	55.1	52.3
Other	0.8	0.4	0.1	0.1

[1] Less than one-tenth of 1 per cent.
[2] Includes the group "Corporation," to avoid disclosure of individual operations.
[3] 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 the number of wage earners, value of products, and value added by manufacture.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	2,310	13,143	$53,682,405	$19,529,511
1904	1,123	5,456	24,459,107	8,065,155
Less than $5,000:				
1909	1,182	1,668	2,675,597	1,792,560
1904	612	760	1,430,330	999,858
$5,000 and less than $20,000:				
1909	727	2,863	7,194,668	4,142,194
1904	326	1,382	3,124,083	1,847,463
$20,000 and less than $100,000:				
1909	295	3,908	13,057,308	5,877,865
1904	125	1,460	5,720,660	2,188,556
$100,000 and less than $1,000,000:				
1909	102	4,406	25,870,562	7,001,117
1904	60	1,854	14,184,034	3,029,278
$1,000,000 and over:				
1909	4	298	4,884,270	715,775
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	51.2	12.7	5.0	9.2
1904	54.5	13.9	5.8	12.4
$5,000 and less than $20,000:				
1909	31.5	21.8	13.4	21.2
1904	29.0	25.3	12.8	22.9
$20,000 and less than $100,000:				
1909	12.8	29.7	24.3	30.1
1904	11.1	26.8	23.4	27.1
$100,000 and less than $1,000,000:				
1909	4.4	33.5	48.2	35.8
1904	5.3	34.0	58.0	37.6
$1,000,000 and over:				
1909	0.2	2.3	9.1	3.7
Average per establishment:				
1909	.....	6	$23,239	$8,454
1904	.....	5	21,780	7,182
Bread and other bakery products, 1909	252	418	$1,794,113	$825,098
Less than $5,000	135	77	323,997	154,495
$5,000 and less than $20,000	101	210	895,674	420,209
$20,000 and less than $100,000	16	131	574,442	250,394
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	53.6	18.4	18.1	18.7
$5,000 and less than $20,000	40.1	50.2	49.9	50.9
$20,000 and less than $100,000	6.3	31.3	32.0	30.3
Average per establishment	.....	2	$7,119	$3,274
Flour-mill and gristmill products, 1909	295	842	$19,144,475	$2,651,580
Less than $5,000	82	55	240,320	52,056
$5,000 and less than $20,000	108	121	1,147,394	231,804
$20,000 and less than $100,000	63	169	3,000,735	491,723
$100,000 and less than $1,000,000	39	394	11,042,152	1,403,929
$1,000,000 and over	3	103	3,713,874	472,068
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	27.8	6.5	1.3	2.0
$5,000 and less than $20,000	36.6	14.4	6.0	8.7
$20,000 and less than $100,000	21.4	20.1	15.7	18.5
$100,000 and less than $1,000,000	13.2	46.8	57.7	52.9
$1,000,000 and over	1.0	12.2	19.4	17.8
Average per establishment	.....	3	$64,897	$8,988
Foundry and machine-shop products, 1909	64	457	$1,371,463	$784,784
Less than $5,000	21	33	58,638	38,401
$5,000 and less than $20,000	27	121	319,347	211,194
$20,000 and less than $100,000	13	139	513,010	317,771
$100,000 and less than $1,000,000	3	164	480,468	217,418
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	32.8	7.2	4.3	4.9
$5,000 and less than $20,000	42.2	26.5	23.3	26.9
$20,000 and less than $100,000	20.3	30.4	37.4	40.5
$100,000 and less than $1,000,000	4.7	35.9	35.0	27.7
Average per establishment	.....	7	$21,429	$12,262
Lumber and timber products, 1909	342	3,175	$4,438,563	$2,951,317
Less than $5,000	200	664	448,807	372,516
$5,000 and less than $20,000	92	744	894,724	676,469
$20,000 and less than $100,000	42	995	1,662,859	1,104,358
$100,000 and less than $1,000,000	8	772	1,432,173	797,974
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	58.5	20.9	10.1	12.6
$5,000 and less than $20,000	26.9	23.4	20.2	22.9
$20,000 and less than $100,000	12.3	31.3	37.5	37.4
$100,000 and less than $1,000,000	2.3	24.3	32.3	27.0
Average per establishment	.....	9	$12,978	$8,630
Printing and publishing, 1909	598	1,698	$3,988,542	$2,984,419
Less than $5,000	436	507	966,088	784,130
$5,000 and less than $20,000	133	595	1,198,006	943,119
$20,000 and less than $100,000	26	444	1,094,833	828,820
$100,000 and less than $1,000,000	3	152	729,615	428,350
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	72.9	29.9	24.2	26.3
$5,000 and less than $20,000	22.2	35.0	30.0	31.6
$20,000 and less than $100,000	4.3	26.1	27.4	27.8
$100,000 and less than $1,000,000	0.5	9.0	18.3	14.4
Average per establishment	.....	3	$6,670	$4,991

The totals for all industries are shown for the last two censuses, while for individual industries figures are given for 1909 only.

This table shows that, in 1909, of the 2,310 manufacturing establishments in the state only 4, or two-tenths of 1 per cent, had a value of products exceeding $1,000,000, while 102 other establishments, or 4.4 per cent, had a value of products exceeding $100,000. These 106 establishments, however, had an average of 4,704 wage earners, or 35.8 per cent of the total number in all establishments, and reported 57.3 per cent of the total value of products and 39.5 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 less than $5,000—constituted 51.2 per cent of the total number of establishments, but the value of their products amounted to only 5 per cent of the total.

The fact that the average value of products per establishment increased from $21,780 in 1904 to $23,239 in 1909, and the average value added by manufacture from $7,182 to $8,454, 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 increased from five in 1904 to six in 1909.

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 following table shows, for 1909, such a classification for all industries combined and for nine 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	2,310	262	1,597	352	68	20	9	1	1	.....
Bread and other bakery products	252	58	181	13	.....	.....	.....	.....	.....	.....
Brick and tile	38	.....	11	14	9	4	.....	.....	.....	.....
Butter, cheese, and condensed milk	19	1	15	2	1	.....	.....	.....	.....	.....
Flour-mill and gristmill products	295	44	216	31	3	1	.....	.....	.....	.....
Foundry and machine-shop products	64	2	40	19	1	2	.....	.....	.....	.....
Ice, manufactured	77	.....	53	23	1	.....	.....	.....	.....	.....
Lumber and timber products	342	3	212	103	14	8	1	1	.....	.....
Oil, cottonseed, and cake	39	.....	4	27	8	.....	.....	.....	.....	.....
Printing and publishing	598	100	442	45	9	2	.....	.....	.....	.....
All other industries	586	54	423	75	22	3	8	.....	1	.....
	AVERAGE NUMBER OF WAGE EARNERS.									
All industries	13,143	.....	3,315	3,724	2,136	1,326	1,635	253	754	.....
Bread and other bakery products	418	.....	296	122	.....	.....	.....	.....	.....	.....
Brick and tile	730	.....	37	153	288	252	.....	.....	.....	.....
Butter, cheese, and condensed milk	62	.....	26	14	22	.....	.....	.....	.....	.....
Flour-mill and gristmill products	842	.....	376	331	83	52	.....	.....	.....	.....
Foundry and machine-shop products	457	.....	99	194	43	121	.....	.....	.....	.....
Ice, manufactured	449	.....	173	250	26	.....	.....	.....	.....	.....
Lumber and timber products	3,175	.....	589	1,100	441	542	250	253	.....	.....
Oil, cottonseed, and cake	581	.....	16	363	202	.....	.....	.....	.....	.....
Printing and publishing	1,698	.....	863	432	281	122	.....	.....	.....	.....
All other industries	4,731	.....	840	765	750	237	1,385	.....	754	.....
	PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.									
All industries	100.0	.....	25.2	28.3	16.3	10.1	12.4	1.9	5.7	.....
Bread and other bakery products	100.0	.....	70.8	29.2	.....	.....	.....	.....	.....	.....
Brick and tile	100.0	.....	5.1	21.0	39.5	34.5	.....	.....	.....	.....
Butter, cheese, and condensed milk	100.0	.....	41.9	22.6	35.5	.....	.....	.....	.....	.....
Flour-mill and gristmill products	100.0	.....	44.7	39.3	9.9	6.2	.....	.....	.....	.....
Foundry and machine-shop products	100.0	.....	21.7	42.4	9.4	26.5	.....	.....	.....	.....
Ice, manufactured	100.0	.....	38.5	55.7	5.8	.....	.....	.....	.....	.....
Lumber and timber products	100.0	.....	18.6	34.6	13.9	17.1	7.9	8.0	.....	.....
Oil, cottonseed, and cake	100.0	.....	2.8	62.5	34.8	.....	.....	.....	.....	.....
Printing and publishing	100.0	.....	50.8	25.4	16.5	7.2	.....	.....	.....	.....
All other industries	100.0	.....	17.8	16.2	15.9	5.0	29.3	.....	15.9	.....

Of the 2,310 establishments reported for all industries, 11.3 per cent employed no wage earners; 69.2 per cent, from 1 to 5; 15.2 per cent, from 6 to 20; 2.9 per cent, from 21 to 50; and 1.3 per cent, 51 or over. The most numerous single group consists of the 1,598 establishments employing from 1 to 5 wage earners, and the next, of the 352 establishments employing from 6 to 20 wage earners. One establishment employed over 250 wage earners and one employed over 500. Of the total number of wage earners, almost seven-tenths were in establishments employing under 51 wage earners. The single group employing the largest number of wage earners was the group comprising establishments employing from 6 to 20, which gave employment to 3,724 wage earners, or 28.3 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 which make up the total.

The following 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 1014.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	4.3	15.3	72.3	8.0
Bread and other bakery products	2.1	18.4	70.7	8.8
Brick and tile	8.0	50.1	29.9	12.0
Butter, cheese, and condensed milk	1.7	3.4	86.6	8.3
Flour-mill and gristmill products	1.8	2.6	91.8	3.7
Foundry and machine-shop products	6.8	30.2	55.4	7.6
Ice, manufactured	11.2	20.9	34.0	24.8
Lumber and timber products	5.4	36.1	42.3	16.3
Oil, cottonseed, and cake	4.1	4.7	85.2	6.1
Printing and publishing	15.1	33.7	32.4	18.8
All other industries	4.7	23.7	63.3	8.4

This table shows that, for all industries combined, 72.3 per cent of the total expenses was incurred for materials, 19.6 per cent for services—that is, salaries and wages—and but 8 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.

The table indicates that there was an increase from 1904 to 1909 in all forms of power except that generated by water motors and the forms of owned and rented power included under the head of "Other." Of the total increase of 41,531 horsepower from 1904 to 1909, 28,946 horsepower, or 69.7 per cent, was in power generated by steam engines. Notwithstanding this large actual increase, the proportion of power shown for steam engines decreased from 96.4 per cent in 1899 to 79.6 per cent in 1909. The more general use of gas engines is shown by the increase in the number of such engines from 48 in 1899 to 539 in 1909, and the increase in their indicated capacity from 200 horsepower in 1899 to 8,676 horsepower in 1909. The figures also show that the practice of renting electric power is on the increase, 5,281 horsepower, or 7.4 per cent of the total primary power, being rented electric power in 1909, as against 597 horsepower, or 2 per cent, in 1904, while none was reported 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 increasing from 12 in 1899 to 2,606 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	**2,265**	**590**	**267**	**71,139**	**29,608**	**11,572**	**100.0**	**100.0**	**100.0**
Owned	1,407	590	267	65,791	28,851	11,507	92.5	97.4	99.4
Steam	862	371	212	56,643	27,697	11,151	79.6	93.5	96.4
Gas	539	214	48	8,676	989	200	12.2	3.3	1.7
Water wheels	5	3	7	470	105	156	0.7	0.4	1.3
Water motors	1	2	(2)	2	4	(2)	(3)	(3)	(2)
Other	.....	.....	.....	.....	56	.....	.....	0.2	.....
Rented	858	(2)	(2)	5,348	757	65	7.5	2.6	0.6
Electric	858	(2)	(2)	5,281	597	(2)	7.4	2.0	.....
Other	.....	.....	.....	67	160	65	0.1	0.5	0.6
Electric motors	**985**	**43**	**3**	**7,887**	**910**	**12**	**100.0**	**100.0**	**100.0**
Run by current generated by establishment	127	43	3	2,606	313	12	33.0	34.4	100.0
Run by rented power	858	(2)	(2)	5,281	597	(2)	67.0	65.6	.....

[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	**9,972**	**296,826**	**4,279**	**13,268**	**165,016**	**9,866,461**
Bread and other bakery products	11	794	125	4,733	38	55,849
Brick and tile	.....	29,115	.....	3,198	6	1,732,605
Butter, cheese, and condensed milk	.....	3,882	.....	.....	.....	1,040
Cars and general shop construction and repairs by steam-railroad companies	616	23,879	392	300	1,510	.....
Flour-mill and gristmill products	406	47,077	.....	1,226	16,054	138,737
Foundry and machine-shop products	27	914	2,359	5	908	51,669
Ice, manufactured	.....	53,808	.....	100	9,687	1,052,781
Lumber and timber products	.....	7,616	.....	101	151	10,589
Oil, cottonseed, and cake	.....	23,516	.....	1,564	25,708	203,066
Petroleum, refining	.....	.....	.....	.....	44,515	216,753
Printing and publishing	35	872	14	244	834	38,112
Smelting and refining, zinc	8,823	36,867	1,230	.....	.....	4,617,865
All other industries	54	68,486	159	1,797	65,605	1,747,395

NOTE.—In addition, there were 49 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 four important industries in Oklahoma are here presented.

Flour-mill and gristmill products.—This industry, which is dependent upon the cereal crop of the state for its raw materials, has shown a substantial growth. The statistics include only those mills which are engaged mainly in merchant milling, excluding custom mills, generally small, which grind exclusively for local consumption and for toll. The figures for these custom mills are shown separately on page 1011.

The following tabular statement gives the quantity and value of the different products for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	$19,144,475	$12,018,923	$4,712,953
Wheat flour:			
White—			
Barrels	2,194,105	1,959,847	1,185,977
Value	$10,918,747	$8,875,240	$3,508,493
Graham—			
Barrels	10,874	2,470	(1)
Value	$40,620	$11,393	(1)
Corn meal and corn flour:			
Barrels	382,721	206,223	259,689
Value	$1,124,244	$497,903	$369,108
Rye flour:			
Barrels	149	458	950
Value	$698	$2,152	$2,527
Feed:			
Tons	204,481	70,559	36,884
Value	$5,062,822	$1,398,421	$450,765
Offal:			
Tons	81,524	78,472	32,659
Value	$1,698,003	$1,232,632	$369,378
All other products	$299,341	$1,182	$12,622

[1] Not reported separately.

From 1899 to 1909 there was an increase of $14,431,522, or over 300 per cent, in the total value of products reported for this industry. The greater part of this increase was in the value of white flour, which shows a gain of $7,410,250, or over 200 per cent, and in the value of feed, which shows a gain of $4,612,057, or a value over ten times that reported in 1899. In 1909 the value of white flour represented 57 per cent of the total value of all flour-mill and gristmill products, while the value of offal, which consists chiefly of the by-products of flour mills, represented 8.9 per cent of the total. Feed, which is usually ground from corn, oats, etc., shows marked increases both in quantity and in value. The quantity of corn meal and corn flour increased 85.6 per cent during the five-year period 1904–1909, and its value 125.8 per cent. Rye flour, an unimportant product, was the only product showing a decrease in quantity and value.

Oil, cottonseed, and cake.—Measured by value of products, this industry was second in the state in 1909. In this year the state ranked eighth among the cotton-growing states as regards its crop of cotton and in the value of its crude cottonseed products. The following table gives the quantity of seed crushed and the quantities of the resultant crude products for the census years 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	QUANTITY.		
	1909	1904	1899
Cotton seed crushed ..... tons..	186,352	168,454	52,849
Crude products manufactured:			
Oil ..... gallons..	6,817,974	6,384,973	1,868,906
Meal and cake ..... tons..	78,690	67,417	18,666
Hulls ..... tons..	62,290	62,264	25,498
Linters ..... pounds..	9,584,227	7,169,960	1,199,525

The statistics in this table include the products of all establishments which crushed cotton seed during the year. While the quantity of seed crushed increased 218.8 per cent from 1899 to 1904, it increased only 10.6 per cent from 1904 to 1909. The average amount crushed per mill increased from 4,403 tons in 1899 to 7,019 tons in 1904, but decreased to 4,778 tons in 1909. Of the 39 mills reported in 1909 as crushing seed, there was only 1 which crushed less than 1,000 tons of seed during the census year; 6 crushed 1,000 but less than 2,000 tons; 18 crushed 2,000 but less than 5,000 tons; 10 crushed 5,000 but less than 10,000 tons; and 4 crushed 10,000 but less than 20,000 tons.

The quantities of the various products obtained in 1909 per ton of seed as received at the mill were as follows: Crude oil, 36.6 gallons; meal and cake, 844.5 pounds; hulls, 668.5 pounds; and linters, 51.4 pounds. The proportions which the weight of the several products represented of the total weight of the seed when received at the mill were as follows: Crude oil, 13.7 per cent; meal and cake, 42.2 per cent; hulls, 33.4 per cent; and linters, 2.6 per cent. The weight of hulls per ton of seed crushed decreased from 965.1 pounds in 1899 to 739.2 pounds in 1904 and 668.5 pounds in 1909, while there was an increase in the weight of meal and cake and linters and a small net increase in that of oil for the period as a whole. The amount of oil secured for each ton of seed crushed was 35.4 gallons in 1899, 37.9 gallons in 1904, and 36.6 gallons in 1909.

Lumber and timber products.—Oklahoma showed from 1899 to 1909 a greater relative increase in the quantity of lumber cut than any other state in the Union, the output in 1909 being more than ten times that of 1899. The table following shows the quantity of rough lumber, lath, and shingles produced in the sawmill branch of the industry for 1909 and 1899.

Of the total cut of rough lumber in 1909, amounting to 225,730 M feet board measure, 141,677 M feet was softwood, principally yellow pine, and 84,053 M feet was hardwood, of which 60,964 M feet, or 72.5 per cent, was oak.

PRODUCT.	QUANTITY.	
	1909	1899
Rough lumber.....M feet b. m..	225,730	22,104
Lath.....thousands..	1,233	75
Shingles.....thousands..	4,635	103

Printing and publishing.—This industry as a whole shows considerable growth during the last 10 years as measured by the financial statistics. The statistics for newspapers and other publications summarized in the following statement also show a large increase in number and circulation during this period:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	593	453	187	857,959	533,063	170,218
Daily	67	44	15	185,479	74,451	18,024
Sunday	11	8	13	77,326	43,802	(1)
Semiweekly	1	2	1	1,750	8,000	800
Weekly	499	387	152	512 229	352 013	145,844
Monthly	12	10	5	39,225	29,797	5,050
All other classes	3	2	1	41,950	25,000	500

[1] Included in circulation of dailies.

The number of publications in 1909 was more than three times that in 1899, and the aggregate circulation per issue was more than five times as great. The weekly publications are by far the most important class in the state, measured either by number or by aggregate circulation per issue. In both respects they show a substantial increase for each of the five-year periods. In 1909 they formed 84.1 per cent of all publications and reported 59.7 per cent of the aggregate circulation per issue. All of the other classes of publications, with the exception of the semiweeklies, show large gains in their aggregate circulation from 1904 to 1909. All of the publications were in English except five weeklies, one of which was published in Bohemian and four in German.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. There were 93 such establishments in the state, 9 of which were in Oklahoma City, 6 in Muskogee, 5 in Tulsa, 3 in Enid, and 2 each in Chickasha, Guthrie, McAlester, and Shawnee.

The most common form of ownership was the individual, with 47 establishments. The firm and corporate forms of ownership were represented by 27 and 19 establishments, respectively. Eighteen establishments had receipts for the year's business of less than $5,000; 58, $5,000 but less than $20,000; and 17, $20,000 but less than $100,000.

The next statement summarizes the statistics.

Number of establishments	93
Persons engaged in the industry	1,301
Proprietors and firm members	105
Salaried employees	95
Wage earners (average number)	1,101
Primary horsepower	1,484
Capital	$781,531
Expenses	928,217
Services	563,685
Materials	200,679
Miscellaneous	163,853
Amount received for work done	1,197,978

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	993	84.2	July	1,160	98.4
February	995	84.4	August	1,167	99.0
March	1,022	86.7	September	1,179	100.0
April	1,040	88.2	October	1,171	99.3
May	1,064	90.2	November	1,151	97.6
June	1,099	93.2	December	1,167	99.0

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

KIND.	Number of engines or motors.	Horse power.
Primary power, total		**1,484**
Owned:		
Steam	176	1,195
Gas	8	53
Rented:		
Electric	66	231
Other		5

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

KIND.	Unit.	Quantity.
Anthracite coal	Tons	696
Bituminous coal	Tons	9,377
Wood	Cords	393
Oil	Barrels	1,346
Gas	1,000 feet	224,175

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	4	147
Persons engaged in the industry	12	323
Proprietors and firm members	5	182
Salaried employees		4
Wage earners (average number)	7	137
Primary horsepower	118	4,123
Capital	$5,325	$180,518
Expenses	2,321	389,037
Services	1,908	12,906
Materials	65	[1] 369,149
Miscellaneous	348	6,982
Value of products	4,725	[1] 465,348

[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	2,310	18,034	2,698	2,193	13,143	71,139	$38,873	$2,045	$7,240	$34,153	$53,682	$19,529
	1904	1,123	7,456	1,187	813	5,456	29,608	16,124	718	2,799	16,394	24,459	8,065
	1899	495	.....	.....	289	2,381	11,572	4,054	219	894	5,430	8,134	2,704
Artificial stone	1909	129	426	168	22	236	166	304	14	120	233	539	306
	1904	14	49	11	5	33	13	44	4	18	32	79	47
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bread and other bakery products	1909	252	766	298	50	418	223	574	29	252	969	1,794	825
	1904	121	305	144	4	157	27	225	1	88	410	692	282
	1899	18	52	20	.....	32	3	44	.....	12	44	96	52
Brick and tile	1909	38	823	32	61	730	3,733	1,303	61	378	226	1,029	803
	1904	50	482	47	34	401	3,029	733	34	186	128	510	382
	1899	49	288	64	6	218	378	136	5	81	31	185	154
Brooms	1909	23	109	27	6	76	51	122	6	43	145	248	103
	1904	12	57	15	.....	42	20	28	.....	19	31	72	41
	1899	[2] 7	14	6	.....	8	.....	14	.....	2	4	10	6
Butter, cheese, and condensed milk	1909	19	101	17	22	62	427	197	19	36	928	1,150	222
	1904	3	16	4	1	11	91	16	(3)	6	66	89	23
	1899	5	8	5	.....	3	32	13	.....	2	14	19	5
Carriages and wagons and materials	1909	19	158	22	13	123	319	172	12	72	81	233	152
	1904	[2] 8	52	8	1	43	15	54	1	23	26	67	41
	1899	[2] 7	.....	.....	.....	27	.....	25	.....	9	11	37	26
Copper, tin, and sheet-iron products	1909	62	344	79	32	233	46	305	30	184	411	799	388
	1904	18	95	23	3	69	.....	90	2	52	107	215	108
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products	1909	295	1,679	533	304	842	16,400	7,691	323	473	16,493	19,144	2,651
	1904	108	911	101	193	617	9,013	4,131	186	331	10,187	12,019	1,832
	1899	66	.....	.....	105	346	4,764	1,448	82	165	3,885	4,713	828
Foundry and machine-shop products	1909	64	587	65	65	457	1,113	1,437	71	320	587	1,371	784
	1904	26	158	33	4	121	332	268	3	77	76	233	157
	1899	[2] 6	34	10	1	23	51	39	(3)	11	31	59	28
Ice, manufactured	1909	77	614	30	135	449	10,359	2,719	101	270	307	1,273	966
	1904	44	285	23	65	197	5,348	1,341	48	107	121	528	407
	1899	9	81	7	19	55	760	227	13	29	31	112	81
Leather goods	1909	15	88	15	7	66	26	140	7	62	226	375	149
	1904	14	85	12	8	65	.....	179	11	45	153	280	127
	1899	8	.....	.....	5	41	.....	53	5	23	95	157	62
Lumber and timber products	1909	342	3,809	429	205	3,175	12,397	3,603	189	1,269	1,487	4,439	2,952
	1904	[5] 60	567	78	31	458	2,361	512	31	245	437	1,017	580
	1899	73	.....	.....	24	539	.....	405	19	159	315	684	369
Marble and stone work	1909	41	220	50	23	147	257	227	20	111	187	418	231
	1904	11	82	17	2	63	95	60	2	34	34	106	72
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oil, cottonseed, and cake	1909	39	770	3	186	581	10,720	5,071	202	235	4,245	5,187	942
	1904	24	606	1	109	496	6,005	2,590	110	182	2,353	3,109	756
	1899	12	263	.....	41	222	2,286	719	43	70	605	874	269
Printing and publishing	1909	598	2,945	661	586	1,698	1,664	3,734	467	1,044	1,004	3,989	2,985
	1904	423	1,790	486	174	1,139	652	1,700	135	574	473	2,101	1,628
	1899	[2] 160	757	189	46	522	141	510	32	189	148	663	515
Slaughtering and meat packing	1909	7	86	7	16	63	236	290	18	43	749	889	140
	1904	4	46	6	1	39	52	125	4	22	239	294	55
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other industries	1909	290	4,509	262	460	3,787	13,002	10,984	476	2,328	5,875	10,805	4,930
	1904	183	1,861	178	178	1,505	2,555	4,028	146	790	1,521	3,048	1,527
	1899	75	.....	.....	22	345	.....	421	20	142	216	525	309

[1] Not reported separately.
[2] Excluding statistics for one establishment, to avoid disclosure of individual operations.
[3] Less than $500.
[4] Figures can not be shown without disclosing individual operations.
[5] 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.					
OKLAHOMA CITY—All industries	1909	171	2,087	148	541	1,398	4,132	$4,482	$483	$973	$5,146	$7,868	$2,722
	1904	89	936	71	145	720	.....	3,922	142	422	2,362	3,671	1,309
	1899	36	.....	.....	33	220	.....	473	24	101	517	845	328
Artificial stone	1909	15	61	19	8	34	48	81	6	20	37	97	60
	[1] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bread and other bakery products	1909	17	130	17	28	85	39	96	15	59	214	365	151
	1904	9	38	9	.....	29	.....	32	.....	19	49	88	39
	1899	3	.....	.....	.....	5	.....	18	.....	4	16	38	22
Copper, tin, and sheet-iron products	1909	5	63	5	10	48	23	87	10	37	130	212	82
	1904	6	37	6	3	28	.....	26	2	22	35	76	41
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products	1909	7	116	2	39	75	1,187	738	46	56	1,839	2,087	248
	1904	3	65	.....	18	47	.....	410	18	28	1,049	1,227	178
	1899	4	.....	.....	14	27	.....	216	9	12	383	508	125
Foundry and machine-shop products	1909	7	111	6	18	87	185	286	18	63	97	222	125
	1904	6	62	7	.....	55	.....	140	.....	35	37	96	59
	1899	4	.....	.....	1	14	.....	26	([3])	6	11	21	10
Ice, manufactured	1909	5	57	.....	17	40	909	291	13	26	36	133	97
	[1] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lumber and timber products	1909	8	182	7	25	150	277	338	31	106	193	388	195
	1904	4	87	3	13	71	.....	190	17	34	142	232	90
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marble and stone work	1909	5	53	8	6	39	19	61	6	33	78	140	62
	[1] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Patent medicines and compounds and druggists' preparations.	1909	8	24	8	5	11	8	31	3	6	9	35	26
	1904	3	14	2	4	8	.....	20	4	3	6	24	18
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing	1909	44	689	40	282	367	347	1,065	221	288	419	1,269	850
	1904	18	180	14	50	116	.....	222	40	70	80	328	248
	1899	4	.....	.....	7	40	.....	38	5	20	11	54	43
Tobacco manufactures	1909	6	11	6	.....	5	.....	4	.....	4	8	19	11
	1904	8	24	9	.....	15	.....	12	.....	6	16	34	18
	[1] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other industries	1909	44	590	30	103	457	1,090	1,404	114	275	2,086	2,901	815
	1904	32	429	21	57	351	.....	2,870	61	205	948	1,566	618
	1899	21	.....	.....	11	125	.....	180	10	59	96	224	128

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

Chickasha	1909	30	465	30	71	364	1,488	$1,117	$73	$242	$1,285	$1,867	$582
	[4] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Enid	1909	65	455	55	97	303	1,722	1,097	76	191	1,807	2,453	646
	[4] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guthrie	1909	34	385	32	71	282	1,281	1,092	76	163	948	1,443	495
	1904	34	410	28	49	333	.....	794	46	186	701	1,201	500
	1899	33	.....	.....	39	241	.....	371	32	99	337	649	312
McAlester	1909	29	240	28	32	180	895	619	29	101	195	451	256
	[4] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Muskogee	1909	64	554	61	112	381	1,421	969	106	241	1,478	2,279	801
	[4] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shawnee	1909	40	1,147	35	98	1,014	1,801	1,532	80	615	1,163	2,081	918
	[4] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tulsa	1909	53	585	56	67	462	1,586	1,153	72	315	874	1,563	689
	[4] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] Figures can not be shown without disclosing individual operations.
[2] Not reported separately.
[3] Less than $500.
[4] Figures not available.

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**	2,310	18,034	2,698	932	1,059	202	13,143	Oc 14,659	Fe 11,782	(1)	(1)	(1)	(1)	(1)	71,139
2	Artificial stone	129	426	168	13	8	1	236	Je 282	Ja 128	329	328	.....	1	.....	166
3	Bread and other bakery products	252	766	298	11	26	13	418	De 433	Ap 403	449	406	37	5	1	223
4	Brick and tile	38	823	32	39	20	2	730	Jy 932	Ja 369	943	941	.....	2	.....	3,733
5	Brooms	23	109	27	1	4	1	76	Se [2] 81	Jy 69	83	80	2	1	.....	51
6	Butter, cheese, and condensed milk	19	101	17	10	6	6	62	Jy 83	Ja 40	50	40	9	1	.....	427
7	Canning and preserving	3	10	1	2	.....	.....	7	Se 33	Ja [3] 0	30	9	13	5	3	41
8	Carriages and wagons and materials	19	158	22	8	4	1	123	Jy 134	Ja 114	121	121	.....	.....	.....	319
9	Cars and general shop construction and repairs by steam-railroad companies.	8	1,495	.....	38	43	2	1,412	De 1,612	Mh 1,268	1,599	1,564	1	34	.....	957
10	Cars and general shop construction and repairs by street-railroad companies.	4	51	.....	3	1	.....	47	De 56	Fe [2] 35	56	56	.....	.....	.....	110
11	Clothing, men's, including shirts	3	122	.....	6	3	.....	113	Oc [2] 118	Jy 103	122	5	117	.....	.....	18
12	Confectionery	11	64	13	3	8	1	39	De 60	Ja [2] 21	61	38	21	2	.....	26
13	Copper, tin, and sheet-iron products	62	344	79	10	21	1	233	Se 268	Ap 202	245	242	1	2	.....	46
14	Flour-mill and gristmill products	295	1,679	533	126	153	25	842	Oc 922	Je 741	936	934	.....	2	.....	10,400
15	Foundry and machine-shop products	64	587	65	35	22	8	457	Au 491	My 420	512	512	.....	.....	.....	1,113
16	Furnishing goods, men's	5	33	4	7	.....	.....	22	Se 38	Ja [2] 5	42	5	35	.....	2	17
17	Furniture and refrigerators	5	73	5	1	7	.....	60	De 92	Fe 44	92	90	2	.....	.....	210
18	Gas, illuminating and heating	6	59	1	7	10	3	38	Ja [2] 38	Fe [2] 37	38	38	.....	.....	.....	181
19	Ice, manufactured	77	614	30	81	45	9	449	Jy 745	Fe 195	475	470	.....	5	.....	10,359
20	Leather goods	15	88	15	6	.....	1	66	Jy 71	Oc 58	72	72	.....	.....	.....	26
21	Lumber and timber products	342	3,809	429	110	84	11	3,175	De 3,401	Ja 2,837	4,045	4,035	1	9	.....	12,397
22	Marble and stone work	41	220	50	6	15	2	147	Au [2] 165	Fe 121	165	165	.....	.....	.....	257
23	Mattresses and spring beds	7	63	6	6	1	1	49	De 72	Ja 36	72	62	10	.....	.....	151
24	Oil, cottonseed, and cake	39	770	3	106	78	2	581	No 1,266	Jy 115	1,294	1,294	.....	.....	.....	10,720
25	Patent medicines and compounds and druggists' preparations.	13	52	16	3	5	6	22	Ap [2] 25	Ja [2] 20	22	14	8	.....	.....	8
26	Petroleum, refining	9	129	2	20	31	1	75	Oc 92	My 63	91	91	.....	.....	.....	231
27	Printing and publishing	598	2,945	661	160	352	74	1,698	De 1,831	Ja 1,626	1,875	1,497	326	52	.....	1,664
28	Slaughtering and meat packing	7	86	7	6	8	2	63	De 91	Fe 43	91	91	.....	.....	.....	236
29	Smelting and refining, zinc	3	593	.....	11	12	4	566	Je 626	Ja 481	608	608	.....	.....	.....	1,181
30	Tobacco manufactures	29	75	30	.....	1	.....	44	De 60	Je 38	65	45	16	4	.....	.....
31	Wall plaster	11	303	.....	21	16	7	259	Oc 295	Ja 230	297	297	.....	.....	.....	1,721
32	All other industries [4]	173	1,387	184	76	75	18	1,034	.....	.....	.....	.....	.....	.....	.....	8,150

[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—

Automobiles, including bodies and parts	1	Carpets, rag	1	Electrical machinery, apparatus, and supplies	1
Awnings, tents, and sails	5	Cement	2	Explosives	3
Baking powders and yeast	1	Clothing, women's	1	Food preparations	8
Belting and hose, woven and rubber	1	Coffee and spice, roasting and grinding	4	Fuel, manufactured	1
Bluing	1	Cooperage and wooden goods, not elsewhere specified	1	Gas and electric fixtures and lamps and reflectors	1
Boots and shoes, including cut stock and findings	1	Cordage and twine and jute and linen goods	1	Glass	1
Boxes, fancy and paper	1	Dairymen's, poulterers', and apiarists' supplies	2	Glass, cutting, staining, and ornamenting	1
Buttons	1			Hand stamps and stencils and brands	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	$38,372,938	$47,216,432	$1,136,965	$908,330	$7,240,177	$1,304,757	$32,848,137	$255,949	$306,718	$373,954	$2,841,445	$53,682,405	$19,529,511
2	303,906	404,987	7,714	6,196	120,457	2,850	230,052	4,882	1,786	455	30,595	538,877	305,975
3	573,647	1,369,818	12,136	16,427	252,265	37,746	931,209	48,576	7,133	.....	64,266	1,794,113	825,098
4	1,303,172	755,496	47,902	12,621	378,350	169,924	56,117	1,754	6,663	2,300	79,865	1,028,693	802,652
5	122,331	205,448	1,020	4,500	42,546	856	144,583	1,459	643	11	9,830	248,337	102,898
6	197,251	1,072,347	12,550	6,072	36,239	14,458	913,842	1,467	1,083	.....	86,636	1,149,545	221,245
7	14,923	2,437	258	.....	739	150	1,108	.....	97	.....	85	2,822	1,564
8	172,487	184,715	10,000	2,410	72,481	3,382	77,492	6,340	1,542	10	11,058	232,880	152,006
9	1,359,022	1,701,851	50,020	38,627	941,923	44,027	597,863	.....	15,757	.....	13,634	1,701,851	1,059,961
10	70,298	64,532	3,600	360	29,540	760	25,227	.....	1,000	.....	4,045	64,532	38,545
11	82,164	185,054	7,080	2,925	42,172	1,343	125,000	2,940	445	.....	3,149	194,000	67,657
12	65,742	97,556	2,685	4,955	16,270	1,371	57,181	5,755	159	.....	9,180	114,719	56,167
13	305,460	671,838	7,935	21,607	184,139	3,339	407,939	11,744	2,594	720	31,821	799,273	387,995
14	7,690,613	17,959,820	154,541	168,743	472,977	173,435	16,319,400	4,347	61,348	.....	604,969	19,144,475	2,651,580
15	1,437,185	1,058,135	50,389	21,051	319,711	25,967	560,712	5,068	8,508	3,777	62,952	1,371,463	784,784
16	10,110	11,061	2,098	.....	2,654	157	5,635	361	.....	.....	156	9,530	3,738
17	163,050	154,224	700	3,500	42,085	2,312	97,667	1,210	923	.....	5,827	205,852	105,873
18	382,131	90,444	6,482	5,105	20,700	40,630	2,942	.....	4,452	.....	10,133	114,851	71,279
19	2,719,197	902,240	73,841	27,372	270,051	195,296	111,760	1,287	32,626	8,147	181,860	1,272,515	965,459
20	140,175	323,135	7,100	350	61,561	521	225,928	4,359	1,900	.....	21,425	375,074	148,625
21	3,602,740	3,518,848	117,028	72,287	1,269,369	26,410	1,460,836	9,233	27,975	277,425	258,285	4,438,563	2,951,317
22	227,313	346,195	7,000	12,735	111,004	4,397	182,662	2,716	1,733	.....	23,948	418,148	231,089
23	105,309	146,111	7,780	400	29,605	2,598	96,641	1,856	260	.....	6,971	153,332	54,093
24	5,071,147	4,985,400	142,050	60,102	235,405	108,784	4,136,715	50	40,156	2,337	259,801	5,186,605	941,106
25	68,650	61,330	2,600	7,450	9,694	113	15,521	1,340	137	750	23,725	65,066	49,432
26	1,056,682	887,617	30,796	25,993	54,011	31,176	544,297	250	3,670	2,184	195,240	1,055,011	479,538
27	3,734,389	3,096,360	199,888	267,214	1,043,968	51,378	952,745	118,635	29,970	72,608	359,954	3,988,542	2,984,419
28	290,152	842,866	7,700	10,408	42,777	6,679	742,143	4,195	1,562	6	27,396	889,237	140,415
29	1,769,488	2,576,882	29,929	14,051	343,453	153,598	1,979,029	.....	10,708	.....	46,114	3,002,233	869,606
30	36,347	68,584	.....	500	20,960	281	34,617	1,448	7,414	.....	3,364	85,544	50,646
31	1,033,670	408,204	22,809	21,871	141,930	52,782	111,842	.....	4,269	.....	52,701	434,664	270,040
32	4,764,187	3,062,897	111,334	72,498	631,141	148,037	1,699,312	14,686	30,205	3,224	352,460	3,602,058	1,754,709

[4] All other industries embrace—Continued.

Hats and caps, other than felt, straw, and wool	1	Millinery and lace goods	1	Soda-water apparatus	1
Hats, fur-felt	1	Mineral and soda waters	105	Vinegar and cider	2
House-furnishing goods, not elsewhere specified	1	Mirrors	1	Washing machines and clothes wringers	3
Jewelry	1	Paint and varnish	1	Wirework, including wire rope and cable	1
Leather, tanned, curried, and finished	2	Photo-engraving	2	Wood preserving	1
Lime	1	Scales and balances	1	Wood, turned and carved	3
Malt	1	Show cases	1		

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

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

OKLAHOMA CITY.

	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**	**171**	**2,087**	**148**	**140**	**339**	**62**	**1,398**	**1,245**	**145**	**8**	**1,575**	**1,406**	**160**	**9**	.....	**4,132**
2	Artificial stone	15	61	19	4	3	1	34	33	.....	1	52	51	.....	1	.....	48
3	Bread and other bakery products	17	130	17	4	19	5	85	78	6	1	92	84	7	1	.....	39
4	Copper, tin, and sheet-iron products	5	63	5	2	7	1	48	48	.....	.....	45	45	.....	.....	.....	23
5	Flour-mill and gristmill products	7	116	2	12	23	4	75	75	.....	.....	78	78	.....	.....	.....	1,187
6	Foundry and machine-shop products	7	111	6	9	4	5	87	87	.....	.....	103	103	.....	.....	.....	185
7	Ice, manufactured	5	57	.....	8	9	.....	40	40	.....	.....	55	55	.....	.....	.....	909
8	Lumber and timber products	8	182	7	5	18	2	150	150	.....	.....	174	174	.....	.....	.....	277
9	Marble and stone work	5	53	8	1	3	2	39	39	.....	.....	44	44	.....	.....	.....	19
10	Patent medicines and compounds and druggists' preparations.	8	24	8	1	1	3	11	8	3	.....	12	9	3	.....	.....	8
11	Printing and publishing	44	689	40	50	201	31	367	321	42	4	406	355	46	5	.....	347
12	Tobacco manufactures	6	11	6	.....	.....	.....	5	5	.....	.....	7	7	.....	.....	.....	.....
13	All other industries [1]	44	590	30	44	51	8	457	361	94	2	507	401	104	2	.....	1,090

[1] All other industries embrace: Awnings, tents, and sails, 2; baking powders and yeast, 1; bluing, 1; boxes, fancy and paper, 1; brick and tile, 1; butter, cheese, and condensed milk, 1; carriages and wagons and materials, 2; cars and general construction and repairs by street-railroad companies, 1; clothing, men's, including shirts, 1; coffee and spice, roasting and grinding, 3; confectionery, 2; food preparations, 1; furniture and refrigerators, 1; gas, illuminating and heating, 1; glass, cutting, staining,

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

1	CHICKASHA	30	465	30	23	40	8	364	356	5	3	401	392	6	3	.....	1,488
2	ENID	65	455	55	44	47	6	303	275	28	.....	322	292	30	.....	.....	1,722
3	GUTHRIE	34	385	32	20	40	11	282	247	18	17	335	294	21	20	.....	1,281
4	MCALESTER	29	240	28	18	7	7	180	164	16	.....	233	212	21	.....	.....	895
5	MUSKOGEE	64	554	61	43	58	11	381	360	15	6	420	397	17	6	.....	1,421
6	SHAWNEE	40	1,147	35	45	46	7	1,014	937	74	3	1,192	1,101	87	4	.....	1,891
7	TULSA	53	585	56	23	36	8	462	428	25	9	676	627	36	12	1	1,586

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.

OKLAHOMA CITY.

	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	$4,482,138	$7,354,168	$206,177	$276,800	$973,067	$115,448	$5,030,343	$64,485	$31,665	$63,417	$592,766		$7,867,884	$2,722,093
2	81,172	82,226	3,086	2,416	19,553	431	36,556	2,740	193	.....	17,251		96,845	59,858
3	95,710	317,872	5,580	9,020	59,276	4,925	208,720	6,540	1,164	.....	22,647		365,187	151,542
4	87,487	191,313	1,587	8,246	36,760	874	128,987	3,475	154	.....	11,230		212,005	82,144
5	737,863	2,032,328	14,900	30,933	56,222	11,316	1,827,330	870	6,881	.....	83,876		2,086,965	248,319
6	286,356	193,455	11,800	5,820	62,770	3,519	93,315	1,443	2,342	150	12,296		221,768	124,934
7	291,163	105,849	7,550	5,280	25,785	26,901	8,658	.....	3,854	8,147	19,674		132,881	97,322
8	337,575	340,375	9,600	21,607	105,960	1,210	192,241	1,350	3,682	.....	4,725		388,316	194,865
9	61,238	121,894	1,200	4,450	32,666	462	77,552	814	486	.....	4,264		140,318	62,304
10	30,950	26,022	900	1,750	5,804	113	8,910	620	50	.....	7,875		34,750	25,727
11	1,065,498	1,199,873	81,839	139,464	287,551	10,253	408,936	31,933	5,506	49,486	184,905		1,269,104	$49,915
12	3,720	15,208	.....	.....	4,215	.....	8,354	306	1,383	.....	950		18,825	10,471
13	1,403,406	2,727,753	68,135	47,814	276,505	55,444	2,030,784	14,394	5,970	5,634	223,073		2,900,920	814,692

and ornamenting, 1; hand stamps and stencils and brands, 1; hats, fur-felt, 1; jewelry, 1; leather goods, 3; mattresses and spring beds, 2; millinery and lace goods, 1; mineral and soda waters, 5; mirrors, 1; oil, cottonseed, and cake, 1; petroleum, refining, 1; photo-engraving, 2; show cases, 1; slaughtering and meat packing, 2; soda-water apparatus, 1; wire work, including wire rope and cable, 1.

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

1	$1,117,277	$1,654,094	$34,381	$38,345	$241,684	$34,139	$1,250,679	$2,914	$9,489	$65	$42,398	$1,866,959	$582,141
2	1,096,912	2,221,361	47,453	28,809	191,468	40,911	1,766,536	11,231	8,988	1,340	124,625	2,453,188	645,741
3	1,092,474	1,286,893	35,674	39,993	162,721	20,125	927,518	4,089	9,933	9,683	77,157	1,442,795	495,152
4	619,039	369,780	19,880	9,183	101,030	25,064	169,648	6,867	4,537	.....	33,571	451,234	256,522
5	968,825	2,059,711	51,510	54,733	240,743	29,394	1,448,554	15,857	10,521	3,966	204,433	2,279,151	801,203
6	1,532,350	1,965,287	57,259	32,004	615,431	46,002	1,116,742	10,304	19,429	1,130	66,986	2,081,477	918,733
7	1,152,891	1,381,375	34,372	37,433	314,547	20,426	853,721	15,404	7,619	1,045	96,808	1,562,642	688,495

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OREGON.

INDUSTRIES IN GENERAL.

General character of the state.—Oregon, with a gross area of 96,699 square miles, of which 1,092 represent water surface, ranks ninth in size among the 49 states and territories of continental United States. Its population in 1910 was 672,765, as compared with 413,536 in 1900 and 317,704 in 1890. It ranked thirty-fifth among the 49 states and territories as regards population in 1910 and thirty-sixth in 1900. The density of population of the state was 7 per square mile in 1910, the corresponding figure for 1900 being 4.3.

Portland, with a population of 207,214, and Salem, with a population of 14,094, are the only cities in the state having more than 10,000 inhabitants. Of the entire population of the state, 45.6 per cent resided in cities and incorporated towns having a population of 2,500 or over in 1910, as against 32.2 per cent in 1900.

The northern and western parts of the state are traversed by trunk-line railways with terminals at Portland, from which city the Willamette and Columbia Rivers afford deep-water communication with the Pacific, making of Portland one of the leading ports of the Pacific coast. The Columbia River, which forms about three-fourths of the northern boundary of the state, affords cheap transportation for the products of the fertile valleys of the northeastern counties, and is the scene of extensive salmon fishing. The large arid area of southeastern Oregon is sparsely settled, lacks manufacturing interests of any importance, and is very deficient in transportation facilities. The slopes of the Cascades and sections of the northern counties are wooded heavily with an excellent quality of pine and fir. The waters of the numerous mountain streams of the state have been utilized to some extent for the development of power and for purposes of irrigation.

Importance and growth of manufactures.—Although Oregon is increasing in importance as a manufacturing state, the growth of its manufacturing industries during the past 60 years has not kept pace with that of its population. In 1849 the 52 manufacturing establishments reported at the census of that year gave employment to an average of 285 wage earners, representing 2.1 per cent of the total population of the state. In 1909 an average of 28,750 wage earners, or 4.3 per cent of the total population, were employed in manufactures. During this period, however, the gross value of products per capita of the total population decreased from $168 in 1849 to $138 in 1909, although the proportion which the manufactures of the state represented of the total value of the products of the manufacturing industries of the United States increased during the same time from two-tenths of 1 per cent to four-tenths of 1 per cent.

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	2,246	1,602	1,406	40.2	13.9
Persons engaged in manufactures	34,722	22,018	(1)	57.7	.....
Proprietors and firm members	2,499	1,726	(1)	44.8	.....
Salaried employees	3,473	1,769	1,143	96.3	54.8
Wage earners (average number)	28,750	18,523	14,459	55.2	28.1
Primary horsepower	175,019	81,348	60,005	115.1	35.6
Capital	$89,082,000	$44,024,000	$28,359,000	102.3	55.2
Expenses	82,124,000	48,360,000	30,812,000	69.8	57.0
Services	23,949,000	13,577,000	8,044,000	76.4	68.8
Salaries	4,047,000	2,133,000	1,222,000	89.7	74.5
Wages	19,902,000	11,444,000	6,822,000	73.9	67.8
Materials	50,552,000	30,597,000	20,789,000	65.2	47.2
Miscellaneous	7,623,000	4,186,000	1,979,000	82.1	111.5
Value of products	93,005,000	55,525,000	36,593,000	67.5	51.7
Value added by manufacture (value of products less cost of materials)	42,453,000	24,928,000	15,804,000	70.3	57.7

[1] Figures not available.

In 1909 the state of Oregon had 2,246 manufacturing establishments, which gave employment to an average of 34,722 persons during the year and paid out $23,949,000 in salaries and wages. Of the persons employed, 28,750 were wage earners. These establishments turned out products to the value of $93,005,000,

to produce which materials costing $50,552,000 were utilized. The value added by manufacture was thus $42,453,000, 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 Oregon as a whole showed a marked growth during the decade 1899–1909, the greater development having taken place during the five-year period 1904–1909. During this period the number of establishments increased 40.2 per cent and the average number of wage earners 55.2 per cent, while the value of products increased 67.5 per cent, and the value added by manufacture 70.3 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 representing 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	2,246	28,750	100.0	$93,005,000	100.0	$42,453,000	100.0	67.5	51.7	70.3	57.7
Lumber and timber products	713	15,066	52.4	30,200,000	32.5	17,787,000	40.9	95.9	39.1	86.0	62.3
Flour-mill and gristmill products	114	394	1.4	8,891,000	9.6	1,224,000	2.8	5.0	38.0	9.7	16.7
Slaughtering and meat packing	14	366	1.3	5,880,000	6.3	865,000	4.3	102.3	77.5	67.3	85.3
Printing and publishing	324	1,459	5.1	5,041,000	5.4	3,938,000	9.1	81.6	85.8	85.9	89.1
Butter, cheese, and condensed milk	95	420	1.5	4,920,000	5.3	968,000	2.2	.....	.....	.....	.....
Canning and preserving	71	661	2.3	3,207,000	3.4	1,020,000	2.4	10.2	46.0	0.3	46.1
Foundry and machine-shop products	82	1,055	3.7	3,135,000	3.4	1,663,000	3.8	97.4	87.2	76.0	81.7
Bread and other bakery products	151	613	2.1	2,829,000	3.0	1,208,000	2.8	88.1	93.1	92.0	100.3
Liquors, malt	18	204	0.7	1,857,000	2.0	1,403,000	3.2	66.1	56.6	103.6	27.4
Leather goods	48	353	1.2	1,629,000	1.8	640,000	1.5	76.1	42.3	67.1	46.7
Copper, tin, and sheet-iron products	39	431	1.5	1,611,000	1.7	776,000	1.8	.....	.....	.....	.....
Confectionery	19	283	1.0	1,215,000	1.3	666,000	1.5	220.6	81.3	179.8	110.6
Cars and general shop construction and repairs by steam-railroad companies	8	777	2.7	1,163,000	1.2	654,000	1.5	−8.1	23.3	−25.6	62.2
Clothing, men's, including shirts	5	544	1.9	1,105,000	1.2	367,000	0.9	.....	.....	.....	.....
Furniture and refrigerators	19	552	1.9	1,094,000	1.2	610,000	1.4	38.5	164.2	35.0	232.4
Woolen, worsted, and felt goods, and wool hats	8	469	1.6	929,000	1.0	402,000	0.9	−10.2	15.1	−25.3	24.5
Brick and tile	61	385	1.3	675,000	0.7	520,000	1.2	114.3	38.8	106.3	32.6
Shipbuilding, including boat building	24	212	0.7	477,000	0.5	273,000	0.6	60.6	.....	56.9	.....
Tobacco manufactures	56	187	0.6	474,000	0.5	303,000	0.7	19.7	171.2	39.6	152.3
Stoves and furnaces, including gas and oil stoves	11	86	0.3	351,000	0.4	221,000	0.5	152.5	.....	85.7	.....
Mattresses and spring beds	7	83	0.3	350,000	0.4	139,000	0.3	141.4	.....	135.6	.....
Marble and stone work	23	76	0.3	297,000	0.3	184,000	0.4	.....	.....	.....	.....
Ice, manufactured	25	69	0.2	257,000	0.3	181,000	0.4	18.4	87.1	2.8	81.4
Leather, tanned, curried, and finished	8	49	0.2	244,000	0.3	63,000	0.2	−49.7	94.0	−46.6	96.7
All other industries	303	3,956	13.8	15,174,000	16.3	6,378,000	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 product of one establishment in the industry as material for another establishment.

Although a few industries greatly predominate in importance, it will be seen from Table II on page 1034 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.

Lumber and timber products.—This industry, which includes the operation of lumber camps, sawmills, shingle mills, planing mills, and establishments engaged in the manufacture of wooden packing boxes, is by far the most important branch of manufacture in the state. Oregon ranked ninth in the total cut of rough lumber in 1909. The industry gave employment to an average of 15,066 wage earners, or 52.4 per cent of the total for the state, and the value of its products amounted to $30,200,000, or 32.5 per cent of the total value of all manufactured products.

Flour-mill and gristmill products.—This industry, which is second in importance among the industries of the state when measured by value of products, is dependent largely upon the extensive grain areas of the state for its raw material. Because of the comparatively simple processes involved in the industry and the extent to which these processes are carried on by machinery, the number of wage earners employed and the value added by manufacture are not commensurate with the gross value of products. This classification does not include custom flour mills and gristmills, statistics for which are shown separately on page 1031.

Slaughtering and meat packing.—This industry includes wholesale slaughtering and meat packing and the manufacture of sausage. It does not include the retail butcher shops, which slaughter a large number

of animals. In 1909 the industry gave employment to an average of 366 wage earners and turned out products valued at $5,880,000. The value of products shows an increase over 1904 of 102.3 per cent.

Printing and publishing.—This industry in Oregon includes book and job printing, the printing and publishing of newspapers and periodicals, bookbinding and blank-book making, steel and copper plate engraving, including plate printing, and lithographing. The increase in the value of products from 1904 to 1909 was 81.6 per cent, as compared with an increase of 85.8 per cent from 1899 to 1904. The average number of wage earners employed increased during the decade from 840 to 1,459, or 73.7 per cent. Although this industry ranked fourth among the manufacturing industries of the state in value of products in 1909, it ranked second when measured by number of wage earners and by value added by manufacture.

Butter, cheese, and condensed milk.—Improvements in machinery and in methods of handling the raw materials have resulted in increasing the average size of the establishments and in the centralization of the industry in the larger business centers. The statistics shown for this industry for 1904 do not include the entire product of the industry, as it was necessary to omit two large condensed-milk establishments to avoid disclosing the operations of individual concerns. The 95 establishments reported under this classification in 1909 may be grouped according to their chief products as follows: Butter factories, 55; cheese factories, 33; and condensed-milk factories, 7.

Canning and preserving.—The development of fruit growing and truck gardening in Oregon has greatly increased the activity of the canning and preserving industry since 1904. While there has been a considerable decrease since 1904 in the fish products, which represented about two-thirds of the total value of the output of the canneries in 1909, the rapid increase in the drying of fruits, especially prunes, so increased the total value of products that the industry as a whole showed a gain of 10.2 per cent during the five years.

In addition to the 24 industries presented separately, there are 16 industries which had a value of products in 1909 in excess of $200,000. 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 properly present the true condition of the industry, as it is interwoven with one or more other industries. These industries are as follows: Awnings, tents, and sails; babbitt metal and solder; bags, other than paper; boxes, fancy and paper; cars and general shop construction and repairs by street-railroad companies; coffee and spice, roasting and grinding; cordage and twine and jute and linen goods; food preparations; gas, illuminating and heating; iron and steel, steel works and rolling mills; mineral and soda waters; oil, linseed; paint and varnish; paper and wood pulp; soap; and wood preserving.

The rank of the leading industries on the basis of the value added by manufacture differs considerably from their order given in the table, where they are arranged according to the value of products. The lumber industry retains first place, and slaughtering and meat packing third. Printing and publishing advances from fourth to second place; the foundries and machine shops and the malt-liquor industry advance from seventh and ninth to fourth and fifth places, respectively; and the flour mills and gristmills and the butter, cheese, and condensed-milk industry drop from second and fifth to sixth and ninth places, respectively.

This table also shows the percentages of increase for these leading industries in respect to value of products and value added by manufacture in all cases where comparative statistics can be presented. Slaughtering and meat packing, and the manufacture of confectionery, brick and tile, stoves and furnaces, and mattresses and spring beds showed large increases, both in value of products and in value added by manufacture.

Three of the industries shown separately—steam-railroad repair shops, woolen mills, and tanneries—showed decreases in value of products and value added by manufacture from 1904 to 1909.

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	34,722	31,849	2,873
Proprietors and officials	3,719	3,667	52
Proprietors and firm members	2,499	2,453	46
Salaried officers of corporations	344	340	4
Superintendents and managers	876	874	2
Clerks	2,253	1,702	551
Wage earners (average number)	28,750	26,480	2,270
16 years of age and over	28,652	26,406	2,246
Under 16 years of age	98	74	24

The average number of persons engaged in manufactures during 1909 was 34,722, of whom 28,750 were wage earners. Of the remainder, 3,719 were proprietors and officials and 2,253 were clerks. Corresponding figures for individual industries will be found in Table II, page 1034.

The following table shows, for 1909, the percentages of proprietors and officials, clerks, and wage earners, respectively, among 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	34,722	10.7	6.5	82.8
Bread and other bakery products	905	22.0	10.3	67.7
Butter, cheese, and condensed milk	615	16.6	15.1	68.3
Canning and preserving	844	14.1	7.6	78.3
Clothing, men's, including shirts	576	2.6	3.0	94.4
Confectionery	408	7.6	23.0	69.4
Copper, tin, and sheet-iron products	525	11.4	6.5	82.1
Flour-mill and gristmill products	620	26.8	9.7	63.5
Foundry and machine-shop products	1,270	11.1	5.8	83.1
Furniture and refrigerators	621	5.2	6.0	88.9
Leather goods	484	15.5	11.6	72.9
Liquors, malt	272	12.9	12.1	75.0
Lumber and timber products	16,833	7.7	2.8	89.5
Printing and publishing	2,523	25.3	16.9	57.8
All other industries	8,226	9.8	8.6	81.6

Of the total number of persons engaged in all manufacturing industries, 10.7 per cent were proprietors and officials, 6.5 per cent clerks, and 82.8 per cent wage earners. The highest percentage of proprietors and officials shown for any individual industry, 26.8, is for the flour mills and gristmills. In this industry and also in the bakeries and in printing and publishing 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 these industries falling into the class of proprietors and officials is very much higher than for most other industries or for all industries combined. On account of the large average number of wage earners per establishment engaged in making men's clothing and shirts, this industry shows the smallest proportion of proprietors and officials.

The next table 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.

For all industries combined, 91.8 per cent of the average number of wage earners were males 16 years of age and over; 7.8 per cent females 16 years of age and over; and three-tenths of 1 per cent children under 16 years of age. The larger part of the total number of female wage earners were employed in the men's clothing and the canning and preserving industries. In the men's clothing factories nearly nine-tenths of the wage earners were women 16 years of age and over, and in the canneries nearly two-fifths belonged to this class. In the manufacture of confectionery, a large proportion of female wage earners were employed, 67.8 per cent, but the number of women employed was not as large as in the canneries, where the proportion of such wage earners was smaller. The largest percentage of children was employed in the canneries, where much of the work requires but little strength or skill.

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	28,750	91.8	7.8	0.3
Bread and other bakery products	613	71.1	28.5	0.3
Butter, cheese, and condensed milk	420	91.4	7.6	1.0
Canning and preserving	661	59.6	36.9	3.5
Clothing, men's, including shirts	544	10.1	89.9	.....
Confectionery	283	32.2	67.8	.....
Copper, tin, and sheet-iron products	431	92.3	7.7	.....
Flour-mill and gristmill products	394	99.7	0.3	.....
Foundry and machine-shop products	1,055	100.0	.....	.....
Furniture and refrigerators	552	98.7	1.3	.....
Leather goods	353	96.6	3.4	.....
Liquors, malt	204	100.0	.....	.....
Lumber and timber products	15,066	99.6	0.3	0.1
Printing and publishing	1,459	83.7	14.3	2.0
All other industries	6,715	87.6	11.9	0.4

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

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.	Percent distribution.	Number.	Percent distribution.	
Total	34,722	100.0	22,018	100.0	57.7
Proprietors and firm members	2,499	7.2	1,726	7.8	44.8
Salaried employees	3,473	10.0	1,769	8.0	96.3
Wage earners (average number)	28,750	82.8	18,523	84.1	55.2

Comparable figures are not obtainable for 1899. The table shows a greater percentage of increase in salaried employees than in that of 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.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	28,750	100.0	18,523	100.0	14,459	100.0
16 years of age and over	28,652	99.7	18,317	98.9	14,183	98.1
Male	26,406	91.8	16,843	90.9	13,067	90.4
Female	2,246	7.8	1,474	8.0	1,116	7.7
Under 16 years of age	98	0.3	206	1.1	276	1.9

This table indicates that for all industries combined there has been during the past decade a diminution in the number and in the proportion of children under 16 years of age. Although there was an actual increase in the number of women wage earners, the proportion which such wage earners formed of the total remained practically the same at each census. In 1909 males 16 years of age and over formed 91.8 per cent of all wage earners, as compared with 90.9 per cent in 1904 and 90.4 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, for the canning and preserving and the lumber and timber 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 1034, are shown, for practically all of the important industries in the state, the largest number and also 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.											
	All industries.		Canning and preserving.		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.	Number.	Per cent of maximum.
January	23,354	75.4	116	7.3	11,545	70.1	8,496	71.1	3,049	66.6	11,693	86.1
February	24,833	80.2	113	7.1	12,842	78.0	9,480	79.4	3,362	73.4	11,878	87.4
March	26,859	86.7	172	10.8	14,353	87.2	10,427	87.3	3,926	85.7	12,334	90.8
April	29,170	94.2	277	17.4	15,667	95.2	11,271	94.3	4,396	96.0	13,235	97.4
May	30,302	97.8	524	33.0	16,191	98.4	11,611	97.2	4,580	100.0	13,587	100.0
June	30,806	99.4	874	55.0	16,462	100.0	11,947	100.0	4,515	98.6	13,470	99.1
July	30,175	97.4	1,102	69.4	15,746	95.6	11,551	96.7	4,195	91.6	13,327	98.1
August	30,269	97.7	921	58.0	15,857	96.3	11,567	96.8	4,290	93.7	13,491	99.3
September	30,978	100.0	1,588	100.0	16,244	98.7	11,898	99.6	4,346	94.9	13,146	96.8
October	30,402	98.1	1,250	78.7	15,969	97.0	11,700	97.9	4,269	93.2	13,183	97.0
November	29,423	95.0	580	36.5	15,382	93.4	11,298	94.6	4,084	89.2	13,461	99.1
December	28,416	91.7	419	26.4	14,532	88.3	10,907	91.3	3,625	79.1	13,465	99.1

The brick and tile and canning and preserving industries are the only decidedly seasonal industries in Oregon, but neither gives employment to a sufficiently large number of persons to influence greatly the variation of employment in the state. In both industries most of the work is done during the summer months. In the canneries the season of greatest activity extends from June to October, inclusive. Employment was given to 1,588 wage earners in September, the month of greatest activity, and to 113 in February, the month of minimum employment.

The lumber industry in Oregon is not particularly seasonal, and the slight variations in the employment of the large number of wage earners in the industry do not greatly affect the total for all industries. Most of the large mills operate throughout the year, but many of the smaller ones shut down during the winter months, thus causing a fluctuation of nearly 5,000 in the number of wage earners. The greatest number employed in the industry as a whole during any one month was 16,462 in June, and the smallest number, 11,545, in January.

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. 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.

It is evident from the figures that for the great majority of wage earners employed in the manufacturing industries of Oregon the usual hours of labor range from 54 to 60 a week, inclusive, only 14.5 per cent of the total being employed in establishments where less than 54 hours a week prevailed, and only 6.3 per cent in establishments where the hours of labor were more than 60 a week. In two important industries, men's clothing and printing and publishing, most of the wage earners work in establishments where the prevailing hours of labor are 48 or less per week. In the lumber industry, the most important in the state, 91.4 per cent of the wage earners worked in establishments where the prevailing hours were 60 per week.

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	**28,750**	**3,396**	**762**	**3,880**	**1,030**	**17,861**	**1,485**	**194**	**142**
Bread and other bakery products	613	50	31	108	221	161	32	6	4
Brick and tile	385	43	.....	96	8	238	.....	.....	.....
Butter, cheese, and condensed milk	420	34	12	72	36	96	168	.....	.....
Canning and preserving	661	15	28	134	.....	280	172	1	2
Cars and general shop construction and repairs by steam-railroad companies	777	19	.....	697	.....	21	40	.....	31
Clothing, men's, including shirts	544	538	.....	.....	6	.....	.....	.....	.....
Confectionery	283	19	75	24	127	37	1	.....	.....
Copper, tin, and sheet-iron products	431	188	1	98	7	137	.....	.....	.....
Flour-mill and gristmill products	394	7	.....	11	.....	280	15	80	.....
Foundry and machine-shop products	1,055	36	122	802	17	78	.....	.....	1
Furniture and refrigerators	552	.....	36	9	8	499	.....	.....	.....
Ice, manufactured	69	10	.....	2	3	9	9	14	22
Leather goods	353	10	4	281	7	51	.....	.....	.....
Liquors, malt	204	170	.....	2	19	12	1	.....	.....
Lumber and timber products	15,066	360	105	243	186	13,766	393	.....	13
Marble and stone work	76	72	.....	2	.....	2	.....	.....	.....
Mattresses and spring beds	83	.....	.....	47	.....	36	.....	.....	.....
Printing and publishing	1,459	1,188	81	166	7	13	4	.....	.....
Shipbuilding, including boat building	212	181	2	27	.....	2	.....	.....	.....
Slaughtering and meat packing	366	.....	.....	.....	.....	340	5	5	16
Stoves and furnaces, including gas and oil stoves	86	27	5	29	25	.....	.....	.....	.....
Tobacco manufactures	187	184	2	.....	.....	1	.....	.....	.....
Woolen, worsted, and felt goods, and wool hats	469	.....	.....	3	.....	466	.....	.....	.....
All other industries	4,005	245	258	1,027	353	1,336	645	88	53

Location of establishments.—The following table shows the extent to which the manufactures of Oregon are centralized in cities of 10,000 population or over. (See Introduction.) The comparison is confined here, as in other states, to the years 1899 and 1909, in the absence of a Federal census of population by which the grouping of cities in 1904 could be determined.

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	672,765	221,308	451,457	32.9	67.1
	1900	413,536	90,426	323,110	21.9	78.1
Number of establishments.	1909	2,246	711	1,535	31.7	68.3
	1899	1,406	408	998	29.0	71.0
Average number of wage earners.	1909	28,750	12,811	15,939	44.6	55.4
	1899	14,459	5,380	9,079	37.2	62.8
Value of products	1909	$93,004,845	$49,068,798	$43,936,047	52.8	47.2
	1899	36,592,714	16,903,707	19,689,007	46.2	53.8
Value added by manufacture.	1909	42,452,375	21,815,981	20,636,394	51.4	48.6
	1899	15,803,881	6,726,379	9,077,502	42.6	57.4

In 1909, 52.8 per cent of the total value of products was reported from the cities of Portland and Salem, the only cities in the state having over 10,000 population, and 44.6 per cent of the total number of wage earners were employed in these cities. There has been a change from the supremacy of the outside manufacturing districts in 1899 to that of the cities in 1909. This is due partly to the fact that Salem had a population of less than 10,000 in 1900 and was not included in the city group until 1909, but chiefly to the marked growth of the industries in the city of Portland, this city alone reporting slightly more than one-half of the total value of products for the state in 1909. The large percentages shown for the outside districts are resultant largely from the activity in the lumber industry.

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

CITY.	1910	1900
Portland	207,214	90,426
Salem	14,094	4,258

The following table shows the average number of wage earners and the value of products for Portland for 1909, 1904, and 1899, and for Salem for 1909:

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Portland	12,214	8,171	5,380	$46,860,767	$28,651,321	$16,903,707
Salem	597	(1)	(1)	2,208,031	(1)	(1)

[1] Figures not available.

Portland, the largest and by far the most important city in the state, shows an increase, from 1904 to 1909, of $18,209,446, or 63.6 per cent, in value of products and of 4,043, or 49.5 per cent, in the average number of wage earners. When measured by value of products, the lumber industry was the most important branch of manufactures in Portland. In 1909 the value of products of this industry in this city amounted to $10,110,975, representing 33.5 per cent

of the total for the industry in the state, and employment was given to an average of 3,669 wage earners, or 24.4 per cent of the total number engaged in the industry in the state. In 1909 Portland reported nearly three-fourths of the total value of products for printing and publishing in the state; over three-fourths that for the bakeries; more than four-fifths that for the foundries and machine shops, for the manufacture of copper, tin, and sheet-iron products, and for the leather-goods industry; and over nine-tenths those for the confectionery and furniture industries, respectively. The manufacture of men's clothing in the state was confined to Portland.

Statistics of manufactures for Salem are shown for the first time in 1909; therefore no comparison can be made with former censuses. The most important industries in the city in that year were the lumber industry, the canneries, slaughtering and meat packing, the woolen-goods industry, printing and publishing, and the malt-liquor industry.

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.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909	**2,246**	**28,750**	**$93,004,845**	**$42,452,375**
1904	**1,602**	**18,523**	**55,525,123**	**24,928,360**
Individual:				
1909	1,031	3,552	11,482,192	5,774,363
1904	746	2,919	8,414,059	4,286,027
Firm:				
1909	545	3,044	9,860,644	5,264,778
1904	439	2,559	6,972,525	3,449,783
Corporation:				
1909	640	22,063	70,781,269	31,212,265
1904	409	13,037	40,034,288	17,178,323
Other:				
1909	30	91	880,740	200,969
1904	8	8	104,251	14,227
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Individual:				
1909	45.9	12.4	12.3	13.6
1904	46.6	15.8	15.2	17.2
Firm:				
1909	24.3	10.6	10.6	12.4
1904	27.4	13.8	12.6	13.8
Corporation:				
1909	28.5	76.7	76.1	73.5
1904	25.5	70.4	72.1	68.9
Other:				
1909	1.3	0.3	0.9	0.5
1904	0.5	(1)	0.2	0.1
Butter, cheese, and condensed milk, 1909	**95**	**420**	**$4,920,462**	**$968,242**
Individual	29	53	928,188	148,068
Firm	12	26	555,283	103,892
Corporation	34	306	2,761,391	652,319
Other	20	35	675,600	63,963
Per cent of total	100.0	100.0	100.0	100.0
Individual	30.5	12.6	18.9	15.3
Firm	12.6	6.2	11.3	10.7
Corporation	35.8	72.9	56.1	67.4
Other	21.1	8.3	13.7	6.6
Canning and preserving, 1909	**71**	**661**	**$3,207,060**	**$1,019,628**
Individual	23	82	181,279	79,196
Firm	13	54	143,816	63,042
Corporation [2]	35	525	2,881,965	877,390
Canning and preserving, 1909—Continued.				
Per cent of total	100.0	100.0	100.0	100.0
Individual	32.4	12.4	5.7	7.8
Firm	18.3	8.2	4.5	6.2
Corporation [2]	49.3	79.4	89.9	86.0
Flour-mill and gristmill products, 1909	**114**	**394**	**$8,891,001**	**$1,224,265**
Individual	45	88	1,845,411	304,044
Firm	24	47	1,005,993	194,134
Corporation	45	259	6,039,597	726,087
Per cent of total	100.0	100.0	100.0	100.0
Individual	39.5	22.3	20.8	24.8
Firm	21.1	11.9	11.3	15.9
Corporation	39.5	65.7	67.9	59.3
Foundry and machine-shop products, 1909	**82**	**1,055**	**$3,135,068**	**$1,663,469**
Individual	31	170	562,277	293,631
Firm	18	85	234,931	140,652
Corporation	33	800	2,337,860	1,229,186
Per cent of total	100.0	100.0	100.0	100.0
Individual	37.8	16.1	17.9	17.7
Firm	22.0	8.1	7.5	8.5
Corporation	40.2	75.8	74.6	73.9
Lumber and timber products, 1909	**713**	**15,066**	**$30,199,857**	**$17,786,420**
Individual	263	1,178	2,068,739	1,436,000
Firm	246	1,584	2,918,721	1,996,100
Corporation	204	12,304	25,212,397	14,354,320
Per cent of total	100.0	100.0	100.0	100.0
Individual	36.9	7.8	6.8	8.1
Firm	34.5	10.5	9.7	11.2
Corporation	28.6	81.7	83.5	80.7
Printing and publishing, 1909	**324**	**1,459**	**$5,040,523**	**$3,937,110**
Individual	200	375	1,108,857	906,158
Firm	47	138	371,464	288,325
Corporation	69	912	3,419,957	2,621,924
Other	8	34	140,245	120,703
Per cent of total	100.0	100.0	100.0	100.0
Individual	61.7	25.7	22.0	23.0
Firm	14.5	9.5	7.4	7.3
Corporation	21.3	62.5	67.8	66.6
Other	2.5	2.3	2.8	3.1

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

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

The most important distinction shown is that between corporate and all other forms of ownership. For all industries combined, 28.5 per cent of the total number of establishments in 1909 were under corporate ownership, as against 71.5 per cent under all other forms. The corresponding figures for 1904 were 25.5 per cent and 74.5 per cent, respectively. The establishments operated by corporations, however, reported 76.1 per cent of the total value of products in 1909 and 72.1 per cent in 1904. The greatest decrease in relative numerical importance from 1904 to 1909 is shown for the establishments operated by firms, which represented only 24.3 per cent of the total number in 1909, as compared with 27.4 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 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 certain important industries separately, as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries combined 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	2,246	28,750	$93,004,845	$42,452,375
1904	1,602	18,523	55,525,123	24,928,360
Less than $5,000:				
1909	789	957	1,926,913	1,343,938
1904	584	747	1,529,491	1,040,739
$5,000 and less than $20,000:				
1909	786	3,214	8,203,981	5,082,474
1904	567	2,820	5,821,749	3,658,379
$20,000 and less than $100,000:				
1909	482	7,104	21,453,056	10,626,549
1904	332	5,228	14,162,072	6,969,113
$100,000 and less than $1,000,000:				
1909	181	15,110	47,022,078	20,766,801
1904	114	8,620	26,138,494	11,579,967
$1,000,000 and over:				
1909	8	2,365	14,398,817	4,632,613
1904	5	1,108	7,873,317	1,680,162
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	35.1	3.3	2.1	3.2
1904	36.5	4.0	2.8	4.2
$5,000 and less than $20,000:				
1909	35.0	11.2	8.8	12.0
1904	35.4	15.2	10.5	14.7
$20,000 and less than $100,000:				
1909	21.5	24.7	23.1	25.0
1904	20.7	28.2	25.5	28.0
$100,000 and less than $1,000,000:				
1909	8.1	52.6	50.6	48.9
1904	7.1	46.5	47.1	46.5
$1,000,000 and over:				
1909	0.4	8.2	15.5	10.9
1904	0.3	6.0	14.2	6.7
Average per establishment:				
1909	.....	13	$41,409	$18,901
1904	.....	12	34,660	15,561
Butter, cheese, and condensed milk, 1909	95	420	$4,920,462	$968,242
Less than $5,000	16	6	45,021	9,500
$5,000 and less than $20,000	27	33	345,779	54,003
$20,000 and less than $100,000	40	104	1,834,374	248,958
$100,000 and less than $1,000,000	12	277	2,695,288	655,781
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	16.8	1.4	0.9	1.0
$5,000 and less than $20,000	28.4	7.9	7.0	5.6
$20,000 and less than $100,000	42.1	24.8	37.3	25.7
$100,000 and less than $1,000,000	12.6	66.0	54.8	67.7
Average per establishment	.....	4	$51,794	$10,192
Canning and preserving, 1909	71	661	$3,207,060	$1,019,628
Less than $5,000	25	36	59,234	26,195
$5,000 and less than $20,000	17	98	194,061	78,701
$20,000 and less than $100,000	19	264	1,025,182	355,999
$100,000 and less than $1,000,000	10	263	1,928,583	558,733
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	35.2	5.4	1.8	2.6
$5,000 and less than $20,000	23.9	14.8	6.1	7.7
$20,000 and less than $100,000	26.8	39.9	32.0	34.9
$100,000 and less than $1,000,000	14.1	39.8	60.1	54.8
Average per establishment	.....	9	$45,170	$14,361
Flour-mill and gristmill products, 1909	114	394	$8,891,001	$1,224,265
Less than $5,000	8	6	27,503	7,632
$5,000 and less than $20,000	35	28	445,286	98,225
$20,000 and less than $100,000	55	134	2,782,962	528,851
$100,000 and less than $1,000,000 [1]	16	226	5,635,250	589,557
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	7.0	1.5	0.3	0.6
$5,000 and less than $20,000	30.7	7.1	5.0	8.0
$20,000 and less than $100,000	48.2	34.0	31.3	43.2
$100,000 and less than $1,000,000 [1]	14.0	57.4	63.4	48.2
Average per establishment	.....	3	$77,991	$10,739
Foundry and machine-shop products, 1909	82	1,055	$3,135,068	$1,663,469
Less than $5,000	15	11	32,724	20,548
$5,000 and less than $20,000	29	111	331,415	207,063
$20,000 and less than $100,000	30	387	1,047,323	597,345
$100,000 and less than $1,000,000	8	546	1,723,606	838,513
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	18.3	1.0	1.0	1.2
$5,000 and less than $20,000	35.4	10.5	10.6	12.4
$20,000 and less than $100,000	36.6	36.7	33.4	35.9
$100,000 and less than $1,000,000	9.8	51.8	55.0	50.4
Average per establishment	.....	13	$38,233	$20,286
Lumber and timber products, 1909	713	15,066	$30,199,857	$17,786,420
Less than $5,000	284	484	646,974	521,251
$5,000 and less than $20,000	224	1,382	2,210,788	1,614,397
$20,000 and less than $100,000	139	3,493	6,210,660	4,219,587
$100,000 and less than $1,000,000	63	8,538	17,399,242	9,563,248
$1,000,000 and over	3	1,169	3,732,193	1,867,937
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	39.8	3.2	2.1	2.9
$5,000 and less than $20,000	31.4	9.2	7.3	9.1
$20,000 and less than $100,000	19.5	23.2	20.6	23.7
$100,000 and less than $1,000,000	8.8	56.7	57.6	53.8
$1,000,000 and over	0.4	7.8	12.4	10.5
Average per establishment	.....	21	$42,356	$24,946
Printing and publishing, 1909	324	1,459	$5,040,523	$3,937,110
Less than $5,000	171	168	437,672	348,514
$5,000 and less than $20,000	117	430	1,212,096	971,398
$20,000 and less than $100,000	30	396	1,174,676	874,804
$100,000 and less than $1,000,000 [1]	6	465	2,216,079	1,742,294
Per cent of total	100.0	100.0	100.0	100.0
Less than $5,000	52.8	11.5	8.7	8.9
$5,000 and less than $20,000	36.1	29.5	24.0	24.7
$20,000 and less than $100,000	9.3	27.1	23.3	22.2
$100,000 and less than $1,000,000 [1]	1.9	31.9	44.0	44.3
Average per establishment	.....	4	$15,557	$12,152

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

This table shows that, in 1909, of the 2,246 manufacturing establishments in the state, only 8 had a value of products exceeding $1,000,000. These establishments, however, employed an average of 2,365 wage earners, or 8.2 per cent of the total number in all establishments, and reported 15.5 per cent of the total value of products and 10.9 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 (35.1 per cent) of the total number of establishments, but the value of their products amounted to only 2.1 per cent of the total. The bulk of the manufacturing was reported by 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, as measured by value of products, in the relative importance of the large establishments—those reporting products valued at not less than $100,000—and a decrease in that of the three other classes.

The fact that from 1904 to 1909 the average value of products per establishment increased from $34,660 to $41,409, and the average value added by manufacture from $15,561 to $18,901, 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 increased from 12 in 1904 to 13 in 1909.

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 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.

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	**2,246**	**232**	**1,310**	**449**	**141**	**59**	**39**	**13**	**3**	.....
Bread and other bakery products	151	31	103	13	2	1	1	.....	.....	.....
Butter, cheese, and condensed milk	95	10	71	10	2	2	.....	.....	.....	.....
Canning and preserving	71	1	46	17	5	2	.....	.....	.....	.....
Clothing, men's, including shirts	5	.....	1	1	.....	1	1	1	.....	.....
Confectionery	19	.....	10	6	2	1	.....	.....	.....	.....
Copper, tin, and sheet-iron products	39	3	21	10	4	.....	1	.....	.....	.....
Flour-mill and gristmill products	114	15	86	9	3	1	.....	.....	.....	.....
Foundry and machine-shop products	82	4	37	30	7	3	1	.....	.....	.....
Furniture and refrigerators	19	1	7	5	2	2	2	.....	.....	.....
Leather goods	48	3	33	6	5	1	.....	.....	.....	.....
Liquors, malt	18	1	8	7	1	1	.....	.....	.....	.....
Lumber and timber products	713	26	377	178	68	31	21	11	1	.....
Printing and publishing	324	72	195	49	4	3	1	.....	.....	.....
All other industries	548	65	315	108	36	10	11	1	2	.....
	AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**28,750**	.....	**2,938**	**4,757**	**4,729**	**4,225**	**5,944**	**4,335**	**1,822**	.....
Bread and other bakery products	613	.....	173	134	60	68	178	.....	.....	.....
Butter, cheese, and condensed milk	420	.....	127	110	58	125	.....	.....	.....	.....
Canning and preserving	631	.....	118	228	172	143	.....	.....	.....	.....
Clothing, men's, including shirts	544	.....	1	6	.....	66	150	321	.....	.....
Confectionery	283	.....	23	98	88	74	.....	.....	.....	.....
Copper, tin, and sheet-iron products	431	.....	54	96	147	.....	134	.....	.....	.....
Flour-mill and gristmill products	394	.....	180	86	73	55	.....	.....	.....	.....
Foundry and machine-shop products	1,055	.....	95	301	247	194	218	.....	.....	.....
Furniture and refrigerators	552	.....	19	47	66	139	281	.....	.....	.....
Leather goods	353	.....	69	49	176	59	.....	.....	.....	.....
Liquors, malt	204	.....	16	99	23	66	.....	.....	.....	.....
Lumber and timber products	15,066	.....	863	1,914	2,380	2,277	3,094	3,744	794	.....
Printing and publishing	1,459	.....	416	497	118	208	220	.....	.....	.....
All other industries	6,715	.....	784	1,092	1,121	751	1,669	270	1,028	.....
	PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.									
All industries	**100.0**	.....	**10.2**	**16.5**	**16.4**	**14.7**	**20.7**	**15.1**	**6.3**	.....
Bread and other bakery products	100.0	.....	28.2	21.9	9.8	11.1	29.0	.....	.....	.....
Butter, cheese, and condensed milk	100.0	.....	30.2	26.2	13.8	29.8	.....	.....	.....	.....
Canning and preserving	100.0	.....	17.9	34.5	26.0	21.6	.....	.....	.....	.....
Clothing, men's, including shirts	100.0	.....	0.2	1.1	.....	12.1	27.6	59.0	.....	.....
Confectionery	100.0	.....	8.1	34.6	31.1	26.1	.....	.....	.....	.....
Copper, tin, and sheet-iron products	100.0	.....	12.5	22.3	34.1	.....	31.1	.....	.....	.....
Flour-mill and gristmill products	100.0	.....	45.7	21.8	18.5	14.0	.....	.....	.....	.....
Foundry and machine-shop products	100.0	.....	9.0	28.5	23.4	18.4	20.7	.....	.....	.....
Furniture and refrigerators	100.0	.....	3.4	8.5	12.0	25.2	50.9	.....	.....	.....
Leather goods	100.0	.....	19.5	13.9	49.9	16.7	.....	.....	.....	.....
Liquors, malt	100.0	.....	7.8	48.5	11.3	32.4	.....	.....	.....	.....
Lumber and timber products	100.0	.....	5.7	12.7	15.8	15.1	20.5	24.8	5.3	.....
Printing and publishing	100.0	.....	28.5	34.1	8.1	14.3	15.1	.....	.....	.....
All other industries	100.0	.....	11.7	16.3	16.7	11.2	24.9	4.0	15.3	.....

Of the 2,246 establishments reported for all industries, 10.3 per cent employed no wage earners; 58.3 per cent, from 1 to 5; 20 per cent, 6 to 20; and 6.3 per cent, 21 to 50. The most numerous single group consists of the 1,310 establishments employing from 1 to 5 wage earners, and the next of the 449 establishments employing from 6 to 20 wage earners. There were 114 establishments that employed over 50 wage earners each, 55 employed over 100 each, 16 employed over 250 each, and 3 employed over 500 each. Of the 55 establishments that employed over 100 wage earners each, 33 were engaged in the lumber industry.

Of the total number of wage earners, 42.1 per cent were in establishments employing over 100 wage earners each. The single group having the largest number of wage earners was the group comprising the establishments employing from 101 to 250 wage earners. This group employed 5,944 wage earners, or 20.7 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 which make up the total.

The following table 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.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	4.9	24.2	61.6	9.3
Bread and other bakery products	3.3	18.6	68.6	9.5
Butter, cheese, and condensed milk	2.8	6.3	86.0	4.8
Canning and preserving	5.0	10.9	75.4	8.7
Clothing, men's, including shirts	2.7	22.6	70.0	4.7
Confectionery	9.4	14.3	56.8	19.5
Copper, tin, and sheet-iron products	3.8	25.0	59.0	12.3
Flour-mill and gristmill products	1.7	3.3	92.3	2.7
Foundry and machine-shop products	6.6	32.3	53.3	7.8
Furniture and refrigerators	6.3	32.6	48.9	12.2
Leather goods	6.3	17.9	67.5	8.4
Liquors, malt	7.3	16.8	37.1	38.8
Lumber and timber products	4.8	38.4	46.9	10.0
Printing and publishing	14.7	38.1	29.0	18.3
All other industries	4.7	19.1	67.6	8.5

This table shows that for all industries combined 61.6 per cent of the total expenses was incurred for materials, 29.1 per cent for services—that is, salaries and wages—and 9.3 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. Among the industries shown separately, printing and publishing shows the largest percentage of expenses for services and flour milling and grist milling the largest for materials. The largest percentage for miscellaneous expenses was reported by the breweries, owing to the inclusion of the internal-revenue tax under this head.

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.

Fifty-five and four-tenths per cent of the total increase in power from 1904 to 1909 is due to the increase in that used in the lumber industry alone. The largest actual increase was in steam power, which in 1909 represented 64.1 per cent of the primary power. Water power more than doubled, and represented 27.1 per cent of the total in 1909. The practice of renting electric power has increased greatly during the decade, the proportion of such power having increased from 3.7 per cent of the total in 1899 to 8.4 per cent in 1909. In 1904 electric power generated in the manufacturing establishments reporting formed only 9.5 per cent of the total electric power reported, while in 1909 it formed 28.8 per cent, having increased from 496 horsepower in 1904 to 5,991 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	3,442	1,318	1,184	175,019	81,348	60,005	100.0	100.0	100.0
Owned	1,921	1,318	1,184	160,110	76,543	57,444	91.5	94.1	95.7
Steam	1,572	1,008	883	112,244	55,512	37,986	64.1	68.2	63.3
Gas	81	58	36	428	371	195	0.2	0.5	0.3
Water wheels	237	207	265	47,041	20,526	19,263	26.9	25.2	32.1
Water motors	31	45	(2)	397	134	(2)	0.2	0.2	(2)
Other	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rented	1,521	(2)	(2)	14,909	4,805	2,561	8.5	5.9	4.3
Electric	1,521	.....	.....	14,811	4,727	2,243	8.4	5.8	3.7
Other	.....	(2)	(2)	98	78	318	0.1	0.1	0.5
Electric motors	1,745	31	27	20,802	5,223	2,690	100.0	100.0	100.0
Run by current generated by establishment	224	31	27	5,991	496	447	28.8	9.5	16.6
Run by rented power	1,521	(2)	(2)	14,811	4,727	2,243	71.2	90.5	83.4

[1] Includes the neighborhood industries and hand trades, omitted in 1904 and 1909.
[2] Not reported.

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	462	18,158	5,808	116,762	599,121	25,821
Bread and other bakery products	36	344	226	4,415	9,102	6,137
Butter, cheese, and condensed milk	144	1,006	35	11,544	11,046	.....
Canning and preserving	18	122	.....	7,520	8,086	.....
Clothing, men's, including shirts	.....	80	.....	96	924	.....
Confectionery	10	170	138	481	1,085	3,999
Copper, tin, and sheet-iron products	.....	47	52	524	125	1,296
Flour-mill and gristmill products	.....	247	.....	6,854	1,633	.....
Foundry and machine-shop products	154	608	2,556	2,351	4,469	275
Furniture and refrigerators	.....	40	.....	825	1,720	1,092
Leather goods	6	29	.....	182	45	237
Liquors, malt	.....	504	764	15,004	8,929	300
Lumber and timber products	18	1,180	.....	4,474	11,160	506
Printing and publishing	27	409	.....	1,502	3,677	4,826
All other industries	49	13,312	2,037	60,990	536,520	7,153

NOTE.—In addition, there were 11,715 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 other information for securing which no provision is made on the general schedule. Certain data of this character for six important industries in Oregon are here presented.

Lumber and timber products.—The following is a statement of the quantity of the lumber, lath, and shingles produced in the sawmills and shingle mills as reported at the censuses of 1909 and 1899:

PRODUCT.	1909	1899
Rough lumber.....M feet b. m.	1,898,995	734,538
Lath.....thousands	161,512	41,779
Shingles.....thousands	293,644	31,189

The cut of rough lumber increased 1,164,457 M feet board measure, or 158.5 per cent, from 1899 to 1909; that of shingles, 262,455,000, or 841.5 per cent; and that of lath, 119,733,000, or 286.6 per cent.

Of the total cut for 1909, 1,895,950 M feet board measure, was softwood. Of this amount, 1,581,621 M feet board measure, or 83.4 per cent of the total for the state, was Douglas fir, and 169,592 M feet western pine; among other varieties are spruce, cedar, hemlock, and larch. There were only 3,045 M feet of hardwood lumber produced, of which maple, cottonwood, ash, and oak were the principal varieties. In 1909 Oregon was second among the states in the production of Douglas fir, reporting 32.6 per cent of the total. But two states, California and Oregon, reported sugar pine and Oregon reported 8.6 per cent of the total cut.

Flour-mill and gristmill products.—The following table gives the quantity and value of the various kinds of products of this industry for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	$8,891,001	$8,467,613	$6,136,250
Wheat flour:			
White—			
Barrels	1,345,369	1,716,833	1,778,799
Value	$5,950,611	$6,236,291	$4,620,351
Graham—			
Barrels	14,912	24,016	(1)
Value	$65,234	$88,641	(1)
Corn meal and corn flour:			
Barrels	559	685	3,632
Value	$2,236	$3,395	$10,283
Rye flour:			
Barrels	1,299	285	1,854
Value	$5,502	$1,300	$5,661
Buckwheat flour:			
Pounds	8,651	11,600	241,900
Value	$376	$385	$6,238
Barley meal:			
Pounds	1,095,604	2,693,000	1,049,000
Value	$17,963	$32,750	$10,430
Hominy and grits:			
Pounds	15,000	225,651	24,000
Value	$390	$4,515	$480
Feed:			
Tons	53,460	32,270	49,548
Value	$1,545,894	$813,442	$717,972
Offal:			
Tons	50,802	66,477	46,685
Value	$1,142,201	$1,247,728	$538,822
All other products	$160,594	$39,166	$226,013

[1] Not reported separately.

As shown in the table, the principal product of this industry is white-wheat flour, the value of which formed 66.9 per cent of the total value of all products for the industry in 1909, 73.6 per cent in 1904, and 75.3 per cent in 1899. During the decade there was a decrease in the quantity of every class of product except feed, offal, and barley meal. In 1909 the value of feed and of offal formed 17.4 per cent and 12.8 per cent, respectively, of the total value of products for the industry, as against 11.7 per cent and 8.8 per cent, respectively, in 1899. In 1909 the mills of the state were equipped with 976 pairs of rolls and 45 runs of stone. The corresponding figures for 1904 were 941 pairs of rolls and 55 runs of stone. Two mills reported the manufacture of sacks in 1909 but none the manufacture of barrels.

Slaughtering and meat packing.—This classification includes wholesale slaughtering and meat-packing establishments and those engaged in the manufacture of sausage only. The following table gives the quantities and values of the different products for 1909, 1904, and 1899:

PRODUCT.	1909	1904 [1]	1899 [1]
Total value	$5,879,615	$2,907,154	$1,638,480
Beef, fresh:			
Pounds	28,759,934	13,525,565	7,583,840
Value	$2,235,816	$882,814	$552,507
Beef, salted or cured:			
Pounds	57,316	425,000	502,500
Value	$5,433	$21,500	$38,175
Veal, fresh:			
Pounds	851,558	293,980	198,410
Value	$88,663	$19,822	$18,210
Mutton, fresh:			
Pounds	3,866,798	3,785,414	2,300,600
Value	$351,170	$223,207	$104,780
Pork, fresh:			
Pounds	4,256,595	2,148,669	781,520
Value	$517,974	$185,657	$62,897
Pork, salted or cured:			
Pounds	5,123,483	9,247,347	5,063,111
Value	$752,137	$898,605	$455,606
Sausage, fresh or cured	$250,822	$79,150	$33,265
Lard:			
Pounds	5,709,268	2,449,740	1,021,232
Value	$635,628	$220,023	$95,902
Hides:			
Number	56,421	26,493	19,983
Pounds	3,390,352	1,533,083	861,140
Value	$427,179	$131,603	$79,301
Pelts:			
Number	92,038	13,267	(2)
Value	$52,589	$9,996	(2)
All other products	$562,204	$234,777	$137,837

[1] Excluding one establishment, to avoid disclosure of individual operations.
[2] Figures not available.

During the decade the output of fresh beef in Oregon increased 279.2 per cent and that of fresh pork 444.7 per cent. Fresh veal, fresh mutton, lard, and hides all show large increases in quantity during the 10 years. Salted or cured pork shows only a small increase, while salted or cured beef decreased considerably during this period.

Butter, cheese, and condensed milk.—This is comparatively a new industry in Oregon. Since 1889, when there were only 12 establishments with a total value of products of $66,426 classified as butter, cheese, or condensed-milk factories, the industry has grown

until in 1909 there were 95 establishments reporting a value of products amounting to nearly $5,000,000.

The following table shows the quantity and value of the various classes of butter, cheese, and condensed-milk products for the censuses of 1909, 1904, and 1899:

PRODUCT.	1909	1904[1]	1899
Total value	$4,920,462	$1,629,343	$639,222
Butter:			
Packed solid—			
Pounds	992,102	855,962	425,727
Value	$298,721	$193,691	$95,733
Prints and rolls—			
Pounds	7,480,558	4,224,637	1,549,630
Value	$2,383,385	$1,073,200	$344,866
Cream sold:			
Pounds	1,019,239	477,218	470,000
Value	$132,097	$40,798	$40,141
All other butter-factory products	$21,727	$16,828	$21,846
Cheese:			
Full cream—			
Pounds	4,166,038	2,214,067	1,106,505
Value	$631,259	$244,621	$126,827
Part cream—			
Pounds	37,415	.....	.....
Value	$5,369	.....	.....
Other kind—			
Pounds	15,500	41,525	89,059
Value	$4,240	$4,755	$9,054
All other cheese-factory products	$176	$964	$755
Condensed milk, unsweetened:[2]			
Pounds	21,788,937	.....	.....
Value	$1,164,360	.....	.....
All other condensed-milk factory products	$350	.....	.....
All other products, not specified	$278,778	$54,486	.....

[1] Excluding two establishments, to avoid disclosure of individual operations.
[2] Includes one establishment reporting condensed milk, sweetened.

The butter factories produced 57.6 per cent of the total value of products of the industry in 1909 and 78.6 per cent in 1899, while the cheese factories reported 13 per cent in 1909 and 21.4 per cent in 1899. The condensed-milk factories contributed 23.7 per cent of the total value of products in 1909.

The quantity of butter produced increased 3,392,061 pounds, or 66.8 per cent, from 1904 to 1909, and 3,105,242 pounds, or 157.2 per cent, from 1899 to 1904, and the quantity of cheese increased 1,963,361 pounds, or 87 per cent, from 1904 to 1909, and 1,060,028 pounds, or 88.7 per cent, from 1899 to 1904. Of the 4,218,953 pounds of cheese made in 1909, 4,166,038 pounds, or 98.7 per cent, was full-cream cheese.

The first report of a condensed-milk factory in Oregon was received at the census of 1904, but statistics for that year can not be shown without disclosing operations of individual concerns. In 1909 seven such establishments reported nearly 22,000,000 pounds of condensed milk, valued at over a million dollars.

Canning and preserving.—This is one of the important and distinctive industries of Oregon. The increase in the value of products from 1904 to 1909 was $295,696, or 10.2 per cent, and from 1899 to 1904, $917,257, or 46 per cent.

The products of this industry have been divided into five general classes—canned vegetables, canned fruits, dried fruits, fish, canned and salted, and "All other products," the latter classification including pickles, preserves, and sauces. The value of canned vegetables formed 1.5 per cent of the total value of products for the industry in 1909, 1 per cent in 1904, and seven-tenths of 1 per cent in 1899; that of canned fruits, 5.5 per cent in 1909, 7.4 per cent in 1904, and 5.3 per cent in 1899; that of dried fruits, 14.7 per cent in 1909, 1.1 per cent in 1904, and 1 per cent in 1899; that of fish products, 64.6 per cent in 1909, 81.9 per cent in 1904, and 85 per cent in 1899; and that of "All other products," 13.6 per cent in 1909, 8.6 per cent in 1904, and 8 per cent in 1899.

The next table gives the quantity and value of the principal products reported at the censuses of 1909, 1904, and 1899.

PRODUCT.	1909	1904	1899
Total value	[1] $3,207,060	$2,911,364	$1,994,107
Canned vegetables	$48,219	$30,045	$14,300
Beans—			
Cases	12,831	4,000	1,200
Value	$26,179	$10,892	$2,565
Pumpkins—			
Cases	3,627	2,590	.....
Value	$8,148	$6,095	.....
All other—			
Cases	6,938	6,616	4,783
Value	$13,892	$13,058	$11,735
Canned fruits	$177,818	$214,363	$106,550
Apples—			
Cases	8,557	15,943	5,633
Value	$15,918	$35,170	$13,800
Blackberries—			
Cases	4,408	4,694	8,800
Value	$9,321	$8,635	$15,000
Cherries—			
Cases	22,770	27,346	14,570
Value	$49,203	$72,465	$30,300
Pears—			
Cases	14,598	14,174	7,367
Value	$42,842	$43,464	$22,000
Raspberries—			
Cases	9,658	4,342	2,602
Value	$23,206	$15,549	$6,600
Strawberries—			
Cases	3,490	9,757	3,500
Value	$10,361	$30,324	$9,500
All other—			
Cases	14,033	3,430	4,400
Value	$26,967	$8,756	$9,350
Dried fruits:			
Pounds	14,028,251	803,000	397,350
Value	$473,008	$31,000	$19,461
Prunes—			
Pounds	14,009,597	813,000	360,100
Value	$470,911	$28,000	$17,351
All other—			
Pounds	18,654	50,000	37,250
Value	$2,097	$3,000	$2,110
Fish:			
Pounds	18,303,344	27,191,650	16,250,680
Value	$2,073,081	$2,384,246	$1,694,338
Salmon, canned—			
Pounds	12,969,670	20,187,559	15,915,352
Value	$1,341,481	$1,694,762	$1,655,329
Salted fish—			
Pounds	5,333,674	7,004,091	335,328
Value	$731,600	$689,484	$39,009
All other products, including smoked fish and pickles, preserves, and sauces	$434,934	$251,710	$159,458

[1] Does not include products to the value of $10,538, reported by establishments engaged primarily in other industries.

Although the output of canned salmon decreased both in quantity and in value from 1904 to 1909, it is still the most important product of the canning industry in Oregon. In 1909 the state produced 13 per cent of the total output of canned salmon for continental United

States. The most marked increase was that in the production of prunes from 813,000 pounds in 1904 to 14,009,597 pounds in 1909.

Beans were the principal vegetable canned, being in fact the only one, aside from pumpkins, which was reported by more than one establishment. Cherries and pears were more extensively canned than any other fruits, although the canning of apples was reported by a larger number of establishments. Salted fish was reported by 13 establishments.

Printing and publishing.—The printing and publishing industry in Oregon shows a decided growth during the last decade, when measured by the number of publications and the aggregate circulation. The following table shows the number of publications and aggregate circulation per issue, classified according to period of issue, for the years 1909, 1904, and 1899:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	254	221	197	735,363	445,946	311,950
Daily	31	23	21	150,560	92,171	51,191
Sunday	6	8	9	93,142	58,800	(1)
Semiweekly	[2] 11	18	14	26,725	27,330	14,810
Weekly	176	152	124	229,585	180,395	166,511
Monthly	27	16	27	219,351	81,400	75,038
All other classes	3	4	2	16,000	5,850	4,400

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

The weeklies showed the greatest increase in number and the monthlies in aggregate circulation. There was a decrease in the number of Sunday and semiweekly publications, but an increase in the aggregate circulation of the Sunday publications.

In 1909, 13 of the 31 daily papers, with an aggregate circulation of 55,375, were morning editions. All of the publications were printed in the English language, except 1 daily in Japanese; 1 semiweekly in Finnish; 5 weeklies, of which 3 were in German, 1 in Swedish, and 1 in Danish and Norwegian; and 1 monthly in German.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. In 1909 there were in the state 58 such establishments, of which 20 were in Portland and 2 in Salem.

The following statement summarizes the statistics:

Number of establishments	58
Persons engaged in the industry	1,674
Proprietors and firm members	54
Salaried employees	163
Wage earners (average number)	1,457
Primary horsepower	1,585
Capital	$991,017
Expenses	1,252,614
Services	845,314
Materials	263,593
Miscellaneous	143,707
Amount received for work done	1,569,982

Twenty-two of the 58 establishments were under corporate ownership, 20 under individual ownership and 16 under firm ownership. Four establishments reported receipts for the year's business amounting to between $100,000 and $1,000,000; 16, receipts of between $20,000 and $100,000; and 38, receipts of less than $20,000.

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	1,371	90.7	July	1,504	99.5
February	1,374	90.9	August	1,499	99.1
March	1,392	92.1	September	1,497	99.0
April	1,411	93.3	October	1,512	100.0
May	1,439	95.2	November	1,505	99.5
June	1,482	98.0	December	1,497	99.0

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		1,585
Owned:		
Steam	49	1,406
Gas	2	70
Water wheels	1	10
Rented:		
Electric	13	96
Other		3

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

KIND.	Unit.	Quantity.
Anthracite coal	Tons	11
Bituminous coal	Tons	729
Wood	Cords	11,753
Oil	Barrels	21,888
Gas	1,000 feet	2,732

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	4	15
Persons engaged in the industry	13	22
Proprietors and firm members	5	16
Salaried employees		
Wage earners (average number)	8	6
Primary horsepower	90	344
Capital	$6,580	$40,710
Expenses	5,571	100,467
Services	4,614	2,046
Materials	135	[1] 97,323
Miscellaneous	822	1,098
Value of products	8,144	[1] 116,984

[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	2,246	34,722	2,499	3,473	28,750	175,019	$89,082	$4,047	$19,902	$50,552	$93,005	$42,453
	1904	1,602	22,018	1,726	1,769	18,523	81,348	44,024	2,133	11,444	30,597	55,525	24,928
	1899	1,406	.....	.....	1,143	14,459	60,005	28,359	1,222	6,822	20,789	36,593	15,804
Bread and other bakery products	1909	151	905	182	110	613	336	1,609	78	441	1,621	2,829	1,208
	1904	93	618	118	70	430	253	775	74	221	875	1,504	629
	1899	53	348	64	41	243	.....	288	33	106	465	779	314
Brick and tile	1909	61	487	71	31	385	1,922	1,250	34	266	155	675	520
	1904	43	330	56	10	264	766	366	9	132	63	315	252
	1899	46	290	58	12	220	511	194	9	98	37	227	190
Butter, cheese, and condensed milk	1909	95	615	63	132	420	1,935	1,718	131	290	3,952	4,920	968
	1904	[1] 98	257	91	36	130	715	429	17	81	1,361	1,629	268
	1899	68	142	60	20	62	.....	223	9	27	509	639	130
Canning and preserving	1909	71	844	54	129	661	1,318	4,162	146	315	2,187	3,207	1,020
	1904	[1] 48	671	39	103	529	1,247	1,899	101	250	1,894	2,911	1,017
	1899	45	888	29	68	791	.....	2,708	67	244	1,298	1,994	696
Cars and general shop construction and repairs by steam-railroad companies.	1909	8	822	.....	45	777	933	1,400	55	544	509	1,163	654
	1904	12	979	.....	49	930	955	390	62	677	386	1,265	879
	1899	14	780	.....	29	751	721	720	32	495	484	1,026	542
Clothing, men's, including shirts	1909	5	576	9	23	544	217	369	29	238	738	1,105	367
	1904	[1] 3	356	6	12	338	80	321	12	120	293	506	213
	1899	[1] 3	197	19	7	171	.....	187	3	43	107	165	58
Confectionery	1909	19	408	18	107	283	217	612	91	188	549	1,215	666
	1904	13	191	15	43	133	59	189	33	57	141	379	238
	1899	9	.....	.....	25	107	.....	125	19	28	96	209	113
Copper, tin, and sheet-iron products	1909	39	525	48	46	431	253	2,859	53	354	835	1,611	776
	1904	[2] 15	158	20	10	128	13	140	8	99	121	300	179
	1899	16	.....	.....	12	188	.....	401	11	100	341	602	261
Flour-mill and gristmill products	1909	114	620	101	125	394	11,541	5,670	140	278	7,667	8,891	1,224
	1904	105	581	101	85	395	9,993	3,997	107	271	7,352	8,468	1,116
	1899	105	.....	.....	82	420	7,217	3,001	83	239	5,180	6,136	956
Foundry and machine-shop products	1909	82	1,270	71	144	1,055	2,709	3,670	183	892	1,472	3,135	1,663
	1904	42	898	44	67	787	1,172	1,882	79	596	643	1,588	945
	1899	45	.....	.....	49	401	.....	993	52	230	328	848	520
Furniture and refrigerators	1909	19	621	16	53	552	1,501	1,232	62	323	484	1,094	610
	1904	18	486	20	41	425	699	786	44	233	338	790	452
	1899	11	220	10	12	198	.....	280	11	81	163	299	136
Ice, manufactured	1909	25	122	27	26	69	1,569	632	29	53	76	257	181
	1904	20	107	14	18	75	1,416	451	15	57	41	217	176
	1899	9	51	7	9	35	720	173	14	25	19	116	97
Leather goods	1909	48	484	51	80	353	173	824	92	262	989	1,629	640
	1904	26	330	24	36	270	71	532	38	173	542	925	383
	1899	[1] 22	.....	.....	19	258	.....	278	21	119	389	650	261
Leather, tanned, curried, and finished	1909	8	58	7	2	49	224	218	2	34	131	244	63
	1904	11	109	15	.....	94	314	272	.....	67	367	485	118
	1899	16	77	23	1	53	206	173	1	28	190	250	60
Liquors, malt	1909	18	272	14	54	204	2,018	2,470	90	206	454	1,857	1,403
	1904	24	201	21	29	151	1,001	2,139	62	137	429	1,118	689
	1899	24	179	24	19	136	1,060	819	24	106	173	714	541
Lumber and timber products	1909	713	16,833	846	921	15,066	95,213	35,031	1,267	10,172	12,413	30,200	17,787
	1904	477	9,587	601	428	8,558	43,364	13,103	520	5,450	5,856	15,418	9,562
	1899	419	.....	.....	284	6,056	28,630	6,948	262	2,887	5,191	11,081	5,890
Marble and stone work	1909	23	121	21	24	76	159	221	24	75	113	297	184
	1904	[1] 8	50	12	.....	38	13	72	.....	42	77	190	113
	1899	10	.....	.....	11	36	.....	96	9	24	53	128	75
Mattresses and spring beds	1909	7	104	9	12	83	105	162	13	68	211	350	139
	1904	4	43	2	7	34	70	53	6	23	86	145	59
	[3] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing	1909	324	2,523	514	550	1,459	1,927	3,457	558	1,448	1,103	5,041	3,938
	1904	245	1,561	246	297	1,018	993	1,688	356	724	658	2,776	2,118
	1899	207	1,170	230	100	840	.....	1,675	116	400	374	1,494	1,120
Shipbuilding, including boat building	1909	24	250	29	9	212	287	240	10	190	204	477	273
	1904	11	181	8	4	169	70	120	7	122	123	297	174
	1899	[2] 16	361	15	8	338	90	127	10	187	307	654	347
Slaughtering and meat packing	1909	14	493	14	113	366	752	2,481	124	280	5,015	5,880	865
	1904	[2] 10	313	7	60	246	327	975	73	155	2,390	2,907	517
	1899	[2] 9	222	9	41	172	.....	760	47	88	1,359	1,638	279
Stoves and furnaces, including gas and oil stoves.	1909	11	123	11	26	86	183	287	27	79	130	351	221
	1904	3	46	2	14	30	28	214	22	26	20	139	119
	[4] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures	1909	56	251	62	2	187	.....	196	2	172	171	474	303
	1904	54	233	65	5	163	3	123	4	92	179	396	217
	1899	38	118	46	1	71	.....	59	1	33	60	146	86
Woolen, worsted, and felt goods, and wool hats.	1909	8	508	2	37	469	1,628	1,265	42	202	527	929	402
	1904	7	594	3	25	566	955	1,272	43	220	496	1,034	538
	1899	11	704	3	29	672	1,113	1,176	33	209	466	898	432
All other industries	1909	303	4,887	259	672	3,956	47,899	17,047	705	2,582	8,796	15,174	6,378
	1904	212	3,138	196	320	2,622	16,681	11,836	441	1,419	5,866	9,823	3,957
	1899	210	.....	.....	264	2,240	.....	6,949	355	1,025	3,200	5,900	2,700

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

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.					
PORTLAND—All industries	1909	649	14,891	763	1,914	12,214	32,122	$37,996	$2,241	$8,979	$26,076	$46,861	$20,785
	1904	437	9,594	398	1,025	8,171	.....	19,725	1,266	5,342	17,024	28,651	11,627
	1899	408	.....	.....	663	5,380	.....	11,633	732	2,704	10,177	16,904	6,727
Bread and other bakery products	1909	63	666	79	76	511	297	1,353	62	363	1,275	2,196	921
	1904	40	475	52	65	358	.....	673	72	178	701	1,182	481
	1899	35	272	42	36	194	.....	226	32	78	401	641	240
Brick and tile	1909	9	106	13	5	88	369	342	6	71	49	206	157
	1904	8	109	10	5	94	.....	153	4	48	30	127	97
	1899	5	72	5	4	63	.....	48	3	28	13	67	54
Butter, cheese, and condensed milk	1909	8	196	6	51	139	860	587	48	105	1,102	1,431	329
	1904	6	56	5	13	38	.....	177	9	25	432	521	89
	1899	5	21	1	8	12	.....	28	5	6	126	172	46
Canning and preserving	1909	8	169	10	26	133	77	300	31	49	250	464	214
	1904	7	153	8	16	129	.....	132	16	41	240	352	112
	1899	5	.....	.....	11	109	.....	89	12	15	120	192	72
Clothing, men's, including shirts	1909	5	576	9	23	544	217	369	29	238	738	1,105	367
	1904	[1] 3	356	6	12	338	.....	321	12	120	293	506	213
	1899	[1] 3	197	19	7	171	.....	187	3	43	107	165	58
Confectionery	1909	11	366	9	89	268	203	587	84	130	519	1,128	609
	1904	10	169	11	43	115	.....	172	33	50	126	342	216
	[2] 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Copper, tin, and sheet-iron products	1909	28	454	32	44	378	253	2,782	51	311	732	1,419	687
	[2] 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	12	.....	.....	7	97	.....	124	5	61	120	263	143
Flour-mill and gristmill products	1909	5	97	1	23	73	1,222	793	29	54	1,179	1,337	158
	1904	5	117	2	27	88	.....	675	51	60	2,457	2,713	256
	1899	6	129	3	33	93	.....	994	46	64	1,528	1,759	231
Foundry and machine-shop products	1909	44	947	34	114	799	2,080	2,593	140	704	1,222	2,527	1,305
	1904	21	673	21	51	601	.....	1,279	58	481	455	1,200	745
	1899	25	.....	.....	48	277	.....	593	42	164	228	610	382
Furniture and refrigerators	1909	11	530	11	41	478	1,207	1,110	50	288	458	993	535
	1904	11	405	8	37	360	.....	734	42	205	322	720	398
	1899	7	156	3	11	142	.....	225	10	57	139	225	86
Ice, manufactured	1909	4	31	1	14	16	575	268	22	14	45	108	63
	1904	6	53	2	6	45	.....	257	7	38	26	137	111
	1899	4	33	2	9	22	.....	106	14	16	13	91	78
Leather goods	1909	26	399	21	74	304	136	587	88	220	868	1,386	518
	1904	15	288	11	35	242	.....	437	37	154	488	800	312
	1899	[1] 13	.....	.....	19	245	.....	207	21	107	336	542	206
Lumber and timber products	1909	42	3,914	12	233	3,669	13,998	8,993	366	2,672	5,067	10,111	5,044
	1904	[3] 28	2,206	18	116	2,072	.....	3,875	184	1,455	3,101	5,435	2,334
	1899	17	.....	.....	78	1,260	.....	1,783	97	687	2,462	3,925	1,463
Marble and stone work	1909	7	59	5	16	38	90	102	19	38	71	175	104
	1904	4	32	6	.....	26	.....	51	.....	31	64	149	85
	1899	[1] 4	.....	.....	7	20	.....	32	5	14	32	76	44
Printing and publishing	1909	132	1,681	311	418	952	1,402	2,239	446	1,036	847	3,736	2,889
	1904	[1] 78	846	59	253	534	.....	952	311	458	491	1,943	1,452
	1899	[1] 80	.....	.....	81	395	.....	1,174	101	230	267	964	697
Shipbuilding, including boat building	1909	7	112	4	7	101	68	99	9	92	90	231	141
	1904	8	158	6	3	149	.....	102	5	105	109	259	150
	1899	[3] 9	273	6	6	261	.....	98	8	120	187	400	213
Tobacco manufactures	1909	21	131	23	2	106	.....	96	2	106	89	260	171
	1904	25	112	32	.....	80	.....	45	.....	48	104	220	116
	1899	15	53	18	1	34	.....	21	1	15	24	65	41
All other industries	1909	218	4,457	182	658	3,617	9,068	14,796	759	2,493	11,475	18,048	6,573
	1904	162	3,386	141	343	2,902	.....	9,690	425	1,845	7,585	12,045	4,460
	1899	163	.....	.....	302	1,985	.....	5,698	327	999	4,074	6,747	2,673

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

Salem	1909	62	789	57	135	597	1,688	$1,661	$98	$367	$1,177	$2,208	$1,031

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

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

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

PORTLAND.

	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**	**649**	**14,891**	**763**	**525**	**1,041**	**348**	**12,214**	**10,596**	**1,600**	**18**	**12,611**	**10,845**	**1,747**	**17**	**2**	**32,122**
2	Bread and other bakery products	63	666	79	14	43	19	511	351	160	.....	547	376	171	.....	.....	297
3	Brick and tile	9	106	13	4	1	.....	88	88	.....	.....	172	172	.....	.....	.....	369
4	Butter, cheese, and condensed milk	8	196	6	10	24	17	139	137	2	.....	135	133	2	.....	.....	860
5	Canning and preserving	8	169	10	10	10	6	133	49	84	.....	228	84	144	.....	.....	77
6	Clothing, men's, including shirts	5	576	9	6	11	6	544	55	489	.....	540	55	485	.....	.....	217
7	Confectionery	11	366	9	13	60	16	268	77	191	.....	318	91	227	.....	.....	203
8	Copper, tin, and sheet-iron products	28	454	32	12	22	10	378	345	33	.....	391	357	34	.....	.....	253
9	Flour-mill and gristmill products	5	97	1	9	11	3	73	73	.....	.....	97	97	.....	.....	.....	1,222
10	Foundry and machine-shop products	44	947	34	51	48	15	799	799	.....	.....	750	750	.....	.....	.....	2,080
11	Furniture and refrigerators	11	530	11	9	24	8	478	471	7	.....	504	497	7	.....	.....	1,207
12	Ice, manufactured	4	31	1	6	8	.....	16	16	.....	.....	11	11	.....	.....	.....	575
13	Leather goods	26	399	21	24	40	10	304	293	11	.....	319	307	12	.....	.....	136
14	Lumber and timber products	42	3,914	12	96	108	29	3,669	3,664	5	.....	3,518	3,513	5	.....	.....	13,998
15	Marble and stone work	7	59	5	5	8	3	38	38	.....	.....	39	39	.....	.....	.....	90
16	Printing and publishing	132	1,681	311	91	238	80	952	843	97	12	981	869	100	10	2	1,402
17	Shipbuilding, including boat building	7	112	4	6	1	.....	101	101	.....	.....	102	102	.....	.....	.....	68
18	Tobacco manufactures	21	131	23	.....	2	.....	106	96	10	.....	109	99	10	.....	.....	.....
19	All other industries [1]	218	4,457	182	159	382	117	3,617	3,100	511	6	3,850	3,293	550	7	.....	9,068

[1] All other industries embrace: Artificial stone, 6; automobiles, including bodies and parts, 2; awnings, tents, and sails, 5; babbitt metal and solder, 1; bags, other than paper, 2; baking powders and yeast, 2; baskets, and rattan and willow ware, 1; blacking and cleansing and polishing preparations, 2; boots and shoes, including cut stock and findings, 4; boxes, cigar, 1; boxes, fancy and paper, 3; brass and bronze products, 3; brooms, 2; card cutting and designing, 1; carpets, rag, 3; carriages and wagons and materials, 14; 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, 2; coffee and spice, roasting and grinding, 5; coffins, burial cases, and undertakers' goods, 1; cooperage and wooden goods, not elsewhere specified, 6; cordage and twine and jute and linen goods, 1; cutlery and tools, not elsewhere specified, 4; dairymen's, poulterers', and apiarists' supplies, 1; dyeing and finishing textiles, 1; electrical machinery, apparatus, and supplies, 1; engraving and diesinking, 1; fancy articles, not elsewhere specified, 1; fertilizers, 1; flags, banners, regalia, society badges, and emblems, 1; flavoring extracts, 5; food preparations, 6; fur goods, 5; furnishing goods, men's, 1; gas and electric fixtures and lamps and reflectors, 3; gas, illuminating and heating, 2; glass, cutting, staining, and ornamenting, 4; gloves and mittens, leather, 4; hair work, 3; hand stamps and stencils and brands, 3; hosiery

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

1	SALEM	62	789	57	29	74	32	597	452	144	1	745	564	180	1	.....	1,668

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.

PORTLAND.

	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	$37,995,835	$41,278,295	$1,042,522	$1,198,812	$8,978,856	$740,819	$25,334,797	$446,295	$431,653	$142,940	$2,961,601		$46,860,767	$20,785,151
2	1,352,759	1,893,387	28,130	34,198	362,842	32,981	1,242,217	25,063	9,107	.....	158,849		2,196,346	921,148
3	341,763	150,884	5,400	900	70,658	41,625	7,720	.....	2,198	1,700	20,683		206,425	157,080
4	536,945	1,319,424	14,550	33,151	104,980	16,423	1,085,934	17,930	2,887	1,200	42,369		1,430,862	328,505
5	300,260	353,336	17,126	13,640	49,042	2,699	247,718	1,945	1,279	.....	19,887		463,930	213,513
6	368,594	1,054,482	14,100	14,469	238,127	3,964	734,135	12,688	1,734	.....	35,265		1,105,248	367,149
7	586,940	915,518	25,050	59,361	130,271	10,292	508,705	21,246	2,892	.....	157,701		1,128,289	609,292
8	2,782,079	1,262,181	22,470	28,353	311,291	13,375	718,429	10,642	6,613	634	150,374		1,418,786	686,982
9	793,177	1,305,232	15,780	13,291	53,552	14,106	1,165,212	2,000	4,357	.....	36,934		1,337,119	157,801
10	2,593,462	2,246,855	96,360	44,025	704,390	53,448	1,168,966	19,716	16,356	.....	143,594		2,527,374	1,304,960
11	1,109,805	903,124	22,600	27,551	283,149	10,817	447,155	10,685	6,633	.....	94,534		992,945	534,973
12	268,268	93,082	14,400	7,317	14,368	30,549	14,914	4,100	1,186	.....	6,248		107,983	62,520
13	586,798	1,285,526	34,600	53,292	220,436	4,638	863,175	26,803	3,198	.....	79,384		1,386,259	518,446
14	8,993,365	8,888,500	220,693	145,668	2,672,399	27,694	5,039 503	35,988	70,954	17,300	658,301		10,110,975	5,043,778
15	102,334	142,108	7,500	11,004	38,168	1,731	69,176	4,090	378	.....	10,061		174,960	104,053
16	2,239,039	2,863,540	153,627	292,336	1,035,666	42,991	803,945	81,442	19,293	121,833	312,407		3,735,974	2,889,038
17	98,768	198,092	7,000	1,500	91,553	328	89,537	3,765	601	.....	3,808		230,608	140,743
18	95,541	228,517	.....	1,800	106,040	341	88,541	4,770	15,796	.....	11,229		259,539	170,657
19	14,795,938	16,174,507	343,136	416,956	2,491,924	432,817	11,039,815	163,422	266,191	273	1,019,973		18,047,145	6,574,513

and knit goods, 1; hats and caps, other than felt, straw, and wool, 1; hats, fur-felt, 1; instruments, professional and scientific, 1; iron and steel, steel works and rolling mills, 2; iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills, 1; jewelry, 4; labels and tags, 1; lapidary work, 2; leather, tanned, curried, and finished, 2; liquors, malt, 4; matches, 1; mattresses and spring beds, 5; millinery and lace goods, 4; mineral and soda waters, 5; mirrors, 1; models and patterns, not including paper patterns, 5; mucilage and paste, 1; oil, linseed, 1; optical goods, 3; paint and varnish, 5; patent medicines and compounds and druggists' preparations, 6; pottery, terra-cotta, and fire-clay products, 2; pumps, not including steam pumps, 1; rice, cleaning and polishing, 1; show cases, 2; slaughtering and meat packing, 4; soap, 3; statuary and art goods, 1; steam packing, 3; stereotyping and electrotyping, 2; stoves and furnaces, including gas and oil stoves, 8; surgical appliances and artificial limbs, 3; toys and games, 1; type founding and printing materials, 1; umbrellas and canes, 3; vinegar and cider, 1; wall plaster, 1; window shades and fixtures, 2; wirework, including wire rope and cable, 3; wood, turned and carved, 1; woolen, worsted, and felt goods, and wool hats, 2.

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

1	$1,661,062	$1,912,092	$38,804	$59,099	$366,588	$42,118	$1,135,083	$13,106	$31,202	$6,215	$219,877	$2,208,031	$1,130,830